

# AI and Virtual Crowds: Populating the Colosseum

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## **Abstract**

Computer technologies and digital recreations have been widely used in the field of Cultural Heritage in the past decade. However, most of the effort has concentrated in accurate data gathering and geometrical representation of buildings and sites. Only very recently, works are starting to go beyond that approach by including digital people. The impressive development of computer graphics techniques and computing power, makes now possible the creation and management of virtual environments where a big number of virtual creatures interact and behave in a smart manner.

In this paper we present a novel use of virtual crowds for Cultural Heritage: we use them to predict behaviors, or to help scholars draw more educated conclusions on unknown matters. We specifically present a case study based on an artificial intelligence crowd simulation which is being used by scholars to study the ergonomics of the Roman Colosseum: it was formerly believed to be an excellent people-mover, but currently that belief is seriously questioned, as potential bottlenecks seem to have been detected.

## **1 Research aims**

Virtual Reality technology is increasingly being employed in many areas of the sciences and humanities. In the humanities, however, its use has traditionally been limited to illustration of buildings and sites through digital reconstruction. While this is a very valid approach, especially useful for education, tourism, and conservation, it does not begin to exhaust all the possibilities of this powerful technology.

On the contrary, Predictive Virtual Reality goes beyond mere visualization. It is a tool that can be used to analyze a problem under different scenarios, test different hypotheses, and result in valid conclusions based on those tests. It allows us to recreate the conditions necessary for the experiment in the form of a computer model and to run accurate simulations that would otherwise be impossible to do.

By combining this approach with Artificial Intelligence algorithms and techniques, one can, for example, populate long-vanished buildings and sites with virtual actors that be-

have correctly according to certain rules encoded in their virtual brains. Crowds can be simulated this way, overcoming the intrinsically dead nature of computer reconstructions and making it possible for scholars to study the problem of a site in a new way.

Our work differs from previous works using crowds in cultural heritage sites in that we use a bottom-up approach, where the consequences of the actions of the virtual agents are uncertain. It is precisely this uncertainty which allows scholars to test different hypotheses and draw conclusions based on the results of the simulation. More precisely, we study the ergonomics of the Roman Colosseum, and question its reputation as an excellent people-mover.

## **2 Introduction**

The impressive development of computer graphics techniques and computing power, has made possible the creation and management of virtual environments where a big number of virtual creatures interact and behave in a smart manner. Although the most well-known applications of crowd simulations are those related to the creation of sophisticated visual effects in the film industry, there are many other ones: creation of training environments for soldiers and policemen, study of building evacuation systems, video games development, studies about herd behaviors, sociological simulations...

Evidently, cultural heritage reconstruction is another exciting field of application. Many works have been published to accurately reproducing the past by using digital technologies (see a good reference of them in [1]). But most of the initial efforts concentrated only on good data acquisition and geometric representation. More recently, researches began exploring light and its influence on the correct perception of the models ([2], [3]). In later works, a virtual character is introduced, generally acting as a guide. This is of course interesting, but it can not been forgotten that most of the reconstructed sites should have been inhabited by a great amount of people: congregations praying in the cathedrals, spectators in the theaters, citizens in the streets and squares,... Some works

are now considering these issues. The work of [4] introduce a small amount of virtual worshippers in a digital mosque. An impostor-crowd is introduced in the reconstruction of Agora, Greece, by [5], whereas a virtual audience in an ancient Roman odeon in Aphrodisias is presented in [6].

In this paper we present a novel use of artificial intelligence to simulate crowds in virtual environments: to predict behaviors that can help scholars draw more educated conclusions on unknown matters. The case study we present is the analysis of the ergonomics of the Roman Colosseum: it was formerly believed to be an excellent people-mover, but currently that belief is seriously being questioned.

The rest of the paper is organized as follows: section 3 introduces the Roman Colosseum and those characteristics that are more relevant for the ergonomic study carried out. In section 4 some issues related to the 3D model of the Colosseum are discussed. Section 5 describes the basics of our crowd simulation system. Results so far are presented in section 6 and, finally, conclusions drawn from this work are explained in section 7.

### **3 The Roman Colosseum**

The Flavian Amphitheater (conventionally known as the "Colosseum") was built in Rome in the 70s A.D. by the Emperor Vespasian, who dedicated the partially-built complex in 79, the year of his death. The main purpose of the Colosseum was to house the gladiatorial games which had come to be a typical feature of Roman culture in the imperial capital and throughout the Roman world. Other events recorded here include mock naval battles, animal hunts, and the execution of criminals. Figures 1 and 2 show the Colosseum as it looks today.

The Colosseum is the biggest amphitheater ever built, it is said to house between 45.000 and 73.000 spectators. A commonplace in modern scholarship is that it was an excellent people-mover. Figure 3 shows the different levels of the structure and its original names. The spectators accessed to the grades through 80 doors, arranged along the perimeter. There are five levels of seats. The first level is the *Podio* and was reserved



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to senators, magistrates and the highest priestly positions. In the center, in correspondence to the minor axis, there are two stalls or boxes: the one in the south was the imperial stall and the one in the north was the one reserved to the magistrates. The second level is the *Maenianum Primum*, reserved to the knights, followed by the *Maenianum Secundum Immu* where citizens and soldiers were seated. The *Maenianum Secundum Summu* was occupied by the rest of the free men and the *Maenianum Summu in Ligneis* was reserved to the plebs, slaves and women.

Not only the seats were distributed according to the social classes of the Roman society, but also the entrances. The exterior arcs of the ground floor facade were all numerated, except the four corresponding to the axes. The emperor's entrance was the one corresponding to the arc not numbered in the south end of the short axis. The magistrates entrance was at the other end of the same axis. Senators accessed the Podio through the adjacent entrances at both sides of the short axis. The rest of the public were spread through the remaining entrances, so that they could reach their seats in the most direct form. There were also two accesses at both ends of the long axis that drove directly to the stage: there were exclusively reserved to the spectacle protagonists. The south east entrance was used to take dead or wounded gladiators out of the Colosseum, and the one in the northwest end was used by the gladiator's parade at the beginning of the games. As it can be seen, the entrance system formed a complex mesh of passages and galleries.

Thanks to the entrance system, social differences were made even more remarkable. According to the standard view, each spectator arrived at the games with a ticket denoting his seat, and even ticket-holders seated in the upper reaches of the *cavea* could supposedly reach their place rather quickly. Egress from the building at the end of the spectacles was also correspondingly quick and efficient. The purpose of the present project is to develop a formal quantitative model to test the validity of this common opinion. The most quantitatively precise version is perhaps that found in Pearson [7]:

*"In engineering there are clear affinities between the control of water and of human beings in the mass. In the preliminary designs for the Colosseum, similar foresight was applied to both. One reason why the building has stood for centuries can be attributed*

*to the drainage system hidden beneath the main piers, a carefully constructed line of gullies leading the surplus water from the perimeter to the main sewer. In much the same way the architect devised a system to ensure that his vast amphitheatre would fill and empty perfectly with people. He did this by planning eighty so-called vomitoria -a word which graphically sums up the way the Colosseum spewed out its audience when the show was over-big numbered staircases leading the people to carefully segmented rows within the building. These staircases worked so efficiently that it has been calculated that a full audience could leave the building in three minutes flat”.*

## **4 Modelling the Colosseum**

The first step was to create a suitable 3D model of the Roman Colosseum which could be used to run the simulations. A model had already been successfully developed for previous studies. However, this original model was intended for real-time applications, and some of the important features were missing, such as some stairs, passages, doors and stands’ accesses (see Figure 4). Without an accurate model which included *all* possible passageways and features, the artificial intelligence simulations would be meaningless. In this case, the environment was as important as the virtual actors’ intelligence. Since the simulation was to be run off-line anyway (computing needs out-ruling real time), all the necessary detail could be added to the model without any restrictions. Figure 5 shows the final model of the Colosseum.

## **5 Creating Smart Crowds**

In this section we describe the Artificial Intelligence (AI) framework used in this project, although it is not meant to be exhaustive. A more detailed description on the basics of building an AI engine can be found in [8]. The approach taken in this work is bottom-up: we build a basic set of rules and study what happens, as opposed to a top-down approach where the goal dictates the behavior rules. The bottom-up approach guarantees that the system is not deterministic, its outcomes cannot be predicted and

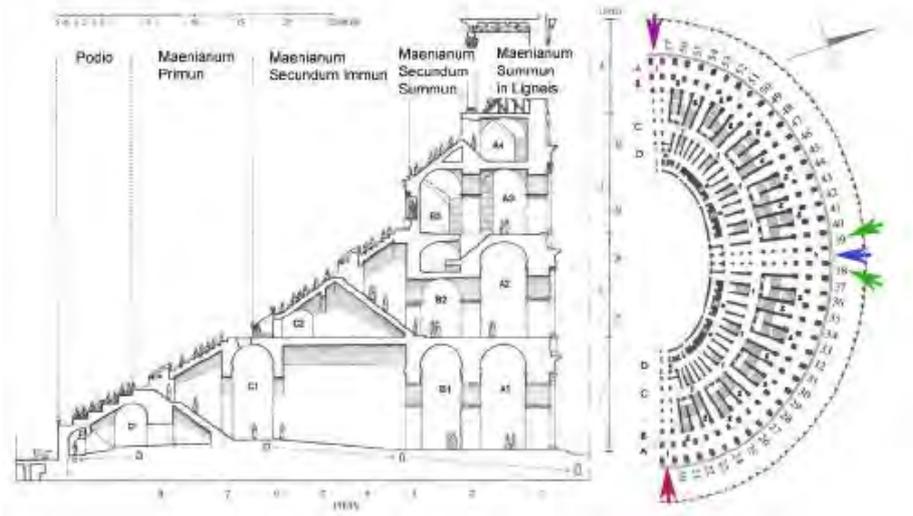


Figure 3: The different levels of the Colosseum.

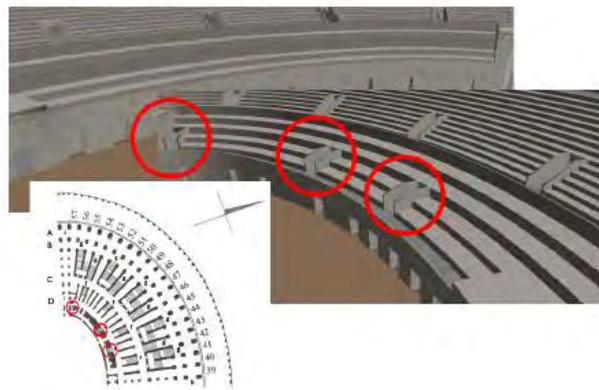


Figure 4: Completing the Colosseum 3D model.

therefore several unbiased scenarios can be tested. The aim of this work is to develop a multi-agent AI system with scripting capabilities in order to detect possible bottlenecks in the building and to test several hypotheses. The simulation does not need to run in real time; it will be calculated off-line to be then output to a render engine for visualization purposes.

## 5.1 Virtual Agents

In general terms, an agent is a software entity which is placed in an environment and operates under a continuous perception-reasoning-reaction loop with said environment. It then first receives as input some stimulus from the environment by using its own perceptual system, it processes it by adding the new information to its previous knowledge and goals and finally reacts by selecting one in a set of possible actions, which in turn might alter the environment, thus generating new stimuli.

An agent's basic structure is made up of:

- Senses: the way it perceives the environment
- Knowledge: a database about itself, its goals and the environment
- Intelligence (behavior): decision-making capabilities based on the knowledge database
- Motor: mechanisms that allow the agent to modify itself and the environment. It represents the agent's capabilities.

An attribute vector for each agent contains information about the agent itself and the environment. This information can be stored, deleted or modified during the simulation, and is the de facto database of the agent. The agents have an adaptive intelligence, where no previous knowledge of the environment is required.

The physical representation of the agent in the virtual world is called avatar. The description of the avatar then includes the software entity known as agent plus its graphical representation (animations, geometry, textures) and its physics (weight, velocity, acceleration). This allows the agent to modify the environment, including another agent.

## 5.2 Hierarchical Finite State Machines (HFSM)

The Hierarchical Finite State Machines (HFSM) contain the logic of the agent: depending on the state it is in and based on the changes in its attribute vector and/or environment, it will transition from one state to another, modifying both its attribute vector and the environment if necessary. To do this, the agent has a set of predefined actions, provided by the AI engine (walk, climb the stairs, stop). Even though these actions are predefined, they are generic enough to allow for great flexibility in the behavior of the agents. The term hierarchical simply means that smaller FSM's can be recursively encapsulated as a state of a bigger FSM.

A dynamic event generation system triggers transitions between states. Complex actions can be described by using a scripting language to define them. In a word, the HFSM's should be considered as the brains of the agents.

## 5.3 Navigation

The virtual environments for the agents are based on 3D Euclidean geometry. A graphics engine handles this layer of the simulation, whereas the AI engine extracts information from the environment and feeds it to the agent (such as there is an obstacle ahead).

For the agents to achieve their goals, three aspects must be considered:

- The sensor system: only the sight has been included in this version, modeled as an angular sector defined by the angle of vision and the visual reach (both parameters can be individually modified for each agent). Other important senses such as hearing are to be added.
- The pathfinding algorithms: Pathfinding (one word) is an AI technique consisting of finding possible routes between two given points. Its implementation is based on the well-known A\* algorithm (pronounced A-star)
- Free navigation and obstacle detection: the problem with the pathfinding algorithm is that it computes a route which is not sensible to changes in the environ-

ment. To solve this, pathfinding is used along with free navigation algorithms which allow agents to avoid sudden obstacles returning afterwards to the nearest point in their pathfinding route.

## 6 The simulation

It is unfortunate that Pearson did not give a source for the calculation. The purpose of the present project is to develop a formal quantitative model to test a novel thesis that states that, for most spectators, passage from the entrance to a seat in the upper levels of the amphitheater and from their seat to the exit was slower than previous scholars lead one to expect. This arises from the detection of some potential bottlenecks in its structure, the most obvious shown in figure 6, highlighted by a red circle.

Figure 7 shows a graphic illustrating the circulation routes through the structure. As the illustration makes clear, the routes to the best seats in the lower part of the cavea (yellow and green in figure 7), where the citizens of higher status sat, were short, direct and through well-illuminated corridors (see left part of Figure 8). In contrast, the spectators who had seats at a higher level passed through a relatively low, narrow, and dark corridor (red in figure 7). There were no alternative routes: the overwhelming mass of spectators coming to the view the games had, perforce, to pass through this corridor (right part of Figure 8). Passage through this least spacious and darkest corridor in the superstructure of the Colosseum cannot have been a pleasant experience, no matter the crowd density. One can imagine that it even served to slow down the flow of spectators to their seats (or, at the end of the day's events, to the exits). The present study represents an attempt to take such observations and hypotheses based on eyeballing alone and make them more rigorous and quantitative.

Several simulations have been already tested on a Dual P4 Xeon@2.8Ghz with 2Gb of RAM. Given that the problem is roughly symmetrical in two axes, only a quarter of the problem has been considered, thus reducing its complexity. Boundary issues between the four quarters of the Colosseum have not been taken into account yet.

A total of 7,669 people have been introduced, guided by the AI algorithms. They

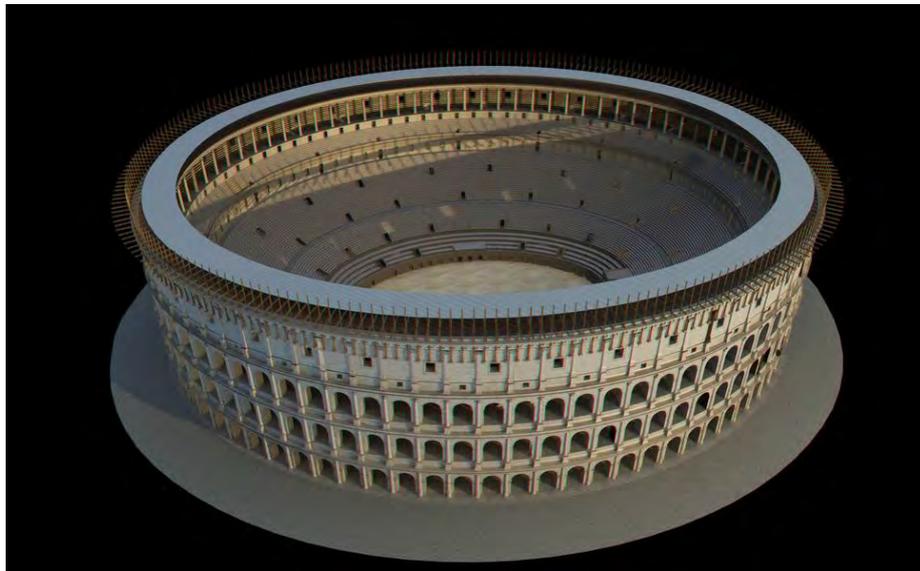


Figure 5: The digital reconstruction of the Colosseum.

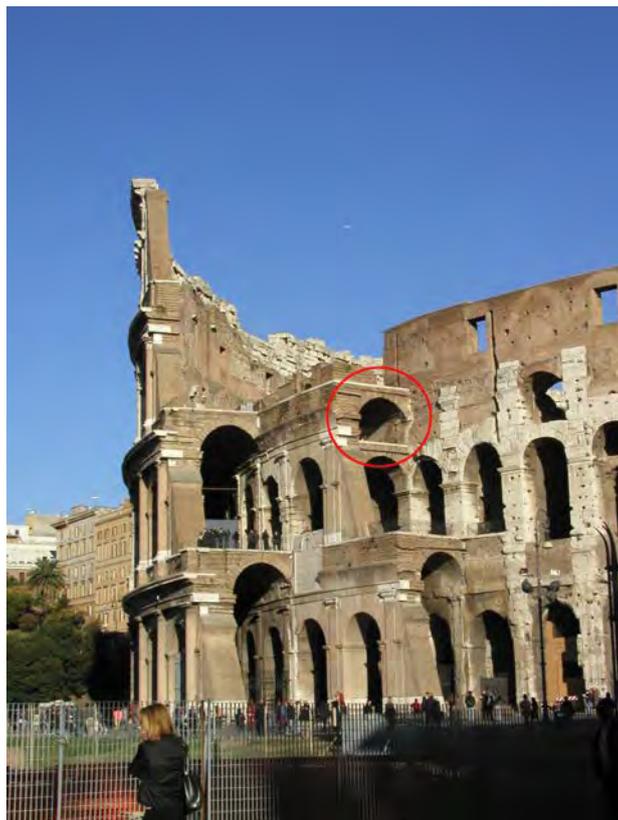


Figure 6: Location of a possible bottleneck in the Colosseum.

can react to a dynamic environment (the building plus everybody else, who obviously act as moving obstacles), and know which door they must enter through. Some have some previous knowledge of the Colosseum (as if they had been there before), and some do not. Their goal is simple: to enter by the right door and find their assigned seats. Of these, 251 were considered citizens of higher status, who use the most direct routes to their assigned seats, while the rest were distributed in the different levels of the building. All of them succeeded in finding their way around the building and occupying their place, avoiding obstacles in a dynamic environment where the presence of other agents dynamically changes the environment.

Letting the spectators enter all at the same time at a mean speed of 3 km/h (walking speed), the stand is occupied in about 15/20 minutes. Some critical points in the circulation system arise, such as the entrances, that are crossed by about 400 and 500 people (Figure 9), or the ground floor gallery, where the knights' path and the path of all the people trying to access higher levels converge (Figure 10).

Nevertheless, since scholars do not have a final word on certain key issues, such as how many people tried to enter the Colosseum at the same time, how many doors would remain open for how long or how often the building would be full up to its maximum capacity, many more combinations of hypotheses could be simulated and their outcomes studied. Figure 11 shows some frames of the rendered simulations.

## **7 Conclusions and Future Work**

The complexity of the full task of studying the Colosseum is fairly daunting, both because of the sheer size of the Colosseum and the massive amount of agents to be simulated. The simulation is therefore memory-intensive, and advanced optimization strategies must be developed in order to be able to scale the problem to its full dimension. A revised model of the Colosseum was created, based on an original model by [9]. This model was adapted to the needs of the simulation: the adaptation process included adding a few missing passages or simplifying the mesh when it was too detailed for the purposes of the project. The behavior of virtual agents has been modeled, by using a

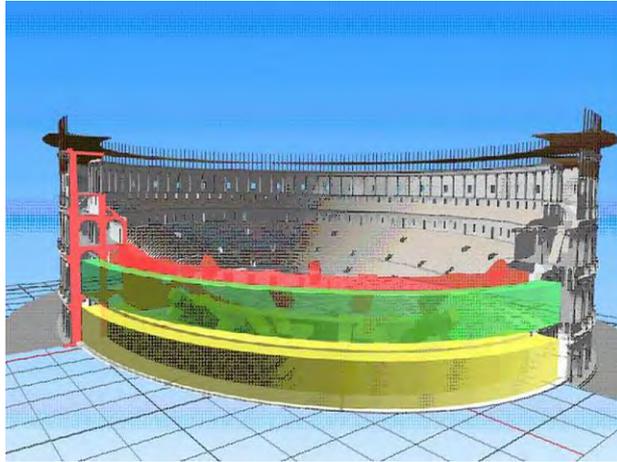


Figure 7: Routes through the Colosseum.



Figure 8: Corridors inside the Colosseum.



Figure 9: Digital actors entering the Colosseum.



Figure 10: Digital actors circulating through the ground floor.

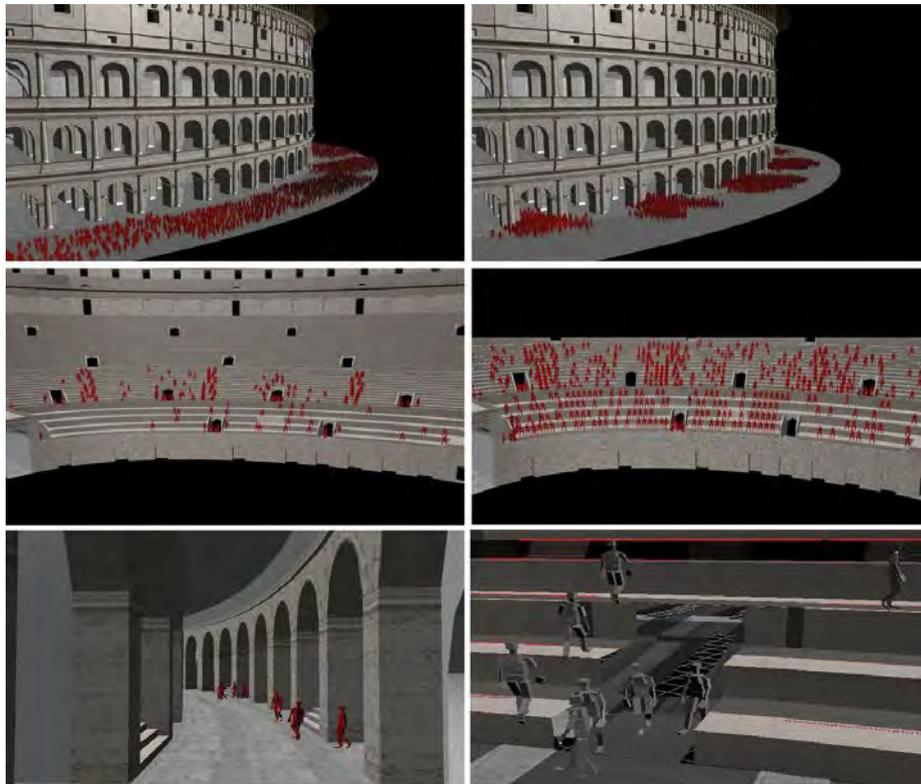


Figure 11: Some frames of the rendered simulations.

continuous perception-action scheme and Hierarchical Finite state Machines. Approximately eight thousand synthetic actors, governed by Artificial Intelligence (AI) algorithms, enter the Colosseum through the proper entrance, find their way around, and walk to their pre-assigned seats. The AI is based on state machines, under a perception-reasoning-action scheme. Non-deterministic behaviors can be added to a few random actors, or the characteristics of a given percentage can be altered to observe the effect on the crowd movement.

As predicted, several bottlenecks were detected in the simulation, although the results are not definite yet: different hypotheses need to be tested in order to draw more solid conclusions. Given for instance that the shows lasted the whole day, it is doubtful that all the people would try to enter the building at roughly the same time, and most likely the building would only be at its full capacity during selected fights. Several timings for entering the building will therefore be tested, and conclusions drawn. On the other hand, it is likely that, in whatever order spectators entered the building, the great majority left immediately upon the end of the last event. We will therefore also test the problems that occur when people left their seats and exited the amphitheater. One obvious remaining task is therefore to achieve a complete simulation in the whole building with approximately 50,000 agents. They can also be more varied in size, speed of movement, knowledge of the environment... Small groups which will tend to advance together can also be added, instead of all individuals. In order to detect bottlenecks more precisely, rendering 3D animations is not really necessary; virtual "people counters" will be placed at key spots of the Colosseum instead, and measures of people flux will be visualized in false color maps. This way, it will be easy to identify the suspected bottlenecks just by looking at high-stress areas in the map. Animations can be rendered a posteriori from a selected point of view once the interesting area of conflict is known.

The combination of Virtual Reality technology and Artificial Intelligence algorithms is very promising, and can be used a new tool for experimental architectural and urban history. We suspect that we have just scratched the surface of its potential.

## 8 Acknowledgements

This work has been partly funded by the Asia-Link Programme of the European Commission, under the contract ASI/B7-301/98/679/051(072471) (Development of Multidisciplinary Management Strategies for Conservation and Use of Heritage Sites in Asia and Europe). We would also like to thank the support of the Aragon Government through the WALQA agreement (ref. 2004/04/86) and of the Spanish Government through the TIN2004-07926 project.

For their contributions to the research project reported in this article, the authors would like to thank Dean Abernathy (UCLA) as well as Jorge del Pico (University of Zaragoza). The authors also thank the members of the Colosseum Advisory Committee of the CVRLab Colosseum Modeling project: Heinz Beste (German Archaeological Institute, Rome), Mark Wilson-Jones (University of Bath), and Lynn Lancaster (Ohio University). Finally, we express our gratitude to the Andrew W. Mellon Foundation, which gave a grant that made it possible to create the computer model.

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Thanks to the entrance system, social differences were made even more remarkable. According to the standard view, each spectator arrived at the games with a ticket denoting his seat, and even ticket-holders seated in the upper reaches of the *cavea* could supposedly reach their place rather quickly. Egress from the building at the end of the spectacles was also correspondingly quick and efficient. The purpose of the present project is to develop a formal quantitative model to test the validity of this common opinion. The most quantitatively precise version is perhaps that found in Pearson [7]:

*"In engineering there are clear affinities between the control of water and of human beings in the mass. In the preliminary designs for the Colosseum, similar foresight was applied to both. One reason why the building has stood for centuries can be attributed*

*to the drainage system hidden beneath the main piers, a carefully constructed line of gullies leading the surplus water from the perimeter to the main sewer. In much the same way the architect devised a system to ensure that his vast amphitheatre would fill and empty perfectly with people. He did this by planning eighty so-called vomitoria -a word which graphically sums up the way the Colosseum spewed out its audience when the show was over-big numbered staircases leading the people to carefully segmented rows within the building. These staircases worked so efficiently that it has been calculated that a full audience could leave the building in three minutes flat”.*

## **4 Modelling the Colosseum**

The first step was to create a suitable 3D model of the Roman Colosseum which could be used to run the simulations. A model had already been successfully developed for previous studies. However, this original model was intended for real-time applications, and some of the important features were missing, such as some stairs, passages, doors and stands’ accesses (see Figure 4). Without an accurate model which included *all* possible passageways and features, the artificial intelligence simulations would be meaningless. In this case, the environment was as important as the virtual actors’ intelligence. Since the simulation was to be run off-line anyway (computing needs out-ruling real time), all the necessary detail could be added to the model without any restrictions. Figure 5 shows the final model of the Colosseum.

## **5 Creating Smart Crowds**

In this section we describe the Artificial Intelligence (AI) framework used in this project, although it is not meant to be exhaustive. A more detailed description on the basics of building an AI engine can be found in [8]. The approach taken in this work is bottom-up: we build a basic set of rules and study what happens, as opposed to a top-down approach where the goal dictates the behavior rules. The bottom-up approach guarantees that the system is not deterministic, its outcomes cannot be predicted and

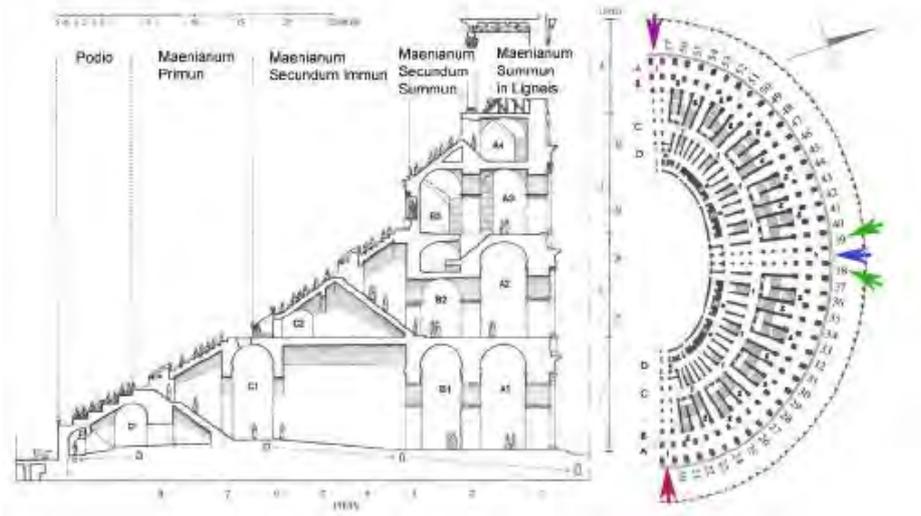


Figure 3: The different levels of the Colosseum.

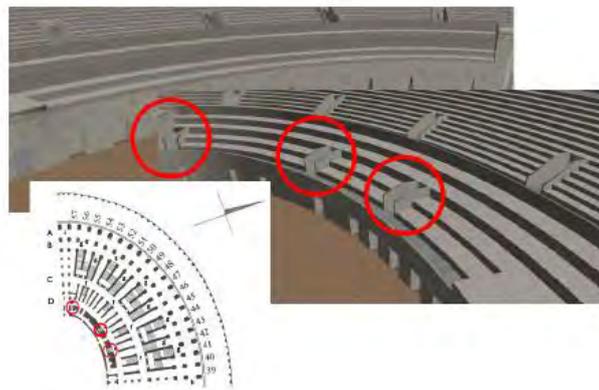


Figure 4: Completing the Colosseum 3D model.

therefore several unbiased scenarios can be tested. The aim of this work is to develop a multi-agent AI system with scripting capabilities in order to detect possible bottlenecks in the building and to test several hypotheses. The simulation does not need to run in real time; it will be calculated off-line to be then output to a render engine for visualization purposes.

## 5.1 Virtual Agents

In general terms, an agent is a software entity which is placed in an environment and operates under a continuous perception-reasoning-reaction loop with said environment. It then first receives as input some stimulus from the environment by using its own perceptual system, it processes it by adding the new information to its previous knowledge and goals and finally reacts by selecting one in a set of possible actions, which in turn might alter the environment, thus generating new stimuli.

An agent's basic structure is made up of:

- Senses: the way it perceives the environment
- Knowledge: a database about itself, its goals and the environment
- Intelligence (behavior): decision-making capabilities based on the knowledge database
- Motor: mechanisms that allow the agent to modify itself and the environment. It represents the agent's capabilities.

An attribute vector for each agent contains information about the agent itself and the environment. This information can be stored, deleted or modified during the simulation, and is the de facto database of the agent. The agents have an adaptive intelligence, where no previous knowledge of the environment is required.

The physical representation of the agent in the virtual world is called avatar. The description of the avatar then includes the software entity known as agent plus its graphical representation (animations, geometry, textures) and its physics (weight, velocity, acceleration). This allows the agent to modify the environment, including another agent.

## 5.2 Hierarchical Finite State Machines (HFSM)

The Hierarchical Finite State Machines (HFSM) contain the logic of the agent: depending on the state it is in and based on the changes in its attribute vector and/or environment, it will transition from one state to another, modifying both its attribute vector and the environment if necessary. To do this, the agent has a set of predefined actions, provided by the AI engine (walk, climb the stairs, stop). Even though these actions are predefined, they are generic enough to allow for great flexibility in the behavior of the agents. The term hierarchical simply means that smaller FSM's can be recursively encapsulated as a state of a bigger FSM.

A dynamic event generation system triggers transitions between states. Complex actions can be described by using a scripting language to define them. In a word, the HFSM's should be considered as the brains of the agents.

## 5.3 Navigation

The virtual environments for the agents are based on 3D Euclidean geometry. A graphics engine handles this layer of the simulation, whereas the AI engine extracts information from the environment and feeds it to the agent (such as there is an obstacle ahead).

For the agents to achieve their goals, three aspects must be considered:

- The sensor system: only the sight has been included in this version, modeled as an angular sector defined by the angle of vision and the visual reach (both parameters can be individually modified for each agent). Other important senses such as hearing are to be added.
- The pathfinding algorithms: Pathfinding (one word) is an AI technique consisting of finding possible routes between two given points. Its implementation is based on the well-known A\* algorithm (pronounced A-star)
- Free navigation and obstacle detection: the problem with the pathfinding algorithm is that it computes a route which is not sensible to changes in the environ-

ment. To solve this, pathfinding is used along with free navigation algorithms which allow agents to avoid sudden obstacles returning afterwards to the nearest point in their pathfinding route.

## 6 The simulation

It is unfortunate that Pearson did not give a source for the calculation. The purpose of the present project is to develop a formal quantitative model to test a novel thesis that states that, for most spectators, passage from the entrance to a seat in the upper levels of the amphitheater and from their seat to the exit was slower than previous scholars lead one to expect. This arises from the detection of some potential bottlenecks in its structure, the most obvious shown in figure 6, highlighted by a red circle.

Figure 7 shows a graphic illustrating the circulation routes through the structure. As the illustration makes clear, the routes to the best seats in the lower part of the cavea (yellow and green in figure 7), where the citizens of higher status sat, were short, direct and through well-illuminated corridors (see left part of Figure 8). In contrast, the spectators who had seats at a higher level passed through a relatively low, narrow, and dark corridor (red in figure 7). There were no alternative routes: the overwhelming mass of spectators coming to the view the games had, perforce, to pass through this corridor (right part of Figure 8). Passage through this least spacious and darkest corridor in the superstructure of the Colosseum cannot have been a pleasant experience, no matter the crowd density. One can imagine that it even served to slow down the flow of spectators to their seats (or, at the end of the day's events, to the exits). The present study represents an attempt to take such observations and hypotheses based on eyeballing alone and make them more rigorous and quantitative.

Several simulations have been already tested on a Dual P4 Xeon@2.8Ghz with 2Gb of RAM. Given that the problem is roughly symmetrical in two axes, only a quarter of the problem has been considered, thus reducing its complexity. Boundary issues between the four quarters of the Colosseum have not been taken into account yet.

A total of 7,669 people have been introduced, guided by the AI algorithms. They

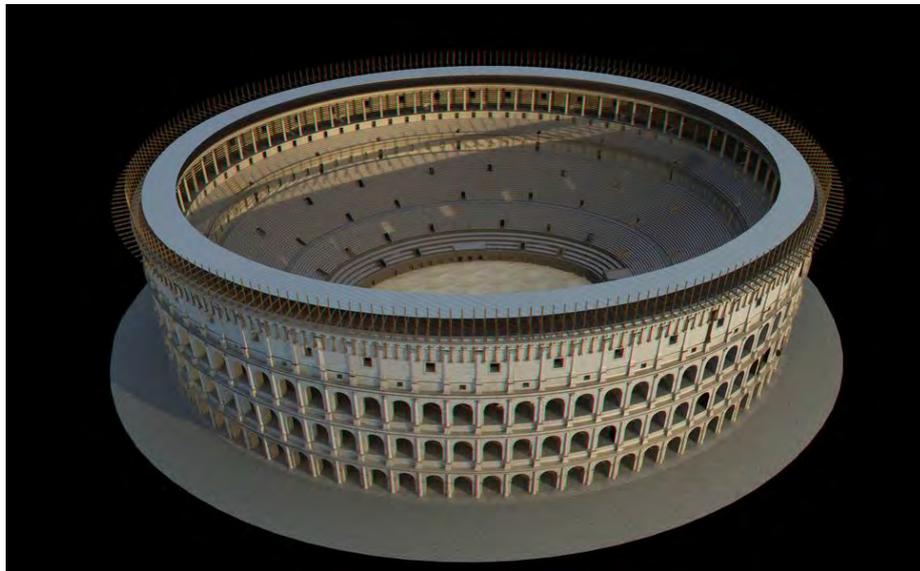


Figure 5: The digital reconstruction of the Colosseum.

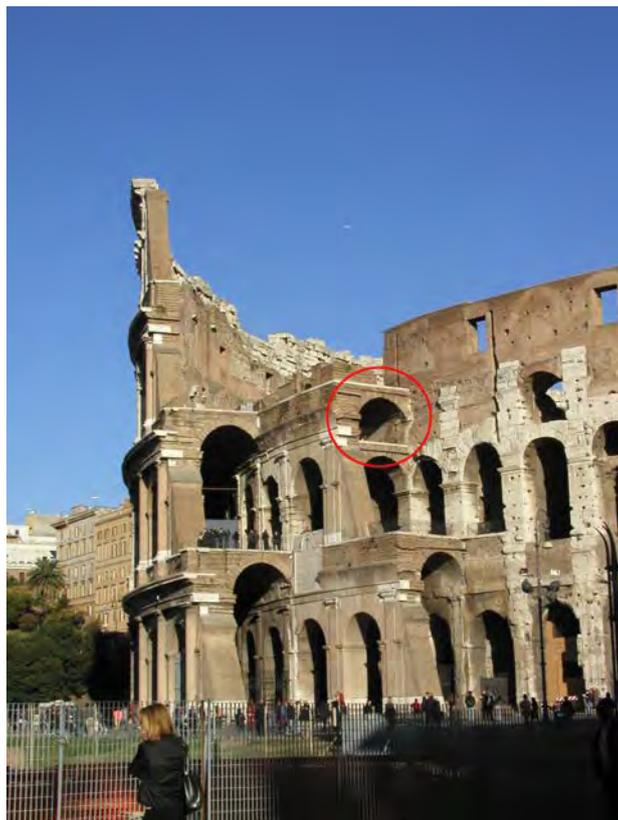


Figure 6: Location of a possible bottleneck in the Colosseum.

can react to a dynamic environment (the building plus everybody else, who obviously act as moving obstacles), and know which door they must enter through. Some have some previous knowledge of the Colosseum (as if they had been there before), and some do not. Their goal is simple: to enter by the right door and find their assigned seats. Of these, 251 were considered citizens of higher status, who use the most direct routes to their assigned seats, while the rest were distributed in the different levels of the building. All of them succeeded in finding their way around the building and occupying their place, avoiding obstacles in a dynamic environment where the presence of other agents dynamically changes the environment.

Letting the spectators enter all at the same time at a mean speed of 3 km/h (walking speed), the stand is occupied in about 15/20 minutes. Some critical points in the circulation system arise, such as the entrances, that are crossed by about 400 and 500 people (Figure 9), or the ground floor gallery, where the knights' path and the path of all the people trying to access higher levels converge (Figure 10).

Nevertheless, since scholars do not have a final word on certain key issues, such as how many people tried to enter the Colosseum at the same time, how many doors would remain open for how long or how often the building would be full up to its maximum capacity, many more combinations of hypotheses could be simulated and their outcomes studied. Figure 11 shows some frames of the rendered simulations.

## **7 Conclusions and Future Work**

The complexity of the full task of studying the Colosseum is fairly daunting, both because of the sheer size of the Colosseum and the massive amount of agents to be simulated. The simulation is therefore memory-intensive, and advanced optimization strategies must be developed in order to be able to scale the problem to its full dimension. A revised model of the Colosseum was created, based on an original model by [9]. This model was adapted to the needs of the simulation: the adaptation process included adding a few missing passages or simplifying the mesh when it was too detailed for the purposes of the project. The behavior of virtual agents has been modeled, by using a

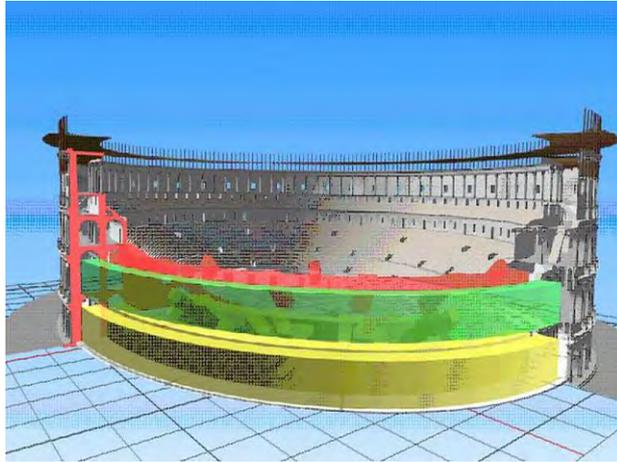


Figure 7: Routes through the Colosseum.



Figure 8: Corridors inside the Colosseum.



Figure 9: Digital actors entering the Colosseum.



Figure 10: Digital actors circulating through the ground floor.

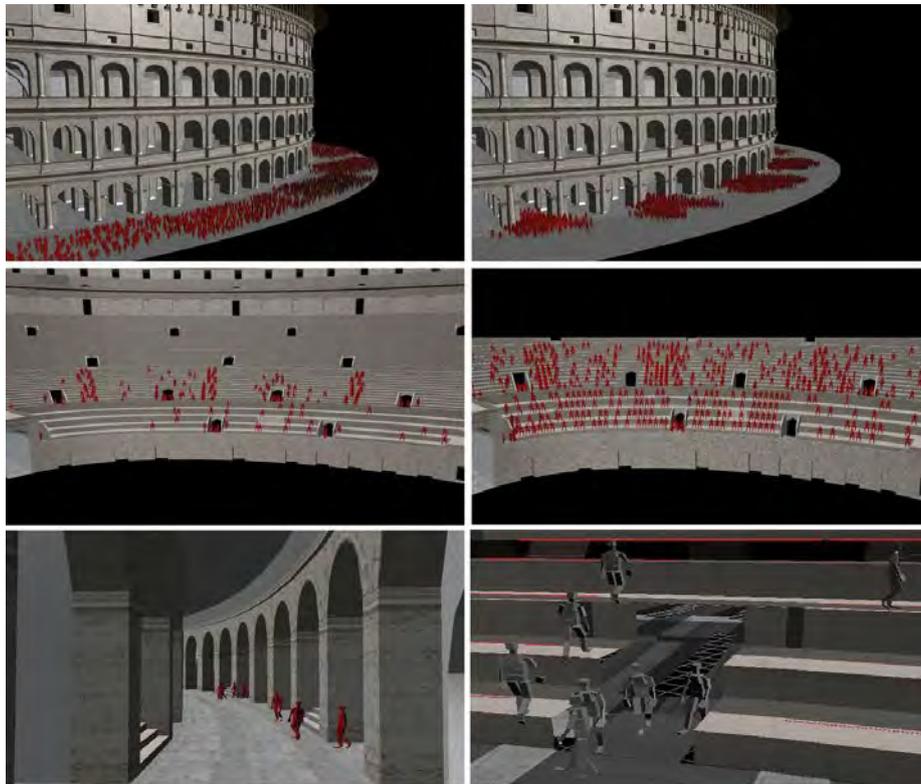


Figure 11: Some frames of the rendered simulations.

continuous perception-action scheme and Hierarchical Finite state Machines. Approximately eight thousand synthetic actors, governed by Artificial Intelligence (AI) algorithms, enter the Colosseum through the proper entrance, find their way around, and walk to their pre-assigned seats. The AI is based on state machines, under a perception-reasoning-action scheme. Non-deterministic behaviors can be added to a few random actors, or the characteristics of a given percentage can be altered to observe the effect on the crowd movement.

As predicted, several bottlenecks were detected in the simulation, although the results are not definite yet: different hypotheses need to be tested in order to draw more solid conclusions. Given for instance that the shows lasted the whole day, it is doubtful that all the people would try to enter the building at roughly the same time, and most likely the building would only be at its full capacity during selected fights. Several timings for entering the building will therefore be tested, and conclusions drawn. On the other hand, it is likely that, in whatever order spectators entered the building, the great majority left immediately upon the end of the last event. We will therefore also test the problems that occur when people left their seats and exited the amphitheater. One obvious remaining task is therefore to achieve a complete simulation in the whole building with approximately 50,000 agents. They can also be more varied in size, speed of movement, knowledge of the environment... Small groups which will tend to advance together can also be added, instead of all individuals. In order to detect bottlenecks more precisely, rendering 3D animations is not really necessary; virtual "people counters" will be placed at key spots of the Colosseum instead, and measures of people flux will be visualized in false color maps. This way, it will be easy to identify the suspected bottlenecks just by looking at high-stress areas in the map. Animations can be rendered a posteriori from a selected point of view once the interesting area of conflict is known.

The combination of Virtual Reality technology and Artificial Intelligence algorithms is very promising, and can be used a new tool for experimental architectural and urban history. We suspect that we have just scratched the surface of its potential.

## 8 Acknowledgements

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# FROM CVR TO CVRO: THE PAST, PRESENT, AND FUTURE OF CULTURAL VIRTUAL REALITY.

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*The authors first sketch the development of cultural virtual reality (CVR) within the overall context of the development of computing since the 1940s. After establishing the nature and ubiquity of virtual reality systems, especially in the 1990s, and predicting their further spread in the coming decade, they argue that the time is ripe for the creation of a new professional association devoted to the computer modeling of cultural heritage sites. The proposed association will be called CVRO (or, "Cultural Virtual Reality Organization") – a play on the Latin word curo ("I care for"; cfr. English "curate"). It will be open to professors, students, and professionals actively engaged in the theory and practice of cultural virtual reality – the content developers of CVR. The goals of CVRO will include: defining and defending the interests of its members; holding an annual meeting for the exchange of information; hosting a Web site; and developing aesthetic, scientific, and technical standards for cultural virtual reality models. Readers wishing to join CVRO are asked to contact one of the co-authors.*

## 1. INTRODUCTION

*If the ten-year rule of thumb holds true, personal computer enthusiasts by the millions a decade from now will be interacting directly with virtual worlds through their desktop reality engines.*

HOWARD RHEINGOLD (1991)

*All men by nature desire to know. An indication of this is the delight we take in our senses; for even apart from their usefulness they are loved for themselves; and above all others the sense of sight. For not only with a view to action, but even when we are not going to do anything, we prefer seeing (one might say) to everything else. The reason is that this, most of all the senses, makes us know and brings to light many differences between things.*

ARISTOTLE, *Metaphysics* 980a (ca. 330 B.C.)

Howard Rheingold's ten-year rule worked. Now, almost ten years after he published his prediction, millions of personal computer enthusiasts are interacting with virtual worlds through desktop 3D engines. But, with a few notable exceptions, the virtual worlds they are visiting in the computer games they play and on the Web sites they visit are generally the creations of anonymous digital graphic artists and make no claim to scientific accuracy or authenticity. Now, indeed, we can make a new prediction: after another cycle of the ten-year rule, by the year 2011

hundreds of millions of personal computer enthusiasts will be interacting with hundreds of thousands of virtual worlds on a variety of devices in their homes, schools, and offices. What will these worlds be? Most will undoubtedly be a great deal more photorealistic than today's average 3D computer model, but most will also almost certainly be no less fanciful. Humanity's appetite for new entertainments and spectacles is unquenchable and probably far exceeds its more sober curiosity for visualizations of scientific models of natural and man-made objects. In a recent futuristic issue of *Time* magazine devoted to "The Future of Technology" Ray Kurzweil predicts that virtual reality will be used to offer "any type of experience with anyone – business, social, romantic, sexual – without having to be in the same place" (KURZWEIL 2000, 83). Nevertheless, since "all men by nature desire to know", and, as in Aristotle's day, learn best through seeing, we can predict that, in comparison with the last ten years, many more of the new virtual worlds waiting to be born in the next 10-year cycle will be scientific, i.e. accurate digital representations of the object they purport to model as authenticated by experts.

As scholars active in the field of cultural heritage, it is naturally computer models of cultural heritage sites (i.e., CVR) that interest us. Digital reconstructions of archaeological sites, digital restorations of existing buildings showing them in their earliest phase, computer recreations of entire cities as they appeared at earlier stages in their history: all these are examples of virtual worlds that have been created in the past decade and that will be created in even greater numbers during the second ten-year cycle that is just beginning. We write this article because we are

concerned that as the pace of virtual world creation picks up, the opportunity not be lost to ensure that at least some small portion of the new models are scientific in the sense defined above. We also write because we think that now is the right moment to pause and reflect on what it will take to maximize the number of scientific models that will be created and consumed in the years ahead. As will be seen, we think that, in view of the impressive groundwork of hardware and software already laid, the answer we seek is more theoretical and sociological than it is technological. The bad news may be the weakness of human nature, but the good news is that CVR content developers can themselves take some obvious steps – taken many times by practitioners of other professions – and become to no small extent the masters of their own fate.

It has taken a long time for computing to reach the point where authenticated, photorealistic models of the world's cultural heritage sites have been possible and economical. It is the thesis of this paper that what we call "cultural virtual reality" (CVR) has now come of age. The technological and theoretical preconditions for CVR had been laid by 1990. The 1990s witnessed the efforts of a few pioneers who seized the moment and commenced the practice of CVR. In this paper, we review the "prehistory" of CVR and argue that it is now important for CVR developers to found a professional organization that will represent their interests; give them a forum for sharing new ideas and projects; communicate with each other; provide a clearinghouse for their CVR models that third parties can license; and, most important of all, provide a structure through which new technical, aesthetic, and scientific standards can be defined and implemented.

## 2. BACKGROUND. THE PREHISTORY OF CVR

As is well known, the progress of computing since World War II has been based on a number of favorable and related developments: the steady decrease in the cost and size of computer power, memory, and other key hardware components; the gradual increase in the number of components that can be put onto a single integrated circuit; the relentless acceleration of computational speed of central processing units; etc. Thus, ENIAC (Electronic Numerical Integrator And Computer), an early computer built from 1943-1946 at the University of Pennsylvania by John W. Mauchly and J. Presper Eckert, Jr., occupied a room that was about 10 x 15 meters in size; ENIAC could only perform 15 to 50 additions per second.<sup>1</sup> In 1996, in honor of the fiftieth anniversary of ENIAC, computer science students at the same university built a single computer chip, 7.44 mm by 5.29 mm, using a 0.5 micrometer CMOS technology, that had the same architecture and power as the original ENIAC.<sup>2</sup> The chip was less than 1/3800<sup>th</sup> the size of the original machine. Meanwhile, by the same year, the frequency of a typical PC microprocessor had reached 200 million instructions per second.<sup>3</sup> Also in 1996, the United States Department of Energy's Sandia National Laboratory and Intel Corporation created a parallel supercomputer that operated at 1.06 teraflops (1.06 trillion instructions per second). By 2000, IBM had created a supercomputer operating at 12.3 teraflops,<sup>4</sup> Personal computer performance had speeded up even more by 2000, reaching frequencies as high as 5.5 gigaflops.<sup>5</sup>

ENIAC was built to generate ballistic tables for the US Army.<sup>6</sup>

The original applications of computing power were military, and throughout the history of the postwar era, US military investment has driven breakthroughs in hardware, software, and in the very conception of how the computer might be used. Thus, Thomas Watson, Sr. the founder and President of IBM, resisted his son's efforts in the 1940s to launch a computer division of the company, claiming that the worldwide market was minute and limited to scientists.<sup>7</sup> Watson Sr.'s infamous (but hard to corroborate) estimate of potential demand was "maybe five computers".<sup>8</sup> In the event, his son, Thomas Watson, Jr., was right in predicting the penetration of the computer into the commercial sector: by 1959 the market of computers for business far exceeded that for the military, and under Watson, Jr. IBM's valuation had grown from \$900 million to \$8 billion.<sup>9</sup>

As early as 1945, a breakthrough of another kind was made that was to be as important for the growth of CVR as progress in brute computing power. Since the earliest computing devices of Schickard, Pascal, Leibniz, and Babbage, the purpose of the computer was clear: as the name implies, it was a calculator designed to spare humans the tedious effort of solving equations that were either long or, as in the case of tables, numerous.<sup>10</sup> Credit for a new vision of how a calculating machine might be used goes to Vannevar Bush.<sup>11</sup> In the same period that ENIAC was being built, Bush published an article in a popular American magazine that laid out a stunning vision of technological and media convergence. Bush, who served during World War II as Director of the wartime Office of Scientific Research and Development,<sup>12</sup> dubbed his proposed information system the "memex". The memex was to be a vast multimedia database stored on microfilm and accessed by a computerized index built on the principles of associative logic.<sup>13</sup> The user's meandering trail through the database could itself be recorded and accessed again.<sup>14</sup>

In 1963, Douglas Engelbart founded the Augmentation Research Center (ARC) with US military funding through the Advanced Research Project Agency (ARPA, later DARPA). Engelbart knew and cited Bush's article;<sup>15</sup> he also shared Bush's goal of using the computer for operations far beyond mere mathematical calculation. As the name implies, ARC's mission was to explore how the computer could augment the human intellect in ways that Bush had anticipated. With the passage of time, Engelbart could see that Bush's memex was a technological hybrid whose use would be cumbersome, time-consuming, and ultimately frustrating to the user.<sup>16</sup> In effect, the work of the ARC was completely to computerize Bush's memex and make other improvements. New devices and processes were developed at ARC to make the parts of the system more ergonomic and efficient: the mouse and pointer cursor; display editing; linking and in-file object addressing; multiple windows; hypermedia.<sup>17</sup> In the '60s and '70s the lab developed a hypermedia-groupware system called NLS (for ONLine system).<sup>18</sup> Parallel research was done at the University of North Carolina, Chapel Hill by Frederick Brooks, who founded that university's Department of Computer Science in 1965. His work since then has tested and implemented his concept of "intelligence amplification", whose similarity to Engelbart's notion of augmentation has been noted by RHEINGOLD 1991 (36).<sup>19</sup>

Major contributions to the prehistory of CVR were also made by Ivan Sutherland in the 1960s. In research for his Ph.D. dissertation (SUTHERLAND 1963), Sutherland developed *Sketchpad*, the first program that permitted the user to make

highly precise engineering and architectural drawings on a CRT. *Sketchpad* also had the ability to zoom in and to zoom out on the CRT. It could produce memory structures, rubberband lines, and it was able to make exact lines, corners, etc. at a scale of 1:2000.<sup>20</sup> In 1966, while teaching at Harvard, Sutherland's interest in computer-generated graphics led him to the first experiments in what would much later be called "virtual reality". Adapting an existing video system whose display was "head-mounted" (i.e., a so-called head-mounted display, or HMD), Sutherland substituted computer graphics input for the video, thereby immersing the wearer of the display into a virtual world consisting of a simple wire-frame room with the cardinal points (NORTH, SOUTH, etc.) inscribed on the "walls".<sup>21</sup> As early as 1964, Sutherland's research, like Engelbart's, received US military funding through ARPA. In 1968, Sutherland joined with David C. Evans, then a fellow professor at the University of Utah, and founded Evans & Sutherland with the financial support of Venrock, the Rockefeller family's venture capital company. The company's original products were graphics devices, such as image generators, and flight simulators. The company struggled until the Navy contracted in 1977 to purchase its CT5 image generator for use in the new CH46 helicopter system.<sup>22</sup>

Just as Evans & Sutherland was finally getting off the ground as a commercial venture, James Clark was arriving at Stanford to teach computer science. In 1978, he created a processor which he called the "geometry engine". This was a chip onto which the algorithms used to create 3D computer graphics had been programmed, thereby dramatically speeding up rendering time. By 1982, Clark was ready to leave the university and start up Silicon Graphics Inc.<sup>23</sup> By 1984, SGI (as the company was to be officially named in 1999) was shipping its first workstations and producing high-end 3D graphics systems that came to dominate the market by the early 1990s from the time when the Onyx Reality Engine was launched in 1993 and the first SGI Reality Center was created by David Hughes of SGI in Theale (Berkshire), England.<sup>24</sup> The Center featured a Reality Theater, which is a room in which the audience views a curved screen onto which images from a SGI supercomputer are projected. The Reality Theater provides an immersive, interactive, and real-time environment in which large or small groups of people can experience a virtual world together. Because of their high cost, Reality Theaters have mainly been sold to government agencies and corporations (particularly to companies in the field of oil and gas exploration). In 2000, UCLA was to become the first university in the world to build a SGI Reality Theater.<sup>25</sup>

The 1980s also saw the development of haptics, or "the use of physical sensors to provide users with a sense of touch at the skin level, and force feedback information from muscles and joints".<sup>26</sup> Jaron Lanier and his company VPL developed several important patents in this area and marketed the DataGlove, an early haptic device.<sup>27</sup>

The 1990s saw the development of several other kinds of theaters and displays dedicated to the presentation of real-time, immersive virtual reality. In 1992, the first was created for SIGGRAPH 92 Showcase. The CAVE is a cube-shaped room, typically 10' x 10' in size or bigger, onto to whose walls, ceiling, and floor the computer output is projected in real-time. The first CAVE was used for scientific visualization of a variety of astrophysical phenomena such as the Rayleigh-Taylor Instability and gravitational wave

components predicted by Einstein's General Theory of Relativity.<sup>28</sup> CAVES are particularly good spaces in which to run CVR models of architectural and urban spaces, since users are fully immersed within the virtual world, and the right angles of the CAVE generally fit the angles of virtual architectural spaces. The UCLA CVR Lab has been able to run one demonstration in the CAVE of Virginia Tech, thanks to the generosity of the Virginia Tech College of Architecture and Urban Studies.<sup>29</sup> Also in the 1990s, Evans & Sutherland marketed the StarRider domical theater, which has mainly been used in planetaria.<sup>30</sup> At the invitation of Evans & Sutherland, the UCLA CVR Lab has been able to run a demonstration of its models in the StarRider theater, with results that were not quite as satisfying as those in the Reality Theater and CAVE. Owing to the StarRider's domical projection surface the rectilinear shapes of our architectural models were distorted. It remains to be seen if the StarRider can be tweaked to provide better performance for typical CVR models.

As the theoretical and practical foundations for virtual reality were laid in the 1960s, 70s, and 80s, early applications tended to be military and industrial. This is not surprising in view of the high cost of the first systems. Flight simulation and oil exploration have already been mentioned.<sup>31</sup> But cultural applications of the kind that interest us were not far behind. Nicholas Negroponete indeed has identified the Aspen Movie Map of 1978 – funded, inevitably, by ARPA – as the very first multimedia project (NEGROPONTE 1995, 65-67).<sup>32</sup> It can also be considered the direct ancestor of CVR, which could not yet exist because, as we have seen, the necessary hardware and software had not yet been created. The streets of Aspen, Colorado were filmed in each direction by taking a shot every three feet. The footage of the straight streets were put onto one videodisc; the curves were put onto a second videodisc. The videodiscs were driven by a computer, on whose display the footage was seen. The user had the illusion of driving through the town, turning right or left at intersections, as he wished. The motivation behind the project was to give the US armed forces the virtual equivalent of the kind of training the Israel army used to prepare for the successful raid on July 3, 1976 on the Entebbe, Uganda airport, where 103 hostages were being held by Palestinian terrorists. But whereas the Israeli training took place in a physical reconstruction of the Entebbe airport (which, by chance, Israelis had designed), the US solution was to create a system that could support photorealistic computer simulations of any and every possible terrorist target around the world.

Michael Naimark, a media artist who collaborated with Negroponete on the Aspen project, characterized the system as "surrogate travel", not "virtual reality", a term whose coining is generally attributed to Jaron Lanier at some unspecified time in the late 1980s.<sup>33</sup> Even more common in the 1980s was the term "simulation" (RHEINGOLD 1991, 24; BIOCCA, KIM and LEVY 1995, 6), which was taken over from computerized flight training. The Aspen Movie Map inspired several other prototypical CVR projects in the 1980s, including UCLA's Project CICERO, which proposed to create an urban simulation on videodisc of ancient Rome using the great "Plastico", or plaster-of-Paris model of the city in the time of Constantine. The model is housed in the Museum of Roman Civilization in a suburb of Rome (see FRISCHER 1988). In the event, test photographs showed that the Rome model, which had been started in the 1930s and

was intended to be seen from a balcony at a height of several meters, did not have enough detail to sustain a close viewing, and so Project CICERO was never implemented in the manner originally proposed. In the mid-1990s, CICERO was revived as UCLA's ROME REBORN project, which saw the use of VR technology in effect to recreate the Plastico from the beginning, with new archaeological data – not the Plastico itself – used as the basis of the VR model.

By the early 1990s, the term “virtual reality” had come into general currency (cfr., e.g., FISCHER 1991; LANIER 1992) and the 90s were years in which true CVR projects first appeared – not always, as we will see, to great acclaim. But as with any innovation, the early failures were as instructive and useful as the successes. The spread of the term and the VR industry itself can be measured from, e.g., the following statistics gleaned from the US Patent Office database. In abstracts prior to 1991, the term “virtual reality” does not appear at all. From 1991 to 1995, we find it 22 times. But by 1996-2001, the number of attestations has increased to 172.

Given the terminological creep by which “virtual reality” displaced such earlier terms as “surrogate travel”, “artificial reality”, and “simulation”, it is not surprising that the 1990s also saw some confusion about what virtual reality really means. One of the pioneers of the field indeed by 1997 was expressing her exasperation about the term's misuse as a catchall for any use of computers that reeked of the “bizarre and science-fiction” (CRUZ-NEIRA 1997, 2-2). She cited with approval the definition of Steve Bryson and Steve Feiner, who called “virtual reality” “the use of three-dimensional displays and interaction devices to explore real-time computer-generated environments”. HEIM 1993 (109-127) attributes to virtual reality any or all of the following characteristics: simulation, interaction, artificiality, immersion, telepresence, full-body immersion, and networked communications. In what follows, we understand “virtual reality” as implying the use of three dimensional computer graphics in a system that is (at a minimum) real-time, immersive, and interactive. CVR is the use of VR systems specifically for the presentation of the world's cultural heritage sites. For our purposes, an important distinction should be made between VR and computer graphics (CG), with which VR is sometimes confused. While all VR could be called CG, not all CG constitute VR. The difference is that, whereas CG is simply “pictorial representations of objects and data using computers”,<sup>34</sup> VR is CG requiring immersion, interactivity, and a real-time delivery system. Generally, those CG that are not properly VR fail the test of real-time applicability. Thus, whereas in a true VR system, the computer generates images at a frame rate equal or greater than the *phi*-phenomenon (ca. 24 frames per second),<sup>35</sup> CG used in special effects in movies require average rendering times of ten hours per frame.<sup>36</sup>

As the 1990s progressed, another important development could be detected: a partitioning of VR developers between what could loosely be called “artists” and “scientists”. Heim humorously applied a “bicoastal” metaphor to this division: “There are two coasts in the mind. The West Coast wants VR to serve as a machine-driven LSD that brings about a revolution in consciousness; the East Coast wants a new tool for supporting current projects and solving given problems” (142). In a recent book, HOLTZMAN 1998 discusses the aesthetic possibilities of VR, reveling, as an artist, in the new creative possibilities VR technology affords. As yet there is

no similar study of the other branch of the bifurcation. Below, we will argue that one reason a professional organization of CVR developers is needed is precisely to provide a framework in which such studies can occur. Ironically, it has been the UCLA Cultural Virtual Reality Lab, located on the West Coast, that has done some of the early studies on scientific CVR.

### 3. FOREGROUND

*With appropriate programming, such a display could literally be the Wonderland into which Alice walked.*

IVAN SUTHERLAND (1965)

*VR has the potential to create an extremely rich perceptual and cognitive environment. Interacting with such an environment may sometimes tax mental capacities. Under such perceptual and cognitive stress people may be more likely to accept percepts and statements as real because they don't have the capacity to check for veracity, and the default value is real.*

SHAPIRO and McDONALD 1995, 334

*If the cinema art is going to draw its subjects so generously from history, it owes it to its patrons and its own higher ideals to achieve greater accuracy. No picture of a historical nature ought to be offered to the public until a reputable historian has had a chance to criticize and revise it.*

Prof. LOUIS GOTTSCHALK

University of Chicago, 1935 in a letter to the president of Metro-Goldwyn-Mayer (ROSENSTONE 1995, 45-46)

The theory and practice of CVR developed apace in the 1990s. As early as 1989, Reilly and Shennan proposed applying 3D computer technology to archaeological problems, especially three-dimensional modeling of archaeological sites (REILLY 1989; REILLY and SHENNAN 1989). A volume of occasional papers was published by the British Museum in 1996 that included contributions such as RYAN 1996 and CHALMERS and STODDART 1996 that followed up on Reilly's suggestions. FORTE and SILIOTTI 1997 (originally published in Italian in 1996) in effect present a catalogue of actual archaeological computer modeling projects from the first half of the 90s. From the list of contributors of the models, we can see that major players up to that point were commercial: Taisei Corp., Hochfeiler, IBM, Infobyte, Santa Barbara Studios and Pathways Production, etc. (FORTE and SILIOTTI 1997, 288). CINECA is the exceptional academic institution on the list. Given the expense of VR systems in the early 1990s, this is not surprising.

An odd feature of FORTE and SILIOTTI 1997 is the frequent disconnect between the descriptions of the archaeological sites and the computer models used to illustrate them. Rarely, if ever, are we told who made the model, whether there was any consultation between the modelmaker and the archaeologists, and what elements of the model are known with certainty and which are hypothetical. Yet, as Sutherland trenchantly noted as early as 1965, “with appropriate programming, such a [HMD] display could literally be the Wonderland into which Alice walked” – a Giuseppe Arcimboldo portrait, as opposed to a scientific

illustration by such Renaissance masters as Francesco di Giorgio Martini or Luca Pacioli (see CROSBY 1997, 232). This is not in any way to deprecate the value of Forte and Siliotti's seminal publication.

The issue of "historical credibility" raised by Forte and Siliotti is the explicit subject of RYAN 1996. As he notes (107), many early CVR projects were undertaken as "vehicles for demonstrating advanced graphics techniques with any archaeological considerations playing a less important role" (107). Ryan urged archaeologists "to communicate archaeological and historical information to their colleagues and to the public, not to demonstrate their skills in the latest computer graphics techniques" (107). In this article, Ryan's concern was to relate the appearance of a computer model to the resulting inferences that unsuspecting users might draw about the quality of the archaeological data on which the model was based.

It seems as if many people are taking for granted the "real" nature of virtual worlds. Visual models are the equivalent of sensory representations in the brain: a translation of empirical phenomena into a geometric language. As models, they are the result of a transformation of input data, into a geometric explanation of the input, with light and texture information. That is, geometry is used as a visual language to represent a theoretical model of the pattern of contrast and luminance, which is the strict equivalent of perceptual models of sensory input in the human brain. All that means that "visualizing" the real world it is not the same as "picturing" it, because the model and the graphical means for creating and visualizing the world are distinct.

Accuracy is the topic of a theoretical paper by SHAPIRO and McDONALD (1995). Taking as their point of departure earlier psychological research showing that "belief is the default", they argue that, in VR systems, users are even more apt to lend credence to their experiences than they do in traditional media (cfr. especially 336-337). Operating from the assumption that all VR will be, to use Heim's term, "West Coast", Shapiro and McDonald confront only the issue of the effect of VR on users of artistic content. Recalling the old debate about the effect of mimesis on the viewer which goes back to Plato and Aristotle, they see both the danger of escapism and also the benefit of therapy. "Obviously spending too much time in virtual reality could be damaging to those who need to confront reality and not escape it. It could be particularly damaging to children and adolescents. But in some cases living in a VR could be therapeutic. Certain kinds of therapy encourage patients 'to abandon unproductive images and substitute more efficient images of reality.' In a skilled therapist's hands virtual reality might assist such processes" (342). Because Shapiro and McDonald do not consider "East Coast" VR, they do not discuss its possible effects on scientific research and education. We will return to this below.

The issues of accuracy, authentication, and scholarly input into the modeling process were brought urgently to the fore in the Pompeii CVR project of the now defunct Simlab of Carnegie Mellon University.<sup>37</sup> The Pompeii project also raised questions about the use of real-time VR in the museum context. Simlab was co-directed by artist Lowry Burgess and computer scientist Carl Loeffler.<sup>38</sup> It appears to have reached the peak of its existence in the period 1994-1996, when it created computer models of the Temple of Isis, the Greek theater, and the Triangular Forum at Pompeii. The models were shown in a gallery at the De Young Museum in San Francisco in 1995. The public,

which flocked in great numbers to the exhibit, was invited to don HMDS and explore the virtual world created by the Simlab team. SGI, whose platform was utilized, supplied the hardware but not a technician regularly on duty. The frequent technical glitches inevitable in any such exhibit thus often caused delays and other problems to which the museum staff found it hard to respond. The number of HMDS was far fewer than would ideally have been needed to give every visitor a chance to visit virtual Pompeii. Those that did get to visit found that they were left alone to explore the virtual world without a guide or any source of help and information.

The sense that the Pompeii exhibit was more, in Ryan's terms, a "vehicle for demonstrating advanced graphics techniques" than for conveying historical information to the museum visitor was reinforced by the poor quality of the model. Despite the project's financial support by the Archaeological Institute of America, no professional Pompeianists are known to have been consulted when the project was in its inception, nor to have had any major input on the final product. Predictably, professional archaeologists and art historians were not impressed by the results. In a thoughtful review in *Architronics*, BRIGMAN 1996 wrote:

*Let's begin with the troubling news. Lynn Holden, representing the Virtual Pompeii design team, showed video excerpts from an interactive walk-through of Pompeii's Temple of Isis and Large Theater. The Virtual Pompeii project, which is maturing thanks to a cadre of Onyx Workstations (donated by Silicon Graphics) and a grant from the Archaeological Institute of America, got mixed reviews. Certainly the design group at Carnegie Mellon's Virtual Reality Simulation Laboratory (VR SIMLAB) have ambitiously stalked what Silicon Graphics calls in their brochures "infinite reality". At the same time, however, the effect is disturbing and uncanny, sometimes cheesy and slick. It all too frequently feels packaged. Although impressive to those craving transport (indeed, at times the Pompeian site was "spectacular"), when Mr. Holden finished narrating the otherworldly glide-through of the restored Campanian complex, replete with anachronistic musical accompaniment and an androidal priest, there was a palpable electricity in the audience. Some sighed with what seemed to me exasperation, others with wonder.*

*Comments from the crowd ranged from the prosaic (i.e., the frustrations of trying to use the unwieldy navigation helmet that accompanied the project's public debut at the M.H. de Young Museum in San Francisco) to the hostile. In particular, a number of scholars observed that the design team had fashioned their temple complex out of mural vignettes excised from several different archaeological sites and contexts. Painted panels along the periphery of the reconstructed sanctuary were unsettling to many precisely because they had been filched from other Roman cities. Thus, the reconstruction took form as a pastiched continuum, a collage of recombinant parts. Not the kind of thing scholars of Antiquity are bound to love.*

But pioneering efforts that fail can be just as valuable as

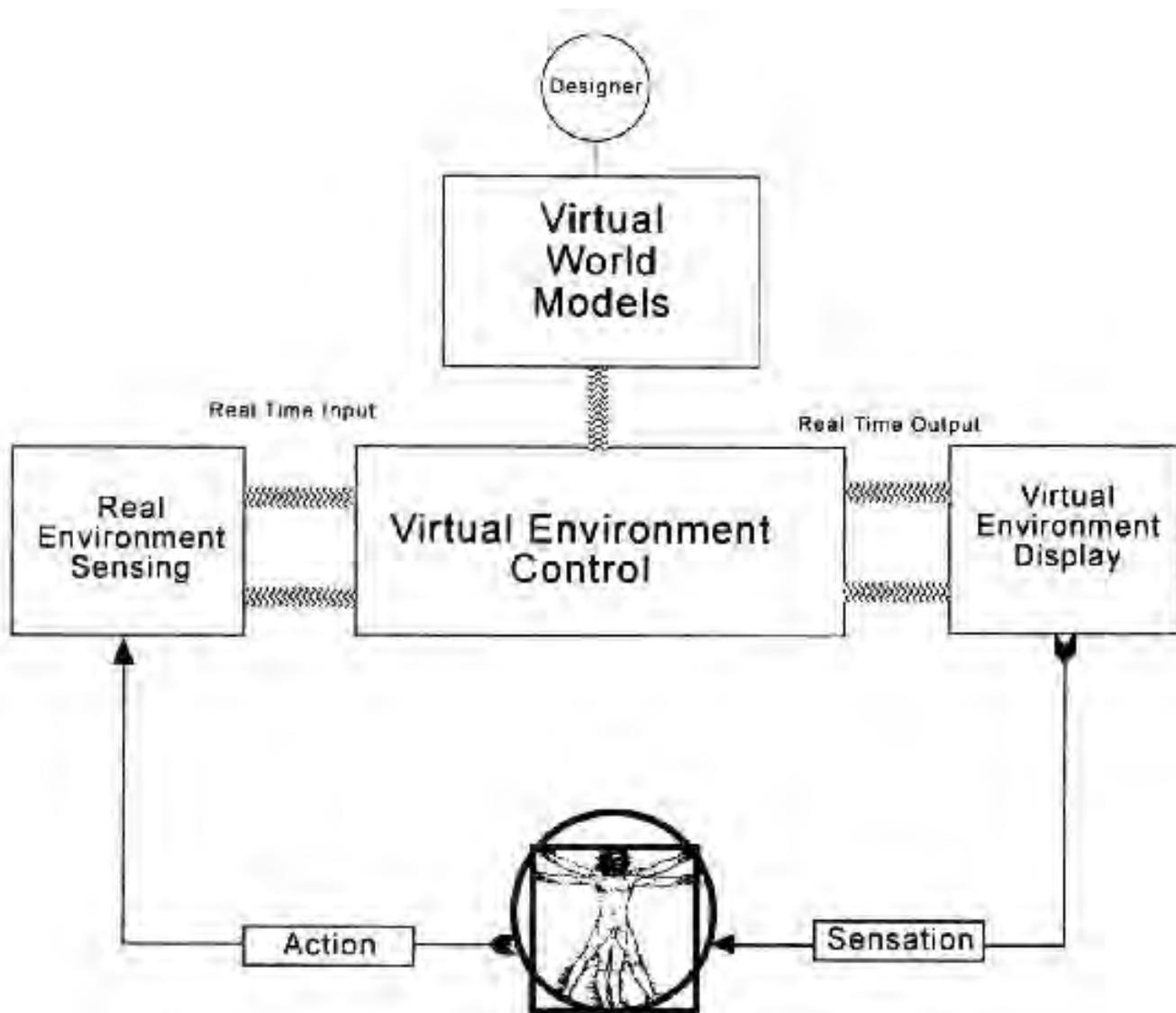


Figure 1. Diagram of a VR system (BIOCCA and DELANEY 1995, 114).

those that succeed. Such is the case with Simlab's Pompeii project. For those who studied the show in San Francisco, lessons could be learned about the best VR displays to use in public exhibits; the desirability of having a well-trained technician on duty at all times; and the need to make the virtual world an interactive information system, not simply an aesthetic experience. Even more important lessons could be learned about the structure and purpose of such CVR projects: although Simlab did invite some Pompeian experts to view its models, they were invited only after the completion of the bulk of the project and were not expected to do anything but admire the results.<sup>39</sup> This is exactly backwards: for the kind of scientific accuracy demanded by Ryan 1996, the experts should be in charge of collection of the modeling data, should regularly review the modelmaker's progress, and should be given the opportunity to sign off on the final product. On the other side of the Atlantic in the 1990s archaeologists have also been rarely involved in the creation and interpretation of Virtual Reality models (see a general reference in BARCELÓ 2000). In Europe, most CVR applications have developed as an offspring of engineering research in computer graphics. With a few notable exceptions, most teams have not included historians,

archaeologists or humanists, but only computer experts. Only recently have museums started participating in such projects as content providers, but these concern educational multimedia applications, which are only the tip of the CVR iceberg. In these conditions, it is no surprise that the "historical method" has not been a primary concern of CVR in Europe. In the early CVR projects, archaeologists had "to agree to be guinea pigs for the research of computer programmers" (DANIELS 1997), and later they did little to improve their junior status. Notwithstanding the commitment of an international group of interdisciplinary researchers, official archaeology and VR seem to have marched on separate if not divergent paths. Within the European Union, CVR (and the so-called digital culture or Digicult, as it is officially defined) falls into the category of Information Technology (IT). In the 5<sup>th</sup> Framework, the European Commission (EC) introduced IST (Information Society Technologies) Programme as a funding source for IT. In July 2000, IST called for projects concerning the "virtual representations of cultural and scientific objects". While CVR was relegated in the 5<sup>th</sup> Framework to the technology-dominated world of IT, the cultural initiatives of the EC are clearly inspired by a (mis)conception of culture as ephemeral, contingent, and

“artistic”. Unfortunately nothing replaced Raphael, the EC’s program for culture which ended in 1998 and that offered more funding opportunities for Cultural Heritage and CVR. Several “digital culture” projects have been funded through IST since 1999, and some of the most recent ones have been reported at this Conference. Those funded in 1999 that are involved with archaeology mainly exploit the resources of archaeological sites and museums – e.g., ARCHEOGUIDE, which is a HMD-system at Olympia;<sup>40</sup> and the TOURBOT museums project, in which an avatar of the user can visit virtual museums, while the viewer himself views the experience at home via the Internet.<sup>41</sup> Projects such as these – however worthwhile – confirm that adage that “Europe finances only expensive gadgets”. Both projects propose to increase the quantity of information available to visitors, but in neither project proposal is there any corresponding sign of a desire to increase the quality of the content.

Nevertheless, the participation of four IST projects at this Conference (and the fact that the conference itself was funded by the EC, even if the proposal did receive some sharp criticism) shows that something is moving on the engineers’ side. For their part, some enlightened archaeologists outside the circle of enthusiasts who for many years have been preaching the advent of the computer era have realized the potential of 3D visualization for scientific research and scientific communication. They understand that, besides being a powerful educational tool for presenting archaeology to the non-specialist, CVR raises “questions that tax the ingenuity of archaeologists” and is itself therefore in need of further reflection and study (RENFREW 1997). But misunderstanding and lack of communication and collaboration between the two groups still predominate. The engineers go on believing they can implement ambitious projects on cultural heritage without the collaboration of content experts. Their projects are nevertheless funded and therefore officially approved. The archaeologists react to their exclusion by relegating virtual models to the category of fancy museum exhibition tools useful, at best, for *vulgarisation* or, at worst, for videogames.

In figure 1, we see the basic functions of a VR system and note the crucial role played by the Designer as the initiator and manager of the entire system. The question raised by the Simlab Pompeii project, by recent EU-sponsored initiatives as well as by the mainly commercial models utilized by FORTE and SILIOTTI 1997 is: “who is the Designer”? If the Designer is to be a technician using CVR to display his wares or a commercial company using CVR to earn a profit, then the criticisms of Brigman will become a perennial complaint of academics. And, as has happened with historians’ complaints about historical films such as that quoted above by Louis Gottschalk in the 1930s, the criticisms of academic CVR developers are likely to fall upon deaf ears. Of course, “the Designer” should ideally be “the Designers”: the technician responsible for hardware and software; the content developer responsible for the image of Leonardo’s Vitruvian Man in the diagram of Figure 1; and the digital graphic artist, or modelmaker, responsible for actually creating the VR file. In some settings, there will be even more experts involved: in a commercial project, for example, the producer, financier, and marketer; in a government project, entrenched bureaucrats and elected officials. Of course, the participation of some of these other “Designers” may complicate, or completely undermine, the implementation of scientific standards in CVR modeling.

This raises the question of power: for the question of “who is the Designer”? is really tantamount to “who is in control”? How can academic CVR developers ensure that in at least some instances the answer to this question in the future will be less painful than it has been in the recent past?

#### 4. CVR TODAY

As M. Forte noted, in the 1990s CVR models tended to be designed for high-end workstations and supercomputers (FORTE 2000). But by the year 2000, real-time VR is possible on the PC platform with relatively inexpensive graphics cards. Moreover, soon to hit the commercial market are PC-based 3D engines; inexpensive graphics cards supporting anti-aliasing; and CPUs and buses supporting much faster calculations and data transfer than ever. The average PC of 2001 will indeed have at least as much computing power as the expensive SGI Onyx Reality Engine supercomputer of 1993. The PC of 2002 will make this comparison obsolete, and on and on with no end in sight. As power increases, applications will keep pace, if only because – as has been seen over and over again – chip manufacturers will provide seed money to research projects and commercial start-ups exploiting the otherwise superfluous resources of their latest models. Moreover, as Barceló et al. 2000 make clear, in the five years since the publication of Forte and Siliotti, CVR has taken hold in the academy. Many individual projects and labs such as the UCLA Cultural Virtual Reality Laboratory and the Reality Center at CINECA have sprung up with the mission of creating scientific CVR models.

Characteristic of recent CVR projects and theoretical work has been an implicit, or sometimes explicit, recognition of the key advantage that academic CVR produced by subject experts has over its commercial counterparts: what Heim referred to as “metaphysical anchoring” and what we prefer to call the added value of scientific credibility and authentication.<sup>42</sup> In a recent publication, Barceló noted with disappointment that “in most cases the use of virtual reality in archaeology seems more an artistic task than an inferential process. Virtual reality is the modern version of the artist that gave a ‘possible’ reconstruction using water-colours” (BARCELÓ 2000). In the same publication, some papers are beginning to focus explicitly on the question of accuracy (cf KANTER 2000; FRISCHER *et al.* 2000). One contribution (FORTE 2000) brought up a more fundamental issue:

Noticeable gaps are represented by the fact that the models are not “transparent” in respect to the initial information (*what were the initial data?*) and by the use of the peremptory single reconstruction without offering alternatives (*it could have been like this but we can also offer other models...*).

The questions Forte poses in his parentheses are typical issues of metadata.<sup>43</sup> In effect, Forte is calling for a new philology of CVR: a methodology for how CVR models should be edited and published. In a classic work on textual criticism, Maas defined the tasks confronting the editor of a text as follows:

In each individual case the original text either has or has not been transmitted. So our first task is to establish what must or may be regarded as transmitted – to make the recension (*recensio*); our next is to examine this tradition and discover whether it may be considered as giving the original (*examinatio*); if it proves not to give the original, we must

try to reconstruct the original by conjecture (*divinatio*) or at least to isolate the corruption (MAAS 1958, 1).

*Mutatis mutandis, recensio, examinatio, and divinatio* have analogous procedures in the creation and publication of a CVR model. Philology also offers CVR developers answers to how Forte's questions might be handled. As Maas notes (21 ff.), a philologically prepared text is not simply printed and presented without further ado by the editor. The philologist has the duty of introducing the text with a preface that "should (1) describe all the witnesses... (2) demonstrate the relationship of the witnesses where this is at all possible in a stemma... (3) characterize the quality of the archetype... (4) settle all questions of spelling and dialect" (MAAS 1958, 21-22). Moreover, in the text, certain signs are used to alert the reader to a problem: < > for conjectural additions; [ ] for conjectural deletions; † for irremediable corruptions. Finally, underneath the text, the philologist must print an *apparatus criticus*, noting: "(1) every departure from the archetype not already indicated in the text; (2) all rejected variants... (3) the sub-variants... (4) identical readings of two or more variant-carriers... (5) doubt as to the correctness of the text" (22-23). Thus, the philologist editing a text deals with metadata in the preface, in the *apparatus criticus*, and in the text itself through the use of signs.<sup>44</sup> None of this can be done in the same way by the CVR developer, who works in multimedia, unlike the editor of texts who works in the single medium of print. Thus, Maas' rules can only be applied by analogy, but they certainly can be applied – at least if CVR developers unite to define their own standards, rules, and conventions. On its Roman Forum Web site, and in its other products, the UCLA Cultural Virtual Reality Lab has been experimenting with the development of such philological procedures, including even the *apparatus criticus* (see <http://www.cvrilab.org>).

In CVR, then, accuracy means not only that the data are represented correctly; it also implies the development of a new "CVR philology" to handle metadata. The two goals of professional CVR developers – accuracy and authenticity – are two sides of the same coin. Accuracy pertains to the data and metadata; authenticity to the user's experience of the data and metadata. Research on other media suggests that, ironically, far from getting in the way of the user's experience and sense of authenticity, metadata can even add to the credibility of a CVR model, as can be seen in the following study of CONDRY (1989) cited by SHAPIRO and McDONALD (1995, 338):

CONDY (1989) illustrated another complexity of the relationship between sensory cues and reality judgments. He tells of watching the first moon landing with his then 5-year-old son. The same perceptual cue, the poor quality of the television picture, convinced his son that the picture was not real, but added to the adult's feeling that this was indeed real. The child apparently made reality judgments based strongly on veridicality. But the adult inferred that an image being transmitted from the moon in real time with 1969 technology would be degraded. He would have been suspicious of a studio-quality image. Thus, sophisticated, adult metacognitions about the nature of communication can create a situation in which less sensory information is more realistic.

As applied to CVR, this suggests that a philologically edited CVR model explicitly marked up by < >, i.e., conjectural supplements, and by †, i.e., areas where data is hopelessly lost, could well be perceived by users to have more authenticity precisely because it would have *less*

veridicality than a perfectly restored model presented without any philological apparatus.

On the other hand, philology itself supports the CVR developer's constant need courageously to produce supplements where evidence is lacking: "if the sense requires it I am prepared to write *Constantinopolis* where the MSS. have the monosyllabic interjection *o*." wrote A.E. Housman (cfr. REYNOLDS and WILSON 1968, 162), echoing the earlier sentiment of Moritz Haupt (1808-1874). There is a point at which many of our models have to go beyond empirical observations and to provide a satisfactory user experience or to suggest particular interpretations, must necessarily introduce less certain elements. Although grounded in evidence and supportable inference, many of these elements are essentially speculative in form. At one extreme, this may entail a decision about paint colors on an otherwise intact statue or on some other artifact. At the other, it might concern the form of a building where the only remains are short lengths of robber trenches or beam slots surviving between later disturbances. For many archaeologists, the latter is closer to their reality than are the impressive ruins of Pompeii or the Roman Forum. Indeed, we may often need to work far beyond this level of uncertainty, for example when visualizing a landscape or townscape in which the area known from archaeological investigation is only a tiny fragment of the whole. On such a basis we can build interactive environments suited to the needs of a wide range of audiences from casual museum visitors to advanced scholars.

Sometimes, we are not the first to integrate the fragmentary record of archaeology. When we accept a previous scholar's conjectural supplement, we need to put that on record. Even if we do not agree with earlier scholarship, we owe it to our predecessors and to our users to note and, ideally, to display within our models any plausible alternative views. There may indeed be more than one conjecture on record. In a philological *apparatus criticus*, any alternative readings should be cited, including "conjectures in order of merit" (WEST 1973, 87). The same should be true of a CVR model, as has been suggested by ROBERTS and RYAN 1997, and has been applied by FRISCHER *et al.* 2000 as well as by David Wheatley and Graeme Earl in the Negotiating Avebury Project.<sup>45</sup>

There is nothing inherently wrong in going from *o* to *Constantinopolis*, or in presenting, within the same model, alternative views of how the site might have originally looked. To the contrary. The important point is that when we add information beyond what is archaeologically attested, we need to flag our supplements or alternative interpretations of the data by means of signs.

At this point, it is important to invoke semiotics: Maas correctly calls < >, [ ], and † "signs". Most signs are arbitrary, and that is certainly the case with the standard philological specimens mentioned by Maas (in WEST 1973, 80-81, there are even more signs catalogued). Why should † mean "hopelessly corrupt" and not, for example, "dead" or "Christian" or, for that matter, "intersection"? As Eco notes, "the sign is a gesture produced with the intention of communicating... The existence of a certain rule (a code) enabling both the sender and the addressee to understand the manifestation in the same way must, of course, be presupposed if the transmission is to be successful... signs seem to depend on arbitrary decisions" (ECO 1986, 16). In order for the communication act to succeed, the sender and

addressee must have agreed in advance what the initially arbitrary and therefore meaningless signs shall mean when transmitted. This implies that there is a crucial social element in the development of any semiotic system. † means “hopelessly corrupt” in a philological text because philologists like Maas have long since agreed that it should so signify and since authorities like Maas have codified such agreements in handbooks that no self-respecting professional philologist would have neglected to master before attempting to practice his craft. Thus, it will not do for one CVR lab to develop metadata signs and standards. That would be like one person trying to invent a language or alphabet: it could be done, but it would mean that he could communicate only with himself.

Beyond philology, CVR developers have an interest, which this time they share with their counterparts, the engineers and technicians, in banding together to define common technical and aesthetic standards for the models they make. If each consumer electrical device ran on a unique voltage, the market for home electrical products would be only a small fraction of what it is today. You would wire your house with 135 volt current to run your heater, and then have to re-wire your house with a 55 volt line to run your new toaster. Each purchase of a new electrical device would require a major investment in new infrastructure, which would perhaps serve only your latest purchase. In the CVR world, there are many competing file formats and proprietary software packages that are used to produce CVR models. As long as different CVR developers use different solutions, the market for CVR will be quite limited. Like purchasers of new toasters or television sets, buyers of new CVR models want to be able to plug them in and operate them automatically without worrying about their computing infrastructure. They want the model of a building in one part of a city to operate smoothly with another model of a site elsewhere in the same city. They want to be able to purchase a model of the Roman Forum in 100 BC from vendor A; and a model of the Forum in 200 AD from vendor B; and they want an interface that allows seamless switching from one model to the other. For their part, CVR developers do not want to have to guess right about what hardware and software their potential customers own or are willing to purchase. Implicit in the technical compatibility of CVR models is their aesthetic homogeneity. To look right, as well as to operate properly, CVR models from different vendors should share the same texture library. Adoption of common technical and aesthetic standards thus serves the interests both of consumers – who will buy more CVR models if they can leverage their initial investment in a VR system by being able to run all possible CVR models – and of producers, who will operate with the assurance of a large installed base for their products.

Another way to solve the problem is by “learning by doing”; to learn about reality we must first build a model of reality and make it run. To understand reality and all of its complexity, we must build artificial objects and dynamically act out roles with them. That means transforming “virtual” into “augmented” reality. Augmented reality has been defined as the simultaneous acquisition of supplemental virtual data about the real world while navigating around a physical reality (DURLACH and MAVOR 1995). For information pertaining to complicated 3D objects, augmented reality is an effective means for utilizing and exploiting the potential of computer based-information and databases. In an augmented reality system, the computer

provides additional information that enhances or augments the real world, rather than replacing it with a completely non-existing environment. In AR the computer contains models of significant aspects of the user’s environment. In an Augmented Reality Environment, we should “imitate” the real world, describing an object by more than just computer graphics to provide a natural interface for processing data requests about the environment and presenting the results of requests. Merging graphical representations of augmenting information with the view of the real object clearly presents the relationship between the data and the object. Using AR, the user can easily perceive and comprehend many components of the queried data.

The goal of the visual model should not be “realism” alone, for the sake of imitation, but in order to contribute to understanding of non-existing objects. An Augmented Reality Environment is something more than a visually “realistic” geometric model. We also need “dynamism and interaction”. A dynamic model is a model that changes in position, size, material properties, lighting and viewing specification. If those changes are not static but respond to user input, we enter into the proper world of Virtual Reality, whose key feature is real-time *interaction*. Here real-time means that the computer is able to detect input and modify the virtual world “instantaneously”.

For the moment, we are restricted to the creation of virtual environments, whose purpose is to sense, manipulate, and transform the state of the human operator or to modify the state of the information stored in a computer. Future advancement of virtual reality techniques in scientific visualization should not be restricted to “presentation” techniques, but to explanatory tools. VR techniques should be used not only for description, but for expressing all the explanatory process. An explanation can be presented as a visual model, that is as a virtual dynamic environment, where the user ask questions in the same way a scientist use a theory to understand the empirical world. A virtual world should be, then a *model*, a set of concepts, laws, tested hypotheses and hypotheses waiting for testing.

## 5. WHERE DO WE GO FROM HERE? PROPOSAL FOR A PROFESSIONAL ORGANIZATION FOR CVR DEVELOPERS

*But we need some sense of metaphysical anchoring, I think, to enhance virtual worlds. A virtual world can be virtual only as long as we can contrast it with the real (anchored) world.*<sup>46</sup>

MICHAEL HEIM (1993)

Uniting to define their own standards, rules, and conventions for scientific CVR models is just one of several reasons why it is important, at this point in the development of CVR, for CVR developers to start their own professional organization. The main reasons can be quickly listed:

- to hold an annual meeting where members can share new ideas and projects; where training classes can be offered; and where new products of CVR hardware and software suppliers can be exhibited
- to facilitate networking and collaboration between members

- to create a Web site for ongoing communications between members and to promote the organization to the world at large
- to represent CVR developers' interests before governments, trade associations, and other scholarly organizations
- to develop philological conventions and technical standards for the creation and publication of authenticated CVR models; to develop and disseminate a common library of textures; to offer a seal of approval on members' models that conform to authentication standards; and to offer a clearinghouse on its Web site where members' authenticated models can be made available for third-party licensing.

The publication of BARCELÓ *et al.* 2000 and the success of VAST in Arezzo in November, 2000 certainly suggest that a critical mass of CVR developers now exists to make the creation of a professional organization timely and worthwhile. Research has shown that there is no such organization yet in existence, so the proposed new organization would fill a distinct gap. Various related but ultimately distinct organizations include:

- <http://www.acadia.org/home.html>  
ACADIA, the Association for Computer-Aided Design in Architecture. It has existed since 1981 and "was formed for the purpose of facilitating communication and information exchange regarding the use of computers in architecture, planning and building science" (see Bylaws 2.1 at <http://www.acadia.org/bylaws.html>).
- <http://www.acm.org/>  
The Association for Computing Machinery (ACM) was the world's first educational and scientific computing society. It was founded in 1947 and, among many other activities impinging on CVR, sponsors SIGGRAPH.
- <http://www.caaconference.org>  
Computer Applications and Quantitative Methods in Archaeology (CAA), which was founded in 1973 with the mission of encouraging communication between archaeologists, mathematicians and computer scientists.
- <http://www.vrs.org.uk/public/whatisvrs.html>  
The Virtual Reality Society, whose goals include the study of VR technology and software systems; VR applications; assessment of VR systems; philosophical and ethical issues; and advances relevant to VR.
- <http://www.w3.org/Metadata/>  
The w3C Metadata Activity, which is devoted to developing metadata standards for the World Wide Web.
- <http://www.jiscmail.ac.uk/lists/vista.html>  
Although less well organized, the VISTA e-mail list ([vista@jiscmail.ac.uk](mailto:vista@jiscmail.ac.uk)) is also an interest group
- <http://www.virtualheritage.net>  
Virtual Heritage Network (VHN), is a new international organization designed to promote the utilization of technology for the education, interpretation, conservation and preservation of Natural, Cultural and World Heritage. The network is a physical and electronic network of people and resources in many countries currently working in the virtual heritage community. This organization has been formed through the many ideas of people working in the heritage and technology industry who recognize that it is fragmented, and difficult to find other researchers and information. Membership in this organization and the use of its facilities are free. Currently all efforts to build this

organization are strictly on a volunteer basis. Through the network resources you can find: News and Industry Information Conferences, Events and Collaborations, Research and Development of Local and International Projects. Currently, the International Society on Virtual Systems and Multimedia has been hosting this organization and its activities in an unofficial capacity.

A Venn diagram between the proposed CVR association and these groups would show greater or lesser degrees of overlap in missions, interests, and activities. For example, CAA and The Virtual Reality Society would appear to have a far broader purview. The w3C Metadata Activity and ACADIA have a narrower focus. The Association for Computing Machinery is a catchall association which, through its SIGS (Special Interest Groups – e.g., SIGACT, for algorithms and computational theory; SIGARCH, for computer architecture; SIGART, for artificial intelligence; SIGGRAPH, for computer graphics) could even become an organizational envelope for the proposed new CVR organization.

Of course, there is no reason why the proposed new organization could not be affiliated with any or all of these related associations. Moreover, in its infancy it would make sense for the CVR organization to hold its annual meeting in the same city and at the same time as that of a related group such as CAA or SIGGRAPH. Indeed, we would propose that the CVR meeting be held in conjunction with SIGGRAPH in years when SIGGRAPH meets in Los Angeles; and that in the alternating year it be held in conjunction with CAA. We also propose that the CVR organization send a representative to the annual meetings of the other organizations listed above. As time goes on, the advisability of formally merging the CVR organization with another professional association can be studied. Right from the start, the CVR organization should seek a formal affiliation with as many of the other professional associations as possible. In general, the CVR organization should operate in a spirit of openness and cooperation.

As the name of the new organization, we propose CVRO. This stands for "Cultural Virtual Reality Organization" and also puns on the Latin word "*curo, curare*", meaning "I take care of, am concerned about", the etymon of "curate".<sup>47</sup> Given CVR developers' curatorial interest in preserving ancient monuments and disseminating them to the public, we think this pun is appropriate. We further recommend that CVRO's bylaws and structure be modeled on ACADIA (see <http://www.acadia.org/bylaws.html>). The UCLA Center for the Digital Humanities has volunteered to offer space and staff support for CVRO's headquarters (see <http://www.cdh.ucla.edu/>). As is the case with ACADIA, membership should be open to academic and professional CVR developers as well as students in CVR programs of study.

The co-authors of this article have agreed to meet several times in 2001, including at SIGGRAPH 2001 in Los Angeles, to found CVRO and to build up a membership base. They furthermore agree that CVRO should hold its first official annual meeting in 2002 in conjunction with the annual meeting of CAA. A world that has a professional organization for indexers (<http://www.asindexing.org/>) and an HTML Writers' Guild (<http://www.hwg.org/>) is big enough for a new professional organization to promote the interests of CVR developers. Readers who agree and wish to join CVRO are cordially invited to contact one of the co-authors.<sup>48</sup>

## NOTES

- [1] See <http://www.upenn.edu/almanac/v42/n18/eniac.html>.
- [2] See <http://www.ee.upenn.edu/~jan/eniacproj.html>.
- [3] Cfr. Andy Grove's keynote talk at Comdex, 1996 at: <http://www.intel.com/pressroom/archive/releases/cn111896.htm>.
- [4] See <http://www.nwfusion.com/news/2000/0629ibmteraflop.html>.
- [5] The Apple Macintosh G4 which uses the 733MHz PowerPC chip; see <http://www.apple.com/powermac/>.
- [6] ENIAC was built as a result of a contract No. W-670-ORD-4926 signed on June 5, 1942, by the Trustees of the University of Pennsylvania and the U.S. Army Ordnance Department.
- [7] See <http://www.fortune.com/fortune/1999/11/22/biz4.html>.
- [8] See <http://www.nau.edu/rufis99/masterton/sld003.htm>
- [9] See <http://www.ibm.com/ibm/history/story/era2.html>
- [10] Cfr. W. ASPRAY 1990.
- [11] In the 19<sup>th</sup> century, Oliver Wendell Holmes had the idea of a vast multimedia database to be created on a stereoscopic film system, but he did not yet have the idea of using the calculating machine to index the contents of the database. This is one of Bush's major contributions. On Holmes, see BIOCCA, KIM and LEVY 1995, 9: "in 1857 Oliver Wendell Holmes, father of the famous jurist, saw a glimpse of the future of VR when he lifted a stereoscope to his eyes for the first time. After the initial strain, as the lenses forced his eyes to fuse the different images only inches away, Holmes saw a vision. Holmes prophesied the creation of a giant universal database that would house essential copies of all things... Holmes, of course, saw the essential copy through the eyes of the 19<sup>th</sup> century. Globe-trotting adventurer-scientists would stock a curio cabinet of essential samples of reality, a collection so large that it would be housed in an immense stereographic library or museum."
- [12] <http://www.nsf.gov/sbe/srs/seind00/access/c1/c1s1.htm#c1s111a>.
- [13] Cfr. BUSH 1945, section 6: "consider a future device for individual use, which is a sort of mechanized private file and library. It needs a name, and, to coin one at random, "memex" will do. A memex is a device in which an individual stores all his books, records, and communications, and which is mechanized so that it may be consulted with exceeding speed and flexibility. It is an enlarged intimate supplement to his memory. It consists of a desk, and while it can presumably be operated from a distance, it is primarily the piece of furniture at which he works. On the top are slanting translucent screens, on which material can be projected for convenient reading. There is a keyboard, and sets of buttons and levers. Otherwise it looks like an ordinary desk. In one end is the stored material. The matter of bulk is well taken care of by improved microfilm... Most of the memex contents are purchased on microfilm ready for insertion. Books of all sorts, pictures, current periodicals, newspapers, are thus obtained and dropped into place. Business correspondence takes the same path. And there is provision for direct entry. On the top of the memex is a transparent platen. On this are placed longhand notes, photographs, memoranda, all sorts of things. When one is in place, the depression of a lever causes it to be photographed onto the next blank space in a section of the memex film, dry photography being employed. There is, of course, provision for consultation of the record by the usual scheme of indexing. If the user wishes to consult a certain book, he taps its code on the keyboard, and the title page of the book promptly appears before him, projected onto one of his viewing positions. Frequently-used codes are mnemonic, so that he seldom consults his code book; but when he does, a single tap of a key projects it for his use."
- [14] Cfr. BUSH 1945, section 7: "the owner of the memex, let us say, is interested in the origin and properties of the bow and arrow...he builds a trail of his interest through the maze of materials available to him. And his trails do not fade... Tapping a few keys projects the head of the trail. A lever runs through it at will, stopping at interesting items, going off on side excursions. It is an interesting trail, pertinent to the discussion. So he sets a reproducer in action, photographs the whole trail out, and passes it to his friend for insertion in his own memex, there to be linked into the more general trail".
- [15] See, e.g., ENGELBART 1962, sections III.A.1 ("What Vannevar Bush proposed in 1945-48") and III.A.2 ("Comments related to Bush's article").
- [16] Cfr. ENGELBART 1962, section III.A.2: "The Memex allows a human user to do more conveniently (less energy, more quickly) what he could have done with relatively ordinary photographic equipment and filing systems, but he would have had to spend so much time in the lower-level processes of manipulation that his mental time constants of memory and patience would have rendered the system unusable in the detailed and intimate sense which Bush illustrates."
- [17] See <http://unrev.stanford.edu/introduction/introduction.html>.
- [18] See <http://www.bootstrap.org/dce-bio.htm>.
- [19] See RHEINGOLD 1991, 25, 36; <http://www.cs.unc.edu/Events/News/TuringAward.html>.
- [20] See <http://www.sun.com/960710/feature3/skeetchpad.html>.
- [21] See <http://www.sun.com/960710/feature3/alice.html>
- [22] For a history of Evans & Sutherland, see: <http://www.es.com/corporate/history.html>.
- [23] <http://www.digitalcentury.com/encyclo/update/jimclark.htm>.
- [24] For key dates in SGI's history see: <http://www.sgi.com/newsroom/factsheet.html>. On the Reality Center, see <http://www.sgi.com/realitycenter/>. For additional information in this paragraph, I thank Afshad Mistri of SGI for a personal communication.
- [25] See: <http://www.humnet.ucla.edu/humnet/classics/faculty/frischer/000125portal.html>.
- [26] Quoted from the Virtual Reality Glossary on the SGI Web site at [http://www.sgi.com/virtual\\_reality/overview/glossary.html](http://www.sgi.com/virtual_reality/overview/glossary.html).
- [27] See <http://www.redherring.com/mag/issue01/guru.html>.
- [28] See ROY *et al.* 1994; <http://www.sv.vt.edu/future/vt-cave/whatis/>; <http://www.evl.uic.edu/pape/CAVE/oldCAVE/CAVE.html>.
- [29] See <http://www.cave.vt.edu/>.
- [30] See <http://www.es.com/Pressroom/99archive/pr-05-11-99.html>.
- [31] For early uses of VR systems, see GILLILAN 1997.
- [32] Cfr. also <http://www.artmuseum.net/w2vr/timeline/Naimark.html#NaimarkText>.
- [33] Cfr. VALENTE and BARDINI 1995, 313. According to these authors, Lanier coined the term in 1987.
- [34] *Oxford Dictionary of Computing*, fourth edition. Oxford 1995, 95.
- [35] On the phi-phenomenon cfr. PARKINSON 1995, 7: "The brain has a perceptual threshold, below which images exposed to it will appear as continuous and film's speed of 24 frames per second is below that threshold. Persistence of vision or flicker fusion prevents us from seeing the lines between each frame, while the phi-phenomenon or stroboscopic effect, analyzed between 1912 and 1916 by the psychologists Max Wertheimer and Hugo Münsterberg, provides a mental bridge between the frames to permit us to see a series of static images as a single continuous movement." As applied to VR, see PIMENTAL and TEIXEIRA 1995, 108-109.
- [36] Personal communication from DEAN CUNDEY, a cinematographer responsible for *Jurassic Park*, *Apollo 13*, and other films.
- [37] On the mission and structure of Simlab see <http://www.loria.fr/~tombre/VirtReal/msg00030.html>.
- [38] Co-author of LOEFFLER and ANDERSON 1994.
- [39] Personal communication of Pompeianist ANN KOLOWSKI-OSTROW.
- [40] See <http://www.zgdv.de/departments/z2/vc/projects/archoe/>.
- [41] See <http://www.ics.forth.gr/tourbot/>.
- [42] Cfr. CHAPMAN 1991; CORNFORTH *et al.* 1991; KEMP 1993; SIMS 1997.
- [43] For an Internet resource page on metadata see <http://www.ifla.org/II/metadata.htm>, which gives the following definition: "metadata is data about data. The term refers to any data used to aid the identification, description and location of networked electronic resources". Many different metadata formats exist, some quite simple in their description, others quite complex and rich". In the context of contemporary CVR we should generalize the phrase "networked electronic resources" by amending it to read "digital VR resources", some of which may be networked, others not.
- [44] Philology, like all scholarly disciplines, marches on. Maas' work has now been replaced by M. L. WEST 1973, where differences from Maas (e.g., on the matter of signs) will be found. We have cited Maas above because his work has a lapidary style that makes the applicability of philology to CVR more readily apparent.
- [45] See <http://www.arch.soton.ac.uk/Research/Avebury/VirtualAvebury/>.
- [46] HEIM 1993, 133.
- [47] Note that U and V are the same letter (V) in Latin; cfr. ULLMAN 1963, 38.
- [48] BERNARD FRISCHER had the idea for CVRO and wrote the first draft of this article, which is based on his talk at VAST in November, 2000 in Arezzo. NICK RYAN and FRANCO NICCOLUCCI made editorial comments on and improvements to the first draft. FRANCO NICCOLUCCI added new material near the end of section 3; NICK RYAN in the middle of section 4; JUAN BARCELÓ added the fourth paragraph of section 3, the last three paragraphs of section 4, and the last two items to the list of related organizations in section 5.

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SONDERDRUCK AUS

# GLOTTA

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VANDENHOECK & RUPRECHT IN GÖTTINGEN

parable word is common knowledge. One can think of the notorious *nutricum tenuis* for *mamillarum tenuis* in Catullus 64.18.

Finally, if the word *argutus* in certain contexts has the Greek meaning of *λύγος*, one can apply it to the various contexts we find in the dictionary: *ocelli* and *manus*—as finely wrought (and thereby expressive); a horse's head as finely wrought (and expressive), a sandal as finely wrought.

If under Greek influence, or independently, a Roman thought of *argutus* as something on the high, fine side, the high fine sounds of birds, saws, and pine trees in the wind would be reflected in shapes as fine and delicate.

The word *argutus* is used by Cicero in a visual context, thus indicating that it was more than a Neoteric invention (Cicero detested the Neoteric style), and that either the Greek *λύγος* had influenced the Latin context among Greek speaking Romans or that *argutus* in Latin already lent itself to the visual context without influence from the Greek. It seems more likely, though, that especially in a poetic context, the Greek meaning came into play. Given Latin poets' fondness for deliberate ambiguity, we cannot rule out synaesthesia. The context of the poem at this point leads into *arguta* being taken as "delicate" but the usual meaning of the word seems to have described a sound. Catullus can thus take advantage of both the visual and audible aspects<sup>9</sup>).

### Inceptive *Quoque* and the Introduction *Medias in res* in Classical and Early Medieval Latin Literature

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In this article, the existence of a hitherto unnoticed use of the Latin adverb *quoque* at the very beginning of a work of poetry or prose is established (the so-called "inceptive" usage of *quoque*); three main types and five varieties of this usage are distinguished and exemplified; and the results are applied

<sup>9</sup>) F. Della Corte, "Arguta Solea," *Riv. di Fil.* 107 (1979) 30-34, sees the phrase as a reference to Aphrodite — based on Philostratos, *Epist.* 37.11. However, it is most unlikely that the word *τροχῶ* used by Philostratos means "strideva", see LSJ s.v., and comparison to Aphrodite would disturb the Laodameia parallel. Aphrodite's problem may be a wet sandal.

to the analysis of three textual-critical and interpretative problems in classical and medieval Latin poetry that may be solvable once the presence of inceptive *quoque* is recognized.

Like the copulative conjunctions *καί*<sup>1)</sup> and *et*,<sup>2)</sup> the adverb *quoque* may be used, in its normal postpositive location, at the very beginning of a work of poetry or prose. This unusual usage of *quoque*, which may be called "inceptive," is worth examining because it has escaped the notice of philologists;<sup>3)</sup> it occurs far more frequently than inceptive *et*;<sup>4)</sup> and it helps to solve a number of interesting textual and interpretative problems in classical and medieval poetry.

*Quoque*, like *καί*, is more often used inceptively in poetry than in prose. Lysias once began a speech with *καί*, and Livy started Book 31 with the words *Me quoque iuvat*. Such cases, however, are rare and, not surprisingly, were commented upon in antiquity.<sup>5)</sup> Inceptive *καί* and *quoque* are most commonly found in epigrams, and it is likely that the literary origin of the inceptive copulative conjunction is to be found in this genre. Be that as it may, the *loci classici* in Latin occur in epic and didactic poetry: Virgil, *Georg.* 3. 1 (*Te quoque, magna Pales, et te memorande, canemus*); *Aen.* 7. 1 (*Tu quoque litoribus nostris, Aeneia nutrix*); Valerius Flaccus *Arg.* 7. 1 (*Te quoque Thessalico iam serus ab hospite vesper*); Martianus Capella *De Nupt. Phil. et Merc.* 4, *Praef.* 1 (*Haec quoque contortis stringens effamina nodis*). Here, too, should be included Horace's *Serm.* 2. 5,

<sup>1)</sup> Cf. Lysias, fr. 36a Thalheim; *AP* 6. 146 (Callimachus), 7. 123, 130 (Diogenes Laertius), 7. 263 (Anacreon), 7. 633 (Crinagoras); Apollonides vi, x (Gow-Page).

<sup>2)</sup> Cf. F. Hand, *Tursellinus, Seu De Particulis Latinis Commentarii*, vol. 2 (Leipzig 1832) 494. My colleague Bengt Löfstedt has kindly drawn my attention to parallel inceptive uses of *enim* and *nam* in medieval Latin; see his article, "Zum spanischen Mittellatein," *Glotta* 54 (1976) 117-57, especially p. 149, for examples and literature.

<sup>3)</sup> For bibliography on *quoque* see Stolz-Schmalz, *Lateinische Grammatik*, vol. 1 (Munich 1926<sup>5</sup>) 662 (par. 232), ed. M. Leumann and J. B. Hofmann; M. Leumann, J. B. Hofmann, A. Szantyr, *Lateinische Grammatik*, vol. 2 (Munich 1965) 485 (par. 258).

<sup>4)</sup> In D. Schaller and E. Könsen, *Initia Carminum Latinorum saeculo undecimo antiquiorum* (Göttingen 1977), we find about 58 examples of inceptive *quoque* and c. 35 of inceptive *et*.

<sup>5)</sup> On Lysias, cf. the scholion in Sakkélion, "Scholies de Démosthène et d'Eschine, d'après un manuscrit inédit de Patmos," *BCH* 1 (1877) 150; on Livy, cf. the comments *ad loc.* by W. Weissenborn-H. J. Müller and J. Briscoe.

an epic parody, which begins *Hoc quoque, Tiresia, praeter narrata petenti*.

That these introductions troubled ancient readers is attested for two cases. Donatus comments on *Aen.* 7.1, *fortassis aliquis putet inproprie caput libri constituisse Vergilium ideo, quia dixit 'tu quoque,' cum ante hunc versum nullum nominasse videatur.*<sup>6</sup>) Remigius of Auxerre, a ninth-century commentator on Martianus Capella, noted the same problem at the beginning of Book IV of the *De Nuptiis*, and he explained the propriety of *quoque* in the same way that Donatus did: the adverb links the beginning of the book in question to the previous book.<sup>7</sup>)

While this is certainly correct as far as it goes, it is not the full explanation of the matter. It is no accident that the Virgilian cases occur at the beginning of the second half of the *Georgics* and the *Aeneid*. We know that in the structural schemes of both poems this position is strongly marked.<sup>8</sup>) *Quoque* here not only links the passages backwards, it also propels the second parts of the works forwards. This paradoxical movement in two opposed directions may be easier to grasp if we consider the links backwards. In the

<sup>6</sup>) P. 3 (H. Georgius).

<sup>7</sup>) Cf. C. E. Lutz (ed.), *Remigii Autissiodorensis Commentum in Martianum Capellam, Libri iii-ix* (Leiden 1965) 9: "HAEC QUOQUE subaudis Dialectica. QUOQUE autem dicit, id est similiter, sicut et Grammatica quia QUOQUE hic similitudinis est. HAEC QUOQUE ADVENTIT id est similiter, sicut et Grammatica" (the subject of the previous book). Donatus, in the passage just cited, continues: "hoc aestimant qui interiecta nesciunt retrahere, ut quod ad tempus separatum est iungant. iste enim versus sublato medio de inferis tractatu Miseni exequiis iungitur; ab his enim discedens carminis cursus ad easdem redit et facit integram narrationem, ut recte posuerit tu quoque . . ." (pp. 3-4 Georgius).

<sup>8</sup>) On the *Georgics*, cf., e.g., W. Richter, *Vergil, Georgica* (Munich 1957) 92; B. Otis, *Virgil. A Study in Civilized Poetry* (Oxford 1963) 151-53; L. P. Wilkinson, *The Georgics of Virgil* (Cambridge 1969) 74; and see my forthcoming article on the structure of the *Georgics* in the *Enciclopedia Virgiliana*. On the *Aeneid*, cf., e.g., B. Otis, op.cit., 215-18; K. Quinn, *Virgil's Aeneid. A Critical Description* (London 1968) 66-67. On *Aen.* 7.1-36 as a bridge between Books 6 and 7 see E. Fraenkel, "Some Aspects of the Structure of Aeneid VII," *JRS* 35 (1945) 1-14, especially 1-3 (= *Kleine Beiträge zur klassischen Philologie*, vol. 2 [Rome 1964] 145-71). R. Merkelbach, "Aeneia Nutrix," *RhM* 114 (1971) 349-51, stresses the funerary background of the second-person address in *Aen.* 7.1, but does not treat in any detail the problem of *quoque*. On the use of *Hoc/Te/Tu quoque* as a structural marker in *Aen.* 7, *Georg.* 3, and, possibly, *Hor. Sat.* 2.5 see E. Fraenkel, *Horace* (Oxford 1957) 137 n. 2.

case of the *Aeneid*, the references are not, as one might imagine in view of the normal usage of *quoque* in Latin, to the very end of Book VI but to two passages fairly far removed from the end and from each other: 6.232-35 and 6.376-81. In the *Georgics*, the reference is to the invocations of various gods at the beginning of Books 1 (5-42) and 2 (1-8), passages that are quite far removed from the *quoque* of Book 3. The case of Horace, *Serm.* 2.5 is even more striking. The passage to which reference is made (Homer, *Od.* 11.90-149) is not even in the Horatian corpus. In these passages *quoque* undeniably sends the reader backwards, as it usually does, to link up the *quoque*-clause with a preceding idea; however, because the preceding idea is found at such a great distance from the *quoque*-clause, this linkage is not easy for the reader to make without pausing to reflect and even to hunt through relevant texts looking for a point of contact. This, then, is one aspect of what makes introducing a text with inceptive *quoque* so odd: just at the moment when the text should be beginning and moving decisively forwards, it seems to be resuming and pointing backwards.

Yet, the strategy of inceptive *quoque* has a compensating advantage: precisely by making the reader pause to think, it arouses his interest in the new subject heralded by the *quoque* and it sharpens his attention to the text by failing to satisfy his expectations of a straightforward exposition. More than this, inceptive *quoque*, by referring the reader backwards for the exposition that is missing in the text, propels him forwards faster and more economically, once the correct linkage is made. Thus in the *Georgics*, the invocation to Pales can be the shortest address to a god in the poem, and in Horace's satire, there is no exposition whatsoever. Finally, whether or not the reader can supply the proper link for the *quoque*-clause, inceptive *quoque* exemplifies the energetic, forward-moving introduction *medias in res*, which *ad eventum festinat et in medias res non secus ac notas auditorem rapit.*<sup>9)</sup> This simultaneous backward and forward motion of inceptive *quoque* explains why its use in marking significant divisions within large works is so apt and so frequent. It also explains why *καί* and *quoque* are so often encountered in epigrams: the genre cannot tolerate much exposition and so favors introductions *medias in res*; and one of

<sup>9)</sup> Horace, *AP* 148-49, on which see C. O. Brink, *Horace on Poetry*, vol. 2 (Cambridge 1971) 221-22.

the chief characteristics of literary epigrams is just the kind of allusiveness that inceptive *quoque* signals.<sup>10)</sup>

Rhetorically, the inceptive use of *quoque* may be understood as an example of the verbal figure anastrophe or the conceptual figure hysteron proteron.<sup>11)</sup> Normally Latin syntax requires a sequence of clauses *A, B quoque*. Inceptive *quoque* entails 1. the inversion of this order (*B quoque, A*), or else—as happens more frequently—the omission of the *A*-clause altogether. We may term this a hysteron proteron with a suppressed proteron. *A* may be omitted 2. for a formal reason—it was stated or implied in a contiguous, or even non-contiguous, but formally distinct passage in the same text (cf. *Aen.* 7. 1–2, referring to *Aen.* 6. 232–35 and 376–81)—or 3. for the substantive reason that it can be mentally supplied by the reader (cf. Horace, *Serm.* 2.5). These three ways of treating the proteron-clause correspond semantically to three degrees of textual indeterminacy, or *Appellstruktur*, to which the reader must respond.<sup>12)</sup> In what follows, a number of varieties of these three main types will be distinguished and exemplified and then the results obtained will be applied to the illumination of some problematic passages. I should point out now that I will be discussing and categorizing most, but not all, of the examples of inceptive *quoque* known to me and that this study accordingly claims to be only heuristic, not exhaustive. A complete study—which I do not presently plan to undertake—must consider inceptive *quoque* in connection with all semantic usages of the word in all contexts, inceptive or not.

### 1. Type 1: Simple Hysteron Proteron

The lowest degree of indeterminacy is reached by the use of *quoque* in a hysteron proteron, since in an introduction of this kind

<sup>10)</sup> On allusiveness in epigrams, see W. Ludwig, "Die Kunst der Variation im hellenistischen Liebesepigram," *Fondation Hardt Entretiens* 14 (1968) 297–334.

<sup>11)</sup> See H. Lausberg, *Elemente der literarischen Rhetorik* (Munich 1967<sup>2</sup>) 108 (par. 220).

<sup>12)</sup> On *Appellstruktur*, see W. Iser, *Die Appellstruktur der Texte, Konstanzer Universitätsreden* 28 (1970) 14–23. The first way of treating the proteron-clause exemplifies a *figura per transmutationem*, the second two ways illustrate the *figura per detractionem* (cf. H. Lausberg, op. cit. [supra n. 11] 32 [parr. 60–61]).

the subject linked to *B* is made explicit in the text in the very next clause. Thus, *quoque* puzzles the reader, if at all, for only a moment. This type seems to be quite rare. One example—though not a completely pure one—is Ovid *Trist.* 5.1:

Hunc quoque de Getico, nostri studiose, libellum  
litore [B] praemissis quattuor adde meis [A].  
Hic quoque talis erit, qualis fortuna poetae . . .

Here the clause *praemissis . . . meis* (interrupted by the verb *adde* from the *B*-clause) constitutes the proteron, and by the words *hunc quoque* (1) and *hic quoque* (3), Ovid makes explicit the close relationship of this book to the preceding four *libelli* of the *Tristia*. In *Amores* 2.1.1–3, where we find the similar anaphora of *hoc quoque* (1) and *hoc quoque* (3) with no proteron-clause in verses 1–2, the relationship of the book to its predecessor is no less close,<sup>13</sup> but Ovid makes the point in a subtler way than in *Tristia* 5.1. Ovid's apparently heavy-handed approach in the *Tristia* is, of course, easily understood: by this point in his exile he is more set on importuning than on delighting his readers—*hic quoque talis erit, qualis fortuna poetae: | invenies toto carmine dulce nihil* (*Trist.* 5.1.3–4). Nothing is to be left to the reader's imagination: this is Ovid's fifth book of *tristia*; no wonder he promises *nihil dulce*!

## 2. Type 2

If in *Trist.* 5.1 Ovid had used the subtle strategy of *Am.* 2.1, a somewhat greater degree of immediacy and indeterminacy would have been detectable in his introduction since an implicit link to an earlier passage in the same work requires more of the reader's involvement in establishing the reference of the *B*-clause than does a hysteron proteron. Perhaps this is the reason that the rather dull Type 1 is much less frequently encountered than is Type 2, in which the *A*-clause is completely suppressed. Two varieties of Type 2 may be distinguished: Type 2a, in which *quoque* links an epigram to its immediate predecessor in the collection; and Type 2b, in which *quoque* links the beginning of one book to a subject treated in a preceding book of the same work.

<sup>13</sup> See E. Reitzenstein, "Das neue Kunstwollen in den *Amores* Ovids," *RhM* 84 (1935) 77.

## 3. Type 2a

The linkage by *quoque* of contiguous epigrams on a related theme is only securely attestable for later Latin poetry, although it is likely that the earliest preserved example is from Cicero's *Limon* (fr. 2, p. 65 Morel).<sup>14</sup> Whereas neither Catullus nor Martial was apparently concerned to make such connections, Ausonius rather often joins the poems of his *Opuscula* with inceptive *quoque, etiam, et, and nec* (cf., e.g., *Commemoratio Professorum Burdigalensium* [hereafter = *CPB*]: *praef.* 1, 2.1, 9.1, 13.1, 18.1, 21.1). Needless to say, the result is often tedious. In at least one case, however, inceptive *quoque* seems artistically defensible. In *CPB* 21, Ausonius begins:

Tu quoque in aevum, Crispe, futurum	
maesti venies commemoratus	
munere threni	3
qui primaevos fandique rudes	
elementorum prima docebas	5
signa novorum:	
creditus olim fervere mero	7
ut Vergilii Flaccique locis	
aemula ferres . . .	9

In praising Crispus as a poet who vies with Horace and Virgil, Ausonius himself writes a Virgilian-Horatian imitation, presumably in the manner of Crispus. It has long been noted that line 5 contains an allusion to Horace, *Epist.* 1.20.17; perhaps the adonius closing the three-line strophe is intended to recall Horace's Sapphics. To these Horatian characteristics may be added an allusion to Virgil, *Ec.* 7.4 (*ambo florentes aetatibus, Arcades ambo*) in line 25 (*ambo loqui faciles, ambo omnia carmina docti*) as well as the imitation of *Georg.* 3.1 (*Te quoque, Magna Pales, et te, memorande, canemus*) in lines 1-2 of Ausonius' poem (where the word *commemoratus* clinches the reference to Virgil). So, here, at any rate, Ausonius' inceptive use of the copulative conjunction has an appropriate literary motiva-

<sup>14</sup> For other possible examples from the first century B.C., see below, under "7. Special Problems." The suggestion that Cicero's epigram on Terence was one in a series of poems about Latin poets was first made by F. Leo, "Die römische Poesie in der Sullanischen Zeit," *Hermes* 49 (1914) 194-95. For speculation that this use of *quoque* may have figured in Varro's *Imagines* see R. Merkelbach, *op.cit.* (supra n. 8) 350.

tion. The same cannot be said of most Ausonian and medieval examples.<sup>15</sup>)

#### 4. Type 2b

Somewhat more demanding on the reader is the use of *quoque* at the beginning of a book to indicate the relationship of the new book's theme to that of a previous book in the same work. As noted above, this usage is particularly apt in introducing the second half of a work (cf. Virgil, *Georg.* and *Aen.*), but of course we also encounter it whenever poets wish to stress the relationship of two contiguous books, whatever their position in the work as a whole. Examples include: Ovid, *Am.* 2.1, *Fast.* 6.1; Valerius Flaccus, *Arg.* 7.1; Martianus Capella, *De Nuptiis Philol. et Mer.* 4 *praef.* 1. The commentators on Livy 31.1 also correctly connect the words *me quoque iuvat* to 30.45, where Livy describes the rejoicing in Italy at the end of the Second Punic War (cf. Weißenborn-Müller and Briscoe *ad loc.*).

#### 5. Type 3a

A still greater degree of semantic indeterminacy occurs when *quoque* links the beginning of a poem to a passage in another, non-contiguous poem, as if the later passage were a continuation of the earlier. In this case, the reader must recognize the relevant text to which the later passage refers, if he is to make sense of the inceptive *quoque*. The only example of this usage known to me is Horace, *Serm.* 2.5.1 (*Hoc quoque, Tiresia, praeter narrata petenti / responde . . .*), where Ulysses is shown continuing the conversation he had with Tiresias in *Odyssey* 11.90-149 by asking the seer how he may recoup his lost fortune. Pseudo-Acro, *ad loc.*, points out

<sup>15</sup>) Cf. Ausonius, *Opuscula* 4.11, 4.16, 4.25; Alcuin, *Carm.* 51.3, 51.4, 89.18, 90.2, 99.9; Flodoardus, *De Triumphis Christi apud Italiam* 2.7; Aldhelmus, *Carm. Eccles.* 4.4, 4.8; Walahfridus Strabo, *De Cultura Hortorum* 22, *Carm.* 44.2; Hrabanus Maurus, *Epist.* 15; Heiricus Autissiodorensis, *Carm. e Collectaneis* 1.3; Wandalbertus Prumiensis, *Martyrologium* 11. *CLE* 1807 (= *L'Année Epigraphique* 1948. 41 [nr. 108]) presumably belongs in this category. The text runs: *Haec quoque praefectus construxit moenia Thomas*, and it is likely that Thomas, the prefect of Africa (c. 570-74; see *RE VI A s.v.* Thomas 15 [Stuttgart 1936] 324-25), was also responsible for other building in the town of Mascula and/or put the same inscription on other parts of the town's fortifications.

the allusion to Homer and thereby shows that at least some ancient readers could not be expected to make the proper connection unaided.

### 6. Type 3b

Most demanding of all is the use of inceptive *quoque* to connect the situation or experience discussed in the text with one in the real world of the reader. Since the suppressed *A*-clause is not literary but experiential, maturity as well as learning are the crucial determinants of the reader's response. In some cases, responding correctly is easy. No reader will fail to understand what Ovid means when he says in *Fasti* 6.241, the beginning of the section for June 8, *Mens quoque numen habet*.<sup>16</sup> No reader will miss Ovid's exasperation about his place of exile at the ends of the earth when he writes, *Huc quoque Caesarei pervenit fama triumphi* (*Pont.* 2.1.1) and *Hic quoque sunt igitur Graiae—quis crederet?—urbes | inter inhumanae nomina barbariae* (*Trist.* 3.9.1–2). In a late-antique verse epitaph, the reader can just as readily determine the referent of the inceptive *tu quoque*; but, realizing that he himself is the referent, the reader is touched to the quick: *Tu quoque communi mansurus sede viator | paulum siste . . . et lege* (*CLE* 580).

The most interesting, and challenging, case is perhaps Ovid, *Trist.* 5.6:

Tu quoque, nostrarum quondam fiducia rerum, 1  
 qui mihi confugium, qui mihi portus eras,  
 tu quoque suscepti curam dimittis amici,  
 officiique pium tam cito ponis onus? 4

Predictably, there has been idle speculation about the identity of Ovid's friend. He is not, as Luck has naively suggested,<sup>17</sup> Ovid's legal representative in Rome (who is mentioned in *Trist.* 3.5); rather, he is the same nameless person of wavering loyalty to whom *Trist.* 5.2 is addressed: cf., especially, *me miserum! quid agam, si proxima quaedam relinquunt? | subtrahis effracto tu quoque colla iugo?* (*Trist.* 5.2.39–40).<sup>18</sup> Here, besides the phrase *tu quoque*, the image of the *iugum* (cf. *onus* in *Trist.* 5.6.4) and, a little later, of

<sup>16</sup> Cf. the similar (though not inceptive) use of *quoque* without an explicatory *A*-clause in *Fasti* 2.641–42: *Terminē . . . | tu quoque numen habes*.

<sup>17</sup> G. Luck *ad Trist.* 5.6.

<sup>18</sup> Hence *proxima quaedam* in *Trist.* 5.2.39 is a class-term, and certainly does not best suit Ovid's wife, as Luck asserts *ad Trist.* 5.2.

the anchor (in verse 42; cf. *Trist.* 5.6.2: *qui mihi portus eras*) relates the addressee to the *amicus* of 5.6. Who is this person, and why does Ovid in both poems address him as *tu quoque*?

This question must have exercised the emotions of Ovid's contemporary readers as much as it does our intellects. M. Davisson has recently studied the various ways Ovid uses to begin his exile poems; his goal right from the beginning is often to suggest a subtle criticism of his audience for some failure in helping his cause.<sup>19)</sup> Unfortunately, Davisson did not discuss *Trist.* 5.6, but her analysis can be profitably applied here. The very indeterminacy of the person(s) signified in the suppressed *A*-clause and by the undefined *tu* of the *B*-clause must have aroused strong feelings of guilt in practically all of Ovid's friends enjoying life in Rome while he was languishing in Tomis. So, Ovid's *tu* refers not to one person but to a class—his friends and readers in Rome whose lack of success in bringing about his pardon and return strikes the poet as a sign either of their uncertain loyalty or of their laziness. Any readers who should be actively helping Ovid's cause are artfully trapped by the rhetoric of Ovid's *tu quoque* into realizing, like David before Nathan, "*tu (quoque) es ille vir*" (cf. II *Sam.* 12:1-7).<sup>20)</sup>

### 7. Special Problems

- i) *Julius Caesar*, *FPL* 1, (p. 91 Morel): *Tu quoque, tu in summis, o dimidiate Menander*

Leo argued that the presence of *quoque* implies that this poem appeared in a collection of epigrams about poets. W. Schmid asserted, but did not argue, that *quoque* is present as an allusion emphasizing the poem's relationship to Cicero's epigram on Terence in the *Limon* (*FPL* 2, p. 66 Morel: *Tu quoque, qui solus lecto sermone, Terenti . . .*).<sup>21)</sup> As mentioned earlier (cf. n. 14), Cicero's usage

<sup>19)</sup> M. T. Davisson, "The Functions of Openings in Ovid's Exile Epistles," *CB* 58 (1981) 17-22.

<sup>20)</sup> For a survey of this strategy of accusation in ancient and modern European literature see V. Pöschl, "Die neuen Menanderpapyri und die Originalität des Plautus," *Sitzb. Heidelberger Akad. d. Wiss.* 1973. 4, 25-34.

<sup>21)</sup> F. Leo, *op. cit.* (supra n. 14) 194-95; cf. also A. Rostagni, *Suetonio De Poetis e biografi minori* (Turin 1944) 42, 138; H. Fuchs *apud* W. Schmid, "Terenz als Menander Latinus," *RhM* 95 (1952) 253-54. W. Schmid, *ibid.*, p. 254, correctly calls the use of *quoque* "ein bewußtes παραποισίον." On the literary chitchat of Cicero and Caesar see, e.g., Cic. *Ad Att.* 353 (Shackleton Bailey).

probably corresponded to our Type 2a. Assuming we wish to delve into a question like this to which the answer can only be speculative, we should at least note in favor of Schmid's suggestion that a parallel to Caesar's use of what may be called the "allusive" inceptive *quoque* may be found, as we have seen, in Ausonius *CPB* 21, as well as in the following three imitations of Virgil *Aen.* 7.1: *Tu quoque litoribus famam, Caieta, dedistis* (*PLM* IV, p. 175). || *Tu quoque litoribus nostris, Caieta, manebis* (*PLM* IV, p. 171). || *Hic quoque Caietam sepelit . . .* (*PLM* IV, p. 165).

ii) *Martial* 4.82.1: *Hos quoque commenda Venuleio, Rufe, libellos . . .*

The poem seems to be the dedication of a book of epigrams, and *quoque* here appears to exemplify Type 2b. The scant scholarly literature on the poem in fact deals with the problem of what collection of poems 4.82 must have originally introduced.<sup>22</sup>) Whatever the answer may be, the problem remains of how to interpret the poem in its present location toward the end of the fourth book. The answer is that this poem, along with such epigrams as 5.80, 7.26, and 11.106, is what might be called a "literary" literary dedication; i.e., like the literary epitaph, it belongs to the realm of imaginative fiction. Although for the (fictional?) character Rufus the *quoque* may fall into Type 2b, from the viewpoint of Martial's true audience the word falls into Type 3b. By demanding the reader's aid in specifying the meaning of the text, inceptive *quoque* sparks the reader's participation in the creative process. If he avoids falling into the trap of speculating on the identity of the *libelli* to which Martial refers, the reader may see that the poem is not a book dedication at all but a member of what (following Barwick)<sup>23</sup>) may be called two "cycles" of poems in Martial: the cycle of the "literary" literary dedication, just mentioned; and the cycle of the Rufus-epigrams (3.100, 4.82, and 6.82), which, appropriately enough, also deal with literature and its readers.

In 3.100, Martial tells Rufus that the poems Martial has dispatched to him by messenger were justly destroyed in a rainstorm. In 4.82, Martial tells Rufus that his poems appear best after the reader drinks a moderate amount of wine; and that the reader should put aside half of the poems if there are too many to hold

<sup>22</sup>) M. Schanz and C. Hosius, *Geschichte der römischen Literatur*, II. Teil, *HdAW* VIII. 2 (Munich 1935<sup>4</sup>) 550; P. White, "The Presentation and Dedication of the *Silvae* and the *Epigrams*," *JRS* 64 (1974) 47.

<sup>23</sup>) K. Barwick, "Zyklen bei Martial und in den kleinen Gedichten des Catull," *Philologus* 102 (1958) 283-318. Barwick does not discuss the Rufuscycle.

his attention. The implication is that Martial's epigrams appear to be bad when the reader violates the mean between too much and too little reading and drinking. In 6.82, Martial ironically tells Rufus a story about a philistine who considers Martial a bad poet because he wears a bad *lacerna*. So, 4.82 falls into a group of poetological poems in which Martial as poet, or Martial's poetry, is, or can appear to be, bad.

This self-consciousness justifies Martial's use—invention?—of the form of the "literary" literary dedication because the subject of such dedications is normally poetics. Moreover, the poem is a playful study about the nature of reading, for it tells the reader Rufus to tell the reader Venuleius how to read two collections (*libelli*) of poems that, like the poems in the suppressed *A*-clause, are then not published as such for Martial's true readers to read. The last couplet of the poem tells how Martial's *libelli* can give increased pleasure by being made *divisum* (*divisum sic breve fiet opus* [4.82.8]). From Venuleius' point of view, *divisum* means "cut in half"; for Martial's true readers, *divisum* means "kept apart," "withheld." So, for his real readers, Martial's *opus* turns out to be quite *breve*—and quite pleasantly witty—indeed.

In 11.108 Martial, with entertaining illogicality, tells his readers that they cannot have the very *pauca disticha* they are reading as the encore they demand of the poet at the end of Book 11. Here, in 4.82, Martial, in an equal but opposite gesture, implicitly prepares his true readers for *libelli* that he refuses to make public and that he rightly compares to others (*quoque*) that he has supposedly already published but in reality has not. The inceptive *quoque* thus serves to alert Martial's readers to the imaginary status of the *libelli* that Martial is about to introduce.

### iii) Three Cases of Misunderstood Inceptive *quoque*

- a) Horace *c.* 1.28.21 f.: *Me quoque devexi rapidus comes Orionis/  
Illyricis Notus obruit undis*

Nisbet and Hubbard, like most earlier commentators, interpret *quoque* in verse 21 as adding "another instance of human mortality" to those cited in verses 17–20 (Nisbet-Hubbard, *ad loc.*). Nevertheless, discomfort with this view is detectable in their very next comment: "*quoque* in no way implies that Archytas was drowned." If, in verses 21–22 we hear someone saying "Notus made me, too, drown in the Illyrian waves;" if we have not just

before heard of anyone else killed by Notus on the Adriatic; and, if the speaker of these words has been addressing the dead Archytas, then one can well understand the need—though not the reason—for Nisbet and Hubbard's hasty disclaimer. The text offers no obvious *A*-clause for the *quoque*-clause.<sup>24)</sup>

I will elsewhere consider the interpretative consequences of taking *quoque* as inceptive in *c. 1.28*.<sup>25)</sup> Here, I wish only to demonstrate the possibility that the word can indicate the beginning of a new text embedded within the ode, in which case it would exemplify type 3b. This can be done very easily, especially now that we have seen that Latin poets were quite aware of the existence of the inceptive use of *quoque*. The only logically possible supplement for the suppressed *A*-clause is "Just as Notus has drowned others on the Adriatic in the past" (not, as Nisbet and Hubbard suggest, "Just as other mortals have met their death in various ways"). Since this supplement does not follow from anything stated in verses 1–20, all spoken by the same person, it may be taken as an indication that a new speaker begins talking in verse 21. The speaker, I would suggest, is the talking epitaph on Archytas' tomb, which is "quoted" at this point in the ode as Archytas' only possible response to the anti-Pythagorean diatribe that Horace has been delivering in verses 1–20. Horace begins the epitaph with the words *Me quoque* since, as a common initial formula in Latin poetry, the words themselves—irrespective of their lack of logical connection with anything in the immediately preceding lines—must have served to signal a change of speaker. Such signalling was all the more necessary and useful because Horace apparently had at his disposal no graphic sign to indicate a change of speaker.<sup>26)</sup>

b) Hrabanus Maurus *c. LII* (*MGH II*, p. 217): *Hic quoque, qui astat, cervices flectite vestras*

The editor, E. Duemmler, has indicated a lacuna before verse 1 of this altar *titulus*. Although he gives no explanation, Duemmler

<sup>24)</sup> The only possible *A*-clause is *exitio est avidum mare nautis* in verse 18. This is, however, quite far removed from *quoque* in 21, and the constructions in the two lines are not parallel.

<sup>25)</sup> See my article, "Horace and the Monuments: A New Interpretation of Horace's Archytas Ode (*c. 1.28*)," *HSCP* 88 (1984) 71–102.

<sup>26)</sup> See J. Andrieu, *Le dialogue antique. Structure et présentation* (Paris 1954) 294–303.

seems to feel that need for something to precede the transmitted first verse because of the parallel to which he refers in a note *ad loc.* (viz., Hrab. Maur. c. XLIX. IV), where the words *vos quoque qui intrastis, cervices flectite vestras* come in the third line of an altar *titulus*. Duemmler seems not to have considered the possibility that *quoque* in c. LII. 1 can begin the poem. No lacuna need be postulated once we see that we have to do here with inceptive *quoque* Type 2a. In other *tituli*, Hrabanus must have told worshippers to bow at other altars in the church; now, *medias in res*, he tells them to bow here, too.

c) Incertus, *saec.* XI:

Tu quoque, qui sacri  
succedis limina templi  
has, per quas intras,  
studiosius inspice portas . . .

The text is the first four lines of an inscription at the Basilica S. Paolo fuori le mura (Rome) on a door commissioned by Pantaleone of Amalfi in 1069. It was heavily damaged in the fire of 1823, but was reconstructed in the 1960s. In an article about the reconstruction, H. Bloch<sup>27)</sup> has argued that the *disegno* of the door by Nicola Nicolai, published in 1815,<sup>28)</sup> is correct in every detail save one: this inscription should appear, not in the spot Bloch calls II. 5, just to the left of the central two panels of the door, but in the location he refers to as V. 5, just to the right of center. The latter spot is occupied in Nicolai's engraving by another inscription addressed to St. Paul, which begins:

†Paule beate, preces  
D(omi)no ne fundere cesses  
consule Malfigeno  
p(ro) Pantaleone rogando,  
ductus amore tui,  
qui portas has tibi struxit.

<sup>27)</sup> H. Bloch, "L'ordine dei pannelli nella porta della Basilica di S. Paolo," *Rend. Pont. Accad. Arch.* 43 (1970-71) 267-81. For the most recent bibliography on the door see A. Thierry, *L'Art dans l'Italie méridionale*, vol. 5, aggiornamento di E. Bertaux sotto la direzione di Adriano Prandi (Rome 1978) 630 and 630 n. 12.

<sup>28)</sup> N. Nicolai, *Della Basilica di San Paolo* (Rome 1815) tables xi-xvii.

Bloch argues that since the fifty-four panels of the door are to be read from top to bottom and from left to right,<sup>29</sup>) the inscription to St. Paul should precede—i.e., be to the left of—the inscription to the visitor to the church because: 1. “è ovvio che il donatore prima si rivolge al Santo e dopo al visitatore della chiesa” (Bloch, p. 280); 2. “il ‘quoque’ . . . è sufficiente per provare che continua un pensiero già espresso” (Bloch, p. 280); and 3. “la preghiera a Paolo appartiene alla scena del martirio di s. Paolo [i.e., to the panel next to II. 5] (Bloch, p. 281).<sup>30</sup>)

Against Bloch's suggestion are the following points that support Nicolai's otherwise perfectly reliable drawing of the door. 1. Bloch has not reckoned with the possibility that *quoque* here is inceptive, exemplifying my Type 3b. The reader would have to supply a missing *A*-clause such as “Like the worshippers who have come here before you . . .” 2. *Quoque* here cannot in any case link its address to the worshipper about to enter the church with the inscription to St. Paul. Paul is asked to worship to god on behalf of Pantaleone. The worshipper is not asked to pray to god for Pantaleone in the context of the *quoque*-clause (as would be necessary if Bloch is correct); rather, he is told *has, per quas intras, | studiosius inspice portas* (lines 3–4). This is obviously not something that St. Paul, too, can be told. 3. One may, in any case, doubt the correctness of Bloch's view that the five groups of panels are to be read in the order of top to bottom, and left to right. The fourth—and last—group by this reading is the series of Old Testament prophets of Christ's birth and passion, who would come later than the apostles and Christ himself, if Bloch is correct. Furthermore, the fifth group, which includes the two inscriptions, is exceptional, even in Bloch's scheme, since it contains four, not twelve, panels

<sup>29</sup>) This is somewhat simplified since I omit the complicating details that 1. the panels form five groups, four of which are to be read from top to bottom and from left to right, as are the groups themselves with respect to one another; and 2. the second and fourth group begin in the two central panels III. 5 and IV. 5 respectively and do not include the extreme left and right panels on the bottom (I. 9 and VI. 9). The fifth group is composed of panels I. 5, II. 5, V. 5, and VI. 5 across the middle horizontal of the door. The two inscriptions discussed above in the text (panels II. 5 and V. 5) belong to this fifth group. For convenience, I shall use the system of denoting panels in ranks and files proposed by Bloch, *op. cit.* (*supra* n. 27) fig. 4 (p. 277).

<sup>30</sup>) Doubt about the position of the inscriptions was already expressed by F. J. Luttor, “Die Paulstür. Ein Meisterwerk der byzantinischen Kunst aus dem XI. Jahrhundert,” *Römische Quartalschrift* Suppl. 20 (1913) 315 n. 1.

on just one horizontal, not four, and since it is interrupted in the middle by two panels (III. 5 and IV. 5) belonging to two other groups. In view of these complications in the organization of the panels and groups, moving the address to St. Paul to the left, supposedly in order to be read before the address to the worshipper, would seem to be an unnecessary solution to a false problem.<sup>31)</sup>

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<sup>31)</sup> I wish to thank N. Horsfall for his helpful comments on an earlier draft of this article and the American Council of Learned Societies for a fellowship that enabled me to pursue research on this topic.

# A SOCIO-PSYCHOLOGICAL AND SEMIOTIC ANALYSIS OF EPICURUS' PORTRAIT

BERNARD FRISCHER

## I

By the beginning of the third century B.C., the tradition of Greek philosophy was three centuries old. During this long formative period, two complementary processes can be observed at work: first, the ideological differentiation of philosophy to suit the needs of the major socio-psychological groups in Greece; and, second, the increasing alienation of philosophers from the centers of political power they had once controlled or tried to control. By the turn of the third century, philosophers had become divided up into professional groups competing amongst themselves for students while at the same time suffering the indifference, ridicule, or even persecution of their fellow citizens.

It is no accident that in this rather grim stage of philosophical history, at least one group of philosophers — the Epicureans — created an organization for which there was no analogy in Greek society and that was not merely a sub-culture of factual or figurative outcasts, but an alternative community almost completely independent of its dominant culture and from the economy of the host city-state in which it was located. The main features of this alternative community are these: it was based upon the charismatic leadership of its founder Epicurus, or his successor; the leader's powers were subject to implicit controls since the membership retained the right to own private property. The economy of the community was based on three sources of income: the members' own wealth; the income generated by work on the grounds of the school itself; and, finally, the contributions sent to the school by former members who returned to life in the dominant culture but still felt some residual loyalty to those left behind. Members of the group were united by simulated kinship ties as the children of their master. They were often also related to each other by marriage, since women (and, incidentally, slaves) could be full-fledged members. We know from the will of Epicurus that, uniquely among the philosophical schools, the Epicureans actually lived together on the grounds

of the school, where they engaged not only in study, but also in farming and all the other normal activities of life, including child-rearing.

How an alternative community such as this solves the problem of recruiting new members is interesting to investigate for a practical and theoretical reason. To begin with the practical problem, studies of contemporary alternative communities in the United States have shown that these communities have open to themselves two different recruitment strategies: first, like the Hutterites, they may recruit from within by bringing their children up to become members of their group. Secondly, they may recruit strangers from outside their existing familial and social network if, like the Harmony Hill communards of northern California, they are unwilling to remove their children from the normal schools of the dominant culture.<sup>1</sup> What little evidence we have suggests that the Epicurean community more resembled Harmony Hill than a Hutterite community in that we know of no child of an Epicurean who became a member of the school, whereas we know of many strangers who did become Epicureans. This, admittedly in part *ex silentio*, evidence we may take to imply that the Epicureans depended much more upon finding like-minded strangers for their school than upon creating like-minded children through indoctrination. We have one interesting theoretical statement supporting this hypothesis. According to the first-century B.C. Epicurean Philodemus, Epicurus said that it was a measure of the sage's wisdom that he could effortlessly attract new students to study with himself. This suggests that Epicurus depended more on strangers to validate his claim to be wise than upon the less disinterested offspring of his own followers.

Now, there is one difficulty with recruiting strangers: they are much harder to contact and persuade than are members of one's own social and familial network. A recent article on this subject by Stark and Bainbridge has shown that in the state of Washington in 1976-77, for example, the Mormon church was able to convert 50% of the people contacted in the familial and social networks of its members, but only 0.1% of the total strangers whom its members approached.<sup>2</sup> Granted that the Mormons are not philosophers and that their appeal is much more to the emotions than to the intellect, these results can still, I think, be fairly applied to the Epicurean case to suggest that the Epicureans' decision to recruit strangers made the job of keeping their organization alive much harder than it might otherwise have been. As we will see in a moment, this self-imposed practical difficulty was compounded by a self-imposed theoretical difficulty that made the Epicureans take a passive, not active, approach to recruiting strangers.

The third-century B.C. Peripatetic philosopher Hieronymos said (*apud* Diogenes Laertius 9.112) that philosophers recruited students either by active pursuit or by passive flight. The active approach was, according to Hieronymos, by far the more common. Philosophers attracted new students by speaking in public or by publishing their works. When Crantor went to the Asklepieion in Athens to find a cure for some disease, crowds gathered around him thinking that he was about to found a new school. When Stilpo visited Athens, men flocked to see and hear him. The Cynics normally wandered about and gave harangues in public. Plato occasionally spoke before the general public, as is securely attested for his unsuccessful lecture on the Good. Themistius preserves some stories about philosophical conversions motivated by readings of Plato's dialogues. Axiothea came to Athens from Arcadia after reading the *Republic*. A Corinthian farmer left his farm to study with Plato after reading the *Gorgias*. Zeno of Citium decided to devote himself to philosophy after reading the *Apology*.

The attractiveness of the first approach is easy to understand, and yet active proselytizing is not always as effective in recruiting as is a more passive method. Precisely by making access to himself difficult and privileged, a philosopher can create an aura of mystery and desirability about himself. To be sure, this will not work if a man has no reputation at all, and even in the best of cases it will probably never attract to a philosopher the two thousand students that Theophrastus drew to his public lectures (Diogenes Laertius 5.37).

Hieronymos exemplifies the second approach by citing Timon, and in another passage in Diogenes Laertius, we learn that Timon's model in this was Pyrrho (Diogenes Laertius 9.63), whom Timon admired, among other reasons, for his ability to find escape from the dull-witted. We know from another fragment of Timon's *Silloi* that one of Pyrrho's students — Philo — imitated his teacher's habit of "staying away from mankind, talking to himself and being at leisure with himself" (Diogenes Laertius 9.69). We also know that Nausiphanes, Epicurus' teacher, was a student of Pyrrho. In the one preserved anecdote of Nausiphanes about his more famous student, we learn that Epicurus often asked Nausiphanes about Pyrrho's way of life, which Epicurus apparently admired as much as did Timon and Philo (Diogenes Laertius 9.64). It should thus not be very surprising to find Epicurus imitating Pyrrho's method of recruitment by flight from mankind.

For Epicurus, recruitment must be passively pursued through flight from mankind because interaction with the world in its present state would endanger the peace of mind, if not the life, of the sage and hence would compromise his claim to wisdom. That Epicurus viewed the stage of history

in which he lived as dangerous and its dominant culture as corrupt is clear not only from the Epicurean version of historical evolution preserved in Lucretius (Book V) and in Colotes (*apud* Plutarch, *Mor.* 1124D), but also from Epicurus' own obsession with "protection from mankind" (KD 6,40) and the "secure life" (KD 7,28). The best form of protection may be achieved through withdrawal from the world (KD 14) into a community of friends (KD 27,28) who study philosophy together (KD 13) and who are united by the "most fixed contract" (KD 40). That Epicurus believed in passive recruitment is clear from the passage in Philodemus cited earlier in which Epicurus is said to have called it a mark of the wise man that he can "effortlessly" attract new students to himself. We know from another fragment of Epicurus that this passive approach ruled out public lecturing as well as even the seemingly innocent practice of publishing books (on lecturing, cf. Diogenes Laertius 10.120). Lest it be thought that Epicurus' approach was so passive as to be non-existent, I hasten to point out that Epicurus was not a selfish hedonist. His own definition of philosophy as psychiatry expelling disease from the mind of mankind (fr. 221 Usener) demanded that he actively think about how he might passively be able to recruit the sick to his healing community.

## II

How would Epicurus have explained why a passive approach to recruitment could work? He would, I think, have given at least two explanations, one rather trivial and based upon the practical success of similar recruiters; the other a good deal more interesting and based upon the Epicurean theory of motivation.

Let me begin with the first explanation. One can easily imagine that Epicurus knew that passive recruiting works if an organization is successful at fulfilling its mission, whatever that mission may be. If the Epicurean theory of how philosophers should live together in a community worked out in practice, Epicurus must have known that this success would "speak for itself" and would reach some potential recruits who happened to hear of it. We do, in fact, know that Epicurus' community struck some non-Epicurean observers as a successful social experiment. One such observer said that "the Epicureans resemble people living in a well-organized state" (Numenius, *apud* Eusebius, *Praep. Ev.* 14.5.3). An amusing anecdote concerning Arcesilas, the head of the Academy in the third-century, proves that word of this success did get around and bring many converts to study with Epicurus. Asked by a student why many adherents of the different

schools became Epicureans, but no Epicureans ever went over to the other schools, Arcesilas replied, "because a man may become a eunuch, but a eunuch can never become a man" (Diogenes Laertius 4.43).

I do not think that we should minimize the effectiveness of this kind of passive recruitment. It must have been especially useful in attracting the disenchanting philosophers of the other schools who would be willing to become intellectual eunuchs to have the chance to leave the alienation of the philosophical sub-culture for the pleasant life of Epicurus' alternative community. On the other hand, I think that we must expect that Epicurus had some more theoretical reason for entrusting the fate of his whole enterprise to passive recruitment. And I think that we must also expect that he had some more reliable way of spreading the word of his community and message than by simply counting on the gossip of disinterested observers.

I would suggest that for a philosopher like Epicurus for whom practice should reflect theory, the problem of recruitment must have been viewed as a special instance of the general theory of motivation. Recruitment is the process whereby an organization motivates potential new associates to consider joining itself. Since the Epicureans believed that motivations arose through the exercise of free-will, their theory of motivation had the built-in advantage of enabling them to justify a policy of inactive recruitment once they had created the condition in which the right sort of person would spontaneously be motivated to consider joining their school. Let us now look at the general Epicurean theory of motivation and then see how easily it can be applied to the specific case of motivating people to become Epicureans.

According to Epicurus, the single reliable criterion of truth lies in ensuring that our thoughts conform to the objects in the world that give rise to them. Our knowledge of these objects results from the act of perception, which is possible because everything that exists emits an image of itself. That knowledge can be trusted because the images given off by the objects correspond most closely to the things that emit them, and this correspondence is preserved for a long time. Turning now to the receiving end of this process, we find that the images are perceived either by first entering the body through one of the five senses and then by being sent on to the mind; by proceeding directly to the mind; or by being evoked by the mind itself from its store of previously perceived images. Because the images have a certain power arising from their atomic composition, they rearrange the atomic complexes in the mind so that unless something interferes with the completion of the process, the mind becomes impressed with a new structure and content. Once the images have determined the physical ar-

range of the mind, they can be said to influence the mental behavior that results from these arrangements. Thus, Lucretius says that the formation of will is always preceded by an imaging of the thing to be willed. For example, before we can decide to walk, the image of walking must strike our mind (Lucretius, 4.881-2). Whether anything interferes with the image's effect on the mind is determined by how the mind experiences the image. If it is experienced as pleasure, the mind naturally wishes to preserve the perception as long as possible and even to become a source of pleasure to itself by imitating the image. On the other hand, if the image is experienced as painful, then the mind naturally suppresses it as quickly as possible. What is therefore crucial in the process of motivation, and what preserves the possibility of free-will, is the subjective disposition of the perceiver's mind to the outside forces acting upon it.

We may apply this general theory of motivation to the particular case of conversion to Epicureanism as follows. Without any effort on his part, the sage is continually emitting images of himself. Some of these images will be received by non-Epicureans, and some of these non-Epicureans will react to the experience of seeing the sage by feeling pleasure. If the pleasure is intense enough — that is, if the person has the right disposition for an Epicurean — then the pleasure will be so intense that the viewer will want to imitate the perception and, by becoming like the Epicurean sage, become a continual source of pleasure to himself.

### III

If these speculations are true, then we should expect the Epicurean wise man to have done everything he could to spread his image so that it could be seen by the masses of sick souls in need of his message of salvation. Here we once again encounter the problem that the sage has retreated from mankind into an alternative community situated far from the people he must reach. At this point, another general theory comes to the rescue of the sage. For Epicurus, there is no distinction to be made between different kinds of images. As one fragment (nr.247 Usener) puts it, "all images are real, for they move." Unlike the Platonists and most other ancient philosophers, the Epicureans were iconophiles, not iconoclasts. Collapsing the distinction between sign and signified, they held the image of a man's image — that is, his portrait — to be every bit as real and valid as his image itself. Since Epicurus' actual image could not escape very far from the place where he lived, and since it could not survive after his death, we would expect Epicurus to have taken steps to propagate his portrait in the public places

frequented by people in need of his help. In view of the gaps in the ancient *testimonia* about how Epicurus recruited, the best test of my reconstruction of his policy is a semiotic and iconological study of his portrait. If, in fact, we can show that Epicurus' portrait was propagated far and wide, and if we can see in it not so much an iconic representation of Epicurus' physique as a symbolic representation of his mission of bringing salvation to mankind, then we will have, I think, the best evidence we are ever likely to possess that my version of the policy of Epicurean recruitment is correct.

#### IV

Let us begin with four interesting literary *testimonia* about Epicurus' portrait. Epicurus said that the wise man will erect portrait statues of others (Diogenes Laertius, 10.120). In the fifth book of Cicero's *De finibus*, Atticus tells Cicero as they walk past the school of Epicurus in Athens, "I could not forget Epicurus, even if I wanted to, since we Epicureans have his portrait not only in our paintings, but also on our cups and rings." Possibly with this passage in mind, or possibly by simply observing Atticus' first-century A.D. Epicurean successors, the Elder Pliny writes at the beginning of Book XXXV of his *Natural History* that the arts have practically died out because so many people have become Epicureans and the Epicureans commission only copies of their master's portrait. Finally, in Cicero's *On the Nature of the Gods*, the anti-Epicurean Cotta says, "I myself know Epicureans who venerate every little statuette" (1.85).

What this literary evidence suggests about how assiduously the Epicureans surrounded themselves with portraits of Epicurus is confirmed by the archaeological record.<sup>3</sup> At least six rings of Roman provenance have been found with portraits of Epicurus, and we also have one or possibly two rings depicting Metrodorus. Della Corte reports a wall painting (now vanished) showing Epicurus surrounded by his disciples in the so-called "Scuola di umanità di Potitus" at Pompeii. As yet, no cups with busts of Epicurus have been discovered; however, the famous Boscoreale cup showing the Stoic Zeno mocking Epicurus may well attest the existence of the cups mentioned by Atticus, since the parody presumes a serious model. Most impressive of all is the large number of busts and life-size statues of Epicurus and other Epicurean masters that have been found throughout the Greco-Roman world.

It is of course hazardous to draw conclusions from the sheer numbers of Epicurean images in painting, sculpture, and on rings that happen to have been found to date. New finds may change the statistics, and in any

case, not all of the Epicurean images were necessarily the property of confessed Epicureans. Intriguing nonetheless is the fact that the quantity of Epicurean representations far outweighs that of the other philosophical schools, for none of which any interest in portraiture is attested. The six rings with Epicurus' bust contrast markedly with the two known rings showing Aristotle and even more with the absence of any rings depicting Plato. Equally striking is the fact that more busts survive of Epicurus' successor Hermarchus (21) than of Aristotle (18), a much more famous philosopher. We now possess more life-size statues of Epicurus than of any other ancient philosopher, including Socrates, the most popular philosopher of them all. Again, one does not want to make too much of statistics such as these; however, we would be overly cautious not to point out that the archaeological record certainly does not contradict the ancient literary *testimonia* about the Epicureans' approval of portraits of their masters. My reconstruction of Epicurus' policy on recruitment explains, I think, why portraits were so important to the school. By setting up portraits the Epicureans were able to propagate the moving image of their founder and the other masters without having to violate their stance of withdrawal and passiveness toward the dangerous dominant culture of Greece.

## V

Complementing this quantitative literary and archaeological support of my reconstruction is an important qualitative body of evidence. When we study the iconology of Epicurus' portrait, we can readily see that it is designed not so much to show Epicurus iconically — warts, wrinkles, and all — as to depict in symbolic terms his message of salvation for mankind. The portrait of Epicurus is informed by six simple messages that add up to a complex statement about Epicurus' nature as philosopher, father-figure, healing hero, culture-hero, "great-minded" man, and god. The best proof of my reconstruction of the Epicurean policy on recruitment we can have is the logical inference that a statue embodying so many neatly interwoven messages was intended to be seen by the very people — Epicurus' unenlightened fellow Greeks — whom the Epicureans felt were most in need of their therapeutic philosophy. Before presenting this proof, I should point out its potential importance to Greek art-history as well as to semiotics.

Up to now, Epicurus' portrait — like most Greek portraits — has been studied only synchronically and iconically. Instead of investigating the portrait's relationship to culture-bound and temporally determined

conventions of iconological representation, Greek art-historians have seen in the portrait only signs of Epicurus' kindness, receptivity, sympathy, courage in adversity, and self-satisfaction.<sup>4</sup> These universal and timeless characteristics may well be communicated by the portrait, but by proceeding diachronically, we can, I think, eke out much more information about Epicurus' presentation of himself to his contemporary audience than that. On the semiotic side, recent work by Wendy Steiner on the semiotics of the portrait-genre has sought to make the study of portraiture more interesting by stressing portraiture's indexical, as opposed to iconic, qualities.<sup>5</sup> Without wishing to discount the importance of indexicality in portraiture or of Steiner's contribution, I would, however, hasten to point out that Peirce's classification of portraits as primarily indexical applies only to a photographic portrait (*Coll. Works*, II.147), and not, as Steiner seems to think, to all portraits regardless of medium. I would suggest that my work can serve to show that artistic portraits in the form of visual signs would be characterized by Peirce as primarily symbolic in nature because they are representations that are recognized as such by "the very fact of there being a habit, disposition, or other effective general rule that it will be so interpreted" (*Coll. Works*, IV.447). Of course, given the hierarchical nature of Peirce's system, the fact that the portrait is primarily symbolic means that it also has important iconic and indexical qualities as well. However, recognizing the visual portrait-sign as primarily symbolic does have the important consequence of leading us to expect and emphasize the *conventional* aspects of any given portrait.

I have elsewhere argued in detail about how I believe Epicurus' portrait statue should be reconstructed from the fragments of the head and torso that survive in numerous Roman copies (fig. 1).<sup>6</sup> It was probably originally erected in a public spot in Athens during the period just before or after Epicurus' death (i.e., 280-250 B.C.). The first indication that the portraitists hired by the Epicureans to sculpt their masters were concerned to create symbolic, not iconic, representations is the fact that Epicurus' statue established the design for what we may call the typological visual sign of the Epicurean sage. We have life-size statues of Epicurus' followers Metrodorus, Hermarchus, Kolotes, and Leontion, and these statues all show their subjects seated on the same high-back, solid-sided throne with lion protomes that Epicurus sits on, and, like Epicurus, his followers are dressed in himations, hold book rolls, and have similar postures and gestures. Moreover, in sculpting the faces of Epicurus' male followers, the artists were so eager to suggest a similarity to Epicurus that the modern art-historical literature is filled with confusions of Epicurus, Metrodorus,

Figure 1.



*(Drawing by Deborah Nourse Lattimore)*

and Hermarchus with each other. Since there is no biological reason why we should expect these unrelated men to resemble each other, we can only conclude that they resemble each other because their artists made them resemble Epicurus, their model of wisdom and happiness. That is, a resemblance that is an annoyance to art-historians treating the portrait simply as an icon is extremely interesting and meaningful once the portrait is approached symbolically.

The Epicurean visual sign could, of course, only exist and be used in this way once Epicurus' portrait had been made and his mission of salvation become well known in the Greek world. In making the crucial portrait of Epicurus, however, the sculptor faced a completely different set of circumstances. Epicurus was not very well known; and there was no typological convention for depicting an Epicurean sage. In dealing with these circumstances, Epicurus' portraitist resorted to the same device of typological allusion that the portraitists of Epicurus' followers were to use. But, instead of alluding to an already existing visual sign of wisdom, the artist had to capture the essence of Epicurus' individual version of philosophy by alluding to and combining into one complex sign six simple and culturally appropriate visual sign-types. He could pull off this complex act of semiotic juggling because he was a master of visual syntax who could fill in details left undetermined by the conventions of one type with the details required by the other types. Thus, the philosopher-type dictated the clothing, coiffure, and book-roll attribute. The father-figure sign determined the pose and gesture of the body. The Asklepiian sign-type inspired the sympathetic expression on the face. The Herculean type governed the proportions of the head. The "great-minded" type dictated many, seemingly trivial physiognomical details (like Epicurus' deepset, oval eyes and his round nose-tip), as well as the presence of lion protomes on his throne, since the Greek physiognomists equated great-mindedness with the lion in this period. And, the god-sign influenced the shape of the throne on which Epicurus is seated. So, it is clear that Epicurus is depicted as a complex sign based on simple signs governing the shape of his head, the expression on his face, his posture, gesture, clothing, attribute, and even the seat on which he sits.

## VI

A detailed examination of the six type-signs and their complex syntax in the portrait would require more space than is at my disposal.

Let me exemplify my analysis of the simple signs alluded to by the portrait by concentrating on two, rather straightforward cases: the Asklepiian expression of Epicurus' face and the divine throne on which Epicurus sits.

In 1975, I was the first to point out the resemblance of the so-called Asklepios of Melos in the British Museum and the head of Epicurus. This observation has in the meantime been independently confirmed by Heiner Protzmann.<sup>7</sup> The point of comparison between these two heads is quite simple: both are portrayed in what I call the affective style whereby the subject shows a sympathetic awareness of an observer imagined to be standing before him. This sympathetic awareness is conveyed by the focus of the eyes in a forward direction, a tilt of the head toward the observer in front, and finally by the large sympathetic furrow running across the subject's brow. It is important to note that Epicurus' resemblance to Asklepios is not limited to this one version of Asklepios and so cannot be dismissed as accidental, or, alternatively, as a result of both works being the product of the same workshop. For example, the head of Asklepios on a statuette from Epidauros (Athens National Museum 265), which was made about the same time as Epicurus' portrait, is clearly also sculpted in the affective style, but it is just as clearly the work of an independent sculptural tradition.

The affective style is appropriate for both Epicurus and Asklepios because both claim to be healing saviors of mankind. Asklepios, the god of medicine, was quite popular in Epicurus' lifetime. Epicurus not only claimed to be a psychiatrist; he also spoke about having a "four-fold prescription" for curing mankind's ills. It is thus not surprising that Epicurus would have had his portraitist represent him as an alternative to Asklepios who offered his troubled contemporaries a different — and, in Epicurean eyes, more important — kind of healing. That Epicurus should appropriate Asklepios' style of presentation is also not surprising; we know from various sources that Epicurus viewed the Asklepiian cult with suspicion or disdain, and the fourth part of the "four-fold prescription" implicitly belittles the god by assuring Epicurus' followers that physical suffering is no bar to the happy life. With the background of the literary sources in mind, we must see Epicurus' Asklepiian aspect as intentionally polemical and a manifestation of what Hugh Duncan termed "the struggle by those in power, or those seeking power, to control symbols that are already powerful."<sup>8</sup>

The throne upon which Epicurus is shown sitting has a long history in the Mediterranean world and the Near East. Its chief characteristics are its solid sides and high back. In plan, it may be either rectilinear or curvilinear. Protomes, reliefs, volutes, and mouldings may be present as decorative elements. What is interesting about the throne for our purposes

is that, in whatever age or culture it is encountered, it is almost always used exclusively as the seat of divinities or of divine kings.

The earliest example is a statuette (now in Ankara) of a mother-goddess from Çatal Hüyük, a sixth millennium B.C. Anatolian site. Sumerian art offers a great number of art-works showing various gods and divine kings seated on this throne. In Phoenician iconography, it seems to have been Astarte's prerogative alone to sit on it.

In Greece, the pattern for its use is that in the earliest period — how early we cannot say — the throne *per se*, without any particular divinity depicted on it, was considered a sacred object and seat of divine power. Thus, we find scattered throughout the Greek world examples of it that in later times were given mythological aetiologies. Such, for example, is the throne of Pelops on Mt. Sipylos and the thrones of Danaos in the temple of Apollo at Argos, of Midas in Delphi, and of Pittheus in the temple of Artemis Soteira in Troizen. In the Hellenistic age, the throne was regularly used in depictions of many divinities, including Athena, Poseidon, Apollo, and perhaps Dionysus and Asklepios. To this list, we may now add the new god, Epicurus. In calling him a god, we may once again confirm our iconological analysis with the help of Epicurean literary sources, for Epicurus himself said that a person who achieved wisdom could rival Zeus in happiness and that the wise man has enough in common with the gods to enable him to become their friend. Epicurus' followers notoriously went beyond Epicurus' claim of godlikeness and asserted that he was a god, pure and simple. Even for the average Athenian, with no degree in art-history, the message of Epicurus' divinity should have been communicated loud and clear by his throne.

Semioticians have made us sensitive to the interrelationships between word and image, especially in the analysis of advertising.<sup>9</sup> There was at least one word that, by Greek custom, had to be written on Epicurus' portrait — his name. Wendy Steiner has pointed out that portraits must have names inscribed on them "so that a necessary connection between the [*scil.*, name and image] is intensified, as is the portrait's ability to replace or at least stand in for its subject."<sup>10</sup> In this way, an increased amount of information may be conveyed than would be possible through the image alone: Shakespeare's portrait becomes much more moving and meaningful, once we know that it is Shakespeare's. Thus, the normal relationship between a subject's name and image is homonymic, and by means of the name, the portrait registers a gain in significance. This gain is all the more necessary inasmuch as Steiner does not deal with the symbolic nature of the portrait.<sup>11</sup>

One interesting feature of Epicurus' portrait is that his name and image have a rare synonymic relationship. Just as his portrait is a complex symbolic sign indicating that Epicurus is a divine savior, so, too, his name literally means a "helper" or "savior," and, as such, it is associated with healing gods like Apollo and Asklepios. We will never know whether "Epicurus" was Epicurus' given name, or whether — as I suspect, but cannot prove — Epicurus, like many other famous Greeks (cf. e.g., Stesichorus and Theophrastus) changed his *nomen* to make it symbolically more expressive of his *omen*. In any case, the inscription on Epicurus' statue surely gave its viewer some much needed orientation for dealing with the work's potentially confusing appropriation of so many powerful signs of the dominant culture.

## VII

Thus far, we have been examining the relationship between the visual sign of Epicurus' portrait and what that sign signifies, namely the therapeutic philosophy of Epicureanism. A semiotic analysis of the portrait in a Peircean vein would not be complete without a complementary look at the relationship between the sign and the interpretant. An interpretant is "the interpreted sign as well as the interpreting one."<sup>12</sup> It can thus be equated to the psychology of the receiver in information theory.<sup>13</sup> Zeman has recently studied the problem of the aesthetic perception of signs in a way that extends Peircean semiotics into an area never treated in detail by Peirce himself. Zeman's work is helpful because it can help us to begin to understand the effect of an aesthetic sign like Epicurus' portrait on the mind of its viewer. According to Zeman, "the esthetic element in Peirce's theory of the interpretant . . . is . . . seen to emerge in two dimensions. In the first . . . the radically esthetic is what Peirce calls the emotional interpretant; this is the immediacy of experience in perhaps its purest form. But in another direction, the esthetic cuts across the lines of the emotional, the practical, and the intellectual in the form of the *immediate* emotional, energetic, and logical interpretants."<sup>14</sup> It is Zeman's second "direction" of Peircean aesthetics that interests us here, for it suggests that the interpretant of an aesthetic sign reacts not only with a *feeling* of oneness with its sign, but also with thoughts of identification and practical action leading toward assimilation. The aesthetic sign is thus one that fully engages the faculties and makes the receiver feel, think, and act in harmony with itself.

At this point, we can, I think, make some progress beyond Zeman in studying sign-interpretant relations by applying the faculty-typology of

C. G. Jung to the problem of what sort of aesthetic sign — sonic, linguistic, visual, etc. — is attractive and engaging to what sort of interpretant. This problem is too broad to treat here in any detail; instead, I propose to look only at the case of the visual sign as exemplified by Epicurus' portrait. While this limitation may not satisfy theoreticians, I hope to make up for this deficiency by incidentally solving the problem of why the seemingly impractical Epicurean approach to recruitment might actually have worked quite well.

Jung's typology of the faculties involves a pair of attitudes — introversion and extraversion — as well as two pairs of functions — thinking-feeling, and sensation-intuition. In most individuals, one attitude and one function are dominant; the opposite members of the dominant faculties are repressed. One of the remaining two functions is secondary to the dominant function. I have elsewhere analyzed the type most dispositionally suited to the basic Epicurean beliefs in materialism, sensationalism, amorality, and the repression of feeling as the extraverted thinking-sensation type. It was this type that the Epicurean school had to recruit, if its recruitment practices were to realize the crucial organizational goal of selectivity, for attracting other types would inevitably have resulted in internal discord, dissent, and the eventual dissolution of the Epicurean alternative community.<sup>15</sup> Recent work in social psychology suggests that, of all the Jungian psychological types, it was this type of interpretant that would most likely be attracted to a visual sign like Epicurus' portrait.

Extraverted thinking-sensation types are more attuned to their visual sensations than are most other types. For them, thinking, their primary activity, is usually set in motion by the influx of images from the outside world, and their reaction to such images can be highly emotional, especially if they mirror strong biological drives or involve threats or reinforcements to self-identity. A highly emotional, positive reaction can lead to a modification of the viewer's motivational state such that he carries and explores the image for more information and stimulation. The more positive the reaction, the more inclined the viewer will be to transfer his sense of identity to it.

This transference is, of course, temporary, and can become profoundly ingrained in the personality only after a long period of time — only at the stage of what Zeman would call the final logical interpretant. We may call the initial reaction of an interested viewer of an image like Epicurus' statue the state of aesthetic immediacy, as defined by Zeman, or the state of "effectance arousal," which psychologists define as being in a condition in which one feels a need to make sense out of one's environ-

ment because of some disturbing, if interesting, new perception that one has had about it.<sup>16</sup>

The state of high effectance arousal has recently been the subject of a study that, *mutatis mutandis*, can be applied with useful results to our analysis of Epicurus' portrait. In this study, the experimenters induced a high level of effectance arousal in a group of college students who were made to watch a confusing film about which no orienting information was provided.<sup>17</sup> After the film was over, the students were asked to fill out questionnaires revealing whether they wished to seek clarifying information about the film from others whose attitudes conformed to their own, or from others whose attitudes differed. The results showed that the students clearly preferred to seek out the dissimilar strangers because "those most likely to (be able) to provide (information) are people who view the world differently from the subject."<sup>18</sup>

To apply this study to our own, we need simply equate the viewers of the film to the select group of passersby who stopped to examine Epicurus' statue, and the confusing film to the culturally complex signs informing Epicurus' portrait, which might well initially disorient the viewer by comparing Epicurus to so many different cultural prototypes. The reaction of the students in the experiment of wishing to seek out dissimilar strangers for information and orientation is precisely the "immediate energetic" reaction that I suggest occurred when a good potential recruit saw Epicurus' portrait in a public place.

### VIII

I wish to conclude now by relating my work to some general theoretical points recently raised by semioticians. To follow up my analysis of Zeman's Peircean aesthetic, it seems to me that one implication of my work is that Peirce's triadic concept of the interpretant ought to be updated by adding, as a fourth aspect, the concept of the unconscious interpretant to Peirce's list of the emotional, energetic, and logical. For obvious intellectual-historical reasons, Peirce could not take the unconscious into account, and yet no serious twentieth-century psychology of aesthetics would wish to ignore this crucial area of the human mind. I am motivated to suggest this addition not only for disinterested intellectual reasons, but also because my analysis of the unconscious interpretant reacting to Epicurus' visual sign is one thing that I am unable to analyze in terms of current semiotic theory. Briefly, I would suggest that as an aesthetic sign, the portrait of Epicurus interacts with the unconscious interpretant in the

following way: the three messages linking Epicurus to the types of the philosopher, father-figure, and great-minded man all reflect the Jungian archetype of the wise old man, an archetypal sign that heralds the beginning of the individuation crisis, or that stage of psychological development most appropriate to conversion to philosophy in which a subject, having achieved a certain level of social and economic security, turns inward to discover his true self as the unity of his conscious and unconscious. The three messages linking Epicurus to Asklepios, Herakles, and the gods all reflect the Jungian archetype of the god-image, an archetypal sign that symbolizes the numinosity of the end of the individuation process in which the self is fully realized. Both images are not only descriptive of these stages of psychological development, but are, to use Ehrenzweig's term, poe-magogic — that is, once introjected into the unconscious by an aesthetic experience, they function to set in motion the very processes that they represent.<sup>19</sup>

Recent studies of Sol Worth and Eliseo Veron are both, I think, severely qualified by the work I have just presented. Worth's claim that visual signs present information only about the existence, not nature, of their objects can only be true of iconic, not symbolic, visual signs.<sup>20</sup> Furthermore, his claim that visual signs cannot predicate negatives is also, I think, disproved by the polemical allusions we have seen operative in Epicurus' portrait. Similarly, Veron's claim<sup>21</sup> that the term "code" is a positivistic bourgeois concept for "social consensus" ignores the possibility of a subversive code of the kind that a symbolic sociological analysis of the polemics in Epicurus' portrait reveals. The purpose of Epicurus' claim to be a better Asklepios — and to be much else, besides — is clearly of a piece with the Epicurean program to convert as many members of the dominant culture as possible to the way of life in Epicurus' alternative community.

Finally, I believe that the pessimism Oleg Grabar has recently expressed about the possibility of a semiotics of the visual sign and Lagopoulos-Ioannidis' pessimism about the self-sufficiency of semiotics as a discipline are not well taken.<sup>22</sup> Ioannidis and Lagopoulos claim that Marxist analysis must supplement a semiotic approach in order that full justice be done to the meaning of a sign; however, as this study has shown, Peircean semiotics already insists on a sociological and psycho-social investigation of sign-object and sign-interpretant relations. As far as Grabar is concerned, I believe I have at least indicated how sign-interpretant relations can be better understood by a Jungian revision of Peircean aesthetics. Such a revision is clearly only a small part of the perfected semiotics of art that Grabar had in mind, but it can at least begin sketching out such an ap-

proach by telling us why certain kinds of signs — visual, verbal, sonic, etc. — are attended to by certain kinds of interpretants.<sup>23</sup>

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## NOTES

<sup>1</sup> King 1976.75-104.

<sup>2</sup> Stark and Bainbridge 1980.1376-95.

<sup>3</sup> The material upon which the following remarks are based comes from the extremely useful catalogues of Richter 1965 and 1971.

<sup>4</sup> Cf. the remarks of Havelock 1971.44, Alscher 1957.144, and Richter 1965. vol. 2.200.

<sup>5</sup> Steiner 1977.111-19.

<sup>6</sup> Frischer 1979.121-54.

<sup>7</sup> Protzmann 1977.177.

<sup>8</sup> Duncan 1968.64.

<sup>9</sup> Cf., e.g., Nöth 1977 and Victoroff 1978.

<sup>10</sup> Steiner 1977.114.

<sup>11</sup> Steiner 1977.114.

<sup>12</sup> Buczyńska-Garewicz 1981.12.

<sup>13</sup> See Fearing 1953.71-88; on the psychological aspect of the term interpretant see Zeman 1977.245.

<sup>14</sup> Zeman 1977.255-56.

<sup>15</sup> See Etzioni 1964.68-70.

<sup>16</sup> The classic article on "effectance" is by White 1959.297-333.

<sup>17</sup> On the experiment, see Russ, Gold, and Stone 1979.481-91.

<sup>18</sup> Russ *et al.* 1979.489.

<sup>19</sup> Ehrenzweig 1967.

<sup>20</sup> Worth 1975.85-108.

<sup>21</sup> Veron 1974.1-10.

<sup>22</sup> Grabar 1979.185-88; Lagopoulos and Ioannidis 1977.75-109.

<sup>23</sup> This article summarizes and recasts in terms of Peircean semiotics Frischer 1982, which contains additional discussion and scholarly documentation of points raised in this article.

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## HORACE AND THE MONUMENTS: A NEW INTERPRETATION OF THE ARCHYTAS ODE (C.1.28)

BERNARD FRISCHER

HORACE'S Archytas *Ode* has recently been called "undeniably bizarre in conception but [also] original and imaginative."<sup>1</sup> Criticism of the poem has itself come to a bizarre result. The poem has been read in a variety of mutually exclusive ways as monologue or dialogue, as serious or sarcastic, as about Archytas or some other dead man—including Horace himself. Perhaps the strangest reading is what can fairly be called the standard interpretation of the poem. According to its adherents, the ode is a monologue "spoken by the corpse of a drowned man. First the dead man apostrophizes the great fourth-century B.C. Pythagorean, Archytas of Tarentum, as he lies buried in his grave. Then at 23 he turns to a passing *nauta* and asks for burial himself. The structure of the poem causes perplexity because we do not know till 21 that the speaker is not Horace but a corpse." So Nisbet and Hubbard, repeating an interpretation traceable to Weiske and most recently endorsed by Syndikus.<sup>2</sup>

<sup>1</sup>R. G. M. Nisbet and M. Hubbard, *A Commentary on Horace: Odes Book I* (Oxford 1970) 319. Others have characterized the poem as "rätselhaft" (E. L. Trompheller, "Zur Erklärung von Hor. Od. 1,28," *Zeitschrift für das Gymnasialwesen* 6 [1852] 804; H. Schütz, *Q. Horatius Flaccus Oden und Epoden* [Berlin 1880] 104); G. Dillenburger, *Q. Horatii Flacci Opera Omnia* (Bonn 1884) 78, wrote that "nullum est inter Horatiana carmina quod interpretibus tantas molestias procreaverit quantas hoc." J. Buchmann, *Untersuchungen zur Rezeption hellenistischer Epigrammatik in der Lyrik des Horaz* (diss. Konstanz 1974) 76, goes so far as to say that "ode 1.28 shows Horace, not at the peak of his proficiency, but at the stage of experimentation" (my translation).

<sup>2</sup>Nisbet and Hubbard (above, n. 1) 317-318; cf. B. G. Weiske, "Ueber die 28. Ode im 1. Buche des Horaz," *Jahrbücher für Philologie und Pädagogik* 12 (1830) 349-362; H. P. Syndikus, *Die Lyrik des Horaz I* (Darmstadt 1972) 262-268. Weiske's interpretation was ridiculed as unworthy of Horace by K. Lehrs, *Q. Horatius Flaccus* (Leipzig 1869) *lviii*; according to Orelli and Baiter, *Q. Horatius Flaccus I* (Zürich 1850-52<sup>3</sup>) 162, Weiske was anticipated by Hottingerus in *Programm. Turice, 1788-89* (not available to me). Despite Lehrs' remarks, Weiske received the overwhelming support of his contemporaries: cf., e.g., the commentaries and articles on the poem by Trompheller (above, n. 1) 804 ("die Beweisführung Weiske's hat in der That auch eine solche Kraft . . . dass seitdem die Ode ziemlich allgemein als ein Monolog aufgefasst wird"); H. Schütz (above, n. 1); G. F. Friedrich, *Q. Horatius Flaccus. Philologische Untersuchungen* (Leipzig 1894) 31. Perhaps the last holdout for the traditional reading of the poem as a dialogue is W. Wili, *Horaz und die augusteische Kultur*

Nisbet and Hubbard underestimate the perplexity their interpretation causes. In fact, there are at least five other reasons why this reading of the poem is odd. Why is this the only ode in which Horace is not the speaker? Why would Horace write an ode about a nameless ghost in any case? If the poem is a monologue spoken by a dead man, why does Horace fall into the blatant contradiction of putting a sermon on the finality of death into the mouth of a dead man?<sup>3</sup> If lines 1–20 are spoken by the same man as verses 21–36, then why do we find such an abrupt shift in tone from philosophical enlightenment in 1–20 to unenlightened superstitiousness in 21–36?<sup>4</sup> Finally, if both parts are spoken by the same man, then how are we to explain the lack of literary precedents for the resulting situation, in which one dead man consoles another for having to die?

Clearly none of these reasons for being puzzled by this reading of ode is so strong as to allow us to claim that the reading is wrong; on the other hand, taken together, they certainly are disquieting. In this article, I intend to argue for a new reading of the poem, one that will make it seem much less strange though, I hope, no less original and imaginative. I will also show that the poem is intentionally designed to provoke precisely the great diversity of readings that is attested by the scholarly record since the Renaissance. I should preface my

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(Basel 1948) 231. There is no recent comprehensive survey of the extensive secondary literature on this ode. For useful older surveys see Weiske, "Ueber die 28. Ode"; Orelli and Baier 160–163; G. Hirschfelder, *Q. Horatius Flaccus* (Berlin 1886) 164–167 (= Orelli-Baier<sup>5</sup>); L. Cantarelli, "Un' ode oraziana," *RFIC* 11 (1883) 86–98, esp. 86–96.

<sup>3</sup>On this point the interpretation of Wilamowitz fails; see U. von Wilamowitz-Moellendorf, *De Tribus Carminibus Latinis* (Göttingen 1894) 6. Against Wilamowitz's interpretation in general see F. Jacoby in *Gnomon* 10 (1934) 483ff.; G. Schwind, *Zeit, Tod, und Endlichkeit bei Horaz* (diss. Freiburg im Breisgau 1965) 32 n. 4. It is strange that W. J. Oates, *The Influence of Simonides of Ceos upon Horace* (diss. Princeton 1932) 74, could have written that "no better character could be found to express the idea of lines 15–16 than a ghost." D. W. T. Vessey's solution ("Horace's Archytas Ode," *Živa Antika* 26 [1976] 73–87, esp. 81) to the problem—to imagine that what the Epicureans called the *anima* is speaking—is subject to the objection that he himself raises that "the *anima* . . . would of course have been [viewed] by the Epicureans as deprived of all consciousness" (*loc. cit.*).

<sup>4</sup>Weiske (above, n. 2) 357 already noted that verses 21–36 express ideas too primitive to be worthy of Archytas. Vessey (above, n. 3) 83–84, has recently also stressed the shift in attitude in the two parts, but his solution to the problem of how such different attitudes can be present in the same speaker is unconvincing (*viz.*, Archytas, having learned the error of his beliefs in part one, lapses back into his old ways in the second section).

explanation with an admission: what I shall offer will, I hope, make better sense of the poem, but it cannot be proven to be correct; it can simply be shown to be possible. Before this admission is taken as a sign of any weakness, I should hasten to add that it is, in fact, a point of strength, for my main thesis is that the Archytas *Ode* is designed to express Horace's belief—inspired by ancient semiotic theories—that no reading of a text can be more than possible. Thus, a poem that at first seems to be about *sēma* in the restricted sense of the tomb turns out also to be about *sēma* in the more general sense of the mark or sign.

It will be well to begin with an overview of my new reading. I will argue that the Archytas *Ode* is neither a monologue nor a dialogue but an illustration of the impossibility of communication between the living and the dead at the tomb. In verses 1–20, Horace is the speaker. He sarcastically addresses the dead Archytas and belittles his Pythagorean myths about the afterlife as exemplified by the funerary iconography on Archytas' tomb, which is a cenotaph. From the point of view of the dramatic context of the poem, Horace's purpose in attacking Archytas and his beliefs is to create a situation in which Archytas would not fail to reply, if he could, to Horace's abuse. In verses 21–36, the epitaph on Archytas' tomb is quoted as the only response that Archytas can make after Horace's address. The wit of the poem consists in the fact that Archytas' epitaph in no sense responds to the issues that Horace raises. All the text of the epitaph can do is endlessly repeat the same idle threats and promises, the irrelevance of which reinforces the point of Horace's attacks on Archytas' beliefs in the survival of consciousness in the afterlife and in the possibility of communication between the living and the dead at the tomb. That the poem is itself a text means that it shares with the epitaph and the funerary sculpture on the tomb the limitations of marking and writing; and in order to strengthen the critique of writing he makes in the poem, Horace designs the ode in such a way that it, too, illustrates the problem of textuality.

## II

Let us begin our detailed examination of the ode with a look at the imaginary situation we find in the very first lines. The poem opens with an address to Archytas, who is described as being dead. Since antiquity, critics have assumed that the speaker's motivation in addressing Archytas is a vision of Archytas' *umbra*. There is,

however, another possibility, as Lehrs recognized long ago.<sup>5</sup> The speaker may speak to Archytas because, while standing before a tomb near the Matine shore, he sees not a ghost but an inscription identifying the tomb (or more precisely, the cenotaph) as Archytas'.

This possibility is more likely, I would argue, not only because we must otherwise wonder how the Roman speaker has managed to recognize the ghost of a man dead for three centuries<sup>6</sup> but also because of the epigrammatic tradition of poets addressing the dead, whom they recognize through epitaphs. Excellent examples of this are Callimachus' epigram about Timonoe (*A.P.* 7.522 = XV Pfeiffer) and Theocritus' epitaph of Glaucus (*A.P.* 7.262 = XXIII Gow).<sup>7</sup> Horace's ode represents a further step in the development of the theme because, with centuries of literary tradition behind him, Horace can omit the explicit reference to Archytas' inscription and still expect his readers to grasp the *mis en scène*. Of course, readers do not need to be literary historians to grasp the point that the speaker addresses Archytas because he has read Archytas' name on a monument, for the point is not only traditional, it is also logical. On the other hand, the sudden appearance of a ghost would be unprecedented in literature and hence in need of more explicit exposition to be grasped by the reader; it might also have sooner evoked from the speaker an expression of shocked surprise than familiar address.

For the moment, we may leave in abeyance the problem of the speaker's identity (cf. section VIII) after simply noting that in the epigrammatic tradition, he is normally the poet himself.<sup>8</sup> We may also

<sup>5</sup>Lehrs (above, n. 2) *lvi*: "dabei kann dieser Schatten noch lesen: denn er hat eben vom Grabe abgelesen, dass dies Grab den Archytas birgt."

<sup>6</sup>Vessey's suggestion (above, n. 3) 77 that the poem was motivated when "Horace heard that the corpse of Archytas had been discovered on a particular beach near which stood his tomb" is incredible for logical and biological reasons. The problem of why Horace was concerned enough with the long-dead Archytas to write this ode has led some commentators naively to suppose that the poem is a translation of an earlier Greek poem; see, e.g., C. G. Mitscherlich, *Q. Horatii Flacci Opera* I (Leipzig 1800) 260-261.

<sup>7</sup>Callimachus: Τιμονόη, τίς δ' ἔσσι; μά δαίμονας, οὐ σ' ἄν ἐπέγων. / εἰ μὴ Τιμοθέου πατρός ἐπὴν ὄνομα / στήλη καὶ Μήθυμα τετὴ πόλις. ἢ μέγα φημί / χῆρον ἀναίσθητον πόσιον Εὐθυμένη. Theocritus: Ἀδῆσει τὸ γράμμα τί σάμα τε καὶ τίς ὑπ' αὐτῶ. / Γλαύκης εἰμί τάφος τῆς ὀνομαζομένης.

<sup>8</sup>F. A. Wolf, "Noch etwas über Horazens 28ste Ode des ersten Buches," in *Vermischte Schriften und Aufsätze* (Halle 1802) 431-451 (originally published in 1789), argued (439) that the speaker cannot be Horace because Horace, an anti-Pythagorean, would never have praised Pythagoras, as the speaker of 7-14 seems to do. This argument has been very influential on the scholarship about

note that Horace's *mis en scène* and the precedents behind it make reading an explicit theme. So, right from the beginning we are led to expect that self-consciousness is an important aspect of the ode. The poet is a reader who writes about reading and who makes his readers read what he has written about what he has read. Thus, it should not be surprising to find that the poem is designed to make the reader recapitulate the poet's own experience of reading.

### III

Just as crucial as the situation at the beginning of the poem is the tone in which Archytas is addressed. Nisbet and Hubbard, like many commentators before them, point out that in describing Archytas as measurer of land, sea, and sand, Horace uses a topic typical of a class of funerary epigrams, in which the professional accomplishments of the deceased are praised.<sup>9</sup> The tone at the beginning would accordingly seem to be laudatory. In their notes on the phrase *numeroque carentis harenae*, however, the commentators also point out that counting grains of sand was a proverbial expression for hybridically attempting the impossible (cf. n. 10). In fact, as Kiessling-Heinze note, the topic of measuring the immeasurable was used by Hermias in his *Διασυρμὸς τῶν ἔξω φιλοσόφων* to ridicule Pythagoras, Archytas' *non sordidus auctor naturae verique* (14-15).

Although aware of the connection of the proverb to diatribe, the commentators do not attempt to explain how this topic of invective is reconcilable with the supposedly laudatory tone of the first two lines.<sup>10</sup>

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the ode and so it will be well to point out now that Wolf's objection only holds if the speaker's tone in 7-14 is perceived to be sincere, not sarcastic.

<sup>9</sup>A. Kiessling and R. Heinze, *Q. Horatius Flaccus. Oden und Epoden* (Dublin and Zurich 1968<sup>13</sup>) 120; Nisbet and Hubbard (above, n. 1) 318, with a reference to R. Lattimore, *Themes in Greek and Latin Epitaphs* (Urbana, Ill. 1962) 285-290.

<sup>10</sup>That lines 1-6 are sarcastic, not laudatory, in tone was first suggested by I. Cruquius, *Q. Horatius Flaccus cum Commentariis* (Lugduni Batavorum 1597) 63, and this interpretation was accepted by L. Torrentius, *Horatii Opera* (Antwerp 1608) ad c. 1.28.1; T. Marcilius, "In Q. Horatii Odas," in D. Lambinus, ed., *Horatii Flacci Opera Omnia* (Paris 1604) 29-31; L. Desprez, *Quinti Horatii Flacci Opera* (Philadelphia 1828<sup>5</sup>) 62; G. Dillenburger (above, n. 1) 78; H. Duentzer, *Q. Horatii Flacci Opera*, (Paris 1849) 85; U. von Wilamowitz-Moellendorff (above, n. 3) 5-6. It is strange that the majority of commentators, perceiving only praise in these lines, has never bothered to explain how the topic of the foolish futility of counting grains of sand can be interpreted in

Indeed, it is not. As the immediately following topic of Archytas' hybris in storming heaven (*aeris temptasse domos*)<sup>11</sup> and the sarcastic words *iudice te* (14) make clear, Horace speaks to Archytas in a tone of barbed sarcasm, not deferential praise.<sup>12</sup> The poem begins with the

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any way other than as an indication of sarcasm. F. A. Wolf, for example, dealt with the problem by simply dismissing it with the curt words, "wie man diese Zeilen als einen spöttischen Vorwurf hat nehmen können, ist unbegreiflich" (above, n. 8) 436. C. W. Götting, "Die Archytas-Ode des Horatius eine Tabula votiva," in *Gesammelte Abhandlungen aus dem classischen Alterthume II* (Munich 1863; originally published in 1854 and 1862) 218, claimed that the proverb does not imply criticism of Archytas' foolishness but, to the contrary, is "eine überschwengliche Bezeichnung für die höchste Stufe der Wissenschaft des Archytas." Generally, the commentators simply change the subject from the tone to the source of the lines and point out that Archimedes calculated how many grains of sand could fill the universe. This evasion cannot be permitted not only because it is irrelevant but also because it is the wrong answer to the right question. The question of tone cannot be answered with a fact about source; and the question about the source of Horace's phrase *harenae mensorem* cannot be answered by reference to Archimedes' Ψαμμίτης in any case, since Archimedes' purpose was not (as, according to Horace, Archytas' was) to calculate the number of grains of sand actually existing on earth but to quantify the size of the universe using as a unit of measurement the grain of sand. Archimedes' measurement was accordingly the number of grains of sand theoretically filling the universe—a very different calculation. This important distinction was noted by E. C. Wickham, *The Works of Horace I* (Oxford 1896<sup>3</sup>) 103, who, however, did not point out the important conclusion to be drawn that whereas Archimedes' calculation was quite reasonable, given his model of a finite universe, Archytas' was proverbially futile and foolish. So, Archimedes is not likely to have been Horace's source for the phrase *harenae mensorem*. The probable source was noted long ago by Lambinus (*ad c.* 1.28.1 *Te maris et terrae etc.*), and Turnebus, *apud* T. Pulmannus, *Q. Horatius Flaccus. Adnotationes* (Antwerp 1557) *ad c.* 1.28.1–2, namely, the Pythia's claim to know the number of grains of sand on earth (cf. Herodotus 1.47). Thus, Horace is suggesting that by claiming Apollo's knowledge, Archytas is hybriatic, just as he displays hybris in his storming of heaven (5).

<sup>11</sup>The parallels cited by the commentators (Lucretius 1.74 and Cicero *De Finibus* 2.102) are very different: whereas in both "parallels" Epicurus *peragravit mente* the universe, Archytas is said to have "stormed heaven" with his mind. For Horace, the difference in tone and meaning between *peragrate* and *temptare* is crucial.

<sup>12</sup>On *temptasse domos* as an example of hybris see Mitscherlich (above, n. 6) 262–63 (*ad c.* 1.28.4–6); and cf. Horace *c.* 1.3.38 (*caelum ipsum petimus stultitia*), where Horace explicitly links the topic to *stultitia* and *scelus*. The commentators either (1) ignore the problem of the tone of the topic and speak only of how "von der Erde hat die Forschung des Philosophen sich empor in den Luft-raum gewagt und das Himmelsgewölbe durchschweift" (so A. Kiessling, *Q. Horatius Flaccus. Oden und Epoden* [Berlin 1884] 91–92, and Kiessling-

image of a man who has foolishly wasted his life counting grains of sand and attacking heaven coming to his just reward in a grave near the Matine shore, a place so obscure that few readers, ancient or modern, can confidently locate it.<sup>13</sup>

In verses 2-4 we see that the foolishness Archytas displayed while alive continues after his death. If while alive, Archytas' ambitions were too grand, now that he is dead they are too petty: he is kept near this spot by his desire for "the small gift (*munera*) of a little dust" (24). How does the speaker know that this is Archytas' current obsession? He knows it from the same source that has told him this is Archytas' grave—from the epitaph he is reading on the tomb.<sup>14</sup> As we will see (cf. section IX), the epitaph is quoted in verses 21-36 of the ode. In lines 23-25 and 35-36 the text, speaking in Archytas' name, twice asks the passerby to perform the funerary rite (*munus*) of the *humatio*, or the sprinkling of sand or dust on the corpse—precisely the concern the speaker attributes to Archytas in lines 2-4. So, the speaker is inspired to be sarcastic, not by his tendentious fantasy but by what he sees before him on Archytas' tomb.

At this point, we must pause to examine the precise meaning of the crucial words *te cohibent pulveris exigui parva munera* in verses 1-4. The commentators have interpreted this to mean "a small grave confines you" (so Orelli-Baiter, Dillenburger, Kiessling<sup>2</sup>, Kiessling-

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Heinze<sup>6</sup> [above, n. 9]) or (2) note the implication of *hybris* without adjusting their sense of the tone accordingly (so Nisbet and Hubbard).

<sup>13</sup>That is, the consternation expressed by readers since antiquity about the identification of this place name (cf. Nisbet and Hubbard) is undoubtedly the response intended by Horace. The purpose is not to provoke learned debate about the location of the Matine shore but to ridicule the megalomaniacal Archytas for ending up in such an *angulus*. On the Epicurean background for Horace's belittling of Pythagorean mathematics see A. Barbieri, "Epicuro e le conquiste matematiche-astronomiche," in *Epicurea in Memoriam Hectoris Bignone* (Genoa 1959) 73-88; J. Mau, "Was There a Special Epicurean Mathematics?" in *Exegesis and Argument: Studies Presented to G. Vlastos*, *Phronesis* suppl. 1 (1973) 421-430; and P. H. and E. A. De Lacy, *Philodemus. On Methods of Inference* (Naples 19782) 194-195.

<sup>14</sup>It has often been assumed that if *munera pulveris* is understood in the way I am suggesting, then we have to imagine that Archytas' body must be lying unburied on the shore before the speaker (so, e.g., Weiske [above, n. 2] 354; A. Meineke, "Zu Horaz," *Philol.* 5 [1850] 171-172; H. Weil, "Bemerkungen zu Horaz," *Jahrbücher für Philologie und Pädagogik* 71 [1855] 721; Nisbet and Hubbard. However, there is another possibility, viz., that Archytas does have a tomb but is not buried in it; i.e., he has a cenotaph. The likelihood of this view will be argued below (in section IV). Now, it is necessary to point out that the alternative tomb/burial is vitiated by the *tertium quid* of a cenotaph.

Heinze, and Nisbet-Hubbard). This is possibly not correct, for it assumes that *pulveris* means *tumulus* or *sepulcrum* and is a genitive of definition dependent on *munera*. Note, however, that although a few parallels exist for *pulvis* = *tumulus*, only one (probably postdating Horace) exists for *sepulcrum* as a kind of funerary *munus*.<sup>15</sup> This is hardly surprising, since the tomb (very often built and paid for by the deceased before his death or provided for upon his death by a provision in his will) is not a funerary rite. Moreover, the redundancy of *parva/exigui* that arises if the genitive is definitional is troubling, and calling *exigui* "conventional" (Nisbet-Hubbard) is no satisfactory solution. Motivating the commentators' interpretation is the fear that if these words do not mean "a small grave," then the way is opened to take the words *capiti inhumato* (24) as a reference to Archytas' unburied body. This the commentators are unwilling to do because it would be inconsistent with interpreting the poem as a monologue not spoken by Archytas.

There is, however, another possibility (which will be argued in detail in section IV). In lines 1-6, Horace does, indeed, presume the presence of Archytas' tomb before the speaker, but the tomb is a cenotaph, not the normal variety. We have already seen that the situation in verses 1-6 presumes that the speaker is inspired to address Archytas because he has read an inscription on the monument identifying it as the philosopher's. The phrase *te cohibent pulveris exigui parva munera* is also inspired by the inscription, which, as we will see, is quoted at length in lines 21-36. There, the speaker of the inscription (the imaginary ghost of Archytas) asks the passerby to be-

<sup>15</sup>The only possible exception of which I am aware (the commentators have oddly not even bothered to adduce a single parallel) is *CIL* X.579 (Salerno): A.CLODIO.A.L.AN(t)AEO.PATRONO/MVNERI DAT, where Mommsen (in the *Index Notabilia* 1189) glossed *muneri dat* as "locus sepulturae?" V. Bracco, *Inscriptiones Italiae*, vol. 1-regio 1, fasc. 1-Salernum (Rome 1981) nr. 154 (p. 85) writes: "muneri dat, sepulcrum scilicet: urnam ipsam intellego, in qua cineres positi sunt." It would be hazardous to claim, on the basis of this single piece of evidence, that *munus* could normally mean a place or receptacle of burial. (N.B. that in Ovid *Trist.* 3.3.65, the alleged parallel cited by G. Hirschfelder [above, n. 2] 157-58, the word *munus* does not even appear!) According to H. Schütz (above, n. 1) 104 and L. Desprez (above, n. 10) 62, 64, it was Scaliger (where, Schütz and Desprez do not say and I have not been able to find the passage myself) who first pointed out that verse three seems to imply that Archytas is already buried. It was this supposed fact that motivated Weiske (above, n. 2) to attack the "dialogue" theory of the poem according to which the poem divides into two speeches (1-6 and 7-36) spoken by a sailor and Archytas respectively.

stow a little sand (23–25) and three handfuls of dust (35–36) on his unburied body; here, the living speaker comments ironically on the dead man's petty and superstitious request, as if to say: "you—who were a great mathematician—are kept near the Matine shore by the wish for the modest funerary rite of a little dust." Thus, *cohibere* should be glossed by the Greek word *συνέχω* (= occupy, engage, detain), not *κατέχω* (= cover in a grave), as it usually is.<sup>16</sup>

Finally, the traditional interpretation of *parva munera* as a "small tomb" ignores the technical funereal sense of the phrase. Speaking of the Feralia, the festival of the dead on 21 February, Ovid writes:

Est honor et tumulis, animas placate paternas  
parvaeque in extinctas munera ferte pyras!  
Parva petunt manes, pietas pro divite grata est  
munere, non avidos Styx habet ima deos.

(Fast. 2.533–536)

Thus, the phrase *parva munera* may well be a formula from the Roman cult of the dead. If *parva munera* are given, then the dead help the living, if not, the dead take vengeance (2.534–555). It is perhaps no coincidence that Horace speaks of Archytas' concern for the *parva munera* of a little bit of dust in the context of the dead man's promises of reward or punishment to the passerby who is asked to perform the rite of *humatio* in lines 23–36. To conclude, the words *te cohibent pulveris exigui parva munera* can be taken to mean "the funerary rite of a little dust occupies/concerns you."

The sarcasm of the introduction—which is given strong verbal support by the harsh alliterations in *pulveris, prope, parva, prodest, percurrisse*, and *polum*—reaches a climax in the striking hyperbaton *animoque . . . morituro* (5–6) that encloses the last clause of the opening section. Despite the emphasis Horace gives it, this phrase has received very little comment.<sup>17</sup> Marcilius was the first to point out that *morituro* can be construed with *animo* (5) instead of *tibi* (4), and he also noted that the

<sup>16</sup>For *cohibere* in this sense see *ThLL s.v. cohibere* II.A.2.a. *Cohibere* has been interpreted in *c.* 1.28 in the way I propose above by T. Obbarius, *Q. Horatii Flacci Carmina* (Jena 1848) *ad loc.* and, apparently at some length, by F. Adam, whose 1880 article on the problem is unavailable to me. (For a summary see G. Hirschfelder [above, n. 2] 166.)

<sup>17</sup>The best argued case for taking *morituro* with *animo* (5) and not *tibi* (4) was presented by F. Ritter, *Q. Horatius Flaccus* (Leipzig 1856) *ad loc.* (and cf. Nisbet and Hubbard *ad loc.*).

intellectual-historical background relevant to the notion of a "mind doomed to die" was Epicureanism, which was one of the few ancient philosophies to claim that the soul cannot survive after the death of the body. Ritter gave added arguments in favor of construing *morituro* in this way.<sup>18</sup>

The fact that the speaker may consider Archytas' *animus* to be *moriturus* would do more than explain his philosophical allegiance; it would also account for his motivation in ridiculing Archytas. Alive, Archytas spent his time in Pythagorean research of mathematics, geometry, and astronomy. For an intelligent being subject to mortality, the pursuit of such psychologically and ethically useless knowledge does not help (*nec . . . prodest*, 4) bring about a solution to the central problem of existence: living well in the face of death. Once he has died, Archytas' foolish superstitions about funerary *munera* and his foolish inability to accept the truth that death destroys the soul along with the body are advertised for all to see on his tomb. The strongly emphasized phrase *animo morituro* thus expresses the basis of the speaker's critique of Archytas and introduces the main theme of his address in verses 1–20.

#### IV

The fact that the speaker adopts a sarcastic tone because of the foolishness he sees expressed on Archytas' epitaph suggests that the tomb (whether imaginary or real we need not—and cannot—determine)<sup>19</sup> is worth investigating more closely, especially since in

<sup>18</sup>T. Marcilius (above, n. 10) 29–30. On the death of the soul in Epicurean thought see R. Heinze, *T. Lucretius Carus De Rerum Natura Buch III* (Leipzig 1897) 33–46. On Ritter see above, n. 17.

<sup>19</sup>Horace may be referring to a well-known sight in Tarentum. The impressive Tarentine necropolis survived the Roman sack of the city by Fabius in 209 (cf. J. Coleman Carter, *The Sculpture of Taras, Transactions of the American Philosophical Society*, n.s. 65, pt. 7 [1975] 13). Thus, Horace, from nearby Venusia and, like Virgil, an admirer of Tarentum (cf. Horace *c.* 2.6.9–22; Virgil, *Georg.* 4.125–148), could have been familiar with Archytas' grave—or a grave so identified by local *ciceroni*. It is not unreasonable to suppose that Horace would have sought out Archytas' tomb while visiting the city, since we know that the Romans considered such graves to be sights of interest. Cicero searched for and restored Archimedes' tomb in Syracuse (*Tusc. Disp.* 5.23.65–66); Germanicus (Suetonius, *Gaius* 3) and Hadrian (cf. *Kl. Pauly* IV s.v. Parthenios [1], col. 530) are also known to have visited and repaired the tombs of famous men that they passed on their travels.

the next verses (7–16) the art decorating it provides the speaker with additional material upon which to vent his spleen.

Commentators have not had anything to say about the tomb's location *prope litus Matinum*, except to note the geographical difficulty of identifying the place. Wherever the Matine shore may have been (and, as we have seen, it is precisely the obscurity of the place that Horace finds poetically useful), it is odd that a tomb should be erected nearby. Ancient cemeteries were not normally near the sea; they usually lined roads leading out of town. The great Tarentine necropolis was—exceptionally, and like Sparta's—inside the walls of the city but not especially near the seashore.<sup>20</sup> In fact, from literary epitaphs, we know of only one class of tombs regularly located near the coast: cenotaphs dedicated to the memory of those drowned at sea.<sup>21</sup>

The evidence of the literary epitaphs is confirmed by the archaeological remains. For example, the earliest cenotaph known from the classical period is that of Menecrates near the seashore of Kastrades, one of the harbors of Corcyra. The monument dates to 625–600 B.C. and has the shape of a tumulus. An inscription informs us that Menecrates was a Corcyraean proxenos who died at sea. It is therefore appropriate for the structure to be located about 100 meters from the shore on a site well below the ancient port cemetery, which was on a hill farther inland.<sup>22</sup> Similar cenotaphs are known from Thasos and Rheneia, the island-necropolis of Delos.<sup>23</sup> This archaeological fact

<sup>20</sup>On the Tarentine necropolis see P. Willeumier, *Tarante* (Paris 1939) 250; N. Degraasi, *EAA* VII s.v. Taranto (Rome 1966) 608–610; and for an excellent study of a Tarentine naiskos tomb (similar to tombs popular in Archytas' day, if fifty years later in date) see J. C. Carter, "Relief Sculpture from the Necropolis of Taranto," *AJA* 74 (1970) 125–137, and see in general on the architecture of Tarentine tombs J. C. Carter (above, n. 19) 14–16, and H. Klumbach, *Tarentiner Grabkunst* (Reutlingen 1937) 32–55, 77–99. For the illustration of a naiskos-tomb in Apulian vase painting see A. D. Trendall, *South Italian Vase Painting* (London 1966) 12.

<sup>21</sup>"In der Regel sind die Gräber der Schiffbrüchigen an der Meeresküste errichtet." R. Weisshäupl, *Die Grabgedichte der griechischen Anthologie* (1889) 90–92.

<sup>22</sup>On the cenotaph see R. Meiggs and D. Lewis, *A Selection of Greek Historical Inscriptions* (Oxford 1969) 4–5 (nr. 4).

<sup>23</sup>For a catalogue of the Rheneian cenotaphs of persons lost at sea see M.-T. Couilloud, *Délös* XXX (Paris 1974) 294–299 (nr. 327–348), to which add nr. 823 in E. Pfuhl and H. Möbius, *Die ostgriechischen Reliefs* (Mainz 1977–79); for a possible cenotaph from Thasos see L. H. Jeffrey in *JHS* 78 (1958) 145 and E. Vermeule, *Aspects of Death in Early Greek Art and Poetry* (Berkeley 1979) 250 n. 10.

suggesting that Archytas' tomb was the cenotaph of a drowned man is, of course, given explicit support in the tomb's epitaph, for in verses 21–25 we read that the speaker has died in the Adriatic and that his corpse lies unburied somewhere.<sup>24</sup> Moreover, the address to the *nauta* in the epitaph (23) is consistent with identifying the tomb as a cenotaph, since the *nauta*, not *viator*, is the appropriate addressee for the epitaph of a man lost at sea (cf. *A.P.* 7.499).

One problem with interpreting the poem in this way has long since been pointed out:<sup>25</sup> we have no independent confirmation (especially in Diogenes Laertius, where it might well have been expected) that Archytas died by drowning. For the sake of argument, let us assume that Archytas did not die in this way. Does this make our interpretation untenable? Not necessarily, I would argue, because Horace may have a point to make, in keeping with his sarcastic treatment of Archytas, by attributing this form of death to him. That is, the rule that literary critics must always observe of keeping historical reality distinct from artistic imagination is just as much in effect in the present instance as it usually is.

<sup>24</sup>C. W. Goettling (above, n. 10) 230, argued that lines 21–36 nowhere explicitly state that the subject is dead. This is, strictly speaking true; however, it is logical to expect that only a dead man will be as concerned about burial as is the speaker of these lines. Cf. F. A. Wolf (above, n. 8) 444: "[the part of the poem beginning in verses 23ff.] enthält offenbar Bitten und Beschwörungen, mit einer Kraft und Wärme gesagt, wie man nur für seine eigene Haut thun kann." It is important to note that the location of the speaker's corpse is also nowhere explicitly stated. This imprecision is much more important than that noted by Goettling. The body of a man lost at sea will often be irrecoverable (cf. *A.P.* 7.495); yet there is always the possibility that it will someday wash up on some shore. The epitaph quoted in verses 21–36 of *c.* 1.28 takes this possibility as its point of departure and asks anyone finding the body—who, for reasons of epigrammatic convention is addressed as a sailor (cf. *A.P.* 7.499)—to bury it (so, E. S. Thompson, "Note on Horace, *Odes* 1.28," *CR* 10 [1896] 327–328, who, however, thinks that the cenotaph is not Archytas' but an unnamed sailor's). In favor of this interpretation is the fact that in epitaphs of voyagers lost at sea, the absence of the body (*A.P.* 7.495, 496, 500) or its possible recovery on some beach, usually only vaguely identified (*A.P.* 7.291, 497, 499, 501), are traditional topics.

<sup>25</sup>By H. J. Heller, "Horaz, Ode 1.28," *Philol.* 16 (1860) 732; and most recently, by P. H. Callahan and H. Musurillo, "A Handful of Dust. The Archytas Ode (Hor. *Carm.* 1.28)," *CP* 59 (1964) 262–266. Vessey (above, n. 3) 76 attempts to argue that Archytas may have died by drowning, but he does not confront the issue that Diogenes Laertius says nothing about Archytas' death.

As has been observed,<sup>26</sup> we know of one famous man connected with the Pythagorean school who drowned: Hippasus of Metapontum. Hippasus' death is attributed in the sources to the fact that he was punished by the Pythagoreans for revealing the secret of the existence of irrational numbers.<sup>27</sup> According to one tradition, Hippasus' drowning was not real but symbolic, consisting of the erection of a cenotaph in his name.<sup>28</sup> If we grant that Archytas did not really die at sea, we can still explain Horace's purpose in claiming that he did as resulting from Horace's invective against Archytas' philosophy. Symbolically "drowning" Archytas by erecting a cenotaph on the seashore to him in *Ode* 1.28, Horace punishes a Pythagorean philosopher with the appropriate form of Pythagorean punishment.

The technique of hoisting a man with his own petard is, of course, typical of the diatribe mode, and its presence here bolsters my claim that Horace's treatment of Archytas is sarcastic and ironic. Whether or not Archytas died by drowning we will never know. In any case, the plausible assumption that he did not cannot be offered as evidence that my interpretation of this ode is impossible. Indeed, if Archytas did not really die by drowning, my reading of the poem as a diatribe is not weakened but strengthened.

If Archytas' drowning is symbolic, then we should expect that other details of his imaginary last voyage also have a symbolic significance contributing to Horace's ironic intent. The major detail about the voyage that Horace provides us is that it took place through "the Illyrian waves" (22). Why should Archytas have come to grief on the Adriatic, a very strange sea for him to be sailing? We know from several sources that Pythagoras advised his followers to die in religious silence.<sup>29</sup> In one of the sources we hear that Pythagoras "ordered people during the last hour not to speak ill but, as when putting out to sea in a ship, to take the omens with religious silence, as people do who sail through the Adriatic."<sup>30</sup> "Sailing through the Adriatic" is here a Pythagorean metaphor for taking the potentially

<sup>26</sup>By L. A. MacKay, "Horatiana. *Odes* 1.9 and 1.28," *CP* 72 (1977) 316-318.

<sup>27</sup>Cf. W. Burkert, *Science and Lore in Ancient Pythagoreanism* (Cambridge, Mass. 1972) 456-460, for a discussion of the sources for Hippasus' death; and for irrational numbers in Pythagoreanism see G. Junge, "Von Hippasus bis Philolaus. Das Irrationale und die geometrischen Grundbegriffe," *C&M* 19 (1958) 41-72.

<sup>28</sup>Jamblichus, *Vita Pythag.* 246 (Deubner 138).

<sup>29</sup>Plato, *Phaedo* 117E and cf. the comments of Olympiodorus (p. 244.9-13 Norvin) and Damascius (II 244 N) *ad loc.*

<sup>30</sup>Jamblichus, *Vita Pythag.* 257 (Deubner 138).

dangerous journey to the underworld. If Archytas' drowning symbolizes in Pythagorean terms his betrayal of philosophy (probably as Horace, not the Pythagoreans, conceived it), then his shipwreck on the Adriatic represents his failure to arrive safely and in good standing into Hades, despite his reassuring belief in a happy afterlife for the Pythagorean elect.

## V

The next lines of the poem (7-15) mention the mythical figures Tantalus, Tithonus, Minos, and Euphorbus. As with the previous lines, we need to ask whether the tone here is consolatory—as it is usually taken to be—or sarcastic. We also need to know why Horace compares Archytas to these four men who are very different from each other and from Archytas.

We may begin by noting that Kiessling-Heinze, Nisbet-Hubbard, and most earlier commentators perceive the tone to be consolatory. The evidence adduced again comes from funerary epigram, where, to be sure, we sometimes find consolation expressed through the idea that death is mankind's universal fate, which even great men and heroes cannot escape. The commentators, however, fail to point out that Horace has reversed the standard pattern in one important way, as a survey of the examples of the makes clear.<sup>31</sup> Whereas in a typical epigram, the dead are shown comforting the living with the thought that excessive grief is pointless because all men are destined to die, in

<sup>31</sup>For examples see R. Lattimore (above, n. 9) 250-256, and add, e.g., the epigram discussed by W. D. Lebek, "Topik und Sprachgestaltung in einem Grabepigramm," *ZPE* 14 (1974) 11-13; the epigram from Bakırköy published by E. Schwertheim in *Die Inschriften von Kyzikos und Umgebung, Inschriften griechischer Städte aus Kleinasien* 18.1 (Bonn 1980) nr. 496, lines 12-15 (pp. 206-207); and the dialogue between Phthonos and a grieving mother on an epitaph from Kraneion at Corinth published by J. Bousquet in *REG* 94 (1981) xxi-xxii. We may note here the most Pollyannish interpretation of this part of the poem—C. Landinus' view that "[Horatius] hortatur homines ad bonas artes acquirendas: Nam docti indoctique pariter moriuntur. Tamen hoc meliori causa sunt docti qui post mortem vivunt fama" (in *Horatius cum Quattuor Commentariis* [Venice 1498] fol. xlviii<sup>r</sup>). Finally, we may also note that one ancient commentator seems to have been aware of the reversal of the topic and even proposed an acceptable solution, assuming one believes that lines 7ff. are spoken by Archytas to himself. The Schol. in Hor. *u* (Botschuyver, III [Amsterdam 1939] 40) writes *ad c.* I 28.6, "quasi ipse Archytas responderet ad consolationem sui."

the Archytas *Ode*, Horace has put this thought into the mouth of the living speaker of the poem, who is shown addressing a dead man. What does this reversal mean? It implies that the living speaker, far from receiving consolation for his grief from the deceased, sarcastically taunts the dead man with the thought that the dead man, despite the special status of wise man he claimed while alive, had to die all the same, just as such other privileged men as Minos, Tithonus, and Euphorbus had had to die in the distant past. So, the formal reversal results in a complete reversal in tone. For any reader too dull to miss the tone, the words *iudice te non sordidus auctor naturae verique* (14–15) leave so little doubt about the speaker's drift that some editors have felt it necessary to emend *te* to *me*.<sup>32</sup> If an example of how the theme of Pythagoras' reincarnations could be used for flattery, not diatribe, be sought, then reference may be made to a newly published inscription from Ephesus honoring the Platonic philosopher Ofellius Laetus.<sup>33</sup>

As for the second question, we can now see why Horace implicitly compares Archytas to characters as different as Tantalus, Tithonus, and Minos, a fact about which Nisbet and Hubbard express their puzzlement. If the tone were consolatory—and not sarcastic—it would, indeed, be odd to hear Horace comparing Archytas to Tantalus, whom Nisbet and Hubbard rightly call one of mythology's "great sinners."<sup>34</sup> However, the comparison is apt because Horace's tone is sarcastic, and the invective gains added force once we realize that the figures to whom Archytas is compared have not been randomly selected but form a perfectly economical picture of the Pythagorean view of the afterlife. Minos is the judge of the underworld. Tantalus represents the punished sinner, Tithonus the apotheosis of the righteous. Euphorbus, who was, according to the Pythagoreans, later reborn as Pythagoras, stands for the final possibility of reincarnation.

## VI

Why does it occur to Horace to allude to these symbols of the Pythagorean afterlife, and why does he collapse the Pythagoreans' crucial distinctions between judge and judged, rewarded and punished,

<sup>32</sup>See Wolf (above, n. 8) 447.

<sup>33</sup>R. Meriç, R. Merkelbach, J. Nollé, and S. Şahin, *Die Inschriften von Ephesos. Inschriften griechischer Städte aus Kleinasien* 17.2 (Bonn 1981) nr. 3901 (= p. 401); J. Nollé, "Ofellius Laetus, Platonischer Philosoph," *ZPE* 41 (1981) 197–206.

<sup>34</sup>Nisbet and Hubbard *ad* c. 1.28.7.

into an undifferentiated heap of dust that includes Archytas? It is no accident that the mythical figures mentioned by Horace are all attested in the surviving funerary art of pre-Roman Tarentum. As a recent study of the funerary sculpture has shown, the most popular scenes on Tarentine tombs were rapes like that of Tithonus *remotus in auras* (8).<sup>35</sup> Another popular theme was a fight between warriors, like that of Menelaos and Euphorbus at the beginning of the seventeenth book of the *Iliad* (17.69ff.). Tantalus first appears in ancient art in Apulian vase painting, as K. Schauenberg has pointed out.<sup>36</sup> It is accordingly possible that Horace's outburst was occasioned by the decoration of a Tarentine tomb believed in his day to be Archytas' that displayed the Pythagorean myth of the afterlife with the judgment, punishment, reward, and reincarnation of the dead. We do not know whether any of the funerary art of Pythagorean Tarentum was intended to convey Pythagorean messages nor whether any messages that were incorporated into the pre-Roman art could still be understood in Horace's day; but we do, at least, know that the impressive Tarentine necropolis survived the Roman sack of the city in 209 and so could be visited. We also know that in the first century B.C., when Horace was writing, Pythagoreans did express their beliefs in their funerary monuments.

A good example of this is the so-called "stele of Pythagoras" from Philadelphia near Sardis.<sup>37</sup> It was erected for a namesake (and

<sup>35</sup>Cf. J. Coleman Carter (above, n. 19) 17-19, and for rape scenes on Tarentine terracottas see L. Pirzio Biroli Stefanelli, "Tabella fittili tarantine relative al culto dei Dioscuri," *Arch. Class.* 29 (1977) 310-398. For vase painting cf. K. Schauenberg, "Göttergeliebte auf unteritalischen Vasen," *Antike und Abendland* 10 (1961) 77ff., "Ganymed in der unteritalischen Vasenmalerei," in *Opus Nobile* (1969) 131-137; A. D. Trendall and A. Cambitoglu, *Red-Figured Vases of Apulia I* (Oxford 1978) 416, pl. 149, 1-2.

<sup>36</sup>K. Schauenberg, "Die Totengötter in der unteritalischen Vasenmalerei," *JDAI* 73 (1958) 63-64. On underworld scenes generally in Tarentine vase painting and their possible Orphic (Pythagorean?) significance, see M. Pensa in *Atti 10. Convegno di Studi sulla Magna Grecia* (Naples 1971) 305-307. For Minos as judge of the dead in Apulian vase painting see S. De Marinis *EAA* 5 s.v. Minosse (Rome 1963) 103. For an example of Euphorbus in archaic art see the eastern Greek plate showing the fight of Euphorbus and Menelaos illustrated by K. Scheffold, *Frühgriechische Sagenbilder* (Munich 1964) table 75, and cf. also T. B. L. Webster, *Hellenistic Poetry and Art* (London 1964) 24 and 24 n. 2. For other scenes showing Euphorbus see F. Brommer, *Vasenlisten zur griechischen Heldensage* (Marburg 1973<sup>3</sup>) 403.

<sup>37</sup>This stele was first published by J. Keil and A. von Premerstein, "Bericht über eine Reise in Lydien und der südlichen Aiolis," *Denkschriften der Kaiserlichen Akademie der Wissenschaften*, philos.-hist. Kl. 53 (1910) 34-35; it has recently been briefly discussed by J. Onians, *Art and Thought in the Hellenistic*

undoubtedly, a follower) of the philosopher. The stele was decorated with a large Upsilon that divides the relief into three bands; in the lowest register are the figures of two youths standing next to Vice on the left and Virtue on the right, both of whom are identifiable from inscriptions. Above, in the middle register, are two more symbolic scenes. On the left we see a man reclining with a woman; on the right, another man working in a field. Finally, hovering above the junction of the two arms of the Upsilon and looking toward the right is the deceased Pythagoras. The relief may be interpreted as an illustration of the Pythagorean notion of life as the *bivium* on which man must choose between the left path of evil and pleasure and the right path of goodness and labor. Our man Pythagoras, who looks toward the right, has clearly chosen the path of righteousness and so has become apotheosized after his death.

So, Horace may have been inspired by an actual Pythagorean monument erected in Archytas' honor, or—equally possible—he may have himself created Archytas' tomb as a literary fiction using as his source of inspiration actual iconographical themes popular in Pythagorean Tarentum as well as the actual behavior of contemporary Pythagoreans like Pythagoras of Philadelphia. Thus the answer to our first question is that Horace writes about figures symbolic of the Pythagorean afterlife because they decorated Archytas' real or imaginary tomb. Seeing them—or imagining them—on the tomb is what gave Horace the idea to use them in this ode.

In verses 15–16, Horace explicitly states his motivation in denying Archytas' beliefs about these figures and the vision of the afterlife they embody: death is final, irreversible, and fatal to the soul as well as to the body (cf. the phrase *animo . . . morituro* in 5–6). Just after his sarcastic words about Archytas' hero-worship of Pythagoras, Horace says: *sed omnis una manet nox / et calcanda semel via leti*. In this sentence, Horace fuses two separate thoughts: death-as-night and the unrepeatability of life. Neither thought is new. What is somewhat unusual here is Horace's demythologizing of the topics. In *CLE* 1097, an often-cited parallel, death is sentimentally called a *domus*. In *CIL* I.1009.3, dating from the first century B.C., death is called the *domus leti*.

In Horace, death is not a cozy home. It is simply the black noth-

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*Age* (London 1979) 114. For a possible early Pythagorean tomb based on a meaningful geometrical design see W. Hoepfner, "Das Grabmonument des Pythagoras aus Selymbria," *AM* 88 (1973) 145–163.

ingness of night.<sup>38</sup> In many Greek passages cited by the commentators, the road of death is called ἡ εἰς "Αἴδου ὁδός; here, the road is not a road to Hades but simply to *letum*, physical destruction.

A parallel for this is not hard to find. In *SV* 14, Epicurus says, "We have been born once and there can be no second birth. For all eternity we shall no longer exist." Although the Epicureans were not the only philosophers to claim that the soul is mortal (cf. Cic., *Tusc. Disp.* 1.31.77), they were unique in coupling the idea of the soul's mortality with a polemic about the dangers of the popular myths about the afterlife. It is just such myths that Minos, Tithonus, Tantalus, and Euphorbus reflect; it was owing to his belief in such myths that Archytas has wasted his whole life. Moreover, Horace's view of life as a one-way road to death implicitly conflicts with the Pythagorean image—exemplified by the stele of Pythagoras—of life as a forked road leading to good or evil.<sup>39</sup> Hence, Horace's Epicurean demythologizing of the topic in verses 15–16 complements his sarcastic treatment of Archytas' Pythagorean myths of the afterlife in 7–15.

## VII

After debunking Pythagorean mythology in verses 7–15 and demythologizing the topic of life as a one-way road to Hades, Horace unexpectedly uses mythology in a seemingly positive way in verses 17–20. Why does Horace shift his approach in these lines? The answer is that Horace's implied theology in this part of the poem is anti-Pythagorean. From a Pythagorean point of view, Horace's conception of the Furies, Mars, and Proserpina is wrong for two reasons. First, according to the Pythagoreans, the gods mete out their justice not, as Horace implies, within an individual's lifetime and certainly not for their perverse amusement but between incarnations by raising or lowering the soul's status in its next embodiment in accordance with its display of vice or virtue in the previous life on earth.<sup>40</sup> As a

<sup>38</sup>As K. E. Bohnenkamp, *Die horazische Strophe: Studien zur "Lex Meineki-ana."* *Spudasmata* 30 (1972) 211, perceptively notes, *nox* receives added emphasis from the fact that it is the only one-syllable word in the poem located at a line ending. W. J. Oates (above, n. 3) 67 cites Simonides fr. 17 Page as a parallel for verse 15, but in Simonides the topic is still expressed in mythological terms ("for all things come to the same horrible Charybdis").

<sup>39</sup>On the image of the *bivium* in Pythagoreanism see W. Harms, *Homo Viator in Bivio* (Munich 1970) 40–44.

<sup>40</sup>On the evidence for the Pythagorean doctrine of reincarnation see W. Burkert (above, n. 27) 120–165.

result, the qualities Horace assigns to the gods in lines 17–20 must appear completely wrong to someone like Archytas.

The Furies do not “provide spectacles for cruel Mars” because they do not operate on earth. Instead, according to the Pythagoreans, they reside in the part of Hades reserved for the impure, whom they imprison in unbreakable bonds.<sup>41</sup> And, Proserpina is anything but *saeva*.

The commentators have had very little to say about the epithet *saeva*. Orelli-Baiter pointed out one possible parallel, viz. *ἐπαινή* in *Od.* 11.47. Other examples could be cited from Homer (*Od.* 10.491, 534, 564; *Il.* 9.457, 565) and Hesiod (*Theogony* 768). West has pointed out regarding the last passage that the meaning of the word is “puzzling” and that in Homer and Hesiod it is used of Persephone only “when she is coupled with Hades.”<sup>42</sup> In *c.* 1.28, Proserpina is not mentioned with Hades; furthermore, Homer’s ambiguously euphemistic word has become unequivocally negative.<sup>43</sup> It is equally important to note that *saeva* as an epithet for Proserpina appears only here in all of Latin poetry, in which Carter catalogued thirty different epithets attributed to the goddess.<sup>44</sup> Horace’s use of the word is thus unusual and requires an explanation.

Many of the epithets used to describe Proserpina are neutral in tone (*filia, matrona, Plutonia, dea, regina*); others have a very different connotation from *saeva* (*candida, casta, rapta, maxima*). The word most different from Horace’s epithet is *pulchra*, which was used by Virgil in *Aen.* 6.142. The fact that *pulchra* describes Proserpina in the most Pythagorean section of a very Pythagorean book is neither accidental nor irrelevant to our study.

In the *Aeneid*, Proserpina is called “beautiful” because she is the queen of the underworld, whom no virtuous mortals bearing a gift of gold need fear and from whom mortals receive their final judgment and reward in proportion to their goodness. In his commentary on

<sup>41</sup>Cf. Diogenes Laertius 8.31 (= I.451, I D-K). The Furies’ improved status in Pythagoreanism may result from (and be reflected in) the Orphic tradition that they are the offspring of Persephone and Apollo (*Orph. Fr.* 194 Kern).

<sup>42</sup>M. L. West, *Hesiod, Theogony* (Oxford 1966) ad 768 (p. 370).

<sup>43</sup>The etymology of *ἐπαινός* is unclear; the Homeric scholiasis thought the word to be derived from *αἰνεῖν* by antiphrasis or euphemism (cf. H. Ebeling, *Lexicon Homericum* I [Leipzig 1885] 432 s.v. *ἐπαινός*).

<sup>44</sup>See J. B. Carter, *Epitheta deorum quae apud poetas latinos leguntur* (Leipzig 1902) 88–89.

these lines, Norden<sup>45</sup> notes the relevance of the Pythagorean<sup>46</sup> gold tablets found in graves in Thurii, Petelia, Pharsalus, and Hipponion.<sup>47</sup> In two of these tablets, Persephone is explicitly addressed and called *ἀγνή*. In the model of these texts, the goddess was probably called *ἀγαθή*.<sup>48</sup> The notion of a pure and noble Persephone receiving and rewarding the spirits of the faithful in the afterlife is at once very comforting and very beautiful; this same notion may be found expressed in cult practice in Tarentum, where Persephone "exercit un pouvoir prépondérant."<sup>49</sup> This beautiful Persephone is, in fact, exactly the opposite of Horace's Proserpina the grim reaper.

Horace's purpose in verses 17-20 should now be clear: so to reverse Archytas' Pythagorean understanding of the nature and function of the Furies and Proserpina that Archytas, or any other Pythagorean hearing his words, must be not only annoyed but also offended and provoked to respond.

### VIII

Who is the speaker of lines 1-20? "[Horace] normally professes to be talking *in propria persona*; the only obvious exception is 1.28," write Nisbet and Hubbard.<sup>50</sup> Why is the Archytas *Ode* exceptional? The argument that Horace cannot be the speaker, except in an imaginary sense,<sup>51</sup> is based on the assumption that the speaker of lines 1-20 is the same as that of 21-36. This assumption has never been proven; it has been supported solely by the negative means of

<sup>45</sup>E. Norden, *P. Vergilius Maro Aeneis Buch VI* (Stuttgart 1916<sup>2</sup>) 171-172.

<sup>46</sup>Scholarly debate continues about whether the tablets are to be characterized as "Pythagorean" (so G. Zuntz, *Persephone* [Oxford 1971] 322-323, 337-338, 342-343) or as "Orphic-Pythagorean" (so, most recently, L. J. Alderink, *Creation and Salvation in Ancient Orphism, American Classical Studies* 8 [1981] 78-80). In either case, we will not go astray if we cite them in this study as evidence for Pythagoreanism.

<sup>47</sup>For the Hipponion text see G. Zuntz, "Die Goldlamelle von Hipponion," *WS n.s.* 10 (1976) 129-151; for the other texts and a commentary see G. Zuntz (above, n. 46) 277-370.

<sup>48</sup>See G. Zuntz (above, n. 46) 317.

<sup>49</sup>On the worship of Persephone at Tarentum see P. Wuilleumier (above, n. 20) 502-511.

<sup>50</sup>Nisbet and Hubbard *xxiv*.

<sup>51</sup>Cf. the article signed "H" written in 1789 and mentioned in Weiske (above, n. 2) 358, and see, most recently, the article signed "Patricius" in *Greece and Rome* 12 (1965) 51-53.

refutation of the only other possibility hitherto considered, viz., that lines 7-36 are spoken by Archytas.<sup>52</sup> A refutation of this view, however, is not *per se* proof of the reading that makes the poem into a monologue spoken, not by Archytas (as the scholiasts and most pre-nineteenth-century moderns held) but by a nameless drowned man whose corpse has washed onto the Matine shore. A proof of what we might call the "ghost monologue theory"—first proposed by Weiske in 1829 and still *opinio communis* today—has never been presented. At most, then, we may grant that it is possible to understand the poem this way, but it is not necessary to do so.

Equally possible is a reading based on an assumption not yet proposed in the literature: Horace<sup>53</sup> is the sarcastic speaker of verses 1-20; another voice is heard in lines 21-36.<sup>54</sup> Nothing stated in verses 1-20 contradicts assigning these lines to a single speaker, or to Horace. Weiske has already noted that line 7 continues the thought of verses 1-6, so that no change of speaker need be postulated between lines 6 and 7.<sup>55</sup> The Epicurean basis of the critique of Archytas is in accord with identifying the speaker as Horace, and Horace, indeed, elsewhere belittles Pythagoreanism.<sup>56</sup> His motive in writing the ode becomes more comprehensible if he, not some nameless *umbra*,<sup>57</sup> talks in lines 1-20. The identification of the addressee as Archytas becomes much easier to accept once we see that Horace recognizes Archytas from the inscription on his tomb: we no longer need to postulate an educated ghost in Roman times who is perceptive enough to recognize the three-hundred-year-old shade of Archytas. Finally, if the speaker at the beginning is Horace, then the exceptional status of the poem in the Horatian corpus of over one hundred odes is removed. The only obstacle to identifying the speaker in this way is

<sup>52</sup>The best version of the refutation is given by Weiske (above, n. 2) 354-358.

<sup>53</sup>By "Horace," I mean, of course, the Horatian lyric persona, not the man himself.

<sup>54</sup>A similar interpretation was suggested by Heinsius, who had Horace speak verses 1-20 and Archytas 21-36. As we will see, I do not consider Archytas to be speaking *in propria persona* in lines 21-36.

<sup>55</sup>Weiske (above, n. 2) 355.

<sup>56</sup>The following passages are cited by Nisbet and Hubbard (above, n. 1) 319: *epod.* 15.21, *serm.* 2.6.63, *epist.* 2.1.52.

<sup>57</sup>That Horace is hardly likely to have put the poem into the mouth of a nameless sailor was already noted by H. Weil (above, n. 14) 721: "wie sollte der Dichter auf den Gedanken kommen, einen unbekanntem, namenlosen Schatten redend einzuführen?" Weil's interpretation of the poem fails because to sustain it, he must emend *obruit* to *obruat* in verse 22.

establishing that one section of the poem can end in line 20 and another can begin in 21. To this I turn next.

## IX

In verse 21 we encounter the most important difficulty for determining the structure of the poem. The words *me quoque devexi rapidus comes Orionis* have been understood by most critics to mean that the speaker of the poem is, like Archytas, a dead man. I have already given the reasons why I think this interpretation may not be correct. Is there any other way to understand this line? I would suggest that a hitherto undetected usage of the word *quoque* may provide a key.

*Quoque*, of course, means "too" and as a copulative adverb must immediately follow the clause or sentence that it links with the clause or sentence in which it appears. Like Greek *καί*, however, it has an exceptional inceptive use at the very beginning of a piece of prose or (more frequently) poetry. Elsewhere I plan to examine this usage in detail, proving the existence of three different varieties exemplified by over thirty examples in Latin literature of the first century B.C. through the eleventh century A.D. A few cases may be cited here. Livy begins book 31 with the words, *me quoque iuvat* . . . ("I, too, am pleased to have come to the end of the Punic war, as if I had myself been a participant in the task and danger"). The phrase *tu quoque* opens book 7 of the *Aeneid*, and the words *te quoque* stand at the start of book 3 of the *Georgics*. Cicero's and Caesar's epigrams about Terence both begin with the words *tu quoque*, and Domitius Marsus' epigram about Tibullus similarly starts *te quoque*. The number of epigrammatic examples cited here is not unrepresentative of the repertoire of known cases. Moreover, many parallels of inceptive *καί* can be found in the epigrams of the *Greek Anthology*. On the basis of this evidence, I would guess that the origin of this use of *quoque* was the genre of epigram. Be that as it may, we may now state the important conclusion that the claims found in the scholarship on *Ode* 1.28 that verse 21 cannot be attributed to a new speaker because of the presence of *quoque*<sup>58</sup> are simply wrong. *Quoque* can be inceptive.

<sup>58</sup>Cf., e.g., H. J. Heller (above, n. 25) 733, H. Schütz (above, n. 1) 368: "wie aber ein Gedicht . . . mit *me quoque* beginnen kann, ist unverständlich." Cf., more recently, F. Heinemann, "Die Einheit der horazischen Ode," *MH* 9 (1952) 200 n. 50: "den 'abenteuerlichen Gedanken eines Dialogs zwischen Archytas und den Schiffbrüchigen' (Kiessling-Heinze), den zuletzt Wilj . . . aufnimmt, schliessen *quoque* (v. 21) und die Anrede *nauta* (v. 23) aus."

The existence of inceptive *quoque* makes it possible that line 21 is not to be taken with what preceded it but rather as the beginning of an epigram embedded within the poem. There is probably no way to prove that such a reading is definitely right or wrong. If taking it this way results in a more meaningful—and less bizarre—poem, then we have the best assurance we are ever likely to have that it is correct—or at least preferable to the traditional interpretation. There are, however, four points that support taking *quoque* as inceptive. First, there is the fact that the sentence in verses 21–22 is separated from the clause to which it is supposedly linked (namely, line 18) by two lines. This is perhaps possible but unusual (one may compare *c.* 1.16.22–24 for a more normal example of contiguity of the *quoque* and conjoined clauses in Horace). Second, there is the fact that *quoque* in 21–22 cannot logically link those lines to verse 18 because the statement “I, too, drowned in the Adriatic” implies not the conjoined clause “others have drowned in the sea” but “others have drowned in the Adriatic.” Of course, poets need not be so logical, but one may suspect that the lack of strict logic and contiguity of clauses serves some point, and the point may well be to heighten the discontinuity between lines 21–22 and 1–20 while at the same time providing a rather smooth transition between the two main sections of the poem by means of what we might call a “syntactical” as opposed to “semantic” use of the copulative adverb.<sup>59</sup> Third, it has been clear from the beginning of the poem that the speaker has read Archytas’

<sup>59</sup>That the words *me quoque* do not logically construe with the thought of the immediately preceding lines was argued by L. Döderlein in *Verhandlungen der zwölften Versammlung deutscher Philologen zu Erlangen* (Erlangen 1852) 51–57, esp. 53. E. A. Nairn, “Horace, Odes 1.28,” *CR* 11 (1897) 445, in the course of arguing for the division of the ode into two separate poems at line 21, pointed out one parallel for inceptive *quoque*, viz., *A.P.* 7.263 (Anacreon). Note in this regard the comment of A. Kiessling (above, n. 12) 91 about the “absolute Beziehungslosigkeit” of verses 21–36 with 1–20, and cf. the similar recent remark of D. Gall, *Die Bilder der horazischen Lyrik, Beiträge zur Klassischen Philologie* 138 (Königstein/Ts. 1981) 111, who says that the topic of 1–20 “steht beziehungslos neben der Bitte um Bestattung im zweiten Oden-Teil”; finally, note the critical tradition (mentioned below, n. 73) of dividing the ode into two poems at line 21. Other scholars have attempted to rescue the monologue theory by reading between the lines to find some tacit link between the two parts of the poem; cf., e.g., L. Desprez (above, n. 10) *ad loc.* (“né mirare igitur nauta, quod interii, inquit Archytas; sicut illi suo quisque modo obiere mortem; ita ego submersus Illyrico mari”); Oates (above, n. 3) 72 (“We are expected to read between the lines and to supply some stage action taking place between lines 22 and 23 in order to understand the ode”).

epitaph, since that would have been the easiest way for him to know that the grave he is looking at is Archytas' (see above, n. 5). It is therefore appropriate for the epitaph to be quoted in the ode.

Finally, we may point to the tradition of such embedded epigrams in Golden Latin literature as exemplified in Virg. *Ecl.* 5 (43–44) and the elegies of Tibullus (1.3.55–56), Propertius (2.13.35–36; 4.7.85–86), Ovid (*Amores* 2.6.61–62).<sup>60</sup> Horace's contemporary reader would therefore not have been surprised to find an epigram in *Ode* 1.28. The inceptive *quoque* must have functioned as quotation marks do today to indicate a change of speaker, something for which no graphic sign was available.<sup>61</sup>

It is interesting that the examples of embedded epigrams in Golden Latin literature are all funerary, for commentators since Obbarius have noted that the topics of verses 21–36 are from the traditions of literary epitaphs.<sup>62</sup> If we read verses 21–36 as an epitaph—and not simply as a series of allusions to epitaphs—then a number of difficulties caused by the traditional interpretation disappear. For one thing, the speaker is no longer the same as in verses 1–20, so that the shift recently noted by Vessey<sup>63</sup> between sophisticated enlightenment in 1–20 and primitive superstitiousness in 21–36 is not a contradiction but a mark of the difference in character between the poem's two speakers. Second, the mysterious *nauta* of verse 23 is no longer a passing sailor who unexpectedly appears on the scene and thereby disturbs the economy and unity of the poem.<sup>64</sup> Instead, the *nauta* is the

<sup>60</sup>See the passages collected by K. F. Smith *ad* Tibullus 1.3.55–56. Professor Shackleton Bailey has kindly supplied two other parallels, *Eleg. in Maec.* 1.141–144, *Anth. Lat.* (Riese) 21.284–285.

<sup>61</sup>See J. Andrieu, *Le dialogue antique: Structure et présentation* (Paris 1954) 294–303.

<sup>62</sup>C. G. Mitscherlich (above, n. 6) 261; T. Obbarius (above, n. 16) 83 and *ad* 1.28.21, 23. Cf. also C. Nauck and P. Hoppe, *Des Q. Horatius Flaccus Sämliche Gedichte*, pt. 1: *Oden und Epoden* (Leipzig 1926<sup>19</sup>) 41–42; G. Schwind, *Zeit, Tod, und Endlichkeit bei Horaz* (diss. Freiburg im Breisgau 1965) 32 n. 4; J. Buchmann, *Untersuchungen zur Rezeption hellenistischer Epigrammatik in der Lyrik des Horaz* (diss. Konstanz 1974) 76–82. I wish to thank Professor Russell T. Scott of Bryn Mawr College for the suggestion that verses 21–36 constitute an epitaph.

<sup>63</sup>Vessey (above, n. 3) 86.

<sup>64</sup>A. Schmidt, *Beiträge zur Erklärung von Horazens Oden* (diss. Erlangen 1930) 26 n. 42, raised this objection against Weiske's reading that has a sailor accidentally happen by in verse 23. Note the analogous problem about—and solution for—the identity of the "stranger" mentioned in Nossis 11 (= *A.P.* 7.718), on which see S. L. Tarūn, *The Art of Variation in the Hellenistic Epigram*

typical imaginary addressee of an epitaph. In 7.499 of the *Greek Anthology*, for example, the drowned Ariston of Cyrene asks sailors to tell his father Meno that he has drowned in the Aegean. Thus, the intrusive sailor disappears once we see that lines 21–36 belong to an epitaph.

## X

Whose epitaph is it? The answer must be Archytas'. In the first part of the poem, we hear Horace's sarcastic reaction to the funerary iconography and inscription on Archytas' tomb; in the second part, we hear Archytas' only "response" to Horace's taunts in the form of his epitaph, which falls into the category of epitaphs in which the dead man addresses a passerby to convey information about his death and to request a favor (cf. the very beautiful epigram by Leonides in *A.P.* 7.657). The poem as a whole thus belongs to the class of funerary epigrams in which the poet comes upon the tomb of a famous man or woman and engages in a dialogue<sup>65</sup> in which, sometimes, the achievements of the deceased and the nature of the afterlife are discussed. Typical of this class of poem is one of Callimachus' epigrams in the *Anthology* (*A.P.* 7.524 = XIII Pfeiffer). In this epigram, and in all the dialogue poems, we find the notion that communication between the living and the dead can occur at the tomb. What the living and the dead talk about is, naturally enough, the nature of death and the afterlife.

Horace's poem is quite similar in its structure of an exchange between the living and the dead at the tomb (except, of course, that the two exchanges are not stichomythic), but in Horace the conceit and wit have progressed a step. As in Callimachus' poem, the living speaker initiates the exchange, but in the Archytas *Ode* it is clear that

(Leiden 1979) 146.

<sup>65</sup>For examples of dialogue epigrams see Gow-Page, *Garland of Philip II* (Cambridge 1968) 485 s.v. dialogue-epigrams; *A.P.* 7.37 (Dioscorides), 163 (Leonidas of Tarentum), 164 (Antipater of Sidon), 165 (Archias), 524 (Callimachus), 548 (Leonidas of Alexandria), 552 (Agathias Scholasticus), 576 (Julianus). For Latin examples cf. *CLE* 543, 973, *CIL* VI.21200, 30112. It is interesting that the same controversy we find on Horace c. 1.28 about whether the poem is to be read as a monologue or dialogue may be found about Serepion I in Gow-Page (on which see Gow-Page II 409) and Antiphilus X in Gow-Page (= *A.P.* 9.551), which is read as a dialogue by A. Wifstrand, *Studien zur griechischen Anthologie* (Lund 1926) 68–69.

the speaker does not believe in the possibility of communication. To the contrary, by his sarcasm, Horace tests Archytas' beliefs in the afterlife by goading him to respond, if he can. Horace's Epicurean doctrines about death reassure him that Archytas, despite his Pythagorean vision of the underworld, will not be able to answer back because his soul, which was "doomed to die" (5-6), is now as dead as his body.

The second part of the poem presents Archytas' only possible answer to Horace: the epitaph incised on his tomb. Like the "dead" writing of Plato's *Phaedrus* that "always say[s] only one and the same thing . . . [and] when ill-treated or unjustly reviled . . . always needs the help of its father" (275C-276B), Archytas' writing is as dead as he is.<sup>66</sup> Instead of responding to Horace's diatribe and defending the Pythagorean doctrines of the afterlife, Archytas' text simply proves Horace right by saying the same things it has always said to the passerby.

The fact that these things are almost entirely inappropriate to the present case adds weight to Horace's invective. Horace is not a sailor (23, contrast *c.* 1.3.9ff.), nor is he a profit-seeking merchant, as the text assumes in verses 27-28. As a native of Venusia, he will hardly be pleased by the inscription's promise to divert storms from the sea to the Venusian woods (26-27).<sup>67</sup> As a Roman living in the first century B.C., Horace must have reacted with amusement to Archytas' invocation of Neptune as Tarentum's protector and as the guarantor of Archytas' promises and threats, for by Horace's day Tarentum, destroyed by Fabius in 209, had been reduced to an out-of-the-way *angulus*, as Horace himself calls it in *Ode* 2.6.9-22.<sup>68</sup> As one influenced by Epicureanism, Horace must have considered Archytas' obsession with proper burial in verses 30-36 to be just as sure a sign

<sup>66</sup>One would like to know how the Epicureans analyzed writing, but very little, if anything, is preserved on this topic. The materialism of the Epicureans makes one suspect, however, that the Epicureans would have been at least as critical of the popular and poetic conceit of the talking inscription as was Plato.

<sup>67</sup>Rüchmund (above, n. 2) 199 noted that verses 26-27 suggest that Horace was angry with the inhabitants of his native city. One may find this inference amusing while appreciating the basic insight that it is odd for Horace to direct storms from the sea to Venusia.

<sup>68</sup>This is not to imply that Neptune did not continue to be a key divinity in Roman Tarentum as he had been before the Roman conquest. For the evidence of worship of Neptune in the *Colonia Neptunia Tarentum* see G. Giannelli, *Culti e miti della Magna Grecia* (Florence 1963<sup>2</sup>) 15-27, and add the inscription published by L. Gasperini, "Il municipio Tarentino: Ricerche epigrafiche," in *Terza Miscellanea Greca et Romana* (Rome 1971) 158-160.

of *stultitia* as Archytas' belief in active gods, for Epicurus said that the wise man will not be concerned about his burial (Diog. Laert. 10.118). In book 4 of his treatise *On Death*, Philodemus—who was possibly Horace's teacher of Epicureanism<sup>69</sup>—mocked popular superstitions about how the outraged dead take vengeance upon the living (col. xxvii.35-37 Sammartano). Thus, Archytas' "response" cannot be considered the reply of a conscious intelligence to a set of issues and insults with which it has just been confronted; moreover, what the dead text of Archytas does express simply exemplifies the very foolishness, dignified by the name of Pythagorean philosophy, that Horace the Epicurean cannot abide. Both the medium and the message of Archytas' text prove the truth of Horace's claim that Archytas' soul was doomed to die and, while alive, fell into ridiculous error because it denied this fundamental fact of the human condition.

## XI

I shall conclude now with a few arguments adding to the plausibility of my interpretation of the ode and with some words about the poem's significance.

My interpretation helps explain three external facts about the ode. First, it accounts for the poem's position in the first book just before the Iccius *Ode* (1.29), which is the only other piece in Book I to deal with the folly of a philosopher.<sup>70</sup> In that poem, Horace satirizes Iccius, who has been a student of Panaetius and hence a believer in the justice of Roman imperialism but who is about to go off to plunder women, slaves, and booty in Arabia. Both odes belong to the tradition of epigrams mocking philosophers that Page, Dawe, and Diggle have recently discussed in their edition of *Further Greek Epigrams* (Cambridge [1981] 475-477). Moreover, Philodemus wrote a satirical parody of an epitaph about a priest of Cybele named Trygonion (*A.P.*

<sup>69</sup>On the connection between Horace and Philodemus see A. Körte, "Augusteer bei Philodem," *RhM* 45 (1890) 172-177; and cf. B. D. Frischer, *At Tu Aureus Esto: Eine Interpretation von Vergils 7. Ekloge* (Bonn 1975) 171 n. 29.

<sup>70</sup>On the contiguous placement of thematically related poems as a major structural device (complementing ring-composition) in *Odes* I-III see W. Ludwig, "Zu Horaz v. 2,1-12," *Hermes* 85 (1957) 336-345; F.-H. Mutschler, "Beobachtungen zur Gedichtanordnung in der ersten Odensammlung des Horaz," *RhM* 117 (1974) 109-133; B. Seidensticker, "Zu Horaz, C.1,1-9," *Gymnasium* 83 (1976) 26-34.

7.222 = Philodemus XXVI Gow-Page). So, Horace's originality in *Ode* 1.28 consists in combining within the lyric mode the epigrammatic precedents of an attack on a philosopher, a mock epitaph, and a dialogue between the poet and a famous dead man.

Second, my interpretation helps explain Horace's choice of meter, for the first Archilochian meter (6*da*/4*da*) is the closest lyric equivalent to the meter of funerary epigram and so is appropriate for the epitaph in lines 21–36. It was also, of course, a meter associated with invective and so helped undergird the satiric tone of the first twenty lines of the poem.<sup>71</sup> Moreover, the first Archilochian was a meter Horace associated with bipartite poems containing an abrupt change of speaker, as happens in ode 1.7 and epode 12, both written in this meter.

Finally, my reading helps us understand why we find so many different interpretations of the ode in the secondary literature—indeed, why it is fair to say that this poem has been interpreted in more different ways than any other work of Horace. This brings us to the question of the significance of the Archytas *Ode*.

I suggested that in deliberately writing verses 21–36 so as not to join issue with lines 1–20, Horace was inspired by Plato's famous analysis of the problem of writing near the end of the *Phaedrus* (275C–276B). In that passage, Plato distinguished between the "bad" writing of everyday usage, which is called illegitimate and dangerous because it is outside the control of its father and because it destroys the very memories that it would preserve, and the "good" writing that is inscribed by a living teacher in the soul of a faithful student (276E–277A). Plato's argument is thus that everyday writing is deficient because, although its purpose is to make present what is absent, it really only succeeds in making what is absent still more inaccessible because of the polysemous and potentially fraudulent nature of the sign. As numerous commentators have pointed out, Plato's formulation of the problem of writing in the medium of a written dialogue inevitably results in the mind-boggling and irresolvable contradiction that Plato's condemnation of writing is itself an example of writing.

Despite the overwhelmingly Epicurean orientation of his critique of Archytas' Pythagoreanism in *Ode* 1.28 (or perhaps because the Epicureans accepted Plato's analysis of the problem of writing), Horace's treatment of the problem is ultimately traceable to Plato's; indeed, the

<sup>71</sup>On the ethos of invective associated with this meter see K. Numberger, *Inhalt und Metrum in der Lyrik des Horaz* (diss. Munich 1959) 10–11, 84.

Archytas *Ode* almost seems to be a lyrical reformulation of the ending of the *Phaedrus* in all its complexity. As we have seen, Horace's point of departure in the poem is the epigrammatic tradition, exemplified by the poem of Callimachus mentioned earlier (*A.P.* 7.522 = XV Pfeiffer)—in which the poet reads an epitaph on a tomb and engages in a conversation with the spirit of the tomb. In *Ode* 1.28, Horace reads Archytas' epitaph and the message of the funerary iconography decorating his tomb. However, in a Platonic reversal of the epigrammatic tradition, Horace does not engage in a sentimental conversation with these *semata*; rather, he attacks them and shows that, without the aid of their putative father Archytas, they are as defenseless as Plato said all marks are. The substance of the attack is that the marks are wrong in claiming that consciousness survives after death for the *animus* is *moriturus*. By failing to respond to this attack, the marks prove to be as empty and devoid of consciousness as is Archytas' cenotaph, a *kenon sēma*, as the Greeks called it.<sup>72</sup> Moreover, there is the additional irony that the marks, which purport to be Archytas', are clearly fraudulent, since they cannot really have originated with their putative author. By the marks' own admission, Archytas' body is not present in the cenotaph but lies unburied outside the tomb, presumably somewhere else. In the Archytas *Ode*, Horace thus explodes two epigrammatic traditions: that the living are able to converse with the

<sup>72</sup>That the two senses of the term *σῆμα* (i.e., sign and tomb) could occasionally be operative in single occurrences of the word in Homer has been noted by G. Nagy in par. 19 of his article "Sēma and Noēsis: Some Illustrations," *Arethusa* 16 (1983) 35-55. In par. 25 of the same article, Nagy presents evidence from Homer, Pindar, and black-figured vase painting indicating that in traditional Greek thought, the *sēma*, in the sense of "tomb," is not only the sign of the dead but also the means whereby the dead may "return to light and life." This same tradition of confusing the consciousness of the sender with his sign obviously informs the funerary epigrams that inspired Horace in *c.* 1.28; moreover, as S. L. Tarán has recently observed (above, n. 64) 133, when the epigrams involve cenotaphs, not normal tombs, the situation is a "tour de force in which the dead man speaks but the corpse is not lying under the inscribed stone." Thus, in choosing to write about Archytas' cenotaph, Horace is exposing the foolishness of the traditional confusion of sender and sign in its *reductio ad absurdum*. Indeed, in the case of the particular cenotaphic epigram discussed by Tarán (Asclepiades 31 = *A.P.* 7.500) "the reader wonders whether the whole composition was meant seriously or whether Asclepiades' intention was to write a parody of an epitaph for a shipwrecked man. The suspicion arises from the basic inconsistency of the epitaph. Euippus died in shipwreck. . . . Who then built his cenotaph . . . ?" (134).

dead at the tomb; and the even more absurdly sentimental conceit that communication with the unburied dead can occur at a cenotaph.

Our analysis of the ode cannot stop with this observation, for by attacking writing through writing, Horace inevitably gets caught up in Plato's contradiction in the *Phaedrus*. If Horace, the reader of the poem, sees only absence and (self-) deception in Archytas' marks, then Horace, the author of the poem, forces his reader to recapitulate his experience of the patricidal mark that renders its father inaccessible and absent to consciousness. In this connection it is important to recall that Horace calls the odes his *monumentum*, his memorial, in the last poem of the collection (3.30). So, the equation forced on us by the *Phaedrus*—namely, that Horace: the Archytas Ode:: Archytas: the cenotaph—is very Horatian indeed (cf. also c. 4.8). The ode begins as a meditation about an attempt to overcome death through a tomb and ends as a study of the semiotics of signification.

There are theoretically over thirty different possible classes of interpretation of the Archytas Ode, many of which are actually to be found in the secondary literature. The poem can be read as a monologue or dialogue, as laudatory or sarcastic in tone, as spoken by Horace, Archytas, an anonymous ghost, a passing sailor or by any two of the four, and as addressed to Archytas, a passing sailor, or a generalized reader. Furthermore, if the poem is read as a dialogue, the change of speaker can occur at three possible breaks: after line 6, 16, or 20. Finally, Lehrs and several other critics have divided the text into two separate and unrelated poems: lines 1–20 and 21–36. All these variables make possible a great, but limited, number of different and mutually exclusive interpretations.<sup>73</sup>

<sup>73</sup>H. Schütz (above, n. 1) 104 discussed the various possible structural divisions of the poem and noted that all seem "gleich willkürlich." K. E. Bohnenkamp (above, n. 38) 207 comments on the "open strophic form" of the ode's metrical organization. Most adherents of the dialogue-theory have divided the poem into two speeches at either line 7 (so Landinus [1482], A. Mancinellus [1492], J. Locher [1498], among the earliest commentators, and F. Burger [1927] among the most recent) or 21 (so L. Torrentius [1608], Heinsius [1629], and P. Buttmann, *Mythologus* II [Berlin 1828–29] 369–370). Dillenburger (above, n. 1) 78 divided the poem into two speeches after verse 16. The poem was divided into two separate works at line 17 by Döderlein (above, n. 59) 51–57; and at line 21 by Lehrs (above, n. 2) *lvi-lx*; Nairn (above, n. 59) 444–445; C. Bulle, "Die Archytas-Ode und der Mons Martinus," *Philologus* 57 (1898) 340–343; J. J. Hartman, "De Horatii Carmine 1,28," *Mnemos.* 26 (1898) 335–338; and C. E. Bennett, *Horace, Odes and Epodes* (London 1914) 76–78. C. W. Götting (above, n. 10) 229, and R. Kent, "Horace and the High Seas," *CW* 13 (1919) 41–45, make the poem into a monologue spoken by

The central problem creating these alternative tones, structures, speakers, and addressees is always: who is speaking? The problematic nature of the voice or voices in this poem is not something that we need to prove; it is adequately attested by the history of readers' responses to the poem since the ancient scholiasts. It must, in fact, be taken as the major feature of the ode—we cannot be certain who is speaking. Even the new interpretation that I have presented here makes no greater claim than to be possible (and, indeed, to make a stronger claim would be self-defeating): the *quoque* in 21 may be inceptive, but we cannot prove definitely that it is; the *mis en scène* may be that Horace is reading Archytas' epitaph, but again, positive proof is lacking—as it is, I hasten to point out, for every major critical decision that any interpreter can make about this poem. If my interpretation has any special claim to make, it is that it can at least admit and account for this rather startling degree of textual indeterminacy, for the problem of who is speaking is precisely the inevitable result of the presence of the patricidal sign.<sup>74</sup>

Interpreters' attempts to fix the structure and meaning of *Ode* 1.28 have been just as unsuccessful as Horace's attempt to rouse the shade of Archytas. That is the failure of the poem and the reason it seems so bizarre. On the other hand, it is a failure that was planned in advance by Horace: it is a desired failure, for stated differently, one can attribute the success of the poem to its ability to provoke as strong a response to itself as was Horace's diatribe against Archytas' epitaph and tomb. Just as Horace did not believe that Archytas could be roused through his *sēma*, so Horace's critic should not think that Horace's conscious intentions can be made present through his *mōnumentum*—unless, of course, that very message of showing textual

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Horace. Vessey (above, n. 3) 73–87 agrees that the poem is a monologue but thinks that the speaker is Archytas (a view already held in antiquity by Ps.-Acro and Porphyrio).

<sup>74</sup>On writing as parricidal see J. Derrida, "Plato's Pharmacy," in *Dissemination*, trans. B. Johnson (Chicago 1981) 61–171, esp. 164. For a recent analysis of the problem of semiotic indeterminacy and why readers fail to decode signs in the way their senders encoded them see U. Eco, *A Theory of Semiotics* (Bloomington, Ind. 1979) 140–142. The Epicureans apparently recognized the polysemous nature of signs: cf. P. H. and E. A. De Lacy, *Philodemus. On Methods of Inference* (Naples 19782) 192–193. The earliest recognition of the problematic nature of the speaker of *Ode* 1.28 is to be found in the late antique or early medieval commentary published by H. J. Botschuyver, *Scholia in Horatium*, 4.1 (Amsterdam 1940) 44–45, esp. *ad c.* 1.28.7 (cf. *ix-x* for speculation about the identity of the scholiast).

indeterminacy was Horace's simple and unequivocal intention in writing the ode.

In 1856 J. A. Mähly wrote the following words about the Archytas Ode:

No reader of our poet would express great regret if this poem were not accepted into the corpus of Horace; first of all, because it in fact does not contain extraordinarily beautiful things . . . and also because such a great number of so many different interpretations (only one of which the poet can have intended) can never speak in favor of the excellence of a poem, which, in the end, ought to be as open to understanding as any piece of prose. At least, no poet has yet dared to make the concept of obscurity a necessary element of any literary product.<sup>75</sup>

What a difference a hundred and twenty-five years have made—now we have not one but several poetics of what Mähly called “obscurity” and what we would call textual indeterminacy; now we find a poem interesting—and perhaps beautiful—precisely because it is not *simplex dumtaxat et unum*, as Horace himself said that poetry should be in the *Ars Poetica*. Or did he? As is perhaps appropriate for a study about indeterminacy, I conclude with a question, not an answer. Can we really believe that the poet who equated poetry to a cenotaph in the Archytas Ode intended us to take seriously his speaker's celebration of the poetic virtues of simplicity, unity, and clear structure in the *Ars Poetica*?<sup>76</sup>

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<sup>75</sup>J. A. Mähly, “Horatius carm. lib. LXXVIII,” *RhM* n.s. 10 (1856) 127 (my translation).

<sup>76</sup>An earlier version of this article was given as a lecture at Johns Hopkins University, the University of Cincinnati, Harvard University, and Brown University in the fall of 1982 and the winter of 1983; I wish to thank the various audiences for their helpful comments and especially Professors Stanley Fish, Charles Segal, Michael Putnam, D. R. Shackleton Bailey, and Zeph Stewart for their useful suggestions. I am also grateful to Professors Malcolm Bell and Russell T. Scott for discussing the poem with me at the American Academy in Rome in 1975 and 1982; Ernst A. Schmidt sent me some helpful written comments on an earlier draft. Finally, I wish to thank the American Council of Learned Societies and the Academic Senate of UCLA for grants supporting the research of this article. I dedicate this article to my teacher Archibald W. Allen.

[A.10]

BERNARD FRISCHER

*MONUMENTA ET ARAE HONORIS VIRTUTISQUE CAUSA:*  
**EVIDENCE OF MEMORIALS FOR ROMAN CIVIC HEROES**

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# *Monumenta et Arae Honoris Virtutisque Causa:* Evidence of Memorials for Roman Civic Heroes

BERNARD FRISCHER

## INTRODUCTION

The purpose of this article is to discuss a number of Roman monuments, dating from the archaic age to the middle empire and located in the city of Rome and in other parts of the Roman world, that have some hitherto unrecognized common features of design, location, and the function of commemorating individuals who displayed extraordinary civic virtue. Sometimes identified as tombs, cenotaphs, or *ustrinae*, these monuments are better thought of as what, in modern times, would be called «memorials» or what, in antiquity, must have appeared to be adaptations to Roman taste of the Greek heroon<sup>1</sup>.

The examples of this monumental type are attested in the literary, archaeological, and epigraphical record with varying degrees of certainty. The most securely identifiable members of the group are the altar-column complex dedicated to Julius Caesar in the Roman Forum shortly after his death on the spot where his body was cremated (see below, section IX); the Pisan altar dedicated to Lucius and Gaius Caesar (cf. section X); and the Herculanean altar dedicated to M. Nonius Balbus sometime in the first century A.D. on the site where his ashes were collected after a public funeral (cf. section X). None of these three monuments may be properly called the tomb or cenotaph of their dedicatees since all were buried elsewhere; nor can any of the altars be

<sup>1</sup> The type is not, for example, discussed in G. MANSUELLI'S article, «Il monumento commemorativo romano», *BCStorArchit*, 12 (1958) 3-23. One possible forerunner of my discussion of this monumental type is H. Daniel-Lacombe's analysis of two types of Roman cenotaphs. See *Le droit funéraire à Rome*, (Paris 1886) 26 (par. 24). Daniel-Lacombe is, however, wrong to call his first type (the one closest to my «commemorative» type a cenotaph, and he cites no examples of it. Against calling Daniel-Lacombe's first type a cenotaph, cf. the following remark of L. SCHUMACHER in «Das Ehrendekret für M. Nonius Balbus aus Herculaneum», *Chiron*, 6 (1976) 165-184, on p. 181: «ein Kenotaph wäre

hier [viz., in the case of the altar of Balbus; cf. below, p. 75] nicht sinnvoll, da sich das Grab [scil., of Balbus] ja in Herculaneum befand». Daniel-Lacombe's confusion is often encountered in discussions of cenotaphs; cf., e.g., the following comment of L. VOGEL, *The Column of Antoninus Pius*, (Cambridge, Mass. 1973) 30: «Antoninus Pius was buried in the Mausoleum of Hadrian. The column and ustrinum thus formed an honorary monument with a funerary meaning, that is, a cenotaph». On the problem of monuments and memorials in twentieth-century architecture, see the discussion in T. H. CREIGHTON, *The Architecture of Monuments. The Franklin Delano Roosevelt Competition*, (New York 1962) 6-13.

considered an *ustrina* since, according to Festus (*s. v. bustum*, p. 32 Lindsay) an *ustrina* is the place where bodies are cremated and these structures were all built after the cremations (which in the case of the altar for Lucius and Gaius, did not even take place in Pisa). Inscriptions on the altars explain their motivation and, in two of the three cases, their function. They were publicly erected because their dedicatees were *parentes*, or *patroni*, of the state (cf. SVETONIUS, *Caesar* 85; *CIL*, XI 1420; *Chiron*, 6 [1976] 169); and they were to serve as the focus of annual lamentations on the day the dedicatees died (as is securely known from the inscriptions for Lucius Caesar, Gaius Caesar, and M. Nonius Balbus).

In the remainder of this article — which should be considered an heuristic, not exhaustive, study — I will discuss the history of the memorial on the basis of these and other possible examples of the monumental type. Special attention will be paid to describing the architectural designs, topographies, and functions of the examples as well as to analyzing their political and symbolic value and their connections to each other and to Greek models. In the Conclusion, I will make explicit the underlying logic of my argument and I will point out some directions that future research might take to test my hypotheses.

## I

A puzzling monument stands in suburban Pompeii on the south side of the Via delle Tombe, about 150 m. west of the Porta Ercolana (pl. LX, 1). In design, the structure has the form of an altar raised up on a base<sup>2</sup>. An inscription on the front side tells us that the monument was dedicated to C. Calventius Quietus Augustalis, HVIC OB MUNIFICENT(IAM) DECURIONUM / DECRETO ET POPULI CONSE(N)SU BISELLII / HONOR DATUS EST<sup>3</sup>.

From its design and location in Pompeii's most impressive cemetery, one would expect that the monument is a tomb; yet, a number of unusual features have led some scholars to speculate that the altar is a cenotaph<sup>4</sup>. These features include the lack of an entranceway through the precinct wall surrounding the monument<sup>5</sup>; the lack of a libation tube within the precinct<sup>6</sup>; and, most significant of all, the lack of a door into a

<sup>2</sup> See V. KOCKEL, *Die Grabbauten vor dem Herkulaner Tor in Pompeji*, (Mainz 1983) 90, where the dimensions are given as: base—3.83 m. broad × 3.53 m. deep × 1.49 m. high; altar—1.73 m. broad × 1.41 m. deep × 2.25 m. high.

<sup>3</sup> *CIL*, X 1026.

<sup>4</sup> In the nineteenth century, the interpretation of the monument as a cenotaph was held by G. FIORELLI, *Descrizione di Pompei*, (Naples 1875) 407, and J. OVERBECK, *Pompeii in seinen Gebäuden, Alterthümern und Kunstwerken*, vol. 2 (Leipzig 1866) 32-35, and was disputed by A. Mau in his revised edition of Overbeck (*Pompeii in seinen Gebäuden, Alterthümern und Kunstwerken*

[Leipzig 1884<sup>4</sup>]), who considered the structure to be a tomb. From publications of the last few years, one can see that the question has still not been settled; cf. E. LA ROCCA, M. and A. DEVOS, *Guida archeologica di Pompei*, (Rome 1976) 334, arguing for a cenotaph; and V. KOCKEL, *op. cit.* (*supra* n. 2) 97, who agrees with Mau.

<sup>5</sup> Not necessarily a sign of a cenotaph; cf. the similarly inaccessible tombs in Ostia discussed by M. F. SQUARCIAPINO, in *Scavi di Ostia III*, part 1 (Rome 1958) 110.

<sup>6</sup> This absence is certainly significant, since such tubes have been found near most burials before the Porta Ercolana; see V. KOCKEL, *op. cit.* (*supra* n. 2) 40-41.

chamber within the monument itself<sup>7</sup>. The last feature is not only suspicious in itself, but it is also strange because, as Kockel has shown, such chambers had been the rule for Pompeian altar-tombs for many decades prior to the erection of Calventius' monument sometime between 70-79 A.D.<sup>8</sup>. Finally, we may note that the only other example of this altar-type used in connection with an *augustalis* is, by universal agreement, not a tomb. The neighboring monument (fig. 1 - pl. LX, 2) erected by Naevoleia Tyche for C. Munatius Faustus, an *augustalis*, can hardly be the site of his grave since we have his name twice on inscriptions from his family tomb near the Porta di Nocera, where he must have been buried<sup>9</sup>. Moreover, although ten urns and funerary stelae (some with inscriptions) have been found within the chamber of the altar, none of these seems to have been used for the remains of C. Munatius Faustus<sup>10</sup>.

These facts are not the only ones making us wonder whether the monument of Calventius is the normal altar-tomb that it appears to be. Unlike most other tombs sharing the altar-form, the inscription on Calventius' monument does not mention the name of the dedicator. And, unlike all but one of the other altar-tombs at the Herculanean Gate<sup>11</sup>, the altar of C. Calventius Quietus is dedicated, not to a member of the town's political elite, but to a freedman who probably was not even eligible to run for office<sup>12</sup>.

## II

Before clarifying the mysteries of Calventius' altar it will be useful to consider a monument in Ostia that presents analogous, though as yet undetected, problems. The so-called «tomb» of C. Cartilius Poplicola (pl. LXI, 1) stood about 70 m. outside the Porta Marina, very close to the ancient seacoast. A long, fairly well-preserved inscription makes identification of the dedicatee certain and informs us that the structure is a *monumentum* given to Ostia's *premaris vir pro eius meritis*<sup>13</sup>. The building faces the extension of the Decumanus Maximus outside the Porta Marina. Like the altar of Calventius, the monument of Cartilius stood on a base. Both the base and the upper part are square in plan<sup>14</sup>. The structure may have served as the support for the statue of a

<sup>7</sup> It is this fact that motivated Fiorelli and La Rocca, et al. to speculate that the monument is a cenotaph. Mau and Kockel speculate that the urn may be located beneath the structure, but cf. below, section XII.

<sup>8</sup> On the architectural history of the tomb-type see V. KOCKEL, *ibid.*, pp. 22-26; on the date of Calventius Quietus' altar, see KOCKEL, pp. 96-97.

<sup>9</sup> See V. KOCKEL, *ibid.*, pp. 100-109.

<sup>10</sup> See V. KOCKEL, *ibid.*, pp. 100-102.

<sup>11</sup> The other exception is that of C. Munatius Faustus, on which see below section XII.

<sup>12</sup> On the association of this tomb-type with high Pompeian magistrates, see V. KOCKEL, *op. cit.* (*supra*, n. 2) 24; on the inability of freedmen to hold office and their social status see J. H. D'ARMS, *Commerce and Social Standing in*

*Ancient Rome* (Cambridge, Mass. 1981) 134-140.

<sup>13</sup> The inscription was published by H. BLOCH, in *Scavi di Ostia* III, part I (Rome 1958) 214-219. Useful comments about it appear in R. MEIGGS, *Ostia*, (Oxford 1973<sup>2</sup>) 475-478. A crucial piece of evidence for supplementing the text was discovered and published by S. PANCIERA, «Il sepolcro Ostiense di C. Cartilius Poplicola ed una scheda epigrafica di Gaetano Marini», *ArchCl*, 18 (1966) 54-63. For more on the text see below, section XI. For the topography of the tomb, see G. BECATTI, in *Scavi di Ostia* I (Rome 1953) 113 with fig. 30 and plan 11; I. GISMONDI, in *Scavi di Ostia* III, part I (Rome 1958) 169-172, with fig. 69.

<sup>14</sup> The dimensions are: base—6.21 × 6.21 m.; upper section—4.70 × 4.70 m.; total height—5.14 m. See I. GISMONDI, *ibid.*, pp. 172-173.

warship, fragments of which were found nearby<sup>15</sup>. It has been convincingly dated to the last quarter of the first century B.C.<sup>16</sup>.

Though not designed to resemble an altar, the monument of Cartilius Poplicola is similar to that of Calventius Quietus in its scale and location outside a major gate of town. More importantly, Poplicola's «tomb», like Calventius' altar, shows no sign of having ever been used for an actual burial. Indeed, the signs indicating that the monument was never used as a tomb are even stronger in the case of the Ostian *monumentum* than they were at Pompeii.

First of all, careful modern archaeological investigation of a fairly well-preserved site has revealed no burials in or around the *monumentum*<sup>17</sup>, and, indeed, the area outside the Porta Marina has been shown not to be a necropolis: «da questi saggi risultò che sotto il piano di risega di fondazione dei due sepolcri (viz., that of Cartilius Poplicola and the so-called Mausoleum) la sabbia era archeologicamente sterile»<sup>18</sup>. Like Calventius Quietus' altar, the monument to Cartilius Poplicola had no door providing access to a chamber serving as a *columbarium*<sup>19</sup>. Nothing in the long inscription nor in the iconography of the structure indicates that Cartilius is necessarily deceased. Moreover, we know of two possible family tombs of the Cartilii, in one of which Poplicola may well be buried. The first is called the *monumentum Cartilianum* in an inscription of the second century A.D. found outside the Porta Romana<sup>20</sup>. It seems to have been the tomb of *liberti* of the family. The second tomb is known from a large inscription, perhaps from the facade, naming the owner as C. Cartilius Poplicola, who is most likely the same Ostian notable to whom the structure outside the Porta Marina was dedicated. This tomb was one of several impressive graves located near modern Acilia on the Via Ostiensis between Rome and Ostia<sup>21</sup>. In view of the high status of those buried in this area and the fact that we know of no other Ostian notable with the name of C. Cartilius Poplicola, it is likely that this is where the man honored at the Porta Marina was buried.

There is one difference between Cartilius' and Calventius' monuments: no one has ever suggested that Cartilius' is a cenotaph. This may be surprising in view of the archaeological record, but I do not propose to make good this failure in the scholarship. Instead, I intend to show that the dedications to the two men may properly be called neither a tomb nor a cenotaph. Along with the structures known from the archaeological, literary, and epigraphical sources that were discussed in the Introduction, they probably

<sup>15</sup> See I. GISMONDI, *ibid.*, pp. 179-181.

<sup>16</sup> See M. SQUARCIAPINO, *op. cit. (supra n. 5)* 191-207; H. BLOCH, *op. cit. (supra n. 13)* 218-219.

<sup>17</sup> See I. GISMONDI, *op. cit. (supra n. 13)* 170.

<sup>18</sup> See I. GISMONDI, *loc. cit. (supra n. 17)*.

One would also like to be able to discuss the nearby «mausoleum» (where no evidence of a burial was found) in connection with the problems treated in this paper, but too little is known about it. For some recent speculation about the mausoleum cf. the ideas of R. Meiggs and F. Zevi as reported by the latter in «Monumenti e aspetti culturali di Ostia repubblicana», in *Hellenismus in Mittelitalien*, ed. by P. Zanker (Göttingen 1976) vol. 1, p. 59, n. 32.

<sup>19</sup> To be sure, since Cartilius' tomb is

Augustan in date, the absence of a chamber (optional in this period) is not as significant a fact as it was in the case of Calventius Quietus.

<sup>20</sup> See H. BLOCH, *op. cit. (supra n. 13)* 216-217.

<sup>21</sup> See H. BLOCH, *ibid.*, p. 214 (nr. 7). Bloch thinks that the two Cartilii Poplicolae are the same person. R. MEIGGS, *op. cit. (supra n. 13)* 477, falls victim to circular reasoning when he writes: «we should expect this inscription... from its form and site, to come from a tomb. But it cannot come from the tomb of our Poplicola, for his ashes were placed in his public monument outside Porta Marina». Since no ashes were in fact found at Porta Marina, there is no reason to accept Meiggs' conclusion.

represent a kind of public monument the existence of which has not yet been recognized by Roman archaeologists.

### III

If the probabilities indicate that no one was ever buried in the «tombs» of Cartilius and Calventius, then they militate just as strongly against interpreting the structures as cenotaphs. A cenotaph is only necessary when the body of the deceased is not available for burial in a spot that is for some reason appropriate, either because it has been lost (e.g., at sea) or because it had to be buried elsewhere<sup>22</sup>. In such cases, a cenotaph is erected and a symbolic *humatio* (not, strictly speaking, required by Roman religion) is given to the absent body<sup>23</sup>.

Now, as far as we know, neither Cartilius Poplicola nor Calventius Quietus needed a symbolic burial. In those rare cases when such an *humatio* was required, the funerary inscriptions were explicit about the absence of remains (cf. the cenotaphic inscriptions cited above in n. 22). The absence of remains of the two men from their monuments in Pompeii and Ostia thus probably means that, like Munatius Faustus, they were buried elsewhere in the suburban cemeteries where their family tombs were located<sup>24</sup>.

We have seen that for Cartilius, two such possible tombs are epigraphically attested. Calventius' ashes were perhaps placed in an urn within the tomb of the Sittii, for his only known son was adopted from this illustrious Pompeian family<sup>25</sup>. This speculation is all the more likely once it is recalled that Calventius' only child was apparently also the only child of his natural parents<sup>26</sup>. So, a tomb, or plot, for Calventius' remains was ready to hand, and there were probably no Sittii alive to object to its use. Alternatively, Calventius may have been buried in a tomb or plot purchased by him before his death or by his heirs after his death. In either case, he is unlikely to have been buried under the altar outside the Porta Ercolana since Calventius probably died in the 60s, whereas his altar outside the Porta Ercolana dates to the 70s<sup>27</sup>.

<sup>22</sup> For examples of Roman cenotaphs cf., e.g., *CIL*, VI 16913 (death occurred far away); *CIL*, III 1899; 3107 (deaths at sea).

<sup>23</sup> On the symbolic *humatio* see DA'EMBERG-SAGLIO, II.2 s.v. *funus* (Paris 1896) 1396.

<sup>24</sup> Thus, the common designation of Munatius Faustus' monument as a cenotaph (see above, n. 9) is just as incorrect as the interpretation of Calventius Quietus' as a tomb.

<sup>25</sup> See P. CASTRÉN, *Ordo Populusque Pompeianus. Polity and Society in Roman Pompeii* (*ActaInstRomFin*, 8 [1975]) 148.

<sup>26</sup> V. KOCKEL, *op. cit.* (*supra* n. 2) 97, rejects the idea that Calventius Quietus could be buried somewhere else besides his «tomb» outside the Herculanean Gate as «eine äusserst unwahrscheinliche Annahme». However, Kockel seems to forget the fact he reports (on p. 96) that Calventius adopted a son from the family of the Sittii, who

certainly had a burial place somewhere near the town.

<sup>27</sup> On the date of the altar, see V. KOCKEL, *ibid.*, pp. 96-97. The date of Calventius' death may be inferred not so much from the absence of any evidence attesting his existence after the Neronian period (for the evidence, see tables 51 and 87 in *CIL*, IV, Suppl. 1.3340, on which cf. J. ANDREAU, *Les affaires de Monsieur Jucundus*, *MEFRA* 19 [1974] 172) as from the fact that the evidence—his appearance twice as a witness in the banking records of L. Caecilius Jucundus—indicates that he had achieved high status and prestige before 62 A.D. (cf. J. ANDREAU, *ibid.*, pp. 86-88, on the social status of witnesses). Thus, it is fair to assume that Quietus was well advanced in years by 62 A.D., the latest possible date for the two undatable appearances of his name in the archive of Jucundus. He may well have lived a few years longer, since Overbeck's speculation (*op. cit.* [*supra*

## IV

If the altar of Calventius Quietus and the monument of Cartilius Poplicola are neither tombs nor cenotaphs, then what are they? They are a *tertium quid* — something that in English would be called a «memorial» or a «monument» (as in Washington's Monument or the Jefferson Memorial). The meaning of such structures is not to mark the site of burial (or putative burial), as is implied by the terms *sêma*, *sepulcrum*, *tumulus*, etc.<sup>28</sup>. Rather, it is just the opposite: to keep alive the glory of a man who has (presumably) recently died for the sake of future generations of his family and fellow citizens. This monumental type has undoubtedly been overlooked by scholars because it was so rare; but its importance is inversely proportional to its rareness. The heroic honor it expressed was so great as hardly ever to be bestowed by the Roman people.

What words did the Romans use to describe such an honorary structure? We have seen that the Pompeian example has the shape of an altar; we have also noted that the inscription on the memorial of Cartilius Poplicola calls it a *monumentum*. Other cases have the design of altars or *monumenta* (in the sense defined by the Ostian memorial), and inscriptions and literary sources likewise speak of either *monumenta* or, as we have seen in the Introduction, of *arae*<sup>29</sup>. We may conclude from this that the Roman memorial had at least two possible designs to which the terms *ara* and *monumentum* correspond. Later, we shall see that other terms and designs (e.g., the *schola*) were also used from time to time. Of course, because Roman tombs often performed the function of commemorating the life as well as marking the site of burial of the deceased<sup>30</sup>, both terms can also be synonymous with *sepulcrum*; and this is perhaps another reason why the Roman memorial has escaped scholar's attention. However, although all tombs may be called *monumenta* or *arae*, not everything termed a *monumentum* or *ara* is necessarily a tomb<sup>31</sup>.

## V

Everything we know about Rome in the archaic period suggests that of the two terms and forms of commemoration, the *ara* was first to develop. This is natural for two

n. 4] 33) is very attractive that he received the honor of the *bisellium* on account of his munificence to Pompeii in helping to rebuild the city after the earthquake of 5 February 62.

<sup>28</sup> On the meaning of *sêma*, cf. the following remarks of E. VERMEULE, *Aspects of Death in Early Greek Art and Poetry*, (Berkeley and Los Angeles 1979) 45: «the classical *sêma* can be both the external sign of the invisible dead in the grave, and the substitute person, especially kept alive in memory when written upon».

<sup>29</sup> *Ara*: CIC., *Ad Brut*, 1.15.8; (= 23.8 Shackleton Bailey); *Ad Fam.*, 11.2.2; *Phil.*, 14.33-34; *CIL*, XI 1420; *CIL*, IX 3837; *CIL*, IX 3079. *Monumentum*: C. Cartilius Poplicola (see below, section XI); *CIL*, VI 1319 = I 635 (see below, section VIII); DIO, 79.24 (cf. below, p. 71).

<sup>30</sup> Cf. VARRO, *LL* 6.49: «ab eo cetera quae scripta ac facta memoriae causa monumenta dicta».

<sup>31</sup> For a non-funerary use of the term *monumentum* cf. *ThLL*, vol. 8, s.v. *monumentum* I.B.2.a (col. 1462); for the principle, cf. H. DANIEL-LACOMBE, *op. cit.* (*supra* n. 1) 25 (par. 22). This point escaped L. SCHUMACHER, *op. cit.* (*supra* n. 1) 181, where he writes, «zwar lässt sich der Terminus *ara* in Zusammenhang mit dem Totenkult schon in republikanischer Zeit nachweisen, bezeichnet aber immer den Grabaltar, d.h. das eigentliche Grabmal, oder, wie im Falle des L. Caesar, das Kenotaph». On the error of calling the *ara* of L. Caesar a cenotaph, as Schumacher does, see below, n. 88.

reasons. First of all, the Romans recognized a theoretical distinction between the terms *ara* and *altaria*, even if, in practice, the terms were often confused<sup>32</sup>. The *ara* was used for worship of the dead and the infernal deities; the *altaria* for the heavenly gods. Since our literary sources for this distinction do not predate Varro, it is good to know that modern etymologists agree that the two words derive from different roots, so that the distinction is undoubtedly very ancient<sup>33</sup>.

If its connection with the dead made *ara* linguistically fitting for a commemorative monument, then the fact that the funeral pyre was erected to resemble an *ara* made it architecturally appropriate once the Romans started to erect tombs outside the *pomerium* and, on very rare occasions, commemorative monuments inside the city. Servius glossed Vergil *Aen.* 6.177 *aram... sepulchri congerere arboribus... certant* with the explanation «*aramque sepulchri*» *pyram dicit, quae in modum arae construi lignis solebat... et aram, quae ante sepulchrum fieri consuevit, intellegere non possumus, ut* (III 63) «*stant manibus arae*», *cum nondum facta sit funeratio, quae praecedat sepulchrum*».

As Kockel has observed, a complete history of the monumental Roman grave altar has not yet been written<sup>34</sup>. Such a history cannot be attempted here; however, to Kockel's fine sketch of the development of the grave altar from the time of Servius Sulpicius Galba (pl. LXI, 2) to the second century A.D. can be added an outline of the earlier periods, which can be studied primarily from literary sources<sup>35</sup>.

In a recent article, Colonna has pointed out that we have very few Roman burials datable to the sixth and fifth centuries B.C. and no archaeological remains of any funerary structure above ground<sup>36</sup>. In support of this archaeological observation, we may note that the XII Tables, in dealing with funerary law, mention two terms — *forum* and *bustum* — pertaining to the land surface over a burial, but say nothing about a structure built above ground. The interesting cultural and political reasons for this lack of archaic tombs will be discussed below (see section VII). Here Colonna's observation can serve to explain both why evidence of altar-graves in this period is so rare and why most of our evidence pertains, not to funerary, but to commemorative monuments.

The only possible funerary altar dating to this period is the altar, inscribed with the word *honoris*, located in an early Republican cemetery outside the Porta Collina (Cic., *De leg.* 2.58, where the word is interpreted as a name). We cannot be certain of the altar's

<sup>32</sup> For the distinction between *ara* and *altaria* cf. SERVIUS, *ad Aen.* 2.515 («*superorum et arae sunt et altaria, inferorum tantum arae*»), *ad Aen.* 3.305 («*mortuorum arae, deorum altaria dicuntur*»); ISIDORUS, *Lib. Diff.*, 440 («*inter altaria et aras hoc interest, quod altaria deo ponuntur, arae etiam defunctis*»). On the confusion of the terms, cf. H. C. BOWERMAN, *Roman Sacrificial Altars*, (Diss. Bryn Mawr 1913) 7, and cf. SERVIUS, *ad Aen.* 3.305 («*mortuorum arae, deorum altaria dicuntur... quamvis hoc frequenter poeta ipse confundat*»).

<sup>33</sup> Cf. *svv.* in A. WALDE and J. B. HOFMANN, *Lateinisches etymologisches Wörterbuch*, vol. I (Heidelberg 1938<sup>3</sup>) 32,61; A. ERNOUT and A. MEILLET, *Dictionnaire étymologique de la langue latine* (Paris 1932) 36, 62. Cf. also the Greek

distinction between *εοχάρα* (= *ara*) and *βωμῶς* (= *altaria*), on which see L. ZIEHEN, *RAC*, I s.v. *Altar* (Stuttgart 1950) cols. 317-318, who accepts a distinction in design, but not in usage; and C. HABICHT, *Gottmenschentum und griechische Städte*, *Zetemata* 14 (1956<sup>1</sup>) 203.

<sup>34</sup> V. KOCKEL, *op. cit.* (*supra* n. 2) 24. W. ALTMANN, *Die römischen Grabaltäre der Kaiserzeit*, (Berlin 1905), treats mainly the imperial period, as the title suggests.

<sup>35</sup> On the late-republican to Antonine period see V. KOCKEL, *ibid.*, pp. 25-26.

<sup>36</sup> G. COLONNA, «*Un aspetto oscuro del Lazio antico. Le tombe del VI-V secolo a.C.*», *PP*, 32 (1977) 131-165; «*L'ideologia funeraria e il conflitto delle culture*», *Archeologia laziale*, 4 (1981) 229-232.

exact date since our literary source permits us only to establish the *ante quem* of the founding of the Temple of Honos, the date of which is itself not known<sup>37</sup>.

The first possible commemorative altar is, luckily, securely datable; however, the design of the monument is nowhere described, so that we cannot be certain that it had the shape of an altar. Several sources (PLUT., *Poplicola* 109 D, *Quaest. Rom.* 282 F-283 A; LIVY 2.16; AMM. MAR. 14.6.11; DION. HAL. 5.48.3; VAL. MAX. 4.4.1) report that when Rome's early consul, Publius Valerius Poplicola, died, his family was too poor to afford a burial. As a result, the Roman people donated money for the funeral (the first *funus collaticium* on record) and land for the burial within the city in the Velia. Since Poplicola died in 503 B.C., his monument in the Velia must date to about that year.

That Poplicola is not buried on the site given to his family by the people is clear from two passages in Plutarch (*Poplic.* 109 D; *Quaest. Rom.* 282 F-283 A). In his life of Poplicola (109 D), Plutarch writes:

By vote of the people, he was also given land for burial within the city, near the Velia, and all his family were to have the right of burial there, too. However<sup>38</sup>, no one from the family is buried there; but when someone dies, his body is carried to that spot and set down. Someone takes a burning torch and holds it beneath the bier for a moment, and then takes it away, showing by this that the deceased has the right of burial there, but forgoes the honor. After this, the body is taken away.

Why did Poplicola and his descendants forgo this honor? First of all, cremation and burial within the *pomerium* were contrary to religious law. It is unlikely that exceptions could be made through legislation, since the matter was pontifical. In Greece, where burials of *ktisteis* and other important civic benefactors and heroes frequently occurred, permission for such graves had to be gotten from an oracle. This possibility for dispensation the archaic Romans probably did not have. In any case, that burial within the city of Rome, as in Greek cities, required the directive of an oracle is attested by one case: Festus (*s.v. Statua*, p. 370 Lindsay) tells us that after the statue of a certain M. Ludius (?) in the Circus Maximus was struck by lightning, an oracle ordered the Romans to move his remains from the Janiculum to the Volcanal in the Forum. The date of this episode is, however, unclear, and the story itself may be reported in a garbled fashion<sup>39</sup>. It is of interest to us for showing that in Verrius Flaccus' day, burial within the *pomerium* was seen as something initiated by an oracle.

Even if, as sometimes happened, the land for the monument was located outside the *pomerium*, there were reasons why the structure erected would generally not be used as a tomb. Burial of one member of a family in a special spot, far from the ancestral plot, would have caused inconvenience to the deceased's survivors and descendants on those public and private holidays on which rites were performed at the grave to honor the dead. Along these lines it is important to note that at *funera publica* — and we may

<sup>37</sup> S. B. PLATNER and T. ASHBY, *A Topographical Dictionary of Ancient Rome* (Oxford 1929) 258 (*s.v. Honos, aedes*), speculate that the temple dates to the third century B.C.

<sup>38</sup> The phrase  $\nu\upsilon\nu \delta\acute{\epsilon}$  is adversative, not temporal (as the Loeb translator—whose version is adapted above—thought); cf. *LS.J*<sup>2</sup>, *s.v. νῦν* I.4.

<sup>39</sup> For discussion see W. HAFTMANN, *Das italienische Säulenmonument* (Berlin and Leipzig 1939) 33. The involvement of the Volcanal is appropriate because of Volcan's connection with lightning-prodigies; see G. RADKE, *Der Kleine Pauly*, vol. 5 (Munich 1975) col. 1319.

assume that the memorial was normally an additional honor given to persons receiving a public funeral — the Romans cremated puppets, not the actual corpse<sup>40</sup>. This custom doubtless had many reasons; one must have been to enable the family to perform on the actual remains the funereal rites required by its own private religion — rites that may not have always been reconcilable with the public ceremony of a *funus publicum*. In any case, since the puppet, not the corpse, was the object of the public rites, it is not surprising that the «cremation» of this symbol very often resulted in a symbolic, not actual, *humatio*. Moreover, for a family to have accepted the privilege of burial on public land outside or inside the city (assuming that special permission for burial inside the *pomerium* could somehow be obtained) would have aroused envy and caused offence; far better to be *contentus decreti honore*<sup>41</sup>.

We know of two other such monuments from the early Republic. Aulus Postumius Tubertus and C. Fabricius were also honored by a memorial within the city. It is not clear where Tubertus' was located; Plutarch says that Fabricius' was, like Poplicola's, near the Roman Forum (*Quaest. Rom.* 282 F-283 A; cf. Cic., *De leg.* 2.58). In the same passage, Plutarch gives us the useful information that, like the Valerian monument, that of Fabricius (and, presumably, Tubertus) had no actual burials<sup>42</sup>.

Colonna has speculated that the modesty of Roman burials in the sixth and fifth centuries resulted from the influence of Athenian sumptuary legislation of the sixth century on archaic Rome<sup>43</sup>. If we look for a Greek parallel for the monuments we have been discussing, it is interesting to note that the closest case also has an Athenian connection. When the exiled Themistocles died in Magnesia<sup>44</sup>, he and his descendants were honored with the erection of a memorial (*mnêmeion*) in the agora of the city. Themistocles' remains were apparently buried elsewhere, though probably not at the altar-column memorial, recently identified as Themistocles', located on the western end of the Akte peninsula near the entrance to the Piraeus. This monument, like the

<sup>40</sup> See H. DRERUP, «Totenmaske und Ahnenbild bei den Römern», *RM*, 87 (1980) 81-129, especially pp. 113-115; APPIAN, *BC*, 2.147; HERODIAN, 4.1. Note that the ceremony of *consecratio* at the climax of the *funus imperatorium* usually occurred after the burial of the emperor's remains in an imperial mausoleum; see J.-C. RICHARD, «Tombeaux des empereurs et temples des "divi": note sur la signification religieuse des sépultures impériales à Rome», *RHistRel*, 170 (1966) 127-142, especially pp. 135-136.

<sup>41</sup> For the law in the XII Tables prohibiting burial within the city see CIC., *De Leg.*, 2.58, and cf. *The Opinions of Paulus*, Book I, title xxi.2-3 in S. P. SCOTT, *The Civil Law*, (Cincinnati 1932) vol. I, p. 267. M. BESNIER in DAREMBERG-SAGLIO, IV s.v. *pomerium*, p. 545, cites the case of Poplicola as one of the few exceptions to the ban on burial in the city. For a list of Greek burials inside cities see R. MARTIN, *Recherches sur l'agora grecque*, *BEFAR* 174 (1951) 200, n. 5; and for oracles granting permission for such burials see MARTIN, *ibid.*, p. 197. For the danger of receiving

great honors and advice about how to accept them see PLUT., *Praecepta Gerendae Reipublicae*, 820E-F. On the concept of *contentus decreti honore*, see W. LIEBENAM, *Städteverwaltung im römischen Kaiserreiche*, (Leipzig 1900) 128, n. 1.

<sup>42</sup> The notice of Servius *ad Verg. Aen.* 11.206, that *imperatores* and *Vestales* were buried within the city is not credible (*pace* F. PFISTER, *Der Reliquienkult im Altertum*, *RVV* 5.1 [1909] 449). The Vestals are perhaps mentioned because of the variant of the Tarpeia myth that made her a Vestal and held that she was buried on the Capitoline; see G. RADKE, *Der Kleine Pauly*, vol. 5 (Munich 1975) col. 522 and H. H. SCULLARD, *Festivals and Ceremonies of the Roman Republic* (Ithaca, New York 1981) 75. Emperors are perhaps mentioned because of the apparently exceptional case of Trajan's burial within the *pomerium*.

<sup>43</sup> G. COLONNA, *op. cit.* (*supra* n. 36) 160-161.

<sup>44</sup> Probably Magnesia on the Maiandros; cf. Gomme *ad Thuc.*, 1.138.5.

Magnesia altar, is probably not a tomb but a memorial because its date is fourth century or later<sup>45</sup>.

We have no information about the design of the Magnesian or Roman monuments. The monument of Themistocles presumably had to be rebuilt on the new site of Leukophrys to which Thibron moved Magnesia in the early fourth century. This version of the monument is known. Like the fifth-century B.C. heroon of Theogenes in the agora of Thasos and like the superstructure of the Themistocles memorial near the Piraeus, it consisted of an altar and a statue of the hero, as a Magnesian coin from the reign of Antoninus Pius clearly shows (see pl. LXII, 1)<sup>46</sup>. A case can also be made that the Roman examples are likely to have been altars<sup>47</sup>. For one thing, the earliest possibly attested *monumentum*, that of C. Publicius Bibulus (see below, section VIII), dates only from the first half of the first century B.C.<sup>48</sup>; for another, two monuments that may pre-date Poplicola's and whose later interpretation is in any event extremely important for the

<sup>45</sup> THUC., 1.138.6 states that the real burial was secretly arranged in Attica, and cf. CORN. NEP., *Themist.* 10: «huius an nostram memoriam monumenta manserunt duo, sepulchrum prope oppidum [i.e., Athens?], in quo est sepultus, statuæ in foro [i.e., of Magnesia]». U. KAHRSTEDT, *RE VA s.v. Themistokles* (Stuttgart 1934) col. 1696; F. PFISTER, *op. cit.* (*supra* n. 42) 233-235; and R. MARTIN, *op. cit.* (*supra* n. 41) 200, all reject these reports and claim that PLUTARCH (*Them.*, 32.3-6) is correct in calling the Magnesian monument the true tomb of Themistocles; A. J. PODLECKI, *The Life of Themistocles*, (Montreal and London 1975) 177, and R. J. LENARDON, *The Saga of Themistocles*, (London 1978) 201-203, say that we cannot decide the issue. Whether or not we accept the story of a secret burial in Attica, there seems little reason to prefer Plutarch's description of the Magnesian monument to that of Thucydides and Nepos. On the identification of the altar-column complex near the Piraeus as Themistocles' monument see P. W. WALLACE, «The Tomb of Themistokles in the Peiræus», *Hesperia*, 41 (1972) 451-462, especially pp. 460-461. This identification has been accepted by R. J. LENARDON, *ibid.*, 205-206, and F. J. FROST, *Plutarch's Themistocles. A Historical Commentary*, (Princeton 1980) 234-235. A. J. PODLECKI, *ibid.*, 178, does not commit himself on the identification of the structure. On the structure's Hellenistic date see Wallace *apud* Podlecki, p. 178.

Also potentially relevant for the early republican monuments is the tradition of memorials for heroes like Tiresias at Thebes and Lycurgus and Aratus at Sparta; see D. C. KURTZ and J. BOARDMAN, *Greek Burial Customs*, (London 1977) 257-258, 298. As R. MARTIN, *ibid.*, p. 197, points out, the case of Lycurgus is interesting because it shows that «l'institution d'un culte héroïque ne semble pas nécessairement liée à la

sépulture».

<sup>46</sup> For the coin see G. M. A. RICHTER, *Portraits of the Greeks*, vol. 1 (London 1965) 98 (c, under «Suggested Identifications») and fig. 410c. See also R. WEIL, «Themistokles als Herr von Magnesia», in *Corolla Numismatica*, (London, New York, Toronto 1906) 301-309, especially p. 308. Against P. Gardner's attempted identification (in *ibid.*, pp. 109-114) of a statue in Munich as a copy of the Magnesian Themistocles, see J. DÖRIG, «Kalamis-Studien», in *JdI*, 80 (1965) 210-220; B. VIERNEISEL-SCHLÖRB, *Klassische Skulpturen des 5. und 4. Jahrhunderts v. Chr., Glyptothek München, Katalog der Skulpturen*, Bd. II (Munich 1979) 117-135. For the altar-shaped superstructure of Themistocles' Piræus monument see Diodorus *apud* Plutarch, *Vita Them.* 32.4-6.

On the history of Magnesia, see BÜRCHNER, in *RE XIV s.v. Magnesia* (2) (Stuttgart 1928) cols. 471-472; for the excavations see K. Humann, *Magnesia am Maeander, Bericht über die Ergebnisse der Ausgrabungen der Jahre 1891-93*, (Berlin 1904). On the heroon of Theogenes at Thasos see F. CHAMOUX, «Le monument "de Théogénès": autel ou statue?», *BCH*, Suppl. 5 (1979) 143-153.

<sup>47</sup> In particular, having the shape of an archaic altar like those at Lavinium. Whether or not statues were present, we cannot say. Honorary statues in Rome are attested as early as the fifth century B.C.; see H. KÄHLER, *RE VIIA s.v. Triumphbogen* (Stuttgart 1939) col. 488, for the evidence.

<sup>48</sup> For the date, see R. DELBRUECK, *Hellenistische Bauten in Latium*, vol. 2 (Strassburg 1912) 37, followed by A. DEGRASSI, *Auctarium* (Berlin 1965), nr. 156; A. GOLFETTO, «Das Grabmal des C. Publicius Bibulus in Rom», *Antike Welt*, 10,4 (1979) 56-57, dates the monument to the mid-second century B.C.

history of the commemorative monument in Rome both unquestionably had the form of an altar.

## VI

The two monuments in question are the altar of Acca Larentia and the altar with column under the Lapis Niger. The former is known only from literary sources. Though sometimes referred to as the *sepulcrum Accae* (as in VARRO, *LL* 6.24), its altar-form is securely attested by a passage in a letter of Cicero to M. Brutus (1.15.8), where it is called an *ara*. In the same passage, Cicero locates the monument in the Velabrum, and we know from Varro that it was *extra urbem antiquam... non longe a Porta Romanula* (VARRO, *LL* 6.24)<sup>49</sup>.

How can we be sure that the *ara* of Acca Larentia was commemorative and not sepulchral? First, there is the obvious fact that Acca never existed<sup>50</sup>; a mythological figure can clearly not have a real grave. Second, from the point of view of the Romans who believed in Acca's existence, there is the fact that Roman tradition was divided on the question of whether her *ara* marked a spot of burial or of cultic commemoration. Macrobius (*Sat.* 1.10.11-17) reports some stories about Acca's death and burial in the Velabrum; Plutarch (*Romulus* 5), however, reports an alternative version of the story in which Acca, the beloved of a god, did not die but disappeared from earth. So, Romans believing in this *aphanismos* must clearly have thought of Acca's altar as a memorial, not a tomb.

A third reason to view the altar as commemorative is connected to the second. Whatever the original purpose of the altar and column complex in the Roman Forum under the Lapis Niger (pl. LXII, 2), it became associated with Romulus sometime during the Republic, certainly no later than the third century B.C., which is perhaps the latest century in which the complex is to be dated<sup>51</sup>. Varro, we know, identified it as Romulus' tomb (*apud* Porph. *ad* Hor. *epod.* 16.13) in the course of a scholarly controversy, the context of which cannot be known for certain. Our source makes it clear that Varro was either trying to associate the *ara* with Romulus (as opposed to some other person), or he was attempting to establish that the monument, already associated with Romulus, represented his place of burial, not commemoration.

If the former be accepted, then we will not be able to date the connection of Romulus with the altar before the first century B.C. Showing that the context is likely to have been the latter will not necessarily prove that Romulus was associated with the altar many centuries before Varro, but it will at least open up that possibility.

<sup>49</sup> On the location of the Porta Romanula see H. B. EVANS, «The "Romulean" Gates of the Palatine», *AJA*, 84 (1980) 94-95.

<sup>50</sup> Pace P. MINGAZZINI, «L'origine del nome di Roma ed alcune questioni topografiche attinenti ad essa: la Roma Quadrata, il sacello di Volupia, il sepolcro di Acca Larentia», in *BullCom*, 78 (1961-62) 3-18, especially pp. 16-18.

<sup>51</sup> That the monument is an altar was convincingly argued by F. CASTAGNOLI, «Sulla tipologia degli altari di Lavinio», in *BullCom*, 77

(1959-60) 145-174, especially p. 152; and L. SHOE, «Etruscan and Republican Roman Mouldings», *MAAR*, 28 (1965) 97, 104. On the earliest evidence for the Romulus-myth at Rome see C. J. CLASSEN, «Romulus in der römischen Republik», *Philologus*, 106 (1962) 174-204, especially p. 174. Shoe would date the altar of the Lapis Niger complex to the third century B.C. For columns as honorary monuments see W. HAFTMANN, *op. cit.* (*supra* n. 39) 16-19, 21-27.

The context in which the Varronian testimonium appears makes it likely that the second possibility is to be preferred. The scholiast to Horace *epod.* 16.13 writes: «hoc sic dicitur, quasi Romulus sepultus sit, non ad caelum raptus aut discerptus. Nam Varro post Rostra fuisse sepultum Romulum dicit». Thus, the reference to Varro appears just after mention of a controversy about Romulus' death or *aphanismos*. That the scholiast's reason for mentioning the monument is likely to have been Varro's, too, is clear once it is recalled that Varro's demonstrable interest in Euhemerus may have inspired him to treat «mortes et sepulturae deorum», as Euhemerus did.<sup>52</sup> So, Varro most probably did not invent the association of Romulus with the Lapis Niger monument; rather, he reinterpreted the altar there — which had been already connected with Romulus for perhaps as long as two or three centuries — as Romulus' tomb.

This suggests that before Varro, the altar under the Lapis Niger was understood by many Romans to be commemorative, not funerary. This is, of course, perfectly logical in view of the tradition, dating no later than Ennius, that Romulus did not die, but disappeared from earth (cf. ENNIUS, *Ann.* 65f., 114f. V.; LIVY I.16; PLUT., *Rom.* 27). So, the altar of Romulus, like that of Acca Larentia, must have been considered by some Romans to be a memorial similar to Poplicola's.

What is of interest for the case of Acca is that the evidence in favor of the purely commemorative function of Romulus' altar is not only logical — the fact that a mythical figure cannot really be buried since he never existed — but also archaeological. Gantz has recently noted the striking fact that thorough excavation of the area under the Lapis Niger has revealed no sign of a burial<sup>53</sup>. Despite recognition of this fact, Gantz still imagines that the original intent of the monument<sup>54</sup> was sepulchral: the Etruscan kings of Rome supposedly erected it in the mistaken belief that the first king of Rome was buried on the spot. Here, again, as in the cases discussed earlier, the choices are not between a cenotaph and a tomb. A third possibility, that of the commemorative monument, needs to be considered and will better account for the facts of the matter: a location within the city where burial was prohibited; no sign of an actual burial, nor of an architectural provision for a burial; and a myth that the person associated with the monument did not die, but disappeared from earth<sup>55</sup>.

It is very possible, then, that the stories about the death of Romulus and Acca Larentia, as well as those about their burial, are late-republican rationalizations, inspired, ultimately, by Euhemerus<sup>56</sup>. We have some Greek evidence that can be brought to bear to show the currency in the sixth and fifth centuries (the likely date of the Acca's altar, if not of Romulus') of the notion of a commemorative monument erected to honor

<sup>52</sup> Cf. CIC., *ND* 1.119, with Pease's note *ad loc.* (vol. I, p. 519). An alternative, but compatible, reconstruction of the development of the Romulus-myth in Rome is given by R. M. OGILVIE, *A Commentary on Livy Books 1-5*, (Oxford 1965) 84-85.

<sup>53</sup> T. N. GANTZ, «Lapis Niger: The Tomb of Romulus», *PP*, 29 (1974) 350-361, especially p. 355.

<sup>54</sup> Gantz erroneously denies that the monument was an altar, *ibid.*, p. 356, n. 24; but cf. above, n. 51.

<sup>55</sup> For Gantz's interpretation, see *ibid.*, p. 360. An interpretation complementary to mine is proposed by F. COARELLI, *Roma*, (Rome 1980), 50-52. Possibly another piece of evidence in favor of interpreting the monument as a memorial is its resemblance to the Themistocles memorial near the Piraeus, which also had a column and an altar; P. W. WALLACE, *op. cit.* (*supra* n. 45).

<sup>56</sup> C. J. CLASSEN, *op. cit.* (*supra* n. 51) 184, also thinks the story of Romulus' death dates to the first century B.C.

a man who disappeared after performing great services for his native city. The mythical<sup>57</sup> Spartan legislator Lycurgus was honored in his city with an altar and a temple, which, interestingly enough, some ancients thought marked the place of his burial<sup>58</sup>. In other versions of the story of Lycurgus' life, however, he is said to have died in Crete; his remains were either buried on the island or else scattered in the sea<sup>59</sup>. According to adherents of these versions of the myth, the precinct of Lycurgus in Sparta, like those of Romulus and Acca Larentia in Rome, can only have been understood to be a memorial, not a place of burial.

## VII

Besides suggesting through their altar-form the probable design of Poplicola's memorial, the monuments of Acca Larentia and Romulus are important for three other reasons. One was located, like the altar-column dedicated to Julius Caesar, in the Forum; the other, near an important gate. Both were dedicated to heroes involved in the founding of the city; Julius Caesar's was inscribed *parenti patriae* and the altars of Lucius Caesar and M. Nonius Balbus call their dedicatees the *patroni* of their cities. Finally, Acca's altar was the site of an annual *parentatio* on 23 December; this recalls the annual laments for Lucius Caesar, Gaius Caesar, and M. Nonius Balbus that we noted in the Introduction. Thus, it is no accident that Poplicola's monument is located in the Velia, near the Roman Forum, and that it is dedicated to one of Rome's first consuls, a founder of the Republic. We do not know if Poplicola was honored by an annual lament at his memorial; we do, however, know from the passage cited above from Plutarch's life (109 D) that the memorial was the scene of a symbolic cremation whenever Valerian notables died. Given the impossibility of a certain dating of the altars of Romulus and Acca Larentia and of their interpretation as such, it would be rash to try to determine whether they influenced Poplicola's monument, or *vice versa*. More important, perhaps, than the question of chronological priority is the fact that the same architectural form, topographical situations, and motivation seen in these three cases are encountered again and again in the later examples of the Roman memorial.

What was the motivation behind these dedications? Two possibilities are political or religious reasons. We need not, of course, view the problem as an either/or choice, especially in the case of a society like Rome's in which the political and religious were not highly differentiated. There is, in fact, some evidence for both sorts of motivation. Acca's altar was the place at which her festival, the Larentalia, was celebrated every December 23<sup>60</sup>. Similarly, festivals were held in Herculaneum in Balbus' honor and in Pisa for the Caesares; what annual rites, if any were connected with the Lapis Niger complex and the Valerian memorial we do not know. We are informed that Romulus

<sup>57</sup> Lycurgus is now generally held to be a mythical, not historical, figure; see K. KINZL, *Der Kleine Pauly*, vol. 3, s.v. Lykurgos, (Munich 1969), cols. 823-824.

<sup>58</sup> HERODOTUS, 1.66; STRABO, 8.5.5; PAUSANIAS, 3.16.6. The tomb of Lycurgus in Sparta is mentioned in the passage in Pausanias

and in Plutarch, *Lycurgus* 31.

<sup>59</sup> See PLUTARCH, *Lycurgus* 31.

<sup>60</sup> For the evidence concerning the Larentalia see THULIN, *RE* XII, 1 s.v. Larentalia, (Stuttgart 1924), cols. 805-806; H. H. SCULLARD, *op. cit.* (*supra* n. 42) 210-212.

was worshipped at the site of his shrine on the Palatine<sup>61</sup>. The commonplace that the Romans did not have hero cults is thus open to question since annual laments at the heroon are a major feature of the Greek cults<sup>62</sup>. Of course, one major difference remains in that the Greek heroa generally contained burials whereas, for the reasons mentioned above in Section V, the Roman shrines did not.

On the other hand, the political aspect is also quite prominent. The monuments are earned by political service to the community, and they are granted by an act of state. Although the altar-form was clearly intended to be evocative of what the Greeks would call «godlike honors», the siting of the monuments either by the Roman Forum or near a major gate into the city (and not on a spot somehow connected with the life or death of the person to be honored) clearly was meant to perpetuate the political glory of the recipient by keeping his memory conspicuously present to later generations.

That the political was a decisive factor behind these memorials suggests that their political function needs to be investigated if we are fully to understand them and their influence at Rome.

For present purposes, this investigation may be kept brief by reference to several recent detailed studies of the politics of Roman funerary customs. Colonna has shown how the absence of monumental tombs in the archaic period was caused by a political agreement made by or imposed upon the elite to limit propagandistic display of family pretensions. Inspiring this policy may have been the Solonic-Cleisthenic sumptuary legislation of Athens or similar legislation in other Greek cities in this period<sup>63</sup>. Coarelli has discussed how the monumental family tombs of the Via Appia functioned to provide Rome's political elite with just the kind of publicity banned in the archaic age once monumental tombs came into use in Rome in the late fourth to second centuries B.C.<sup>64</sup>. Kockel has established the extent to which the architectural differentiation of tomb-type, at least in Pompeii, corresponds to the socio-political differentiation of the town's inhabitants<sup>65</sup>. Finally, Drerup has emphasized the role of funerals and especially the theatricality of the *ius imaginum* in expressing the political authority of the noble families<sup>66</sup>. In connection with funerals we may also note the political uses of games, the importance of which can be clearly gauged by the fact that though private in origin, they soon became institutionalized within the political system because of the popularity they brought to their *editor*<sup>67</sup>.

<sup>61</sup> On the annual rites for Balbus and the Caesares see the inscriptions in *CIL*, XI 1420-1421 and *Chiron*, 6 (1976) 169. There was, of course, a shrine and cult of Romulus of the site of his hut on the Palatine; see F. BROWN, «Of Huts and Houses», in *In Memoriam Otto Brendel. Essays in Archaeology and the Humanities*, (Mainz 1976) 5-12, especially pp. 8-9.

<sup>62</sup> That the Romans did not have hero cults was argued by, e.g., C. J. CLASSEN, «Gottmenschen in der römischen Republik», *Gymnasium*, 70 (1963) 312-338; C. GATTI, «Dione Cassio XLIV, 7: Una proposta di interpretazione», *CSDIR*, 8 (1976-77) 71-82, especially p. 76. On annual lamentations in Greek hero cults, see A. D. NOCK, «The Cult of Heroes», in *Essays on Religion and the Ancient World*, vol. 2, edited by Z. Stewart (Oxford 1972) 577.

<sup>63</sup> G. COLONNA, *op. cit.*, in *PP*, 1977 (*supra* n. 36) 159-162; cf. also S. C. HUMPHREYS, «Family Tombs and Tomb Cult in Ancient Athens: Tradition or Traditionalism?» *JHS*, 100 (1980) 96-126, especially pp. 99-102. Colonna sees the restriction as anti-aristocratic; it is equally possible that it was imposed by the aristocracy (which could use other means—e.g., temple dedications—to advertise its status) in order to reduce competition from arrivistes.

<sup>64</sup> F. COARELLI, «Il sepolcro degli Scipioni», *DArch*, 6 (1972) 36-106.

<sup>65</sup> V. KOCKEL, *op. cit.* (*supra* n. 2), especially 18-36.

<sup>66</sup> H. DRERUP, *op. cit.* (*supra* n. 40) 104.

<sup>67</sup> For the games, see C. PASCAL, «Ludi funebri romani», *RendLincei*, 3, fasc. 5 (1894) 291-302; for a political analysis, see, e.g., K.

In the works just cited, the political analysis of funerary customs has stressed the retrospective nature of the various forms of private commemoration. While no one would wish to doubt the validity of the focus on the recently deceased and their glorious ancestors, we should not overlook the way in which funerary benefits were also prospective. They not only reflect achieved status; they can also help to perpetuate that status for future generations of the family, or to establish the putative status claims of families on the rise. Thus, they helped, in a small but palpable way, to convert achieved status into the ascribed status that was so important in Rome's aristocratic society<sup>68</sup>.

This prospective use of funerary customs helps us to understand various features of the public memorial. First of all, it accounts for the rareness of the honor in republican Rome (especially in comparison with Hellenistic Greece): the honor must be legislatively approved by the senatorial class — the very group with the most to lose from conferring special and physically conspicuous commemoration on a family. It also makes plain why the right to maintain such monuments was jealously guarded by the few families privileged to have ancestors honored in this way. Moreover, right from the beginning, the Roman memorials were dedicated not only to a virtuous man, but also to his children and descendants. We have seen that this was true of the Valerian and Fabrician monuments, which were used during funeral processions of later family members, according to Plutarch (*Poplicola* 109 D, *Quaest. Rom.* 282 F-283 A). The inscription on Poplicola's monument probably made explicit its dedication to him and his children and descendants (cf. below, section XI). Descendants could also be honored in inscriptions erected on or near the memorial. The late sixth-century monument to Valerius Poplicola, for example, was still in use and was augmented by new inscriptions celebrating famous Valerii in the late Republic, as is attested by a travertine stele from the Velia mentioning M. Valerius Messala Corvinus and M. Valerius Messala Niger (*CIL*, VI 31, 618). The background of this rather surprising custom of adding praises of descendants to a monument originally designed to honor a great man goes back to Greek sources. We hear about Themistocles' memorial in Magnesia that his descendants continued to make use of it many centuries later (cf. PLUTARCH, *Themistocles* 32.5). Of course, the practice of honoring a great man's children — regardless of their moral worth or civic achievements — is attested in the Roman world in other contexts as well: cf. the recently published decree honoring Fadia, the daughter of Marcus Fadius Crispus, a notable in Interamna Lirenas (*L'Année Epigraphique* 1978, nr. 100) or the decree from Roman Cyzicus honoring Apollonis «for the virtue of her parents and husband and on account of her own moderation»<sup>69</sup>. We may interpret this custom as a deal struck by one generation with future generations in order to ensure the continuity and permanence of special honors. Dedicating memorials *liberis posterisque* guaranteed the periodic maintenance, and even remodelling (cf. below, section VIII), of the structures.

The political function of the public monument also helps us to understand a final

SCHNEIDER, *RE*, Suppl. III s.v. *Gladiatores* (Stuttgart 1918) cols. 760-784, especially cols. 761-768.

<sup>68</sup> On the distinction between achieved and ascribed status see the classic discussion of R. LINTON, *The Study of Man*, (New York 1936) 113-131 (= T. Parsons, et al. [eds.], *Theories of Society*, [New York 1965] 202-208).

<sup>69</sup> See also DAREMBERG-SAGLIO, II.2 s.v.

*funus*, p. 1408. For publications on the Apollonis inscription see E. SCHWERTHEIM, «Ein posthumer Ehrenbeschluss für Apollonis in Kyzikos», *ZPE*, 29 (1978) 213-228; M. SEVE, «Un décret de consolations à Cyzique», *BCH*, 103 (1979) 327-359. For earlier examples of this kind of decree see K. BURESCH, «Die griechischen Trostbeschlüsse», *RhM*, 49 (1894) 424-460.

point of interest: the relationship of the public memorial to certain impressive private tombs of the Roman elite.

The first such tomb about which we are able to speak is that of the Cornelia Scipiones, our earliest preserved example. Like the public memorial, it is located near an important gate to the city, was remodelled at least once to make it still more impressive, and most significantly of all, its sarcophagi took the form of altars — a fact that has never been explained.<sup>70</sup> Since the tomb dates from the late fourth to mid-second century B.C., the best explanation of these parallels to the public commemorative monument is that the tomb represents the attempt of the Cornelia to compensate, to the best of their ability, for the disadvantage of not having a public memorial of the kind owned by some of their leading political competitors — the Valerii, Fabricii, and Postumii. This propagandistic aim of the tomb perhaps explains why the family permitted visitors to view the interior, where the sarcophagi with their *elogia* and where statues were displayed<sup>71</sup>.

A second example is the tomb of Servius Sulpicius Galba (cos. 108), dating from the last quarter of the second century B.C. (fig. 5)<sup>72</sup>. The tomb has the form of an altar, which has a brief inscription (*CIL*, VI 31, 617) and ten (?) fasces in relief on its front side. It was originally located across from the Porticus Aemilia on property belonging to the *Praedia Sulpicia*. If Galba's family at first exploited a site made prominent by a nearby public building and an architectural form whose meaning had been defined by illustrious public monuments, then it took pains as time went on to highlight the tomb by building behind it the famous, and increasingly larger, *Horrea Galbana*. The altar-tomb's importance to the Sulpicii can be seen in the fact that it was kept in the place of pride before the *horrea* on the main axis of the building; that its location here made it noteworthy is clear from the fact that it is recorded on the Severan Marble Plan.

The mid-republican evidence of private altar-tombs of prominent families suggests not only how potent a political symbol the altar-form had become owing to its use in public memorials, but it also compels us to infer the priority of the public over the private use of the altar for purposes of commemoration. When the history of the Roman grave-altar is finally written, it will be worthwhile to reconsider the evidence presented here that the public altars of Acca Larentia, Romulus, Poplicola, etc. inspired the private grave-altars of such noble families as the Cornelia Scipiones, the Sulpicia Galbae, the Licinia Crassi, the Calpurnia Pisones, and the Volusia<sup>73</sup>.

## VIII

The appearance of large family tombs of the political elite in the third and second

<sup>70</sup> On the tomb, cf. F. COARELLI, *op. cit.* (*supra* n. 64).

<sup>71</sup> The following ancient sources imply visits to the interior of the tomb: CIC., *Pro Archia*, 22; LIVY, 38.56.4; Hieron., *Chron.*, for 586 a.u.c. F. COARELLI (*op. cit.* [*supra* n. 64]) thinks that the first two passages attest eyewitness accounts of only the exterior, not the interior, of the tomb. Note, however, that both Cicero and Livy speak of things they have seen «in sepulcro/monumento Scipionum» and that H. LAUTER-BUFE, «Zur Fassade des Scipionengrabes», *RM*; 89 (1982)

35-46 (especially Abb. 1 on p. 36) shows no statues adorning the facade, as Coarelli's reconstruction requires.

<sup>72</sup> See, most recently, E. RODRÍGUEZ ALMEIDA, *Forma Urbis Marmorea. Aggiornamento generale*, vol. 1 (Rome 1980) 102-105; for earlier literature and a photograph see E. NASH, *Pictorial Dictionary of Ancient Rome*, vol. 2 (New York 1968<sup>2</sup>) 370.

<sup>73</sup> For the grave-altars of the last three of these families see W. ALTMANN, *op. cit.* (*supra* n. 34) 36-58.

centuries B.C. not only indicates a breakdown of the archaic custom of leaving the place of burial modestly marked, it also signals a breakdown of the kind of ruling-class consensus in which public commemoration was possible. Thus, none of Rome's greatest heroes of the third and second centuries received public honors upon their decease; if anything, there was a tendency for extraordinary careers to end in disgrace: one need only cite the example of Africanus, whose last years and death were treated by Livy as exemplifying the theme of *patria ingrata* (cf. 38.53.9). When in the first century B.C. honors were given once again, they consisted only of a public funeral and burial outside the *pomerium* in the Campus Martius, as happened in the cases of Sulla, A. Hirtius, and C. Pansa<sup>74</sup>. The last example before the Augustan age of a public memorial of the kind we have been discussing is perhaps that of C. Publicius Bibulus.

We must be cautious about claiming that Bibulus' monument was the last both because new evidence may someday come to light and change the picture, and because Bibulus' monument may be, not our last case of a commemorative structure, but our first of a public tomb<sup>75</sup>. By now, some of the reasons for considering it purely commemorative, not sepulchral, should be clear.

Bibulus' monument was erected just outside the important gate leading from the Capitoline to the Campus Martius down the Via Flaminia<sup>76</sup>; the zone was certainly not a necropolis at any time in antiquity<sup>77</sup>. The building had no central chamber, and the high socle on which the upper level stood was not punctuated by a doorway (see pl. LXIII, 1)<sup>78</sup>. No burials were found in or under the monument. As in the cases of Poplicola and Fabricius, it therefore seems as though (despite the words *ipse posterique eius inferrentur* in the dedicatory inscription) Bibulus' family continued using its old family plot,

<sup>74</sup> See PLATNER-ASHBY, *op. cit.* (*supra* n. 37) s.vv. *Sepulchrum Hirtii* (p. 480), *Pansae* (p. 482), *Sullae* (p. 486).

<sup>75</sup> For literature on Bibulus' monument see E. NASH, *op. cit.* (*supra* n. 72) vol. 2, pp. 319-320 and add A. GOLFETTO, *op. cit.* (*supra* n. 48).

<sup>76</sup> On the problem of the identification of the gate see PLATNER-ASHBY, *op. cit.* (*supra* n. 37) 408; G. SÄFLUND, *Le mura di Roma repubblicana*, *ActaInstRomSuec*, 1 (1932) 207, 227; E. WELIN, «Ara Martis in Campo. Zur Frage der Bedeutung und des Umfangs des Campus Martius», *OpRom*, 1 (1954) 166-190.

<sup>77</sup> F. COARELLI, *op. cit.* (*supra* n. 55) 239, asserts that there were probably tombs in the area of Bibulus' monument, but offers no evidence. L. DU JARDIN, «Le grotte del Campidoglio», *Capitolium*, 2 (1926) 271, mentions that funerary inscriptions came to light during the building of the Victor Emmanuel Monument, but he, too, cites no evidence. I am aware of only one such inscription, that of P. Aelius published in *NSc*, 1893, p. 30. The facts that the inscription came up out of context, that its exact find spot was not given in *NSc* (there is, in fact, nothing in the report linking the inscription to the area of Bibulus' monument), and that it is apparently the only such inscription to be recorded from the well-watched work on the

Victor Emmanuel Monument would seem sufficient to urge caution in extrapolating from it to a whole necropolis in this area.

Another monument found while excavating the foundations for the Victor Emmanuel Monument is the so-called «Tomb of the Claudii», found a bit farther down the Via Flaminia from the monument of Bibulus. When first discovered, topographers thought this was the family plot of the Claudii mentioned by Suetonius (*Tiberius* 1); cf. *NSc*, 1889, p. 225. Soon, it was seen that this identification was arbitrary; cf. PLATNER-ASHBY, *op. cit.* (*supra* n. 37) 478. However, the interpretation of the little-studied structure as a tomb has stuck; cf., e.g. M. E. BLAKE, *Ancient Roman Construction*, vol. 1 (Washington, D.C. 1947) 32, 145. This interpretation, it should be stressed, is only a surmise, and other guesses are possible. For example, the building may be related to a cult of Sabaz(i)us, who is mentioned in a votive inscription found near it; see *NSc*, 1889, p. 225 and *BullCom*, 1889, pp. 437-439.

<sup>78</sup> Cf. A. GOLFETTO, *op. cit.* (*supra* n. 48) 57: «die wichtige Form des römischen Grabbaues ist vom Typus des kleinasiatisch-griechischen Heroons beeinflusst... Bauten wie diese waren letztlich nicht zugänglich und besaßen keinen künstlerisch betonten Innenraum».

forgoing the right of burial in the monument, which was given *honoris virtutisque causa* (cf. *CIL*, VI 1319 = I 635).

Bibulus' memorial, in the form we have it, dates from the first half of the first century B.C.<sup>79</sup> The man it honors seems to have been the C. Publicius Bibulus who was tribune of the plebs in 209 (cf. *LIVY* 27.20.11; *BROUGHTON*, *MRR* I, p. 286). So, the structure we have must be a later remodelling of the original memorial, which, judging from its date, may well have had the form of an altar<sup>80</sup>. Its cubic shape is the first example we possess of the second kind of Roman memorial, the type of structure we are calling the *monumentum* (as, indeed, the dedicatory inscription calls it), as opposed to the *ara*. That Bibulus' descendants would have bothered to spend time and money to rebuild his monument some 100-150 years after his death indicates just how valuable to a family such memorials must have been. That the rather obscure Bibulus — of all the politicians and generals of his great generation — should have received this rare honor shows us how aware the Roman elite had become of the political benefits a memorial bestowed on the family of its recipient<sup>81</sup>. The nobility apparently did not wish to compound the glory conferred by holding high office and celebrating triumphs with that of a *monumentum honoris virtutisque causa*, except in the most harmless cases. Bibulus' memorial shows us not only how hard the ancient tradition was to maintain; it also reveals how the tradition was undermined by being reduced to the absurd.

## IX

Adequate documentation for public memorials is lacking until the late Republic, the very time when individual, familial, and group rivalries were becoming so intense that normal politics degenerated into violence and eventually civil war. Our thesis that such lack of cooperation, consensus, and civility should have made public memorials impossible can be confirmed not, as it must be for earlier periods, *ex silentio*, but from the sources themselves.

Dio tells us that one of the honors exciting envy and disgust that led to the assassination of Julius Caesar was that conferring on him right of burial within the city (cf. *DIO* 44.7). From the behavior of his family after his death, we can see that Caesar, like the first-century B.C. descendants of Poplicola, must have accepted the right, but forgone the honor, since he was not, in fact, buried within the *pomerium* (hence, *CICERO*, in *Phil.* 1.5, called Caesar's funeral in the Forum «*illam insepultam sepulturam*»). Instead, an altar and column were set up in the Roman Forum on the spot where his body was cremated by the mob (*DIO* 44.51; *APP.*, *B.C.* 1.4, 2.148, 3.2-3; *CIC.*, *Ad. Att.* 14.15, *Phil.* 1.5). The impulse to honor Caesar in this way must be seen as a reflection of the tradition of commemorative altars that we have been studying. Thus, it is no surprise to find inscribed on the column the words *Parenti Patriae* (*SUET.*, *Caes.* 85)<sup>82</sup>. Caesar

<sup>79</sup> For the date see the works cited in n. 48 and also M. E. BLAKE, *op. cit.* (*supra* n. 77) 32, 147.

<sup>80</sup> The thesis that the monument is a later version of the original dedication is accepted by all scholars who have written about it except Golfetto (cf. *supra* n. 48).

<sup>81</sup> F. COARELLI, *op. cit.* (*supra* n. 55) 261, exaggerates only slightly when he calls Bibulus

«un personaggio a noi del tutto ignoto».

<sup>82</sup> Julius Caesar was probably buried in the *tumulus Juliae* in the Campus Martius; see PLATNER-ASHBY, *op. cit.* (*supra* n. 37) 542. On the importance of this honor see H. GESCHE, *Die Vergottung Caesars*, *Frankfurter Althistorische Studien*, 1 (1968) 50-53. Gesche incorrectly equates the honor with divinization by failing to note the

receives a title and monument linking him to Acca Larentia, Romulus, and Poplicola, Rome's *parentes*. That the altar and column were torn down almost immediately shows that Dio was probably correct in attributing resentment of Caesar to his receipt of a *locus sepulturae* (even one that by tradition was merely honorary) within the *pomerium*; it also supports the thesis that the nobility had become too begrudging in spirit to permit the survival of the tradition of commemorative altars.

The mood of the times is shown even better by the failure of the Senate to honor with a *monumentum* even its own heroic supporters — the soldiers who fell fighting under Pansa at the first battle of Mutina on 14 April 43 B.C. In the *Fourteenth Philippic* (33-34, 38), Cicero proposed the construction of an *amplissimum monumentum*, presumably in Rome and not on the battlefield, that was to be *ad memoriam aeternitatis ara virtutis* (34). Thus, it seems that Cicero had in mind an altar given *virtutis causa*. The motion failed, and the survivors of the fallen soldiers had to content themselves with a *funus publicum* (cf. DIO 46.38. 1-2)<sup>83</sup>. It is accordingly not surprising that the Senate also failed to bestow on the fallen leaders of its armies anything more impressive than public burial in the Campus Martius and, in the case of Pontius Aquila, a statue<sup>84</sup>.

## X

If ingratitude undermined the tradition of commemoration during the Republic, then flattery and fakery debased it during the Empire. With the establishment of the principate by Augustus, conditions in which memorials could be publicly sponsored obtained once again, and it is no surprise that starting with Augustus, such monuments (including arches, trophies, columns, and statues in addition to the *arae* and *monumenta* we have been discussing) became quite numerous. It is also no surprise that commemorative *arae* and *monumenta* should have become connected with the imperial cult since both derive in part from the Greek cults of heroes<sup>85</sup>. Indeed, once the commemorative monument became the site of an actual burial, as it was to become in the mid-empire, then it was no longer distinguishable from a Greek heroon.

The earliest Augustan examples we have are the *arae* at Thasos dedicated to Lucius Caesar and at Pisa dedicated to Lucius and Gaius Caesar. The Thasian example dates to

Roman precedents for a grant of burial within the *pomerium*; she also does not explain why Caesar's family did not make use of the honor. The same failure may be observed in C. GATTI, *op. cit.* (*supra* n. 62) 76-77. On the concept of *pater patriae* see W. SESTON, «Germanicus héros fondateur», *PP*, 5 (1950) 171-184; A. ALFÖLDI, *Der Vater des Vaterlandes im römischen Denken*, (Darmstadt 1971). For the related Greek title of *ktistês* see L. ROBERT, *Hellenica*, 4 (1948) 116 and L. and J. ROBERT, *BullEpigr*, 1956, 173-74 (nr. 317). On the problem of Caesar's tomb see F. CASTAGNOLI, «Il Campo Marzio nell'antichità», *MemLincei*, ser. 8.1 (1948) 188-190.

<sup>83</sup> H. FRISCH, *Cicero's Fight for the Republic*, (Copenhagen 1946) 286-287, says that the motion passed, referring to Dio 46.38.1-2 for evidence.

Dio, however, says that the Senate voted *ταφή τε δημοσία* for the dead, and this probably does not mean a funerary monument, as Frisch seems to think, but only a *funus publicum*; see *LSJ*<sup>9</sup>, s.v. *ταφή* for the distinction between the singular (= funeral) and the plural (sometimes = place of burial).

<sup>84</sup> For the statue of Aquila, see DIO, 46.40.2; CIC., *Ad Brut.*, 1.15.8. For the tombs of Hirtius and Pansa see CIC., *ibid.*; LIVY, *Per.*, 119; VELL. PAT., 2.62.4; and for the archaeological remains see E. NASH, *op. cit.* (*supra* n. 37) vol. 2, pp. 341-343.

<sup>85</sup> On the origins of the imperial cult see C. HABICHT, «Die augusteische Zeit und das erste Jahrhundert nach Christi Geburt», *FondHardt Entretiens*, 19 (1973) 39-99.

about 3 A.D.; it was an altar with a statue, both standing on a platform in the agora, very near the heroon of Theogenes<sup>86</sup>. The altar at Pisa is known only from two inscriptions honoring Lucius and Gaius (*CIL*, XI 1420-1421)<sup>87</sup>. Probably located in the forum, the altar was intended to be the site of annual sacrifices to the *dis manibus* of Augustus' ill-fated heirs. The altar at Pisa has often been called a cenotaph; it is, of course, not a cenotaph, but the kind of commemorative monument we are studying<sup>88</sup>. Genuine cenotaphs are, to be sure, attested in the reigns of Augustus and Tiberius: one need only think of the *sepulcrum* of Germanicus at Antioch<sup>89</sup>. Unlike that structure, which perhaps was built when it was not yet certain whether Germanicus' ashes would be brought from Antioch to Rome<sup>90</sup>, the *ara* at Pisa did not purport to be a place of burial but the center of a cult. It was erected, not because the Caesars died in Pisa (of course, they did not), but because Lucius was *patronus* of the city (cf. *CIL*, XI 1420, line 8). This is also why the city of Nemausus built a lovely temple, the so-called Maison Carrée, in its forum as a dedication to Lucius and Gaius, the latter of whom was the patron of the city (cf. *CIL*, XII 3155, recording the donation of a portico to the city by *C. Caesar Augusti F.... Patronus Col. Nemaus.*)<sup>91</sup>.

It is indicative of the flattery rampant in the Empire that four, or possibly five, towns honored the Caesars in this way even though a patron-client relationship was lacking. Neither Gaius nor Lucius was *patronus* of Thasos<sup>92</sup>, nor did either have any special connection with Acerrae in Campania, where, it seems, another temple was dedicated to

<sup>86</sup> On the «heroon» of Lucius Caesar see C. PICARD, «Les «hérôa» de l'Agora thasienne», *RA*, 17 (1941) 100-101; C. DUNANT and J. POUILLOUX, *Thasos V* (Paris 1958) 61-62 (especially p. 61, n. 4 for the probable design of the monument). On the date, see F. CHAMOUX, «Un portrait de Thasos: Lucius Caesar», *Mon Piot*, 44 (1950) 83-95, especially p. 85.

<sup>87</sup> On the inscription cf. A. NEPPI-MODONA, *Forma Italiae*, Regio VII, Etruria, vol. 1, Pisae (Rome 1953) col. VIII, illustrated in fig. 2, tav. 2; *id.*, *Inscriptiones Italiae*, vol. VII, reg. VII, fasc. 1, Pisae (Rome 1953) 4-7 (nr. 6-7); R. K. SHERK, *The Municipal Decrees of the Roman West*, *Arethusa* Suppl. 2 (1970) 43-45 (nr. 47-48) 74-79; A. R. MAROTTA D'AGATA, *Decreta Pisana* (*CIL*, XI. 1420-21), (Pisa 1980). On the altar, see Marotta d'Agata's comments *ad CIL*, XI 1420. 15-17: «L'ara ed il sacrificio istituiti espressamente per la celebrazione del giorno anniversario della morte di Lucio ed indi di Caio Cesare pur inserendosi nel quadro della tradizione nazionale romana costituiscono un'innovazione e testimoniano, nell'adattamento di tradizioni italiche alle eroizzanti greche, la realtà e le tendenze della politica augustea» (p. 35).

<sup>88</sup> MAROTTA D'AGATA, *ibid.*, p. 11, traces this error to E. NORIS, *Cenotaphia Pisana Caii et Lucii Caesarum Dissertationibus Illustrata*, 2 vols. (Venice 1681).

<sup>89</sup> Or, of the cenotaph of Gaius at Limyra,

where he died; cf. J. BORCHHARDT, «Ein Kenotaph für Gaius Caesar», *JdI*, 89 (1974) 217-241; J. GANZERT, *Das Kenotaph von Limyra*, (Diss. Karlsruhe 1981). On Germanicus' cenotaph see *TAC.*, *Ann.*, 2.73, 83; in the latter passage, Tacitus reports that the *sepulcrum* was an honor bestowed on the deceased Germanicus; he does not say whether the structure was actually built. G. DOWNEY, *A History of Antioch in Syria*, (Princeton 1961) 187, assumes without argumentation or evidence that it was constructed, but there is always the chance that it was not, especially once the decision was made to take Germanicus' remains to Rome for burial in the Mausoleum of Augustus. The tradition of erecting cenotaphs on or near the site where an emperor died continued into the late empire; cf., e.g., the cenotaph of Alexander Severus in Gaul (?) mentioned in *SHA*, Severus Alexander 63.3.

<sup>90</sup> Cf. *TAC.*, *Ann.*, 3.1-4.

<sup>91</sup> On the date and dedication of the Maison Carrée to Gaius and Lucius see R. AMY, «L'inscription de la Maison Carrée de Nîmes», *CRAI*, 1970, pp. 670-686; P. GROS in R. Amy and P. Gros, *La Maison Carrée de Nîmes*, *Gallia* Suppl. 38 (1979) vol. 1, pp. 188-194.

<sup>92</sup> A fact already noted by F. CHAMOUX, *op. cit.* (*supra* n. 86) 86, and cf. the following remark on the same page: «la consécration fut faite au nom de la cité tout entière. Ce fut un acte officiel de flatterie à l'égard d'Auguste... ».

them<sup>93</sup>. The augustales of Trebula Suffenas honored the youths with *imagines* and a *schola*<sup>94</sup>. The city of Reims honored Lucius and Gaius with a monument, the exact nature of which is not known. Vassileiou has recently speculated that it had the form of an altar similar to the one erected in Pisa<sup>95</sup>. A fifth possible example is the Augustan monument of two low altars flanking a column just inside the fortified gate of Glanum (pl. LXIII, 2)<sup>96</sup>. The design and number of the Glanum altars, their Augustan date, and their location just inside the major gate of town close to the temple of Valetudo built by Agrippa all suggest that this little-studied dedication may have been erected as a memorial honoring Gaius and Lucius, neither of whom had an attestable relationship to Glanum.

Finally, there is the case of Rome. We know that Lucius was buried in the Mausoleum of Augustus (*CIL*, VI 895 = 31, 195); and Gaius probably was, too (*CIL*, VI 884, 894). Dio, however, reports that when Julia Domna died in 217, her body was first put «in the monument of Gaius and Lucius» in Rome before being permanently laid to rest in the Mausoleum of Hadrian (cf. Dio 79.24). What was this «monument of Gaius and Lucius?». Topographers have been unable to reconcile the passage in Dio with the inscriptions from the Mausoleum of Augustus because they have hastily assumed (uncritically following Dio) that the «monument» must be a tomb<sup>97</sup>. With the parallels

<sup>93</sup> Cf. *CIL*, X 3757, with Mommsen's reconstruction and comments.

<sup>94</sup> See L. BERNI BRIZIO, «Una dedicatio delle *imagines* di Gaio e Lucio Cesari da parte degli augustales di Trebula Suffenas», *CSDIR*, 4 (1972-73) 149-160.

<sup>95</sup> See A. VASSILEIOU, «La dédicace d'un monument de Reims élevé en honneur de Caius et Lucius Caesar», *ZPE*, 47 (1982) 119-129, especially p. 128.

<sup>96</sup> Very little has been published about the monument; cf. H. ROLLAND, *Fouilles de Glanum 1947-1956*, *Gallia* Suppl. 11 (1958) 8, 63, 74. Rolland implicitly dates it to the late first century B.C. (cf. p. 71), and, presumably, he would not have objected to the date of c. 4/5 A.D., which is necessary if we may connect the dedication to Lucius and Gaius. W. SESTON, *op. cit.* (*supra* n. 82) 177, says that Lucius and Gaius were honored as heroes at Glanum but, unfortunately, cites no evidence. No confirmation is to be found in H. Rolland's publication of the inscriptions from Glanum in *Gallia* 3 (1944) 167-223, nor is such an inscription mentioned by H. ROLLAND, *Fouilles de Glanum 1947-1956*, pp. 46-48, where he argues that the twin temples of Glanum were dedicated to Lucius and Gaius (an identification no longer held; see F. SALVIAT, *Glanum. St. Rémy-de-Provence*, [Paris 1977] 24).

<sup>97</sup> Cf. the literature cited in PLATNER-ASHBY, *op. cit.* (*supra* n. 37) 477. Dio, too, thought that Julia was actually buried in the monument of Gaius and Lucius; thus, he uses the verb *κατατίθημι* which often means «put into a tomb» in this writings (cf. 44.51.1; 56.42.4; 58.22.5; 59.3.5; 69.2.3). Dio is probably wrong about this,

motivated by this belief that Macrinus after becoming emperor very quickly displayed hostility toward Caracalla and his mother (cf. 79.23.4-6). Other ancient sources, however, contradict this view. Dio says that Caracalla's body was secretly brought to Rome, where it was buried (apparently) without a *funus imperatorium* (cf. Dio, 79.9.1). *SHA* Macrinus 5.2-3, *SHA* Caracalla 11.5, and Eutropius 8.20 all state that Caracalla received a *funus imperatorium*. Dio himself must admit that Caracalla later, but still during the reign of Macrinus, was apotheosized, a procedure that came at the climax of a *funus imperatorium* (Dio, 79.9.2). The question is how much later—several days, or (as Dio seems to want to suggest) several months? The crucial point is that, by admitting that Caracalla did become divine, Dio tacitly agrees with the other sources that he received a *funus imperatorium*.

Dio implies the same treatment of the remains of Julia Domna as for her son; however, she was certainly eligible for a *funus publicum* (cf. DAREMBERG-SAGLIO, II.2 s.v. *funus* [1896] 1407) and must have received one if, as is very likely, Caracalla did when he died, especially since Julia's death occurred so close in time to her son's that the climate of opinion towards her house cannot have been very different.

We know that a *funus publicum* usually began in the Roman Forum (cf. DAREMBERG-SAGLIO, *loc. cit.*) so that it would be logical for Julia's remains to have lain in state in the Forum for a short time before the funeral. Thus, Dio is very possibly correct in placing Julia's remains in the monument of Lucius and Gaius in the Forum before they were deposited in the Mausoleum of

from around the empire in mind, we can now see that the monument in Rome may have been a memorial, not a tomb. If so, it must have had an accessible inner chamber, since it could temporarily house the remains of Julia Domna. Where can it have been?

Our studies thus far suggest that we should look either outside a major gate of the city or else near the Roman Forum. We in fact know of an excellent candidate for the monument in the Forum. Between the east side of the Basilica Aemilia and the Temple of Romulus, a number of inscriptions dedicated to Lucius and Gaius Caesar, as well as to Augustus, have been found<sup>98</sup>. Van Deman convincingly argued that these inscriptions adorned the three sides of the section of the east portico of the Basilica Aemilia that projects southward toward the Temple of Julius Caesar (pl. LXIV, 1, 2)<sup>99</sup>. This identification of the provenance of the inscriptions has been generally accepted by scholars<sup>100</sup>.

Van Deman called this part of the porticus a *sacellum*, but she did not attempt a more exact identification, nor did she connect the *sacellum* with the passage in Dio. If we accept her characterization of the space as a *sacellum*, then, on the evidence of the inscriptions, we may also identify it more precisely as the chapel of Lucius and Gaius. Perhaps this chapel corresponds to the «monument of Lucius and Gaius» mentioned by Dio as the place where Julia Domna's remains were kept before being put into the Mausoleum of Hadrian<sup>101</sup>. In any case, whether or not the *sacellum* adjacent to the Basilica Aemilia is the same as the structure mentioned by Dio, the epigraphical and architectural remains of the *sacellum* are sufficient to permit us to say that Rome, too, had a memorial to Lucius and Gaius, and this chapel was located in a highly appropriate

Hadrian; however, he has distorted these facts with a view to reinforcing his incorrect opinion that, after their deaths, Caracalla and Julia were quickly out of favor with Macrinus and the citizens of Rome.

Behind Dio's biased accounts of the funerals of Julia Domna and Caracalla is his well-known tendentiousness in treating the reign of Caracalla, on which see H. HEINEN, «Zur Tendenz der Caracalla-Viten in der Historia Augusta», *Chiron*, 1 (1971) 421-435.

<sup>98</sup> See C. HUELSEN, *RM*, 14 (1899) 260-261; *RM*, 20 (1905) 59.

<sup>99</sup> E.B. VAN DEMAN, «The Porticus of Lucius and Gaius», *AJA*, 17 (1913) 14-28, especially pp. 27-28.

<sup>100</sup> See, e.g., G. LUGLI, *Monumenti minori del Foro Romano*, (Rome 1947) plan at end (nr. 6); B. ANDREAE, *AA*, 1957, cols. 168-176, especially cols. 172-175; P. ZANKER, *Forum Romanum. Die Neugestaltung durch Augustus*, *MAA* 5 (Tübingen 1972) 16-17; F. COARELLI, *op. cit.* (*supra* n. 55), p. 76 (plan). For present purposes, it is not necessary to enter into the problem of whether the *sacellum* was linked to the Temple of Julius Caesar by an arch, as Zanker thinks. For Tiberian inscriptions honoring Lucius and Gaius from inside the Basilica Aemilia see S. PANCIERA, «Miscellanea epigrafica IV», *Epigraphica*, 31 (1969) 104-120, especially pp. 104-112. Since Augustus rebuilt the Basilica Julia under the names of

Lucius and Gaius (*Res Gestae* 20), there is a slight chance that it could be considered to be the referent of Dio's «monument of Gaius and Lucius».

<sup>101</sup> The main difficulty with identifying the *sacellum* as the *monumentum Luci et Gai* is the date of 2 B.C. that is usually assigned to the *sacellum*, which would clearly be at least six years too early for the *monumentum* (Gaius died in 4 A.D.). Note, however, that 2 B.C. is a *post quem* date (cf. C. HUELSEN, *RM*, 20 [1905] 59-61) based on the clause CVM ESSET ANN NAT XIII in the Lucius inscription. This clause, of course, is concessive, not temporal, and is dependent on the words COS DESIG, not on the implicit verb D.D. Lucius receives the same titlature as *consul designatus* and *princeps iuventutis* on other monuments dedicated to him *after* his death; cf., e.g., the Maison Carrée and the *arcus Ticinensis* and see the discussion of P. GROS in R. Amy and P. Gros, *op. cit.* (*supra* n. 91) 188-194. Thus, the *cum*-clause has little bearing on the precise date of the dedication. P. ZANKER, *ibid.*, pp. 16-17, thus errs when he writes, «aus der Altersangabe des Lucius ergibt sich die Datierung des Bogens ins Jahre 3 v. Chr.». P. ROMANELLI, *Il Foro Romano*, (n.p. 1959) 88, wrote suggestively that the inscriptions honoring Gaius and Lucius «debbono aver appartenuto ad un monumento da Augusto stesso intitolato al loro nome», without, however, attempting to locate such a monument in the Forum.

spot — near the Roman Forum and the sanctuary of the boys' divine ancestor, Julius Caesar.

The *sacellum* of Lucius and Gaius was a rather modest structure, albeit one located in a highly prestigious part of the city. In the second century A.D., when space was no longer available in the Roman Forum, we may detect a noticeable compensation by means of monumentalization. Such is the case with the column of Trajan, which is 100 Roman feet high and which rests on a high base built to resemble an altar (pl. LXV, 1)<sup>102</sup>. Here the architect — probably Apollodorus of Damascus<sup>103</sup> — has creatively superimposed the hitherto traditional and contiguous elements of a column and altar associated with the commemorative monuments of, e.g., Romulus and Julius Caesar; and, in an analogous gesture of traditionalism and innovation, he has located the monument near Trajan's forum, not the Roman Forum.

Trajan's remains seem to have been placed inside the socle of the column and just within the *pomerium*<sup>104</sup>. This is unprecedented at Rome and represents a (perhaps unconscious) rediscovery of the roots of the Roman tradition in the Greek hero cult. In keeping with this change is the proximity of the memorial to the temple of the divine Trajan, where rites in honor of the emperor were celebrated after his death.

Monumentalization and innovation are also encountered in the so-called *ustrinae* of Antoninus Pius and Marcus Aurelius (?) in the Campus Martius<sup>105</sup>. Both monuments have the same design — a large altar (pl. LXV, 2) surrounded by two precinct walls (the farther of which outlined an area 30 meters square) — and both are very near columns celebrating the apotheosis of the two emperors<sup>106</sup>. The height of the columns was 14.74 m. and 29.77 m. respectively. Clearly, then, both monumental complexes represent huge versions of the kind of altar-column ensembles dedicated to the *parens patriae* that we have been studying. The common designation of them as *ustrinae* is misleading.

Delbrueck long ago protested against this interpretation of them, but briefly and without offering an alternative view in any detail<sup>107</sup>. He traced these complexes to

<sup>102</sup> On the base see the perceptive remarks of G. BECATTI, *Colonna coclide istoriata* (Rome 1960) 30-31, cited with approval by P. ZANKER, «Das Trajansforum in Rom», *AA*, 85 (1970) 499-544, especially pp. 532-533.

<sup>103</sup> See P. ZANKER, *ibid.*, p. 533.

<sup>104</sup> So DIO, 69.2.3, EUTROPIUS, 8.5.2; for later sources see G. LUGLI, «La tomba di Traiano», in *Studi minori di topografia antica*, (Rome 1965) 293, n. 1.

<sup>105</sup> And, perhaps that of Hadrian, if the new interpretation of the structure traditionally identified as the Tarentum (see, e.g., E. NASH, *op. cit.* [*supra* n. 72] vol. I, pp. 57-59) as the «ustrina» of Hadrian is correct; see, very briefly, F. COARELLI, *op. cit.* (*supra* n. 55) 303. I wish to thank Eugenio La Rocca, who is preparing a publication on this topic, for sharing his ideas with me. On the «ustrina» of Antoninus, see C. HUELSEN, «Antichità di Monte Citorio», *RM*, 4 (1889) 48-64, especially pp. 63-64 for the interpretation of the structure as an *ustrina* (an idea originating with Bianchini in the eighteenth century). On the

«ustrina» of Marcus Aurelius, see G. MANCINI, «Le recenti scoperte di antichità a Monte Citorio», *StRom*, 1 (1913) 3-15, and R. DELBRUECK's important, though neglected, comments in *AA*, 1913, cols. 140-143. The interpretation of both monuments as *ustrinae* has become commonplace; cf. L. CREMA, *L'architettura romana, Enc. Class.*, sez. II, vol. XII (Turin 1959) 505; E. NASH, *op. cit.* (*supra* n. 72) vol. II, p. 487; M. E. BLAKE and D. T. BISHOP, *Roman Construction in Italy from Nerva to the Antonines*, (Philadelphia 1973) 65-67, 71-72; and F. COARELLI, *op. cit.* (*supra* n. 55) 303.

<sup>106</sup> The altar in the middle of the monument of Pius can be seen in Bianchini's drawing; see C. HUELSEN, *ibid.*, p. 57 and E. NASH, *ibid.*, vol. II, p. 488, fig. 1304. Remains of the altar of Marcus's monument are in the Museo Nazionale Romano; see E. NASH, *ibid.*, vol. II, p. 489, fig. 1307 (= my fig. 13). As R. DELBRUECK pointed out (*ibid.*, col. 140), Mancini was unaware of the discovery of the altar, the existence of which runs counter to his interpretation of the monument as an *ustrina*.

<sup>107</sup> R. DELBRUECK, *ibid.*

Hellenistic models, but cited no examples<sup>108</sup>. His unargued assertion that the monuments do not resemble *ustrinae* is well taken. We know from Strabo's description of the *ustrina* of Augustus near his mausoleum in the Campus Martius that it was *circular*, not square, in plan (cfr. STRABO 5.3.8: ἐν μέσῳ δὲ τῷ πεδίῳ ὁ τῆς καύστρας αὐτοῦ περιβολος, καὶ οὗτος λίθου λευκοῦ, κύκλῳ μὲν περικείμενον ἔχων σιδηροῦν περίφραγμα....). So, the architectural form of the only securely known imperial *ustrina* (N.B. that the monuments called the «*ustrinae* of Antoninus and Marcus» are not mentioned in any ancient sources, nor were any identifying inscriptions discovered near them) was significantly different from that of the monuments near the columns of the two Antonine emperors.

In this connection it is relevant to mention that the one depiction of an *ustrina* in Roman art of the period shows the structure to have had an oval, not square, peripheral wall<sup>109</sup>. Moreover, as Götze pointed out, the fact that the so-called *ustrinae* of Antoninus and Marcus Aurelius are built out of travertine and marble — that is, non-fireproof materials — militates strongly against their use as *ustrinae*<sup>110</sup>. Finally, Herodian gives us a very precise description of the superstructure of the *ustrina* erected at a *funus imperatorium*, the kind of *ustrina* that these two structures supposedly exemplify<sup>111</sup>.

According to Herodian, an imperial *ustrina* is made «entirely of wood» and has the shape of a lighthouse (HERODIAN 4.2). Here, then, are two more reasons not to interpret the precincts as *ustrinae*: they are made of stone, not wood, and have the shape, not of lighthouses, but of altars surrounded by two precinct walls.

We may therefore conclude that the monuments of Antoninus and Marcus (?) are not *ustrinae*, nor even commemorative *ustrinae* (that is, permanent structures in stone having the same design as a temporary building once on the same site), but exactly what their form indicates they should be: commemorative altar-column complexes dedicated to a *parens patriae*. In this regard we may note that although the connection of the altar with Antoninus Pius is certain, the association with Marcus Aurelius is speculative and may well be wrong, especially since the altar is so far from Marcus' column and because Marcus was honored with a temple in the same precinct in which his column was built. So, the altar conventionally called the «*ustrina* of Marcus Aurelius» has perhaps been misidentified and belonged to some other member of the imperial family.

Now, if we ask why these complexes are located where they are in the Campus Martius (and not in the Roman Forum or outside a major gate), then we can see that two reasons must have stood behind the selection of the sites. First, as we have already seen in the case of Trajan's altar-column, the Roman Forum had been long since filled up so that some other prestigious piece of public land had to be sought. The Campus Martius,

<sup>108</sup> Perhaps he was thinking of something like the column to Attalus III erected next to the altar of Zeus Soter in the agora of Elaia; see M. FRÄNKEL, *Die Inschriften von Pergamon*, vol. 1, *Altertümer von Pergamon*, VIII.1 (Berlin 1890) nr. 246, lines 9-10.

<sup>109</sup> Cf. the «Apotheosis of Sabina» relief in the Palazzo dei Conservatori, the *ustrina* of which is correctly called «oval» in plan by L. VOGEL, *op. cit.* (*supra* n. 1) 52. The wall of the *ustrina* is, to be sure, a modern supplement (see E. SIMON, in Helbig, *Führer* [Tübingen 1966<sup>4</sup>] 569); thus, one

should not build too much on it, and the literary description of Augustus' *ustrina* in Strabo is sufficient in any case to prove the point.

<sup>110</sup> B. GÖTZE, *Ein römisches Rundgrab in Falerii*, (Stuttgart 1939) 38.

<sup>111</sup> Pace G. MANCINI, *op. cit.* (*supra* n. 105) 12, n. 5, who states that Herodian is describing *ustrinae* of common people, not emperors. This is, however, wishful thinking on Mancini's part, intended to salvage his interpretation of the monuments as *ustrinae*.

especially the zone just west of the Via Flaminia between the Augustan monuments to the north and the Hadrianeum to the south, offered an excellent location, one that was apparently free of earlier building. Second, the facts that the sites were on unbuilt parts of the Campus Martius and that the iconography of the base of Antoninus' column deals with apotheosis both suggest that they were chosen because they were the places where the emperors' remains (or, possibly, their puppets) were cremated at the climactic *consecratio* part of the *funus imperatorium*. If this speculation is correct, then we may say that the altar-column complexes stand on the site of the vanished, temporary *ustrinae* of the two emperors, but they are not *ustrinae* in any sense of the word.

This *Begriffsbestimmung* is more than a quibble. By their form, location, and iconography, the two monuments evoke, not the idea of death and cremation, but the two notions of honoring a deceased *parens patriae* and memorializing the place where he received his rightful reward of apotheosis for his benefactions to the Roman people.

It is just as revealing of the times that *patroni* who were not members of the imperial family could receive similar memorials from their cities. Such is the case with the monumental altar given, along with other honors, to M. Nonius Balbus, the patron of Herculaneum (pl. LXVI). Schumacher's recent study of the altar has stressed its Greek background<sup>112</sup>. By now, it should be clear that the altar-form, the burial of Balbus' actual remains in his family's tomb<sup>113</sup>, the location of the monument just outside a major gate of town and before the impressive Suburban Baths, and its explicit designation as an *ara*, not heroon, all have a hoary Roman background. This is not, of course, to dispute the correctness of Schumacher's discovery of Greek parallels for some of Balbus' other honors; these, however, should not be overemphasized at the expense of the great Roman traditions informing Balbus' *ara*<sup>114</sup>. Indeed, we must be aware of those traditions in order to appreciate what is perhaps really foreign about the dedication: not that it is a commemorative altar, but that it has been given to such a relatively unimportant figure.

The devaluation of honors of all kinds during the empire is a well-documented phenomenon: one need only recall Pliny's two letters (7.29, 8.6) of righteous indignation about the honors given to Claudius' freedman Pallas and advertised on Pallas' tomb on the Via Tiburtina<sup>115</sup>. The memorial was not exempt from this general tendency. The city of Marsi Antinum dedicated an altar and statue in the forum to its patron, Q. Novius Felix (*CIL*, IX 3837), at some unspecifiable time in the later Empire<sup>116</sup>. As was the case with Poplicola's monument, Felix's descendants added new inscriptions and statues to his memorial<sup>117</sup>. By the Severan period, even a politician of the second rank, with no demonstrable connection to a town, could receive the honor of a memorial altar. Such

<sup>112</sup> L. SCHUMACHER, *op. cit.* (*supra* n. 1) 165-184.

<sup>113</sup> Cf. L. SCHUMACHER, *ibid.*, p. 174.

<sup>114</sup> Most in need of revision in this connection are Schumacher's words about the *ara* on p. 181: «zwar lässt sich der Terminus *ara* im Zusammenhang mit dem Totenkult schon in republikanischer Zeit nachweisen, bezeichnet aber immer den Grabaltar... Im Falle des Balbus kann es sich jedoch nicht um einen derartigen Grabaltar handeln... Die *Ara* muss demnach eine andere Bedeutung, dem griechischen βωμός vergleichbar, gehabt haben. Wie diese Form der *Ara* ist auch die

jährliche *Pompa* im römischen Totenkult ungewöhnlich» (my emphasis).

<sup>115</sup> For the general pattern of inflated honors in the Empire cf. the comments of R. SYME, *Some Arval Brethren*, (Oxford 1980) 115-116.

<sup>116</sup> The inscription (*CIL*, IX 3837) preserving Felix's honors was found in *la Cauta*, which was the forum of Antinum (cf. the head note to *CIL*, IX 3838). As might be expected, the tomb of the Novii was located near the fifth milestone away from town (cf. *CIL*, IX 3839, 3841), where Felix was probably buried.

<sup>117</sup> Cf. *CIL*, IX 3836, 3838, 3840.

seems, at any rate, to have been the case with the *ara* given to C. Luceius Camars in Sulmo by his friend, the consul C. Pontius Paulinus (*CIL*, IX 3079)<sup>118</sup>.

## XI

We may return now to the case of C. Cartilius Poplicola's monument in Ostia, the nature of which should no longer be so mysterious. Cartilius was Ostia's Poplicola. Bloch has convincingly shown that he received this rare honorific cognomen at about the time he was elected duovir for the third time<sup>119</sup>. Thus, it is not surprising that he should have received the very Poplicolan honor of an impressive *monumentum* outside Ostia's Porta Marina. Politically, the dedication is quite comprehensible, too: though not the *patronus* of Ostia, Cartilius Poplicola was Ostia's — and the Roman world's — most successful municipal leader, holding the duovirate eight times and having censorial power three times. And, though not a member of the imperial family, it is obvious that a man as powerful as Poplicola, in a city as close and important to Rome as Ostia, must have enjoyed Augustus' confidence and support. Thus it conforms to our expectations that Poplicola should have received this kind of honor and that his *monumentum* is decorated with the very Augustan imagery of warships, because warships — symbolic not so much of a specific naval victory (like the one at Actium) as of Roman sea power generally and good government, and perhaps even evocative of Themistocles' monument at the entrance to the Piraeus<sup>120</sup> — appear on many Augustan monuments from Miletus to Orange<sup>121</sup>.

<sup>118</sup> On the date of Camars and Paulinus, see WOLF, in *RE* XXII, 1 s.v. *Pontius* (42) and MILTNER, in *RE* XIII, 2 s.v. *Luceius* (13).

<sup>119</sup> H. BLOCH, *op. cit.* (*supra* n. 13) 209. R. Meiggs' reasons for opposing Bloch's thesis, in *op. cit.* (*supra* n. 13) 476-477, are unconvincing; they rest either on the question-begging rareness of the conferral of the cognomen Poplicola or on *ex silentio* arguments. Moreover, his alternative explanation of a hypothetical familial relationship between the Cartilii of Ostia and the Valerii of Rome is far-fetched. On the etymology of the name Poplicola see C. DE SIMONE, «L'aspetto linguistico», in *Lapis Satricanus, ArchStud-NederlandsInstRome, Scripta Minora* 5 (1980) 81 and the literature cited on p. 91, n. 97.

<sup>120</sup> On the symbolism of warships in Augustan monumental art see P.-M. DUVAL in R. Amy, P.-M. Duval, et al., *L'arc d'Orange, Gallia Suppl.* 15 (1962) 94-106. Evidence for a warship atop the Themistocles monument near Piraeus may be contained in *Anth. Pal.* 7.73, by Tullius Geminus (suff. cos. A.D. 46), who writes of ships decorating the structure. This epigram is generally assumed to refer to the memorial in Magnesia (as *A.P.* 7.74, 235, 236 certainly do) but may just as well allude to the monument near the Piraeus. F. Zevi's hypothesis that the warships on Poplicola's

monument refer to naval games sponsored in Ostia by Poplicola was brilliant but uncontrollable; see «Brevi note ostiensi», *Epigraphica*, 30 (1968) 88-89. He himself abandoned the theory in «Monumenti e aspetti culturali di Ostia repubblicana», in *Hellenismus in Mittelitalien*, ed. P. Zanker (Göttingen 1976) vol. I, p. 58, n. 25. Zevi would now interpret the ship as a warship under the command of Cartilius Poplicola, who is shown standing on it. He would link the scene to Sex. Pompeius' attack on Ostia before 39 B.C. Herein lies the difficulty with this interpretation—the event supposedly represented occurred too early for Poplicola to have played the leadership role that Zevi's thesis requires. On the dating of Poplicola's career see H. BLOCH, *op. cit.* (*supra* n. 13) 218. On the other hand, Zevi's identification of the figure commanding the boat as Poplicola is logical and attractive. Perhaps it can be retained in an amended version of Zevi's reading in which Poplicola commands, not an actual warship, but the ship of state. The metaphor of the ship of state is, of course, attested for this period of Roman thought in CICERO, *Ad Fam.*, 12.25.5 and HORACE, *Odes*, 1.14, the date of which approximates that of Poplicola's monument.

<sup>121</sup> For the Milesian monument, see A. VON GERKAN, *Der Nordmarkt und der Hafen an der*

With the correct Roman tradition in mind, it is possible to make some progress in the supplementation of the inscription on Cartilius Poplicola's memorial. After the work of H. Bloch and S. Panciera<sup>122</sup>, the following reading of the text is certain:

1 P[UBLI]C[E]  
 2 [C.CARTI]LI[O.C.F.POP]LICOLAE.DVO.VIRO.VIII  
 3 [.....ET] LIBEREIS.POSTERISQVE.EIVS  
 4 [DECVRIONVM.DECRETO.CO]LONORVMQVE.CONSENSV  
 5 PREI[M]ARIO.VIRO.PRO.EIVS.MERITEIS  
 6 HOC.[MONV]MENTVM.CONSTITVTVM.EST  
 7 EIQVE.MERENTI.GRATIA.RELLATA.EST  
 8 ISQVE.OCTIENS.DVOMVIR.TERCENS.COLONORVM.IVDICIO  
 9 APSENS.PRAESENSQVE.FACTVS.EST  
 10 OB.EIVS.AMOREM.IN.VNIVERSOS.AB  
 11 VNIVERSIEIS.//  
 12 HVMANIAE.M.F.

The contents of the missing letters which were erased in line 11 can probably never be known. Bloch's conjecture COGNOMEN.DATVM.EST was accepted by Panciera and is quite attractive, notwithstanding Meiggs' strictures<sup>123</sup>. The mention of Poplicola's cognomen would have helped the intelligent Roman visitor to understand both how C. Cartilius happened to have this rare name and why this form of monumental commemoration was appropriate for him.

Supplementing the 20-23 letters lacking from line 3 is more difficult. Bloch and Meiggs thought that some mention of a military office should go here in view of the warships decorating the frieze and top of the monument. We have seen that the naval imagery may be an allusion, not to Poplicola's military exploits, but to his (Themistoclean?) good handling of the ship of state and to his political alliance with Augustus.

Panciera has also disputed this supplement, and would instead begin line 3 with the words CENSORI.III.VXORI. This reading is certainly possible, but another conjecture is worth considering before it is accepted *faute de mieux*.

Panciera suggests the supplement VXORI for line 3 because he notes that Humania, Poplicola's wife, is mentioned in line 12 and because he apparently feels it appropriate for the wife to be mentioned along with the *liberi posterique* in line 3. Though this speculation is attractive, especially to modern sensibilities, it is questionable whether it is probable. Panciera cites no parallels in support of his supplement. If, as we suggested above (cf. section VIII), the monument of C. Poplicius Bibulus is a memorial, and not a tomb, then it is of interest in the present context for offering us a parallel invalidating the reading of VXORI, for Bibulus' inscription reads: C. POPLICIO.L.F.BIBVLO.AED.PL.HONORIS.VIRTUTISQVE.CAVSSA.SENATVS.CONSVLTO.POPVLIQUE.IVSSV.LOCVS.MONVMENTO.QVO.IPSE.POSTEREIQVE.EIVS.INFER-

Löwenbucht, *Milet* I, Heft 6 (Berlin and Leipzig 1922) 55-73. For other Augustan examples see P.-M. DUVAL, *loc. cit.* (*supra* n. 120). For Augustus' relations with Ostia after Actium see R.

MEIGGS, *op. cit.* (*supra* n. 13) 41-43.

<sup>122</sup> H. BLOCH and S. PANCIERA, *opp. citt.* (*supra* n. 13).

<sup>123</sup> R. MEIGGS, *loc. cit.* (*supra* n. 13).

RENTVR.PVBLICE DATVS.EST. (*CIL*, I 635). A second parallel that may be cited comes from a related class of monuments: a proposed public tomb mentioned in *Cicero Phil.* 9.17. Cicero's motion in favor of the tomb reads: ...*quod sepulchrum ipsius liberorum posterorumque eius esset, uti quod optimo iure publice sepulchrum datum esset.*

These texts also show what we do need at the beginning of the third line of Cartilius Poplicola's inscription — the important information that the land on which the monument stands has been given to Poplicola by an act of state (and cf. also *CIL*, X 994/95, 998, 1019). Thus, we should probably read: HIC.LOCVVS.DATVS.EST. When added to the word ET that previous editors have agreed must be restored before LIBEREIS, this new reading takes up 22 spaces. Although my supplement would make impossible mention of Poplicola's censorial power, this loss is more than made up by the *variatio* that now arises between line 2/3 and 8, so that tedious repetition of Poplicola's *honores* is kept to the bare minimum.

There is another stylistic advantage to my restoration. Previous editors have assumed that lines 1-6 form a single clause. This would be monstrous Latin. Cartilius' name in line 2 would be repeated in line 5 by the expression *preimario viro*; *publice* in line 1 would be repeated by the wordy phrase *decurionum decreto colonorumque consensu*. It is far better to read lines 1-3 as a clause separate from lines 4-6; the restoration *hic locus datus est* makes such a reading possible. If this is done, wordy repetitiveness becomes artistic parallelism: *hic locus~ hoc monumentum; publice~ decurionum decreto colonorumque consensu; datus est~ constitutum est*<sup>124</sup>. Even more importantly, the inscription now contains explicit reference to the crucial donation of public land to the Cartilii; it is almost impossible to imagine that mention of this could have been omitted<sup>125</sup>.

Awareness of the tradition into which Cartilius Poplicola's monument fits also helps us to understand the addition of Humania's name to the inscription at a later date and to evaluate the speculation that C. Cartilius C.f.Pal. Sabinus, whose *floruit* was apparently in the early second century A.D., was a descendant of Poplicola<sup>126</sup>. We have seen how the Valerii added commemorative stelae to Poplicola's monument in Rome. The addition of Humania's name to the Ostian Poplicola's monument is accordingly not unusual<sup>127</sup>. On the other hand, the lack of any *stelae* or other additions to Poplicola's monument makes it unlikely that he had any illustrious descendants, although certainty on this score can most definitely not be claimed in view of the large percentage of the monument's superstructure that is missing<sup>128</sup>.

## XII

Thus far, we have seen many cases of flattery, but none of fakery. This brings us back to the matter of C. Calventius Quietus in Pompeii (cf. section I).

<sup>124</sup> A concern for such parallelism is clearly seen in the clauses in line 7 (*eique...*) and 8-9 (*isque...*).

<sup>125</sup> For other examples of the phrase *locus publice datus est* cf. *CIL*, II 1189, 4611, and see MOMMSEN, *Staatsrecht*, II<sup>3</sup>, p. 625, 3.

<sup>126</sup> Cf. F. ZÉVI, *op. cit.* (*supra* n. 120) and R. MEIGGS, *op. cit.* (*supra* n. 13) 584-585.

<sup>127</sup> In this connection is relevant the tradition of honoring the deceased wives and children of municipal notables with *funera publica*, statues, etc. See DAREMBERG-SAGLIO, II.2 s.v. *funus* (Paris 1896) 1408 and cf. above n. 69.

<sup>128</sup> Of course, it is always possible that additional inscriptions were incised on one or more of the other (lost) sides of the monument.

To understand the purpose behind the altar of Quietus, we need to pay attention to the neighboring altars of M. Alleius Luccius Libella, which is directly across the street, and of C. Munatius Faustus, which is next door to the west<sup>129</sup>. The three altars are similar to one another in design, but they differ significantly in their inscriptions. Libella's inscription (*CIL*, X 1036) is as follows:

M.ALLEIO.LVCCIO.LIBELLAE.PATRI.  
AEDILI.II.VIR.PRAEFECTO.QUINQ.ET  
M.ALLEIO.LIBELLAE.F.DECVRIONI.VIXIT.  
ANNIS.XVII.LOCVS.MONVMENTI.  
PVBLICE.DATVS.EST.ALLEIA.M.F.  
DECIMILLA.SACERDOS.PVBLICA.  
CERERIS.FACIVNDVM.CVRAVIT.VIRO.  
ET.FILIO

From this text we may infer that M. Alleius Luccius Libella was an extremely successful Pompeian notable, who, like Publicius Bibulus in Rome, received public land for a monument, which was paid for by his wife, the priestess Alleia Decimilla<sup>130</sup>. The monument of Libella is thus quite similar to that of Publicius Bibulus: both were outside a major gate, both were built on public land given by an act of state, both were erected by the deceased's family (or, so we may assume to be the case with Bibulus), and both monuments were dedicated not only to a highly successful politician but also to his children. The question thus naturally arises as to the nature of Libella's monument. Is it a tomb, as has been assumed<sup>131</sup>, or is it a memorial given *honoris virtutisque causa*? No definite answer is possible, but it is more likely that the monument is a memorial than a tomb. For one thing, no remains were found on the site; there is no burial chamber within the altar; and no libation tubes were discovered nearby. Then, too, the family of the Alleii was one of the most powerful and noble in Pompeii; that the family would not have had a burial plot elsewhere before the deaths of Libella and his son is improbable.

In fact, looking at the larger context of *loci publice dati* outside of the Herculanean Gate at Pompeii, we see that most often, the evidence favors the interpretation of a memorial, not a tomb. No signs of actual burial have been found near the Herculanean Gate on the site of the public monuments of: M. Cerrinius Restitutus Augustalis, just outside the gate (cf. *CIL*, X 994; 995); A. Veius IIVir (*CIL*, X 996); M. Porcius (*CIL*, X 997); and (further down the road from the gate) A. Umbricius Scaurus (?) (*CIL*, X 1024)<sup>132</sup>. It is interesting that the monuments of Porcius and Scaurus have the form of an

<sup>129</sup> The monuments are nrs. 20, 37, and 22 respectively on V. Kockel's map at the end of his book, *op. cit.* (*supra* n. 2).

<sup>130</sup> For prosopographical and career information of husband and wife see P. CASTRÉN, *op. cit.* (*supra* n. 25) 133 (Alleii nrs. 8, 12, 13).

<sup>131</sup> So, most recently, by V. KOCKEL, *op. cit.* (*supra* n. 2) 166-168.

<sup>132</sup> On these monuments, see V. KOCKEL, *ibid.*, pp. 47-51 (M. Cerrinius Restitutus; cf. p. 49—«eine Bestattung wird in den Fundberichten nicht erwähnt»), 51-53 (A. Veius; cf.

p. 52—«von den Ausgräbern wurde keine Urne gefunden. Deshalb ist zuweilen bezweifelt worden, dass es sich überhaupt um ein Grab handelt»), 53-57 (M. Porcius; cf. p. 56, for the implicit information that no burial was found), pp. 57-59 (Mammia; cf. p. 58—«eine Urne fand man nicht»), 70-75 (A. Umbricius Scaurus? cf. p. 74—«keine Urnen wurden in der Kammer gefunden»). Scaurus' (?) tomb may lack urns because it was never finished; see KOCKEL, pp. 70, 75.

altar, and there was an altar before the niche-shaped memorial of Restitutus. The *schola* of Mamia recalls the commemorative *schola* of Lucius and Gaius Caesar at Trebula Suffenas (cf. above, section X). It is also interesting to note that, with the exception of Umbricius', the Pompeian monuments are all within the *pomerium*<sup>133</sup>. The only publicly donated monument that is definitely known to have been used for burials is that of T. Terentius Felix (*CIL*, X 1019)<sup>134</sup>. To be sure, new archaeological excavation of all these sites is needed in order for us to be certain that no burials are waiting to be found. Yet, we must insist that the presently available evidence strongly suggests that at Pompeii, as at Rome and elsewhere in the Roman world, the families of deceased notables honored with the donation of public land seem to have used that gift in most cases to erect a memorial, not a tomb. We must also insist that the burden of proof — and the archaeologically weaker case — lies with those who, following Mau, respond to the archeological record by speculating on the presence of still undiscovered urns<sup>135</sup>. In this case, as always, the task is to explain the absence of a certain kind of evidence, not to explain it away or invent it.

Mau and Kockel puzzled over the fact that the inscriptions for some of these monuments explicitly state that they are *loci sepulturae*, whereas no urns have been found on the sites. The answer to this dilemma is not to postulate undiscovered urns<sup>136</sup> or to speculate that some of the examples may be cenotaphs<sup>137</sup>. Rather, we should see that at Pompeii, the honor of burial on public land was frequently accepted but not used. Moreover, it is not surprising that the formula *locus sepulturae* should appear in the dedications of these memorials since *sepultura* in this period can mean cremation, not burial<sup>138</sup>. Thus, the Pompeian monuments may well be parallel to the altar of Julius Caesar on the spot where he was cremated in the Roman Forum and to that of Nonius Balbus at Herculaneum, the inscription on which states that the memorial was erected *eo loco, quo cineres eius conlecti sunt*.

We have not yet mentioned the altar of C. Munatius Faustus. We have earlier seen that Faustus was not buried inside the chamber of the altar, but in his family tomb at the Porta di Nocera (cf. section I). The structure outside the Porta Ercolana can accordingly only be a memorial, not a tomb<sup>139</sup>. Yet, one crucial fact about it must be stressed: it is a

<sup>133</sup> See V. KOCKEL, *ibid.*, pp. 11-14.

<sup>134</sup> See V. KOCKEL, *ibid.*, pp. 115-117. Now from newly published excavations at the Porta di Nola we have definite remains of the duovir M. Obellius Firmus from a publicly donated *locus sepulturae*; see S. DE CARO, «Scavi nell'area fuori Porta Nola a Pompei», *CronPomp*, 5 (1979) 61-79.

<sup>135</sup> OVERBECK-MAU, *op. cit.* (*supra* n. 4) 400-401; A. MAU, *RM*, 5 (1890) 280-282. H. NISSEN, *Pompeianische Studien zur Städtekunde des Altertums*, (Leipzig 1877) 480, assumed that there were burials in the *loci publice dati* and that the restriction on burial within the *pomerium* was relaxed as time went on. M. DELLA CORTE, «Il pomerium di Pompei», *RendLinc.*, ser. V, vol. 22 (1913) 261-308, especially pp. 288-289, assumes the presence of burials in all of the *loci publice dati* outside Pompeii's gates and speculates that such tombs were permitted by an act of priestly *exauguratio*. Of course, the inscriptions are

completely silent about such deconsecrations of sacred land and speak instead only of a *political* act of granting a *locus sepulturae*.

<sup>136</sup> See MAU and OVERBECK-MAU, *ibid.*

<sup>137</sup> So V. KOCKEL, *op. cit.* (*supra* n. 2) 22, and for a list of the *locus sepulturae* inscriptions see KOCKEL, *ibid.*, p. 19, n. 156.

<sup>138</sup> On *sepultura* as cremation see Furneaux and Koestermann *ad Tac.*, *Ann.* 2.73.5 and *Lex. Tac.*, p. 1473 s.v. *sepultura* (2) and LEWIS and SHORT, *A New Latin Dictionary*, (Oxford 1879) s.v. *sepultura* (II); on *sepulcrum* as funerary pyre see *Oxford Latin Dictionary*, (Oxford 1980) s.v. *sepulcrum* (b).

<sup>139</sup> This is formulated from Faustus' point of view; of course, once in existence, the chamber of the altar was used for some burials of freedmen of the family; cf. V. KOCKEL, *op. cit.* (*supra* n. 2) 100-108.

private, not public, commemorative monument. This is clear from the inscriptions (*CIL*, X 1030):

NAEVOLEIA.L.LIB.TYCHE.SIBI.ET  
 C.MVNATIO.FAVSTO.AVG.ET.PAGANO  
 CUI.DECVRIONES.CONSENSVS.POPVLI  
 BISELLIVM.OB.MERITA.EIVS.DECREVERVNT  
 HOC.MONVMENTVM.NAEVOLEIA.TYCHE.LIBERTIS.SVIS  
 LIBERTABVSQ.ET.C.MVNATI.FAVSTI.VIVA.FECIT

In this text, Faustus' wife, Naevoleia Tyche, twice proudly takes credit for having built the monument for Faustus, their freedmen, and herself. Faustus' distinctions are mentioned, but are not especially highlighted. If anything, as the graphic design of the inscription indicates (fig. 1), the emphasis is on Naevoleia herself, to such a degree that Mau called the structure the «Grab der Naevoleia Tyche»<sup>140</sup>.

The Trimalchian boastfulness of the freedwoman Naevoleia Tyche recalls that of Pallas (cf. above, p. 75) and contrasts strikingly both with the dry, legalistic formula LOC.D.D.D. of the public monuments and with the complete absence of a dedicator from the inscription on Quietus' altar. His inscription, we remember, reads:

C.CALVENTIO.QVIETO  
 AVGVSTALI  
 HVIC.OB.MVNIFICENT.DECVRIONVM  
 DECRETO.ET.POPVLI.CONSENSV.BISELLII  
 HONOR.DATVS.EST



fig. 1 - Inscription on Altar of C. Munatius Faustus, Pompeii (drawing: Overbeck-Mau).

<sup>140</sup> OVERBECK-MAU, *op. cit.* (*supra* n. 4) 413-414.

Strictly speaking, the altar of Quietus claims only to commemorate his receipt of the honor of the *bisellium*. We may doubt, however, that the anonymous dedicator of the monument wished it to be understood in this way.

The suppression of the name of the dedicator must have a point, and the point must be to make the altar's status as a private or public dedication unclear. To a modern scholar who bothers to consider the matter it seems likely that the altar is the private gift of Quietus' son by adoption, C. Calventius Sittius Magnus<sup>141</sup>. This is probable because it was apparently erected some time after Quietus' death and because, as we saw in the case of Cartilius Poplicola's monument, mention of the important public gift of land could hardly be lacking so that some future officious T. Suedius Clemens, *tribunus causis cognitis et mensuris factis*, would not be tempted to restore encroached-upon public land to the city (cfr. *CIL*, X 1018)<sup>142</sup>.

More important is the fact that few, if any, ancients would have tarried long enough to ponder this question. To the normal passerby, as, today, to even some expert Pompeianists, the monument must have given the impression of being a *locus publice datus*, for if a private donation, why would the donor have suppressed his or her name?

Why, indeed? For one thing, the donor could feel confident in his ability to gull the public; after all, of all the altar-memorials of this type outside the Herculanean Gate, only that of Munatius Faustus was a private dedication. The average passerby must have assumed without giving it much thought that such a monument was public (hence Naevoleia's unseemly insistence on mentioning her name on Faustus' altar: she *wanted* the passerby to give her, not the community, credit for building the structure).

The likelihood of success provided only a necessary, not sufficient, reason. The ultimate motivation must be sought in the political status that such monuments reflect and help to transmit from one generation to the next. Thanks to Franklin's new study of the electoral programmata of Pompeii, we now know a good deal about the political career and tactics of Quietus' son by adoption, C. Calventius Sittius Magnus<sup>143</sup>.

Franklin has shown that Magnus was a candidate for the duovirate in 78. Some 47 programmata favoring his candidacy survive, and, since he ran unopposed, he surely must have won his race. In some of the programmata, he used an abbreviated form of his name — Sittius Magnus, *Ilvir* (e.g., *CIL*, IV 7421); in others, he used his full, legal name — C. Calventius Sittius Magnus (e.g., *CIL*, IV 7487). Why did he use two forms of his name, and why did he bother to advertise at all, since, as an unopposed candidate, his victory was all but inevitable?

C. Calventius Quietus, was, as we have noted, an *augustalis*. That he was a freedman is not totally certain from this fact alone but is made so by the absence of his father's name from the inscription on his altar. As a freedman, he was almost certainly ineligible to run for office<sup>144</sup>, and so, despite his wealth and munificence, he did not achieve the highest political status in Pompeii. The S—tiii, on the other hand, were an old and distinguished Pompeian family<sup>145</sup>. Magnus' abbreviated electoral notices obviously

<sup>141</sup> On the son see J. L. FRANKLIN, *Pompeii. The Electoral Programmata, Campaigns, and Politics A.D. 71-79*, *PMAAR* 28 (1980) 63-65.

<sup>142</sup> On this and two similar inscriptions see V. KOCKEL, *op. cit.* (*supra* n. 2) 12-13.

<sup>143</sup> J. L. FRANKLIN, *op. cit.* (*supra* n. 141) 63-65. On the good political prospects of sons of

freedmen see J. H. D'ARMS, *op. cit.* (*supra* n. 12) 139-140.

<sup>144</sup> See R. DUTHOY, «La fonction sociale de l'*augustalité*», *Epigraphica*, 36 (1974) 134-154.

<sup>145</sup> See P. CASTRÉN, *op. cit.* (*supra* n. 25) 222-223.

helped him to play up his Sittian heritage — and to play down his new connection to the arriviste Quietus. Why, then, were there any programmata with Magnus' full name?

The answer to this question also entails the answer to the question about why such candidates as Magnus bothered to advertise in the first place. According to Franklin's analysis of this problem, «the programmata can only be seen as attempts at increasing gentilicial *gloria* by coupling a man's name with high office in the public mind, so that his descendants might be the more readily elected. As the programmata were left on the walls long after the actual elections were held, they helped perform this function»<sup>146</sup>. So, Magnus was not so much promoting himself as his *liberi posterique*. Since Magnus' sons would not inherit his Sittian *nomen* (they would only be Calventii), it behooved their father to use his full name in some programmata in order to effect the transference of *gloria* from himself to his heirs.

Independently of Franklin, Kockel has shown that the altar of Quietus dates to the 70s, possibly to the late years of that decade<sup>147</sup>. We have seen that the inscription on the altar is designed to give the impression that the monument was publicly donated. Now that we understand more about Magnus' problem of handing down his Sittian status to his Calventian children and about how he solved it, we can also understand his erection of the altar some years after Quietus' death as a case of misleading advertising intended to bolster the glory of the Calventian name<sup>148</sup>.

The destruction of Pompeii in 79 makes it impossible for us to know if Magnus' attempt to rewrite history would have succeeded. Clearly, Magnus was taking a chance on being exposed. On the other hand, a recent study of Winston Churchill's biography of his father, published just a few years after his father's death at a time when many of his father's contemporaries were still alive, has shown that the tradition of creating a glorious past where one did not exist is by no means limited to Roman antiquity and that it can sometimes pay off quite handsomely<sup>149</sup>.

<sup>146</sup> J. L. FRANKLIN, *op. cit.* (*supra* n. 141) 120.

<sup>147</sup> V. KOCKEL, *op. cit.* (*supra* n. 2) 96-97.

<sup>148</sup> Magnus may have been taking no chances. Franklin has convincingly suggested that programma 7604, supporting the duoviral candidacy of Calventius Quietus, was posted in 78 or 79 A.D. (*ibid.*, p. 64); he also suggests that this Quietus may have been the man honored with the memorial altar outside the Herculanean Gate. Since this Quietus was probably dead in 78, Franklin suggests that the programma on his behalf was posted at the instance of his adoptive son Magnus «to recall the glory of the generous *augustalis* when his descendant stood for office» (*ibid.*, p. 65). Of course, my interpretation of Quietus' altar and Franklin's hypothesis about programma 7604 are not at all dependent on each other for validation; however, taken together, each gains in plausibility as a pattern behind Magnus' behavior begins to emerge. In support of both hypotheses is the fact that Roman political families did, from time to time, indulge in just such creation of a glorious past: cf. LIVY, 8.40.4-5: «nec facile est aut rem rei aut auctorem auctori,

praeferre. Vitiatam memoriam funebribus laudibus reor falsisque imaginum titulis, dum falimiae ad se quaeque famam rerum gestarum honorumque fallenti mendacio trahunt; inde certe et singulorum gesta et publica monumenta rerum confusa. Nec quisquam aequalis temporibus illis scriptor exstat, quo satis certo auctore stetur»; CICERO, *Brutus* 62: «et hercules eae quidem exstant: ipsae enim familiae sua quasi ornamenta ac monumenta servabant et ad usum, si quis eiusdem generis occidisset, et ad memoriam laudum domesticarum et ad illustrandam nobilitate suam. Quamquam his laudationibus historia rerum nostrarum est facta mendosior. Multa enim scripta sunt in eis quae facta non sunt: falsi triumphi, plures consulatus, genera etiam falsa et ad plebem transitiones, cum homines humiliores in alienum eiusdem nominis infunderentur genus».

<sup>149</sup> See T. MORGAN, *Churchill: Young Man in a Hurry. 1874-1915*, (New York 1982), and cf. the review of A. J. P. TAYLOR, in *The New York Review of Books* 29, nr. 12 (15 July 1982) 33-34, especially p. 33: «he [*scil.* Winston Churchill]

## CONCLUSION

The purpose of this paper has been to establish a new category of Roman building — the «memorial» or «monument». It was argued that the purpose of this building type is not to mark a place of burial (or putative burial), as is the case with the related building types, the tomb and the cenotaph, with which memorials have sometimes been confused; rather, the purpose of the memorial is to celebrate and commemorate a life devoted to civic virtue. Thus, the conceptual issue involved in the distinction between the tomb/cenotaph/*ustrina* and the memorial is the fundamental difference between death and life.

Once the category has been established, it is possible to trace its historical development, to study its architectural elaborations, topographical situations, and socio-political and religious implications. It was shown that the memorial is attested as early as c. 503 B.C., the year P. Valerius Poplicola died; other early examples probably included the altar of Acca Larentia and the altar-column complex under the Lapis Niger associated with Romulus. Thus, the memorial, from early times, was linked in Rome to the *parens patriae*. We can only speculate about the sources of inspiration for the Roman memorial; the most likely source was the Greek hero cult, adapted to Roman sensibilities by omission of actual burial in most cases, but often retaining the Greek feature of an annual lamentation for the hero. It is indeed tempting to imagine that all these memorials were visited by public processions during the Parentalia each February; however, such ceremonies are only documented with certainty for M. Nonius Balbus at Herculaneum and for Lucius Caesar at Pisa.

The early examples also establish the locations appropriate for the monument: it is erected on public land most often either just outside a major gate of the city (Acca Larentia) or near the main forum of town (Romulus). The examples of the memorial known down to the first century B.C. all seem to have had the architectural form of an altar; sometimes, a column stood next to the altar. Starting from the mid-first century B.C., other forms are attested — especially the cubic structure we called the *monumentum* and the *schola* — but the altar-form reappears in all periods, always adapted to reigning architectural styles. Inscriptions are generally present, naming the recipient of the honor, recording the donation of public land to him and his descendants for the erection of a monument or as a *locus sepulturae*, and justifying the dedication because of the recipient's civic *virtus*, *merita*, or *munificentia*. The cases of Valerius Poplicola, Julius Caesar, and M. Nonius Balbus demonstrate that *sepultura* usually meant «cremation», not «burial».

Very few memorials are known from the Republic — in addition to Poplicola's, the examples include those of Fabricius, Tubertus, and, possibly, Bibulus. This scarcity was taken to imply the high status of the honor among all extraordinary honors given at Rome; the propagandistic value of the honor in furthering the political ambitions of a recipient's descendants by helping to convert achieved into ascribed status; and the sudden breakdown in the late third century B.C. of the aristocratic tradition of consensus, civility, and cooperation needed to sustain the honor. This breakdown was particularly evident in the last decades of the Republic.

executed an unusual revenge by writing a biography of Randolph Churchill in which he depicted his father, by then dead of syphilis, as a political genius of the first water. This idea was so

forcibly expressed that even Randolph's friends came to believe it. The legend about Winston's father helped Winston himself to rise high and quickly».

Starting with Augustus, the honor of a memorial was revived in Rome and began to spread throughout the empire. While undergoing monumentalization in its imperial versions (the column with altar of Trajan, Antoninus Pius, and Marcus Aurelius [?]), it experienced trivialization as *patroni* of municipalities (M. Nonius Balbus, at Herculaneum; Q. Novius Felix, at Marsi Antinum) or successful politicians (C. Cartilius Poplicola, at Ostia) and others with even lesser claims (C. Luceius Camars, at Sulmo) began receiving it (or, in one case — that of C. Calventius Quietus, at Pompeii — arrogating it) and as imperial heirs apparent, especially Lucius and Gaius Caesar, were given it to flatter the emperor. In keeping with imperial flattery, and with the growth of the imperial cult, was a sudden fusion of the Roman commemorative tradition with its Greek origin in the hero cult when Trajan was actually buried in his altar, which was most likely located within the *pomerium*.

Because many of the monuments discussed in this paper have been interpreted by others as cenotaphs, tombs or *ustrinae*, their identification here as memorials may well be controversial. It will therefore be useful to conclude with a word about the state of the evidence and the logic of my argumentation.

To begin with the evidence, we should once again highlight here the unequivocal cases mentioned in the Introduction because in the body of this article the problematic examples had to be emphasized. The *ara* of Julius Caesar in the Roman Forum, of M. Nonius Balbus at Herculaneum, and of Gaius and Lucius Caesar at Pisa were all unquestionably commemorative monuments since: (1) these men were all buried elsewhere; (2) there is no cause to consider the structures cenotaphs, nor are they so identified in the ancient sources; (3) they were erected after the cremation of the deceased (which, in the case of the Caesares, did not even occur in Pisa) and so cannot be considered *ustrinae*; and (4) in two of the three cases inscriptions make clear the intention behind the dedications. In this group belongs also the proposed (but never erected) *monimentum... ad memoriam posteritatis sempiternam* for the dead at the first battle of Mutina (Cic., *Phil.*, 14.33-34, 38; assuming always that Cicero intended a memorial in Rome and not a mass grave on the battlefield) as well as the altar-column complexes in the Campus Martius dedicated to Hadrian (? cf. n. 105), Antoninus Pius, and Marcus Aurelius (?). Finally, the *schola* and the *monumentum* designs are exemplified, respectively, by the dedications to Lucius and Gaius Caesar at Trebula Suffenas and to C. Cartilius Poplicola at Porta Marina in Ostia.

Only the last example can be considered at all speculative. I include it in the list of strongly attested cases because: (1) no remains or other indications of burial (e.g., libation tubes) were found in or around the monument; (2) the zone in which the structure is located was not a cemetery; and (3) we almost certainly have Cartilius' actual tomb on the Via Ostiensis near modern Acilia. This form of argumentation was used several times in the article to suggest that another group of monuments falls into the category of the memorial. Since we are not as well informed about all the facts pertaining to the members of this group, their status must, at present, be considered debatable.

Most of these monuments are located just outside the Herculanean Gate at Pompeii. Although they are within the *pomerium*, have no libation tubes, burial chambers, nor remains, the excavations of this site are inadequately reported and, indeed, incomplete: in most cases, the foundations and subsoil were not investigated. Moreover, one monument (that of T. Terentius Felix) did have a burial. Thus, although we may suspect that the other Pompeian examples (M. Cerrinius Restitutus, A. Veius, M. Porcius, A. Umbricius Scaurus, and Mamia) do belong to the category of memorial, we cannot be

certain that they do before further archaeological investigation — and we may here urge the necessity of such an investigation at the earliest opportunity.

In the meantime, the hermeneutically sounder position is to argue that these monuments are probably memorials, not tombs. That is, we must explain — not explain away — the absence in the archaeological record of burial, and we should not, as has too often been done for the last century, invent as yet undiscovered facts to make something strange into something familiar. «If one does not expect the unexpected, one will not find it out... »<sup>150</sup>.

<sup>150</sup> This paper was written with the aid of grants from the Academic Senate of UCLA and the American Council of Learned Societies, both of which I wish to thank. I am also grateful to Prof. Steven Ostrow, for discussing problems of freedmen and *augustales* with me; Prof. Silvio Panciera, for criticizing an earlier draft of this article and for giving me a number of important bibliographical leads for some of the inscriptions I discuss; Prof. James L. Franklin, for alerting me to his analysis of the *duoviral* campaign of C. Calventius Sittius Magnus; to Profs. Emilio Rodríguez Almeida and Eugenio La Rocca for informing me about the contents of their forthcoming articles on the topography of monuments in the *Campus Martius*; to Dr. Valentin Kockel, for permitting

me to photocopy the proofs of this forthcoming book on the cemetery at the Herculanean Gate in Pompeii; to my students Ann Woods and Rand Johnson for their helpful comments; and to Profs. Ernst Badian, Mary T. Boatwright, Joe Park Poe, and Jane Crawford for providing some useful advice and information. The canonical proviso dissociating these colleagues from responsibility for the views I have expressed is, I fear, more necessary than it usually is. Finally, it is a pleasure to thank the American Academy in Rome once again for permitting me to use its splendid facilities during research of this topic.

I wish to dedicate this paper to Prof. Frank Brown, my teacher of Roman topography, *honoris virtutisque causa*.



1 - Altar of C. Calventius Quietus, Pompeii (photo: B. Bergman).



2 - Altar of C. Munatius Faustus, Pompeii (photo: Fototeca Unione).

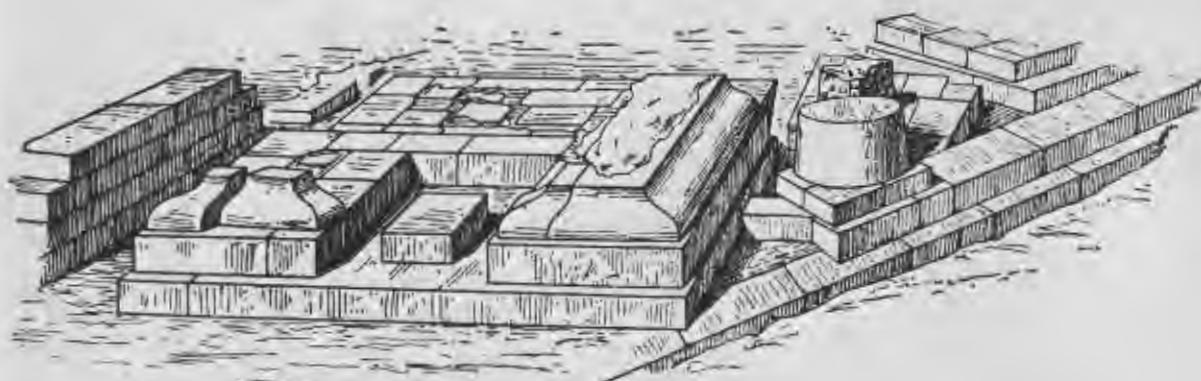


1 - Monument of C. Cartilius Poplicola, Ostia (photo: Fototeca Unione).

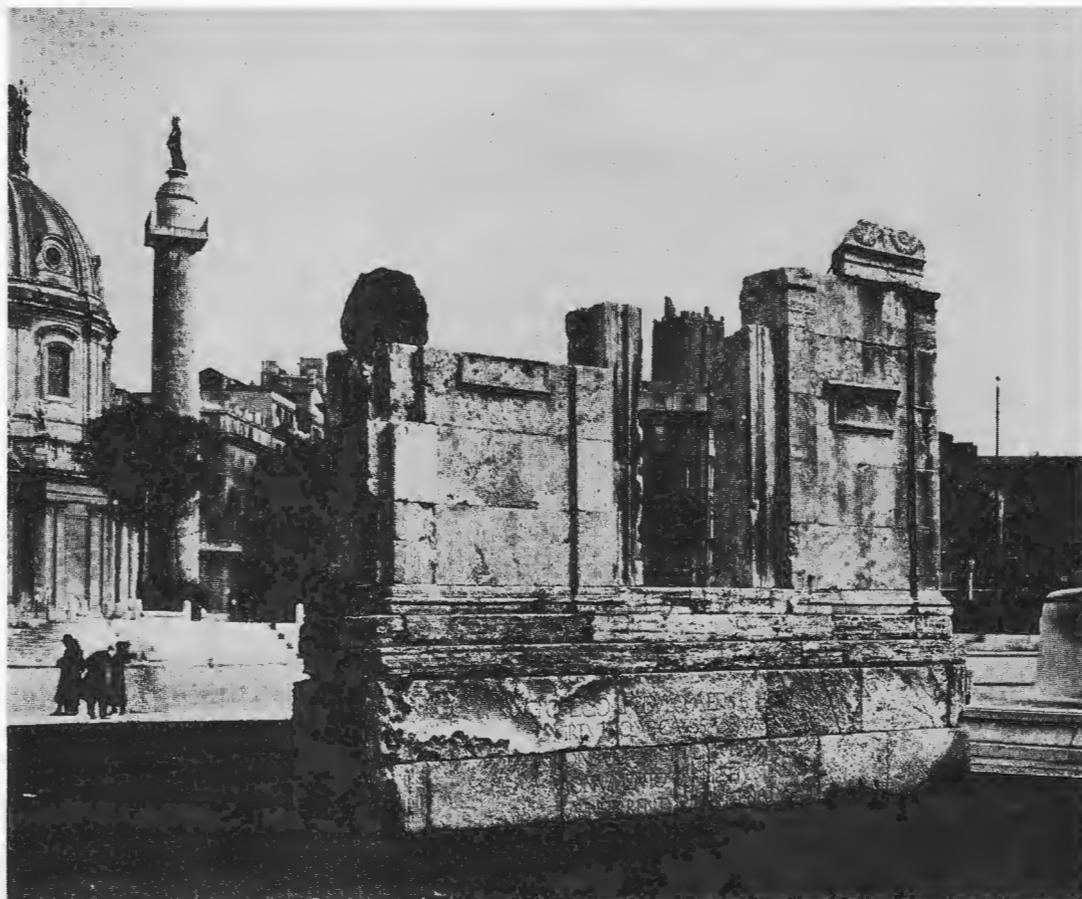




1 - Monument of Themistocles on Antonine coin from Magnesia (source: P. Gardner).



2 - Drawing of the Altar-Column complex under Janis Niger (source: C. Huelsen).



1 - Monument of C. Publicius Bibulus, Rome (photo: Fototeca Unione).



2 - Augustan Altar-Column complex at Glanum (photo: Frischer).



1 - *Sacellum* at the s.e. corner of the Basilica Aemilia, Rome (photo: Fototeca Unione).



2 - Inscription from the *sacellum* of the Basilica Aemilia (photo: Fototeca Unione).



1 - Column of Trajan (photo: Fototeca Unione).





1 - Altar of M. Nonius Balbus, Herculaneum (photo: Fototeca Unione).



# FAVONIUS

A JOURNAL DEVOTED TO THE CLASSICS AND THE CLASSICAL TRADITION

## PAPERS OF THE UCLA CONFERENCE ON CLASSICS AND COMPUTING

Los Angeles, July 19-20, 1986

Special Editor: BERNARD FRISCHER

*Favonius Supplementary Volume I (1987)*

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## Foreword

It hardly seems possible that nearly twelve months have passed since the Conference on Classics and Computing was held at UCLA on July 19 and 20, 1986. Since then, much has happened in this very exciting area of Classical studies--so much, indeed, that I feel I must almost make this "foreword" into an "afterword" (or perhaps a "forward"! ) to bring readers of this volume up to date. But first, let me give the conventional--and very sincere--notes of thanks to the many individuals who helped make the conference such a great success.

Seventeen speakers and over sixty participants attended the conference, and it is only proper that I begin by thanking our guests for taking the time to come to Los Angeles in the middle of summer vacation and for helping to make our exchange of ideas so intense and fruitful. Special thanks are owed to David Blank (UCLA) and Tom Martin (Pomona), who moderated the three sessions of the conference and who guided the discussion periods in a most stimulating way. Marion True, Curator of Antiquities at the J. Paul Getty Museum, graciously arranged for our visit to the museum and for our inspection of her videodisc project on Greek Vases. I am sure that all who attended will join me in thanking Jeanne Costello, formerly on the staff of the UCLA Department of Classics, whose coordination work was truly flawless. Last, but not least, I should gratefully acknowledge the fact that crucial financial support for the conference was given by Msrs. Kurt Forster, Director of the J. Paul Getty Center for the History of Art and the Humanities, and Herbert Morris, the Dean of Humanities at UCLA.

Since last summer, developments have proceeded apace in what is surely the most rapidly changing area of Classics. Ibycus Systems has marketed its Ibycus Scholarly PC, of which a prototype was shown at the conference. Paul Kahn has completed Isocrates and delivered it to the Classics and Religious Studies departments at Brown. He has published an extremely informative final report ("Isocrates Project Final Report," *IRIS Technical Report 87-2*), which is available from IRIS, c/o Brown University, Box 1946, Providence, RI 02912. Elli Mylonas has finished her new user interface and incorporated it as part of Isocrates. Marion True's videodisc project (about which she spoke at the conference, but which is unfortunately not described in one of the papers that follow in this volume) has been completed and is being used by hundreds of Getty Museum visitors each week. Karl Squitier and Luci Berkowitz have now published the second edition of their *Canon of Greek Authors and Works* (New York and Oxford 1986). Theodore Brunner has published the paper he gave at our conference ("Data Banks for the Humanities: Learning from

'Thesaurus Linguae Graecae") in *Scholarly Communication*, Number 7 (Winter 1987). Major progress can also be reported on Dan Veditz' Online Greek-English Lexicon project and Neel Smith's Morpheus, a morphological parser for Greek (described at the conference but not published here). Undoubtedly the single most exciting piece of news during the past twelve months is that Greg Crane, Jud Harward, and others have received a commitment for a major grant from the Annenberg/CPB Project to support development of their project Perseus, a total computing environment for exploiting the TLG and other Classical databases. Perseus and complementary projects at UCLA and elsewhere will be the subject of a special session to be held at the October, 1987 meeting of EDUCOM in Los Angeles.

Let me conclude by thanking Robert Cape, editor-in-chief of *Favonius*, for agreeing to publish these conference papers as a supplementary volume of his important new journal and for his tireless work in ensuring that the publication is both well-edited and beautifully designed. How appropriate that *Favonius*, a journal devoted to publishing the work of the Classicists of tomorrow, should provide the forum for recording how today's Classicists are planning to revolutionize their field in the future!

Bernard Frischer,  
10 July 1987

## Classics and Computing at UCLA and in the Profession

Bernard Frischer

*University of California, Los Angeles*

I speak to you today not as a computer specialist--which I cannot claim to be--but as the chairman of a department that has recently experienced the computer revolution. I am here to report on what we have done with Classics and computing at UCLA, what we plan to do in the future, and how I think we can progress most efficiently by cooperating with other departments around the country.

One year ago, the UCLA Department of Classics owned just one computer--an IBM PC XT, which was mainly used for administration. Much has changed in the last ten months. In the summer of 1985, thanks to a contract with the Getty Center for the History of Art and the Humanities, the department was able to rent six ports on a UCLA VAX 11/750 running Berkeley UNIX 4.3 and to purchase a 420 mb. hard disk and the TLG tapes. Greg Crane was kind enough to make us a beta testing site for his Harvard TLG Search Programs and for a version of MacTerminal which enables the VAX to communicate with a Macintosh. Mark Cogan kindly gave us an early version of his program, KADMOS, which permits the Apple LaserWriter to print Greek. Macintoshes give access to the system twenty-four hours a day, seven days a week in departmental offices or from home via modem.

The reception of this system by our graduate students and faculty has been quite enthusiastic. Most faculty now own Macintoshes and modems. Almost all faculty and graduate students have attended one or more of the quarterly Saturday afternoon tutorial sessions on using the system offered by the chairman of our computer committee, Prof. David Blank. Computer competence, from word processing to string searches

through the TLG, is very high. As faculty have become adept at using the system in their own research, they have given graduate students assignments requiring use of the TLG. Most graduate papers written this year reflect our students' familiarity with text and word processing. One professor--Andrew Dyck--has made a successful foray into the world of desktop publishing. He has produced on our LaserWriter his own edition with commentary of some essays by Michael Psellus. When the printer for the Austrian series *Byzantina Vindobonensia*, in which the book will appear, saw the high quality of Prof. Dyck's printout, he remarked, "I am very envious of you." When the scholars in this room hear that the book is appearing in print a scant five weeks after it was sent to Vienna--and without ever having gone through galleys and page proofs--they will, I am sure, be equally envious of Prof. Dyck.

The impact of the computer on our department has thus been quite marked. Faculty research has been speeded up; the quality of graduate student work has increased. Social relations between students and faculty have improved as members of the department have found they share a new and very important common interest. Our ability to attract excellent undergraduate and graduate students has perceptibly increased. Next year, for example, we will be welcoming two new graduate students with programming experience; they chose to come to UCLA in part because of our system and the opportunity it affords for new research in traditional areas of Classics as well as in computer applications.

Our use of the enormous TLG database is presently limited to two functions: (1) the library function, whereby the user can read a text on the computer; and (2) the search function, whereby the user can find all the occurrences of a word or string in an author, genre, or in all of Greek literature, usually in just a few seconds. We have made modest progress this academic year toward implementing a third function--the grammatical and stylistic function. We have co-sponsored, with Harvard University, the creation of an Attic Greek morphological parser by Neel Smith and Joshua Kosman at Berkeley. We recognize that the current system needs to be enhanced in many ways to realize its great potential as a tool in Classics research and instruction.

What are some of these ways? First, there are no instructional uses of the database, for the simple reason that current software presumes a fairly high level of fluency in ancient Greek. Second, the available search programs leave much to be desired in user-friendliness and in power to manage and manipulate the database. Boolean operators are not yet available, nor have the resources of the Macintosh been tapped to any degree. Finally, the preoccupation with string searching, while understandable, has given many Classicists the wrong impression that the primary use of the database is that of an electronic concordance or library. There are many other things that we can do with the TLG.

At UCLA, we have been encouraged by the central administration during the past academic year to develop a three-year plan for use of the

computer in research and instruction. In our department, we began by envisioning an ideal multimedia expert system for Greek, Latin, and Classical Civilization. We proceeded on the assumption that our vision could be realized in the next ten to fifteen years, when Fifth-Generation Computer Systems<sup>1</sup> and massive textual and visual databases will be created and made commercially available. Our three-year plan was thus understood to be a step in the direction of a definable goal.

Before describing our short-term plan, let me sketch out my vision of where we will be in ten or fifteen years. By that time, we should have created a Classics Expert System serving everyone from the beginning student to the most advanced scholar. At the heart of the system will be vast visual and textual databases of the primary materials of the field--manuscripts,<sup>2</sup> inscriptions, archaeological sites, art, architecture, and other artifacts--as well as the major reference works and that 25% or so of the secondary literature which is used over 50% of the time.<sup>3</sup> Communication with the system will be almost entirely by voice. Voice recognition and synthesis and the natural language processing of Greek and Latin will have progressed far enough to permit computer-managed instruction in the ancient languages, starting from the elementary level. Machine translation<sup>4</sup> will permit students of Classical Civilization--i.e., those who study antiquity through English translations--to access the same textual database as is used by students and scholars of Greek and Latin. Instruction and research will emphasize interdisciplinary approaches, since the expertise of the ancillary specialties of the field will have been incorporated into the Expert System. For instruction, this means that learning will take place in environments in which a linguistic signifier is encountered with immediate visualization of--and, when possible, dramatized interaction with--the corresponding signified. For scholarship, this means that quantification and statistical analysis will become increasingly important, as will the methodologies of economics, psychology, and sociology, which facilitate

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<sup>1</sup> See T. Moto-Oka (ed.), *Fifth Generation Computer Systems. Proceedings of the International Conference on Fifth Generation Computer Systems, Tokyo, Japan, October 19-22, 1981* (Amsterdam, New York, Oxford 1982).

<sup>2</sup> The Thesaurus Linguae Graecae project gives us ancient Greek literature through modern scholarly editions; the ideal Classics Expert System will include a database of the actual manuscripts and papyri on which the modern editions are based along with a collation program for automatically representing the ancient, medieval, and modern evidence for the a text.

<sup>3</sup> Using a library database program such as UCLA's ORION, it should be easy to determine the most frequently consulted books and journals within a certain range of call numbers. It is my undocumented suspicion that a very small percentage of books accounts for a very high percentage of what readers actually use in a field.

<sup>4</sup> See H. Tanaka, S. Chiba, *et al.*, "Intelligent Man-Machine Interface," in T. Moto-oka, *op.cit.*, 147-155.

the analysis of cultural artifacts of different periods, proveniences, and types. In this ideal world, students will learn faster and better and will even be able to speak Greek and Latin, for the first time in centuries.<sup>5</sup> Scholars will be freed from much, if not all, of the drudgery presently spent on data collection and will have more time to develop and discipline their informed historical imaginations.

As we see it, the great challenge during the next three years or so is to create a flexible framework for software design that will persevere through years of innovation in technology and educational theory. The framework we have been developing has three parts: a core of multimedia databases; around the core, an inner ring of scholarly utilities for using and modifying the databases; and an outer ring of pedagogical applications, which use the scholarly utilities and the databases. The nature of the core and inner ring is fairly clear and requires more funding than imagination to create. The core includes databases for Greek and Latin texts, morphologies, dictionaries, syntax; images of archaeological artifacts of all kinds, from coins and lamps to statues and buildings; and an encyclopedia and bibliography.<sup>6</sup> The inner ring--which might be imagined as a Classicist's "toolkit" or "workbench"--includes search programs with Boolean operators for data collection from the databases; and parsers for morphology, syntax, rhetoric, semantics and meter. The character of the outer ring--the interface with the student on all levels--has taken over a year to sketch out through the collaboration of subject experts and specialists in instructional-media development.

Whereas the structure of the core and inner ring reflect that of the field of Classics itself, that of the outer ring must be dependent both on this field and on a theory of knowledge acquisition. The theory we have devised is a hybrid based on the key notions of student interaction with the

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<sup>5</sup> This feature of CALI in Latin and Greek cannot be overemphasized since it will enable Classicists to benefit from "modern language" techniques of interactive oral instruction. Thus, while CAI has been found to have only modest effectiveness in general (see J. A. Kulik C.-L. C. Kulik, P. A. Cohen, "Effectiveness of Computer-based College Teaching: A Meta-analysis of Findings," *Review of Educational Research* 50 (1980) 525-544; K. Ahmad, G. Corbett, *et al.*, *op.cit.*, 119-122), it is reasonable to expect that CAI will have a high level of effectiveness in Greek and Latin instruction. Significantly increased effectiveness via videodisk-based instruction is reported by A. M. Abdulla, L. O. Watkins, J. S. Henke, "The Use of Natural Language Entry and Laser Videodisk Technology in CAL," *Journal of Medical Education* 59 (1984) 739-745.

<sup>6</sup> Many of these databases are already being created; for example, the American Philological Association is digitizing the standard Classics bibliographical annual; the J. Paul Getty Museum is creating a videodisk for Greek iconography; and our department is digitizing the Greek-English lexicon.

learning environment<sup>7</sup> and the arousal of the student's curiosity.<sup>8</sup> The theory of interaction holds that students learn best when they become actively involved in their own education; the theory of curiosity (or, "effectance") arousal explains how we become motivated to learn in proportion to the confusion we experience in a new environment.

It seems to me that these two theories of learning are complementary--one stresses the need for the student to be curious, the other tells us how to make people curious.

In an ideal world, each college or high school student would be assigned a private tutor of enormous erudition, charm, and pedagogical skill and would be taken on a grand tour of the worlds of nature and culture to realize this theory of education. In the real world--especially at an enormous state university like UCLA, where we are presently constructing a multimedia lab with 250 workstations and where the number of Classics students has grown from 1100 per year to 3000 since 1980--computer-assisted instruction is undoubtedly our best hope. One of the strengths of CAI is, of course, its highly interactive nature.<sup>9</sup> As for curiosity arousal, the

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<sup>7</sup> The importance of active student involvement in learning has been emphasized in two recent reports on American education; see M. J. Adler, *The Paideia Program* (New York 1984), especially pp. 167-179; and *Involvement in Learning* (National Institute of Education, October 1984), especially pp. 17-19.

<sup>8</sup> See R. W. White, "Motivation Reconsidered: The Concept of Competence," *Psychological Review* 66 (1959) 297-333; R. C. Russ, J. A. Gold, and W. F. Stone, "Attraction to a Dissimilar Stranger as a Function of Level of Effectance Arousal," *Journal of Experimental Social Psychology* 15 (1979) 481-91.

<sup>9</sup> See, e.g., K. Ahmad, G. Corbett, et al., *Computers, Language Learning and Language Teaching* (Cambridge 1985) passim, especially p. 4: "the computer can offer interactive learning. This means that it can conduct a two-way learning session with the student. It is much more than a mere programmed textbook, whose powers of interaction are virtually limited to an ability to reveal the correct answer: the computer can 'assess' the student's response. It can also display messages, take the student through subsequent attempts at a question, and even take the student to a different section of the package, depending on the nature of the response. The computer can do all this very quickly--its response is practically instantaneous. If the computer is impersonal and literal-minded, it is also unfailingly accurate and precise. It does not tire, and its attention does not falter. It can repeat an activity with none of the errors which easily arise from repetition by humans, and it is impartial and unbiased as the linguistic material which is typed into it. It can handle a very large volume of interaction and can deliver to the student feedback of some subtlety, at more frequent intervals than would be possible for a human teacher in all but individual tuition sessions. And it is flexible in a number of significant ways..." On the importance of eliciting student interaction in language learning, see J. H. Schumann, "Second Language Acquisition: The Pidginization Hypothesis," *Language Learning* 26,2 (1976) 391-408, at p. 403.

computer with multimedia programming is an ideal tool for creating an imaginary world that is at the same time confusing and intriguing to the student and for providing him with a friendly guide for successfully navigating through that world.

As chairman of my department, I am particularly concerned to know how we will be able to develop our system in these new directions in the coming months and years. I have to ask myself: why will be our sources of funding? Do we have to do everything ourselves at UCLA, or can we continue the very fruitful cooperation with other institutions that has taken us so far so fast during the past year?

As for funding, it is clear that some progress can be made at little or no cost. I mentioned the student programmers who are already donating their time out of a sense of fascination with the computer and love of the field of Classics. I expect the number of these students to increase in the coming years because we will be introducing a new specialization in computing at UCLA in connection with the traditional majors. A Classics major will soon be able to graduate with the traditional degree and with a specialization in Classics and Computing, if he or she takes three general courses in programming and one or two specialized classes in programming for Classics. The student projects in these classes ought to be designed as modest enhancements to our present computer system. Dan Veditz's Greek Dictionary Project is a striking example of the kind of student projects we ought to be seeing in the near future at UCLA.

The UCLA administration should also be able to help through instructional development funds set aside when UCLA received a large grant from IBM. Ideally, these funds could be used for some of our projects that are relatively costly because they require sophisticated programming, large data-entry, or new equipment purchases. So far, however, the promise of significant support for the humanities has only begun to be realized.

A second source of major funding is, of course, extramural. We know that several foundations are interested in computer applications to the humanities, and we know that applications from Classicists are, in fact, pending. We welcome the support already given to the TLG project by a variety of foundations and to the new corresponding project for Latin recently begun at Yale, about which Joe Solodow will be talking in our second session. I am, however, concerned that the agenda of extramural (and, for that matter, intramural) funding sources may not correspond very well to the agenda of the Classics profession itself. I hope, by the way, that one of our purposes in this conference will be to begin defining such an agenda. In particular, I worry that it may be very difficult to make non-Classicalists see the integral relationship between databases, scholarly tools, and pedagogical applications.

Assuming, then, that one is somewhat dubious that all necessary resources will be forthcoming from extramural and intramural sources, where will we Classicists find the funding we need? Thus answer, I think, is fairly obvious: either from the kind of informal cooperative arrangements between universities that I have already mentioned or else from some more formal entity. I would like to conclude by making the case that the second alternative is likely to be better in the long run.

For a year now, I have been talking to Classicists about the desirability of founding a non-profit corporation called the Classics Computing Group, or CCG for short. The purpose of the corporation would be to promote the creation and dissemination of portable computer applications for our research and teaching and to give advice to universities planning to computerize in our field. The CCG would receive funding from supporting institutions, from royalties and consulting fees, and, perhaps, from foundation grants. In the first year or two of its existence, the CCG would undoubtedly have a small number of supporting institutions and would have to have a correspondingly higher annual membership fee than should eventually be the case. For the sake of argument, let us imagine five founding universities that each contribute \$5,000--or the equivalent amount in services--for the creation of new computing materials for Classics. In return for their contributions, the universities receive new products *gratis* and have a vote on how development funds are to be spent each year. Five thousand dollars would be well within the range of what several Classics departments are now, in fact, investing in computer activities each year but would yield a much higher return in terms of product and support. One university--for example, my own, which has considerable underutilized hardware in its system--might contribute the service of providing a bulletin board for the CCG and perhaps even dial-up access to the TLG and CCG software. In a few years, the CCG might well be able to afford a fulltime staff person, who would be on call to offer support to users around the country and would also be a programmer. After five years, the number of supporting institutions should have grown considerably, royalties for the products created should have begun to flow back to the CCG, and the annual membership fee could perhaps be substantially reduced.

The CCG would be advantageous to programmers and users, as well as to departments and universities, in a number of ways. It would offer a vehicle for bringing new Classics material to market by being represented at the annual APA/AIA convention and by other forms of publicity. It would offer a fair royalty to programmers and enable them to share ownership of their intellectual property, not with a single university which which they may not always be associated, but with a national organization. It would help set national standards and priorities for Classics computing development. Most importantly, it would prevent needless duplication of efforts across the country and ensure that the profession gets the greatest return on the limited resources available to it for computer projects. For the user, the CCG would help both by providing support and

by establishing standards for product testing, compatibility, and portability. Thus users, like programmers, would not find themselves inextricably linked to a specific system at a single university.

Most colleges and universities--and certainly most Classicists--still do not have access to the greatest research and teaching tool of our age, the TLG. Even those that have the TLG use it primarily as an electronic concordance and library. Wilamowitz used to say that Classicists have to eat a lot of dust but shouldn't enjoy doing so! If we are to add new databases to the TLG and begin to realize the computer's potential to replace much of the dusty drudgery of our field with expert systems, then we need more cooperation and less competition between universities, more coordination and less wasteful duplication of our efforts. This conference is, I hope, one step in the right direction. The CCG, or something like it, would, I think, represent an even greater leap forward.

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Matthew S. Santirocco

Number 27

Shifting Paradigms

by  
Bernard Frischer

Bernard Frischer

SHIFTING PARADIGMS  
New Approaches to Horace's *Ars Poetica*

Scholars Press  
Atlanta, Georgia

# SHIFTING PARADIGMS

Bernard Frischer

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## PREFACE

"You're going to include *this* in your book on the *Ars Poetica*?" asked my friend, Ann Scott, looking incredulously at my tables and charts on the date of the poem. The idea of publishing the material that follows as a separate book was born that day. My motivations in dividing my work on the poem into at least two publications are several. First, the methodological and literary styles of the following work are quite different from those in the purely interpretative book that I also hope to publish on the *Ars Poetica*. The two works may thus appeal to two rather different readerships, neither very interested in the concerns of the other. Secondly, since the longer, interpretative book I plan to publish elsewhere contains a re-reading of the poem as a parody, it makes sense to precede that book with the present study, which provides some of the background assumptions and scholarly underpinnings for my new reading. Not that my new interpretation could not stand on its own, in the event that the following study falls on deaf ears or on minds more mathematically, or prosopographically, agile than mine.

The statistical analyses that follow are based on the digitized text of Horace edited by F. Klingner and kindly made available to me in Macintosh™ format by Tad Brennan of Princeton University with the consent of the publisher, the Packard Humanities Institute. I wish to thank Dr. David Packard for permission to use the text and Dr. John Gleason for helping me to obtain a copy. Mr. Brennan informs me that "the Horace files were created using the Ibycus Scholarly Computer; the P.H.I. Demonstration CD-ROM #1, a collection of Latin texts published by the Packard Humanities Institute; and Ibyxfer, a file-transfer program written by Wilkins Poe of Yale University. The Packard Humanities Institute CD-ROM describes itself as 'partially corrected,' and this must be taken at face value; errors are sure to exist." I have not had the resources to proofread the text nor to do more than correct a few errors that I happened to note in the course of these investigations. Since there are over 40,000 words of Horace extant, I would hope that any textual errors that may

have crept into the P.H.I. text will have but little impact on the statistical studies that follow.

Once transferred to Macintosh format, analysis of the text was aided by the text-processing program, Doug Clapp's Word Tools™, published by Aegis Development, Inc. Most of the statistical analyses and graphics were produced with the help of the statistics package, Systat 3.2™, published by Systat, Inc. I also used the Data Desk—Student Version™.

Readers who are unfamiliar with statistics will inevitably be disappointed to find that this book presumes at least a basic understanding of the field and does not attempt to provide more by way of background than references to the first-year college textbook that I myself used in getting started (A. Agresti and B. Finlay, *Statistical Methods for the Social Sciences* [San Francisco and London, 1986<sup>2</sup>]). Before tackling such a work, students of literature may be directed to A. J. Kenny's approachable book, *The Computation of Style* (Oxford 1982), which introduces many of the fundamental concepts of statistics through literary examples and problems.

I wish to thank the following for helpful discussions and comments about this and related aspects of my work on Horace: William S. Anderson (Classics Dept., Berkeley), Ernst Badian (History Dept., Harvard), David Blank (Classics Dept., UCLA), Irene Bragantini (University of Naples), Dee Clayman (Classics Dept., Brooklyn College, CUNY), Enrica Croda (Economics Dept., University of Venice), Andrew Dyck (Classics Dept., UCLA), Karin Einaudi (Fototeca Unione, Rome), Carlo Ferrari (School of Engineering, University of Padua), Nathan Greenberg (Classics Dept., Oberlin), Patricia M. Greenfield (Psychology Dept., UCLA), Erich Gruen (History Dept., Berkeley), William Harris (History Department, Columbia University), Richard Janko (Classics Dept., UCLA), Daniel Javitch (Comparative Literature Dept., New York University), Rudolf Marloth (Senior Scientist, Radar Systems Group, Hughes Aircraft Co., Los Angeles), Charles Murgia (Classics Dept., Berkeley), Michael Putnam (Classics Dept., Brown University and currently Mellon Professor of Classical Studies at the American Academy in Rome), Lorenzo Quilici (University of Rome), Annalise Quintavalle (Dept. of Statistics, University of Padua), Peter Rockwell (Rome), Ann Scott (Classics Dept., University of Delaware), Russell T. Scott (Dept. of Latin, Bryn Mawr College), Volker Michael Strocka (Archaeological Institute, Freiburg University), and Laura Weiss (Psychology Dept., UCLA). Responsibility for the opinions expressed and the statistics reported here is of course mine alone.

David Konstan (Classics Dept., Brown University) was kind enough to examine the manuscripts of Charisius in Naples for me. Robert Matijasic, of the Archaeological Museum of Istria, graciously supplied information about the Pola inscriptions mentioning L. Calpurnius Piso and also provided a photograph of *Inscr. Ital. X.i.65*. Dott. M. L. Velocchia Rinaldi and Arch. Costantino

Centroni of the Soprintendenza Archeologica per il Lazio provided helpful information about Horace's Villa at Licenza as well as access to archaeological material housed in the Licenza Museum. Mr. Clyde James, Director of the California State Library, Sutro Branch, answered an important bibliographical question about a copy of Lambinus' Horace edition in his collection. I am also very grateful to the German Archaeological Institute in Rome for permission to publish the photographs in figures 2 and 3 and to the Soprintendenza Archeologica per il Lazio for permission to make my own photographs of material housed in the museum of Licenza. Joan Gruen kindly lent me her camera (which I regret to say I inadvertently damaged) for photographing Horace's Sabine Villa; Mr. Antonio von Marx let me use his apartment (which I believe I returned no worse for the wear) when I visited London to work in the British Library (I did, however, manage to crash his Macintosh). Speaking of computers, I owe an enormous debt of gratitude to Apple Computer, Inc. for its generous gift of Macintosh computers to the Division of Humanities of UCLA. Anne Rivera of Apple took an early interest in my work, providing much needed help and advice.

I was fortunate to be able to work in the following libraries, whose staffs I wish to thank for their many kindnesses: the Biblioteca Apostolica Vaticana; the Biblioteca Civica di Bergamo; the Biblioteca dell'Accademia dei Concordi in Rovigo; the Biblioteca Marciana; the British Library; the University Research Library of UCLA; and in Padua, the Biblioteca Civica, the Biblioteca Universitaria, and the Biblioteca dell'Istituto di Filologia Latina. The librarians Marino Zorzi, Marco Buonocore, Leonard E. Boyle, O.P., and Lucilla Marino facilitated my work in many ways.

Special thanks are also due to Nicholas Horsfall (Rome)—who read drafts of the manuscript and made many encouraging comments and helpful bibliographical suggestions—and to Eleanor Winsor Leach (Classics Dept., University of Indiana)—who provided some very valuable suggestions, particularly about how to arrange the various sections of this work. Matthew Santirocco (Classics Dept., University of Pennsylvania) has not only discharged his duties as editor in exemplary fashion but, *Quintilii ritu*, has become a good friend as well. Finally, it is a pleasure once again to acknowledge the support generously given this research by the Academic Senate of UCLA and to thank Prof. Joseph Connors, Director of the American Academy in Rome, for giving me permission to stay in the Academy while researching this book in Rome.

On this numerically highly significant day in our lives, I dedicate this book to my wife, Jane Crawford, who will, I am sure, be even happier than I am to see it completed and sent on its way—at least, as long as *nescit vox missa reverti*.

—Padua, December 1, 1989

revised in Los Angeles, April, 1991

## INTRODUCTION

About one instance of the relationship between historical background and poetic foreground in the works of Catullus, Sir Ronald Syme wrote:

The proconsul and his 'comites', Veranius and Fabullus, have a chronological bearing on the life and writings of Catullus, that imbroglio of problems where dogma and ingenuity have their habitation, where argument moves in circles, and no new passage in or out.<sup>1</sup>

These words might seem to provide an inappropriate—or, at least, inauspicious—beginning to a new study of the centuries-old and interrelated problems of the title, date, addressees, and genre of the poem we call Horace's *Ars Poetica*. Dogma and ingenuity have certainly found their habitation in scholars' treatment of these problems, too. About this work, Horace's longest and most influential, we know much less than we sometimes assume. Moreover, much of what we think we know about these topics is subject to doubt and perhaps even revision. The purpose of this study is to support these claims, which, once demonstrated, set the stage for the new interpretation of the poem as a parody of Peripatetic poetics that I will adumbrate here and present with full details elsewhere.

By titling this book, *New Approaches to Horace's Ars Poetica*, I want, first of all, to allude to Syme's phrase, "new passage in." By using the plural, I also want to suggest that a historical reading of a poem as complex and elusive as the *Ars Poetica* requires that we make our way not along a single royal road, but through a variety of approaches, old and new, if we are to stop moving in the same interpretive circles. Progress in this as in any scholarly project comes from our ability to bring to bear new evidence, new methods, or

<sup>1</sup>*Roman Papers*, vol. 1, ed. E. Badian (Oxford 1979) 301-302 (= *Classica et Mediaevalia* 17 [1956] 130-131).

both to address old problems. These methods help us to eke out more information from the evidence contained within the poem itself and to find more unexploited historical evidence that can help us to calibrate our reactions to the poem with the knowledge and assumptions of Horace's informed, contemporary readership. For the first, I would single out statistical stylistics, which, applied here for the first time to the problem of dating Horace's poetry, can rely on data within the poems themselves to suggest a probabilistic dating of the *Ars Poetica*. Applying art-historical analysis to the interpretation of the opening lines of the poem exemplifies the second way in which a newly applied methodology can provide a richer context for historical understanding of the *Ars Poetica*. Of course, traditional philological techniques have a contribution to make, too, e.g., in helping us to determine the poem's genre and to make sense of the ancient and medieval evidence about its title and position in Horatian manuscripts.

Progress can also be made by shifting our perspectives as critics. For far too long the *Ars Poetica* has been read as something that would be rather anomalous among Horace's poems: a sincere and almost confessional "how-to-do-it" booklet. Read in this way, the poem can be—and in this century generally has been—too easily dismissed as disappointing or worse. "The nineteenth century, like the twentieth so far, did without the *Ars*," wrote the translator C. H. Sisson with much justification.<sup>2</sup> In their history of literary criticism, Wimsatt and Brooks wrote rather dismissively that "the *Ars Poetica*...is a nice mélange of objective and critical rules with snatches of studio wisdom."<sup>3</sup> It is a telling fact that even the most historically-oriented literary critics of Horace have rarely found insights in the *Ars Poetica* that aid them in understanding his other poems. To cite perhaps the most striking example, in his influential book on Horace, Fraenkel did not discuss the poem at any length, mentioning it mainly in footnotes.<sup>4</sup> Yet, if the *Ars Poetica* were really Horace's poetic credo, it ought to be of some utility in the practical criticism of his poetry. Persona-theory, applied so fruitfully to other Roman poetry, including Horace's own, can also serve us well in this endeavor to break free of critical ruts and circles. Once we dis-

<sup>2</sup>C. H. Sisson, *The Poetic Art. A Translation of Horace's Ars Poetica* (Cheadle Hulme, Cheadle 1975) 19.

<sup>3</sup>W. K. Wimsatt, Jr. and C. Brooks, *Literary Criticism. A Short History* (New York 1957) 94. They go on to write: "Keep your pencils sharpened, carry a pocket notebook, drink a pint of beer with lunch...take your time in publishing. It is no derogation from such statements to say that they are not strictly parts of criticism. In the *Ars Poetica* of Horace they are, despite the random structure of the poem, not actually in great danger of being confused with criticism."

<sup>4</sup>E. Fraenkel, *Horace* (Oxford 1957). As far as I can tell, the only references to the poem occur at pp. 77n2, 125n3, 148n2, 177n2, 299, 308n1, 347n4, 365n1, 382, 389n3, 389n5, 393n3, and 398n4.

sociate Horace, the poet, from the speaker of the *Ars Poetica*, the poet's fictional creation, we can stop having to explain or edit away the poem's deficiencies and dullness, and we can begin to appreciate in it the same techniques of wit and satire that are so characteristic of Horace's poetry.<sup>5</sup>

The itinerary we will pursue through these approaches is as follows. In *Chapter 1* I discuss the ancient and medieval evidence about the title of the poem and its location in the ancient manuscripts of Horace's poetry, showing that modern editors' habit of printing the poem after or even with *Epistles II* and of giving it the title *Epistula ad Pisones* goes against the grain of the evidence and reflects the (in most cases probably unconscious) influence of some rather flimsy Renaissance theorizing. The evidence strongly suggests that we should view the poem as an independent work in the Horatian corpus. In *Appendix I*, the pertinent Renaissance texts for the letter-theory are reproduced.

In *Chapter 2* I tackle the problem of the poem's date, using statistical stylistics and more traditional historical and literary arguments to advocate an early date (i.e., 24-20 B.C.) against the currently fashionable late dating to the end of Horace's life. *Appendix II* presents some technical details.

In *Chapter 3* several of the major prosopographical and interpretive consequences of chronology are discussed. Of these, the first and perhaps most important is that the early dating does not force us—as has been assumed for over a century—into the uncomfortable position of having to identify Cn. Calpurnius Piso (cos. 23) as the senior addressee of the *Ars Poetica*. Rather, there is good reason to assign that role to L. Calpurnius Piso Caesoninus (cos. 58), a candidate never before considered, doubtless because of modern scholarly speculation that he died well before the *Ars Poetica* was written. In *Appendix III* is related the historical evidence from Pola supporting my suggestion that this speculation is probably wrong. Caesoninus—who had been memorably pilloried by Catullus for bad taste in choosing his literary companions and who had been branded the "Phalaris of *grammatici*" by Cicero—stood for bad literary taste in this period. The fact that the speaker of the *Ars Poetica* mentions him and Hor-

<sup>5</sup>I am aware of only one earlier attempt to apply persona-theory to the *Ars Poetica*: A. G. Wood, *Literary Satire and Theory. A Study of Horace, Boileau, and Pope* (New York and London 1985) passim. As will be seen below in *Chapters 3* and *4*, I do not agree with Wood's statements that "the 'I' of the [*Ars Poetica*] is portrayed much like the poet..." (p. 4) and that "we should not expect to find great differences between the texts and the stated beliefs of Horace. In the case of Horace it is extremely difficult to find inconsistencies between the poet and his personae" (p. 14). Wood's analysis, while claiming to be based on persona-theory, makes very little progress beyond earlier interpretations of the *Ars Poetica* precisely because it fails to find any inconsistencies between the poem and the behavior and "stated beliefs" of the poet.

ace's *bête noire*, Sp. Maecius Targa, as respected authorities on literature naturally calls the speaker's own authority into question—a suggestive piece of evidence for the parody-theory. This chapter concludes with a reading of the poem's opening lines, where I argue that through his misuse of rhetoric and his display of ignorance about new developments in Roman painting, the speaker is characterized right from the start as a pretentious pedant who abuses poetic license and is out of touch with the taste of Horace and his circle.

In *Chapter 4* I reconsider the generic classification of the poem, arguing that it more closely conforms to the features of Horatian *sermo* than to those of *epistula*—an exercise of interest for at least three reasons. First of all, refutation of the letter-theory reinforces the view that the *Ars Poetica* should not be printed with *Epistles* II or interpreted in the light of those poems. Secondly, the case for classifying the poem as *sermo* on the basis of formal features adds strength to the conclusion of *Chapter 2* that the poem was composed in the period between *Sat.* II and *Epist.* I: for, although, as *Carm.* IV shows, Horace could revisit a genre after a long absence, he generally did not do so, and hence our dating is more plausible to the extent that it puts the poem into a period of Horace's life when he was writing poetry of a similar kind. Finally, the classification of the *Ars Poetica* as *sermo* lends obvious support to its interpretation as a mock-didactic parody, since, especially in *Sat.* II, we find some striking passages and even whole poems in which Horace sends up pedants and their foolish dogmas.

Before joining the imbroglio that rages around these matters, I should stress that one of my main goals here is less to offer new solutions to the old problems than to reveal how speculative our answers to all these questions have been and—in view of the evidence—must, perforce, be. Another goal is to re-open discussion of these major problems facing a critic of the poem, something desirable, I think, because our most recent studies of the *Ars Poetica*, for all their virtues, have been lacking in this regard. Since some of these problems have not been thoroughly reconsidered for a century or more, solutions originally offered as speculations have almost come to have the status of facts. In pursuit of this second goal, I will be proposing some new solutions that, if not necessarily always more cogent than the possibilities encountered in the scholarly literature, are at least no more speculative than those they would replace.

As in the case of Catullus' poetry, which cannot be diachronically understood without bringing to bear what can be ferreted out about such historical personages as Piso, Veranius and Fabullus, the importance of this enterprise lies in the new framework for interpreting the *Ars Poetica* to which it gives rise. As we will see, once we show that there are new possible ways of solving such basic—if seemingly antiquarian—problems as dating and classifying the poem and identifying its addressees, we are well on our way to constructing a fresh reading of what may well be not merely the longest, but also the wittiest, of Horatian poems.

## CHAPTER 1

### THE TITLE OF THE POEM: ANCIENT AND MEDIEVAL EVIDENCE VS. RENAISSANCE SPECULATION

What we know, or think we know, about the background of a literary work can have a decisive effect on our interpretation. Clues provided by the author—particularly the title<sup>1</sup>—and facts uncovered, or commonplaces created, by scholars and recorded in introductions, prefaces, or even, in modern times, on dust jackets create certain expectations in us even before we read the first words of a text. As S. J. Wilsmore has recently written, “the literary work often possesses its title essentially in that it could not be the same literary work without it. Moreover, it often possesses many of its essential aesthetic properties—those that must necessarily be perceived if it is to be ‘appreciated’—as titles reveal them.”<sup>2</sup> J. Fisher noted that “the unique purpose of titling is hermeneutical: titles are names which function as guides to interpretation.”<sup>3</sup> These points are so obvious that they need not be elaborated here. They bear repeating because they have often been forgotten, or at least ignored, by critics of the poem that, as I will show presently, should be called the *Ars Poetica* but which is all too often given the misnomer *Epistula ad Pisones*—as it is, for example, in two otherwise excellent new studies recently published by Rudd and Kilpatrick.<sup>4</sup>

<sup>1</sup>Cf. H. Adams, “Titles, Titling, and Entitlement To,” *JAAC* 46 (1987) 7-21, at p. 17: “Titles don’t come at the ends or middles of texts, so the relation that we have been considering is always one involving expectation....”

<sup>2</sup>S. J. Wilsmore, “The Role of Titles in Identifying Literary Works,” *JAAC* 45 (1987) 403-408, at p. 408.

<sup>3</sup>J. Fisher, “Entitling,” *Critical Inquiry* 11 (1984) 286-298.

<sup>4</sup>I refer to N. Rudd, *Horace. Epistles II and Epistle to the Pisones* (‘*Ars Poetica*’) (Cambridge 1989) 19; and R. S. Kilpatrick, *The Poetry of Criticism. Horace Epistles II and Ars Poetica* (Edmonton, Alberta 1990) ix, 33, 52, 56, 72. In his new book for the general reader, D. Armstrong calls the poem *Epist. II.3* (*Horace* [New Haven 1989] 154), as does N. Rudd in his superb Penguin translation (*Horace, Satires and Epistles; Persius, Satires* [Harmondsworth, Middlesex, England 1979] 190-203).

It is thus useful to begin this study by reviewing what is known about the poem's title. The titles that we find in modern editions—*Ars Poetica*, *Epistula ad Pisones*, or *Epist.* II.3—are not supported by any evidence dating from Horace's lifetime. How Horace and his contemporaries referred to the poem is a mystery and is likely to remain one. Information about the title starts to become available about one hundred years after Horace's death in references to it by other writers. More information is contained in the late-antique scholia and in the medieval manuscript tradition. Now, normally such a wealth of material would be sufficient to establish something like the title of an ancient work, assuming, of course, that the evidence points in a certain direction, as it does in the present case. Why, then, do so many scholars use the titles *Epistula ad Pisones* or *Epist.* II.3 when the only title with strong ancient and medieval support is *Ars Poetica*?

Let us start by looking at the work's location in the ancient and medieval manuscripts of Horace's poetry and in modern printed editions. My aim is simple: not so much to add to our knowledge of such matters as to remind readers of Horace that the custom of printing the *Ars Poetica* at the end of the corpus with (or, next to) the "sincere" poetic letters to Augustus and Florus in *Epistles* II is modern and is not supported by any credible ancient evidence.

Where the *Ars Poetica* appeared in late-antique texts of Horace's works can be inferred from the arrangement of the poems in the principal medieval manuscripts and from the order in which the ancient commentator Porphyrio discusses the works,<sup>5</sup> as Vollmer's table (TABLE I, next page) indicates.<sup>6</sup>

Vollmer compiled this table in order to try to group the mss. into families—that is, for purposes of textual history and criticism. This attempt failed, as Brink trenchantly showed,<sup>7</sup> but the information is still useful for another purpose. With its help, we can easily see that in the ancient texts, the *Ars Poetica* came either fourth, after the *Carm. Saec.* (CLASS I), or else second, after the *Odes* (CLASS II). In either case, the poem was kept quite distinct from *Epist.* I and II. The ancients considered it an independent work in Horace's corpus.

We do not understand why, nor do we know exactly when, the poems of Horace were arranged in these ways. Wickham thought that the *Ars Poetica* and *Odes* appeared as the first two works because of their utility in the schools, but

<sup>5</sup>His commentary presumably follows the order of the works in the ancient edition he was using.

<sup>6</sup>See Brink, II, 14; F. Vollmer, "Die Überlieferungsgeschichte des Horaz," *Philologus Suppl.* 10 (1907) 290. The abbreviations for the *sigla* are from Brink (see II, 53); here and there Vollmer's differ.

<sup>7</sup>Brink, II, 15.

this arrangement only pertains to Vollmer's CLASS II.<sup>8</sup> Vollmer thought that the principle of arrangement of the second class was alphabetical order.<sup>9</sup>

CLASS I			
C(E)	B	A	D
1. Carm.	Carm.	Carm.	Carm.
2. Epod.	Epod.	Epod.	—
3. Carm. Saec.	Carm. Saec.	Carm. Saec.	—
4. <i>Ars Poetica</i>	<i>Ars Poetica</i>	—	—
5. Serm.	—	Epist.	Epist.
6. Ep./Serm.	Serm.	—	Serm.
CLASS II			
R λΙ δπφψ	V(?)	Porphyrio	
1. Carm.	Carm.	Carm.	
2. <i>Ars Poetica</i>	<i>Ars Poetica</i>	<i>Ars Poetica</i>	
3. Epod.	Epod.	Carm. Saec.	
4. Carm. Saec.	Carm. Saec.	Carm. lib. V [=Epod.]	
5. Epist.	Serm. (?)	Serm.	
6. Serm.	Epist. (?)	Epist.	

TABLE I: POSITION OF THE *ARS POETICA* IN THE MSS. OF HORACE

What is, in any event, clear is that before Henricus Stephanus (Henri Estienne), whose influential edition of Horace was first published in 1549, almost no editor placed the *Ars Poetica* after *Epist.* II at the very end of the Horatian corpus.<sup>10</sup> It is also clear that Stephanus' location was not immediately accepted by everyone: for example, the new version of the great variorum edition of Parrasio, Badius van Assche, Poliziano, Sabellico, et al., published in Venice

<sup>8</sup>E.C. Wickham, *Quinti Horatii Flacci, Opera Omnia*, vol. 2 (Oxford 1891) 327, 332.

<sup>9</sup>Vollmer, op. cit. (*supra* n. 6) 278n30. Brink rightly expresses scepticism at II, 14.

<sup>10</sup>H. Stephanus, *Q. Horatii Flacci, Opera Omnia* (Paris 1549) = Mills 147. A new edition is listed at Mills 199, 200, 209. Second editions of this are found at Mills 239 and 240; the third edition is at Mills 256. On Stephanus (1528-1598), see A. A. Renouard, *Annales de l'imprimerie des Estienne* (Paris 1837); J. Jehasse, *La renaissance de la critique* (Saint-Etienne 1976) 71-88.

An earlier edition to print the *Ars Poetica* as the last work in the Horatian corpus was that of Joannes Aloisius Tuscanus published in ca. 1474 (= Mills 32, with a date of ca. 1475; ca. 1474 is the date given in the British Library catalogue for I.B. 18046, which I have examined in London). There may well have been other pre-Stephanus editions to print the *Ars Poetica* last; I cannot claim to have inspected every printed edition of Horace predating 1549.

in 1553, kept the *Ars* in its old position after the *Carmen Saeculare* and before *Sermones* I, the position in C(E).<sup>11</sup> This is the same place in which the anonymously edited *opera omnia* published *ex officina M. Vascosani* put the *Ars Poetica* in 1551.<sup>12</sup> In Georgius Fabricius' Horace edition, which appeared in Basel in 1555, the poem also appeared after the *Carmen Saeculare* and before *Sermones* I, and was to remain there as late as the Leipzig reprint of 1593.<sup>13</sup> That Stephanus' rearrangement of the corpus became canonical—and remains so to this day—is probably due to Lambinus' great edition with commentary of 1561, where the *Ars Poetica* is printed last, after *Epistles* II.<sup>14</sup>

As the material collected in *Appendix I* shows, no one seems to have called the *Ars Poetica* the *Epistola ad Pisones* before Jason De Nores, the professor of Moral Philosophy at Padua from 1577 to his death in 1590, who in 1553 wrote a commentary on the poem based on the ideas of his friend and teacher,

<sup>11</sup>*Q. Horatii Flacci Poetae Venusini Omnia Poemata* (Venice 1553) = Mills 154 (and cf. Mills 97, 112, 119, etc.). On Aulo Giano Parrasio and his work on Horace's *Ars Poetica*, see F. D'Episcopo, *Aulo Giano Parrasio, fondatore dell'Accademia Cosentina* (Cosenza 1982). In M.-A. Muret's edition published in Venice in 1555 (*Horatius. M. Antonii Mureti in Eundem Annotationes*), the *Ars Poetica* is printed as a separate work after *Epistles* II but before *Serm.* I. Muret entitled the work, "Q. Horatii Flacci De Arte Poetica Liber. Ad Pisones" (p. 189).

<sup>12</sup>*Q. Horatii Flacci Poemata* (Paris 1545-1551) = Mills 137. This edition appeared in five parts; the part containing the *Ars Poetica* was issued in 1551.

<sup>13</sup>See Mills 160 for the 1555 printing; I examined the 1593 reprint in the Bib. Marciana. On Fabricius (1516-1571), see *Biographie universelle*, 13 (Paris 1855) 294.

<sup>14</sup>Lambinus' work appeared in two volumes, of which the first contains the lyric poems and the second the hexameters: *Q. Horatius Flaccus, Ex fide, atque auctoritate decem librorum manuscriptorum, opera Dionys. Lambini Monstroliensis emendatus: Ab eodemque commentariis copiosissimis illustratus, nunc primum in lucem editus* (Lyon 1561) (= Mills 168); and *Q. Horatii Flacci sermonum libri quattuor, seu satyrarum, libri duo, epistolarum, libro duo, a Dionysio Lambino Monstroliensis ex fide novem librorum manuscriptorum emendati ab eodemque commentariis copiosissimis illustrati* (Lyon 1561) (= Mills 171). Note that Mills 171 = Mills 124, the copy in the California State Library, Sutro Branch, which Mills, following the Sutro catalogue entry, erroneously dates to 1541. As I suspected, and as Mr. Clyde Janes, Director of the Library, kindly confirmed in a personal communication, the title page of the Sutro copy dates the book to MDLXI, which was apparently misread as MDXLI. Despite the possible implication of the title of the second volume containing the hexameters, Lambinus did not include the *Ars* in the second book of *Epistles* but printed it as an independent work after *Epist.* II. For an appreciation of Lambinus' edition, see C. O. Brink, "Horatian Poetry. Thoughts on the Development of Textual Criticism and Interpretation," *Wolfenbütteler Forschungen* 12 (1981) 7-17, at p. 10.

Padua professor Trifone Gabriele (*Appendix I* [3]).<sup>15</sup> In the preface to the work, De Nores gave a fairly detailed justification of this title, stating that the poem had the form of a letter, not of a technical treatise. Dismissing the testimony of Quintilian on the title, De Nores argues against possible critics of his new title by noting that letters can offer precepts and treat serious matters; he points out that in several of Horace's own indisputable letters, he does just this. De Nores also sees in the poem's lack of elaborate structure a further argument in favor of the letter-theory, since "the letter likes a certain familiarity of tone, and a highly precise structure tends more towards severity than familiarity."

It is likely that sensitivity of Gabriele and De Nores to the characteristics of the epistolary genre reflects the influence of earlier sixteenth-century works on the epistle, such as that by the northern Italian humanist, Marino Becichemo, who wrote a lengthy and perceptive treatise on this topic, without specific reference to the *Ars Poetica* (*Appendix I* [1]). Another possible influence was Erasmus.<sup>16</sup> At any rate, it is certain that De Nores knew the work of Francesco Robortello, whose career as public humanist took him to teaching positions in Venice, Bologna, and Padova.<sup>17</sup> In his *Paraphrasis* of the poem, printed in 1548 (*Appendix I* [2]) Robortello cautiously called the poem "Libellum...Qui Vulgo De Arte Poetica Inscritur," and his introductory explanation for the poem's lack of structure foreshadowed De Nores' epistle-theory.

<sup>15</sup>On De Nores (?—1590), see the brief account of his life in *De Gymnasio Patavino Antonii Riccoboni Commentariorum Libri Sex* (Padua 1598) fol. 79r; *Biographie universelle*, 31 (Paris n.d.) 34; F. E. Budd, "A Minor Italian Critic of the Sixteenth Century: Jason Denores," *Modern Language Review* 22 (1927) 421-434. For his work on poetics, see B. Weinberg, *A History of Literary Criticism in the Italian Renaissance*, 2 vols. (Chicago 1961), especially pp. 316-319, 621-626.

<sup>16</sup>Becichemo's work on epistolography was still memorable enough to be singled out for special notice in A. Riccoboni's *De Gymnasio Patavino commentariorum libri sex* (Padua 1598) fol. 28v and in *Gymnasium Patavinum Iacobi Philippi Tomasini Episcopi Aemoniensis Libris V comprehensum* (Udine 1654) 340: "scripsit de ratione scribendarum epistolarum." On Becichemo (ca. 1468-1526), see C. H. Clough in *Biografia degli Italiani* 7 (1965) cols. 511-515; T. B. Deutscher in *Contemporaries of Erasmus*, vol. 1 (Toronto 1985) 114-115. On the epistolary genre in the Renaissance, see M. Fumaroli, "Genèse de l'épistolographie classique," *Revue d'histoire littéraire de la France* 78 (1978) 886-905; C. Fantazzi (ed.), *Juan Luis Vives, De conscribendis epistolis. Critical Edition with Introduction, Translation and Annotation, Selected Works of J. L. Vives*, vol. 3 (Leiden 1989) 5-14. Neither Fantazzi nor Fumaroli takes note of Becichemo.

<sup>17</sup>For a brief *vita* of and bibliography on Robortello (1516-1567), see W. McCuaig, *Carlo Sigonio. The Changing World of the Late Renaissance* (Princeton 1989) 9; *Cambridge History of Renaissance Philosophy* (Cambridge 1988) 835.

De Nores' work was to have great influence through the centuries. The idea of classifying the *Ars Poetica* as a letter first spread through northern Italy. In 1555, Marc-Antoine Muret—who had been living in the Veneto since the previous year, having fled charges of sodomy and heresy in his native France—also implicitly embraced De Nores' theory. In his *In Horatium Scholia* (Venice 1555) he called the poem "Epistola in Artem Poeticam" (*Appendix I* [4]).<sup>18</sup> Another French scholar in Italy in the 1550s was Muret's friend Denis Lambin, whose headnote to the *Ars Poetica* in his great Horace edition of 1561 (*Appendix I* [5]; and cf. above n. 14) repeats De Nores' defense of the letter-thesis against a possible attack that a letter should offer precepts and also suggests that the poem's length is no impediment to interpreting it as a letter. From Henri Estienne's *Schediasmatum* (*Appendix I* [10]), we learn that Lambin spent some time in Padua "many years ago" where he discussed Horace's poetry with Estienne. From Lambin's love letters to Lucia of Padua, we can date their Padua sojourn to 1549-1552.<sup>19</sup> It was doubtless in these years that Lambin and Estienne had their discussions, after exposure to Robortello's and De Nores' new ideas.

With Lambin, De Nores' ideas spread to northern Europe, and not a moment too soon. In 1561, Julius Caesar Scaliger, who praised Horace's lyric poetry, attacked the *Ars Poetica* for displaying a lack of craftsmanship (cf. *Appendix I* [6a-c]).<sup>20</sup> Scaliger's criticisms caught on among such non-scholarly writers as Claude Du Verdier and Henry Peacham, but fell on deaf ears among philologists, who grew ever more bold in their application of the epistle-

<sup>18</sup>Muret also called the poem an *epistola* in his *Variarum Lectionum Liber Duodecimus* in *M. Antonii Mureti Opera Omnia*, tom. 2, ed. D. Ruhnkenius (Leiden 1789) 302. On Muret (1526-1585) see *Biographie universelle*, 29 (Paris n.d.) 606-608; C. Dejob, *Marc-Antoine Muret, un professeur français en Italie dans la seconde moitié du XVIe siècle* (Paris 1881); *Cambridge History of Renaissance Philosophy* (Cambridge 1988) 827.

<sup>19</sup>See H. Potez and F. Préchac (eds.), *Lettres galantes de Denys Lambin, 1552-1554, Publications de la Faculté de l'Université de Lille* 6 (1941) x (for the chronology of Lambin's first Italian trip with Cardinal de Tourmon), and 1-3 for a letter dated 5 December 1552 to Lucia, the last lines of which read: "Quoties ad me scribere voles, huic recte dare poteris. Habitat cum Legato Regio. Est huic nomen Henrico Stephano." On Lambin (1516-1572), see *Biographie universelle*, 23 (Paris n.d.) 58-59. Lambin's observation that some letters could be quite long was a Renaissance commonplace; cf. J. L. Vives, op. cit. (*supra* n. 16) 125-126 (§101).

<sup>20</sup>On Scaliger (1484-1558), see the bibliography cited in *La statue et l'empreinte. La poétique de Scaliger*, ed. by C. Balavoine and P. Laurens (Paris 1986) 193-195. On Scaliger's attack on the *Ars*, see M. Magnien, "Le statut d'Horace dans les *Poetices Libri VII*," *ibid.*, 19-33.

thesis.<sup>21</sup> Thus, Johann Sturm—perhaps most famous as the teacher of Petrus Ramus<sup>22</sup>—suggested that the poem belonged in *Epistles* II. Rejecting as inconclusive the argument that the poem is a letter simply because it was addressed to the Pisones, Sturm rests his case on the facts that *Epistles* I has about 1,000 lines and that *Epistles* II would be approximately as long if the *Ars Poetica* is combined with the letters to Augustus and Florus (cf. *Appendix I* [9]). Sturm also points out that the *Ars Poetica* treats the same subject as *Epist.* II.1 and II.2. Despite his belief about the genre of the poem, Sturm retained the traditional title, *De Arte Poetica Liber*. Sturm's work was published in 1576 by his student Joannes Lobartus Borussus. It was not long before Iacobus Cruquius, in his Antwerp edition of 1578, took the next logical step and actually called the *Ars Poetica* "Epistola Tertia Libri Secundi, Ad Pisones De Arte Poetica."<sup>23</sup> Cruquius' new position and title were accepted by other scholars almost immediately. Petrus Gualterius Chabotius, for example, called the poem "Epistola Tertia Libri Secundi Ad Pisones De Arte Poetica" in his *Expositio analytica et brevis in universum Q. Horatii Flacci poema* (Paris 1582).<sup>24</sup>

Since the late sixteenth century, the speculations of Stephanus, De Nores, Sturm, and Cruquius have become deeply ingrained in our editions, literary histories, and therefore in our assumptions about the poem. Today it comes as a surprise to most non-specialists to discover that, in fact, the ancient and medieval evidence offers virtually no support to the placement of the poem with

<sup>21</sup>Cf. C. Du Verdier, *In Auctores Paene Omnes, Antiquos Potissimum Censio* (Lyons 1586) 57: "Horatius in Lyricis quidem apud Latinos primas tenet, in hexametris duriusculus esse videtur. Versus enim ut plurimum inexculte per monosyllaba desinere facit, quo nihil absurdius, ut illum, 'nascetur ridiculus mus' et innumeros id genus. De Poetica arte multa praecipit quae ipse non observat." H. Peacham, *The Compleat Gentleman* (Oxford 1906; originally published in 1622<sup>1</sup>, 1634<sup>2</sup>, 1666<sup>3</sup>) 89: "his Poetica [is] his worst peece, for while he teacheth the Art, hee goeth unartificially to worke even in the very beginning."

<sup>22</sup>On Sturm (1507-1589), see W. Ong, *Ramus, Method, and the Decay of Dialogue* (Cambridge, Mass. 1958) passim, especially pp. 231-236; N. W. Gilbert, *Renaissance Concepts of Method* (New York 1960) 72-73, 122-124.

<sup>23</sup>Cruquius wrote, in his edition of 1578 (= Mills 210), "iniuria ad Pisones epistola a suis coepistolis (ut ita dicam) est avulsa...." (apud Orelli-Baiter-Mewes, *Q. Horatius Flaccus*, vol. 2 [Berlin 1892] 568; I have not been able to find this passage in the copies of Cruquius I have seen). On the edition, see C. Zangemeister, "Über die älteste Horaz-Ausgabe des Cruquius," *RhM* 23 (1864) 321-339. On Cruquius (dates unknown; first appointed professor of Greek and Latin at Bruges in 1544), see *Biographie universelle*, 9 (Paris n.d.) 537-538.

<sup>24</sup>= Mills 219. On Chabotius (1516-1597), see A. Chalmers, *The General Biographical Dictionary*, 9 (London 1813) 59-60.

*Epistles* II nor even to its classification as a letter.<sup>25</sup> As we have seen, these humanist speculations were presented with great boldness but little argumentation. In particular, De Nores and Lambin did not so much positively establish that the poem is an epistle as defend the unargued epistle-thesis against hypothetical attacks about subject matter and length. Sturm's argument about book-length, while ingenious, is hardly compelling: 500 lines is not abnormal in this period, as Virgil's *Georgics* shows.<sup>26</sup> One can also argue that the *Epodes* (625 lines), *Ars Poetica*, *Epistles* II, and *Odes* IV (580 lines) give sufficient evidence for the existence of modest-sized, "Homeric" books in the Horatian corpus.

In this century, editions, commentaries, and translations either print the poem as *Epistles* II.3 or else put it in Stephanus' position after *Epistles* II.2, which, in both cases, gives the unwary reader the impression that the *Ars* is somehow to be associated with the second book of letters.<sup>27</sup> To the contrary, the evidence strongly suggests that—whatever the basis of the ancient arrangement of Horace's works—the *Ars Poetica* was a separate *liber*, not part of the *Epistles*. We may here express the hope that future editors will restore the *Ars* to its pre-sixteenth century position in the corpus, somewhere after the *Odes* and before the *Satires*. The point is not so much to put it back where Horace wanted it—for, in fact, we have no information that confirms Horace's participation in the planning of the ancient edition of his collected poetry—as to put the poem in a place that is at least not misleading.

As for the title, we have seen that in reclassifying the poem, neither De Nores nor Sturm cited any ancient evidence. Within a few decades of De Nores' treatise, Henri Estienne, in his *Diatribae* (1575), noted that, in two places, the late-antique grammarian Charisius quotes words from the *Ars* as coming from Horace's *epistulae* (cf. *Appendix I* [7]).<sup>28</sup> These are the passages:

<sup>25</sup>Cf. below, *Chapter 4*, where I show that the poem does not display the generic features of Horatian (or, for that matter, other ancient) letters.

<sup>26</sup>See, in general, J. Van Sickle, "The Book Roll and Some Conventions of the Poetic Book," *Arethusa* 13 (1980) 5-42, especially pp. 6-12 on book-length.

<sup>27</sup>By the words "somehow to be associated with" I mean that the poem is either part of *Epistles* II or else is at least written in the same style, genre, or spirit as the poems immediately preceding. While editors who print the *Ars* at the end of their editions as a separate work could claim to be implying nothing of the sort, we might ask why they have not simply kept the *Ars* in one of its less pregnant positions in the medieval mss. Cf. the perceptive comment of Brink (I, 239) on the tendency to date the *Ars* late: "without much reasoning [scholars] assigned to the *Ars* the last place in the chronology...often, one suspects, because H. Stephanus had assigned to it the last place in the sequence of the poems."

<sup>28</sup>See H. Stephanus' new edition of the *Poemata* of Horace, to which he appended (separately paginated) *Diatribae De Hac Sua Editione* (Paris 1575 = Mills 200; cf. Mills 199). On Charisius, see *Restauration und Erneuerung. Die lateinische Litera-*

[1] Charisius, p. 263.9-12 Barwick-Kühnert (= p. 202.26-29 Keil): *Impariter Horatius epistolarum, 'versibus impariter iunctis'* [= *Ars Poetica* 75]; ubi Q. Terentius Scaurus in commentariis in artem poeticam libro X 'adverbium,' inquit, 'figuravit.'

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Horatius *corr.* n<sup>1</sup> [= codex Neapolitanus IV A 9 saec. xv/xvi]

persius N [= codex Neapolitanus IV A 8, olim Bobiensis, saec. vii/viii]

[2] Charisius, p. 265.1-5 Barwick-Kühnert (= p. 204.5-10 Keil): *Longum clamet Horatius epistolarum* [*Ars Poet.* 459], 'licet succurrere longum clamet'; ut Maro quoque [*Ecl.* 3.79] 'et longum...Iolla.'

Aldus Manutius (II), in his commentary on the poem of 1576, summarily rejected Charisius' testimony, noting that it contradicts all other ancient evidence (see *Appendix I* [8]).<sup>29</sup> In favor of Manutius' position, we may note that Charisius, while generally reliable, is not perfect when it comes to citing titles. At 268.5 (Barwick), he refers to Lucretius 1.525 as *Lucretius...de rerum natura libro III*. At 100.18, he calls Caesar's *ad Pisonem* the *de Pisone*. The incipits and explicits of the manuscripts of the poem and the scholia are all but unanimous in calling the poem the (*Liber*) *De Arte Poetica*.<sup>30</sup> Charisius himself twice refers to Terentius Scaurus' second-century A.D. *Commentarii in Artem Poeticam*, thereby showing awareness of a very different title. One such reference comes in [1].<sup>31</sup> Even if unlikely, his reports that the poem belonged in the letters need to be examined in some detail here because they have been taken more seriously than they should by recent commentators.

We may begin by granting that it is, of course, possible that Charisius was correct in assigning the poem to Horace's *epistulae*. If so, we have no way of knowing, on the basis of Charisius, to which book of *Epistles* the *Ars* would have been attached (advocates of the epistle-thesis, following Sturm, too quickly assume *Epist.* II), and we can say that such a text, if it ever really existed, must have been late-antique. Vollmer's observation about Charisius remains valid, at least as far as the *original* publication of the *Ars* and the early ancient texts of Horace are concerned: "mit keiner in Hss. sich findenden Ordnung deckt sich, daß

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*tur von 284 bis 374 n. Chr., Handbuch der lateinischen Literatur der Antike*, vol. 5, ed. R. Herzog and P. L. Schmidt (Munich 1989) 125-131; Schanz-Hosius, *Geschichte der römischen Literatur*, HdA IV.1 (Munich 1914) 165-169.

<sup>29</sup> For Aldus Manutius (II), Paulli filius, Aldi nepos, see his *In Q. Horatii Flacci Venusini Librum De Arte Poetica...Commentarius* (Venice 1576).

<sup>30</sup>The evidence is conveniently presented in the edition of O. Keller and A. Holder, vol. 2 (Jena 1925) 284, 320.

<sup>31</sup>Cf. Charisius 263.11-12, 272.27-28 Barwick.

Charisius gram. I 202,26 und 204,5 die *ars poetica* als *in epistulis* citiert, während doch schon Quintilian das gesonderte Buch kennt.<sup>32</sup> As Bowersock has aptly observed in another context, "the mere antiquity of a testimony is no guarantee, especially when it is testimony of some four hundred years after the text."<sup>33</sup>

However, even the hypothesis of a late-antique text of Horace calling the *Ars* a letter is subject to serious doubts. Charisius, his source(s), a glossator, or the scribe of Naples codex IV A 8 may have simply erred. Insufficient attention has been paid to how Charisius cites his literary parallels. There are, in general, two classes of citations; those with writers cited by name and frequently by title; and those often cited by name but never by title. In the first class belong quotations of, e.g., Cicero, Cinna, Sallust, and Virgil. In the second class are to be found Ovid,<sup>34</sup> Persius, Propertius, and Tibullus.<sup>35</sup> Where does Horace belong? In his grammar, Charisius cites passages of Horace a total of nineteen times. Aside from the problematic passages [1] and [2] above, he never gives the title. In four cases he does not even mention Horace's name.<sup>36</sup> The seventeen secure cases all but ensure that Charisius cited Horace without title and sometimes without name. On this basis, the title cited in [1] and [2] is suspect insofar as it cannot in all probability be supported by the authority of Charisius.<sup>37</sup>

<sup>32</sup>Vollmer, *op. cit.* (*supra* n.6) 290n67.

<sup>33</sup>G. W. Bowersock, "A Date in the *Eighth Eclogue*," *HSCP* 75 (1971) 73.

<sup>34</sup>The passages in Charisius (= C., with pagination of Barwick's edition) are the following (\* = no mention of Ovid's name): *De Medic. Fac.* 39 = C. 114.13; *Art. Am.* 1.249 = C. 91.29; *Art. Am.* 2.300 = C. 132.19; *Art. Am.* 2.375 = C. 131.28; *Art. Am.* 2.653 = C. 92.1; *Metam.* 1.13 = C. 82.6; *Metam.* 3.79 = C. 368.7\*; *Metam.* 3.522 = C. 172.12; *Metam.* 4.494 = C. 102.10.

<sup>35</sup>*Persius* (= Ps.): 1.25 = C. 109.10 (as printed by Keil, not Barwick, i.e., without Putschen's supplement *in sat. I*); Ps. 4.43 = C. 332.3; Ps. 6.4 = C. 88.4; Ps. 6.10 = C. 124.18. *Propertius* (= P.): P. 2.33.37 = C. 137.25; P. 2.13.35 = C. 113.5; P. 3.11.15 = C. 131.19; P. 3.14.1 = C. 85.9. *Tibullus* (= T.): T. 1.5.3 = C. 184.1; T. 1.8.20 = C. 114.11; T. 1.8.26 = C. 109.16, 166.26; T. 2.4.31 = C. 160.8.

<sup>36</sup>The passages in Charisius (= C., with pagination of Barwick's edition) are the following (\* = no mention of Horace's name): *Carm.* 1.1.33ff. = C. 350.30\*; *Carm.* 1.4.1 = C. 104.2; *Carm.* 1.6.6 = C. 357.20; *Carm.* 1.12.41 = C. 133.11; *Carm.* 1.29.7ff. = C. 133.14; *Carm.* 1.36.8 = C. 351.1\*; *Carm.* 2.18.7ff. = C. 127.15; *Carm.* 3.1.17ff. = C. 355.6\*; *Carm.* 3.5.10 = C. 77.22; *Carm.* 3.14.9ff. = C. 83.5; *Epod.* 12.25 = C. 201.2; *Serm.* 1.1.94ff. = C. 295.7; *Serm.* 1.2.89 = C. 128.14; *Serm.* 1.9.13 = C. 123.2; *Serm.* 2.2.122 = C. 123.4; *Epist.* 1.7.22 = C. 352.11; *Epist.* 1.16.20 = C. 354.3.\*

<sup>37</sup>It is reassuring that the same two classes with the same breakdown of authors are to be found in the fifth-century grammar of the Anonymus Bobiensis, which belongs to the "Charisius-group" of late-antique grammarians. See the edition of M. De Nonno, *La grammatica dell'Anonymus Bobiensis* (GL I 533-565 Keil), especially pp. xvi-xvii (on the "Charisius-group"); xix-xx (date); 89 (*index*

That Horace belongs to the second class is also suggested by the information in the *apparatus criticus* under [1]. Here we see that the original reading *Persius epistolarum* in N has been corrected in n<sup>1</sup> to *Horatius epistularum*. This is not the only corruption of an author's name in N. Some other examples are: Varrus instead of Varro (p. 69.2 Barwick); et Ennius instead of Titinius (p. 69.3); Plaustus instead of Plautus (p. 69.16); Aelius Cinna instead of Helvius Cinna (p. 101.23); Aedilius Cilo instead of Aelius Stilo (p. 106.8); Vergilius instead of Verrius (p. 107.14); Patulus instead of Pacuvius (p. 115.29); Lucilius instead of Lucretius (p. 116.8); Lucius instead of Lucilius (p. 125.1); Vergilius instead of Velius Longus (p. 145. 18); and Ninnius instead of Naevius (p. 184.16). These corruptions are all examples of errors arising from the confusion of similar letters, from the omission of letters, and the like. The corruption of Horatius into Persius is different. Two explanations are possible. Instead of a scribal confusion or omission of similar letters, we may have to do with a marginal note or a superscript written in a crabbed hand that was misread when added to the text of Charisius sometime between the first version in the fourth century and the transcription of N, three or four centuries later. The same hand was doubtless responsible for the similar notation (*Horatius epistularum*) that we see in the nearby passage [2].<sup>38</sup> That *Horatius epistolarum* in [1] is an intrusive note is furthermore suggested by the fact that Terentius Scaurus' commentary on the *Ars Poetica* is cited later in the sentence. Is it likely that the same person would have written in the same sentence "Horatius epistolarum" and "ubi Q. Terentius Scaurus in commentariis in artem poeticam?" As a parallel for adscripits of titles in the textual tradition of Charisius, we may cite the example of *in scauro* (at p. 97.19 Barwick) in the margin of N itself. Many citations in Charisius are without author or title, so the impulse for readers to add such notes is obvious.<sup>39</sup> A second possibility is more complicated but perhaps more likely: Charisius may originally have written *Verrius Flaccus epistolarum*, citing two passages where Verrius—who did write *epistulae* on grammatical problems—quoted

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*scriptorum*); cf. also the review article by A. C. Dionisiotti in *JRS* 74 (1984) 202-205. In the Anon. Bob., Virgilian titles are cited rarely (only once out of 36 citations), suggesting that Virgil may have originally belonged to the second group and that most titles were added between the time of Anon. Bob. and N.

<sup>38</sup>The writer of the adscripit may have correctly written *Horatius* in [1] and [2]. Another possibility, of course, is that [2] also had *Persius*, but this was corrected before or after N, or by the scribe of N himself. A reexamination of N, unfortunately, reveals nothing. Notoriously in a poor state of preservation, N may no longer be consulted in Naples. Prof. David Konstan informed me in a personal communication that the photographs of the manuscript in the Naples library are mostly black and illegible and that the legible parts do not include our passage.

<sup>39</sup>For examples, see s.vv. *incerti poetae* and *incerti scriptores* in Barwick's *index scriptorum* (p. 484).

Horatian examples without mention of Horace or the title of his work. Sometime between Charisius and N, *Verrius Flaccus* was changed to the two more famous Flacci: *Persius* in [1] and *Horatius* in [2].<sup>40</sup>

Thus, Charisius' testimony should not be allowed to cast doubt on the otherwise unanimous witness of ancient authors for three reasons. First, even if we suppose that *epistularum* in [1] and [2] was written by Charisius, this attests only a late textual tradition and cannot, in isolation, drive the unequivocal ancient evidence from the field. Secondly, even if written by Charisius, *epistularum* may be wrong, since we have parallels for incorrect titles in the *Ars Grammatica*. Finally—and most likely—the attribution to Horace's letters of the words cited in [1] and [2] may well be an intrusive note that postdates Charisius and predates N since Charisius never elsewhere cites Horace with title.

How, then, did the ancients refer to the *Ars Poetica*? The evidence is overwhelming that, no later than one hundred years after Horace's death, it was considered a separate book called either the *Ars Poetica*<sup>41</sup> or the (*Liber*) *De arte poetica*.<sup>42</sup> These titles are so similar that we need not expend any effort trying to choose between them. The fact that the poem consisted of only one book is attested by the latter title, by the *Vita Horatii* in Ps.-Acro,<sup>43</sup> and by a reference in Quintilian to the *prima parte libri de arte poetica*.<sup>44</sup> What, then, are we to call the poem? In several recent publications, Nicholas Horsfall has reminded us how unreliable our modern—and sometimes even our ancient—titles of the Latin classics really are.<sup>45</sup> The *Ars Poetica* presents an excellent case in point: despite modern speculation, we have no reason to think that Horace or most ancients called the poem an *epistula*. It is welcome news to report that in our latest Teubner editions of Horace by Borszak and Shackleton Bailey the proper titles are now used. However, as noted, these editors have still printed the poem in a misleading position at the very end of the corpus, just after *Epistles* II.

<sup>40</sup>Note that Charisius referred to Verrius as *Verrius Flaccus* at p. 73.9 Barwick. For a similar confusion of Flacci (Persius for Horace), cf. Servius on *Georg.* 3.363.

<sup>41</sup>Quintilian, *Epist. ad Tryph.* 2; Sidonius 9.223; [Probus] *De ultimis syllabis* 223.9 Keil; Priscian *Inst.*, vol. II, 271.19 Keil.

<sup>42</sup>Quintilian, *Inst.* 8.3.60; Terentius Scaurus *apud* Charisius, pp. 263.11-12, 272.27 (Barwick); Priscian *Inst.*, vol. I, 267.23, vol. II, 254.16, 331.15 (Keil); the second *Vita Horatii* in O. Keller's edition of the *Pseudoacronis Scholia in Horatium vetustiora*, vol. 1 (Leipzig 1902) 3 (line 6).

<sup>43</sup>"Scripsit autem carminum libros IIII, carmen saeculare, epodon, de arte poetica lib. I, epistularum lib. II, sermonum lib. II" (ed. Keller, *ibid.*).

<sup>44</sup>*Inst.* 8.3.60.

<sup>45</sup>See N.M. Horsfall, "Horace, Sermones 3?" *LCM* 4.6 (1979) 117-119; "Some Problems of Titulature in Roman Literary History," *BICS* 28 (1981) 103-114.

## CHAPTER 2

### THE DATE OF THE POEM

The argument for keeping the *Ars* separate from *Epistles* II can also be supported by chronology, for, as we will see, the *Ars Poetica* probably predates the two works in *Epistles* II. In any event, the date of the *Ars Poetica*, and, indeed, of any literary work, provides an indispensable framework for interpretation, and so the dating of the *Ars Poetica* would be worth reexamining for this reason alone.

Of all Horace's poems, the *Ars Poetica* is the hardest to date. Scholars have proposed dates ranging from the early 20s B.C. to the very end of Horace's life. In 1965, Duckworth published a useful overview of the various attempts at a date.<sup>1</sup> This may be updated, corrected and augmented as follows:

28-27, between *Satires* II and *Odes* I-III<sup>2</sup>

23-20, between *Odes* I-III and *Epistles* I<sup>3</sup>

<sup>1</sup>G. E. Duckworth, "Horace's Hexameters and the Date of the *Ars Poetica*," *TAPA* 66 (1965) 73-95, at pp. 84-85.

<sup>2</sup>J. Elmore, "A New Dating of Horace's *De Arte Poetica*," *CP* 30 (1935) 1-9. Elmore's dating is based on a rather arbitrary "correction" of Jerome's date for the death of Quintilius Varus (see Elmore, p. 5).

<sup>3</sup>J. H. Van Reenen, *Disputatio philologico-critica de Horatii Epistola ad Pisones* (Amsterdam 1806); A. Michaelis, "Die Horazischen Pisonen," *Commentationes Philologicae in honorem T. Mommseni* (Berlin 1877) 420-432; H. Nettleship, "The *de Arte Poetica* of Horace," *JP* 12 (1883) 43-61; A. Y. Campbell, *Horace. A New Interpretation* (London 1924) 114-15; Schanz-Hosius, *Geschichte der römischen Literatur, Hda*, VIII.ii (Munich 1935<sup>4</sup>) 133; A. Rostagni, *Arte poetica di Orazio* (Turin 1930) xvi-xix; O. Immisch, *Horazens Epistel über die Dichtkunst, Philologus Suppl.* 24.3 (1932) 1-8; F. Villeneuve, *Horace, Epîtres* (Paris 1934) 193-96; F. M. Pontani, *Orazio. Arte poetica* (Rome 1953) xi-xiii; E. Pasoli, *Le epistole letterarie di Orazio* (Rome, n.d.) 31; P. Grimal, *Essai sur l'Art poétique d'Horace* (Paris 1968) 15-35.

20-19, between *Epistles* I and *Epistles* II.<sup>4</sup>

18, between *Epistles* II.2 and the *Carmen Saeculare*.<sup>5</sup>

17-16, after the *Carmen Saeculare* and before *Odes* IV.<sup>6</sup>

15, before *Epist.* II.1<sup>7</sup>

13-8, after *Odes* IV, making the poem Horace's last<sup>8</sup>

In the absence of the kind of fairly reliable information that permits us to date Horace's other poetic books with some precision, how have scholars arrived at such widely divergent datings of the *Ars Poetica*? Three distinct approaches to chronology can be identified in the scholarship: (1) placing the *Ars* within some developmental pattern of Horace's ideas about poetry; (2) estab-

<sup>4</sup>A. S. Wilkins, *The Epistles of Horace* (London 1902) 330-32; E. Stemplinger, *RE* VIII s.v. Horatius (Stuttgart 1913) 2367 (in col. 2375 he dates the poem to 16); O. Immisch, op. cit. (*supra* n. 3) 1-8; J. C. Rolfe, *Horace. Satires and Epistles* (Boston 1935), Appendix, p. 13.

<sup>5</sup>J. Vahlen, "Über Zeit und Abfolge der Literaturbriefe des Horaz," *Monatsberichten der Berliner Akademie* 1878, 688-704 at pp. 702-703 (= *Gesammelte philologische Schriften* II [Leipzig and Berlin 1923] 46-61 at pp. 59-60); H. Schütz, *Q. Horatius Flaccus, Episteln* (Berlin 1883) viii; E. P. Morris, *Horace. The Epistles* (New York 1911) 188; C. Becker, *Das Spätwerk des Horaz* (Göttingen 1963) 111.

<sup>6</sup>A. Kiessling and R. Heinze, *Q. Horatius Flaccus. Briefe* (Berlin 1898<sup>2</sup>); cf. J. H. Kirkland, *Horace. Satires and Epistles* (Chicago 1893) 338-39.

<sup>7</sup>Richard Bentley, on the penultimate page of the unpaginated preface to his edition of Horace (Amsterdam 1713<sup>2</sup>), puts the *Ars Poetica* and *Epistles* II after the *Carmen Saec.* and C. IV, saying that they are *annis incertis*; A. Rostagni, op. cit. (*supra* n. 3) xix, xxii, xxxiv; W. Wili, *Horaz und die Augusteische Kultur* (Basel 1948) 309; A. La Penna, *Orazio e l'ideologia del principato* (Turin 1963) 158ff.; J. Perret, *Horace* (Paris 1959<sup>2</sup>) 190ff.; F. Cupaiuolo, *Tra poesia e poetica* (Naples 1966) 30n15; G. D'Anna, "La cronologia dell'epistola di Orazio ad Augusto," *Vichiana* 12 (1983) 121-135, at p. 125 (dating the poem specifically to 13); J.-M. Roddaz, *Marcus Agrippa, BEFAR* 253 (1984) 228n154. Note that Bentley's view on the date fluctuated, as Brink (I, 243n2) points out.

<sup>8</sup>G. Dillenburger, *Q. Horatii Flacci Opera Omnia* (Bonn 1848<sup>2</sup>) 517; L. Mueller, *Quintus Horatius Flaccus* (Leipzig 1880) 79-80; A. Waltz, *Des variations de la langue et de la métrique d'Horace dans ses différents ouvrage* (Paris 1881) 28; E. C. Wickham, *Quinti Horatii Flacci, Opera Omnia*, vol. 2 (Oxford 1891) 331-35; C. L. Smith, *The Odes and Epodes of Horace* (Boston 1894) xxxivf.; C. Cichorius, *Römische Studien* (Leipzig 1922) 340-341; T. Frank, *Catullus and Horace* (New York 1928) 260; J. W. H. Atkins, *Literary Criticism in Antiquity*, vol. 2 (Cambridge 1934) 66-69; O. A. W. Dilke, "When Was the *Ars Poetica* Written?" *BICS* 5 (1958) 49-57; J. Perret, op. cit. (*supra* n. 7) 190; Duckworth, op. cit. (*supra* n. 1) 91; Rudd, 19-21; R. Syme, "The Sons of Piso the Pontifex," *AJP* 101 (1980) 333-341, at p. 340 (= *Roman Papers*, vol. 3, ed. A. R. Birley [Oxford 1984] 1226-1232, at p. 1231).

lishing a *terminus ante-* and *post quem* based on historical persons mentioned in the poem; and (3) stylistics, including diction and meter.

The first approach I will employ elsewhere to show that the ideas of the *Ars* differ so strongly from those found in Horace's other poetry that we cannot properly speak of an evolution of thought but must, instead, consider the possibility that in the *Ars Poetica* Horace contradicts himself. In earlier scholarship, the discontinuity between the *Ars Poetica* and Horace's other expressions of poetic belief was emphasized by L. Ferrero.<sup>9</sup> Ferrero interpreted the evidence in a biographical and rather psychological way, as the sign of an unresolved struggle in Horace's spirit. The parodic reading of the poem offers another and more simple explanation: the *Ars* contradicts much of what Horace says about poetry because it represents a send-up of a pedantic, academic view of poetry put into the mouth of a fictional speaker who we have no reason to suppose is Horace himself (or the Horatian poetic persona). At any rate, since the *Ars Poetica* does not fit into any discernible and datable pattern of Horace's intellectual development, I do not include here a history-of-ideas approach to chronology.

If we generalize this approach and look for any kind of relationship between the *Ars* and Horace's other poems, then we may observe that in the *Ars* there are two echoes of other works of Horace. In line 269 there is an allusion to *Epist.* I.19.11; in line 457 there is an echo of *Odes* I.1.35-36.<sup>10</sup> If either passage were the only one from Horace's corpus alluded to in the *Ars Poetica* we would not be able to make much use of it for the dating. With two such passages, so close in date (*Odes* I-III were published in 23; *Epistles* I in 20), we may guess that Horace echoed these passages because they were still fresh in his mind when he was composing the *Ars*. Later (see pp. 59-61), I will discuss some other important connections between *Epist.* I.19 and the *Ars Poetica*, perhaps implying an affinity in date. We do not know the date of *Epist.* I.19, but, as mentioned, the collection in which it appears was published in c. 20 B.C.<sup>11</sup>

The second approach is more solid. These contemporaries are mentioned in the *Ars*: [1-3] Calpurnius Piso and his two children (lines 6, 24, 235, 291-

<sup>9</sup>L. Ferrero, *La 'Poetica' e le poetiche di Orazio*, Università di Torino *Pubblicazioni della Facoltà di Lettere e Filosofia* vol. 5, fasc. 1 (1953) 9-13.

<sup>10</sup>Here are the texts: *AP* 269 nocturna versate manu, versate diurna ~ *Epist.* I.19.11 nocturno certare mero, putere diurno; *AP* 457 hic, dum sublimis versus ructatur et errat ~ *C.* I.1.36 sublimes feriam sidera vertice. In this connection, the repeated line *Sat.* 1.2.13 and *Ars Poetica* 421 (dives agris, dives positus in fenore nummis) is not relevant for dating (except as a *post quem*, assuming with, e.g., Shackleton Bailey that the earlier occurrence in the *Satires* is not an interpolation, as most modern editors suppose).

<sup>11</sup>So, e.g., Brink, III, 277 (ad *Epist.* II.2.20), and many others earlier.

292, 366, 388);<sup>12</sup> [4] Virgil (55); [5] L. Varius Rufus (55); [6] the booksellers Sosii (345); [7] M. Valerius Messalla Corvinus (371); [8] Aulus Cascellius (371); [9] Sp. Maecius Tarpa; and [10] Quintilius Varus (438).<sup>13</sup>

Of these ten, only numbers [4], [5], [7], and [10] are sufficiently well-known to help with chronology. Quintilius Varus [10] died in 24/23 B.C., and Horace uses the imperfect tense in speaking of him, so that it is clear that he is deceased when the *Ars Poetica* was published. This gives us a *terminus post quem* of 24/23 B.C. Virgil [4] and Varius [5] are mentioned in the poem as representatives of contemporary poetry, and so the implication is that they are still alive when the poem was published. This would give us a *terminus ante quem* of 19/15 B.C. (since Virgil died in 19 and Varius in c. 15),<sup>14</sup> if not for the fact that line 55 of the poem does not necessarily require that such famous poets as Virgil and Varius are still alive.<sup>15</sup> This is, however, the obvious interpretation of the line, and the fact that Aulus Cascellius [8], who was born in c. 100 B.C., would have been in his eighties after 20 B.C. could also be taken as supporting 19/15 B.C. as a *terminus ante quem*.<sup>16</sup> Nevertheless, the cautious conclusion to be drawn from a study of the historical persons mentioned in the *Ars Poetica* is that it provides a firm *post quem* but is only suggestive about a date *ante quem*.

### A Reexamination of Duckworth's Metrical Arguments for Dating

To make further progress, we need to try to find stylistic criteria for dating Horace's poetry, and, as we will see, stylistic and metrical evidence also supports the conclusion that the *Ars Poetica* is an independent work in the corpus, less related to the second book of *Epistles* than to *Epistles* I or *Satires* II. Probably the most impressive attempt to date the *Ars Poetica* by stylometric means was undertaken by G. Duckworth. Although Duckworth read his evidence as linking the *Ars Poetica* to *Epist.* II.1, we will see, by reexamining his data, that if anything they suggest a date for the *Ars Poetica* in the period of *Epistles* I (i.e., 23-20 B.C.).<sup>17</sup>

<sup>12</sup>On whom, see below, pp. 52-59.

<sup>13</sup>On Tarpa and Quintilius, see below, pp. 61-62, 66-68.

<sup>14</sup>On the death of Varius, see P. L. Schmidt in *Der Kleine Pauly* 5 s.v. Varius III (Munich 1975) cols. 1130-1131.

<sup>15</sup>See, e.g., Brink, I, 240n3.

<sup>16</sup>But see Brink, I, 240n3, where, as in the case of Virgil, he points out that the text does not necessarily require that Aulus Cascellius was alive when the *Ars Poetica* appeared.

<sup>17</sup>G. E. Duckworth, op. cit. (*supra* n. 1) 73-95. Metrical features linking the *Ars Poetica* to *Epist.* I were earlier pointed out by H. Nettleship, op. cit. (*supra* n. 3) 46-47.

The reexamination will proceed in two stages: first we will present an inner critique of Duckworth's work by employing his own dubious statistical methodology to show that his numbers do not say what he thinks they do.<sup>18</sup> Second, we will develop an external critique in which Duckworth's naive methodology will be replaced with normal statistical tests used by statisticians. In this part of our study, we will perform new analyses of some, but not all, of Duckworth's data, limiting ourselves to those data sets that Duckworth thought most supported his late dating of the *Ars Poetica*.

Duckworth's methodology is quite simple: he tabulates metrical features and summarizes them as percentages according to poem or poetic book (*Satires I*, *Satires II*, *Epistles I*, *Epistles II.1*, *Epistles II.2*, and *Ars Poetica*). He assumes that when two or more poems or books show the same or nearly the same percentage, they must be close in date. When percentages are not close, he looks for trends in Horace's use of a certain metrical feature, assuming linear development from a lower to a higher percentage, or from a higher to a lower.

Duckworth's **first test** (p. 86) is the frequency of the four most common patterns of dactylic and spondaic feet. Of these, the *Ars Poetica* resembles *Epist. II.1* for only the first pattern (*Epist. II.1* = 11.85; *Ars Poetica* = 10.32; *Epist. I* = 12.82). For the rest, the *Ars Poetica* is closer to *Epist. I* than to *Epist. II.1* (**Second Pattern:** *Ars Poetica* = 9.68; *Epist. I* = 10.74; *Epist. II.1* = 11.11; **Third Pattern:** *Ars Poetica* = 8.62; *Epist. I* = 9.24; *Epist. II.1* = 9.26; **Fourth Pattern:** *Ars Poetica* = 8.21; *Epist. I* = 8.05; *Epist. II.1* = 9.26). So, the results of the first test place the poem closer to *Epist. I* than to *Epist. II.1*.

Duckworth's **second test** (p. 87) shows the same results. The percentage of the first four patterns in the three works is: *Ars Poetica* = 36.84; *Epist. I* = 40.85; *Epist. II.1* = 41.48. For the second four, the percentages are: *Ars Poetica* = 29.05; *Epist. I* = 25.45; *Epist. II.1* = 27.79. For the first eight, the percentages are: *Ars Poetica* = 65.89; *Epist. I* = 66.30; *Epist. II.1* = 69.26. So, here, again, the *Ars Poetica* is closer to *Epist. II.1* than to *Epist. I* in only one case.

In Duckworth's **third test** (p. 87), the results do show, as his thesis requires, the resemblance of the *Ars Poetica* to *Epist. II.1*. In the **fourth test** (pp. 87-88), the results are about equal. The percentage of units with eight or more different patterns in the *Ars Poetica* is 100%, as it is in *Epist. II.1*; however, the percentage for *Epist. I* is similarly high (97.67%)—a striking figure in view of the much lower results for *Epist. II.2* (84.62%), *Sat. I* (83.64%), and *Sat. II* (86.67%).

<sup>18</sup>I omit Duckworth's tables and definitions of the various patterns he works with on the assumption that they serve no useful purpose here and can easily be found in the original publication. To have done otherwise would have meant taking up much valuable space recapitulating research that, as we will see, is inconclusive at best.

Duckworth's **fifth test** (p. 88) does not align the *Ars Poetica* with any of the other hexameter poems, and so need not be considered here. In the **sixth test** (of fourth-foot homodyne), the *Ars Poetica* (50.84%) again turns out to be closer to *Epist.* I (51.69%) than to *Epist.* II.1 (52.22). In the **seventh test** (p. 89)—rates of metrical repeats—the *Ars Poetica* (one every 12.2 lines) is closer to *Epist.* I (one every 12.2 lines) than to *Epist.* II.1 (one every 16.9 lines).

In three parts of the **eighth test** (pp. 89-90), the *Ars Poetica* is closer to *Epist.* I than to *Epist.* II.1; in one part it is closer to *Epist.* II.1 than to *Epist.* I; and in the fifth part, it is closer to *Sat.* II. Summing up, then, the eighth test favors the correlation of the *Ars Poetica* with *Epist.* I more than any of the other hexameter poems and indicates a date earlier than *Epist.* II.1. The **ninth test** (p. 90)—use of opposite metrical patterns—confirms Duckworth's thesis. The results of the **tenth test** (p. 90) partly confirm (part 2: ddsd—ssds) and partly disconfirm (sddd—dsss) the thesis. The **eleventh test** (p. 91)—reverse patterns—put the *Ars Poetica* (one every 25 lines) again closer to *Sat.* II (one every 25.8 lines) and *Epist.* I (one every 27.9 lines) than to *Epist.* II.1 (one every 54 lines).

To conclude this purely internal critique of Duckworth, of his eleven tests, six (1, 2, 6, 7, 8, 11) associate the *Ars Poetica* more closely with *Epist.* I than with *Epist.* II.1. In two tests (11 and the fifth part of 8), the *Ars Poetica* is most closely linked with *Sat.* II of c. 30 B.C. Only two tests (3, 9) confirm Duckworth's thesis. Three tests (4, 5, 10) are neutral.

Duckworth's methodology and his results can be attacked on several fronts. First, Duckworth's assumption of a correlation between date of composition and the metrical features he chose to study is assumed but nowhere defended. It is, however, possible, that the features Duckworth used for dating are not, in fact, chronometers. Second, Duckworth never explained the choice of features he selected for analysis. Some are intuitively obvious—for example, patterns of spondees and dactyls in the first four feet of the line. Others are less intuitively acceptable. For example, Duckworth pays attention to opposite patterns in adjacent lines consisting of spondees and dactyls in the first four feet of the line (dsss, sddd, etc.), as if poets strove for or avoided such patterns. Even if we grant that poets may sometimes have paid attention to such things, Duckworth still ought to have gauged the extent to which pure randomness affects his results. Thus, for example, for the *Ars Poetica* he reports 31 such opposites. Yet, random variation alone would lead us to predict 29.69 cases: since there are 16 metrical patterns, any of which can occur after any others (including itself), there are  $16 * 16 = 256$  possible pairs of patterns. Of these, 16, or 6.25%, are opposites. In the 476 lines of the *Ars Poetica*, there are 475 possible pairs of lines (lines 1 and 2, 2 and 3, 3 and 4, etc.). Multiplying 475 by .0625 gives us the number of opposites that we should have expected from chance alone, viz., 29.69. Our impression that the observed number (31) is not

very far off from the expected number can be confirmed by a standard statistical test, the so-called z-test.<sup>19</sup> Let our null-hypothesis ( $H_0$ ) be that the proportion of opposites in the *Ars Poetica* is the same as we should have expected by chance alone and let us (here, as elsewhere in this study) reject  $H_0$  at  $\alpha = .05$ . Our alternative hypothesis ( $H_a$ ) is that the proportion of opposites in the *Ars Poetica* is larger than we should have expected by chance alone (the assumption behind Duckworth's work). The z-value is .244, giving us an alpha-value of .405. So, we do not reject  $H_0$  in favor of  $H_a$ , and we conclude that the observed number of opposite patterns in the poem has no particular statistical significance.

Duckworth's main contention is that as time went on, Horace became more concerned about achieving metrical variety in his poetry. He writes: "To summarize, of the eleven categories listed above, some have more significance than others. Those dealing with larger totals, e.g., the frequency percentages of the first four and the first eight patterns, are the most decisive; they show a steady trend toward less concentration and greater variety...."<sup>20</sup> This hypothesis is, according to Duckworth, his most important, and it may be subjected to rigorous statistical testing in the form of a chi-square test of the data presented in Duckworth's first table (cf. TABLE II, next page).<sup>21</sup>

The chi-square test indicates that the hypothesis that the two variables of poem and metrical pattern are dependent fails at the  $\alpha = .05$  level, since the significance ("prob.") is .270. Thus, Duckworth has failed to find a significant correlation between the poems and the distribution of metrical patterns.

<sup>19</sup>See, in general, e.g., A. Agresti and B. Finlay, *Statistical Methods for the Social Sciences* (San Francisco and London, 1986<sup>2</sup>) 74-77, 146-147.

<sup>20</sup>Cf. Duckworth, op. cit. (*supra* n. 1) 91.

<sup>21</sup>Statisticians distinguish between three kinds of variables: nominal variables, which differ in some quality but not in quantity (e.g., different books of poems in Horace's corpus; different metrical patterns in the dactylic hexameter line); ordinal variables, which differ from each other according to quantities that are vaguely ranked (e.g., top score on an examination, second best score, worst score); and, finally, interval variables, which differ from each other according to a precisely defined quantitative scale (e.g., average number of words or verses in a poem). The chi-square and association tests are applied to nominal variables and determine the probability that the distribution of the actual values of the variables differs very much from their expected distribution. If the actual values do not so differ, then we say that the variables are independent; if they do differ, then we say that they are dependent. The association tests determine the degree of dependence obtaining between two variables. In the present case, no association tests have been reported (though they have been run) because we only test the strength of a dependence once the chi-square test indicates that the variables are not independent (which, as will be seen from TABLE II, is not the case). See, in general, e.g., A. Agresti and B. Finlay, op. cit. (*supra* n. 19) 14-16; 201-212.

Another way of stating this conclusion is that the overall distribution of metrical patterns does not give us a reliable chronometer for the date of a poem.

Duckworth's words cited above would lead us to expect the highest association between poem and metrical pattern in the four most frequent patterns.

MET. PAT.	SI	SII	EPI	EPIL2	EPIL1	AP	TOTAL
obs. dsss	132	152	129	30	25	49	517
obs. ddss	96	104	81	19	30	41	371
obs. dsds	104	104	93	24	25	46	396
obs. sdss	117	116	108	24	32	39	436
obs. ssss	92	80	62	13	16	31	294
obs. ddds	51	64	53	9	14	33	224
obs. ssds	64	69	64	13	13	34	257
obs. sdds	61	50	57	9	17	28	222
obs. dssd	67	67	69	14	24	37	278
obs. ddsd	37	55	54	8	17	21	192
obs. sdsd	42	48	61	16	17	34	218
obs. dsdd	39	42	43	12	14	25	175
obs. sssd	59	46	51	9	9	16	190
obs. ssdd	26	37	36	7	6	14	126
obs. dddd	30	17	23	1	3	10	84
obs. sddd	13	32	22	8	8	17	100
TOTAL	1,030	1,083	1,006	216	270	475	4,080
TEST STATISTIC				VALUE		DF	PROB
PEARSON CHI-SQUARE				82.063		75	.270

TABLE II: CHI-SQUARE TEST OF DATA IN DUCKWORTH'S TABLE I

Yet, the total of chi-square values for the first four patterns is only 13.78, far less than one-fourth the total value of chi-square; and when the first four patterns are considered in isolation from the rest of the table, the chi-square value is 17.67 with a significance of .609 (cf. TABLE III, next page). Thus, once again, the test of dependence fails, and we see that the four most frequent metrical patterns are not reliable chronometers for Horace's hexameters.

Much more of the chi-square value of Duckworth's first table is concentrated in the last group of metrical patterns. Yet, as TABLE IV (next page) shows, even here, where the chi-square value rises to 29.855 and the significance level reaches .072, the coefficients of association are quite low, indicating that the dependence between poem and metrical pattern is weak.

PATTERN	AP	EPII.1	EPII.2	EPI	SI	SII	TOTAL
1	49	25	30	129	132	152	517
2	41	30	19	81	96	104	371
3	46	25	24	93	104	104	396
4	39	32	24	108	117	116	436
Rest	300	158	119	595	581	607	2360
TOTAL	475	270	216	1006	1030	1083	4080
TEST STATISTIC		VALUE		DF		PROB	
PEARSON CHI-SQUARE		17.669		20		.609	

TABLE III: CHI-SQUARE TEST OF DUCKWORTH'S FIRST FOUR PATTERNS

PATTERN	AP	EPII.1	EPII.2	EPI	SI	SII	TOTAL
13	16	9	9	51	59	46	190
14	14	6	7	36	26	37	126
15	10	3	1	23	30	17	84
16	17	8	8	22	13	32	100
Rest	418	244	191	874	902	951	3580
TOTAL	475	270	216	1006	1030	1083	4080
TEST STATISTIC		VALUE		DF		PROB	
PEARSON CHI-SQUARE		29.855		20		.072	
COEFFICIENT		VALUE		ASYMPT STD ERROR			
CRAMER V		.0428					
CONTINGENCY		.0852					
LAMBDA		.0087		.00410			
UNCERTAINTY		.0024		.00081			

TABLE IV: CHI-SQUARE TEST OF DUCKWORTH'S LAST FOUR PATTERNS

In TABLE IV the chi-square value is more indicative of the non-independence of the variables than was the case with the first four metrical patterns, but the significance level (.072) still fails to meet the test of  $\alpha = .05$ . Examination of the various tests of association (the Cramer V, Uncertainty Coefficient, etc., all of which vary from 0 to 1.0) confirm that the variables of poem and metrical pattern are weakly associated.

Our conclusion is thus that Duckworth has failed to find any useful indicator of date in his metrical studies. The search for a valid chronometer of Horace's hexameter poems must turn elsewhere for clues—our next task.

### Dating the *Ars Poetica* through Style: A Statistical Approach

The foregoing has shown the utility of statistics for disproving a quantitative argument about the date of the poem. Statistical tests can, of course, also have a more positive, albeit never probative, value.<sup>22</sup> In what follows, I will present some new studies of word frequency which suggest that the *Ars Poetica* should be dated in the period of the composition of *Epistles* I and before the publication of *Epistles* II.2, i.e., c. 24-20 B.C.

This is not the place for even a brief history of stylometrics.<sup>23</sup> Suffice it to say, by way of introduction, that statistical studies of vocabulary have had some success in identifying reliable quantitative chronometers for attribution and relative chronology of works by different authors. They have less often been used for relative chronology within a single author's corpus.<sup>24</sup> Recent work by Lindsay and Mackay suggests that for the latter, the word class that offers the best hope for reliable results is that of the *function word* and the best analytical tool is the chi-square test.<sup>25</sup> In their classic study, Mosteller and Wallace define function words as: "the filler words of a language, such as a, an, by, to and that. Generally they include prepositions, conjunctions, pronouns, and certain adverbs, adjectives, and auxiliary verbs."<sup>26</sup>

<sup>22</sup>Cf. A. Agresti and B. Finlay, op. cit. (*supra* n. 19) 293: "we can never prove that one phenomenon is a cause of another, since causation is imputed by the observer but never actually observed. We can disprove causal hypotheses, however, by showing that empirical evidence contradicts them."

<sup>23</sup>For brief histories and bibliography, see, e.g., R. L. Oakman, *Computer Methods for Literary Research* (Athens, Ga. 1980, 1984) 139-171; K. L. Lindsay and T. W. Mackay, "An Authorship Study of the Pauline Epistles," an unpublished paper given at the *International Conference on Computers in the Humanities* (Brigham Young University, June 26, 1985) 1-13.

<sup>24</sup>F. Mosteller and D. L. Wallace, *Inference and Disputed Authorship: 'The Federalist'* (Reading, Mass. 1964) 20-21, note briefly that the function words *in* and possibly *from* may serve as chronometers for the works of President James Madison. They pay little attention to words in an author whose frequency changes in a patterned way over time (our third class of function words) since their concern is to distinguish one author (Madison) from another (Hamilton).

<sup>25</sup>Cf. Lindsay and Mackay, op. cit. (*supra* n. 23) 15-25, especially p. 25: "word frequency is the most sensitive wordprint." For the purposes of their inter-authorial study of distinguishing Pauline from non-Pauline authorship of Biblical texts transmitted under Paul's name, "sensitivity" was not desirable and so Lindsay and Mackay do not use word frequency. For our intra-authorial study of Horace, it is precisely this high degree of sensitivity that makes function word frequency the proper tool.

<sup>26</sup>F. Mosteller and D. L. Wallace, op. cit. (*supra* n. 24) 17.

Function words are words useful for research on the authorship or chronology of texts because they are not dependent on content, context, or genre. Since, in Latin, about half are monosyllabic, Latin function words are also fairly independent of meter. Examples of such words are *et, in, ut, ad, sub*, etc. In addition to being fairly non-contextual, function words also have the advantage of being more frequent than other words, thus lending themselves more readily to statistical analysis. Since they are used so often and have so little connotative value, speakers of a language employ them with very little awareness of doing so. They are thus potentially good reflectors of a speaker's linguistic sense and development since it is generally through our more automatic behavior that we most plainly give ourselves away. In this sense, the stylometric use of function words is analogous in literary history to the Morellian method in art history.

Authors may use individual function words in any of three ways: (1) with little, if any, change over time; (2) with random fluctuation over time; and (3) with patterned variation over time. The first usage is most valuable for inter-authorial analysis, such as we find in the Mosteller-Wallace study of the authorship of certain *Federalist* papers.<sup>27</sup> On the other hand, it is of no help in determining the relative chronology of the works of one author's corpus. The second kind of usage is by far the most frequently encountered, as was pointed out in an important article by Damerau and as is confirmed by the case of Horace.<sup>28</sup> Function words displaying random fluctuation are of little, if any, use in stylometric analysis since they allow us neither to distinguish one author's works from another's nor to find trends in the individual works of an author's corpus.

For our purposes, then, words of the third type—relatively few as they may be—are the most important. These are words that meet four criteria: (1) as function words, they must, of course, be fairly independent of context, genre, and meter; (2) they must be common enough so that their frequency does not fall below five cases in any single unit of analysis more than 25% of the time;<sup>29</sup> (3) the frequency of their usage must vary according to a trend or pattern (whether linear or non-linear) from Horace's early to his late works; finally, (4) the number of words meeting the first three criteria must surpass, in a statistically significant way, the number expected from chance alone.

The third requirement brings up an important methodological consideration. For over a century, at least, the relative chronology of all the poems and poetic books in Horace's corpus, save the *Ars Poetica*, has been fairly well established on non-stylometric grounds. Even an approximate absolute chrono-

<sup>27</sup>F. Mosteller and D. L. Wallace, *op. cit.* (*supra* n. 24).

<sup>28</sup>F. J. Damerau, "The Use of Function Word Frequencies as Indicators of Style," *Computers and the Humanities* 9 (1975) 271-280.

<sup>29</sup>For this reason, the very short *Carm. Saec.* is left out of account.

logy has long been known.<sup>30</sup> In most cases in which stylometrics is used for attribution or dating, we are not so fortunate, and statistical arguments alone are used by default. Given what we think we know from non-stylometrical sources about the chronology of Horace's poetry, we would be ill-advised to limit our methodology to stylometrics alone, since that would be to forego a finer for a blunter instrument. Indeed, respecting "time order" is a principle of statistical methodology in any case.<sup>31</sup> Thus, I propose to start from the assumption that the conventionally accepted relative chronology is essentially correct and complete, with the exception of the *Ars Poetica*. I do not think this assumption is likely to be controversial. Since, as we have seen, non-stylometric information cannot narrow down the date of that poem to anything less than the long period between the deaths of Quintilius Varus and Horace (24-8 B.C.), we shall resort to the instrument of statistics only to see whether stylometrics (and, in particular, vocabulary analysis) can help decide the issue of whether I am correct in dating the poem to the early part of that period, or Duckworth and others are in putting it at the end. My approach to chronology is thus interdisciplinary; we will, so to speak, triangulate on the date with historical and statistical methods.

The analysis will proceed in two steps. First, the variable of poem will be considered nominal.<sup>32</sup> The object of this part of the study will be to model the data in the most economical way such that the value of the test statistic is optimized. The test statistic used is the chi-square test, which essentially gauges

<sup>30</sup>Cf., e.g., C. Franke, *Fasti Horatiani* (Berlin 1839), 80-81, where we already find the following chronology based primarily on historical references, prosopography, etc.: *Serm.* I, 41-34; *Serm.* II, 35-30; *Epod.* 41-30; *Carm.* I-III, 30-24; *Epist.* I, 24-20; *Carm. Saec.*, 17; *Carm.* IV, 17-13; *Epist.* II ("primo jam edito et post carmen saeculare scriptus est, sed incertum quo anno," p. 81). On the date of the *Ars Poetica*, Franke simply writes: "aetate nil constat" (p. 81). Modified by J. Vahlen's dating of *Epistles* II (op. cit. [*supra* n. 5] 46-61), Franke's chronology is still more or less accepted today; cf., e.g., K. Vretska, *Der Kleine Pauly* 2 s.v. Horatius (8) (Munich 1975) cols. 1219-1225, for the following dating of the composition and publication (indicated with an asterisk [\*]) of Horace's works: *Epodes*-40-30\*; *Sat.* I-35/34\* ("or, 33?"-col. 1221); *Sat.* II-30/29\*; *Carm.* I-III-c. 35 ("Horace began writing the Odes in the time of the Satires"; col. 1222)-23\*; *Epist.* I-23-20\*; *Epist.* II.2-"before 20"\* (col. 1223); *Carm. Saec.*-17\*; *Epist.* II.1-after 14\*; *Ars Poetica*-23-18\* or 13-8\*. Thus, Carl Becker, op. cit. (*supra* n. 5) 12-13, is correct to note that chronological studies of Horace are in a very fortunate position because "über ein ganzes Jahrzehnt hin—von 23 bis 14/13—lassen sich fast jedem Jahr horazische Dichtungen zuordnen." For work on Horatian chronology before Franke, see the survey in J. Tate, *Horatius Restitutus, Or the Books of Horace Arranged in Chronological Order according to the Scheme of Dr. Bentley* (London 1832<sup>1</sup>, 1837<sup>2</sup>) 1-20.

<sup>31</sup>Cf., e.g., A. Agresti and B. Finlay, op. cit. (*supra* n. 19) 293.

<sup>32</sup>For a definition of this concept, see n. 21 above.

the degree to which actual values of the variables differ from values we would expect to find if the variables are independent. The greater the difference, the greater the chi-square value and the greater the likelihood that the variables in question are not independent. Modelling the data, in the present case, means combining values for the poems that relate to their expected values in the same way: the result is a grouping of poems according to actual values that are above, below, or about the same as what we would have expected. The assumption here is that the poems grouped together belong to the same period of composition.<sup>33</sup> At this first step of analysis, then, the dating of Horace's poetry—and, in particular, of the *Ars Poetica*—is quite approximate. At best, we can distinguish between early, middle, early-middle, middle-late, and late groups. The study of each function word will include a frequency graph, in which the poem will be arranged in order of relative chronology, with the *Ars Poetica* included in the appropriate group, but with no firm claim about its relative position in its group. In practice, this means that, although the tests indicate that the *Ars Poetica* belongs in Horace's middle period, we can only guess whether it is earlier or later than the other hexameter poem in the group, viz., *Epist.* I.

In a second step of the analysis, we will treat the poem variable as an interval variable. To do this, we will assign to all the poems except the *Ars Poetica* their generally accepted dates. We will then determine the most probable date for the *Ars Poetica* by inferential and exploratory statistical techniques. It should be stated here that each step of the analysis has an obvious weakness: the first step is too vague, the second too precise. These weaknesses are compensating, and our point is not so much to establish a precise date for the *Ars Poetica* as to demonstrate the greater probability that the poem is to be dated to Horace's middle period of poems than to his late period.

One final word about methodology. In studying the third class of function words, I have spoken till now only of a vague "trend" or "patterned development" in their usage, from, e.g., higher to lower frequency, or vice versa. I have also said that function words are, in general, attractive as chronometers because they are relatively non-contextual. At this point, one clarification should

<sup>33</sup>For a brief discussion of modelling by means of collapsing categories, see S. G. Levy, *Inferential Statistics in the Behavioral Sciences* (New York 1968) 210-213; and cf. P. M. Bentler, *Theory and Implementation of EQS: A Structural Equations Program* (Los Angeles 1985) 28: "when two models...are special cases of each other, chi-square difference tests can be used to evaluate the structural importance of the parametric constraints that differentiate two models. In the...most typical application, two models would differ in that one model would contain extra parameters beyond those provided by the other model: all other parameters would be the same. In such a case, the chi-square difference test evaluates whether the added parameters, considered simultaneously, are necessary to the model."

be made: few words (in Latin, at any rate) are completely "functional" and hence totally devoid of content and connotation. Accordingly, the rate at which a function word is used in Horace is modulated by the demands of genre, sometimes for reasons that may be unclear.<sup>34</sup> So, in establishing trends, we must keep the lyric poems separate from the hexameters, as far as frequency value is concerned; but we also must see the same pattern of development in both the lyric and hexameter group. In statistical terms, we must control for meter. As a result of doing so, another kind of triangulation becomes possible: the prime assumption behind chronology by stylometrics is that some aspects of an author's linguistic sense change in a measurable and consistent way over time. The fact that we can very neatly divide the Horatian corpus by meter and genre into two groups of poems and that members of each group represent Horace's early, middle, and late periods is thus extremely fortunate: it means that the probable explanation for any similarity in trends of function word use in both the lyric and hexameter groups is likely to be Horace's evolution as a speaker of the Latin language and not, e.g., metrical or generic exigencies.

#### Relative Chronology—Function Words as Chronometers of Horace's Poetry

To implement this methodology, we thus need to tabulate the frequencies in Horace of the major function words in Latin (see TABLE A). The following words seemed from inspection of the computer-generated frequency lists to have the greatest promise of surmounting the barrier of at least five cases in each unit of analysis (or, cell). Those in capitals and boldface turned out to satisfy the criteria of chronometers: sufficient frequency and the same pattern of development in the lyrics and hexameters. Most words turned out to be rejected because of low frequency—i.e., in at least 25% of the cells the frequency fell below 5 cases. These words are followed by "l.f." in parentheses. Other words passed the frequency test but failed the "trend" test of patterned development; Damerau's work had prepared us to expect to find just such words, whose random fluctuations make them unsuitable as chronometers. In the following list, they are followed by "n.p." (= "no pattern") in parentheses.<sup>35</sup>

<sup>34</sup>E.g., Horace's consistent preference for *sub* in the lyric [frequency: *c.* .0016] as opposed to hexameter [frequency: *c.* .001] poems. Let our null hypothesis be that the frequency in the two groups is the same; our alternative hypothesis is that the frequency of *sub* in the lyrics is greater than in the hexameters. The *z*-value of  $H_0$  is 3.94, giving a *P*-value of  $P < .000233$ . So we reject  $H_0$  in favor of  $H_a$ .

<sup>35</sup>The following function words were not studied since inspection of the word sorting and counting program's output indicated that they would fail to satisfy

a (l.f.)	cur (l.f.)	mox (l.f.)	post (l.f.)	sine (l.f.)
ab (l.f.)	de (l.f.)	nam (l.f.)	quia (l.f.)	sive (l.f.)
ac (l.f.)	donec (l.f.)	ne (l.f.)	quidem (l.f.)	sub (l.f.)
<b>AD</b>	dum (l.f.)	<b>NEC</b>	quodsi (l.f.)	tam (l.f.)
an (l.f.)	enim (l.f.)	neque (l.f.)	quoque (l.f.)	tamen (l.f.)
at (l.f.)	et (n.p.)	neu (l.f.)	saepe (l.f.)	tandem (l.f.)
atque (n.p.)	etiam (l.f.)	nisi (l.f.)	<b>SED</b>	ubi (l.f.)
aut (n.p.)	iam (n.p.)	non (n.p.)	seu (l.f.)	unde (l.f.)
autem (l.f.)	in (n.p.)	nunc (n.p.)	si (n.p.)	ut (n.p.)
cum (n.p.)	inter (l.f.)	<b>PER</b>	sic (n.p.)	vel (n.p.)
				velut (l.f.)

Twelve of the sixteen words passing the frequency test could not be used as chronometers because their distribution among the poems was more or less random, which in this context means that the trends observed in the hexameters (no matter how the *Ars Poetica* is dated) is different from that seen in the lyrics. Since these words will not be of interest, it would be tiresome to discuss them all (see TABLES B-G). *Cum* may serve as a typical example. As the frequency graph of *cum* shows (TABLE C, top), the word changes its frequency with a nonlinear (probably convex parabolic) pattern in the hexameter poems, while in the lyrics, it is used much more often in the epodes of the mid-30s than in the odes of the middle or late periods. In fact, the pattern of the lyrics is linear, with a negative slope. Thus, *cum* fails our test because the linear pattern of the lyrics is not mirrored in the hexameters, with their nonlinear trend. Without a metrical control for *cum*, we are helpless in trying to situate the *Ars Poetica*: arguments can be imagined justifying its location just about anywhere on the graph. For example, it might be considered the low point of the hexameter parabola, in which case we would date the *Ars Poetica* between *Epistles* I and *Epistles* II.2. Contrariwise, if we posit a change in Horace's *Sprachgefühl* from high to low use of the word *cum*, then we might decide to dismiss as anomalous the high frequency of the word in *Epistles* II.1 and place the *Ars Poetica* last among the hexameters so that the result is a linear pattern with negative slope in both the hexameters and lyrics. The point is that such arguments are merely speculative, because we cannot control for meter.

Before proceeding to discuss the four words that satisfy our first three criteria to be considered as chronometers, let us see if our fourth criterion is satisfied, viz., that the number of words satisfying the first three criteria exceed, in a statistically significant way, the number expected from chance alone (*supra*, p. 27). The details of the argument may be found in the *Appendix II*. In brief,

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the frequency requirement: *ante, at, circum, contra, denique, ex, extra, haud, ita, num, numquid, ob, olim, pacto, porro, praeter, quare, quin, siquid.*

our three-point lines (i.e., lyrics) have nine possible distinct trend lines. Our hexameters form eighty-one five-point lines; of these, eight may be considered equivalent to the relevant three-point lines. Thus, we have  $9 \times 81$  different combinations of three-point and five-point lines, for a total of 729. Of these, 8 are possible matched pairs, so that the odds of finding a matched pair are  $8/729$ , or 0.010974. In our study, we have sixteen cases of function words with sufficient frequency: hence, we would expect  $16 \times 0.010974$  matched pairs, or 0.176. Instead of the expected number of zero or, at most one matched pair, we have two exactly matched pairs and two similar pairs. We run a binomial test to determine the probability of our result. The test shows that there is less than a 1.2% probability that this could happen by chance. We may conclude that our fourth criterion is satisfied because there is only a very small possibility that our four words display similar trend lines in the hexameters and lyrics due to random variation alone.

The words that satisfy our criteria and hence are useful for chronology divide into two types: a group of three words (*ad, per, sed*) whose frequency has a high-low-high pattern (i.e., Type I) in the early (*Epodes* and *Satires*), middle (*Carm. I-III, Epistles I*) and late (*Epistles II, Carm. IV*) periods; and a second type (*nec*) whose pattern (Type II) is the mirror-reversal of the first. In all four cases, as we will see, the *Ars Poetica* falls between *Epistles I* and *Epistles II.2*

TABLE V shows a tabulation and chi-square test of the data from the first group of function words. The chi-square test statistic (99.2, with twenty-four degrees of freedom) tells us that the variables are not independent: in fact, its probability level of 0.000 far surpasses our requirement that  $\alpha < .05$ . The degree of dependence, or association, of the variables can be gauged by the Cramer V, Contingency, Lambda, and Uncertainty coefficients, which are measures appropriate to nominal variables. To interpret these, we need to know that all these coefficients vary between 0, indicating little or no association, and 1.0, indicating the highest degree of association. In the present case, the values for the coefficients appear, at a first glance, to be quite low.

Before concluding that the function words *sed* and *ad* are only weakly associated with Horace's poems, and hence are poor chronometers, we need to determine why the coefficients are so much closer to 0.0 than to 1.0. The reason is not far to seek: the category "rest"—with 43,066/43,415 (or, 99.2%) of the cases and with an observed distribution very close to what was expected—is so predominant that there is very little scope for the remaining data to be distributed in a way that appears strong according to the association tests.

WORD	S1	S2	EP1	EP2.1	EP2.2	TOTAL
AD	21	28	21	9	7	
PER	5	13	16	10	1	
SED	12	21	15	11	5	
REST	6957	7160	6634	1733	1406	
TOTAL	6995	7222	6686	1763	1419	

WORD	AP	EPD	C1-3	C4	
AD	13	12	12	8	131
PER	5	11	32	22	115
SED	6	7	16	10	103
REST	3058	2965	10634	2519	43066
TOTAL	3082	2995	10694	2559	43415

TEST STATISTIC	VALUE	DF	PROB.
PEARSON CHI-SQUARE	99.201	24	0.000
LIKELIHOOD RATIO CHI-SQUARE	89.662	24	0.000

COEFFICIENT	VALUE	ASMPT. STD	ERROR
CRAMER V	.0276		
CONTINGENCY	.0477		
LAMBDA	.0006		.00027
UNCERTAINTY	.0005		.00011

TABLE V: THE FUNCTION WORDS *AD*, *PER*, AND *SED* IN HORACE

That the association tests are quite sensitive to such a condition is clear from their formulae. For example, the Contingency Coefficient (*C*) is defined as follows:

$$C = \sqrt{\frac{\chi^2}{\chi^2 + n}}$$

Thus, the greater the number of cases (*n*) whose observed values do not depart very much from their expected values (that is, whose chi-square values are low), the smaller the value of *C*. To give a fair interpretation to our results, we must accordingly determine how high the coefficients can rise toward their theoretical limit of 1.0, given the limitations of the present case. This we do by an experiment in which we control for the category "rest" by keeping it constant while putting the greatest possible number of cases of *ad*, *per*, and *sed* into the cells of *Ep.* II.2 (hexameters) and the *Carm.* IV, where they will generate the maximum values for the coefficients since these works are both late and have the fewest words. The fact that both poems are late is important: it means that the trend in the hexameters and lyrics is the same—another requirement of our test. The other cells are given the minimum number of cases needed to satisfy our requirement

that no more than 25% of all cells have fewer than 5 cases.<sup>36</sup> The results are given in TABLE VI (on the next page).

In this experiment, the chi-square value rises to 2171.8 and that of the coefficients go up about sixfold. Thus, we may say that, controlling for "rest" and taking into account our frequency and trend requirement, the degree of association that we find in Horace's use of *sed* and *ad* is approximately 15-20% of what is actually possible for a function word fulfilling our minimum conditions for consideration as a chronometer. Seen in this light, *ad*, *per*, and *sed* may be considered modestly useful chronometers.

Our next question is what the distribution of *ad*, *per*, and *sed* suggests about the date of the *Ars Poetica*. Since we are now treating poems as nominal variables, we have no way of determining a precise date. What we can do is attempt to model the data to see if we can combine the *Ars Poetica* with any other poem in such a way that there is no loss of significance. Our working assumption is that the most parsimonious model is the best and that poems grouped together belong to the same period of composition. In trying different combinations, we will, of course, respect time order and genre. In practice this means an experiment in which the *Ars Poetica* is combined with *Epistles* I, *Epistles* II.2, and *Epistles* II.1, first singly and then in the various combinations (e.g., *Ep. I* + *AP* + *Ep. II.2*; *AP* + *Ep. II.2* + *Ep. II.1*; etc.).

TABLE VII (next page) reports the results of experiments run using the data in TABLE V. In TABLE V, we have a "full model" of the data: that is, the frequency of each word is studied in each poem or poetic book. The resulting test statistic is reproduced at the top of TABLE VII (under model I = "FULL"). In the following lines of the table, the data from the *Ars Poetica* are combined with those from the other hexameter poems (with the exception of the very early *Sat. I*) in an attempt to simplify and clarify the analysis: the strategy is to find the combinations of poems that give us the maximum and minimum values of the test statistic. The maximum values tell us the most likely period of composition of the *Ars Poetica*; the minimum values tell us the least likely date. Since we are, in effect, comparing the same test statistic at different levels (or, "degrees of freedom" ["DF"]), we must standardize our results by comparing our various collapsed models to the full model. To do this, we simply subtract the  $\chi^2$  values

<sup>36</sup>In practice, this means that the remaining cells are given values of 5 for these words. This we do because we would not be considering a function word as a possible chronometer in the first place if its distribution throughout Horace's poetry violated the requirement that it occur at least five times in 75% of the poems. Since *Carm. IV* and *Epist. II.2* are late works (or middle-late, in the case of *Epist. II.2*), the resulting trend lines are similar in the lyrics and hexameters—a second important criterion for consideration of a function word.

WORD	S1	S2	EP1	EP2.1	EP2.2	TOTAL
AD	5	5	5	5	5	66
PER	5	5	5	5	5	25
SED	5	5	5	5	5	45
REST	6980	7207	6671	1748	1283	
TOTAL	6995	7222	6686	1763	1419	

WORD	AP	EPD	C1-3	C4	
AD	5	5	5	30	131
PER	5	5	5	55	115
SED	5	5	5	23	103
REST	3067	2980	10679	2451	43066
TOTAL	3082	2995	10694	2559	43415

TEST STATISTIC	VALUE	DF	PROB.
PEARSON CHI-SQUARE	2171.8	24	0.000
LIKELIHOOD RATIO CHI-SQUARE	0876.3	24	0.000

COEFFICIENT	VALUE	ASMPT. STD. ERROR
CRAMER V	.1291	
CONTINGENCY	.2183	
LAMBDA	.0049	.00042
UNCERTAINTY	.0050	.00042

TABLE VI: TABLE V RECALCULATED TO MINIMIZE THE EFFECT OF "REST"

MODEL	$\chi^2$	DF	PROB	DIFFERENCE IN $\chi^2$ FROM FULL MODEL (I)	DF	SIGNIFICANT AT $\alpha = .05?$
I	99.20	24	.000	—	—	—
II	98.25	21	.000	0.951	3	NO
III	97.84	21	.000	1.362	3	NO
IV	97.71	21	.000	1.493	3	NO
V	83.16	21	.000	16.042	3	YES
VI	96.42	18	.000	2.778	6	NO
VII	95.01	18	.000	4.193	6	NO
VIII	80.73	18	.000	18.472	6	YES

MODELS: I = FULL; II = AP+S2; III = AP+E1; IV = AP+EP2.2;  
V = AP+EP2.1; VI = AP+S2+E1; VII = AP+E1+E2.2; VIII = AP+E2

TABLE VII: COMPARISONS OF THE FULL AND VARIOUS COLLAPSED MODELS OF THE DATA IN TABLE V

of the full and collapsed model, as well as the difference in their degrees of freedom. We can then consult a standard table of  $\chi^2$  distributions to see if the difference results in a significant gain or loss in probability. This is reported on the table in the last column: if, at the  $\alpha = .05$  level, there is no loss in probability, then we enter "NO" in the column. If the collapsed model is inferior to the full model—i.e., if there is a loss in significance—we enter "YES" in the column.

As can be seen, however we model the data, the *Ars Poetica* is best grouped with *Sat.* II, *Epist.* I, and *Epist.* II.2. The best models are: AP+SII and AP+SII+EI. Models combining the *Ars Poetica* with *Epistles* II.2 are also good. The worst models are those in which the *Ars Poetica* is grouped with *Epistles* II.1. Since the *Epistle to Augustus* is generally considered a late hexameter poem, the implication of our study is that the *Ars Poetica* is most likely a middle-period, not a late-period, hexameter poem. On TABLES H-P, the *Ars* is placed in the position indicated by these tests.

On the graph in TABLE H (a chart showing the frequency of *ad* in Horace's poems), we can see similar nonlinear trends in the lyrics and hexameters. The pattern of usage in both groups is a convex parabola. In accordance with the principle of parsimony in model-building, we disregard the value of *Satires* I. In the hexameters, we find high frequency in the early poems, lower frequency in the poems of the 20s, and higher frequency in the late works. In the case of the non-hexameters, use of *ad* is highest in the early period, with the late *Carm.* IV showing a steep rise as compared to *Carm.* I-III, but not steep enough to overtake the rate of the *Epodes*. The *Ars Poetica* takes its place between *Epist.* I, the nadir of the curve, and *Epist.* II.2.

The somewhat different shapes and values of the curves here and elsewhere in this group are not unexpected or disturbing. They are presumably the result of differences of genre and meter; of the greater number of hexameter as opposed to non-hexameter poems; and of the fact that the time intervals between the different poems (hexameter and non-hexameter alike) are not uniform. Complicating the last factor is the probable overlap in time of the different poems and poem categories. For example, it is likely that Horace was writing some of *Carm.* I-III in the 30s,<sup>37</sup> when he was mainly composing his *Satires*. It is impossible for us to determine which odes date from which period, with a few possible exceptions, like the *Cleopatra Ode* (I.37) or the poem consoling Virgil for the death of his friend Quintilius (I.24). In general, this limitation does not matter since we are concerned with relative chronology and dating the *Ars Poetica* between *Epist.* I and *Epist.* II.2. For this task, it is sufficient that we assume

<sup>37</sup>See, e.g., R. G. M. Nisbet and M. Hubbard, *A Commentary on Horace: Odes Book I* (Oxford 1970) xxviii-xxx; Vretska, op. cit. (*supra* n. 30) col. 1222; E. A. Schmidt, "The Date of Horace, Odes 2.13," *BICS Supplement* 51 (1988) 118-125.

that the linguistic data of the various works reflect Horace's habits of speech in the year or so of revision before final publication.

On TABLE I we have a graph showing Horace's use of *per*. As can be seen, *per* resembles *ad* in its general development, except this time the word is used more frequently in the lyrics than in the hexameters and in both groups of poems the highest use occurs in the late works. The frequency of the *Ars Poetica* is closest to *Epistles* I, though it is harder to visualize whether the data for the *Ars Poetica* fit better before or after those of *Epistles* I. By the principle of parsimonious modelling, the slight increase in value of *Epistles* I is not interpreted as evidence counter to a parabolic trend.

On TABLE J, showing Horace's use of *sed*, we again see a definite non-linear pattern. The frequency of *sed* falls somewhat in the 20s from the level found in the 30s (disregarding, as in the case of *ad*, the data of *Satires* I), and we find this both in the hexameter and in the non-hexameter works. The *Ars Poetica* fits nicely after *Epistles* I in the middle-period poems, whose observed frequencies are lower than expected. In the late poems, the rate with which Horace used *sed* rose again. Thus, the graphs of both hexameters and non-hexameters are convex parabolas described by quadratic equations.<sup>38</sup> The similar trends observed for *ad*, *per*, and *sed* can be seen from the composite graph on TABLE K.

As mentioned, a fourth function word, *nec*, has the opposite trend—a concave parabola. We begin with a table of the data subjected to chi-square and association tests. The results show high statistical significance and non-independence of the variables (TABLE VIII, next page).

Once again, to interpret the degree of association, we need to determine the maximum possible level of association that can be obtained with our frequency requirement and in view of the preponderance of data in the "rest" category ( $43,146 / 43,415 = 99.38\%$ ). Running an experiment similar to that used for *ad*, *per*, and *sed*, we obtain the results seen on TABLE IX (next page). Compared to the maximum values we can expect to find in one of our chronometers, the degree of association actually observed for *nec* is about the same as we found for *ad*, *per*, and *sed*.

<sup>38</sup>In modelling the hexameters, we may legitimately ignore the departure of *Satires* I from the parabolic model without postulating a cubic model; on the principle of parsimony in model-building, see A. Agresti and B. Finlay, *op. cit.* (*supra* n. 19) 363-64; P. Turney, "The Curve Fitting Problem: A Solution," *The British Journal for the Philosophy of Science* 41 (1990) 509-530.

WORD	S1	S2	EP1	EP2.1	EP2.2	TOTAL
NEC	23	23	35	5	1	
REST	6972	7199	6651	1758	1418	
TOTAL	6995	7222	6686	1763	1419	
WORD	AP	EPD	C1-3	C4		
NEC	13	22	26	118		269
REST	3060	2969	10576	2543		43146
TOTAL	3082	2995	10694	2559		43415
TEST STATISTIC				VALUE	DF	PROB.
PEARSON CHI-SQUARE				75.529	8	0.000
LIKELIHOOD RATIO CHI-SQUARE				76.994	8	0.000
COEFFICIENT	VALUE			ASMPT. STD. ERROR		
CRAMER V	.0417					
CONTINGENCY	.0417					
LAMBDA	.0000			.00000		
UNCERTAINTY	.0004			.00010		

TABLE VIII: FREQUENCY OF *NEC* IN HORACE

WORD	S1	S2	EP1	EP2.1	EP2.2	TOTAL
NEC	5	5	5	5	112	
REST	6990	7217	6681	1758	1307	
TOTAL	6995	7222	6686	1763	1419	
WORD	AP	EPD	C1-3	C4		
NEC	5	5	5	112		259
REST	3077	2990	10689	2447		43156
TOTAL	3082	2995	10694	2559		43415
TEST STATISTIC				VALUE	DF	PROB.
PEARSON CHI-SQUARE				2064.2	8	0.000
LIKELIHOOD RATIO CHI-SQUARE				915.3	8	0.000
COEFFICIENT	VALUE			ASMPT. STD. ERROR		
CRAMER V	.2180					
CONTINGENCY	.2130					
LAMBDA	.0033			.00033		
UNCERTAINTY	.0053			.00042		

TABLE IX: TABLE VIII CONTROLLED FOR "REST"

Next, we run some modelling tests, combining the *Ars Poetica* with the other middle and late hexameter poems, to see whether we can improve on the results obtained from the full model. The best reduced model once again turns out to be the one combining the *Ars Poetica* and *Epistles* I, though this time, there is no close runner-up.

As TABLE X shows, in the reduced model combining the *Ars Poetica* with *Epistles* I, we lose just 1.24 of chi-square value at one degree of freedom, which is not statistically significant. Thus, this reduced model is preferable to the full model. The other reduced models, combining the *Ars* with other poems, are much less compelling: the *AP + Epist.* II.2 model, with a chi-square value of 68.99, actually represents a result significantly worse than the full model and hence can be rejected, as can that combining the *Ars* with *Sat.* II. The model combining *Ars Poetica + Epist.* II.1 is an acceptable reduction, but barely so and with less probability than the model collapsing *AP + Epist.* I. The *Ars Poetica + Sat.* II + *Epist.* I model, with a chi-square value of 72.16, is almost significantly worse than the full model:  $75.53 - 69.55 = 5.98$ , with one degree of freedom. To reject a reduced model of this type, we would have had to have a remainder of 5.991 or more. As it is, we can simply say that it is much less probable than the reduction *Ars Poetica + Epist.* I.

MODEL	$\chi^2$	DF	PROB	DIFFERENCE IN $\chi^2$ FROM FULL MODEL (I)	DF	SIGNIFICANT AT $\alpha = .05?$
I	75.53	8	.000	—	—	—
II	70.05	7	.000	5.48	1	YES
III	74.29	7	.000	1.24	1	NO
IV	68.99	7	.000	6.54	1	YES
V	72.16	7	.000	3.37	3	NO§
VI	69.55	6	.000	5.98	2	NO*
VII	66.99	6	.000	8.54	2	YES
VIII	67.93	6	.000	7.60	2	YES

MODELS: I = FULL; II = AP+S2; III = AP+E1; IV = AP+EP2.2; V = AP+EP2.1;  
VI = AP+S2+E1; VII = AP+E1+E2.2; VIII = AP+E2

§The difference would be significant if it were 3.841 instead of 3.37.  
\*The difference would be significant if it were 5.991 instead of 5.980.

TABLE X: COMPARISONS OF THE FULL AND VARIOUS COLLAPSED MODELS OF THE DATA IN TABLE VIII

Having seen the strong evidence associating the *Ars Poetica* with *Epistles* I, we can now place the *Ars Poetica* on a frequency graph of the data for *nec* (see TABLE L). Although we once again put the *Ars Poetica* after *Epistles* I, we make no claim at this point of our argument about its relative position with respect to *Epistles* I. As the graph shows, the *Ars Poetica* takes its place alongside *Epistles* I at the peak of the parabola, which falls off quickly in the late works. For the sake of parsimony, we do not postulate a cubic equation because of the anomalously low frequency of *Epist.* II.2.

It is interesting to note here that the trend in Horace's use of *ne* is much the same as that of *nec*, except that the overall frequency is in general quite a bit lower than it is for *nec*, and the effects of genre are just the reverse. Whereas for *nec*, the non-hexameters showed a higher rate of usage, for *ne* the frequency in the non-hexameters is quite low—so low, indeed, that *ne* has been excluded from our study on account of low frequency. So it must remain. Since *ne* and *nec* are so similar in sound and sense, it is at least worth reporting here the fact that the trends in Horace's use of them are similar, too. Although of no probative value for our argument, the resemblance of the trend of *ne* to that of *nec* may add support to the principal theoretical assumption of this study—namely, that some function words may serve as chronometers because their use changes in a patterned way over time according to quite unconscious linguistic processes.

As before for the first "concave" group, it is useful to combine the graphs of the "convex" group so that we may visualize just how closely the frequency trends of *nec* and *ne* resemble each other (cf. TABLE M). In so doing, we will use two scales to compensate for the fact that *ne* is so much rarer than *nec*. This is justified, needless to say, because we are interested only in the convexity of the pattern, and not in the absolute frequencies of the words in the Horatian corpus. Of course, the fact that *ne* peaks over *Epistles* I and *nec* over the *Ars Poetica* is equally irrelevant: there is no reason why the two words should follow the exact same development. As a further visual aid, we will use the bar graph for *nec* and superimpose a line graph for *ne*.

To conclude this part of our stylometric attempt to date the *Ars Poetica*: two classes of function words emerge from a study of function words in Latin as satisfying the frequency and pattern requirements of chronometers. They are *ad/per/sed*, on the one hand, and *nec*, on the other. The first group has the pattern of a concave parabola; the second class, that of a convex parabola. In both classes, the *Ars Poetica* takes its rightful place next to *Epistles* I. In neither of the two classes do we find any compelling evidence that the *Ars Poetica* should be combined with Horace's late poetry.

**Possible Macrochronometers: Characters, Strings, Strong Stops**

Many other stylometric tests for relative chronology are conceivable, and, while it is not my intention to try to exhaust all the possibilities here, it is at least prudent to see if the results reached so far can be confirmed or disconfirmed by other means.

Up to now we have looked at one category of vocabulary—function words. To compensate for this rather restricted approach, let us consider some typical tests of Horace's entire vocabulary. By examining features common to all of Horace's use of language—which we may call *macrochronometers*—we will have looked at Horace's word usage from, so to speak, both ends of the telescope. Once again we will be trying to find some feature that can serve as a chronometer because its usage in the corpus shows patterned development.

Statisticians of style often look at such things as the average number of characters per word, words per sentence, and unique strings as a percentage of all strings. These will serve as our macrochronometers, and we may begin by measuring the average number of characters per word in the works of the corpus. From the graph on TABLE N, it can easily be seen that there is no developmental pattern here. Rather, Horatian usage remains quite stable from poem to poem and genre to genre. The mean values for the poems are 5.636, with a standard deviation of .052. If the Horatian mean turns out to be significantly different from that of other Latin writers, then it could serve as a criterion of attribution. It is clear, however, that it cannot be of much help for establishing a relative chronology of Horace's own works.

The situation is much the same for the ratio of words per strong stop, though for a different reason. Here the problem is not stability but random fluctuation—especially opposite trends in the hexameters and non-hexameters, as can be seen on TABLE O.

The hexameters show a steady rise from *Satires* II through *Epistles* II.2 and II.1 (leaving out of account, of course, the *Ars Poetica*, so as not to be guilty of a *petitio principii*). The hexameters are thus linear. The non-hexameters, on the other hand, have fewer words per stop in *Carm.* I-III of the mid-20s than they did in the *Epodes*, giving them a parabolic shape. It is perhaps just as well that this ratio turns out not to be useful: the pointing is completely dependent on the single text of Horace that has been digitized to date (Klingner's Teubner), and pointing is notoriously arbitrary. For this reason, I first converted all colons and semi-colons to periods before the computer scanned the text to tabulate "sentences." Nevertheless, although "strong stop" is a vaguer category than is "sentence," the result will hardly be found to agree with any other edition

so modified. If for this practical reason words/stop is not a very reliable measure, then it is equally suspect on statistical grounds.<sup>39</sup>

Our last hope for a macrochronometer that can confirm or disconfirm the results of our study of function words is the ratio of unique strings to non-unique strings in Horace.<sup>40</sup> Normally, one would prefer to study words—i.e., lexemes—per se, not strings, or inflected forms of words. However, given the current lack of a parser for Latin, it is impractical to study a corpus as large as Horace's in this way. On the other hand, in the present case very little inaccuracy is likely to result from using for analysis strings, as opposed to words, since Latin does not have many homonyms like *uti*. TABLE P reports the rate at which unique and non-unique strings appear in Horace's works.

As can be seen from TABLE XI, our intuition that we have, indeed, identified a statistically significant pattern is confirmed by chi-square and associ-

<u>STRING</u>	<u>S1</u>	<u>S2</u>	<u>EPI</u>	<u>EP2.1</u>	<u>EP2.2</u>	<u>TOTAL</u>
UNIQUE	3691	3988	3804	1277	1036	
NON-UNIQ	3304	3234	2882	486	383	
TOTAL	6995	7222	6686	1763	1419	
<u>STRING</u>	<u>AP</u>	<u>EPD</u>	<u>C1-3</u>	<u>C4</u>		
UNIQUE	2048	2038	7529	1872		27283
NON-UNIQ	1034	957	3165	687		16132
TOTAL	3082	2995	10694	2559		43415
<u>TEST STATISTIC</u>			<u>VALUE</u>	<u>DF</u>		<u>PROB.</u>
PEARSON CHI-SQUARE			1147.6	8		0.000
<u>COEFFICIENT</u>		<u>VALUE</u>		<u>ASMPT. STD. ERROR</u>		
CRAMER V		.1626				
CONTINGENCY		.1605				
LAMBDA		.0042		.00245		
UNCERTAINTY		.0066		.00039		

TABLE XI: CHI-SQUARE TEST OF THE FREQUENCY OF UNIQUE AND NON-UNIQUE STRINGS IN HORACE

<sup>39</sup>See A. Q. Morton, *Literary Detection* (New York 1978); K. L. Lindsay and T. W. Mackay, op. cit. (*supra* n. 23) 8-9. For a similar functional definition of "strong stop," see I. Marriott, "The Authorship of the *Historia Augusta*," *JRS* 69 (1979) 65-77, at p. 66 with 66n4.

<sup>40</sup>This kind of "type/token" analysis was used by Grayston and Herdan in an authorship study of works in the New Testament attributed to Paul; see K. Grayston and G. Herdan, "The Authorship of the Pastorals in Light of Statistical Linguistics," *New Testament Studies* 6 (1959-60) 1-15; the study is usefully criticized by Lindsay and Mackay, op. cit. (*supra* n. 23) 6-7. Grayston and Herdan studied words, not strings (arrays of characters, i.e., forms of words).

ation tests of the data. The high chi-square value tells us that there is very little chance indeed that the figures for the strings are the result of chance and a very high probability that the variables of poem and string-type are not independent. Their degree of dependence is expressed by the various coefficients, which indicate a modest degree of association reflective of the fact that the slopes of the lines in TABLE P are so gentle.

Attempts to model the data by combining the *Ars Poetica* with other poems do not succeed in establishing a more economical model without loss of significance. In fact, collapsing the data in any of the ways used earlier results in significant losses of chi-square value, as TABLE XII shows. The fact that the full model is preferable to any reduction means that we have no basis at this point in the analysis for associating the *Ars Poetica* with one of the datable hexameter poems.

On TABLE P, the location of the *Ars Poetica* between *Epistles* I and *Epist.* II.2 is thus purely speculative, supported only by the smooth linear pattern that results. In a moment we will convert the nominal poem variables to interval variables. Our first order of business will then be to see whether other tests, appropriate only to interval variables, can confirm or disconfirm this speculation.

MODEL	LOSS OF $\chi^2$		PROB.
	VALUE	DF	
<i>AP + Ep.</i> I	82.48	1	.000
<i>AP + Ep.</i> II.2	17.9	1	.000
<i>AP + Ep.</i> II.1	17.19	1	.000
<i>AP + Ep.</i> II	26.21	2	.000

TABLE XII: ALTERNATIVE MODELS FOR GROUPING THE DATA OF TABLE XI

### Absolute Chronology: Conversion to Interval Variables

A number of statistical analyses were unavailable to us because the variables we have been considering so far were nominal, not interval. It is prudent to consider Horace's poems as simple categories; on the other hand, in view of their generally accepted absolute chronology, they can also be taken as points on an interval scale of time. If we do this with due awareness of how approximate our results must be, we can make a provisional attempt to determine whether the *Ars Poetica* should be dated before or after *Epistles* I and we can obtain added confirmation for our rejection of the late dating of the poem.

Because we did not make such a conversion, we could not mathematically describe the linear and quadratic equations that may describe Horace's evolving use of *ad*, *sed*, *ne*, and *nec* as well as his ratio of unique to non-unique strings. Only after arriving at such equations, by building linear and non-linear regression models,<sup>41</sup> can we attempt to make our date of the *Ars Poetica* more precise.

In what follows, the conversion to interval variables will be based on the publication dates given by Vretska (see n. 30 above), with the exception that the *Epodes*—which were written over such a long period of time—are dated to the approximate mid-point of their period of composition (c. 35 B.C.) and *Epistles* II.2 is dated to 19/18.<sup>42</sup> To circumvent the problem that dates B.C. are regressive, dates will be expressed variously in terms of Horace's age or in years *ab urbe condita* (AUC), as follows:

HEX	AUC=AGE		NON-HEX	AUC=AGE	
S I	718	30	EPD	718	30
S II	723	35			
			C1-3	730	42
EP I	733	45			
EP II.2	735	47			
EP II.1	740	52	C4	740	52

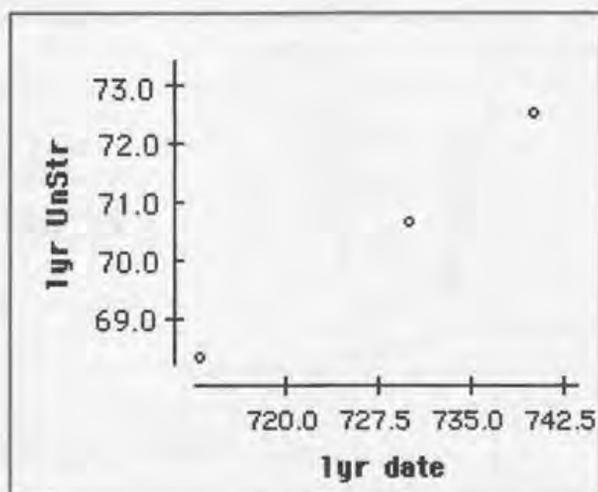
TABLE XIII: APPROXIMATE PUBLICATION DATES OF HORACE'S POETRY

First, equations will be derived for the data from poems, excluding the *Ars Poetica*. Then, the *Ars Poetica* will be dated by means of the equations. As before, the hexameters and non-hexameters will be treated separately. We may note here that our results will only relate to the *terminus ante quem* of the *Ars Poetica* as we have it. No attempt will be made to determine whether the poem we have is, e.g., a revised version or a second edition of an earlier poem.

Let us first examine the unique strings in the non-hexameter poetry. As we recall, these showed a strong linear pattern of development, with increasing rates of unique strings as time went on. We want to see whether there is support for our speculation that the *Ars* belongs roughly in the period between the composition of *Epist.* I and *Epist.* II.2

<sup>41</sup>Cf. A. Agresti and B. Finlay, *op. cit.* (*supra* n. 19) 243-288, 316-356.

<sup>42</sup>Vretska says the date is "before 20," but most scholars put it in 19/18; see Brink, I, 184n1.



Dependent variable is: lyr UnStr (lyric Unique Strings)

$R^2 = 99.1\%$   $R^2$  (adjusted) = 98.3%

$s = 0.2781$  with  $3 - 2 = 1$  degree of freedom

Source	Sum of Squares	DF	Mean Square
Regression	8.76931	1	8.7693
Residual	0.077361	1	0.077361

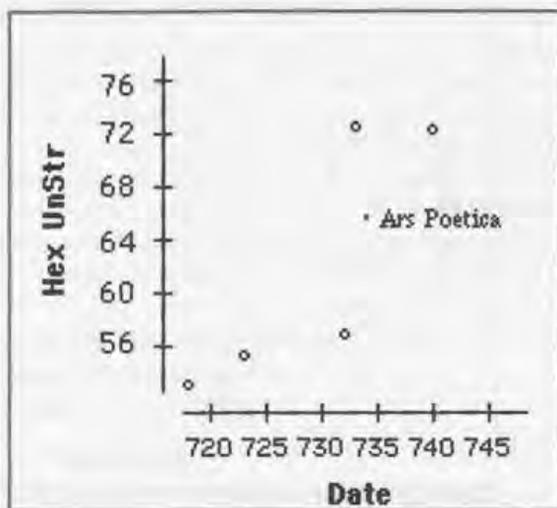
Variable	Coefficient	S.E. of Coeff	T-ratio
Constant	-41.1566	10.49	-3.93
lyr date	0.153399	0.0144	10.6

Formula:  $Y = -41.1566 + .153399X$

TABLE XIV: PERCENTAGE OF UNIQUE STRINGS IN  
HORACE'S NON-HEXAMETER POETRY

The figure  $R^2$  is the coefficient of determination, which varies from 0 (indicating that the variables are independent) to 1.0 (indicating that they are strongly associated). In this case, the coefficient is practically 1.0, so that we may be quite confident that the rate of unique strings in a Horatian poem is determined by its date.

The frequency of unique strings in the hexameter poems also increases over time, as the table on the next page shows.



Dependent variable is: HexUnStr (hexameter Unique Strings)

$R^2 = 69.6\%$   $R^2$  (adjusted) = 59.4%

$s = 6.119$  with  $5 - 2 = 3$  degrees of freedom

Source	Sum of Squares	DF	Mean Square
Regression	256.923	1	257.0
Residual	112.345	3	37.4482

Variable	Coefficient	s.e. of Coeff	t-ratio
Constant	-609.812	256.5	-2.38
Date	0.921136	0.3517	2.62

Formula:  $Y = -609.812 + .921136X$

Date of *Ars Poetica*:  $Y = 66.1$ ;  $X = 733.78$  (21/20 B.C.)

TABLE XV: PERCENTAGE OF UNIQUE STRINGS IN HORACE'S HEXAMETER POETRY

In this case, the results are more scattered, but the coefficient of determination is still quite high at .696. This means that about 70% of the variability of unique strings from poem to poem is explained by the dates of the poems, as opposed to other (non-specified) factors. The formula resulting from our analysis gives us the Y-intercept and slope of the linear equation that best describes this data:  $Y = -609.812 + .921136X$ . With the Y-value for the *Ars Poetica* (66.1) in hand, we

can solve the equation for X (i.e., for date) for the *Ars Poetica*. The answer is 733.728 a.u.c., or 21/20 B.C. On the scattergram, I have entered the poem into the locus indicated by the equation. The high reliability of this dating is suggested by the t-ratio for the variable "Date." The value of 2.62 with three degrees of freedom results in a rejection of the null hypothesis that the true slope coefficient is 0 (that is, that the variable Y, or frequency of unique strings, does not depend on the variable X, or date) at an alpha-level of less than .05.<sup>43</sup>

Since the fit of our nonlinear data to the most descriptive quadratic equations is not as tight as it is for these two linear patterns, and since the number of poems in our sample is so low in any case, our approach to the words with quadratic equations (i.e., *ad, sed, nec, and ne*) is somewhat different. Instead of deriving a date from all the hexameters except the *Ars Poetica* and then determining the date of the poem by substituting the value of the dependent variable, we will use an exploratory modelling approach.<sup>44</sup> With this method, we increase the plausibility, if not probability, of our results by including the *Ars Poetica* in our regression analysis. Controlling for all the other poems, we run the regression seventeen times by varying the date of the *Ars Poetica* from its earliest to its latest possible year of composition (i.e., 24 to 8 B.C.). We then pick out the years that are most and least likely, as determined, respectively, by the greatest and lowest  $R^2$  value of the regression. This procedure tells us which dates of the *Ars Poetica* are the most and least likely for these data. The results may be seen on TABLE XVI.

	BEST		WORST		RATIO
WORD	DATE	$R_1^2$	DATE	$R_2^2$	$R_1^2/R_2^2$
SED	24	.848	8	.257	3.3
PER	24	.687	8	.224	3.1
AD	20	.594	8	.457	1.3
NEC <sup>45</sup>	24	.620	8	.415	1.5

TABLE XVI: BEST AND WORST REGRESSION MODELS FOR DATING THE *ARS POETICA* BY MEANS OF FUNCTION WORDS

<sup>43</sup>When the t-ratio is 2.62 with three degrees of freedom, alpha is  $< .05$  and  $> .025$ .

<sup>44</sup>For the difference between an explanatory and exploratory use of regression, see A. Agresti and B. Finlay, *op. cit.* (*supra* n. 19) 379-80, especially the following: "in exploratory research...the goal is not to explain relationships among variables so much as it is to find a good set of predictors. Here we want to maximize  $R^2$ , and we do not worry so much about theoretical explanations."

<sup>45</sup>The principle of parsimonious model-building suggests that the anomalous *Epist.* II.2 be excluded from consideration.

$R^2$ , as noted earlier, measures the strength of the association of the variables; here,  $R_1^2$  is the correlation coefficient of the best model and  $R_2^2$  that of the worst. Three of the function words (*sed*; *per*; *nec*) give us  $R_1^2$  values superior to that found for the unique strings; one (*ad*) is quite similar. While these absolute values are sufficient to permit the conclusion that, on this basis, the *Ars Poetica* should more likely be dated to the period 24-20 B.C. than to Horace's last years, they do not give us a sense of the degree to which the earlier datings are preferable to the latter. For this, we need to consider the ratio  $R_1^2/R_2^2$ , which quantifies the advantage of the best model over the worst. Perusal of the table confirms that *sed* and *per* are very reliable chronometers indeed, both in absolute and relative terms.

The  $R^2$  value expresses the fit of the observed frequencies of *ad*, *per*, *sed*, and *nec* to those that can be predicted by the appropriate quadratic equation. The closer the fit, the higher the value of  $R^2$ , which varies, as previously noted, from 0.0 to 1.0. The graphs in TABLES Q-T will help the reader visualize the fit of the data to the predictive equations. In examining them, the reader should bear in mind that a quadratic equation can be derived to fit any three points on a graph; thus, it is not surprising that two or three points always fall on or very near the prediction parabolas. Visualization of the goodness of fit ( $R^2$  values) of the predicted to the observed values depends on developing a sense of the number of points off the parabolic line and their distance from their predicted values on the line. The graphs are presented in descending order of their  $R_1^2/R_2^2$  ratios, beginning with *sed*.

### Summary of Arguments for Dating the *Ars Poetica*

At this point, a summary of our statistical investigations and other arguments for dating the *Ars Poetica* is in order.

Of the three approaches to dating the poem, the first—comparing and contrasting ideas of the *Ars Poetica* with Horace's beliefs about poetry in his other, datable poems—was rejected because the ideas in the *Ars* are so different from what we find in his other poems that the poem cannot readily be fitted into a chronological scheme of Horace's ideas about poetry. We did, however, note that the only echoes in the *Ars Poetica* to other passages in Horace's poetry were to poems published in 23-20 B.C., thus suggesting that the *Ars* dates from the same period. The second approach—based on dating the work by reference to biographical information available from other sources about historical personages mentioned in the poem—provided a firm *post quem* (24/23 B.C.), but was only suggestive about a *terminus ante quem* (19 B.C.).

The third approach of stylometrics confirmed this *terminus post quem* and added better evidence for an *ante quem* of c. 20 B.C. Starting from a reexamination of Duckworth's metrical arguments for dating the *Ars Poetica*—which he adduced in favor of a late date—we found that, by his own “naive” statistical methodology, the evidence supported dating the poem in Horace's “middle” period, well before the late hexameters of *Epistles* II. Subjecting the data to standard statistical tests, we then found that his metrical tests did not give strong support to even this revised dating. Instead of looking further for metrical chronometers—something presently difficult to do in the absence of a commercially available metrical scanner for Latin—we shifted our evidentiary base from meter to vocabulary, treating the books of poetry as nominal variables that can be arranged according to a relative chronology. We then sought criteria for dating the poems by running tests on Horace's use of function words, on the average number of characters per word and of words per strong stop, and on the ratio of unique to non-unique strings in Horace. The studies of word-length and words per stop were inconclusive, since no development over time was noted. On the other hand, our examination of function words and ratio of unique to non-unique strings proved fruitful: here we discovered linear and non-linear patterns of development over Horace's career, and both batteries of tests suggested that the *Ars Poetica* fell into Horace's middle period of hexameters. Finally, converting the nominal variables into interval variables by assigning the various poems their generally accepted absolute dates, we ran tests of the ratio of unique to non-unique strings and of the changing frequency of function words. These tests agreed in indicating a date in the period 24-20 B.C. as most probable for the composition of the *Ars Poetica*. The tests of the function words also showed that, the later we attempted to date the *Ars Poetica* down to 8 B.C. (the year of Horace's death), the *less* likely the result in terms of statistical probability. Three of the four function words indicated a best dating of 24 B.C.; one dated the poem to 20 B.C.

Our conclusion is thus that the most likely date of the *Ars Poetica* is between 24 and 20 B.C.

## CHAPTER 3

### INTERPRETIVE IMPLICATIONS OF CHRONOLOGY: THE *ARS POETICA* IN ITS CULTURAL CONTEXT

The problems considered thus far will almost certainly never have definitive answers: we simply lack the kind of information we need to have in order to know what Horace himself called the *Ars Poetica* and when he wrote the poem. Our effort has been much more modest: to show that some possibilities have been overlooked by earlier scholars and to demonstrate that some of these possibilities are even—statistically speaking—probabilities. The poem's title and date are not merely of antiquarian interest. They have a direct and indirect impact on how we construct our reading of the poem.

At this point, then, we need to address three issues. First, what consequences would our dating have for the relationship of the poem to its historical milieu? Secondly, in view of those consequences, what effect can an early dating have on our interpretation and understanding of the *Ars Poetica*? Finally, to what extent are these external and internal implications of the date consistent with—or, indeed, supportive of—a parodic reading of the poem?

For the first issue, the identity of the Pisones to whom the work is dedicated is of paramount importance. In the past, scholars have thought themselves forced by a date in the late 20s to see Cn. Calpurnius Piso (cos. 23) as the senior dedicatee of the poem. This has been resisted because, from what we know about him and his family, they do not seem appropriate recipients of a work on poetics. On the other hand, the favored candidate, L. Calpurnius Piso Pontifex (cos. 15), was too young in the 20s to serve as the senior dedicatee.<sup>1</sup> Once we have offered a new solution to the problem of identifying Piso père, we will examine the implications of our candidate for interpretation of the poem, particularly in the light of Horace's relationship to contemporary literary critics. We will see that by aligning the speaker of the *Ars Poetica* with such critics as

<sup>1</sup>Cf., with admirable succinctness, Brink, I, 239-240.

Piso and Sp. Maecius Tarpa, Horace undermines the speaker's authority in a way suggestive of parody.

Similarly, the dating proposed here invites us to examine the relationship between the poem and contemporary painting and art criticism, which, from the very first lines of the poem, play a prominent part in the *Ars Poetica*. A close reading of the opening lines of the poem will show that, right from the start, Horace portrays the speaker of the poem as a pedant and an ignoramus. This characterization, like the attack on his authority, is consistent with a parodic reading of the work.

Finally, dating the *Ars Poetica* to the 20s, and seeing it as a separate work in the corpus unrelated to the *Epistles* and replete with parodic elements should naturally make us wonder about the genre of the poem. In tackling this matter in *Chapter 4*, we will try both to put the Renaissance epistle-theory to rest once and for all and to link the *Ars Poetica* to the traditions of Horatian *sermo*.

### The Identity of the Pisones

Foremost among the ten historical personages mentioned in the *Ars Poetica* are the Pisones, who are the addressees of the poem. Since their identification is closely connected to the poem's chronology and tone, I will have to delve into the matter here.

A full account of the extensive scholarship on the identity of the Pisones is no longer necessary after the thorough recent contributions of Brink and Syme, on which we can safely try to build. In particular, the claims of the unpoetical Cn. Calpurnius Piso (cos. 23) need no longer be rehearsed and refuted.<sup>2</sup> As mentioned above, Cn. Calpurnius Piso has, since the nineteenth century, been the Piso to whom scholars dating the poem to the 20s have had to turn, since L. Calpurnius Piso (cos. 15) was too young in the 20s to have had children old enough to be called *iuvenes* (cf. *Ars Poetica* 366). Our task here, then, is to find someone other than Cn. Calpurnius Piso who can serve as senior addressee in the late 20s.

Horace addresses his poem to Pisones (6, *credite, Pisones...*). Although there were several important late-republican families with this cognomen, it is at

<sup>2</sup>Brink, I, 239-243; III, 446-448, 554; R. Syme, "The Sons of Piso the Pontifex," *AJP* 101 (1980) 333-341 (= *Roman Papers*, vol. 3, ed. A. R. Birley [Oxford 1984] 1226-1232); *History in Ovid* (Oxford 1978) 115, 178. That the addressee in Horace normally has some connection to the topic of the poem is a commonplace; cf., e.g., R. G. M. Nisbet and M. Hubbard, *A Commentary on Horace: Odes Book II* (Oxford 1978) 2.

least clear that we have to do with Calpurnii Pisones,<sup>3</sup> because lines 291-292 (*vos, o / Pompilius sanguis*) imply that our family descends from Calpus, the son of King Numa.<sup>4</sup> Moreover, verse 366 (*o maior iuvenum*) tells us that our family consists of a father and two children, who must range in age somewhere between about 16 and 45 years of age.<sup>5</sup> Lines 385-388<sup>6</sup> suggest that the elder child is (or, plans to be) a poet and that his father is (or, considers himself to be) an authority on literary criticism. So much for the internal evidence.

The late-antique commentator, Porphyrio, in a note on the first line of the poem, identifies Piso père as L. Calpurnius Piso (cos. 15; *RE* Calpurnius 99): *hunc librum, qui inscribitur de Arte Poetica, ad Lucium Pisonem, qui postea urbis custos fuit, eiusque liberos misit, nam et ipse Piso poeta fuit et studiorum liberalium antistes*. This notice may, however, be incorrect because this Piso is not known to have had any children. Syme, presenting some possible sons of this Piso, must admit a lack of certainty about his candidates, though he sensibly points out that the silence of the ancient sources anent children may be the result of any number of good reasons, e.g., adoptions, early deaths, or political inactivity.<sup>7</sup>

However, even if children are postulated, one problem remains with Porphyrio's Piso père. The text of the poem presumes that the father is primarily a critic, not a poet: he is mentioned as such (388), and Horace says nothing about his poetry, which is strange if he has written anything of note. We are told by Porphyrio that the consul of 15 was a poet (*nam et ipse poeta fuit....*), and we may even have some of his poetry in the *Greek Anthology*.<sup>8</sup> Moreover, Por-

<sup>3</sup>And not, e.g., Domitii Pisones (Pliny, *NH praef.* 17), or Pupii Pisones (cf. *RE* Pupius 10-12; M. H. Crawford, *Roman Republican Coinage*, vol. 1 [Cambridge 1974] 87, 442-443, with bibliography).

<sup>4</sup>On whom see Münzer in *RE* III s.v. Calpurnius, col. 1365. For an updated account, see E. Champlin, "The Life and Times of Calpurnius Piso," *MH* 46 (1989) 101-124, at pp. 119-123. On the alleged descent of the family from Calpus see, in general, T. P. Wiseman, "Legendary Genealogies in Late-Republican Rome," *Greece & Rome* 21 (1974) 153-164, especially pp. 154-155.

<sup>5</sup>Cf. *OLD* s.v. *iuvenis* I.

<sup>6</sup>"Tu nihil invita dices faciesve Minerva: | id tibi iudicium est, ea mens. si quid tamen olim | scripseris, in Maeci descendat iudicis auris | et patris et nostras..."

<sup>7</sup>Syme, "The Sons of Piso," *op. cit.* (*supra* n. 2) 334-341. For a concrete case of how an early death may account for the absence of a famous man's brother from the historical record, see L. E. Reams, "The Strange Case of Sulla's Brother," *CJ* 82 (1987) 301-305.

<sup>8</sup>Cf. C. Cichorius, *Römische Studien* (Leipzig 1922) 325-327, 338-341; E. Groag, *PIR<sup>2</sup>* (Berlin 1936) Calpurnius 289 (p. 66). Because Porphyrio tells us that his Piso père was a poet, *AP* 11.424, attributed to a certain Piso, has been thought to be by this man. That Piso père is presented in the poem largely as a critic and the

phyrio's candidate was born in 48; any children he may have had would accordingly have become *iuvenes* only in the very last years of Horace's life—say after 12, if Piso married young and had his first child early on (e.g., born in 48; married in 29; first child born in 28 and Horace's *maior iuvenum* at age 16 in 12).<sup>9</sup>

If the period 24–20 is considered the likeliest for the composition of the *Ars Poetica*, then we must face the instant repercussion that Porphyrio must be wrong about the identity of Piso père.<sup>10</sup> Or, perhaps, partly wrong.

It is quite possible that Porphyrio has the right family, but the wrong generation.<sup>11</sup> If Piso père is more a critic than a poet and if his elder child is a poet, not a critic, then these requirements are better met by assigning to L. Calpurnius Piso Caesoninus (cos. 58; *RE* Calpurnius 90) the role of père and to his son, L. Calpurnius Piso Pontifex (cos. 15; *RE* Calpurnius 99), the part of *maior iuvenum* (25–28 years old in 23–20 B.C., since he was born in c. 48 B.C., according to Tac. *Ann.* 6.10). The consul of 15 was, as has been noted, a poet, according to Porphyrio; he is *maior iuvenum*, despite his famous elder sister Calpurnia (Caesar's last wife; *RE* Calpurnia 126), because she—betrothed to Caesar in 59, before her brother was even born—was too old in the 20s to be called *iuvenis*, assuming she was even alive (we hear no mention of her after 44). Their father was facetiously called a critic (*grammaticus*) by Cicero.<sup>12</sup> The implication behind Cicero's invective (on which, see pp. 57–59) is that the consul of 58 prided himself on being a literary critic—not unexpected in a man who we know was a patron of poets, including the poet-philosopher Philodemus.

elder child as a budding poet was noted by E. C. Wickham, *Quinti Horatii Flacci, Opera Omnia*, vol. 2, (Oxford 1891) 383–384.

<sup>9</sup>Cf. R. Syme, "The Sons of Piso," *op. cit.* (*supra* n. 2) 338–339, for speculation along these lines. Note that a *iuvenis* is "technically, any adult male up to the age of 45" (*OLD*). The *toga virilis* was assumed, in this period, at c. 16 years of age (cf. J. P. V. D. Balsdon, *Life and Leisure in Ancient Rome* [New York 1969] 120). Thus, in a technical sense, the senior dedicatee of the *Ars Poetica* must have children aged 16–45. To be sure, the term *iuvenis* could also be used more loosely, but the technical sense at least gives us guidance as to what Horace means.

<sup>10</sup>That a date in the 20s B.C. rules out Porphyrio's candidate has been seen since J. H. van Reenen's *Disputatio philologico-critica de Horatii Epistola ad Pisonem* (Amsterdam 1806). As noted, Van Reenen and his followers have recourse to Cn. Calpurnius Piso (cos. 23). *Ars Poetica* 306, "nil scribens ipse," has sometimes been connected with the so-called *intervallum lyricum* of 23–18 B.C., when Horace wrote no lyric poetry. Equally possible is an interpretation based on persona-theory: the *Ars Poetica* speaker is presented as a typical *grammaticus*, who has never written poetry and has no plans to do so.

<sup>11</sup>Similar prosopographical confusions in Porphyrio are collected by A. Michaelis, *op. cit.* (*supra* n. 10) 421.

<sup>12</sup>In *Pisonem* 73.

Although the identifications of Caesoninus and Pontifex fit quite well with the evidence of the *Ars Poetica*, there still remain two potential difficulties that should be explored now. In his influential *RE* article on Caesoninus, Münzer suggested that Caesoninus died shortly after the Battle of Mutina, for he is no longer mentioned in the literary sources after 43 B.C.<sup>13</sup> This is, of course, a speculative argument from silence, but it has apparently been powerful enough to discourage earlier students of the problem from proposing Caesoninus as the senior dedicatee of the *Ars Poetica*. Let us note, first of all, that other speculations about Caesoninus after 43 are possible: we may, for example, just as easily imagine that the conciliatory and Epicurean Piso withdrew in disgust from politics into the pleasures of retirement, or semi-retirement, after 43.<sup>14</sup> In favor of this, we may recall Piso's reluctance to hold the office of censor in 50.<sup>15</sup>

We do not have to content ourselves with guesses that Caesoninus lived on after 43. After Münzer wrote, three inscriptions in Pola mentioning L. Calpurnius L.f. Piso Caesoninus have gradually been published. Here are the texts:

L·CASSIUS·C·F·LONGIN(US) | L·CALPURNIUS·L·F·PISO·I IIVIR(I)...

[CIL V 54 = ILLRP 639 = *Inscr. Ital.* X.i.81 (with photo), from the Porta Herculea]

L·CALP[URNIUS·L·F] | PISO·CA[ESONINUS]·I CO[S]

[= Fig. 1; CIL V.2512 = ILLRP 423 = *Inscr. Ital.* X.i.65 (with drawing); found in v. Castropola (= M. Gupca Street); A. Gnirs, *JÖAI* 13 (1910) 196; P. Sticotti, *AMSt* 30 (1914) 114; A. Gnirs, *Pola* (Vienna 1915) 53; museum, inv. nr. 316]

[L·CAL]PURN[IUS·L·F·]  
[CAE]SON[INUS]

[ILLRP 424 = *Inscr. Ital.* X.i.708 (with photo); now missing, formerly on a wall of the duomo; see M. Mirabella Roberti, *Il Duomo di Pola* (Pola 1943) 31n1]

<sup>13</sup>So, e.g., Münzer, *RE* III s.v. Calpurnius 90 (Stuttgart 1897) cols. 1387-1390; C. L. Neudling, *A Prosopography to Catullus*, *Iowa Studies in Classical Philology* 12 (1955) 42-45. According to A. Fraschetti, "La 'Pietas' di Cesare e la colonia di Pola," *AION* 5 (1983) 77-102, at p. 97n85, this was originally Münzer's suggestion. I have not attempted to trace the idea beyond Münzer.

<sup>14</sup>So E. Scuotto, "Realtà umana e atteggiamenti politici e culturali di Lucio Calpurnio Pisone Cesonino," *RAAN* 47 (1972) 149-166, at p. 162.

<sup>15</sup>Dio 40.63.2.

In an article published in an out-of-the-way journal, seventeen years after Münzer's article, Sticotti convincingly identified the Piso mentioned in these inscriptions as our man, the consul of 58. Since the first of the three can be dated as contemporary with Pola's first permanent wall (i.e., to c. 33 B.C.; see Appendix III for details), Pola provides important evidence of Piso's survival into the triumviral period.<sup>16</sup> In 23-20, he would have been about 80 (77-85 is the probable range),<sup>17</sup> and in this connection we should note that his son lived to be 80.

The second difficulty with our identifications of Piso père et fils is that we still lack a younger child. This will be held against my theory by any adherents of the claims of the family of Cn. Calpurnius Piso (cos. 23), who is known to have had two sons. However, one attested son is better than none (a disadvantage taken in stride by such recent supporters of Porphyrio as Brink and Syme). In addition to the reasons given by Syme for the absence of sons from the historical record, we might note that it is not even clear from the text of the *Ars Poetica* that we have to do with two sons, as has always been assumed: the words *iuvenes* (24, 366) and *liberi* (Porphyrio on verse 1) do not rule out the possibility that one of the children was, in fact, a daughter.<sup>18</sup> The odds of a daughter being mentioned in an independent historical source are not very high.

Two final points, this time in favor of my identification of the Pisones. First, we ought to bear in mind that the problem we are trying to solve has another aspect. Thus far, we have been concentrating on whom Horace intended by Piso père and the *maior iuvenum*. Equally important is who Horace's educated reader would have understood these people to be. There is obviously a relationship between these two problems: Horace reveals his intentions to the reader by the information he provides in the poem. That information indicates, as we have seen, Calpurnii Pisones (291-292). Of the two possible families—the Cnaei and Lucii Calpurnii Pisones—only the Lucii have a connection with

<sup>16</sup>See P. Sticotti, "Nuova rassegna di epigrafi romane," *AMSI* 30 (1914) 113-114; A. Degrassi, *Il confine nord-orientale dell'Italia romana*, *Diss. Bern.* ser. I, fasc. 6 (Bern 1954) 65-66 (= *Scritti vari di antichità*, II [Rome 1962] 918); J. Sasel, "Calpurnia L. Pisonis Auguris Filia," *ZAnt* 12 (1962-1963) 387-390; J. Sasel, "Probleme und Möglichkeiten onomastischer Forschung," *Acta CIEGR* 4 (1964) 352-368 at pp. 363-367; J. J. Wilkes, *Dalmatia* (London 1969) 331; L. Keppie, *Colonisation and Veteran Settlement in Italy, 47-14 B.C.* (London 1983) 204; A. Frascchetti, *op. cit.* (*supra* n. 13) 90-91.

<sup>17</sup>For his birth year, see R. G. M. Nisbet, *Cicero, In Pisonem* (Oxford 1961) v (c. 105-101 B.C.); A. Degrassi, *ibid.*, *Il confine*, 66 (= *Scritti vari*, p. 918).

<sup>18</sup>For examples, see *OLD* s.vv. *iuvenis* 2 ("a young person of either sex") and *liberi* ("sons and daughters, children"). Young women did, of course, write poetry in the first century: cf. the cases of Sempronia, whose works do not survive (Sallust, *Cat.* 25), and Sulpicia, on whose poems see D. Roessel, "The Significance of the Name Cerinthus in the Poems of Sulpicia," *TAPA* 120 (1990) 243-250.

literature that is knowable, not only by us, but very likely also by Horace's contemporaries. For Horace's reader, then, the question was simply *which* Lucius, the consul of 58 (Caesoninus) or of 15 (Pontifex).

From the reader's point of view, I do not think that there could have been much hesitation in identifying Piso père as the consul of 58, only assuming that Caesoninus was still alive or very recently deceased when the poem was circulated—something, as we have seen, that we have no grounds for doubting. The reason for this is obvious: Piso Caesoninus was famously connected to literature and to literary criticism. Philodemus dedicated epigrams and at least one philosophical work to him; Catullus wrote two poems about him;<sup>19</sup> and, most importantly, Cicero branded him a cruel "Phalaris of literary critics" in an oration (the *In Pisonem*) that Cicero tells us (doubtless with some exaggeration) quickly became a school text.<sup>20</sup> On the other hand, his son, though rising politically in the period 23-20 B.C., was at best tangentially associated with poetry throughout his career. Tacitus, in his famous obituary, does not even mention this facet of his personality.<sup>21</sup> Once we view the problem of the addressee from the vantage point of the reader instead of the author, then the choice of Caesoninus as Piso père becomes stronger still. He is the literary Piso who would prob-

<sup>19</sup>Cf. Philodemus, *On the Good King According to Homer* and epigram 23 Gow-Page, and cf. Cic. *In Pisonem* 70-71 about other lost poems ("multa ad istum [scil. Pisonem] de ipso quoque scripsit [scil. Philodemus], ut omnis hominis libidines, omnia stupra, omnia cenarum convivorumque genera, adulteria denique eius delicatissimis versibus expresserit..."). Some of these poems may be among the new epigrams of Philodemus whose incipits are in P. Oxy. 3724 (ed. P. Parsons in *P. Oxy.* LIV [1987] 65-82; cf. especially p. 67 on Philodemian authorship of some of the epigrams, and see now also M. Gigante, "Filodemo tra poesia e prosa," *SIFC* 82 [1989] 129-151; D. Sider, "Looking for Philodemus in P. Oxy. 54.3724," *ZPE* 76 [1989] 229-236). Cf. Catullus 28, 47, and on Piso in Catullus see C. L. Neudling, *op. cit.* (*supra* n. 13) 42-45. T. P. Wiseman's efforts to deny that Caesoninus was Catullus' Piso have so far failed to persuade; see *Catullus and His World* (Cambridge 1985) 2 with n2; T. R. S. Broughton, *MRR*, vol. 3 (Atlanta, Ga. 1986) 47.

<sup>20</sup>On the sense of "Phalaris grammaticus" see P. Grimal, *Cicéron, Discours, Contre L. Pison*, Tome XVI, 1<sup>o</sup> Partie (Paris 1966) 186-187. On the *In Pisonem*, see Cicero's remarks in *Ad Q. fr.* 3.1.11 ("meam [scil. orationem] in illum [scil. Pisonem] pueri omnes tamquam dictata perdiscant"); cf. J. Crawford, *M. Tullius Cicero: The Lost and Unpublished Orations, Hypomnemata* 80 (1984) 8; and J. Zetzel, *Latin Textual Criticism in Antiquity* (New York 1981; reprinted Salem, N.H. 1984) 27. On Piso's fame as a man of culture and learning—and the rarity of such qualities among Roman aristocrats of the first century—see E. Rawson, *Intellectual Life in the Late Roman Republic* (Baltimore 1985) 97.

<sup>21</sup>Tacitus, *Ann.* 6.10.

ably have leapt to the mind of Horace's average reader, especially in the absence of any strong counterindications from Horace that someone else was meant.<sup>22</sup>

Our second point is this: we have evidence that Horace knew the works in which Cicero attacked the consul of 58 and his literary pretensions. Keller-Holder give the following *loci similes* between Cicero's *In Pisonem* and *Pro Sestio*<sup>23</sup> and works of Horace. I put them in order of their cogency as evidence that Horace was familiar with the Ciceronian text:<sup>24</sup>

- |     |                            |  |
|-----|----------------------------|--|
| [1] | <i>In Pisonem</i> 37:      | Confer nunc, Epicure noster ex hara<br>producte non ex schola...     |
|     |                            | ~  |
|     | <i>Epist.</i> I.4.15-16:   | me...Epicuri de grege porcum   |
| [2] | <i>In Pisonem</i> 73:      | te non Aristarchum sed Phalarin grammati-<br>cum habemus....         |
|     |                            | ~  |
|     | <i>Ars Poetica</i> 450-51: | fiet Aristarchus, nec dicit 'cur ego ami-<br>cum offendam in nugis?' |
| [3] | <i>In Pisonem</i> 20:      | supercilium tuum...fugi...frontis tuae<br>nubeculam pertimescerem... |
|     |                            | ~  |
|     | <i>Epist.</i> I.18.94:     | deme supercilio nubem.... <sup>25</sup>                              |
| [4] | <i>Pro Sestio</i> 42:      | ut aliquo praesidio caput...tutetur...                               |
|     |                            | ~  |
|     | <i>Epist.</i> I.18.81:     | tuterisque tuo fidenter praesidio....                                |

The first piece of evidence is doubtless the most important and persuasive: Horace applies to himself in a jocular vein the same kind of striking animal comparison that Cicero had used in his bitter invective against the consul

<sup>22</sup>Cf. now E. Champlin, *op. cit.* (*supra* n. 4) 122: "no other branch of the [Calpurnii Pisones] family comes near to rivalling this pair [viz., the cons. of 58 and 15] in war and the patronage of literature."

<sup>23</sup>Where Piso is attacked in 19-24.

<sup>24</sup>Two cases that I consider fortuitous I omit: Cic. *In Pis.* 47, "furiosum...dementiorem" ~ Hor. *Sat.* II.3.303 (sic: should be 133?) "demens"; and Cic. *Ad Q. fr.* 3.1.11, "meam in illum [scil. orationem] pueri omnes tamquam dictata perdiscant" ~ Hor. *Epist.* I.18.13-14, "ut puerum saevo credas dictata magistro reddere...."

<sup>25</sup>Nisbet (*ad Pis.* 20) points out the Horatian reminiscence but also presents Greek parallels which show that the background of Horace's text may not be Cicero's.

of 58. Moreover, in both cases it is their allegiance to Epicureanism (which, according to its ancient opponents, debased man to the level of beast because it defined pleasure as the highest good) that justifies the comparison. However natural the metaphor might seem to us, the ancient evidence does not suggest that it was commonplace. So here, as I will argue elsewhere, we have the same humorous association of Horace with Piso that we find in the *Ars Poetica*.<sup>26</sup> If these *loci similes* suggest that Horace had read works in which Piso is attacked, then they also suggest when he did so: during the period in which he was composing *Epistles* I and the nearly contemporaneous *Ars Poetica*.

To conclude the discussion thus far: the *Ars Poetica* was probably written in 24-20 B.C. and dedicated to L. Calpurnius Piso Caesoninus (cos. 58) and his two children, the elder of whom may have been the politician (and amateur poet?) L. Calpurnius Piso Pontifex (cos. 15), the younger of whom is unknown. Our next concern is why Horace should have dedicated the poem to Caesoninus. This raises the question of Horace's relationship to contemporary literary critics.

### The *Ars Poetica* and *Epistles* I.19: Horace and his Critics

As Carl Becker noted, dating the *Ars Poetica* with respect to Horace's other poetry is a "Kardinalfrage."<sup>27</sup> Assigning the poem to the late 20s raises the questions of its relationship to the themes of *Epistles* I, especially as contained in poems like I.19 that deal in a humorous, but ultimately bitter, way with contemporary poets and critics.

If our suggested date of the *Ars Poetica* is correct, then the work was composed at a time when Horace was not yet the grand old man of Latin letters he may have been considered by the end of his life. To the contrary, *Epistles* I.19 suggests that—despite protestations of indifference to his reputation as a poet<sup>28</sup>—Horace was still rather insecure about his place in the literary firm-

<sup>26</sup>This association is most explicit in lines 386-89: "si quid tamen olim | scripseris, in Maeci descendat iudicis auris | et patris et nostras...." See, in general, for animal language used of scholars and philosophers I. Opelt, *Die lateinischen Schimpfwörter und verwandte sprachliche Erscheinungen* (Heidelberg 1965) 233-235.

<sup>27</sup>C. Becker, *Das Spätwerk des Horaz* (Göttingen 1963) 67.

<sup>28</sup>*Epistles* I.19.35-40: "scire velis, mea cur ingratus opuscula lector | laudet ametque domi, premat extra limen iniquus: | non ego ventosae plebis suffragia venor | impensis cenarum et tritae munere vestis; | non ego, nobilium scriptorum auditor et ultor, | grammaticas ambire tribus et pulpita dignor."

ment.<sup>29</sup> Like Virgil, he had his *obtrectatores* and was annoyed, too, by imitative poetasters, as the poem makes clear.

In the first part of the poem (lines 1-20), Horace complains about how bad poets mimic him and naively follow any advice that falls from his lips, so that if, for example, he writes that wine is essential to poetic inspiration, legions of poetasters spend their nights in wine-drinking competitions (cf. lines 1-11). Similarly, if Horace appears pale, his piteous imitators eat cumin to make their skin whiter (cf. 17-18). Horace exclaims that the servile herd of imitators stirs him to anger, but also to laughter (19-20). In the poem's second section (lines 21-34), Horace says that his achievement has been to find an untrodden path for Roman poetry: the implication is that the poetasters are behaving illogically in trying to equal Horace by copying him. In the last section of the poem (35-49), Horace vents his spleen against hypocritical readers, particularly the "tribes of grammarians," who praise Horace's poetry at home but condemn him before the public because Horace does not kowtow to them (35-41). It is important, in this connection, to note how often and how bitterly Horace, in his early and middle periods, expresses his dismay with the contemporary critical reception of his work<sup>30</sup> and how unreceptive the *grammatici* generally were to new poetry, according to Suetonius.<sup>31</sup> We need to think away Horace's millennial status as a classic author and recall that in his lifetime Horace's ultimate reputation was not clear, least of all to the poet himself (*Odes* II.20 and III.30 notwithstanding). Horace concludes *Epistles* I.19 with a testy exchange with a *grammaticus*—the kind of imaginary conversation that we would like to have when we find someone particularly galling.<sup>32</sup> That he should write, in this

<sup>29</sup>For bibliography, see R. S. Kilpatrick, *The Poetry of Friendship. Horace, Epistles I* (Edmonton, Alberta 1986) 169-170.

<sup>30</sup>Cf. *Sat.* 1.10.74-91, II.1.1-4, *Epist.* 1.19.35-49, II.1 passim, II.2.55-64. N. Horsfall, "Poets and Patron Reconsidered," *Ancient Society* (Macquarie) 13 (1983) 161-166, writes suggestively that "I am driven increasingly to conclude that Horace was a controversial or an actually unpopular figure." Cf. Kilpatrick, op. cit. (*supra* n. 29) 22: "Horace's views on both originality and public response [scil., in *Epistles* I.19] are consistent with those expressed earlier in the *Satires*, and are not those of a poet to whom a bad press is either a new or an intolerable experience." For a valuable recent survey of the *obtrectatores* of Virgil, with some pertinent information about ancient critics of Horace, see W. Görler, *Enc. Virg.* III s.v. *obtrectatores* (Rome 1987) 807-813. For a still useful study of Horace's ancient critics, see A. Weichert, "Commentatio de Q. Horatii Flacci Obtrectoribus," in *Memoriam Anniversariam Dedicatae ante hos CCLXXI Annos Regiae Scholae Grimensis* (Grimae 1821).

<sup>31</sup>Thus, Suetonius (*De gramm.* 16) singles out Caecilius Epirota for the innovation of reciting in class the works of Virgil and other contemporary poets.

<sup>32</sup>Cf. Kilpatrick, op. cit. (*supra* n. 29) 22; W. S. Smith, Jr., "Horace Directs a Carouse: *Epistle* I.19," *TAPA* 114 (1984) 255-271, at pp. 266-269.

troubled period, a poem like the *Ars Poetica* as a parody of pedantic critics and as an intentionally misleading "instruction booklet" for poetasters on how to write good poetry is thus psychologically comprehensible.

Read as the parody of a pedantic member of the grammarian tribe, the *Ars Poetica* gives the reins to Horace's anger and sense of humor toward the annoying poetasters and critics. To the poetasters, Horace seems to give, in the *Ars Poetica*, not only a "secret ingredient" like wine or cumin, but the very recipe book for great poetry. In reality, the recipes are not so much tried and tested as trite and bland, and so the unwitting imitator, eagerly following Horace's instructions, ends up with very little poetic sustenance. By aping the grammarians Horace shows that, much like Nabokov, David Lodge, or Malcolm Bradbury in their satires (or like Horace himself in *Sat.* II.3 and 4), he can transmute the leaden utterances of dull academics into brilliantly amusing fiction.

If we read the *Ars Poetica*, not as Horace's sincere declaration of poetic belief but as the monologue of a fictional *grammaticus*, unsympathetic to contemporary poets and talented at composing, not poems, but only tedious ramblings on poetics; then we expect that Horace somewhere in the poem will give us a clue dissociating himself from his speaker, who is linked to critics and poetic doctrines with which Horace himself disagrees. That is, we would expect Horace to undermine the authority of the speaker of the *Ars Poetica*.

### Critics in the *Ars Poetica*: Maecius, Piso, and Quintilius

The speaker's authority is an issue implicitly raised in lines 385-390:

tu nihil invita dices faciesve Minerva;	385
id tibi iudicium est, ea mens. si quid tamen olim	
scripseris, in Maeci descendat iudicis auris	
et patris et nostras nonumque prematur in annum	
membranis intus positis. delere licebit	
quod non edideris; nescit vox missa reverti.	390

In this passage, the elder son of Piso is urged to submit anything he may write to Maecius, his father, and the speaker—"a trio of formidable critics," writes Brink.<sup>33</sup> But how formidable were Maecius and Piso père as critics? The advice given in 388-389 is absurd—as Horace himself tells us in *Epistles* II.1.34-35: *si meliora dies, ut vina, poemata reddit, / scire velim chartis pretium quotus arroget annus*. Poetry does not improve simply by aging. Horace never practiced what he might naively be taken to be preaching here. The fatuousness

<sup>33</sup>Brink, II, 509.

of the speaker's advice ought to have alerted readers that our critical trio habitually plays out of tune. Investigation of its other two members reinforces the interpretation that, in verses 385-390, Horace not only undermines the speaker by putting words of dubious wisdom into his mouth but also by putting him into some very dubious literary-critical company.

Maecius, all agree, is Sp. Maecius Tarpa, the man who chose the plays performed at the opening of Pompey's theater in 55. Maecius' old-fashioned taste on that occasion was belittled by Cicero in a letter written just after the opening.<sup>34</sup> Cicero's opinion was, of course, privately expressed in a collection of letters probably not published for quite a few years. However, its importance for us lies not in its influence but in its reflection of what literati of Cicero's caliber thought of the man and his taste in the 50s. We do not have to guess about Horace's opinion of Maecius some twenty years later, for in *Sat.* I.10.36-39 he writes that Tarpa would hardly approve of what he was composing:<sup>35</sup>

Turgidus Alpinus iugulat dum Memnona dumque  
diffindit Rheni luteum caput, haec ego ludo,  
quae nec in aede sonent certantia iudice Tarpa  
nec redeant iterum atque iterum spectanda theatri.

The implication is that Horace and Tarpa disagreed on the crucial question of what sort of poetry was worth writing: for Tarpa, it was drama; for Horace, satire. If the speaker of the *Ars Poetica*, a promoter of dramatic literature (cf. verses 86-127, 153-294), thinks highly of Tarpa (and he obviously does), then that is only one sign, among many, of his questionable and old-fashioned taste; and it is a strong indication that he is to be distinguished from Horace. As the passage just quoted from *Sat.* I.10 indicates, Horace was little inclined to write for the theater, and he never wrote a play. This attitude Horace explains in detail in *Epistles* II.1, from which it emerges that in rejecting the dramatic genres,

<sup>34</sup>Cic. *Ad Fam.* 7.1.1: "nobis autem erant ea perpetienda, quae Sp. Maecius probavisset."

<sup>35</sup>For the background to his critical activity in approving works for the Roman stage see N. B. Crowther, "The Collegium Poetarum," *Latomus* 32 (1973) 575-580 and N. Horsfall, "The Collegium Poetarum," *BICS* 23 (1976) 83. Crowther and Horsfall are correct in claiming that in *Sat.* I.10 Horace does not ridicule Tarpa (Crowther, p. 578; Horsfall, p. 93n38), yet Tarpa is clearly mentioned as the kind of critic who is not sympathetic to Horace's poetry. The justified opposition of these two scholars to wild speculation about the *collegium poetarum* has led them to misinterpret the tone of this section of *Sat.* I.10 and to forget that Horace could disagree with Maecius' taste in literature even if Maecius was not the *magister* of the college. On the *collegium*, see now E. Gruen, *Studies in Greek Culture and Roman Policy, Cincinnati Classical Studies* 7 (Leiden 1990) 87-91.

Horace felt weighed down by the dual burdens of the literary past (Plautus, Terence, Pacuvius, Accius, etc.) and of the debased taste of the contemporary audience.

The striking portrayal of the speaker here as a conservative in literary taste complements his ignorance of the contemporary scene in poetry. This comes across in small ways—for example, in his neglect of love elegy in lines 75-76,<sup>36</sup> where the speaker mentions only funerary and votive uses for the elegiac meter. It also comes across in larger ways—for example, the speaker's emphasis throughout the *Ars* on the genres of tragedy, comedy, and epic—departments of literature most important in Roman literature fifty to one hundred years before the Augustan age.<sup>37</sup> Even more surprising than his omission of love elegy is, in this context, the speaker's failure to mention contemporary plays written by acquaintances of Horace such as Varius' *Thyestes* and the *fabula trabeata* of C. Melissus, a freedman of Maecenas and librarian of the Porticus Octaviae library.<sup>38</sup> The latter might have served various purposes in the *Ars Poetica*, e.g., as an example of how Roman writers can succeed by writing drama on national themes (cf. 285-288). This is not to say that the speaker is depicted as the kind of Varronian archaizer attacked by Horace in the *Letter to Augustus*.<sup>39</sup> The speaker is, characteristically, inconsistent in his attitude toward the past: after he praises the audience and music of the early Roman theater in

<sup>36</sup>See M. E. Clark, "Horace, *Ars Poetica* 75-78. The Origin and Worth of Elegy," *CW* 77 (1983) 1-5. On Horace's attitude toward erotic elegy, see Rudd, 7-8.

<sup>37</sup>Accius (†ca. 85 B.C.) was "the last of the professional playwrights" (E. Fantham, *Seneca's Troades* [Princeton 1982] 5); in the decades after his death—with few notable exceptions—little new tragedy was written (cf. Fantham, pp. 4-7, and for a similar ancient perspective see Velleius Paterculus 1.17; for a different view cf. Rudd, 30). On comedy, see H. D. Jocelyn, "Studies in the Indirect Tradition of Plautus' *Pseudolus*," *BICS* Suppl. 51 (1988), 57-72, at pp. 57-60. As C. Segre noted, "the *Ars Poetica*...ends up being astonishingly anachronistic...unless we wish to regard it as the manifesto of a classical revival which never took effect" (*Introduction to the Analysis of the Literary Text*, trans. J. Meddemen [Bloomington 1988] 202).

<sup>38</sup>On C. Melissus, see Schanz-Hosius, VIII.2, 176-177; H. Bardon, *La littérature latine inconnue*, vol. II (Paris 1956) 49-50. As Maecenas' freedman, he was doubtless known to Horace; cf. L. Müller, "Die Trabeatae des Gaius Melissus," *PhW* 13 (1893) col. 1468f.

<sup>39</sup>See the excellent analysis of Varronian criticism and its possible influence on *Epist.* II.1.50-59 in Brink, III, 83-92. Also important, we might note, was the quarrel over Sallust's archaizing, which was attacked by Asinius Pollio; see Suetonius, *De gramm.* 10 ("...Sallustii scripta reprehendit ut nimia priscorum verborum affectatione oblita..."). For literature and discussion, see L. Duret, "Dans l'ombre des plus grands," *ANRW* II.30.3 (Berlin 1983) 1507.

verses 202-207, we find him criticizing Plautus' wit and metrics and accusing Plautus' audience of stupidity and a lack of sophistication in lines 270-274.<sup>40</sup>

Piso père is an even more famous, or infamous, literary critic. Whatever Horace may privately have thought of Piso as a man of letters (and earlier in his career, he probably thought very highly, indeed, of Piso and his Epicurean circle), Cicero unforgettably branded him *non Aristarchus sed Phalaris grammaticus* (*In Pis.* 73) in a speech that quickly became popular in the schools.<sup>41</sup> Cicero's immediate motivation for so labelling Piso was Piso's charge, in a speech given in the senate in 55, that Cicero had meant to belittle Pompey's military accomplishments in his poem, *De consulatu suo*.<sup>42</sup> As evidence, Piso cited the line: *cedant arma togae, concedat laurea laudi*.<sup>43</sup> Cicero claimed that Piso had missed the point that *arma* and *toga* were meant figuratively, not literally, and that he had been speaking generally, without specific reference to Pompey.<sup>44</sup>

This must have been a rare, if not unique, instance in which a senator's literary criticism of a colleague's poem became the subject of a published exchange of speeches. Cicero's characterization of Piso as *Phalaris grammaticus*<sup>45</sup> must have been all the more effective if Piso prided himself on being something of a literary critic. That he did is suggested by the fact that he was patron of the poet-philosopher Philodemus, one of whose epigrams to Piso is

<sup>40</sup>To be sure, music is the topic in the earlier passage and meter and wit in the later, so that radically different appraisals of the historical development of the Roman theater can be defended. Harder to defend or explain, however, is the opposite opinion of the taste of early Roman audiences in the two passages. First, the speaker sounds like a "soft primitivist," then like a "hard primitivist" (for the concepts, see A. O. Lovejoy and G. Boas, *Primitivism and Related Ideas in Antiquity* [Baltimore 1935]). At no point does he praise a specific Roman dramatist; he remains ever the carping critic, able to find fault with—but seldom willing to express admiration for—Roman poets. I will treat elsewhere the speaker's habitual hostility toward writers.

<sup>41</sup>See above, n. 20. On Horace's connections with the Philodemus circle, patronized by Piso, see the discussion and secondary literary in B. Frischer, *At Tu Aureus Esto. Eine Interpretation von Vergils 7. Ekloge* (Bonn 1975) 168-171 (note that the supplements of Horace's name in the Philodemus passages cited in 171n29 now appear to be incorrect: see M. Gigante and M. Capasso, "Il ritorno di Virgilio a Ercolano," *SIFC* 7 [1989] 3-6).

<sup>42</sup>Remains in Morel-Büchner, *FPL*, M. Tullius Cicero, fr. 5-13; for discussion of the date and related problems see K. Büchner in *RE* s.v. M. Tullius Cicero (Stuttgart 1939) cols. 1245-1250.

<sup>43</sup>Morel-Büchner, *FPL* fr. 11, with the text of W. Allen, Jr., "O fortunatam natam...," *TAPA* 87 (1956) 130-146, at p. 133.

<sup>44</sup>*In Pis.* 73-75.

<sup>45</sup>On which see Nisbet ad *Pis.* 73.7 and Grimal, loc. cit. (*supra* n. 20).

preserved.<sup>46</sup> This also helps explain Catullus' obvious gall at being passed over by Piso for political and poetical patronage. It is amusing to suppose that Horace's source of inspiration in writing this mock didactic poem about poetics and in dedicating it to the Pisones was Cicero's barbed rhetorical question directed at Piso: *quid nunc te, asine, litteras doceam?* (73). That the work dedicated to Piso consists largely of a versification of the poetic theories of Neoptolemus of Parium (cf. Porphyrio on line 1 and Brink, I, 43ff.), must have intensified the fun, since Neoptolemus' poetics had been savagely attacked by Piso's client Philodemus in Book V of his *Περὶ ποιημάτων* (cf. Brink, I, 48ff.).

A parallel for Horace's ironic invocation of critical authority in verses 385-390 may not be far to seek. It has been noted that line 387 (*in [Maeci] descendat ... aures*) contains an allusion to a line in Book XXVI of Lucilius: *haec tu si voles per auris pectus inrigarier* (610 Marx).<sup>47</sup> Now it is interesting to note that in this, his earliest book of satires—and possibly in the first satire of the book<sup>48</sup>—Lucilius expresses the wish that his poem be read, not by learned critics like C. Persius, but by such undistinguished and perhaps even dull readers as M. Iunius Congus, Decimus Laelius and the people of Tarentum, Cosentia, and Sicily (592-596 Marx). Here we may have the source of a second Horatian allusion to the same Lucilian satire. As Erich Gruen notes, "these passages [in Lucilius] have usually been taken seriously by moderns, but they are surely ironic.... That is unquestionably true of Cic. *De Fin.* 1.3.7 (592 Marx) and, I believe, for the other lines as well."<sup>49</sup> To be sure, in Lucilius' case, the poet speaks of his own poetry and the readers he desires to find for it; whereas in the *Ars Poetica*, Horace has the speaker recommend proper readers—not for the speaker's own works—but for those that Piso's elder son, the speaker's addressee,

<sup>46</sup>AP 11.44 (= 23 Gow-Page); Cicero states that Philodemus wrote much other poetry to and about Piso (*In Pis.* 70-71); cf. above, n. 19, for possible new epigram incipits of Philodemus.

<sup>47</sup>Cf. Brink, ad loc. On the overall relationship of the *Ars Poetica* to Lucilius, Book XXVI, it is still useful to read G. C. Fiske, *Lucilius and Horace. A Study in the Classical Theory of Imitation* (Madison 1920) 425-475.

<sup>48</sup>On the problem of reconstructing Book XXVI, see J. Christes, *Der frühe Lucilius. Rekonstruktion und Interpretation des XXVI. Buches sowie von Teilen des XXX. Buches* (Heidelberg 1971).

<sup>49</sup>Personal communication of February 7, 1990. Prof. Gruen will treat the Lucilius passage in more detail in his forthcoming Townsend Lectures. The passage in *De Fin.* runs as follows: "nec vero ut noster Lucilius recusabo quominus omnes mea legant. utinam esset ille Persius! Scipio vero et Rutilius multo etiam magis; quorum ille iudicium reformidans Tarentinis ait se et Consentinis et Siculis scribere." For earlier interpretations of fragments 592-596, see Christes, op. cit. (*supra* n. 48) 87-92. From Christes' discussion, it appears that Gruen's interpretation may have been anticipated by J. Heurgon, *Lucilius* (Paris 1959) 44 (not available to me).

may someday write. Aside from this minor difference between the first and second person, however, the passages are similar in that both ironically advert to the authority of readers whose criticism cannot be accorded much respect.

In view of Horace's longstanding connections with the circle of Piso and Philodemus, we naturally wish to know why Horace dedicated the *Ars Poetica* to L. Calpurnius Piso Caesoninus, of all people. Of course, our answer can only be guesswork. My motivation in presenting a speculative explanation is simply to show that we are not necessarily forced into either of two extreme positions: [1] that for our identification of the senior dedicatee and for our interpretation of his role in the poem to be right, we must posit a strain or, indeed, break in Horace's relationship with Piso. Or, [2], if we have the right Piso, we cannot be correctly interpreting his role in the poem—or, indeed, the tone of the poem. Horace may have been treading a fine line between angering and amusing Piso: on the one hand, advertising tacitly to Piso's notorious reputation as a critic, he utilizes the public stereotypes of Piso and Maecius as critics in order to alert readers to his send-up of academic criticism in the *Ars Poetica*. On the other hand, by associating Piso with a poetic theory condemned so vehemently by Philodemus, and with which the Epicurean Piso will not have agreed, he winks at the old man and suggests that he not take the whole thing too seriously. In any case, Roman grandees of the first century B.C. had—or, at least, affected—a self-deprecating sense of humor in the face of poetic abuse. Catullus' raillery against Piso for his *lauta convivium* (47.5) was apparently echoed in poems by Piso's friend, Philodemus (cf. Cicero, *In Pis.* 70).<sup>50</sup> Horace made bold to convict Maecenas of guilt by association for attending the infamous *Nasidieni cena* of *Sat.* II.8. If Maecenas or Piso felt hurt by Horace's treatment, the poet could have pointed out that in poems like *Sat.* II.3 (cf. lines 305-326) and II.7 he gave himself a much rougher time.

If the two critics mentioned in lines 387-388 of the *Ars Poetica* represent dullness and dubious taste, then the same cannot be said about a third and last critic whose company the speaker seems to keep. The words on poetics of a certain Quintilius are quoted near the end of the poem in verses 438-444:

Quintilio si quid recitares, 'corrige, sodes,  
hoc' aiebat 'et hoc.' melius te posse negares,  
bis terque expertum frustra delere iubebat 440  
et male tornatos incudi reddere versus.  
si defendere delictum quam vertere malle,  
nullum ultra verbum aut operam insumebat inanem,  
quin sine rivali teque et tua solus amares.

<sup>50</sup>Cf. L. Landolfi, "Tracce filodemee di estetica e di epigrammatica simpotica in Catullo," *CronErc* 12 (1982) 137-143, at p. 139.

Quintilius is probably, as Porphyrio says, Quintilius Varus Cremonensis, the Epicurean friend of Virgil, Horace, and Philodemus, who died in *c.* 24/23.<sup>51</sup> Horace consoled Virgil for his death in *Odes* 1.24, a poem combining traditional paramythetic motifs<sup>52</sup> with Epicurean ideas about the value of friendship, the inevitability and finality of death, and the survivor's need for self-control.<sup>53</sup>

The premise of the ode, then, is Horace's desire to mourn with Virgil for their departed friend in the proper Epicurean manner—a desire that is perhaps not so much appropriate because Horace and Virgil are still Epicureans (a doubtful assumption at this advanced stage in their intellectual development) as because Quintilius was.

Quintilius' Epicurean background is important for understanding his role in the *Ars Poetica*. He is the only critic quoted in the poem, and so we need to ask why Horace has presented him to us in this way. To the speaker, Quintilius embodied the same sort of arrogance toward poets that the speaker himself displays throughout the *Ars Poetica*. Quintilius' laconic words, *corrigere, sodes, / hoc...et hoc* (438-439), and his icy silence in the face of a poet's defense of a criticized passage (442-444) are, for the speaker, indicative of an attitude of admirable toughness toward self-indulgent and self-enamored poetasters (444).

The speaker may accurately quote Quintilius and relate his silence in lines 438-444, but another interpretation of his behavior toward poets and his theory of poetics is possible. As an Epicurean and student of Philodemus, Quintilius must have believed that poetics is not a rational science that can be articulated and taught, but is instead an intuitive art, the practice of which depends to a large extent on natural ability.<sup>54</sup> Quintilius' polite words of criticism (*sodes*, 438) and his habitual unwillingness to debate with defensive poets understandably reflect just such an Epicurean view of poetry. For

<sup>51</sup>Philodemus mentions Quintilius two times in his *Περὶ κολακείας* and *Περὶ φιλαργυρίας*; see A. Koerte, "Augusteer bei Philodem," *RhM* 45 (1890) 172-177. For discussion of the ancient sources on Quintilius see C. L. Neudling, *op. cit.* (*supra* n. 13) 151-153; Nisbet-Hubbard, p. 279.

<sup>52</sup>Cf. Nisbet-Hubbard, pp. 279-281.

<sup>53</sup>On death in Epicurean thought see M. Gigante, "La chiusa del quarto libro 'Della morte' di Filodemo," in *Ricerche filodemee* (Naples 1983<sup>2</sup>) 163-234.

<sup>54</sup>On the Epicurean critique of the "sciences," see, in general, M. Gigante, *Scetticismo e epicureismo* (Naples 1981) 179-224; for a recent survey of Philodemus' poetics see E. Asmis, "Philodemus' Epicureanism," *ANRW* II.36.4 (Berlin 1990) 2400-2406. Possibly also relevant to Quintilius' poetics was the intuitive approach of Ser. Clodius, who, according to Cicero, could speak as laconically as Horace's Quintilius when separating authentic from false Plautine verses; cf. *Cic. Ad Fam.* 9.16.4: "facile diceret 'hic versus Plauti non est, hic est' quod tritas aures haberet notandis generibus poetarum et consuetudine legendi...." Cf., in general, J. Zetzel, *op. cit.* (*supra* n. 20) 18-21; E. Rawson, *op. cit.* (*supra* n. 20) 278.

Quintilius the Epicurean the appreciation of poetry is a matter of taste, not science. While he is quite willing to express an opinion about a poem, he is utterly unwilling to debate or to defend his views. This is because, in contrast to the Peripatetic speaker of the *Ars Poetica*, Quintilius' views do not derive from a set of "scientific" principles but from good taste alone.

How different is the speaker's approach to poetics! Quintilius' politeness toward the poets contrasts sharply with the speaker's pathological hatred of them, an attitude most clearly expressed in the very next section of the poem (lines 453-476). Quintilius' five words (three of them monosyllabic) of "literary criticism" contrast even more markedly with the speaker's analogous performance, viz., the *Ars Poetica* itself, Horace's longest poem by far and one filled with advice and rules as useless as they are dull and jejune. The appearance of Quintilius near the climactic end of the poem thus functions in two ways which enhance Horace's parody. First of all, the speaker is made to discredit himself by invoking Quintilius as his critical ideal because the appearance of Quintilius allows us to see how far short of Quintilius the speaker falls and how badly the speaker misinterprets Quintilius' behavior and words. Secondly, Quintilius can emerge from the speaker's mistreatment of him with his reputation as the ideal critic intact, because the speaker cites his *ipsissima verba*. As a result, we are not dependent upon the speaker for what we know about him. Thus, Horace has it both ways: the speaker's critical authority is debased by his misunderstanding of Quintilius; but Quintilius remains the standard by which critical excellence can be assessed. By Quintilius' standard, obtusely invoked by the speaker, the speaker's whole enterprise of an *ars poetica* is called into question.

These thoughts are consistent with a dating of the *Ars Poetica* in the period 24-20. If Quintilius has just died, this helps us understand why Horace gives him—of all possible candidates—such prominent notice near the end of the poem. Much evidence suggests that he was by no means the "inevitable" choice for the role of ideal critic: for example, in Horace's long list of ideal readers of his poetry in *Sat.* I.10.78-88, Quintilius is not mentioned. If Maecius and Piso Caesoninus are still alive, as they may well have been in the late 20s, then this helps explain Horace's strategy of making the speaker proclaim his own poetological guilt by association with these two notoriously old-fashioned and censorious critics.

### The Parodic Introduction: The *Ars Poetica* and Contemporary Painting

But we do not have to wait until verses 385-90, let alone till the end of the poem, to sense that Horace was sending up his speaker as a tiresome and old-fashioned pedant. Although it is by no means a requirement of the parodic mode

that hints of the parody be given at the very beginning of the work, such indications are to be found in the very first lines of the *Ars Poetica*:

Humano capiti cervicem pictor equinam  
 iungere si velit et varias inducere plumas  
 undique collatis membris, ut turpiter atrum  
 desinat in piscem mulier formosa superne,  
 spectatum admissi risum teneatis, amici?

5

The speaker begins his *ars poetica* in a seemingly strange way: with the description of the painting of a monster with a woman's head, the neck of a horse, the feathers of a bird, and the tail of a fish. He claims that such a painting would be so absurd as to cause its viewers to laugh. In lines 6-9 the speaker provides his own gloss on the meaning of these lines and their relevance to what follows: *ut pictura, poesis*. The painting described in lines 1-4 is comparable to a book lacking unity, with no beginning and end, and filled with the empty imaginings of a sick man's dreams.<sup>55</sup> The speaker thus would appear to find two things wrong with such a monstrous figure or book: formally, it lacks unity in the sense of a clearcut division between beginning, middle (we may presume), and end.<sup>56</sup> Substantively, it lacks verisimilitude.<sup>57</sup> The background is clearly Peripatetic: in the *Poetics*, Aristotle stresses the importance of unity of plot, which must have a beginning, middle, and end. Interestingly, he compares such well-made plots to animals, just as the *Ars Poetica* speaker compares disunity to a monster.<sup>58</sup> Next, the speaker confronts the only possible excuse for such a creation: poetic license.<sup>59</sup> Licenses are, to be sure, permissible, he tells us, but not if the result is an *adynaton*: "sed non ut placidis coeant immitia, non ut | serpentes avibus gementur, tigribus agni" (12-13).

<sup>55</sup>"Credite, Pisones, isti tabulae fore librum | persimilem cuius, velut aegri somnia, vanae | finguntur species, ut nec pes nec caput uni | reddatur formae."

<sup>56</sup>Cf. lines 8-9: "ut nec pes nec caput uni | reddatur formae." Unity is, of course, a touchstone of poetic virtue in the Peripatetic tradition; cf. Aristotle, *Poetics* 1450b23 and see also Brink, II, 77-85; M. Heath, *Unity in Greek Poetics* (Oxford 1989).

<sup>57</sup>Cf. lines 7-8: "velut aegri somnia, vanae | finguntur species...."

<sup>58</sup>Cf. Aristotle, *Poetics* 1450b24ff. As J. Pigeaud aptly puts it, "dis-moi ta biologie, je te dirai ton esthétique"; see "La greffe du monstre," *REL* 66 (1988) 197-218, at p. 217.

<sup>59</sup>Lines 9-13: "'pictoribus atque poetis | quidlibet audendi semper fuit aequa potestas.' | scimus, et hanc veniam petimusque damusque vicissim; | sed non ut placidis coeant immitia, non ut | serpentes avibus gementur, tigribus agni."

Despite their obvious importance, these lines have rarely been subjected to close analysis.<sup>60</sup> The most important problem in lines 1-13 for our purposes is what kind of unity the speaker means by the phrase, "uni...formae" (8-9). The precedent of the *Poetics* would lead us to expect that the speaker refers to unity of plot or, more generally, structure. This interpretation is firmly rejected by Brink,<sup>61</sup> and since antiquity other readings have been proposed. In Ps.-Acro, the monster represents a violation of *dispositio et convenientia*; in Porphyrio, of ἀκολουθία, or inconsequentiality. Porphyrio elaborates what he means, saying that the painter of the monster "valde ridebitur, quod contra naturam omnia faciat: ita poetice, si ornatus causa plus, quam exigit materia, aliquid institutum ornetur, meretur contempni." Porphyrio combines the two faults into something composite: a poem that has formal qualities inappropriate to its subject matter is contrary to nature, that is, lacks verisimilitude. Ps.-Acro's interpretation stresses the shift in subject matter from beginning to end of the work: "unde in primordio dicit, deridendum eum, qui de una re disputare inchoans diversitatem materiarum componit ...." For Ps.-Acro, then, a book is monstrous if it lacks unity of subject. If we ask what has motivated ancient and modern commentators to propose these different explanations of the first lines of the *Ars Poetica*, then the answer must be that verses 1-13 are not self-contained but must be read in the context of the first section of the poem, which ends at line 40. The range of subjects touched on in this section is so broad as to make it necessary to interpret the monster of lines 1-5 and the disunity she represents in a way that transcends structure alone.

Perhaps the most interesting interpretation of the passage is to be found in Quintilian. For him, too, the issue is not disunified structure; instead he sees in the monster a symbol of inappropriately mixed *dilectus verborum*, the fault he called Σαρδισμός, or, in Latin, the infelicitous combination of different kinds of vocabulary (poetic and vulgar, elevated and humble, archaisms and neologisms, etc.).<sup>62</sup> How did Quintilian arrive at such a relatively restricted view of the

<sup>60</sup>The most detailed treatments to date are by J. D. Meerwaldt, "Adnotationes in Epistulam ad Pisones ad picturam praesertim collatam pertinentes," *Mnemosyne* 4 (1936-37) 151-163, at pp. 151-155; K. Gantar, "Die Anfangsverse und die Komposition der horazischen Epistel über die Dichtkunst," *SO* 39 (1964) 89-98.

<sup>61</sup>Brink, II, 80-81: "Horace too talks largely of tragedy and epic. Aristotle's confrontation of the whole and its parts appeals to him. But the unity that these forms evince to him is not simply unity of plot. It is the unity of a work of poetry seen by a poet."

<sup>62</sup>Quintilian 8.3.59-60: "Σαρδισμός quoque appellatur quaedam mixta ex varia ratione linguarum oratio, ut si Atticis Dorica, Ionica, Aeolica etiam dicta confundas. Cui simile vitium est apud nos, si quis sublimia humilibus, vetera novis, poetica vulgaribus misceat. Id enim tale monstrum, quale Horatius in prima parte libri

monster's meaning? I would suggest that he did so, not by trying to subsume all the artistic faults discussed in the first section of the poem, but by focussing specifically on lines 11-13 where poetic license is mentioned.

Poetic license was an aspect of poetics about which the ancient theoreticians—including the speaker of the *Ars Poetica*—had definite ideas. Licenses include any unusual use of words, such as neologisms, metrical anomalies (e.g., systole and diastole), and the rhetorical device of metaphor. According to Aristotle and later ancient literary critics, poetic license, as such, can be either good or bad. Speaking of what later came to be called ποιητικὴ ἐξουσία or ἄδεια<sup>63</sup> (he himself used no technical term for the phenomenon), Aristotle wrote:

The merit of diction is to be clear and not commonplace. The clearest diction is that made up of ordinary words, but it is commonplace. An example is the poetry of Cleophon and of Sthenelus. That which employs unfamiliar words is dignified and outside the common usage. By 'unfamiliar' I mean a rare word, a metaphor, a lengthening, and anything beyond the ordinary use. But if a poet writes entirely in such words, the result will be either a riddle or jargon; if made up of metaphors, a riddle, and if of rare words, jargon.<sup>64</sup>

So, unusual words are the spice of good poetry. Without them, literature seems too bland; with too many, it becomes distasteful and obscure. A little later, Aristotle says that the effect of excessive use of metrical, verbal, or rhetorical license is unintentionally comic.<sup>65</sup> The speaker of the *Ars Poetica* obviously agrees.<sup>66</sup>

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de arte poetica fingit: "humano capiti cervicem pictor equinam | iungere si velit," et cetera ex diversis naturis subiciat." It is odd that Brink, II, 85, should write that "the wider context was discerned by Quintilian" (my emphasis); in fact, Quintilian's interpretation is the narrowest on record. On this passage, see the critical and interpretive remarks of J. Cousin, *Quintilien, Institution Oratoire*, vol. 5 (Paris 1978) 285-286.

<sup>63</sup>Illustrated by J. E. B. Mayor, "On Licentia Poetica," *Journal of Philology* 8 (1879) 260-262.

<sup>64</sup>*Poetics* 1458a.18-26 (translation by W. Hamilton Fyfe).

<sup>65</sup>*Poetics* 1458b.11-13. Among Roman writings, we might compare *Rhet. ad Heren.* 4.10.15, where archaism and bad metaphors are condemned as elements of the "swollen" style, the perversion of the grand style of oratory: "Nam ita ut corporis bonam habitudinem tumor imitatur saepe, item gravis oratio saepe inperitis videtur ea quae turget et inflata est, cum aut novis aut priscis verbis aut duriter aliunde translatis aut gravioribus quam res postulat aliquid dicitur...." W. Lebek, *Verba Prisca, Hypomnemata* 25 (1970), reasonably notes that the author of the *Rhet.* probably did not

It is important to note that in the poetic tradition prior to Horace, poetic license is limited to meter, vocabulary, and the use of rhetoric. Nowhere is plot, or, more generally, structure, included among the elements of poetry through which a poet can achieve a special effect by violating normal usage. Given Aristotle's stress on the importance of a unified plot, this is hardly surprising.<sup>67</sup> It is doubtless for this reason that Quintilian "misinterpreted" the sense of the first five lines of the *Ars Poetica* by limiting the application of disunity to *dilectus verborum* alone. Quintilian's error is an intelligent one: this is what the poetic tradition on license would lead one to expect. Brink, on the other hand, perceiving that for Horace "unity...is not simply unity of plot," must argue that lines 1-13 pertain—in some vague way he does not specify—to unity of all the elements of poetry, including structure, something which, if true, he acknowledges to be an Horatian contribution to poetic theory.<sup>68</sup>

Quintilian's overly precise and Brink's overly broad interpretation of the monster of lines 1-3 results from the fact that, even after two millennia of trying,<sup>69</sup> we still cannot be certain we understand what the speaker intends to say in the opening lines of the poem. If the monster represents poetic license carried too far (implied by verses 11-13), then we expect the monster to represent (as Quintilian saw) a misuse of vocabulary, meter or figures of rhetoric. It should not symbolize a work with little or no structure, for we have no evidence that

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intend to condemn all archaism, just "an excessive use of such idioms." (p. 23; my translation). However, it should be noted that the quality of clarity (*explanatio*) is said to be derived, in part, from the use of "current vocabulary" (*usitata verba*, defined as *sunt ea quae versantur in consuetudine cotidiana*, *Rhet. ad Heren.* 4.12.17). It would be nice to be able to include the pertinent parallels that must have been present in Q. Laelius' "De vitiis virtutibusque poematorum" (see Charisius, p. 179.18-20 Barwick); if this is Laelius Archelaus (cf. Suetonius, *De gramm.* 2), the expounder of Lucilius (as Münzer thinks: *RE* s.v. Laelius [13]), then Horace must surely have known his writings. After Horace, we find Aristotle's view on the necessary balance of common and unusual words in, e.g., Seneca, *Epist.* 114.13-14.

<sup>66</sup>Cf. lines 9-13 (general limits of license); 48-51 (limited use of neologism approved); and 263-268 (critics give poets too much metrical license). On excessive license as risible, cf. lines 1-5 (especially 5: "spectatum admissi risum teneatis, amici?").

<sup>67</sup>Cf. *Poetics*, 1450b24ff.

<sup>68</sup>Cf. Brink II, 81: "But the unity that these forms evince to him [i.e., to Horace] is not simply unity of plot. It is the unity of a work of poetry seen by a poet. It lacks Aristotle's clarity of concept and coherence of argument. It cannot ultimately be resolved into a series of propositions."

<sup>69</sup>For the medieval interpretations, see C. Villa, "'Ut Poesis Pictura': Apunti iconografici sui codici dell'*Ars Poetica*," *Aevum* 62 (1988) 186-197, at pp. 187-189.

the ancient theorists were willing to bend their firm rules about the necessity of structural unity. On the other hand, the speaker's comparison of a monster to a book ("isti tabulae fore librum | persimilem," 6-7) would seem better adapted to express problems of relating parts to a whole (i.e., structure) than those of style. Moreover, the simile comparing the contents of such a book to the "dreams of a sick man" ("velut aegri somnia," 7) raises an entirely different matter: the verisimilitude of an artistic representation. Could the subject of a poem or painting really exist, or is it the feverish product of a demented mind (cf. "vanae | fingentur species," 7-8)? That the simile ends with the metaphor "nec pes nec caput" obfuscates rather than clarifies the speaker's meaning because the metaphor must apply simultaneously to four realms—the book, the sick dreams, the idle imaginings, and the monster. The fact that this phrase was proverbial does not diminish its literal force here, which simply cannot bear the weight put on it by the speaker's multiply mixed metaphor. What does it mean for a book to have "caput et pes," and while the monster has a woman's head, it has a fish's tail, not "pes"; etc.<sup>70</sup>

Brink has rightly observed that the speaker, who condemns a *descriptio* in verses 14-19, himself begins with a *descriptio* in lines 1-4. This inconsistency is typical of the speaker and can be seen elsewhere: he does not practice what he preaches. I would suggest that an even greater inconsistency can be found in the whole introduction (1-13): roundly condemning the abuse of poetic license, the speaker hypocritically falls into the error of taking the license of metaphor too far in lines 1-9 as evidenced by the fact that we have no way of understanding how he wants us to apply the monster simile to poetry. Later in the poem, he will likewise botch the simile comparing painting to poetry because, while he tells us a good deal about painting, he says absolutely nothing about poetry (361-365). The literal defectiveness of the simile (it lacks a *sic*-clause) makes it impossible to know in what way poetry is similar to painting. In the *Poetics* (1459a1ff) Aristotle said that metaphor (by which he also meant simile)<sup>71</sup> is the "most important" form of poetic diction because it cannot be acquired from someone else and is a "sign of genius." The speaker's clumsy use of metaphor (or simile) can be attested so frequently in the *Ars Poetica* that we may view the botched metaphor as the speaker's typical rhetorical figure. If

<sup>70</sup>Cf. G. Lakoff and M. Turner, *More than Cool Reason. A Field Guide to Poetic Metaphor* (Chicago and London 1989) 203: "Though wide-ranging metaphorical interpretations are possible, they are far from arbitrary. A metaphor, after all, is not a linguistic expression. It is a mapping from one conceptual domain to another, and as such it has a three-part structure: two endpoints (the source and target schemas) and a bridge between them (the detailed mapping). Such structures are highly constrained. It is not the case that anything can be anything."

<sup>71</sup>Cf. R. Janko, *Aristotle, Poetics* (Indianapolis and Cambridge 1987) 130.

proper use of metaphor is a sign of genius, then consistent misuse of metaphor is not only an example of the abuse of poetic license but also an indication of a lack of genius.

The introduction throws the speaker's authority on poetry into doubt in two other ways. Even so apologetic a critic as Brink has noted that the speaker begins his speech with no formal introduction: "there are no preliminaries. The poem, as it were, jumps into a subject."<sup>72</sup> Similarly, the poem is open-ended, lacking a conventional conclusion.<sup>73</sup> The middle is the most problematic section of all: for centuries, the greatest scholarly issue about the *Ars Poetica* is whether it has a clearcut structure.<sup>74</sup> The monstrous book decried by the speaker and the monstrous image used to represent it, we may conclude, are exemplified by the *Ars Poetica* itself. One might, to be sure, excuse the speaker for these faults by recalling that with mock modesty he does not claim to be a poet,<sup>75</sup> so that the *Ars Poetica* ought not to be judged as a poem. Yet, this actually weakens the case for clemency, since, according to the speaker, poetic licenses such as lack of a proper introduction and ending are granted only to writers of poetry, not prose. As Quintilian put it, "meminerimus tamen, non per omnia poetas esse oratori sequendos nec libertate verborum nec licentia figurarum...." (10.1.28).

There is another way—even more important—in which these key introductory lines discredit the speaker. Since the eighteenth century it has been commonplace to connect the speaker's outburst against monsters in painting to Vitruvius' polemic against contemporary art:<sup>76</sup>

Sed haec, quae ex veris rebus exempla sumebantur, nunc iniquis moribus improbantur. <Nam pinguntur> tectoriis monstra potius quam ex rebus finitis imagines certae: pro columnis enim struuntur calami striati, pro fastigiis appagineculi cum crispis foliis et volutis, item candelabra aedicularum sustinentia figuras, supra fastigia eorum surgentes ex radicibus cum volutis teneri plures habentes in se sine ratione sedentia sigilla, non minus coliculi dimidiata habentes sigilla alia humanis, alia bestiarum capitibus.

<sup>72</sup>Brink, I, 85.

<sup>73</sup>Cf. below, p. 94.

<sup>74</sup>I will elsewhere discuss the structural issues and show that the poem also exemplifies the fault of *Σαρδισμός*.

<sup>75</sup>Lines 301-305: "o ego laevus, | qui purgor bilem sub verni temporis horam; | non alius faceret meliora poemata. verum | nil tanti est. ergo fungar vice cotis, acutum | reddere quae ferrum valet exsors ipsa secandi...."

<sup>76</sup>The first reference to the passage in a commentary on the *Ars Poetica* appears to be in R. P. Sanadon, *Les poésies d'Horace, traduites en français*, tome septième (Amsterdam, Leipzig 1756<sup>2</sup>) 57.

Haec autem nec sunt nec fieri possunt nec fuerunt. Ergo ita novi mores coegerunt, uti inertiae mali iudices convincerent artium virtutes: quemadmodum enim potest calamus vere sustinere tectum aut candelabrum ornamenta fastigii, seu coliculus tam tenuis et mollis sustinere sedens sigillum, aut de radicibus et coliculis ex parte flores dimidiataque sigilla procreari? At haec falsa videntes homines non reprehendunt sed delectantur, neque animadvertunt, si quid eorum fieri potest necne... Neque enim picturae probari debent, quae non sunt similes veritati, nec, si factae sunt elegantes ab arte, ideo de his statim debet 'recte' iudicari, nisi argumentationes certas rationes habuerint sine offensionibus explicatas.<sup>77</sup>

The relationship of Vitruvius' passage with the introduction of the *Ars Poetica* has never been explored in detail.<sup>78</sup> The context is Vitruvius' account of the development of wall painting in homes. Painting should represent "quod est seu potest esse, uti homines, aedificia, naves, reliquarumque rerum" (7.5.1), and in the earlier phases of wall painting, this was the case. First, painters imitated marble (this is equivalent to what, since the last century, we have called the First Pompeian Style; Vitruvius, 7.5.1); then they imitated buildings, columns, gardens, scenery, etc. (the Second Pompeian Style; Vitruvius, 7.5.2). In the passage quoted, Vitruvius recounts the latest developments, the final phase of the Second Style, in which realism has given way to fantastic creatures and architectural constructions.<sup>79</sup> In such works may be seen monsters, stalks functioning as

<sup>77</sup>Vitruvius 7.5.3-4. For a recent philological and archaeological commentary on the passage see W. Ehrhardt, *Stilgeschichtliche Untersuchungen an römischen Wandmalereien von der späten bis zur Zeit Neros* (Mainz 1987) 152-162.

<sup>78</sup>Commentators on the *Ars Poetica* simply note the Vitruvian passage and its polemic against monsters in painting without further analysis; Vitruvian scholars, too, have failed to pursue the relationship in any depth. See, most recently, W. Ehrhardt, *op. cit.* (*supra* n. 77) 162: "Eine Untersuchung dieser Fragen unter Berücksichtigung der historischen und literarischen Quellen geht über den Rahmen einer stilgeschichtlichen Analyse ebenso hinaus wie der Vergleich der von Vitruv angewendeten moralisch-ästhetischen Kriterien mit denen, wie sie z.B. Horaz in seiner *Ars poetica* und Augustus nach der Überlieferung Suetons [Augustus 86] gegenüber Marc Anton auf literarisch-rhetorischem Gebiet erhebt."

<sup>79</sup>The classic work on the Second Style is by H. G. Beyen, *Die Pompejanische Wanddekoration vom zweiten bis zum vierten Stil*, 2 vols. (The Hague 1938, 1960). Beyen divides the Second Style into Phase I and Phase II; each phase has two sub-phases (Phase Ia, Ib, etc.; cf. vol. II, 20; cf. also his article on "Pompeiani, Stili" in *EAA* 6 [Rome 1965] 356-366, at pp. 358-362). The beginning of Phase II Beyen dates to the years 50-30. Beyen's classification has recently been criticized as too elaborate by A. Barbet, *La peinture murale romaine: Les styles décoratifs pompéiens*

columns, men and animals growing up out of plants, etc. (7.5.3). Since such fantasies violate the principle of realism and verisimilitude<sup>80</sup> ("haec autem nec sunt nec fieri possunt nec fuerunt"; 7.5.4), Vitruvius roundly condemns them and the debased taste that approves of them. Telling the anecdote of how Licymnius the mathematician forced the scenery painter Apaturius to replace some overly imaginative sets with more conventionally realistic designs (7.5.5-6), he longingly recalls the good old days when such violations of nature were not permitted and were felt to be signs of bad taste and dullness ("quod enim antiqui insumentes laborem ad industriam probare contendebant artibus, id nunc coloribus et eorum alleganti specie consecuntur"; 7.5.7).

The passage in Vitruvius is important to readers of the *Ars Poetica* for several reasons. First of all, Vitruvius' polemic is roughly contemporary with the *Ars Poetica*, if we date the poem to the late twenties, since 22 B.C. is the last possible date for the composition or revision of the *De Architectura*.<sup>81</sup> Vitruvius' vocal rejection of contemporary tendencies in wall painting is thus consistent with our dating of the *Ars Poetica* to the same period because it shows that, in a period of dramatic change in painting, such reactions as we find in Horace and Vitruvius were understandably topical. Secondly, Vitruvius shows us that Classicizing theorists were just as outspoken and influential in the fine arts as we know they were in literary criticism.<sup>82</sup> Although Vitruvius' condemnation of what we might call the "fantasy-style" was, in the end, to be ignored by painters and patrons, he does seem to have had a restraining influence for several decades.<sup>83</sup> We can only imagine how closely twentieth-century characterizations of him as a pedantic conservative<sup>84</sup> correspond to what artists and

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(Paris 1985) 36-37. Problems of Beyen's dating of Phase II of the Second Style are discussed by Ehrhardt, *op. cit.* (*supra* n. 77) xiv-xv.

<sup>80</sup>Brink, II, 85, errs in saying that Vitruvius is concerned only about the truth of the representations, not their verisimilitude. Verisimilitude is implied by the words "seu potest esse."

<sup>81</sup>For literature on the date of Vitruvius' publication of *De Architectura* in 22 B.C. at the latest, see W. Ehrhardt, *op. cit.* (*supra* n. 77) 153n1330; B. Baldwin, "The Date, Identity, and Career of Vitruvius," *Latomus* 49 (1990) 425-434.

<sup>82</sup>See, e.g., E. Gabba, "Political and Cultural Aspects of the Classicistic Revival in the Augustan Age," *CA* 1 (1982) 43-65; P. Zanker, *Augustus und die Macht der Bilder* (Munich 1987); E. Simon, *Augustus. Kunst und Leben in Rom um die Zeitenwende* (Munich 1986) 188: "Die hier wiedergegebene Stelle (Vit. 7.5.3) läßt etwas von der Lebendigkeit der damals geführten Kunstdiskussionen spüren, auch von der Beschränktheit der Ästhetik Vitruvs, die in der Imitation der Natur befangen bleibt."

<sup>83</sup>Cf W. Ehrhardt, *op. cit.* (*supra* n. 77) 157-162.

<sup>84</sup>See the examples from the older art-historical literature collected by W. Ehrhardt, *op. cit.* (*supra* n. 77) 155n1343 and add, more recently, J.-M. Roddaz, *Marcus Agrippa, BEFAR* 253 (1984) 252.

architects of his day thought of him. In any case, his fulminations against contemporary "avant-garde" painting give us a taste of what an equally avant-garde poet like Horace must have had to hear from his critics.

Besides serving these purposes, the Vitruvius passage can also help us to see the most important way that Horace undermines the authority of his speaker and hence clues the reader into his parody in the very first lines of the poem. Interestingly enough for our purposes, where Vitruvius seems to have had least success was in suppressing paintings of monsters, which, as Ehrhardt notes, were quite common during and just after the period when he was writing.<sup>85</sup> We should note that, whereas Vitruvius condemns actually existing paintings for an excess of imagination, the *Ars Poetica* speaker talks as if no contemporary painter—unless mad—would actually paint the monster described in verses 1-4. So right from the start, the speaker (who elsewhere shows himself to be ignorant of contemporary poetry) shows himself equally uninformed about contemporary painting. In fact, archaeological evidence—which, oddly enough, has hitherto been neglected by commentators on the poem—shows that from the late thirties to the late twenties B.C., Roman painters were experimenting with monsters and other unreal subjects condemned by Vitruvius.<sup>86</sup> So, to any reader knowledgeable about the state of contemporary Roman painting, the speaker's character emerges clearly from his first words: he is not only a pedant of old-fashioned taste like Vitruvius, but—unlike Vitruvius—he is also an ignoramus.

We will soon see which of Horace's readers would have been able to appreciate this clue. The evidence for monsters in Roman painting and from sculpted and stucco friezes of the 30s and 20s has not yet been assembled. The following list of monsters from the city of Rome in the period of ca. 40-20 B.C. will let us see how common *Mischwesen* were in this period and which patrons encouraged their artists to work in the fantasy-style condemned by Vitruvius.<sup>87</sup>

<sup>85</sup>See W. Ehrhardt, op. cit. (*supra* n. 77) 157.

<sup>86</sup>Gantar, op. cit. (*supra* n. 59) perceptively notes the frequency of monsters in contemporary literature (pp. 90-91) but thinks the pertinent *comparandum* in painting comes not from contemporary Roman works of art (which he does not mention) but from Zeuxis' hippocentaur (pp. 91-92). Rudd, 36, writes: "why should an artist not produce grotesques? Granted, Vitruvius disliked them (7.5.3-4), but *medieval stone-masons and illuminators* thought otherwise" (my emphasis). E. Leach, in *The Rhetoric of Space. Literary and Artistic Representations of Landscape in Republican and Augustan Rome* (Princeton 1988) 6n8, perceptively notes that Horace's monster "may well refer to specific examples of contemporary art."

<sup>87</sup>The best collection of the visual material is to be found in I. Bragantini and M. De Vos, *Le decorazioni della villa romana della Farnesina, Museo Nazionale Romano: Le Pitture*, II.1 (Rome 1982) 32-35, 52-55, 60 (figs. 3-14; 29-35; 60), with examples from the House of Livia, the Villa of the Farnesina, and Pompeii.

Nr./DATE	BLDG	M/C <sup>88</sup>	FIGURES
(1) 42-29	Temple of J. Caesar	S	Winged Victory terminating in shoots ( <i>fig. 2</i> ) <sup>89</sup>
(2) 36-27	House of Augustus	P/5	Winged females growing from plants <sup>90</sup>
(3)		P/13	Winged females growing from plants <sup>91</sup>
(4)		P/14	Marine centaurs atop frieze <sup>92</sup>
(5)		P/15	Walls: Winged griffins with shoot tails on sides of a floral obelisk <sup>93</sup>
(6)		P/15	Ceiling: Winged male and female figures growing from plants <sup>94</sup>

TABLE XVII: MONSTERS IN WALL PAINTING, STUCCOES, AND SCULPTED FRIEZES FROM THE CITY OF ROME, C. 35-20 B.C.

<sup>88</sup>M/C=Medium/Context. P=painting; St=stucco; S=sculpture (including sculpted frieze); numbers and letters given under "C" correspond to standard spatial denominations in the referenced archaeological publications.

<sup>89</sup>See M. Montagna Pasquinucci, "La decorazione architettonica del tempio del Divo Giulio nel Foro Romano," *Monumenti Antichi* 48 (1973); M. Floriani Squarciapino, "Il fregio del tempio del divo Giulio," *RAL* 12 (1957) 270-284; H. v. Rohden and H. Winnefeld, *Architektonische römische Tonreliefs der Kaiserzeit* (Stuttgart 1911) 200ff. For a history of the motif, see J. M. C. Toynbee and J. B. Ward Perkins, "Peopled Scrolls: A Hellenistic Motif in Imperial Art," *PBSR* 18 (1950) 1-43.

<sup>90</sup>See G. Carettoni, "La decorazione pittorica della Casa di Augusto sul Palatino," *MDAI(R)* 90 (1983) 373-419 at p. 378 (= Carettoni I). For the date, see G. Carettoni, *Das Haus des Augustus auf dem Palatin* (Mainz 1983) 23-27 (= Carettoni II).

<sup>91</sup>Carettoni I, 396; Carettoni II, 56.

<sup>92</sup>Carettoni I, 400; Carettoni II, 60-66.

<sup>93</sup>Carettoni I, 405; Carettoni II, 74. For griffins in this period and in ancient art generally, see C. Delplace, *Le griffon de l'archaïsme à l'époque impériale, Études de philologie, d'archéologie et d'histoire anciennes, l'Institut Historique Belge de Rome* 20 (1980), especially pp. 346-353.

<sup>94</sup>Carettoni I, 409; Carettoni II, 83.

Nr./DATE	BLDG	M/C	FIGURES
(7) 36-30	House of Livia	P	Left <i>Ala</i> : Winged male and female figures with <i>kalathiskos</i> <sup>95</sup>
(8)		P	Left <i>Ala</i> : Griffins on shoots ( <i>fig. 3</i> ) <sup>96</sup>
(9)		P	Left <i>Ala</i> : Winged victories seated on shoots <sup>97</sup>
(10)		P	Triclinium: Griffins with shoot tails <sup>98</sup>
(11) 30-20?	Villa of the Farnesina	P	Fauces: Griffins with shoot tails <sup>99</sup>
(12)		St	Cubic. B: Winged griffin with human head and shoot tail <sup>100</sup>
(13) c. 20	Aula Isiaca	P/B	Birds ending in shoots <sup>101</sup>

TABLE XVII (CONTINUED)

<sup>95</sup>See G.E. Rizzo, *Le pitture della 'Casa di Livia,' Monumenti della pittura antica*, III.3 (Rome 1937) 9ff., figures 8-10; Bragantini and De Vos, *op. cit. (supra n. 87) fig. 12*. Note that it is possible that the House of Augustus and House of Livia were part and parcel of the same palace complex, not two separate dwellings as they appear today; see W. Ehrhardt, *op. cit. (supra n. 77) 3n74*. On the date, see F. Coarelli, *Roma* (Bari 1980) 131.

<sup>96</sup>See Bragantini and De Vos, *op. cit. (supra n. 87) fig. 10*; Rizzo, *op. cit. (supra n. 95) fig. 10*.

<sup>97</sup>Bragantini and De Vos, *op. cit. (supra n. 87) fig. 13*; Rizzo, *op. cit. (supra n. 95) fig. 9*.

<sup>98</sup>See Bragantini and De Vos, *op. cit. (supra n. 87) fig. 3*.

<sup>99</sup>See Bragantini and De Vos, *op. cit. (supra n. 87) fig. 11, tav. E*. See Bragantini and De Vos, *ibid.*, with literature speculating on the identification and date reported on p. 23 and their own view (20s B.C.) suggested on p. 40. W. Ehrhardt, *op. cit. (supra n. 77) 3*, implies a similar dating, as does A. Bartet, *op. cit. (supra n. 79) 96-97*. E. Leach, "Patrons, Painters, and Patterns," in *Literary and Artistic Patronage in Ancient Rome*, ed. B. Gold (Austin 1982) 135-173, at p. 164 suggests that the owner was the equestrian A. Crispinus Caepio. Roddaz, *op. cit. (supra n. 84) accepts the identification as the Villa of Agrippa (passim; cf. 249n108, 321n55)*.

<sup>100</sup>See Bragantini and De Vos, *op. cit. (supra n. 87) fig. 14*.

<sup>101</sup>See G. E. Rizzo, *Pitture dell'Aula Isiaca di Caligola, Monumenti della pittura antica* III.2.2 (Rome 1936) *tav. A*. On the date of the building, see A. Barbet, *op. cit. (supra n. 79) 97*.

I stress that the examples on TABLE XVII are from the city of Rome and date to this limited period. Later, monsters become even more common, as Roman painting moves into the Third and Fourth Styles. This means that our need to interpret the discrepancy between the opening lines of the *Ars Poetica* and trends in Roman painting is not dependent on dating the poem to the period 24-20 B.C. but arises even if we date the poem to the last years of Horace's life.

Late Second-Style monsters are also to be found in Campania at, e.g., the House of Obellius Firmus in Pompeii, the wall from Portici in the Naples National Museum (inv. 8593), the Caserma of the Gladiators at Pompeii,<sup>102</sup> and at the villa in Boscotrecase.<sup>103</sup> Outside of Campania, we find painting reminiscent of this style at a villa in Sabine country north of Rome near Licenza (ancient Digentia), where, amid fragments of wall painting, we find a griffin, two sphinxes, and fragments of a wing and the hind parts of creatures that are perhaps also remains of monsters. The villa seems also to have had a mosaic with griffins, now vanished.<sup>104</sup>

<sup>102</sup>For these examples from the first century B.C. and others from the first century A.D., see Bragantini and De Vos, *op. cit.* (*supra* n. 87) 50-61; W. Ehrhardt, *op. cit.* (*supra* n. 77) 17-31.

<sup>103</sup>See P. H. von Blanckenhagen and C. Alexander, *The Paintings from Boscotrecase*, *MDAI(R) Ergänzungsheft* 6 (1962) 58.

<sup>104</sup>Only the griffin (from *riquadro* 31) is published; see G. Lugli, "La villa sabina di Orazio," *Monumenti Antichi* 31 (1926) cols. 456-598, at col. 570 (with fig. 52). The sphinxes are from *riquadri* 3 and 20; the hind parts of an animal and a wing (?) are from *riquadro* 15.

The griffin mosaic is known only from a literary source: like most of the mosaics of the villa, it has vanished. In 1828 Filippo Alessandro Sebastiani, in *Viaggio a Tivoli* (Fuligno 1828) wrote: "mi aveva assicurato il sig. cav. Gell gentiluomo inglese, persona di vastissima erudizione, e già nota per le sue produzioni geografiche, che vi aveva rilevato un altro pezzo di mosaico ornato di piccoli grifi, ma o fosse, che il guidatore non lo conoscesse, o che quest'avanzo venisse distrutto, io non fui così fortunato da poterlo vedere" (395-396).

Gell is Sir William Gell (1777-1836), "Resident Plenipotentiary" of the Society of Dilettanti in Italy; see *The Dictionary of National Biography*, vol. 7 (Oxford 1963-1964) 994-996. He was, indeed, known for his erudition and accuracy; cf. E. Clay (ed.), *Sir William Gell in Italy. Letters to the Society of Dilettanti* (London 1976) 18-36, especially p. 30. Gell himself appears to corroborate Sebastiani's report when he writes in *The Topography of Rome and Its Vicinity* (London 1834<sup>1</sup>, 1846<sup>2</sup>) vol. 2, p. 350: "The ruins of this famous villa consist only of a Mosaic pavement, and of two capitals and two fragments of Doric columns lying among the bushes....The pavement has been much ruined by the planting of a vineyard, and can only be seen on removing the earth which covers it. The groundwork is white, with a border of animals in black."

We can now see what kinds of persons patronized the late Second-Style and Third-Style painters condemned by Vitruvius and the *Ars Poetica* speaker: in the first instance, Livia, Augustus, and the powerful owners of the Villa of the Farnesina and the Villa in Boscotrecase.<sup>105</sup> It is even remotely possible that the same workshop of artists was active at all four projects.<sup>106</sup> Be that as it may,

The fact that Sebastiani saw only one mosaic on his visit and not the griffin mosaic reported to him by Gell is typical of the period. Different visitors saw different remains, doubtless depending on the knowledge, vigor, and mood of their guides. Thus, some travellers reported seeing two or more mosaics—see Andrea Manazzale, *Viaggio da Roma a Tivoli, Palestrina, Frascati, ed altri contorni di Roma* (Roma 1817) 31 (“in una vigna situata a' piedi del monte Lucretile, si vede qualche vestigio di questa Villa, consistente in differenti camere pavimentate di mosaico....”); Giuseppe Antonio Guattani, *Monumenti Sabini*, tom. 3 (Rome 1830) 16 (“concludiamo che da questi campi Oraziani ore gran parte della sua vita menò il genio delle muse latine non devi partir lettor cortese senza osservare, in mancanza di significanti rovine, i pochi rimasugli de' pavimenti a mosaico della sua casa....”); Fabio Gori, *Viaggio pittorico-antiquario da Roma a Tivoli e Subiaco* (Rome 1855), parte seconda, pp. 22-23 (“il Garzone che n'è custode, alla tua richiesta rompe con la marra la terra e mostra un bel frammento di mosaico. Fattagli la domanda, se vi è altro da vedere, ei ti risponde che scavando profondamente il suolo, si trovano altri pezzi di pavimento di mosaico, e resti di antico edificio, gli stessi che vi scoprì il Baron di Santedille”). Other visitors saw just one (in addition to Gell and Sebastiani, cf. A. Nibby, “Viaggio antiquario alla Villa di Orazio, a Subiaco, a Trevi, presso le sorgenti dell'Aniene,” *Memorie Romane di Antichità e di Belle Arti* [Pesaro 1827] 37 [= *Analisi storico-topografico-antiquaria della carta de' dintorni di Roma*, tomo 3 (Rome 1842) 720] or even none (cf. J. H. Westphal, *Die römische Kampagne* [Berlin und Stettin 1829] 115: “Trümmer derselben sind nicht mehr vorhanden”). Knowledge of the various mosaics probably goes back to the amateur excavations carried out on the site over a thirty-year period from 1755-1783 by the Scottish artist Allan Ramsay; see J. Holloway, “Two Projects to Illustrate Allan Ramsay's Treatise on Horace's Sabine Villa,” *Master Drawings* 14 (1976) 280-286. On Ramsay (1713-1784) see *DNB* vol. 16 (London 1909) 676-677.

<sup>105</sup>The Villa at Boscotrecase is the latest of the group and represents the Third Style; see von Blanckenhagen and Alexander, op. cit. (*supra* n. 103). For speculation about the owners of these villas see Bragantini and De Vos, op. cit. (*supra* n. 87) 22-24; von Blanckenhagen and Alexander, *ibid.*, 59; Simon, op. cit. (*supra* n. 82) 182; Zanker, op. cit. (*supra* n. 82) 279-284.

<sup>106</sup>Cf. von Blanckenhagen and Alexander, op. cit. (*supra* n. 103) 58-59, on the similarity of the Farnesina and the villa in Boscotrecase; for the similarity of the Farnesina and the House of Livia and House of Augustus, see Bragantini and De Vos, op. cit. (*supra* n. 87) 30; Carettoni I, p. 408. Both Carettoni and Bragantini—De Vos think the workshop was of Alexandrian origin. R. E. Ling, “Studius and the Beginnings of Roman Landscape Painting,” *JRS* 67 (1977) 1-16, at pp. 11-12, sees no need to invoke a non-Roman origin for motifs that are vaguely Egyptian.

the evidence from Campania suggests that once given this powerful impetus, the new style caught on rather quickly and spread to households much lower down the socio-economic ladder.<sup>107</sup> These were certainly some of the readers who would have noted, right from the start, that something is quite odd about the *Ars Poetica*.

The material from the Sabine villa is particularly interesting because it was very possibly Horace's own. Its site and characteristics correspond well to the literary evidence from Horace's own poetry, and so it has been identified by twentieth-century Roman topographers and archaeologists.<sup>108</sup> The monster paintings and griffin mosaic—the one lost, the others hidden away in an ill-lit museum of difficult access—have never been the subject of a detailed scholarly study, and the villa as we have it is the result of several building phases, so we cannot be certain that we have here evidence dating from Horace's own lifetime. The extant mosaics of the villa find their closest parallels with mosaics found in the House of Livia on the Palatine and in the Villa of Livia ad Gallinas Albas.<sup>109</sup> The vanished griffin mosaic may have come from a later phase of the building—a possible candidate would be the bath complex on the west—since such creatures are common enough in bath contexts, particularly from the Antonine period. On the other hand, there is a chance that the work was contemporary with the other four preserved mosaics in the villa, which like it, were black and white.<sup>110</sup> As for the wall paintings, these fall into different groups

<sup>107</sup>Cf. Zanker, *op. cit.* (*supra* n. 82) 282; Roddaz, *op. cit.* (*supra* n. 84) 250-251; a similar diffusion has been observed for the so-called sacral-idyllic landscape; see S. R. Silberberg, *A Corpus of the Sacral-Idyllic Landscape Paintings in Roman Art* (Diss. UCLA 1980) xx, 35. E. Leach, *op. cit.* (*supra* n. 99) 164-167, has perceptive remarks on the reasons for the revolutionary change from the middle to late Second Style. See also her book, *op. cit.* (*supra* n. 86) 373-377.

<sup>108</sup>See Lugli, *op. cit.* (*supra* n. 104) cols. 462-492; M. E. Blake, *Pavements of Roman Buildings*, *MAAR* 8 (1930) 89; F. Coarelli, *Lazio* (Bari 1982) 112-113; H. Mielsch, *Die römische Villa* (Munich 1987) 61. In a stimulating recent article, A. Bradshaw makes a strong case against reports in Porphyrio (on *Epod.* 1.31 and *Carm.* II.18.12-14) and Ps-Acro (on *Carm.* II.18.12) that Maecenas gave the villa as a gift to Horace; see "Horace in Sabina," *Collection Latomus* 206 (1986) 160-186.

<sup>109</sup>For similarities in the mosaics, see M. E. Blake, *Ancient Roman Construction in Italy from the Prehistoric Period to Augustus* (Washington 1947) 253; M. L. Morricone Matini, *Roma: Reg. X Palatium, Mosaici Antichi in Italia* (Rome 1967) 6.

<sup>110</sup>That the mosaic was black and white is indicated by Gell's description; see n. 104 above. The earliest griffins of which I am aware are those on a pavement (now vanished) from the Casa del Cinghiale in Pompeii (VIII, 3, 8). The mosaic is described by M. E. Blake, *op. cit.* (*supra* n. 108) 99 as follows: "sea griffins and dolphins were swimming about between a meander center and a border representing a

stylistically, and we thus far have no records of their original location in the villa which would help us establish a chronology. Pasqui—who, according to the Soprintendenza Archeologica per il Lazio, did not leave behind such records—made later study of the fragments harder than it had to be by attaching them to thirty-eight *riquadri* according to subject and color. Thus we have a group of *riquadri* with yellow ground (R. 1, 2, 3, 4, 6, 9, 10, 11, 12, 15, 16, 19, 20, 21, 22, 24, 26, 27, 28, 37); white ground (R. 7, 8, 14, 17, 19, 23, 25, 30, 31, 32, 33, 34, 38); red ground (R. 5, 13); and mouldings from cornices (R. 5, 8, 20, 26, 34, 35, 36). Some fragments may well be from one of the later building/remodelling phases of the villa. Published scholarly opinion on the painting is scarce and quite divergent: Lugli thought they were mostly “secondo stile pompeiano”; Borda, in brief remarks about the fragments, claimed that they were an academic revival of the Second Style during the Flavian or Trajanic period.<sup>111</sup> Borda's position is not so surprisingly different from Lugli's as it might, at first, appear to be: the Fourth Style involves, among other things, a revival of late Second-Style motifs.<sup>112</sup> Though this is not the place to decide the dispute between Lugli and Borda, I can report that Roman painting experts Volker Strocka and Irene Bragantini have informed me in personal communications that they exclude an Augustan date, assigning the paintings to the Fourth Style.

Of course, if the villa is Horace's and if the monster paintings or at least the griffin mosaic are Augustan, then we have striking evidence that Horace and the *Ars Poetica* speaker must be strictly distinguished from one another, for it would mean that Horace, in his beloved Sabine villa, which was completed in the late 30s or early 20s before the *Ars Poetica* was written, chose to decorate his walls and floors with precisely the kind of creatures condemned without qualification by the *Ars Poetica* speaker. As we have seen, the material from Licenza

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turreted wall.” E. La Rocca, et al., *Guida archeologica di Pompeii* (Verona 1976) 139, date the mosaic to the first half of the first century A.D.; Blake states that it is “pre-earthquake” (p. 99). For monster designs in general, see Blake, *ibid.*, 123. The fact that a griffin design would be an “advanced” trait for a villa of the late 30s B.C. should not necessarily deter us from considering such a dating since, for example, the mosaic in room B of the villa also has a design only popular in the next century; cf. M. E. Blake, *ibid.*, 90. We need to keep in mind that our corpus of domestic mosaic designs is biased against the first century B.C. and earlier, since most of our Roman houses are later.

<sup>111</sup>Lugli, *op. cit.* (*supra* n. 104) col. 571; M. Borda, *La pittura romana* (Milan 1958) 90, 266.

<sup>112</sup>Cf. W. C. Archer, “The Paintings in the Alae of the Casa dei Vettii and a Definition of the Fourth Pompeian Style,” *AJA* 94 (1990) 95-123, especially p. 121: “as has been noted in other studies, each of the principal compositional possibilities comprising the Fourth Style...can be found directly previewed in the Second or Third Style....”

must be subjected to further investigation before it can safely be used in this discussion. In any case, it can only have been known to a select few of Horace's readers. Much more important is the fact that, on the basis of the examples of the fantasy-style known from Rome, we can already say that the taste condemned by the speaker in lines 1-5 closely reflects that attested for the imperial circle in which Horace moved.

Is there any way to spare the speaker our unequivocally negative interpretation of his introductory lines? Ehrhardt attempted to moderate Vitruvius' critique and thus make him appear less distastefully extreme by suggesting that Vitruvius did not condemn standard mythological monsters like griffins, but only new-fangled monsters, like the many *Mischwesen* in our list that belong to both the animal and plant kingdoms.<sup>113</sup> If this were the case, then Vitruvius' harsh condemnation of monster painters would apply to a much more restricted set of *Mischwesen*, but Ehrhardt's suggestion is merely a hypothesis and an unlikely one at that. While it is true that griffins, for example, are encountered (albeit rarely) in early Second-Style painting<sup>114</sup>—a fact that might make it appear less likely that Vitruvius could object to them in “decadent” late Second-Style paintings—it is probably not their existence in a painting per se but their verisimilitude that mattered to Vitruvius. In an early Second-Style painting like that in the House of the Labyrinth, griffins are represented as part of the realistic scene: they decorate corbels holding up a construction that could really exist and could really have corbels with griffins. In the late Second-Style examples, they are not integrated into a realistic scene as decorative elements of objects that might actually exist; rather, they are paratactically isolated within a purely whimsical and painterly fancy.<sup>115</sup>

However we understand Vitruvius, the *Ars Poetica* speaker condemns, not (as has sometimes been thought) a painting of a Scylla—that is, a standard mythological creature—but a unique *Mischwesen* that has no exact parallel in

<sup>113</sup>See W. Ehrhardt, *op. cit.* (*supra* n. 77) 157: “Mythische Mischwesen, wie z.B. Sphingen und Kentauren, sind von vornherein von dieser Kritik [scil. of Vitruvius] auszunehmen...”

<sup>114</sup>See Beyen, *op. cit.* (*supra* n. 79), vol. I, p. 261 with 261n3 on the difference between the griffins in the early Second-Style House of the Labyrinth and those in the House of Livia.

<sup>115</sup>Cf. Beyen, *loc. cit.* (*supra* n. 79). E. Leach, *op. cit.* (*supra* n. 99) 162-167, has attractive suggestions about the overall decorative scheme. The primary object, she thinks, is to create a *pinacotheca* and “the unreal structures and impossible ornaments deplored by Vitruvius, however fantastic they may sound in the abstract, explain themselves perfectly in context as the elements of an appropriately rich setting for the display of pictures” (p. 162).

literature or art.<sup>116</sup> While the speaker's creature with a woman's head, birds' feathers, and a fish's tail resembles a Scylla in many respects, it lacks the crucial component of dog protomes at the waist.<sup>117</sup> To this extent, at least, the speaker might be compared to Vitruvius, as interpreted by Ehrhardt. Such an interpretation might spare the speaker our harshest criticism, but it still leaves him open to criticism enough, for by concocting and ridiculing a new *Mischwesen*, the speaker, like Vitruvius, expresses his hostility toward the very skill in inventing monsters in which contemporary Roman painters revelled. As is clear from the material cited in TABLE XVII, this was a period in which painters tried to devise uniquely original monsters, and so we find few, if any, exact correspondences between the monsters found at the different sites. The lack of any exact correspondence between the *Ars Poetica* monster and the monsters of TABLE XVII is thus no surprise and, far from being problematic, is just what we would expect: Horace's monster painter is very à la mode in creating a type that, as far as we can tell, is new. Of course, we should not neglect to notice the *similarity* of Horace's monster to many of the extant examples: they often involve a fusion between the animal and vegetable realms (e.g., nrr. 1, 2, 3, 5, 6) or between sea, land, and air creatures (e.g., nrr. 4, 5, 12). The *Ars Poetica* monster is also such a fusion, with characteristics of the the sea (the fish-tail), land (the human head and horse's neck) and sky (the bird feathers).

The most important point of all is that, unlike Vitruvius, the *Ars Poetica* speaker seems totally unaware of the fact that such a painting was not only conceivable but, indeed, common, particularly in works commissioned by members of the imperial circle. And so, in the end we laugh, not at the painter of verses 1-4, but at the hapless speaker, whose pretentious claims to expertise on the arts are undermined by his eccentric taste, his inept way of expressing himself, and his ignorance of the subject. Right from the start of the poem Horace gives us and his contemporary reader ample reason to suspect that the *Ars Poetica* is to be the inept ramble of an unreliable narrator.

<sup>116</sup>On the *Ars Poetica* monster as a Scylla, cf. Ps.-Acro and later commentators such as Dillenburger and Orelli. Brink, II, 85, following Rostagni ad loc., writes more accurately: "inevitably the painting resembles the hybrid monsters of Classical art...—scyllas, sirens, centaurs, goat-stags, etc."

<sup>117</sup>On the iconography of the Scylla, see E. Paribeni in *EAA* 7 s.v. Scilla (Rome 1966) 109-110.

## CHAPTER 4

### GENRE OF THE *ARS POETICA*: EPISTLE, DIDACTIC POEM, OR TERTIUM QUID?

An interpretation of the *Ars Poetica* based on the assumption that the work contains the speech of a very unauthoritative dullard, holding forth *ad nauseam* about a subject about which he is poorly informed and can only mouth trite truisms, raises important generic questions: how can such a parody be classified and can it be paralleled within the Horatian corpus?

If, as we saw earlier in this study, the *Ars Poetica* is not to be associated with *Epistles* II, what kind of work is it? A debate has continued for centuries over classifying the *Ars Poetica* as a letter or as a didactic poem. Much labor was spent in this century and the last tracing the alleged derivation of the *Ars Poetica* from the genre of the technical handbook—the revival of an idea driven from the field by the epistle-thesis in the sixteenth century.<sup>1</sup> Is the *Ars Poetica* a letter, didactic poem, or technical handbook (or, at least, essay)? The issue is important: classification by genre is not simply a matter of defining a literary work; it concerns the very essence of the communicative act joining author and reader.<sup>2</sup>

<sup>1</sup>Cf. the works of Vahlen, Wecklein, Birt, Cauer, Norden, and others discussed by Brink, I, 18-40. For the sixteenth-century literature, see below, n. 3.

<sup>2</sup>Cf. J. Culler, *Structuralist Poetics* (Ithaca, New York 1975) 147-148 (cf. p. 147: "the function of genre conventions is essentially to establish a contract between writer and reader so as to make certain relevant expectations operative and thus to permit both compliance with and deviation from accepted modes of intelligibility"); A. Fowler, *Kinds of Literature. An Introduction to the Theory of Genres and Modes* (Oxford 1982) 37-53 (cf. p. 22: "of all the codes of our literary *langue*, I have no hesitation in proposing genre as the most important, not least because it incorporates and organizes many others. Just how many other codes are generically articulated remains uncertain....At any rate there is no doubt that genre primarily has to do with communication. It is an instrument not of classification or prescription,

Of commentators working on the poem in recent decades, C. O. Brink has perhaps devoted the most attention to this matter. He has persuasively discredited the view that the *Ars Poetica* is a technical handbook on poetics, noting that although it may share certain structural features that come from the technical tradition of literary criticism, the poem is not to be reduced to a handbook.<sup>3</sup>

but of meaning"). For a critical survey of contemporary theoretical views on the dialectic of genre and interpretation, see J. Reichert, "More Than Kin and Less Than Kind: The Limits of Genre Theory," in *Yearbook of Comparative Criticism* 8 (1978) 57-79; T. Kent, *Interpretation and Genre* (London and Toronto 1986) 147-150.

<sup>3</sup>See Brink, I, 15-40. As I plan to show elsewhere, the debate about whether the poem is an *ars* or merely something loosely derived from the technical tradition of poetics may be traced back to the sixteenth century, particularly the polemics of Antonio Riccoboni and Nicolaus Colonius. See (in chronological order): *Antonii Riccoboni a quodam viro docto dissensio de epistola Horatii ad Pisones: quae nullam quidem methodum habere: sed ad methodum redigi posse ostenditur*, printed at the end of *Compendium Artis Poeticae Aristotelis ad usum conficiendorum poematum ab Antonio Riccobono ordinatum et quibusdam scholiis explanatum* (Padua 1591); *Nicolai Colonii responsio adversus absurdissimam sententiam Antonii Riccoboni de Horatii libello ad Pisones de poetica* (Bergamo 1591); *Antonii Riccoboni l.C. humanitatem in Patavino gymnasio profitentis defensor seu pro eius opinione de Horatii epistola ad Pisones in Nicolaum Colonium ad Ethica Aristotelis in eodem gymnasio interpretanda designatum* (Ferrara 1591); *Epistola Nicolai Colonii Ad Antonium Riccobonum* (n. p. 1591); *Conciliatio Antonii Riccoboni cum Nicolao Colonio ad Illustriss. et Excellentissimum Principem, Alexandrum Estensem* (Padua 1591). Riccoboni's first contribution to the quarrel was written in reaction to Colonius' earlier treatise, *Q. Horatii Flacci Methodus De Arte Poetica: Per Nicolaum Colonium Exposita Quomodo antehac ab alio nemine* (Bergamo 1587).

In their debate, Colonius (c. 1520-1602) represented the view that the *Ars Poetica* had a "method," or plan, and that the plan was based on a technical treatment of all the literary genres, which, according to Colonius, numbered four (epic, tragedy, comedy, satyr drama). Riccoboni (1541-1599) maintained the thesis of Robortello, his predecessor as professor of Humanities at Padua, and of his friend and colleague De Nones (Colonius' predecessor as professor of Moral Philosophy at Padua) that the *Ars Poetica* was not a technical treatise but a loosely written letter. He may be said to be partly responsible for attempts, over the next three centuries, to transpose hundreds of lines of the *Ars Poetica* in a vain attempt to restore order to the poem because, in arguing against Colonius' assertion that the poem had a plan, Riccoboni showed how the poem would have to be rearranged to correspond to the plan of Aristotle's *Poetics*. In contrast to D. Heinsius (*Q. Horatii Flacci Opera cum Animadversionibus et Notis Danielis Heinsi* [Leiden 1612] 295-307), a student of Riccoboni's adversary Joseph Scaliger, Riccoboni did not believe that his wholesale transpositions were to be taken seriously; they were merely illustrative of the informality with which Horace re-worked the Aristotelian technical tradition. Incidentally, Heinsius rewrote through transposition, not only the *Ars Poetica*, but also—a fact rarely mentioned—the *Letter*

Brink does not go on to define the genre of the *Ars Poetica* in any detail, simply asserting baldly that "of course, the *Ars* is a letter."<sup>4</sup> Be that as it may, it should by now be clear that determination of the genre of the *Ars* cannot proceed from any assumption about its title and alleged inclusion in *Epistles* II.

Once we see that the *Ars* is most likely an independent work in the corpus, three possible ways of classifying it as something other than a handbook come to mind, of which the second two have rarely, if ever, been raised in this century: a verse letter, a didactic poem, or some *tertium quid*. The first two possibilities generally stand for distinct categories of writing: a letter is usually informal in spirit and supplies or requests information of some sort from or to a friend. As Ps.-Acro and Porphyrio sensibly remark on *Sat.* I.1.1, a letter presumes an absent recipient: "epistulis enim ad absentes loquimur, sermone cum praesentibus" (Ps.-Acro); "in sermonum autem libris vult intellegi, quasi apud praesentem se loqui, epistolas vero quasi ad absentes missas" (Porphyrio). In a didactic work like Lucretius' *De Rerum Natura* or Virgil's *Georgics*, formal instruction in moral, technical, and like matters is offered to an interlocutor who is imagined to be present listening to the speaker and with whom the speaker has some social bond.<sup>5</sup>

Now, this clearcut distinction between the formal instructive genre of didactic literature and the informal reportorial genre of the letter can and does break down, for it is, of course, possible for a letter to be didactic, and, indeed, in the Augustan age such letters, in prose form, are known to have existed. Interestingly enough, the ones we happen to hear about all resemble the *Ars*

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to *Florus* (pp. 289-294). His methodological model was undoubtedly Joseph Scaliger's edition of Propertius and Tibullus in *Catulli, Tibulli, Propertii Nova Editio* (Paris 1577), on which see A. Grafton, *Joseph Scaliger. A Study in the History of Classical Scholarship*, vol. 1 (Oxford 1983) 177-179. The first scholar seriously to propose large transpositions of the *Ars Poetica* was Francisco Sanchez, explicitly stating that Scaliger's Propertius was his inspiration; cf. *Francisci Sanctii Brocensis...In Artem Poeticam Horatii Annotationes* (Salamanca 1591) fol. 6<sup>r</sup> (transposing 136-152 to follow 38-45, with reference to Scaliger's Propertius) and fol. 9<sup>r</sup> (putting 251-274 after 73-85).

<sup>4</sup>Brink, III, 556. The poem has recently been categorized as epistolary—without detailed argument—by W. Hering, *Die Dialektik von Form und Inhalt bei Horaz* (Berlin 1979) 78-85; and by R. S. Kilpatrick, *The Poetry of Criticism. Horace Epistles II and Ars Poetica* (Edmonton, Alberta 1990) 34-35. Brink (II, 518) and Kilpatrick (p. 54) also (rightly, in my opinion) connect the work to *sermo*.

<sup>5</sup>E.g., Perses is Hesiod's brother; Maecenas is Virgil's benefactor. Lucretius' exact relationship with Memmius is not known, but he appears to have been on "intimate terms" with Memmius, as Bailey puts it (vol. I, p. 6).

*Poetica* in concerning grammatical and literary topics.<sup>6</sup> Adding to the difficulty of distinguishing the two genres from each other is the fact that, since Hesiod, it had been conventional for a didactic poem, like a letter, to have an addressee (cf. Hesiod's *Perses*, Lucretius' *Memmius*, etc.).<sup>7</sup> Moreover, the conventions (if any) of the verse letter could only have been loose indeed when Horace wrote the *Ars Poetica*, since the genre, as far as we can tell, was still in its infancy.<sup>8</sup>

It is strange that the case for categorizing the *Ars* as a didactic poem has not, to my knowledge, been made in a serious way during this century: Lucretius' *De Rerum Natura* and Virgil's *Georgics* certainly show how popular and prestigious was the genre in the mid- to late first century.<sup>9</sup> The question of genre

<sup>6</sup>Such letters are known from the testimonia of lost works by M. Valerius Messalla Corvinus, M. Verrius Flaccus, Sinius Capito, Livy, C. Valgius Rufus, and Asinius Pollio: see Schanz-Hosius, *Geschichte der römischen Literatur*, Hda VIII.2 (Munich 1935) 408-409. On the *genos didaktikon*, see K. Berger, "Hellenistische Gattungen in Neuen Testament," *ANRW* II.25.2 (Berlin 1984) 1031-1432, at pp. 1295-1325.

<sup>7</sup>For a useful survey of the conventions and examples of wisdom literature from around the world see M. L. West, *Hesiod. Works and Days* (Oxford 1978) 3-25 (with sensible comments about the addressee on pp. 23-25). On the addressee in the Roman didactic poem, see E. Pöhlmann, "Charakteristika des römischen Lehrgedichts," *ANRW* I.3 (Berlin 1973) 850, 900.

<sup>8</sup>The earliest verse letters on record are those of Sp. Mummius in 146 B.C.; see Cicero *Ad Att.* 13.4 and cf. P. Cugusi, *Evoluzione e forme dell'epistolografia latina nella tarda repubblica e nei primi due secoli dell'impero con cenni sull'epistolografia preciceroniana* (Rome 1983) 129-130.

<sup>9</sup>The *Ars Poetica* has occasionally been classified as a didactic poem in previous centuries; cf., e.g., *Petri Nannii Alcmanni Commentarius in Q. Horatii Flacci de arte poetica librum*, bound with Laevinus Torrentius, *In Q. Horatii Flacci Satyras et Epistolas Commentarius* (Antwerp 1608) 783: "hoc porro poema Horatii nostri versatur in genere didactico. Docet quippe Poeta, qua ratione tractanda sint poemata"; R. Hurde, *Q. Horatii Flacci Epistolae ad Pisones et Augustum*, 2 vols. (Cambridge 1757) vol. 1, xiii; F. Dorighello, *Q. Horatius Flaccus Illustratus* (Padua 1774) 3-7; W. Scherer, *Poetik*, ed. G. Reiss (Tübingen 1977; originally published in 1888) 41: "Horaz gehört in weiterem Sinn selbst zur Schule des Aristoteles; die aristotelischen Grundsätze von Nachahmung, Handlung, Führerrolle der Tragödie u.s.w. finden sich bei ihm wieder. Aber er hat doch eine besondere Strömung begründet: das Lehrgedicht über die Poesie hat er eingeführt. Den Brief an die Pisonen, *Epist.* 2,3..., nennt schon Quintilian *Ars poetica*: und damit that man eigentlich wohl Horaz Unrecht, denn er hat gewiß nicht die Absicht gehabt, hiermit eine vollständige Poetik zu liefern, obgleich man die Schrift oft so angesehen hat" (my emphasis). See also Orelli-Baiter-Mewes, *Q. Horatius Flaccus* (Berlin 1892) vol. 2, 566: "Quod ad ipsam poematis formam attinet, illi tantummodo interpretes verum viderunt, qui 'epistolam didactico-satiricam' esse contenderunt, non poema didascalicum universae poesis leges ac regul-

does matter: if we read the poem as a normal letter, then we expect and gladly tolerate a good deal of informality in tone, content, and structure;<sup>10</sup> and, taken as

as proponens, ut olim plerique rati sunt, non animadvertentes praecepta paene omnia referri ad genus dramaticum, ea vero genera, in quibus ipse excellebat, lyricum (quod leviter dumtaxat attingit vv. 83-85), satiras, epistulas, epigramma, poema didascalium, quamquam ipse Lucretium suspiciebat, prorsus praeteriri."

<sup>10</sup>This point was already made by De Noces in 1553 (App. I [3]), who wrote, "amat enim epistola familiaritatem quandam. At nimis accuratus ordo ad severitatem potius, quam ad familiaritatem propendet." For an amusing statement of the effect our generic expectations have upon our interpretation of the *Ars Poetica*, see R. K. Hack, "The Doctrine of Literary Forms," *HSCP* 27 (1916) 1-65, at p. 14. Cf. also l'Abbé Batteux, *Les quatre poetiques d'Aristote, d'Horace, de Vida, de Despréaux* (Paris 1771), vol. I, II<sup>e</sup> Partie, pp. 1-4: "le Poëte n'a pas toute fois eu dessein dans cet Ouvrage, de nous donner un traité complet de Poétique...C'est un Epître qu'il adresse à Lucius Pison, homme de goût, l'un des plus grands Seigneurs de Rome....D'après cette idée, on sent que l'ouvrage d'Horace ne devoit pas être une suite systématique de préceptes, rangé par ordre dans des articles séparés. Ce ne pouvoit être qu'une sorte de Recueil de maximes de goût, d'axiomes presque isolé, renfermans tout leur sens sous une forme sententieuse, et applicables chacun à leur object, indépendamment de ce qui pouvoit les précéder ou les suivre....On ne pouvoit guères en demander davantage, sur-tout à un Poete, qui aux privilèges de la Poesie, déjà très-étendus, avoit joint ceux du Genre épistolaire, dont le premier est la liberté. Il est donc inutile de nous fatiguer, avec Daniel Heinsius, pour remettre dans l'Art Poétique d'Horace, un ordre qui, selon toute apparence, n'y fut jamais." See also Orelli-Baiter-Mewes, op. cit. (*supra* n. 9) vol. 2, 567: "Sententiarum ordo atque mutuus nexus a multis reprehensus, a pluribus etiam parum perspectus, mihi quidem semper admirabilis visus est et talis profecto, qualis debet esse in epistula, vera sermonis familiaris imagine, id est occultior et laxior quam qui requiritur in poemate mere didascalico"; H. Schütz, *Q. Horatius Flaccus, Episteln* (Berlin 1883) 238: "Die Stellung nach den Episteln...ist die naturgemäße....Nur wenn man einen anderen Maßstab anlegt, nämlich den eines wirklichen Lehrbuches der Dichtkunst...verdient das Werk den Tadel, den man über die Lückenhaftigkeit, mangelhafte Anordnung, einseitige Hervorhebung einzelner Teile u.a.m. ausgesprochen hat."

In ancient theory, the looser structure of the letter was noted; cf. Demetrius 229. In recent research on epistolography, the structural conventions of the genre have been emphasized; see the literature cited by K. Berger, op. cit. (*supra* n. 6) 1326-1327; and cf. J. L. White, "New Testament Epistolary Literature in the Framework of Ancient Epistolography," *ANRW* II.25.2 (Berlin 1984) 1730-1756, especially pp. 1733-38. Pietro-Antonio Petrini, *La poetica di Orazio restituita all'ordine suo* (Rome 1777) 9, noted that the argument from genre was a red herring since "costoro per difendere il componimento, fanno manifesta ingiuria all'Autore, il quale era uomo troppo illuminato per non comprendere, che un tal qual metodo è necessario anche in una Lettera, quando è dottrinale, ed istruttiva, e che i documenti perdono assai di vigore, e di efficacia, se sono confusamente proposti."

a letter, then a necessary but not sufficient condition for including it in the second book of *Epistles* is satisfied. After all—despite what we know about the title and place of the text in the Horatian corpus in antiquity—the ancient scribes may have erred in separating the *Ars Poetica* from the *Epistles*. Horace could clearly write verse letters of the normal type but also of the didactic variety (for the first, cf. *Epist.* I.11; for a moralizing letter, cf. *Epist.* I.12 or I.14).

There are perhaps one or two indications that Horace was thinking of the *Ars Poetica* more as a didactic poem than as a conventional epistolary poem, or at least that he did not consider the poem a letter, whatever else he did consider it. In all but one of Horace's poems that are indisputably epistles, the addressee is named, or referred to by some form of *tu* or a verb in the second person singular, in the first sentence and usually in the very first line.<sup>11</sup> The *Ars Poetica* does not begin in this typically epistolary way. In it, the first sentence proceeds through clauses in the third person singular about a hypothetical painter and grotesque figure (lines 1-4) before ending with a clause in the second person plural, the subject of which appears, on a first reading, to be generic, not specific (*amici*, the last word of line 5). The addressees of the poem, the Pisones, are first mentioned in line 6. In having multiple addressees, the *Ars Poetica* also departs from the indisputable epistles. Moreover, nothing about the way they are spoken to in this part of the poem indicates that the Pisones are absent, as the addressee of a letter normally would be. Indeed, in lines 9-10, as if they are present, Horace gives us the response of his addressees to what he has just said—something he frequently does in the *Satires* (especially in Book II) but rarely, if ever, in the first or second book of *Epistles*.<sup>12</sup>

The subject of the first lines—painting, or proper artistic representation in general—is, of course, not a standard *introductory* topic of a letter. Virtually all of the indisputable letters treat topics—at least in the opening section—appropriate to that genre and are strongly motivated *as letters*. They convey information and/or greetings (*Epist.* I.1, 2, 8, 10, 16), request information or

<sup>11</sup>Cf. *Epist.* I.1 (*quaeris / Maecenas*, 2-3); 2 (*Maxime Lolli*, 1); 3 (*Iuli Flori*, 1); 4 (*Albi*, 1); 5 (*potes...Torquate*, 1-3); 6 (*Numici*, 1); 8 (*Celso...Albinovano*, 1); 9 (*Claudi*, 1); 10 (*Fuscum*, 1); 11 (*Bullati*, 1); 12 (*Jeci*, 1); 13 (*te...Vini*, 1-2); 14 (*Vilice*, 1); 15 (*Vala*, 1); 16 (*Quinti*, 1); 17 (*Scaeva*, 1); 18 (*Lolli*, 1); 19 (*Maecenas*, 1); 20 (*liber*, 1); *Epist.* II.1 (*sustineas...Caesar*, 1-4); 2 (*Flore*, 1). The exception is *Epist.* I.7, where Maecenas is not addressed until the second sentence, beginning at the end of the second line of the poem; he is actually named in line 5.

<sup>12</sup>For examples, cf. *Sat.* I.9.1-8; II.1.1-12; II.3.1-18; II.4.1-3; II.5.1-8; II.7.1-5; II.8.1-5. In the *Epistles*, Horace often quotes the typical or imaginary saying or statement of a stock (usually unnamed) character (cf., e.g., *Epist.* I.1.82 ["nullus in orbe sinus Bais praelucet amoenis"]), but Horace is not imagining himself actually conversing with such persons in the same way he, say, exchanges words with Davus in *Sat.* II.7.1-5.

news (*Epist.* I.3, 4, 11, 15), issue an invitation (*Epist.* I.5), moralize (*Epist.* I.6, 12, 14, 17, 18), seek forgiveness (*Epist.* I.7), or commend one friend to another (*Epist.* I.9). The five literary letters (*Epist.* I.13, 19, 20; II.1, 2) have different points of departure. *Epist.* I.20 is written like a conventional letter of farewell; the wit of the poem lies in the fact that the departing "person" is Horace's book of letters. *Epist.* II.1 begins with Horace telling Augustus that he writes so as not to waste Augustus' precious time with idle conversation. *Epist.* I.19 and II.2 begin in a more round-about manner. *Epist.* II.2 tells a moralizing tale in lines 1-24, the point of which becomes clear in verses 24-25: Horace has not answered some letters Florus has sent him from abroad and, in particular, has not responded to Florus' request for new lyric poems. Although it is slow to get to the point, the poem thus concerns a typical epistolary topic.

*Epist.* I.19, addressed to Maecenas, is less ostensibly epistolary; Horace seems, rather, to use the letter format as a mere excuse for publishing a defense of his poetry. Before considering the piece an exception to the epistolary nature of this group of poems, we might note that the addressee has not been chosen accidentally, however small a role he plays in the text itself, for Horace offers his poetic apology to none other than his most illustrious friend.<sup>13</sup> Thus, even this poem has an epistolary occasion—sending someone a letter "accidentally on purpose" in order to be sure that he is apprised of a matter of mutual concern. In this case, Horace wants Maecenas to know that he does have something to say for himself and his poetry in the face of recent critical attacks—attacks that might conceivably make his friend think twice about continuing his support. *Epistles* I.13 is another matter; we will return to it in a moment.

The *Ars Poetica* also stands out from Horace's poetic letters because of its ending—or, better, lack of ending. As Berger has noted, the topics appropriate to the closing section of a letter are: summation; general *sententia*; threats; self-commentary; "epistolaria" (e.g., "I leave here in a week"); demand to pay heed.<sup>14</sup> In Horace's undisputed letters we can readily find such standard endings, as the table on the next page shows.

In contrast to Horace's verse letters, the *Ars Poetica* has no conventional conclusion. As Brink observes (*ad* 453-476), "like many poems of Horace the *Ars* is open-ended. No attempt is made to bring to a close the conceptual schema of his literary theory." Instead, the poem ends as the speaker of the *Ars Poetica* compares the mad poet to a bear or leech (472-476), who must be avoided lest he "read you to death." While it is true that many Horatian poems are open-ended, this is not true, as we have seen, of his epistles. Open-endedness is, however, a

<sup>13</sup>On the friendship of Maecenas and Horace see E. Lefèvre, "Horaz und Maecenas," *ANRW* II.31.3 (Berlin 1981) 1987-2029; M. S. Santirocco, *Unity and Design in Horace's Odes* (Chapel Hill and London 1986) 153-168.

<sup>14</sup>Op. cit. (*supra* n. 6) 1348-1350. I omit the "Ketzerschluß."

typical feature of the *Satires*, which frequently conclude abruptly with the end of a story (*Sat.* I.5, I.7, I.8, I.9, II.5, II.6, II.8) or a conversation (II.1, II.3, II.4, II.7). More rarely, they finish with a moment of self-reflection (I.1, I.3, I.4, I.6) or with a general *sententia* (I.2) and thus have a more substantial sense of an ending. Indeed, as Griffin has noted, "given the special decorum of satire—an aroused or merely a chatty speaker, a virtually unlimited subject matter—endings present a problem which satirists have historically had difficulty solving."<sup>15</sup> In having a "non-ending," the *Ars Poetica* resembles more a *sermo* than an epistle.

If it is a letter, then the *Ars Poetica* stands out from the indisputably "normal" epistles in not having a typically epistolary motivation, topic, situa-

Epist.	Lines	Su	S	T	C	E	H	Key Words
I.1	106-08	x						Ad summam
I.2	67-71						x	adbibe...verba
I.3	30-36					x		vestrum reditum
I.4	12-16		x					omnem crede diem
I.5	30-31					x		tu...rescribe
I.6	67-68		x					si quid novistis
I.7	96-98		x					metiri se quemque
I.8	15-17			x				ut tu fortunam....
I.9	11-13	x						scribe tui gregis hunc
I.10	49-50					x		dictabam post fanum
I.11	28-30		x					quod petis hic est
I.12	25-29					x		ne tamen ignores....
I.13	19						x	cave ne titubes....
I.14	44		x					...exerceat artem
I.15	42-46				x			nimirum hic ego sum
I.16	79		x					mors ultima linea
I.17	43-62		x					coram rege sua....
I.18	104-112				x			me quotiens....
I.19	48-49		x					ludus enim genuit...
I.20	19-28				x			me libertino natum....
II.1	250-270				x			nec sermones ego....
II.2	205-216	x						non es avarus? abi....

Su=Summary; S=Sententia; T=Threats;  
C=Commentary; E=Epistolaria; H= Heed

TABLE XVIII. CONCLUDING TOPICS IN HORACE'S EPISTLES

<sup>15</sup>D. Griffin, "Satiric Closure," *Genre* 18 (1985) 173-189, at p. 173.

tion, or ending. To see the poem as epistolary, one would have to imagine that the elder son of Piso is thinking of writing a poem and has asked Horace for advice—a situation that has, in fact, been proposed since the Middle Ages.<sup>16</sup> However, in contrast to all the other poems that are definitely letters, this situation becomes clear, not in the very first few lines, but only toward the end of the poem, in verses 385-390. Moreover, the point is made (if it is made at all) only by implication, not explicitly.<sup>17</sup> Thus, as correspondents, the Pisones are

<sup>16</sup>Many commentators since the early Middle Ages have imagined just this—or some such similar—background to the poem. The most recent (and, perhaps, original) example is T. P. Wiseman, "Satyrs in Rome? The Background to Horace's *Ars Poetica*," *JRS* 78 (1988) 1-13, at p. 1: "Horace's poem quite clearly presupposes a Calpurnius Piso, the older son of a morally exemplary Roman aristocrat, proposing to write a satyr-play...." For examples in medieval scholia, see C. Villa, "Ut Poesis Pictura": Appunti iconografici sui codici dell'*Ars Poetica*," *Aevum* 62 (1988) 187-189. For example, the anonymous author of the Scholia Vindobonensia wrote: "Facit autem hunc librum amicis suis, patri ac filiis quorum maior erat scriptor comoediarum; ideo istis facit, quia volebant scribere, ut Romano populo placerent et eorum fama tali modo crescerent et quoniam multi scriptores reprehendebantur non habentes certam regulam dictandi, rogaverunt Pisones Horatium, ut certas poeticae artis daret praeceptiones...." (*apud* Villa, p.187). Cf. also Kiessling-Heinze, *Q. Horatius Flaccus, Briefe* (Berlin 1959<sup>6</sup>) 283: "irgend ein Anlaß des Schreibens wird nicht einmal entfernt angedeutet, und der Leser muß sich bei der Möglichkeit beruhigen, daß die Pisonen...dem Dichter den Wunsch geäußert haben mögen, über Fragen der Dichtkunst...unterrichtet zu werden."

The poet Christoph Martin Wieland, in his 1782 translation of the poem, proposed an interesting variation on the epistle-theory: Horace's motivation was to do a favor to Piso père by implicitly warning off his elder son from becoming a poet by showing, in the *Ars*, how few really great poets there are and how many ridiculous poetasters. Cf. *Horaz, Über die Dichtkunst*, in *Christoph Martin Wieland Werke*, 5. Band, ed. H. W. Seiffert (Munich 1968) 586-604, especially p. 591: "Dies vorausgesetzt, stelle ich mir di Veranlassung zu dieser Epistel so vor. Der junge Piso zeigte im Lauf seiner Schulstudien eine besondre Liebe zur Poesie, und einen so starken Hang zum Verse machen, daß der Vater endlich unruhig darüber wurde...." Note that Seiffert, in his excellent *Nachwort* to the edition, errs in claiming (p. 885) that Wieland was the first to explain Horace's lack of "Methode" because the poem is supposedly not a technical treatise on poetics but an informal letter; exactly this explanation was set forth in 1591 by Antonio Riccoboni in the works mentioned above in n. 3.

<sup>17</sup>Here are the lines: "Tu nihil invita dices faciesve Minerva: | id tibi iudicium est, ea mens, si quid tamen olim | scripseris, in Maeci descendat iudicis aures | et patris et nostras, nonumque prematur in annum, | membranais intus positis; delere licebit | quod non edideris, nescit vox missa reverti." The *tu* addressed is the *maior iuvenum*, previously addressed in verse 366; the conditional clause in 385-86 ("si quid tamen olim | scripseris") shows that the posited epistolary situation is, at best, implied.

rather puzzling. On the other hand, their role becomes more comprehensible as the addressees of a didactic poem. Although it must be granted that no other known didactic poem has multiple addressees, in such a poem the addressee is imagined to be present listening to the speaker and need only have a tangential relationship to the topic under discussion. This is, for example, the case with Lucretius' Memmius, whose relevance to the *De rerum natura* is quite problematic.<sup>18</sup> As for Hesiod's *Erga*, West has well observed that "it is apparent that Perses is a changeable figure that Hesiod stations in his poem as he chooses."<sup>19</sup> The same might be said of the Pisones: unlike the addressees of the poems that are clearly letters, the Pisones change identity to suit Horace's didactic intent: they seem to be critics of poetry in vv.6 and 292; poets in v.24; one a critic (the father) and one a poet (366-369, 385-388); and it is even possible to see their number change from plural (16, 235, 291) to singular (102, 119, etc.). If we may say that, generally, the addressee of an epistle determines the writing and contents of a letter and that the needs of instruction dictate the mutable nature of the addressee in a didactic work, then for this reason, too, the *Ars Poetica* more closely resembles a didactic than an epistolary poem.

Nevertheless, at least two technical points, one minor and one major, militate against taking the *Ars* as a didactic work: first, Horace twice uses the word *iste*, which had been avoided by Lucretius and Virgil in their didactic poetry.<sup>20</sup> This is, to be sure, a minor point, but given what we know about the tendencies of Golden Latin poets to associate vocabulary with genre, it may, nevertheless, be telling.<sup>21</sup> Perhaps what Brink rightly calls the word's "derisive nuance"<sup>22</sup> explains the apparent exception: if this is in some sense a mock didactic poem, then *iste* helps make the speaker look unsympathetically supercilious. This is consistent with the speaker's lack of any positive social bond with his addressees. The second point is more telling: a didactic poem generally begins with an invocation to a god, which the *Ars*, of course, does not. Hence, even the apparently anomalous case of the invocation of Tiberius at the beginning of the *Astronomica* is not, in fact, exceptional at all since Manilius calls Tiberius a god (*deus ipse mereris*, l.9).

So, if the simple alternatives of letter or didactic poem are not wholly convincing, then some *tertium quid* solution to the problem of genre is worth consideration. At this point we encounter some complications that may make us

<sup>18</sup>See C. Bailey on Lucretius l.26 (*Memmiadae*).

<sup>19</sup>West, op. cit. (*supra* n. 7) 40; E. Pöhlmann, op. cit. (*supra* n. 7) 900, with useful comments on the addressee in Greek and Roman didactic poems.

<sup>20</sup>*Ars Poetica* 6, 376, and see P. Watson, "Axelson Revisited: The Selection of Vocabulary in Latin Poetry," *CQ* 35 (1985) 430-448, at p. 438.

<sup>21</sup>See Watson, loc. cit.

<sup>22</sup>Brink, II, ad 376.

want to throw our hands up in despair. Some poems in *Epistles* I are either only weakly motivated as letters<sup>23</sup> or else do not seem to be letters at all but conversations. This is particularly true of *Epist.* I.13, the poem in which Horace gives Vinnius instructions on how to deliver his poetry to Augustus.<sup>24</sup> Support for blurring the hard and fast distinction we have up to now been observing between the epistolary and didactic genres comes from Horace himself, who in *Epist.* II.1.250 (and, implicitly, in *Epist.* II.1.4) refers to both his *Sermones* and *Epistulae* as *sermones*.<sup>25</sup> Now, the *Sermones* contain two clearcut paraenetic poems: *Sat.* II.2, Ofellus' discourse on the virtues of simple living; and II.4, the lessons of Catus the cook on correct preparations for a dinner party. So there is nothing generically inconsistent about a didactic *sermo*. Nor is it surprising that the second poem is mock didactic, since *Sat.* II contains several other extended parodies: II.3, the philosophical parody of Damasippus and the Stoic philosopher Stertinius; II.5, the epic parody of Odysseus' *katabasis* in *Odyssey* XI;<sup>26</sup> and II.7, the philosophical parody of the Stoic philosopher Crispinus. In the didactic satires, Horace sets the scene with an exposition which, however brief (that of II.2 is only a parenthetical aside in lines 2-3) does make it plain that the precepts being offered are not Horace's own. Given Horace's own hints that the *Sermones* descend from the traditions of literary moralizing to be found in Old and New Comedy and Platonic philosophy,<sup>27</sup> it is not surprising that the collection should contain didactic poems like these. On the other hand, the *Satires* also contain poems that are not conversations but monologues addressed to no one in

<sup>23</sup>*Epist.* I.1 and I.2, on which see M. J. McGann, *Studies in Horace's First Book of Epistles*, *Collection Latomus* 100 (1969) 39.

<sup>24</sup>A whole list of such examples is given by N. M. Horsfall, "Horace, *Sermones* 3; Epilegomena," *LCM* 4.8 (1979) 169-171. Of the poems cited there, the best is *Epist.* I.13.

<sup>25</sup>See N. Rudd, "The Names in Horace's Satires," *CQ* 10 (1960) 161-178, at pp. 175-176. Rudd is correct, I think, to see at *Epist.* I.4.1 a reference to the *Satires*, not *Epistles* (pace N. M. Horsfall, "Horace, *Sermones* 3?" *LCM* 4.6 [1979] 118). The similarity of the *Sermones* and *Epistulae* has been noted since antiquity and has frequently figured in discussions of genre in the last hundred years; cf. Porphyrio on *Epist.* I.1.1; G. L. Hendrickson, "Are the Letters of Horace Satire?" *AJP* 18 (1897) 313-324; C. A. Van Rooy, *Studies in Classical Satire and Related Literary Theory* (London 1965) 182n100; N. M. Horsfall, *ibid.*, 117-119; H. D. Jocelyn, "Horace, *Epistles* I," *LCM* 4.7 (1979) 146; J. Moles, "Cynicism in Horace *Epistles* I," *PLLS* 5 (1985) 33-60, at p. 33. Kiessling-Heinze, *Q. Horatius Flaccus, Briefe* (Berlin 1959<sup>6</sup>) 283, see the *Ars Poetica* as a *sermo* with an epistolary form. On the relationship between *sermo* and diatribe, see K. Berger, *op. cit.* (*supra* n. 6) 1124-1132.

<sup>26</sup>*Sat.* I.7 also has striking elements of mock epic.

<sup>27</sup>Cf. *Sat.* I.4.1-8; I.10.14-19; II.3.9-14.

particular: cf. *Satires* I.2, I.3,<sup>28</sup> I.4, I.7, I.8, and II.6. True, all of these poems contain lively snatches of conversations, but they are conversations reported or imagined by the speaker, not acted out in the fictional present between the speaker and an interlocutor.<sup>29</sup> In one of these poems, the speaker is not Horace (*Sat.* I.8, whose speaker is Priapus). In others, the speaker is anonymous and could be almost anyone since Horace takes no pains to characterize him (*Sat.* I.2, I.7).<sup>30</sup> In similar fashion, Horace is absent from the mock epic dialogue between Ulysses and Tiresias in *Sat.* II.5, and there is no exposition whatsoever preparing us for the sudden switch from Horace's day and age to the world of epic.

These complications lead us to the following observations that are helpful in considering the genre of the *Ars Poetica* as some *tertium quid* between the epistolary and didactic genres. In accordance with his understanding of the genre of *sermo*, Horace could: [1] write a "letter" that is a conversation (*Epist.* I.13); [2] present a "conversation" that is a monologue or even soliloquy and which hence could easily be a letter if it had a salutation (*Sat.* I.2, I.3, I.4, I.8, II.6); [3] therefore subsume both the *Epistulae* and *Sermones* under the common generic rubric of *sermo* (*Epist.* II.1.4, 250); [4] present didactic monologues in this genre (*Sat.* II.3, II.4); [5] populate poems with *dramatis personae* other than himself (*Sat.* I.8, II.5)—even without an exposition (*Sat.* II.5)—or make his speaker nondescript (*Sat.* I.2, I.7, II.8); and [6] base poems on the parody of other genres (*Sat.* I.7, II.3, II.4, II.5, II.7). Clearly, then, if we seek a genre that is a *tertium quid* between didactic and epistolary poetry, we could do no better than choose Horace's version of *sermo*, a genre so obviously based on a very Hellenistic attempt at *Kreuzung der Gattungen*.

It would be sufficient to classify the *Ars Poetica* as a Horatian *sermo* on the basis of features [1]-[4], and such a classification is likely to be uncontroversial and greeted, I would hope, as a definite improvement over viewing the poem as a letter when it displays so few epistolary features. Even those who insist on classifying the poem as a letter can console themselves with point [3], just as those who would read the poem as didactic (or mock didactic) can take comfort in point [4]. That the *Ars* displays features [5]-[6] as well has emerged from our examination of the speaker's authority. Needless to say, much more can be—and needs to be—said before a reading of the poem along these lines may be called exhaustive. Lest the suggestion that the *Ars Poetica* be classified as exem-

<sup>28</sup>At *Sat.* I.3.63-64 Maecenas is addressed; but the poem as a whole is not presented as a conversation with Maecenas. It might more accurately be called a monologue directed at him in a way that recalls *Epist.* I.19.

<sup>29</sup>Such "reported" or "imaginary" conversations are also frequent in the *Epistles*; cf., e.g., *Epistles* I.15.11-12, 39-41.

<sup>30</sup>*Sat.* I.3 belongs in this class but for the slight brush stroke in lines 63-5, where Horace personalizes the speaker's voice as his own by addressing Maecenas.

plifying the mixed genre of *sermo*—an *Aufhebung* of the simple forms of technical handbook, didactic poem, and letter—seem strange or unlikely, it may be well to point out that such portmanteau arrangements of genres-within-genres have been encountered in other periods and literatures, as the genre-theorists Dubrow and Fowler have noted.<sup>31</sup> Indeed, in a famous poetological statement in *Epistles* I.19, Horace claims that his achievement was due to his originality in mixing generic characteristics—for example, combining the meter of Archilochus with a content and tone different from cruel, Archilochean invective.<sup>32</sup>

Here we may simply conclude by noting that, in answer to the questions asked at the beginning of this chapter, Horatian precedents can be cited for some of the key features we have so far identified in the *Ars Poetica*—in particular, the Horatian version of *sermo* can easily accommodate a mock-didactic parody of a pedantic speaker not to be confused with Horace himself or his usual poetic persona. Moreover, finding features [5] and [6] in the *Ars Poetica*—otherwise attested in the *Satires* but not in the *Epistles*—accords well with dating the *Ars Poetica* to the period just after *Sat. II*, as was suggested in *Chapter 2*.

For now, having adumbrated several key features of how a new reading can result from this “paradigm shift” in the way we view the genre of the *Ars Poetica*, we can stop and summarize our efforts in this book as having mainly concerned the background and external features of the poem.<sup>33</sup> Its title was

<sup>31</sup>H. Dubrow, *Genre* (London and New York 1982) 28-30 (cf. p. 29: “often the Chinese-box arrangement of genre within genre that we observed in *The Jew of Malta* is a reflection of a pattern writ large in the literary system of the period: frequently when two forms assume the relationship of genre and counter-genre they enact their dialogue within poems of either genre as well as in the larger literary culture”); A. Fowler, op. cit. (*supra* n. 2) 179-188. At pp. 188-190, Fowler discusses how “many satiric works can be looked on as hybrid.” See also the brilliant treatment of generic “inclusionism” in R. L. Colie, *The Resources of Kind. Genre-Theory in the Renaissance*, ed. by B. K. Lewalski (Berkeley and Los Angeles, 1973) 76-128.

<sup>32</sup>Lines 21-34, on which see E. Fraenkel, *Horace* (Oxford 1957) 341-348; W. S. Smith, Jr., “Horace Directs a Carouse,” *TAPA* 114 (1984) 255-271, at pp. 263-266. On the οὐμικτον in the poetry of Horace, see L. Ferrero, *La 'Poetica' e le poetiche di Orazio*, *Univ. Torino Pubbl. Fac. Lettere e Filosofia* 5, fasc. 1 (1953) 80-89; Nisbet and Hubbard, *Horace: Odes Book I* (Oxford 1970) xi-xxvi, discuss the mixed features of Horace's *Odes*; and see also J. E. G. Zetzel, “Re-creating the Canon: Augustan Poetry and the Alexandrian Past,” *Critical Inquiry* 10 (1983) 83-105.

<sup>33</sup>The concept of a *paradigm shift* I borrow from T. S. Kuhn, *The Structure of Scientific Revolutions* (Chicago 1962<sup>1</sup>, 1970<sup>2</sup>). For an introduction to Kuhn and the reception of his work, see B. Barnes, *T. S. Kuhn and Social Science* (London 1982). On p. xiv Barnes discusses the terminological controversies surrounding the term *paradigm*, which he defines simply as “an accepted problem-solution in science, a particular concrete scientific achievement.” Though devised by Kuhn with reference

probably something like *Ars Poetica*, not *Epistula ad Pisones*. It almost certainly has nothing to do with *Epistles* II but was an independent work in the corpus, written in the period 24-20 B.C. Generically, it resembles the parodic monologues of *Sat.* II and displays other characteristics of the genre of *sermo*. We have traced the imbroglions arising from these fundamental and intertwined problems back to their sources and have seen—at the very least—that our arguments do not have to keep moving in the same circles. By a variety of approaches we have certainly found new passages in. Whether they also lead out in the directions I have indicated is, of course, for others to determine.

The invocation of paradigm theory at this late point in our discussion is perhaps not unexpected in a work that began with a discussion of the importance of titles. A new paradigm for *Ars Poetica* interpretation such as that sketched here is, to be sure, very much in keeping with the aesthetics of postmodernism, a time aptly called by Malcolm Bradbury the "age of parody."<sup>34</sup> Yet this may just as easily be a case of the way in which anachrony can serve the ends of diachrony by sensitizing us to ancient precedents for seemingly modern developments, since, in the case at hand, "the parodic tone recently adopted in criticism"<sup>35</sup> can be traced back to ancient sceptics like Timon of Phlius. Moreover, the late Renaissance (or, better, Counter-Reformation) paradigm of "saving" the poem's authority as a poetic rulebook by inventing a generic excuse for its lack of method was itself no less anachronic.<sup>36</sup> Similarly the Romantics' indifference to the *Ars Poetica* was a consequence of their rebellion against a rule-based approach to artistic creativity.<sup>37</sup> The theologian, Hans Küng, has emphasized how paradigm shifts generally involve as much continuity as discontinuity.<sup>38</sup> Such is certainly true in the present case: the new parodic paradigm, far from invalidating earlier models of *Ars Poetica* interpretation, explains how they are possible. But that is another story.

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to the physical sciences, the concept of paradigm has in the meantime been found useful in other branches of scholarship, including the humanities and theology.

<sup>34</sup>"An Age of Parody," *Encounter* 55 (1980) 44.

<sup>35</sup>The title of a stimulating article on recent trends in criticism by G. L. Ulmer in *New Literary History* 13 (1982) 543-560.

<sup>36</sup>For the impact of the Counter Reformation on critical theory see C. Dejob, *De l'influence du Concile de Trente sur la littérature et les beaux-arts chez les peuples catholiques* (Paris 1884); G. Toffanin, *La fine dell'umanesimo* (Milan 1920).

<sup>37</sup>Cf., e.g., F. Schlegel, "Von der Wiedergeburt der neuern Poesie," *Über das Studium der Griechischen Poesie. 1795-97*, vol. 1 in E. Behler (ed.), *Kritische Friedrich-Schlegel-Ausgabe* (Paderborn, Munich, Vienna 1979) 350: "Das Talent kann die Theorie nicht verleihn, und nie hat die Griechische Theorie den Zweck und das Ideal des Künstlers bestimmt..." On Romantic literary theory and its cultural context, see M. H. Abrams, *The Mirror and the Lamp* (New York 1953).

<sup>38</sup>"Paradigm Change in Theology," in *Paradigm Change in Theology*, ed. H. Küng and D. Tracy (Edinburgh 1989) 29-31.

## APPENDIX I

### KEY DOCUMENTS FOR THE RENAISSANCE THEORY THAT THE *ARS POETICA* IS AN EPISTLE

Since the sixteenth-century texts referred to in *Chapter I* are by no means available in the collections of even very good university libraries, I reprint the key passages here.

[1] *Marini Becichemi Scodrensis Epistolicarum Quaestionum Centuria* (Brescia 1504) (unpaginated; printer not indicated). Caput duodecesimum (pp. 59-67):

...Opus est eum, qui diligenter scribere epistolas velit: simplicem et perspicuam materiam proponere. Et neque rescicare neque producere supra quam oportere. Et exornare optima elocutione, non dictionibus turgidis et asperis sed attico more loqui et modice. Perspicuitas ornet literas: et gratia dictionum florida....Et Demetri Phalerii sententia: In tenui humilique dicendi genere epistolam versari; cuius dicendi modus, et stilus gracilis esse debet....Solutior epistolae compositio esse debet: unde Fabius: Est igitur ante omnia oratio alia iuncta atque contexta. Soluta alia qualis in sermone et epistolis: nisi cum aliquid supra naturam suam tractant: ut de philosophia, de republica, similibus....Proverbia sint in ea crebra: Quibus accepta congruaque de qua agitur materia ita sapienter scribi opinantur: Quod in epistolis utcumque versus custodit Horatius: quod epistola sicut proverbium, quiddam commune ac vulgare sit. Qui sententias scribit et adhortationes non similis videtur narranti per epistolam: sed per consilium. Qui decore sententiarum epistolam cupit implere non iam (dicit Demetrius) loquentis similitudinem gerit: sed struentis aliquid. Et Dionysius sententias non pertinere ad epistolas clamat. Quare Seneca olim insectati sunt: ut supra tetigi. Nec hodie incensere desinunt eruditorum plurimi: quod disputationes pro epistolis scripserit....

[2] *Francisci Robortelli Utinensis Paraphrasis in Libellum Horatii, Qui Vulgo De Arte Poetica Inscriptur*, 19 pages, printed after *Francisci Robortelli Utinensis, in Librum Aristotelis De Arte Poetica, Explicationes* (Florence, in officina Laurentii Torrentini Ducalis Typographi, 1548)<sup>1</sup> 1:

Etsi libellus hic de Arte poetica inscribitur, videturque ipsa inscriptio prae se ferre, methodo quadam certa et ordinata, praeceptiones tradi scribendorum poematum. Puto tamen ego inscriptionem illam a Poeta non fuisse appositam, neque cum ad Pisones scriberet, in animo habuisse artem ullam aut methodum praeclaræ huius facultatis tradere. Nam si id efficere voluisset, ab initio omnia repetens, et naturæ ordinem sequens, praeceptiones omnes singillatim esset persecutus, quæ ad poema recte scribendum spectant: hac enim commodiore ratione potuisse artem poeticae facultatis describi ab Horatio satis patet. Nunc vero quis credat hominem doctissimum de arte tam confuse fuisse locutum. Sic igitur omnino sentiendum. Cum Romæ sua ætate videret Horatius esse multos, qui poetæ nomen sibi falso vindicabant, diesque totos in scribendo aliquo poemate ponebant, et ignorabant tamen quanto in versibus scribendis opus esset artificio, diutius illorum inscitiam, et insolentiam aequo animo cum ferre non posset, sermone hoc satis longo cum Pisonibus habito, eos reprehendere instituit, ac singillatim omnes illorum errores demonstrare: quibus patefactis, dat operam ut eos ad meliorem frugem reducat, præscribens rectam rationem scribendi poematis: in eo præsertim, in quo eos labi animadvertat. Quo fit, ut ego existimem, temere a multis libellum hunc in plurimas ac minutissimas praeceptiones fuisse dissectum, cum miro ordine totus liber sit contextus, perpetuamque prae se ferat et minime interpellatam de eadem re orationem, ut conabor ostendere, ac facile perspicient ii et probabunt, opinor, qui cognitam habent scribendi rationem, quam ubique secutus est Horatius in Epistulis.

[3] *In Epistulam Q. Horatii Flacci De Arte Poetica Jasonis de Nores Cyprii Ex Quotidianis Tryphonis Gabrielii Sermonibus Interpretatio*. (Venice, apud Aldi filios, 1553).<sup>2</sup> From the Preface to the reader; fol. 3<sup>v</sup>-4<sup>v</sup>:

Quare adductum me primum sciant ad inscriptionem operis immutandam non levioribus de causis, et quod formam epistolæ, non autem libri, in quo praecepta

<sup>1</sup>This has been republished in the series *Poetiken des Cinquecento*, vol. 8, ed. B. Fabian (Munich 1968). In 1555, the work was reprinted in Basle, "per Ioannem Hervagium Iuniorem."

<sup>2</sup>There was a second Venetian edition, "apud A. Arrivabenum," in 1553, according to Mills, 15 (nr. 157). A Paris edition was published in 1554, "ex Typographia M. Davidis."

tradantur, vel ex ipso principio prae se ferat, et quod in vetustis exemplaribus epistolarum libros subsequatur, et quod etiam summi, et praestantissimi homines ita sentiant, et quod minime nobis obstet Quintiliani testimonium, ut nonnullis videtur. Nam etsi librum appellat Quintilianus, non est cur non possit inter epistolas enumerari, cum et illae ab Horatio in libros digestae fuerint. Quod vero de arte poetica idem Quintilianus adiungat, nihil commoveor, cum et in epistolis praecepta de aliqua re tradi possint, ab eodemque in omnibus paene et in iis ad Scaevam et Lollium praecipue iam factum videatur, in quibus breviter eos instituit, qua ratione apud maiores facile versarentur....Quod autem attinet ad ea, quae ab iis, qui interpretantur, ante ipsam interpretationem afferi solent: ea propter eam causam omitemus, quia ordinem in arte poetica demonstranda non ita servatum ab Horatio videmus, ut ab aliis, qui de aliqua re documenta litteris tradiderunt. Est ille quidem peracutus et diligens in praecipienda ratione, ordinem tamen, cum epistolam scribat, non ita custodit, ac tuetur ut si librum scriberet. Amat enim epistola familiaritatem quandam. At nimis accuratus ordo ad severitatem potius, quam ad familiaritatem propendet. Itaque non est alienum ab epistolae decoro non imitari rationem illam, quam ceteri servant in explicanda doctrina. Quo circa ne nos quidem operam non necessariam adhibebimus in ordine declarando....

[4] *M. Antonii Mureti In Horatium Scholia* (Venice, apud P. Manutium, 1555), tom. 2, p. 967:

Poteram facile supersedere hoc labore annotandi quicquam in epistulam de arte poetica: tot enim eruditi homines in eam scripserunt scribuntque quotidie, ut ea brevi pauciores aliquanto versus, quam interpretes, habitura videatur.

[5] *Q. Horati Flacci Sermonum Libri Quattuor...a Dionysio Lambino Montstroliensi Ex Fide Novem Librorum Manu Scriptorum Emendati, Ab Eodemque Commentariis Copiosissimis Illustrati* (Lyons, apud Ioan. Tornaesium, 1561), 480. The second edition was published in Paris in 1568. Where the readings differ, the variant of the first edition is in parentheses. Angular brackets indicate my supplements.

De inscriptione autem huius libri, seu epistolae ad Pisones de arte poetica paucis tibi, lector, sententiam quorundam doctorum nostrae aetatis virorum, et meam aperiam. Illi igitur eam inter epistolas referendam, et ita inscribendam censent, *ad Pisones*: nihil praeterea: a quibus dissentire difficile est. Nam, quin ad Pisones scripta sit [est], quemadmodum aliae ad Maecenatem, aliae ad Iulium Florum: una, ad Augustum: aliae, ad alios, negari id quidem non potest. Neque est, quod

quemquam vel longitudo, vel argumentum moveat. De longitudine facilis responsio est. Epistola ad Augustum, epistola ad Iulium Florum lib. 2 longae sunt. Platonis, et M. Tull<ii> epistolae quaedam sunt longissimae, quae tamen non idcirco epistolarum nomen amittunt. De argumento, suo quaeque epistola constat argumento: neque debent esse inanes epistolae. Exempli causa, in prima epistola lib. I hortatur ad studium philosophiae, eius utilitatem demonstrat, vulgi opinionem sequi vetat....Possem eodem modo singulas epistolas percurrere, et quodnam sit cuiusque argumentum indicare, nisi vererem, ne alieno loco haec videar inculcare. Sic igitur Horatius in hac ad Pisones epistola, cum de omni poeseos genere disputat, tum maxime de comoedia, et tragoedia utilissima praecepta dat, non ut philosophus, sed ut poeta. Haec me ratio adduxit, ut putem cum multis doctis, primum hanc esse epistolam, deinde simpliciter ita esse inscribendam *epistola ad Pisones*. Quod si quis volet, haec addi, *de arte poetica*, non reclamabo, modo idem facere licere in omnibus epistolis, fateatur. Ego interea tamen receptam consuetudinem, vulgique opinionem in eo secutus sum, quod hunc titulum *de arte poetica* retinui: in altero, quod epistolam appellavi, doctorum sententiam approbavi [probavi].

[6] Iulius Caesar Scaliger, *Poetics Libri Septem* (Lyons, apud A. Vincent, 1561).

(a) From Preface, p. iii (unpaginated):

Nam et Horatium Artem quam inscripsit, adeo sine ulla docet arte, ut Satyrae propius totum opus illud esse videatur.

(b) p. 336:

Age vero quando non solum Satyra ipsa, verum etiam quodvis opus scripturaque simplex esse debet et unum: neque in Satyris, neque in Epistulis, at ne in Poetica quidem, in qua hoc ipsum praecipit, observavit.

[c] p. 338:

Haec est Horatii ars: quam si praeceptores nostri nobis olim ad hunc modum partiti essent, eius sane facies nota fuisset, ita ut aliunde auxilium petendum esse intelligeremus.

[7] Henricus Stephanus, *Diatribae De Suae Editionis Horatianae Accuratione, et Variis in Eum Observationibus* (Paris, apud H. Stephanum, 1575) 31-32:

DE ARTE POETICA liber ad Pisones, item Carmen, item Epistula dicitur. Atque illorum in numero qui Epistolam vocant, est Charisius. Sed hic certe eam absque adiectione sic appellat: atque adeo quidam verba illa De Arte Poetica non esse addenda contendunt: nihilo magis videlicet quam aliis epistulis titulus argumentum earum ostendens praefigitur. Sed enim uno eodemque loco ille grammaticus inscriptam etiam fuisse *De Arte poetica* hunc librum, vel potius *Artem poeticam*, declarat, cum de adverbio *Impariter* loquens, et versum hunc afferens *Versibus impariter iunctis*, etc. Terentius Scaurus in Commentariis in Artem poeticam, libro 10, Adverbium, inquit, figuravit [Charisius 263.9-12 Barwick]. Quae cum ita sint, varie olim quoque inscriptum fuisse hunc librum existimo. Ad me certe quod attinet, si nomen Epistolam, non libenter addiderim *De arte poetica*: sed tantum *ad Pisones* adiungere Epistolae appellationi malim. Alioqui *De arte poetica librum* vel *libellum*, aut *carmen*, aut *poematium* dixerim. Nisi forte quispiam ignotam illis fuisse hanc vocem *poematium* existimet. Verum haec adeo parvi esse momenti iudico (quamvis longis aliorum disceptationibus agitata) ut mihi propemodum de lana caprina contentio haec esse videatur.

[8] *In Q. Horatii Flacci Venusini Librum De Arte Poetica Aldi Manutii Paulli F. Aldi N. Commentarius* (Venice, Apud Aldum, 1576), on p. i of the (unpaginated) Prolegomena:

Antequam Horatii librum de Arte poetica (sic enim a veteribus inscribitur, Quintiliano lib. VIII. cap. 3 Prisciano, Diomede lib. III. cap. 1., Donato in Ter. Ad. act. 5. sc.3, Servio in Virg. Aen. lib. I et Probo: quamquam Charisius inter epistulas referat lib. II) aggrediamur explanare; definiendum videtur, quid Poetica sit, et unum ne, an plura Poematium genera.

[9] *Commentarii In Artem Poeticam Horatii, confecti ex Scholis Io. Sturmii. Nunc primum editi, opera et studio Ioannis Lobarti Boruſi.* (Argentorati, Excudebat Nicolaus VVyriot, 1576) 1-3:

...Quod autem quidam genus huius scripti, volunt esse ἐπιστολικόν: quidam διδασκαλικόν. Sciendum, si scripsit Horatius ad Pisones, fuisse epistolam, si vero recitavit praesentibus Pisonibus, non iam esse epistolam, sed διδασκαλικόν. Quicquid tandem sit hoc scriptum Horatii, sive epistola, sive διδασκαλία: est ars poetica, docens quomodo faciendus sit λόγος ποιητικός:

ostendens qua ratione possis esse poeta, qua | ratione possis vultum poeticum repraesentare.

Qui scriptum hoc referunt inter epistolas, utuntur hac una ratione, quia scilicet missum sit ad Pisones. Quemadmodum enim illa Horatii, quae inscripta sunt ad viros illustres et amicos: ad Maecenatem, ad Numicium, ad Augustum, ad Iulium Florum, et ad alios, epistolae dicuntur: ita et hoc epistolam dici volunt. Sed haec eorum ratio infirma est, Cicero libros de Oratore misit ad Q. fratrem, non tamen singuli libri sunt epistolae: et liber de Claris oratoribus, ad Brutum scriptus est, non tamen pro epistola habetur. Alia est ratio quae me movet, ut fere accedam ad illorum opinionem. Liber primus epistolarum Horatii, habet supra mille versus; liber secundus vix quingentos: si huic secundo addas hunc de arte poetica, qui est etiam quingentorum prope versuum, secundus erit par primo. Hac ratione puto hanc epistolam tertiam, esse partem secundi libri epistolarum. Ista sunt ingeniosa, sunt subacuta, studium habent novitatis. Est et tertia ratio, quamobrem possit haberi pro epistola. Illa ad Augustum libro 2. epistolarum est λογική, est sermonis, agit de poetis. Ad Iulium Florum epistola item magna ex parte est λογική, continet praecepta de poetis. Sic hoc opus totum est λογικόν, plenum praeceptis poeticis, de oratione scil. poetarum. Si ergo epistolae dicuntur, quae inscriptae sunt. Augusto, et Iulio | Floro libro 2. epistolarum: cur non est et hoc scriptum, epistola diceretur. Hae duae posteriores meae sunt opiniones ut putem esse epistolam. Sed mihi antiquam retinere placet inscriptionem: HORATII DE ARTE POETICA LIBER et hanc libenter retineo (I) honoris et dignitatis causa. Ostendit enim haec inscriptio, in hoc libro res maximas tradi. Non res parva est posse poetam facere. Inter omnes enim scriptores, perfectissimi et consummatissimi sunt poetae....(II) Propter utilitatem, quia unum verbum habet argumentum totius operis. (III) Propter veritatem. Totus enim hic liber est τεχνικός: tradit artem poeticam integram.

[10] *Henrici Stephani Schediasmatum Variorum*, Liber Primus (Paris, apud H. Stephanum, 1578) 78-79:

Nec verbum verbo curabis reddere, fides Interpres [*Ars Poetica* 133-134]. Quotusquisque est enim qui hunc versum Horatii statim in ore non habeat et auctoritate eius nitatur ut verbum verbo reddere, fidei interpretis non esse probet? At ego illis qui in ea sunt opinione non suffragari sed refragari hunc versum Horatii, et contrarium ei quod dicunt, illo probari, atque adeo quod illo probatur, verissimum esse, contendo: esse nimirum fidei interpretis, verbum verbo, quantum fieri potest, reddere. | Sed quoniam nunc satis est eam quam dico fuisse Horatii mentem ostendere, lectorem moneo subesse huic versui familiarem illi poetae ellipsin particulae Ceu vel Tanquam, aliusve huiusmodi: et intellegi debere, Nec verbum verbo reddere curabis, tanquam fides interpres. Id est, Perinde acsi fidum interpretem agere velles. Vel, fidei interpretis officio fungi. Tantum

enim abest ut Horatius ei quem compellat, et cui praecepta dat, neget fidi esse interpretis verbum verbo reddere, ut contra diligentiam hanc, seu diligentem operam, fido interpreti relinquendam esse dicat. Esse autem morem Horatii, relinquere subaudiendam illam vocabulam, multis exemplis docui in quaedam Diatriba ex iis quas operibus huius poetae in mea editione subiunxi. Atque hanc meam observationem ante multos annos Dionysio Lambino communicavi, cum Patavii degeremus....

## APPENDIX II

### CALCULATING THE ODDS OF FINDING MATCHED PAIRS OF TREND LINES IN THE LYRICS AND HEXAMETERS

Our fourth criterion for determining whether we have found a good chronometer for Horace's poetry is that the effect we are measuring is not the result of chance (see above, p. 27). In this Appendix, I will show that chance is probably not responsible for our discovery of four function words with similar trend lines in the hexameters and lyrics.

Since our sample consists of the sixteen function words satisfying the requirement of frequency, we have to do with a small sample, since  $n < 30$ . Four of the sixteen members of our sample display the categorical characteristic of similar trend lines in the lyrics and hexameters; twelve do not. We must thus determine whether finding a sample in which—at first glance—25% of the members may be classified as having the required characteristic is statistically significant or not. The test appropriate to making this determination is the binomial test.<sup>1</sup> The formula for this test is:

$$P(X) = \frac{n!}{X!(n-X)!} \pi^X (1-\pi)^{n-X}$$

where  $P$  means probability,  $X$  the number of observations in sample-size  $n$  classified in the required way, and  $\pi$  is the proportion of  $n$  that we expect to be classified as  $X$ . To solve this equation with  $n = 16$  and  $X \leq 16$ , we need to know  $\pi$ .

The value of  $\pi$  is dependent on a typology of line types: to know the percentage of matched lyric-hexameter patterns that are theoretically possible—

<sup>1</sup>See A. Agresti and B. Finlay, *Statistical Methods for the Social Sciences* (San Francisco and London, 1986<sup>2</sup>) 142-146.

and hence to calculate how many we ought to find given sixteen chances—we need to determine how many combinations of lyric and hexameter trend lines can occur. To perform these calculations, we need a model of line-types.

The very simplest model of line-types is one that standardizes the interval values of the points constituting a line. The simple model is good enough for our purposes because, by standardizing intervallic values, it gives us a sharp reduction of line-types, hence simplifying the task of classification but also making it more difficult to achieve statistical significance. The simple model is thus quite practical for the case at hand. It gives us, as we will see in a moment, 9 three-point and 81 five-point line types ( $3^5$ ), whereas a model only modestly more complex—one in which we distinguish two interval increments and decrements on the Y axis—yields an unworkable 125 three-point and 3,125 ( $5^5$ ) five-point line types with 390,625 combinations of 3- and 5-point line types.

In the simple model, each point on a line may be followed by one of three new points: a point of greater value (+); a point of the same, or roughly the same, value (0); and a point of lesser value (-). Thus, from any existing point or line of  $x$  points, we may generate three new lines of  $x + 1$  points. The simplest line has two points with three types (positive slope, no slope, and negative slope: Types I-III, not shown). From the two-point lines, we may generate nine three-point lines, as follows:

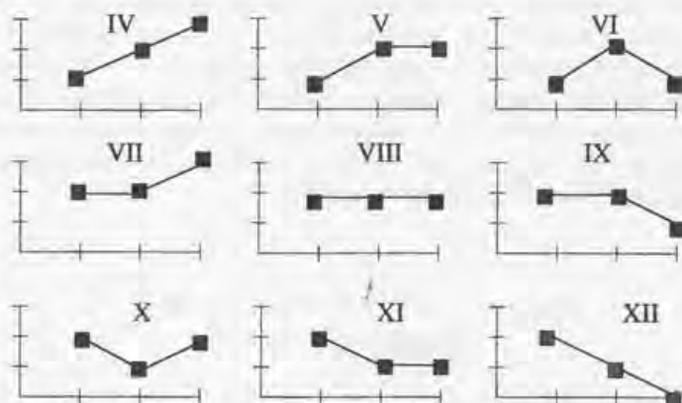


TABLE  $\alpha$ : TYPES OF POTENTIAL PATTERNS IN HORACE'S USE OF FUNCTION WORDS IN THE LYRICS

Since in this study we are using three books of Horatian lyrics (*Epodes*, *Carm.* I-III, and *Carm.* IV), the shapes in TABLE  $\alpha$  provide the typology for the lyrics. We begin our numeration with Type IV, because the complete typology of lines begins with the three two-point lines that generate our nine three-point lines. It may bear repeating that in designing this typology, we are not at all concerned with the

values of actual points on the lines, simply in the mere quantitative relationship of successive points.

Horace's hexameters consist of five works (combining the *Satires* and placing the *Ars Poetica* after *Epistles* I, as implied above in TABLE VII and as seen in TABLE K), and so we move now to the five-point lines. These may be generated from the three-point lines by the same procedure, omitting, for the sake of space, an intermediary generation of twenty-seven four-point lines, from which we derive the 81 five-point line types, such as the following:

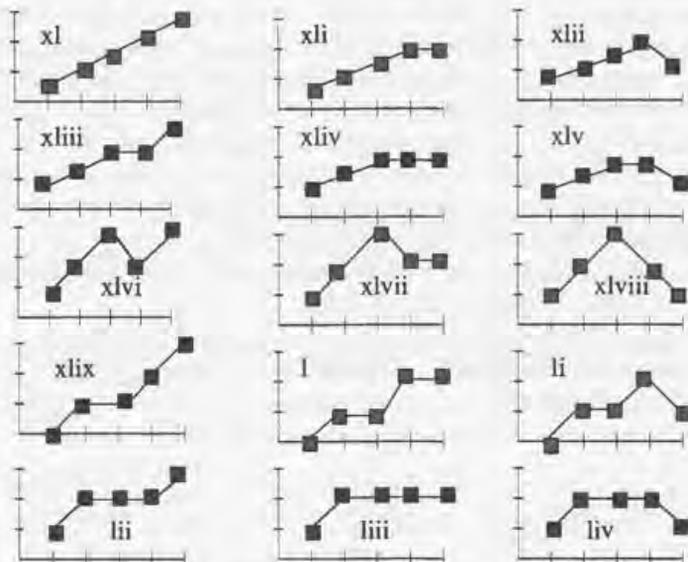


TABLE  $\beta$ : TYPES OF POTENTIAL PATTERNS IN HORACE'S USE OF FUNCTION WORDS IN THE HEXAMETERS

We begin numbering this set at xli and end at cxx, since there are altogether thirty-nine two-, three-, and four-point line ancestors to the five-point lines. From TABLE  $\beta$ , it is easy to see that five-point type xli can be considered equal to three-point type IV; five-point type xlviii can be equated to three-point type VI; etc. The generating principle of such equivalences is symmetry, which is achieved by the insertion of the fourth point between the first and second point of the three-point line and the addition of the fifth point between the second and third point of the three-point line. We will call these equivalences the set (centered), or {C}.

Since we are disregarding interval values in this model, it is important to recognize another possible generating principle for equivalence: asymmetry. Two asymmetrical conversions are possible. The first, in which we may imagine the two new points to be added in between points one and two of the three-point line, we will

call the set {left}, or {L}. In a second conversion, the two new points are added between the second and third points of the three-point line. This set, asymmetrical to the right, we call {R}. Note that it makes no difference whether we visualize our two additional points as being inserted between the preexisting points of the three-point line (as we have done) or before/after the end-points of the three-point line.

From this it follows that there are nine five-point lines in each of the three sets that are exactly equivalent to the nine three-point lines. It also follows that, having converted each three-point type into a five-point equivalent, we can also establish three 81 x 81 matrices—one for each set {L}, {C}, and {R}—measuring the degree of similarity of all five-point lines to each other. The method of measurement is simply the subtraction of one type from another, absolutizing the remainder. If the remainder is 0, the lines are exactly equivalent; if the remainder is 1, they differ slightly at one point; etc. The smaller the remainder, the more similar the lines. Establishing an objective measurement of "similarity" is important, since in statistics, the similarity of line-types is potentially just as important as their exact equivalence.

For the 6,561 combinations of 5-point types in each set, we have the following histogram of equivalence/similarity:

REMAINDER	CASES	PERCENTAGE
0	81	.0123
1	432	.0658
2	1080	.1646
3	1632	.2487
4	1624	.2475
5	1088	.1658
6	480	.0731
7	128	.0195
8	16	.0024

TABLE  $\gamma$ : COMBINATIONS OF TWO 5-POINT LINE TYPES IN EACH SET

The "Percentage" column will help us determine the value of  $\pi$  in the formula of the binomial test. Since an equivalent or similar combination can be made by matching a given three-point line to a five-point line in any of the three sets, we must multiply the values in the "Percentage" column by three to establish the probability of finding a pair with these remainders. For example, given a three-point line and a five-point line, the odds of finding an exact match (i.e., remainder = 0) are  $.0123 \times 3 = .0369$ . The odds of finding a similar pair with remainder 1 are much higher:  $.0658 \times 3 = .1974$ . We can see immediately that similar pairs will prove nothing in our case, since  $.197 \times 16 = 3.15$ : that is, all things being

equal, we should expect at least 3 similar pairs among our 16 pairs of function words. We thus limit our search to exact pairs, of which we expect only .590 among our 16 words.

In looking through the five-point line sets for exact matches, we need the following table of the three- to five-point line-type conversions for each set:

TYPE	=	{L}	{C}	{R}
IV		xl	xl	xl
V		xli	xliv	liii
VI		xlii	xlvi	lvii
VII		lxxix	lxxvi	lxvii
VIII		lxxx	lxxx	lxxx
IX		lxxxi	lxxxiv	xciii
X		cxviii	cxii	xciv
XI		cxix	cxvi	cvii
XII		cxx	cxx	cxx

TABLE  $\delta$ : CONVERSION OF THREE-POINT LINE-TYPES TO THEIR EXACT FIVE-POINT EQUIVALENTS IN THE SETS {L}, {C}, AND {R}

The following table reports the remainders of the combinations of lyric and hexameter line-types for the function words with sufficient frequency to be investigated in this study. In boldface are the two words (*ad* and *sed*) with an exact correspondence; in capitals are the two words (*nec* and *per*) that are very similar (remainder = 1):

WORD	Lyric Pattern	Hex Pattern	(SET)	WORD	Lyric Pattern	Hex Pattern	(SET)
<b>AD</b>	X	xciv	{R}	non	IV	cii	
atque	IX	cxiv		nunc	II	lx	
aut	IX	cxiv		PER	X	xcii	
cum	IX	cxv		<b>SED</b>	X	cxii	{C}
et	II	lxix		si	V	c	
iam	IV	lxiv		sic	VI	cvii	
in	VII	xlvi		ut	III	cxviii	
NEC	VI	lxix		vel	III	c	

TABLE  $\epsilon$ : CLASSIFICATION OF FUNCTION WORD PATTERNS IN HORACE'S LYRICS AND HEXAMETERS

We now have all the information we need to determine the  $\pi$ -value and to run the binomial test. In testing the odds of calculating  $\pi$  on the basis of three  $9 \times 81$  matrices of three-point and five-point combinations, we limit our calculation to the types of three-point lines that satisfy our third criterion of a

potential chronometer (above, p. 27) that there be a trend in the variation of a word's frequency. Once we apply this requirement, fully five of our nine three-point types can be eliminated from consideration (Types V, VII, VIII, IX, and XI), for these types either imply no change in frequency at all (Type VIII) or else random variation. Two of the remaining four three-point types (IV and XII) are the same in all three five-point sets; we count them only once. The other two (VI, X) are different in all three sets, giving us six possible matches. Thus, out of a total of 729 possible combinations per set, we have globally  $8 / 729$ , or .01097, possible combinations satisfying all our conditions. We can now solve the binomial test with a  $\pi$ -value of .01097 to see if our two exact equivalences are statistically significant:

	Prob. of X:	X or fewer:	X or more:
P(0)	0.838154	0.838154	1.000000
P(1)	0.148798	0.986952	0.161846
P(2)	0.012383	0.999335	0.013048
P(3)	0.000641	0.999976	0.000665
P(4)	0.000023	0.999999	0.000024
P(5)	0.000001	1.000000	0.000001
P(6)	0.000000	1.000000	0.000000
P(7)	0.000000	1.000000	0.000000
P(8-16)	0.000000	1.000000	0.000000

TABLE  $\eta$ : RESULTS OF BINOMIAL TEST,  $N = 16$ ,  $\pi = .01097$

In this test of the odds of finding two cases like *ad* and *sed*, the probability that chance alone is responsible is quite low—just 1.2%.

What about *per* and *nec*? It may be granted that chance alone may well have given us the similarity of their hexameter and lyric frequencies. However, when we see that the result of using all four of our function words as chronometers is a date for the *Ars Poetica* in a single period of Horace's life (24-20 B.C.), then the probability that mere randomness is at work is reduced—logically, if not statistically—for, if any or all of our four words were not valid chronometers, then we should expect them to indicate widely different dates for the *Ars Poetica*. This is not the case.

### APPENDIX III

#### PISO IN POLA. THE DATE OF *INSCR. ITAL. X.I.81*

As noted in the body of this study, three inscriptions from Pola mention a certain L. Calpurnius Piso Caesoninus, whom Sticotti recognized as the consul of 58 B.C. and father-in-law of Julius Caesar.<sup>1</sup> These monuments are of interest because, if datable, they permit us to determine the validity of Münzer's influential theory that Piso died shortly after the Battle of Mutina—a theory based on Piso's alleged absence from the historical record after April of 43 B.C.<sup>2</sup> Needless to say, Piso's survival well beyond Mutina is a necessary but not sufficient condition for my theory that he is the senior addressee of the *Ars Poetica*. *Inscr. Ital. X.i.81*, from a gate in the city wall, is the only inscription of the three found in a datable context. Neither it nor the other two inscriptions (cf. *fig. 1*) mentioning Piso were taken into account by Münzer. In this appendix, I will reargue the case that *Inscr. Ital. X.i.81* is triumviral (42-31 B.C.),

<sup>1</sup>*Inscr. Ital. X.i.65*, 81, 708. See P. Sticotti, "Nuova rassegna di epigrafi romani," *AMSI* 30 (1914) 113-114. Sticotti's identification can be supported by the facts that the consul's family owned land in Illyria since the second century B.C. (cf. *infra*, n. 34), the inscription is late-Republican in style, and the city gate, contemporaneous with the city wall, can be dated to the 40s or 30s B.C. (cf. B. Forlati Tamaro *AMSI* 44 and 48, *infra*, n. 3) when the consul of 58 was the only known bearer of the name. On Sticotti, see A. Degrassi, "Pietro Sticotti," *AMSI* 55 (1954) 35-41 (= *Scritti vari*, vol. 4 [Trieste 1971] 187-192).

<sup>2</sup>*RE* III s.v. Calpurnius 90 (Stuttgart 1897) cols. 1387-1390. Münzer, of course, must himself be put into an historical context: the identification of the Piso of the three Pola inscriptions as the consul of 58 occurred almost two decades after Münzer was writing.

something necessitated by two recent studies by Frascchetti and Keppie that independently put the monument into the Caesarian period (46-44 B.C.).<sup>3</sup>

Dating the inscription is unfortunately not a straightforward matter, since it contains no explicit chronological indication. We must thus approach the problem by trying to find the most likely political and archaeological context into which the monument can be fitted. The political context at once supplies a solid *terminus post quem* and a somewhat more fluid *terminus ante quem*. In the inscription Piso and L. Cassius Longinus<sup>4</sup> are called *duoviri*, and the existence of this office in Pola presumes that the Roman colony, *Pietas Iulia*, also exists. Although this name, which is transmitted by Pliny,<sup>5</sup> may be incomplete or otherwise inaccurate, the epithet *Iulia* may be safely accepted as a constituent part of the colony's title. This gives us our *post quem*: after the three Caesarian colonies created at Capua in 59 B.C., no colony is known to have been called *Iulia* before Julius Caesar's foundations of the period 46-44.<sup>6</sup> A less firm *ante*

<sup>3</sup>A. Frascchetti, "La 'Pietas' di Cesare e la colonia di Pola," *AION* 5 (1983) 77-102; L. Keppie, *Colonisation and Veteran Settlement in Italy, 47-14 B.C.* (London 1983) 203-204.

Before 1983, it was long held that the colony at Pola was a triumviral foundation by Octavian: see T. Mommsen, "Die italischen Bürgercolonien von Sulla bis Vespasian," *Hermes* 18 (1883) 161-213, at p. 182; E. Pais, "Le colonie militari dedotte in Italia dai triumviri ad Augusto," *Museo italiano di antichità classica* 1 (1885) 56; E. Kornemann in *RE* IV s.v. *Coloniae* (Stuttgart 1900) col. 526; B. Forlati Tamaro, "Cenni preliminari sulle recenti scoperte archeologiche a Pola e Trieste," *AMSI* 44 (1932) 325; "La fondazione della colonia romana di Pola," *AMSI* 48 (1936) 243-246; A. Degrassi, "La data della fondazione della colonia romana di Pola," *AIV* 102 (1942-1943) 667-678 (= *Il confine nord-orientale dell'Italia Romana, Diss. Bernenses*, ser. I, fasc. 6 [1954] 60-68; *Scritti vari di antichità*, vol. 2 [Rome 1962] 913-924 [*N.B.* cited hereafter according to the *Diss. Bernenses* version]); E. Polaschek in *RE* XXI s.v. *Pola* (Stuttgart 1951) cols. 1219-1220; M. P. Charlesworth, *The Cambridge Ancient History*, vol. 10 (Cambridge 1966) 88; M. Zaninovic in *The Princeton Encyclopedia of Classical Sites* (Princeton 1976) 720. Degrassi specifically dated the founding of Pola to 42/41 and has been followed in this by B. Forlati Tamaro, *Pola* (Padua 1971) 14; E. Gabba, "Sulle colonie triumvirali di Antonio in Italia," *PP* 8 (1953) 101-110, at p. 110.

<sup>4</sup>On Longinus, see Münzer, *RE* III s.v. *Cassius* (65) (Stuttgart 1897) col. 1739; Longinus was identified as Cassius (65) by P. Sticotti, loc. cit. (*supra* n. 1), and this identification has been accepted by later scholars.

<sup>5</sup>*N.H.* 3.129 is our source for the name of the colony.

<sup>6</sup>Caesar's earlier colony at Capua came to be known as *Concordia Iulia Felix Augusta*, perhaps indicating that the earliest title was *Concordia Iulia*, as suggested by Mommsen, *CIL* X.1, p. 368. There is no reason to suppose the creation of any Caesarian colonies between 59 and 46. On the colonies of 46-44, see L. Keppie, op. cit. (*supra* n. 3) 49-58.

*quem* is provided by the bestowal of the title *Augustus* on Octavian in 27. After that date, Augustan colonies were generally, though not always, given the epithet *Augusta* or *Iulia Augusta*.<sup>7</sup> Although the absence of *Augusta* from Pola's name would seem to provide a solid enough *ante quem*, it is important to bear in mind that Pliny always omits *Augusta* from his references to colonies, unless the colony is founded at a new site with no preexisting name, leaving him no other recourse.<sup>8</sup> When we know that a *colonia Iulia* mentioned by Pliny is really a *colonia Iulia Augusta*, this is only because of local inscriptions giving a fuller title. In the case of Pola, we have no such inscriptions from the first century B.C. or A.D. so that we cannot be certain that Pola's full name did not contain the epithet *Augusta*. Thus—because such an inscription might someday turn up—in fixing our *ante quem* we cannot completely rule out the possibility of an Augustan (i.e., post-27 B.C.) foundation. For our purposes, this matters but little, since our main aim here is simply to show that Münzer's guess that Piso died just after the Battle of Mutina is likely to be wrong. However, if anyone someday makes the case for a *deductio* of Pola in the years just after 27 B.C., that will only help bolster our interpretation of the *Ars Poetica*.

Within the period 46-27 B.C. there are three moments at which we would expect a colony to have been planted at Pola; and, as might be expected, each possibility has found its scholarly advocate: (1) 46-44, by Julius Caesar<sup>9</sup>; (2) 42-41, by Octavian<sup>10</sup>; and (3) 41-31, by Octavian.<sup>11</sup> For purposes of refuting Münzer, it is not absolutely necessary to reject any of these dates: the context of *Inscr. Ital.* X.i.81 is a city gate known to be contemporary with the earliest city

<sup>7</sup>On the difficulties of interpreting colonial nomenclature see P. A. Brunt, *Italian Manpower 225 B.C.—A.D. 14* (Oxford 1971) 234-235; B. Galsterer-Kröll, "Untersuchungen zu den Beinamen der Städte des Imperium Romanum," *Epigraphische Studien* 9 (1972) 37-145, at pp. 65-66.

<sup>8</sup>Examples of the latter in Italy are *Augusta Praetoria*, *Augusta Taurinorum*, and *Augusta Bagiennorum* (for the archaeological evidence that these were not founded on preexisting sites, cf. *The Princeton Encyclopedia of Classical Sites* [Princeton 1976] 114, 116, 118). Outside Italy, Pliny's policy can be similar: cf. the case of *C(olonia) C(aesarina) A(ugusta) A(sido)* (CIL II.5407), called *Asido Caesarina* by Pliny in *N.H.* 3.30. Cf., in general, B. Galsterer-Kröll, *op. cit.* (*supra* n. 7) 57-59. This is an important point because in the period 46-27 B.C. Pola was not yet in reg. X Italia. Until c. 18-12 B.C., Pola and Istria formed part of Illyria; see Weiss in *RE* VIII s.v. *Histria* (Stuttgart 1913) cols. 2111-2112; E. Polaschek, *op. cit.* (*supra* n. 3) cols. 1219-1220; A. Degrassi, Review of Polaschek in *AMSI* n.s. 2 (1952) 226-227 (= *Scritti vari*, vol. 4 [Trieste 1971] 244-245).

<sup>9</sup>L. Keppie and A. Frascchetti, *op. cit.* (*supra* n. 3).

<sup>10</sup>A. Degrassi, B. Forlati Tamaro, and E. Gabba, *op. cit.* (*supra* n. 3).

<sup>11</sup>T. Mommsen, E. Pais, E. Kornemann, B. Forlati Tamaro (*AMSI* 44 and 48), M. P. Charlesworth, and M. Zaninovic, *op. cit.* (*supra* n. 3).

walls of Pola.<sup>12</sup> These walls may be contemporaneous with the founding of the colony, or, as we will see, they may date from a few years later. Thus, even if the controversy over the founding of the colony at Pola should be settled in favor of 46-44, this does not necessarily mean that *Inscr. Ital.* X.i.81 cannot have been inscribed in the 30s. But does the colony date to the Caesarian period?

The odds are against such a date: Octavian/Augustus founded many more colonies than did Julius Caesar.<sup>13</sup> Caesar's colonies were concentrated in a few provinces—particularly in Africa and Spain<sup>14</sup> Augustus' were spread all over the empire.<sup>15</sup> Of the three kinds of colonies—civilian settlements, titular colonies, and veterans' settlements—Pola almost certainly falls into the first class. We know that, in provincial colonization, Caesar favored the last class, for he was, of course, mainly preoccupied with finding land for his veterans. Augustus was also heavily involved in settling veterans on the land.<sup>16</sup> He was, however, also more apt than Caesar to upgrade a *conventus civium Romanorum* into a *colonia*, reinforcing the Roman population with new settlers. Finally, Octavian was personally active in military campaigns on the Dalmatian coast, whereas Caesar did not live long enough to undertake his Balkan expedition. This puts Octavian, but not Caesar, in the immediate vicinity of Pola and makes an Octavian foundation more likely.

Against this background, we can appreciate why, before 1983, the consensus of scholars was that Pola became a colony under Octavian sometime between Philippi and Actium. What arguments did Keppie and Frascchetti bring forward in that year in favor of an earlier, Caesarian date?

Keppie begins by trying to disprove a triumviral date. He first claims that Degrassi probably erred in using the Arch of the Sergii in Pola as evidence of the settlement of military colonists in the town after Philippi. Granting that Piso would have been an excellent candidate to help either Caesar or Octavian organize the new colony because of his experience at Capua in 58, Keppie finds

<sup>12</sup>See B. Forlati Tamaro (*AMSI* 44 and 48), *opp. cit.* (*supra* n. 3).

<sup>13</sup>There are various scholarly estimates. The most conservative (i.e., pro-Caesarian) is perhaps that of F. Vittinghoff, *Römische Kolonisation und Bürgerrechtspolitik*, *Akad. Wiss. Mainz, Abh. Geistes- und Sozialwiss. Kl.* 14 (1951) 85, 125, who assigned thirty-one colonies to Caesar and seventy-five to Augustus (as counted by E. T. Salmon, *Roman Colonization Under the Republic* [London 1969] 193n264).

<sup>14</sup>Cf. P. A. Brunt, *op. cit.* (*supra* n. 7) 255-259; for Italy, see L. Keppie, *op. cit.* (*supra* n. 3) 43-58.

<sup>15</sup>See *Res Gestae* 16, referring only to the many provinces with Augustan military colonies and so understating the case for Augustus' overall colonizing (cf. G. Alföldy, "Caesarische und augusteische Kolonien in der Provinz Dalmatien," *Acta Antiqua* 10 [1962] 357-365, at p. 362).

<sup>16</sup>See P. A. Brunt, *op. cit.* (*supra* n. 7) 238.

a Caesarian date more likely "in that Piso is not known to have been alive after 43 B.C." Finally, the second duovir on *Inscr. Ital.* X.i.81, L. Cassius Longinus, as brother of the tyrannicide C. Cassius, is unlikely to have been reconciled with Octavian after Philippi, though Keppie does note that Longinus was pardoned by Antony.<sup>17</sup>

In rebuttal of Keppie, let us first note that he has not fully appreciated how Degrassi uses the Arch of the Sergii as chronological evidence.<sup>18</sup> Degrassi does not state that Pola was a military colony.<sup>19</sup> Establishing the family relationships of L. Sergius and C. Sergius (brothers) and of L. Sergius L. f. (son of L. Sergius), Degrassi uses the disbandment of Legio XXIX after Actium as a *terminus post quem* for the aedileship of L. Sergius L. f., which he dated to c. 25. Postulating a gap of at least ten years between the aedileships of father and son, Degrassi puts the founding of the colony in the year 35, at the latest. Degrassi then speculates that the gap between the aedileships was a few years greater, considering it unlikely that L. and Cn. Sergius would have colonized Pola when Lucius already had a grown-up child of military age. Degrassi's use of the inscriptions on the Arch of the Sergii can be criticized, but the point is not that Degrassi is wrong to use the arch's inscriptions for chronology, but that he has perhaps tried too hard to push the date back as far as he can toward 42/41. In fact, we can just as easily push the date forward a couple of years, e.g., by imagining that L. and Cn. Sergius did not arrive with the founders of the colony, but a few years later, or by not balking at the idea that L. Sergius L. f. was a teenager when his father settled in Pola.

The arguments about Piso and Longinus are also not compelling. Following Münzer's theory about Piso's demise just after Mutina is fallacious: Münzer wrote before Sticotti identified the Polan Piso as the consul of 58, so he could not take the material from Pola into account in his *RE* article; thus, following Münzer is a *petitio principii*. As for Longinus, it is likely that he was much more in Antony's debt than in Octavian's after his return from exile in Asia in 41 B.C., for it was Antony who permitted his return.<sup>20</sup> This can be taken as evidence supporting a triumviral date, for, invoking the model of the colonization of Capua (to be discussed in a moment in our critique of Fras-

<sup>17</sup>L. Keppie, *op. cit.* (*supra* n. 3) 204.

<sup>18</sup>Degrassi, *op. cit.* (*supra* n. 3) 66-68; cf. "Le iscrizioni dell'arco dei Sergii in Pola," in *Scritti vari*, vol. 4 (Trieste 1971) 179-185.

<sup>19</sup>All the evidence is against a military colony at Pola; cf. E. Polaschek, *op. cit.* (*supra* n. 3) col. 1246; in Degrassi's rather critical review of Polaschek (*op. cit.* [*supra* n. 8]), he does not object to Polaschek's observation "daß Pola eine Militärkolonie gewesen wäre erfährt von keiner Seite eine Bestätigung."

<sup>20</sup>Appian *Bell. Civ.* 5.7.28.

chetti), we might have expected Pola to be organized precisely by a stand-in for each of the two principal triumvirs, if not by the principals themselves.<sup>21</sup>

Fraschetti's case is similar but more complex. Taking aim at Degrassi's date of 42/41, which is based on the theory that the colony's epithet *Pietas* makes most sense just after Octavian's vengeance against his father's murderers at the battle of Philippi,<sup>22</sup> Fraschetti tries to show that a date in Caesar's lifetime is also consistent with the slogan *Pietas*.<sup>23</sup> Of course, such a demonstration cannot be decisive, since it does not, per se, rule out a date after Philippi, nor does Fraschetti deny the possibility that Degrassi is correct. Moreover, Fraschetti's case for 46-44—which is dependent on Caesarian coins issued in 48/47 with *Pietas* themes<sup>24</sup>—is not very cogent. Had it been possible to argue that Pola was founded in 49/48, this evidence might have been useful: however, as Fraschetti is well aware, "Caesar's work in founding colonies did not begin before 46."<sup>25</sup> A date of 46/45 is, however, quite damaging to Fraschetti's thesis, since precisely in that period the slogan of *Pietas* was appropriated by the Pompeian side in the civil war. At Munda in 46, *Pietas* was the battle cry of the Pompeians, *Venus* of the Caesarians.<sup>26</sup> Starting the year after Munda, Sex. Pompeius made *pietas* toward his father a hallmark of his propaganda, especially through his coinage.<sup>27</sup> Moreover, as used by Caesar in 48/47, *pietas* was by no means a novel concept and hence one that the Romans of the period might primarily associate with him. It had been used in several political contexts during the previous fifty years and even during the early triumviral period could be exploited by Antony just as easily as Octavian, judging from the numismatic evidence.<sup>28</sup> The epithet, *Pietas*, then, cannot be a decisive factor in determining

<sup>21</sup>Cf. A. Fraschetti, op. cit. (*supra* n. 3) 93, who astutely recognizes the political balancing act involved in the colonization of Capua whereby a Caesarian law favored settlement of Pompeian veterans and was implemented, first in 58 by Piso—i.e., Caesar's father-in-law—and then, then next year, by Pompey himself.

<sup>22</sup>A. Degrassi, op. cit. (*supra* n. 3) 62.

<sup>23</sup>A. Fraschetti, op. cit. (*supra* n. 3) 80-90.

<sup>24</sup>Fraschetti refers (p. 86) to denarii minted by the Caesarian D. Iunius Brutus Albinus and by Caesar himself; for the coins, see, respectively, nrr. 450, 2 and 452, 3 in M. H. Crawford, *Roman Republican Coinage* (Cambridge 1974).

<sup>25</sup>P. A. Brunt, op. cit. (*supra* n. 7) 101; Z. Yavetz, *Julius Caesar and his Public Image* (London 1983) 144; L. Keppie, op. cit. (*supra* n. 3) 50. Note that Fraschetti himself writes, "nell'ambito delle due datazioni proposte (47 e primi mesi del 46 o ultimi mesi del 46 e 45 a.C.) la più probabile appare forse la seconda" (p. 102).

<sup>26</sup>Appian *Bell. Civ.* 2.104.

<sup>27</sup>Cf. nrr. 477, 3a-3b; 478, 1a; 479, 1 in M. H. Crawford, op. cit. (*supra* n. 24).

<sup>28</sup>Cf. M. H. Crawford, op. cit. (*supra* n. 24) nrr. 308 (108/107 B.C.); 374 (81 B.C.); 477, 3a-3b; 494, 19 (42 B.C.—triumviral); 516, 4 (41 B.C.—M. Anto-

the circumstances of Pola's foundation. If anything, it tends to rule out Caesar and the period 46/45.

Fraschetti next turns his attention to Piso and Longinus, whom he cogently identifies as the *primi duoviri* of the new colony, invoking the parallel case of [L.] Marcus Phi[lippus], the consul of 56 or suffect consul of 38 B.C., who served as *primus duovir* of Herculaneum.<sup>29</sup> Recalling the "compromise" of Capua in 59-57, whereby a notable Caesarian (Caesar's father-in-law, Piso) alternated with Pompey himself as *duovir* of the new colony (see above, n. 21), Fraschetti is perplexed to find such marginal and politically ambivalent men as Piso and Longinus serving as *duoviri* in Pola in the early triumviral period. For Fraschetti, their collaboration in Pola makes much more sense in the mids-40s, when both were ardent Caesarians.

Now, first of all, it should be noted that Fraschetti assumes that the "Capuan compromise" represented a norm in colony foundation, whereas it may only reflect the exceptional and very delicate political situation of the early years of the first triumvirate. In the 40s and 30s, so many colonies were founded that we cannot assume that the same standards obtained in the section of *primi duoviri* (always assuming that Piso and Longinus were such). Secondly, Fraschetti misrepresents Syme on Piso and the historical record when he says that Syme characterized Piso as "as ex-Caesarian turned independent."<sup>30</sup> When he made that statement, Syme was referring to Piso in the fall of 44 B.C.; later, he saw Piso acting as a wise statesman trying to mediate between Antony and the Senate on the eve of the battle of Mutina (April, 43): "Piso stood for concord and good sense when others...were for extreme measures against Marcus Antonius in 44 and 43."<sup>31</sup> Such a stance must have endeared him to Antony as much as it renewed Cicero's old feud with his erstwhile nemesis.<sup>32</sup> It certainly would have positioned him well to serve the interests of Antony and Octavian in the early years of the second triumvirate. As for Longinus, a strong supporter of Caesar in the civil war, his flaw was the guilt-by-association that came from being the brother of the tyrannicide, C. Cassius. Syme called him "a brother of

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ny). For *pietas* in the Julio-Claudian period, see S. Weinstock, *Divus Julius* (Oxford 1971) 258-259.

<sup>29</sup>A. Fraschetti, op. cit. (*supra* n. 3) 91. As Fraschetti notes, the proposal that Piso and Longinus were *primi duoviri* of the colony was first advanced by B. Forlati Tamaro (*AMSI* 48), op. cit. (*supra* n. 3) 245.

<sup>30</sup>A. Fraschetti, op. cit. (*supra* n. 3) 96, incorrectly citing R. Syme, *The Roman Revolution* (Oxford 1939) 136 (not 36, as is reported at 96n78).

<sup>31</sup>R. Syme, "Piso and Veranius in Catullus," *C&M* 17 (1956) 129-134, at p. 130 (= *Roman Papers*, vol.1, ed. E. Badian [Oxford 1979] 300); cf. *The Augustan Aristocracy* (Oxford 1986) 330.

<sup>32</sup>Cf. *Ad Fam.* 12.4.1 (on Piso's embassy to Antony in January, 43): "nihil autem foedius Philippo et Pisone legatis, nihil flagitiosius."

the assassin but a Caesarian in sympathy."<sup>33</sup> When circumstances after Caesar's murder made it dangerous for Longinus to tarry in Rome, he fled to Asia, where, as noted above (cf. n. 20) Antony met and pardoned him in 41. Finally, Piso and Longinus are thus by no means an odd couple to be serving as *duoviri* (whether *primi duoviri* or not) in *Iulia Pietas* in the triumviral period. It was undoubtedly possession of large family estates in the neighborhood of Pola that made their choice seem not only appropriate but logical.<sup>34</sup>

That neither Keppie nor Frascchetti has succeeded in finding a good reason to date the colony to the Caesarian period does not, of course, mean that no good argument or decisive piece of evidence may someday be found, nor does their failure to move the date back necessarily justify our leaving it where it was before 1983. To make further progress, we need to put Pola into a larger geopolitical and archaeological context, which will present us with some evidence less ambiguous than colonial nomenclature and late-republican prosopography.

Doubtless influenced by Pola's later incorporation in regio X Italia, scholars from Mommsen onwards have viewed the problem of Pola in the context of colonial policy in Italy.<sup>35</sup> Yet, as noted above (see n. 8), Pola belonged to Illyria, not to Italia, when it was colonized. Seen as a key base on the eastern Adriatic coast,<sup>36</sup> Pola naturally takes its place among Octavian's colonial foundations or augmentations after his successful Illyrian campaign of 35-33.<sup>37</sup> In fact, all up and down the coast from Epidaurum to Tergeste we find evidence of Roman colonization in the period 47-33. The result was a well-spaced series of colonial ports, each one about sixteen to twenty-four hours sailing time from the next.<sup>38</sup> Here are the approximate sailing distances in Roman miles:

<sup>33</sup>R. Syme, op. cit. (*supra* n. 30) 132n3. On Longinus in the civil war, see *Caesar Bell. Civ.* 3.34-35.

<sup>34</sup>Evidence for these properties is discussed by J. Sasel, "Probleme und Möglichkeiten onomastischer Forschung," *Acta CIEGR* 4 (1964) 352-368, at pp. 363-367; cf. also M. Pavan, "Ricerche sulla provincia romana di Dalmazia," *Mem. Ist. Ven.* 32 (1958) 21, 231-233; J. J. Wilkes, *Dalmatia* (London 1969) 331.

<sup>35</sup>Cf. T. Mommsen, op. cit. (*supra* n. 3) 182, 192, 212; L. Keppie, op. cit. (*supra* n. 3) 203-204.

<sup>36</sup>As suggested, in passing, by M. P. Charlesworth, op. cit. (*supra* n. 3) 88 and J. J. Wilkes, op. cit. (*supra* n. 34) 57: "in Illyricum, the achievement of Octavian was modest and solid rather than spectacular....On the coast colonies were established at Pola in Istria and Iader in Liburnia, and the older Caesarian colonies, Salona, Narona, and Epidaurum, were strengthened by new settlements."

<sup>37</sup>On the campaign, see Wilkes, op. cit., (*supra* n. 34) 46-56.

<sup>38</sup>Roman ships averaged from 2.5 knots (unfavorable winds) to 5.0 knots (favorable); see L. Casson, *Ships and Seamanship in the Ancient World* (Princeton 1971) 281-296. It is possible that Senia should also be included here, but whether the

Tergeste—Pola: 70 miles  
 Pola—Iader: 95 miles  
 Iader—Salona: 100 miles  
 Salona—Narona: 70 miles  
 Narona—Epidaurum: 115 miles

This looks very much like a planned occupation of a strategically vital and agriculturally rich coast,<sup>39</sup> reminiscent of the early Roman maritime colonies on the Tyrrhenian coast and—more pertinently—of Caesar's coastal colonies in Spain and Africa. About the date of most of these colonies, the same debate rages that we have seen in the case of Pola,<sup>40</sup> and so trying to settle the date of Pola by recourse to such slippery data might seem to exemplify explaining *obscurum per obscurius*. This is not, I think, the case, because once these towns are considered together—as, to my knowledge, they never have been—common features emerge that can be decisive for breaking up chronological and other logjams.

One feature common to all the eastern Adriatic colonies is a peculiar form of centuriation in which we find the usual 200-iugera unit with a rather unusual orientation on a NW-SE axis and with a rare system of *limites* demarcated by means of stones.<sup>41</sup> We might explain this distinctive form in one of two ways: either it results from a long-standing regional tradition, or it is the signature of a team of *agrimensores* active at all the sites. In the second case,

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colony there (known from Tac. *Hist.* 4.45) dates from our period (46-27 B.C.) or later is not known; see the discussion in G. Alföldy, *op. cit.* (*supra* n. 15) 362-363.

<sup>39</sup>Strabo 7.5.10 attests the area's economic advantages and implies that Roman appreciation of the Illyrian coast was a relatively recent development: τοιαύτη δ'οὕσα ὠλιγωρεῖτο πρότερον ἢ Ἰλλυρικὴ παραλία, τάχα μὲν καὶ κατ' ἄγνοϊαν τῆς ἀρετῆς, τὸ μὲνται πλέον διὰ τὴν ἀγριότητα τῶν ἀνθρώπων καὶ τὸ ληστρικὸν ἔθος.

<sup>40</sup>On Tergeste, see L. Keppie, *op. cit.* (*supra* n. 3) 201-202; on the Dalmatian towns, see J. J. Wilkes, *op. cit.* (*supra* n. 34) 207 (Iader), 220-238 (Salona), 245-252 (Narona), 252 (Epidaurum).

<sup>41</sup>Cf. J. Bradford, *Ancient Landscapes* (London 1957) 175-193; M. C. Panerai, "Territori centuriati nelle provincie: il caso di Zara," in: *Misurare la terra: Centuriazione e coloni nel mondo romano*, vol. I (Modena 1984) 235-240, at p. 238: "elemento caratterizzante della *pertica* è l'aspetto singolare dei *limites*: questi sono costituiti da muretti di pietra, conservatisi nel corso dei secoli come confini dei campi coltivati. Questa configurazione particolare dei limiti è una peculiarità di tutta la *Provincia Dalmatiarum*: 'ubi saxa collecta ab utrisque partibus limites dederunt' (Grom. Vet., *Liber coloniarum* 2, p. 241)." For parallel cases at Cosa and in Africa vetus see F. Castagnoli, "La centuriazione di Cosa," *MAAR* 24 (1956) 149-165, at p. 161n14.

centuriation can be a factor for chronology, since the *agrimensores* will have worked along the Illyrian coast for a relatively short period of time, and if we can date one colony's centuriation, we have an approximate date for them all.<sup>42</sup> The second explanation seems more likely because such regional traditions are hard to find elsewhere. Of the Illyrian centuriations in question, we do have one firmly datable case—Iader, where the colony was planted in the late thirties or early twenties.<sup>43</sup> Such a period—after Octavian's triumph in the Illyrian campaign of 35-33—is more probable in any case on geopolitical grounds than the period 46-41, since centuriation presumes good enough regional security for exploitation of the territory and hinterlands of a colony. On the other hand, the successful conclusion of the Illyrian war provides more than a mere *post quem*: centuriation generally coincides with the founding of a colony.<sup>44</sup> These considerations make it likely that the colony at Pola was founded by Octavian in the period 33-27 B.C.

A second common element in these colonies is a town wall in stone. As with centuriation, we can use any firmly datable examples to give us a probable time frame for all the sites. Two walls are securely datable by inscriptions giving credit to Octavian/Augustus for their construction: Tergeste (33/32 B.C.) and Iader (27 B.C.).<sup>45</sup> It is sometimes assumed that, like centuriation, the construction of permanent city walls was immediately undertaken when a new colony was started; but this was not always the case. Fanum Fortunae, a triumviral colony, received its first walls decades later in 9/10 A.D.<sup>46</sup> Closer to home, we know that the first colony at Salona had no wall in the 40s B.C. To resist a seige by the Pompeian commander, M. Octavius, the pro-Caesarian

<sup>42</sup>On the use of centuriation for chronology, see, in general, G. Chouquer, M. Clavel-Lévêque, and F. Favory, "Catasti romani e sistemazione dei paesaggi rurali antichi," in *Misurare la terra: Centuriazione e coloni nel mondo romano* (Modena 1984), vol. 1, 39-49, at pp. 41, 42, 45.

<sup>43</sup>The date of the colony is approximately given by *CIL* 3.2907, where Octavian is called Imperator Caesar Divi F(ilius) Aug(ustus).

<sup>44</sup>This is a scholarly commonplace: cf., e.g., F. Vittinghoff, op. cit. (*supra* n. 13) 24, "Landvermessung durch Agrimensoren und Landzuweisung durch kaiserliche Beauftragte waren die selbstverständliche Begleitakte jeder Kolonisation." See also E. T. Salmon, op. cit. (*supra* n. 13) 20. Here I should note that Salona—already a colony in the Caesarian period—is not necessarily counter-evidence of a single centuriation project because it was a double foundation. For the evidence, see J. W. Kubitschek, *Imperium Romanum Tributim Discriptum* (Prague, Vienna, Leipzig 1889) 236; cf. G. Alföldy, op. cit. (*supra* n. 15) 358; J. J. Wilkes, op. cit. (*supra* n. 34) 223-224. The centuriation at Salona may thus be associated with the second colony of the late 30s.

<sup>45</sup>Tergeste: *Inscr. Ital.* X.iii.20-21; Iader: *CIL* III.2907.

<sup>46</sup>Cf. *CIL* XI.6219; A. Degrassi, op. cit. (*supra* n. 3) 52.

Salonians quickly erected a wooden wall that successfully served its purpose.<sup>47</sup> Beseiged on all sides by five *castra*, and protected only by their wooden towers, the Salonians thwarted Octavius' seige, forcing him to withdraw. This episode gives us concrete information showing why stone walls were not a high priority for new colonies, at least on the Illyrian coast. They could be built later, in times of greater peace and security, as happened at Tergeste and Iader. The parallels of these two cities—and the perpendicular of the absence of a stone wall at Salona in the 40s—make a date of *c.* 33 B.C. the likeliest for the walls of Pola, too.

In conclusion, we may say that the rare form of centuriation found at Pola and other Roman colonies on the Illyrian coast suggests that the territory of Pola and of the other cities was first exploitable after Octavian's Dalmatian campaign of the 30s firmed up Roman control of the hinterland; the date of the founding of Iader supports such a chronology of the centuriation project. At the same time the fields were centuriated, the town centers were protected by a permanent wall, as is securely known from the datable examples at Tergeste and Iader. Since their names appear on the oldest gate of the wall at Pola, the *duoviri* Piso and Longinus must have held office in the colony in the late 30s when the wall was built, and Münzer's theory of Piso's demise soon after Mutina — proposed, as we have seen, before Sticotti identified Piso in Pola—can be considered highly unlikely.

<sup>47</sup>Caesar *Bell. Civ.* 3.9: "Sed celeriter cives Romani ligneis effectis turribus his sese munierunt et, cum essent infirmi ad resistendum propter paucitatem hominum crebris confecti vulneribus, ad extremum auxilium descenderunt servosque omnes puberes liberaverunt et praesectis omnium mulierum crinibus tormenta effecerunt."

## ABBREVIATIONS AND BIBLIOGRAPHY

The select bibliography that follows lists most of the books and articles mentioned in the footnotes as well as some other works I found useful but never had occasion to cite. Editions of ancient authors other than Horace, modern guide-books, articles in standard reference works, and the like have not been included. Works quoted in *Appendix I* are also not listed here. Abbreviations are generally those used in *L'Année Philologique*. Unless otherwise noted, the text of Horace used throughout this study is the Teubner of D. R. Shackleton Bailey (Stuttgart 1985). The reader desiring a fuller list of publications on the *Ars Poetica* may consult the bibliographies found in Brink, I-III and Rudd, 234-239.

The following special abbreviations used in the notes are listed here; these works are not listed separately in the bibliography that follows:

- Brink, I = Brink, C. O. *Prolegomena to the Literary Epistles, Horace on Poetry*, vol. 1 (Cambridge 1963).  
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Brink, III = Brink, C. O. *Epistles Book II: The Letters to Augustus and Florus, Horace on Poetry*, vol. 3 (Cambridge 1982).  
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Carettoni, II = Carettoni, G. *Das Haus des Augustus auf dem Palatin* (Mainz 1983).  
Mills = *Quintus Horatius Flaccus Editions in the United States and Canada as They Appear in the Union Catalog of the Library of Congress* (Mills College, California 1938).  
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| WORD   | EPD | S1  | S2  | C1  | C2 | C3  | EP1 | AP  | EP2.2 | EP2.1 | C4 | TOT  | NOTE |
|--------|-----|-----|-----|-----|----|-----|-----|-----|-------|-------|----|------|------|
| A      | 3   | 10  | 7   | 2   | 1  | 0   | 1   | 0   | 2     | 0     | 1  | 27   | L.F. |
| AB     | 3   | 9   | 8   | 5   | 3  | 14  | 4   | 4   | 1     | 3     | 6  | 60   | L.F. |
| AC     | 2   | 29  | 13  | 7   | 1  | 1   | 15  | 6   | 2     | 2     | 0  | 78   | L.F. |
| AD     | 12  | 21  | 28  | 6   | 1  | 5   | 21  | 13  | 7     | 9     | 8  | 131  | √    |
| AN     | 8   | 9   | 22  | 3   | 2  | 4   | 22  | 12  | 3     | 3     | 1  | 89   | L.F. |
| AT     | 4   | 34  | 9   | 2   | 2  | 1   | 3   | 1   | 2     | 1     | 0  | 59   | L.F. |
| ATQUE  | 12  | 65  | 36  | 11  | 4  | 2   | 12  | 6   | 6     | 5     | 2  | 161  | N.P. |
| AUT    | 32  | 36  | 35  | 21  | 9  | 16  | 23  | 28  | 13    | 11    | 6  | 230  | N.P. |
| AU     | 0   | 0   | 0   | 0   | 0  | 0   | 0   | 1   | 0     | 2     | 0  | 3    | L.F. |
| CUM    | 7   | 65  | 61  | 20  | 8  | 16  | 34  | 9   | 7     | 16    | 9  | 262  | N.P. |
| CUR    | 3   | 8   | 8   | 7   | 2  | 4   | 7   | 6   | 1     | 0     | 5  | 51   | L.F. |
| DE     | 2   | 8   | 10  | 4   | 4  | 2   | 12  | 4   | 3     | 1     | 1  | 51   | L.F. |
| DONEC  | 1   | 2   | 3   | 1   | 0  | 3   | 5   | 1   | 0     | 1     | 0  | 17   | L.F. |
| DUM    | 2   | 14  | 8   | 9   | 3  | 9   | 16  | 3   | 2     | 3     | 2  | 71   | L.F. |
| ENIM   | 0   | 3   | 10  | 1   | 2  | 1   | 7   | 5   | 1     | 4     | 4  | 38   | L.F. |
| ET     | 78  | 134 | 142 | 121 | 86 | 179 | 268 | 147 | 134   | 76    | 85 | 1450 | N.P. |
| ETIAM  | 0   | 5   | 4   | 0   | 0  | 1   | 6   | 6   | 4     | 4     | 1  | 31   | L.F. |
| IAM    | 6   | 8   | 15  | 7   | 10 | 8   | 9   | 5   | 1     | 5     | 14 | 88   | N.P. |
| IN     | 36  | 65  | 69  | 36  | 27 | 35  | 58  | 35  | 12    | 17    | 27 | 417  | N.P. |
| INTER  | 7   | 14  | 7   | 5   | 0  | 9   | 14  | 2   | 4     | 6     | 3  | 71   | L.F. |
| MOX    | 0   | 0   | 2   | 2   | 1  | 3   | 3   | 3   | 2     | 2     | 3  | 21   | L.F. |
| NAM    | 5   | 17  | 18  | 2   | 1  | 1   | 2   | 1   | 0     | 3     | 1  | 51   | L.F. |
| NE     | 2   | 25  | 23  | 9   | 2  | 8   | 29  | 10  | 2     | 2     | 2  | 114  | L.F. |
| NEC    | 26  | 23  | 23  | 47  | 32 | 39  | 35  | 22  | 1     | 5     | 16 | 269  | √    |
| NEQUE  | 14  | 26  | 22  | 16  | 13 | 18  | 5   | 2   | 2     | 3     | 5  | 126  | L.F. |
| NEU    | 1   | 3   | 3   | 9   | 0  | 0   | 3   | 3   | 0     | 0     | 0  | 22   | L.F. |
| NISI   | 1   | 9   | 10  | 2   | 3  | 2   | 8   | 2   | 1     | 4     | 0  | 42   | L.F. |
| NON    | 30  | 74  | 73  | 38  | 29 | 46  | 94  | 39  | 17    | 13    | 41 | 494  | N.P. |
| NUNC   | 8   | 13  | 16  | 16  | 4  | 13  | 12  | 6   | 10    | 6     | 6  | 110  | N.P. |
| PER    | 11  | 5   | 13  | 10  | 9  | 13  | 16  | 5   | 1     | 10    | 22 | 115  | √    |
| POST   | 1   | 10  | 6   | 4   | 0  | 5   | 7   | 5   | 2     | 4     | 3  | 47   | L.F. |
| QUA    | 0   | 5   | 7   | 0   | 0  | 0   | 8   | 0   | 0     | 1     | 0  | 21   | L.F. |
| QUIDEM | 0   | 1   | 0   | 0   | 1  | 0   | 2   | 0   | 0     | 2     | 0  | 6    | L.F. |
| QUODSI | 4   | 0   | 1   | 1   | 0  | 1   | 8   | 0   | 0     | 1     | 0  | 16   | L.F. |
| QUOQUE | 0   | 5   | 8   | 4   | 3  | 3   | 4   | 0   | 1     | 5     | 1  | 34   | L.F. |
| SARPE  | 1   | 17  | 1   | 5   | 3  | 3   | 10  | 1   | 0     | 2     | 0  | 43   | L.F. |
| SED    | 7   | 12  | 21  | 4   | 6  | 6   | 15  | 6   | 5     | 11    | 10 | 103  | √    |
| SEU    | 2   | 2   | 19  | 12  | 5  | 12  | 7   | 3   | 0     | 1     | 2  | 65   | L.F. |
| SI     | 7   | 56  | 61  | 7   | 9  | 29  | 80  | 34  | 13    | 18    | 9  | 323  | N.P. |
| SIC    | 4   | 21  | 15  | 7   | 6  | 2   | 13  | 11  | 3     | 5     | 3  | 90   | N.P. |
| SINE   | 0   | 7   | 10  | 5   | 1  | 10  | 7   | 5   | 1     | 0     | 3  | 49   | L.F. |
| SIVE   | 1   | 2   | 12  | 13  | 2  | 2   | 0   | 1   | 0     | 1     | 1  | 35   | L.F. |
| SUB    | 4   | 4   | 9   | 13  | 5  | 8   | 7   | 4   | 2     | 1     | 4  | 61   | L.F. |
| TAM    | 0   | 4   | 5   | 3   | 0  | 0   | 0   | 0   | 0     | 3     | 0  | 15   | L.F. |
| TAMEN  | 0   | 7   | 12  | 6   | 1  | 5   | 12  | 5   | 5     | 3     | 3  | 59   | L.F. |
| TANDEM | 1   | 1   | 3   | 2   | 1  | 1   | 2   | 1   | 0     | 3     | 1  | 16   | L.F. |
| UBI    | 5   | 8   | 5   | 1   | 5  | 2   | 12  | 1   | 2     | 1     | 2  | 44   | L.F. |
| UNDE   | 3   | 8   | 13  | 4   | 2  | 4   | 1   | 3   | 1     | 1     | 1  | 41   | L.F. |
| UT     | 34  | 92  | 75  | 13  | 1  | 8   | 60  | 23  | 11    | 12    | 8  | 337  | N.P. |
| VEL    | 7   | 5   | 8   | 6   | 3  | 5   | 15  | 5   | 4     | 8     | 3  | 69   | N.P. |

L.F.=low frequency (25% of cells [i.e., 2.25, rounded up to 3] have fewer than 5 cases; C.I-III count as one cell) N.P.=no pattern √=meets conditions for consideration as chronometer.

TABLE A: FREQUENCY OF CERTAIN FUNCTION WORDS IN HORACE

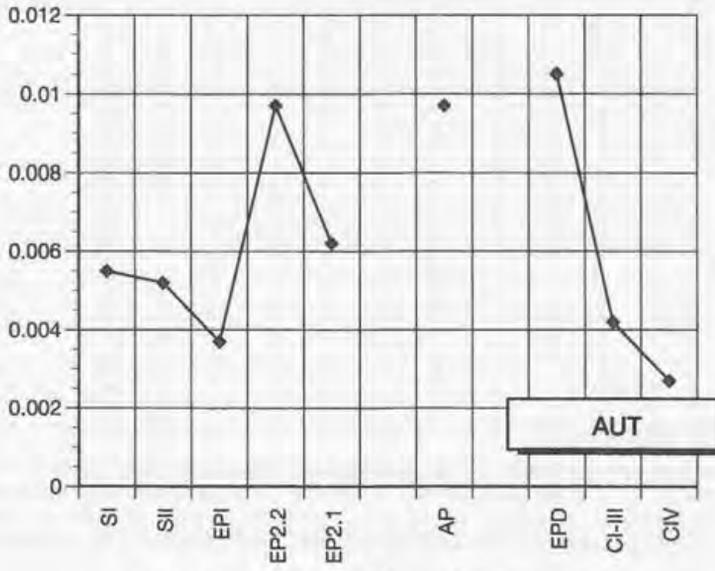
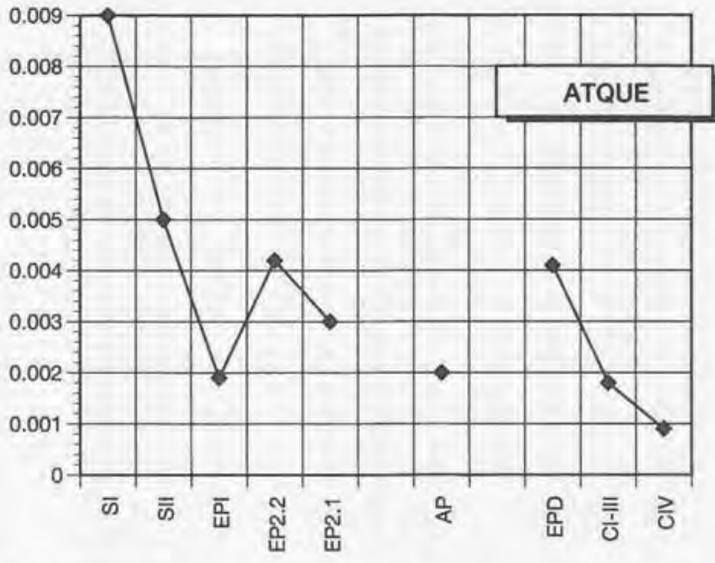


TABLE B: GRAPHS OF RANDOMLY OCCURRING FUNCTION WORDS (1)

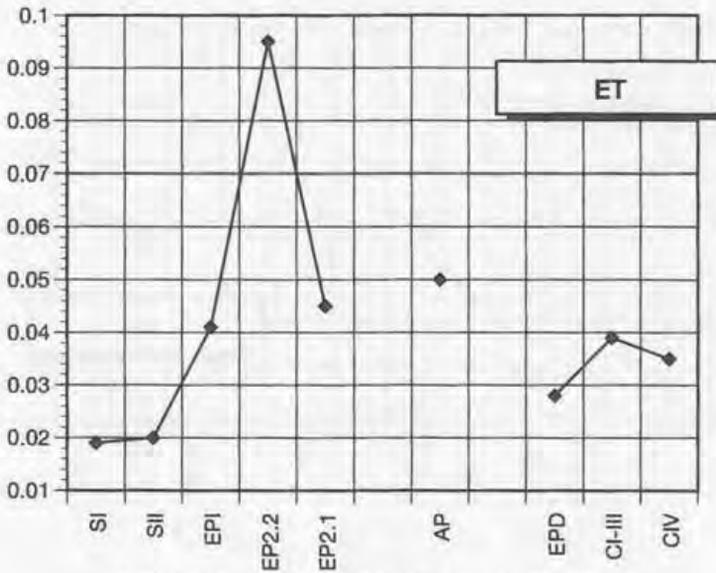
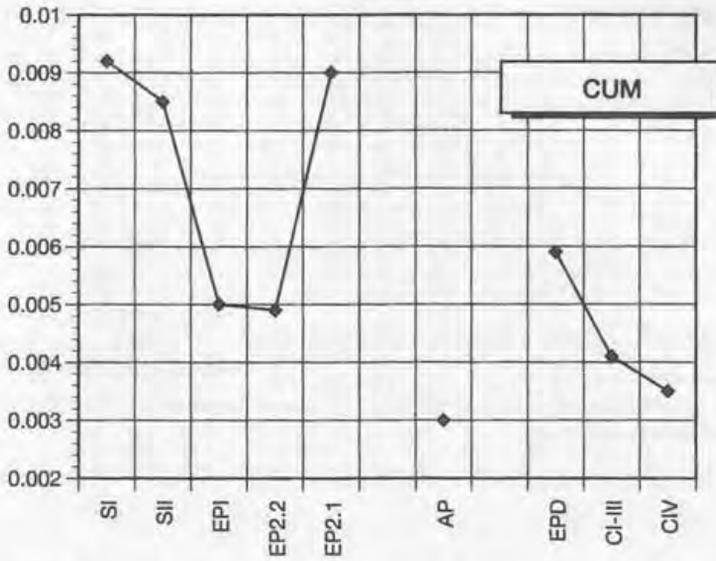


TABLE C: GRAPHS OF RANDOMLY OCCURRING  
FUNCTION WORDS (2)

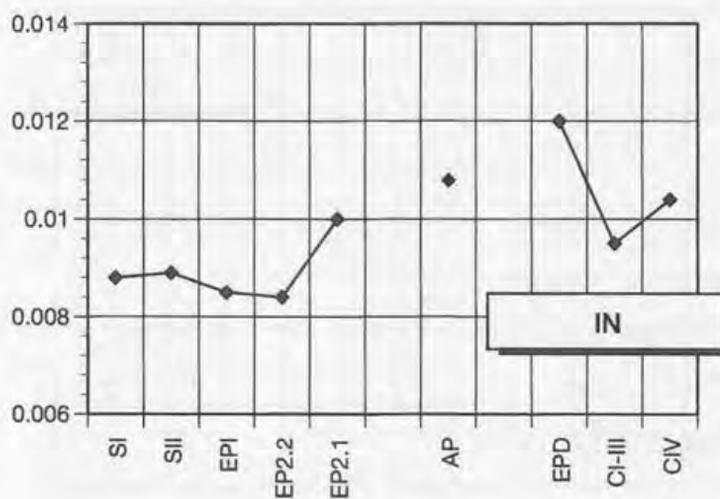
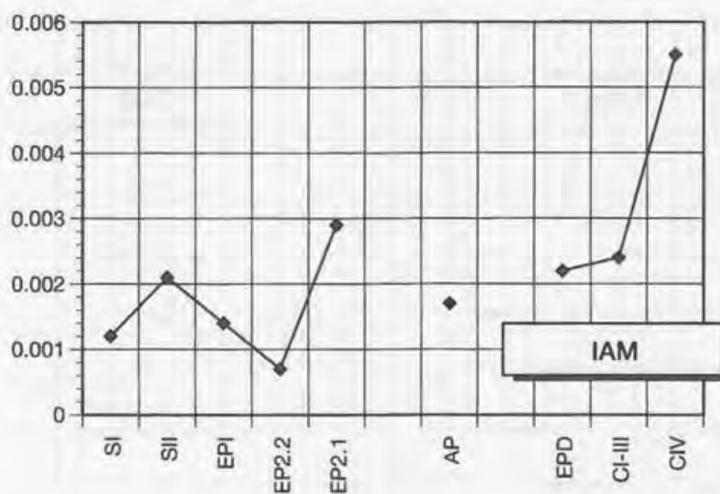


TABLE D: GRAPHS OF RANDOMLY OCCURRING  
FUNCTION WORDS (3)

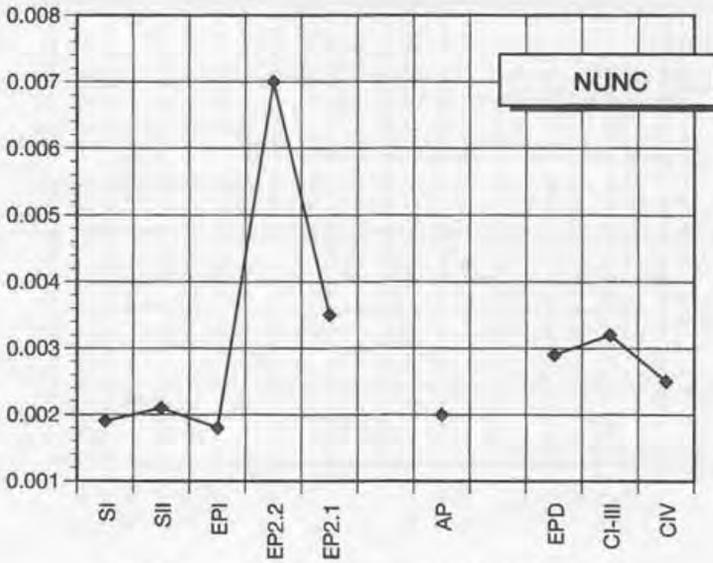
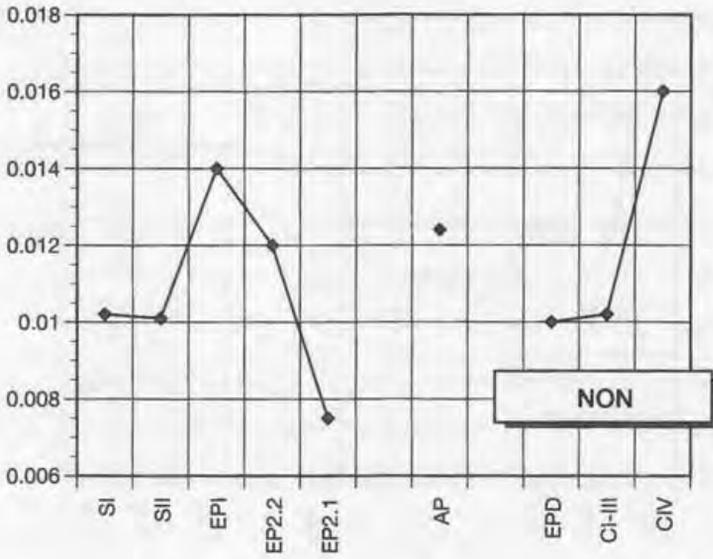


TABLE E: GRAPHS OF RANDOMLY OCCURRING FUNCTION WORDS (4)

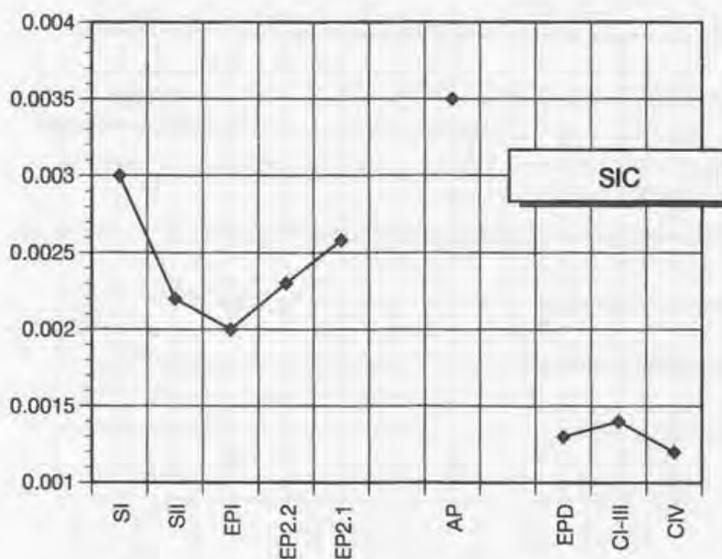
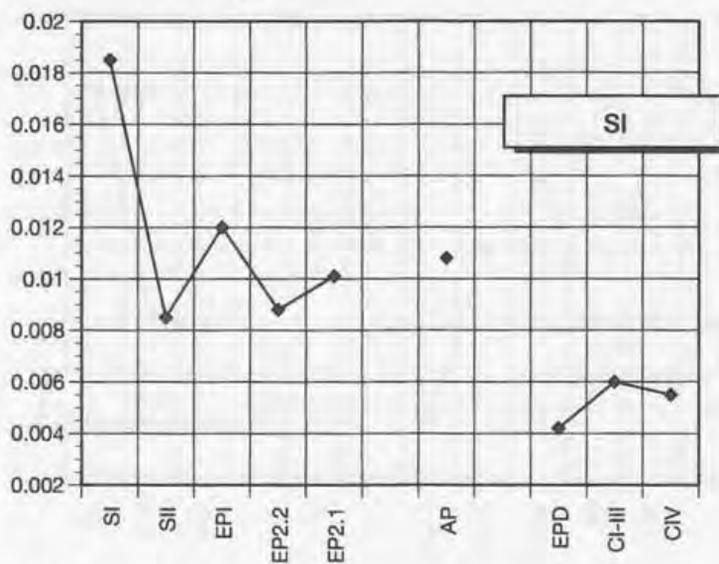


TABLE F: GRAPHS OF RANDOMLY OCCURRING  
FUNCTION WORDS (5)

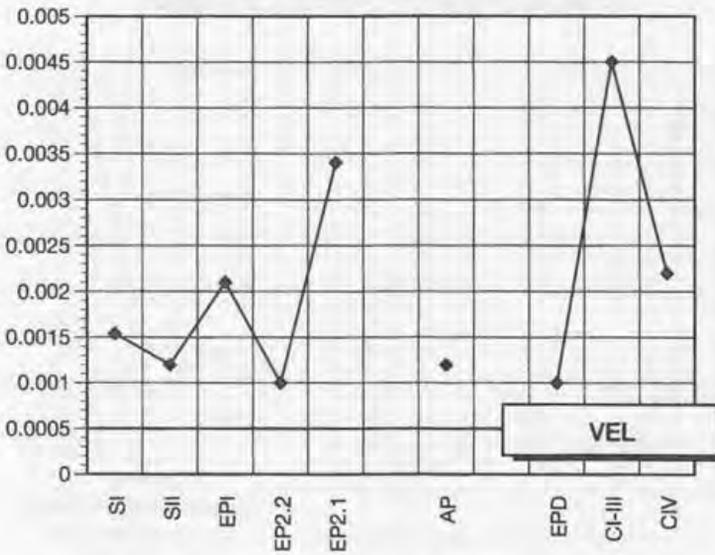
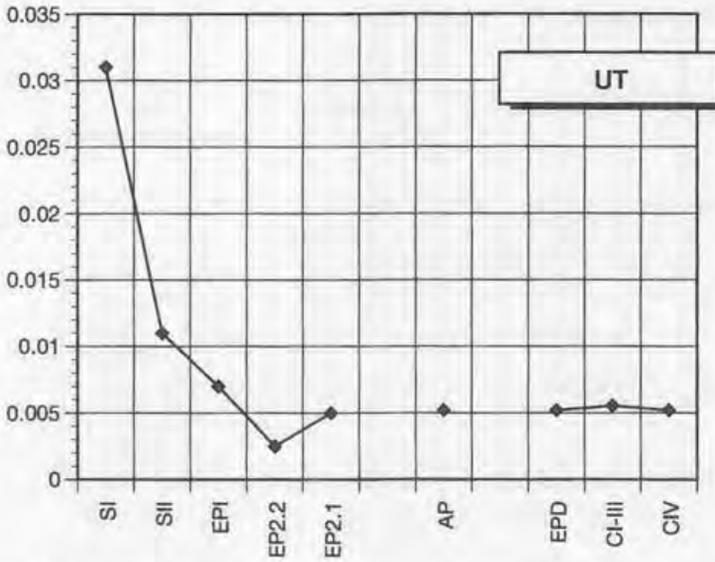


TABLE G: GRAPHS OF RANDOMLY OCCURRING  
FUNCTION WORDS (6)

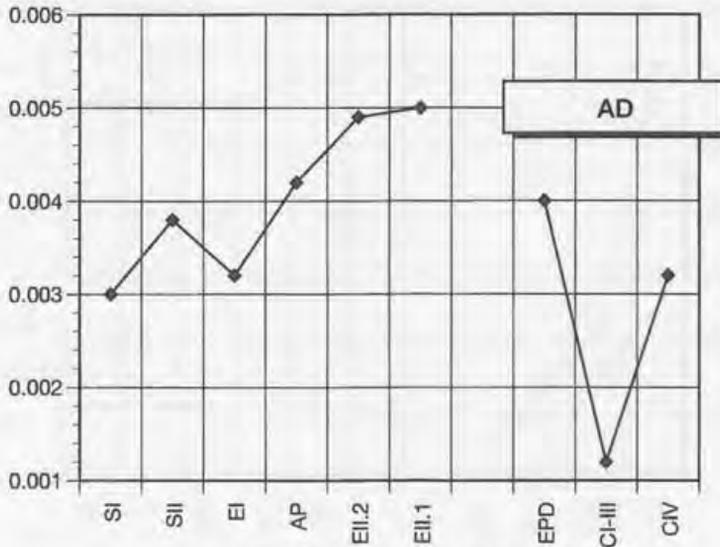


TABLE H: FREQUENCY OF "AD" IN HORACE

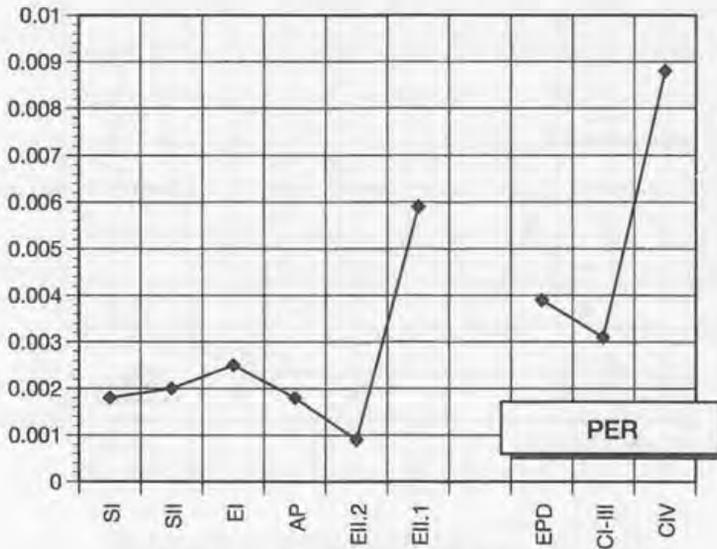


TABLE I: FREQUENCY OF "PER" IN HORACE

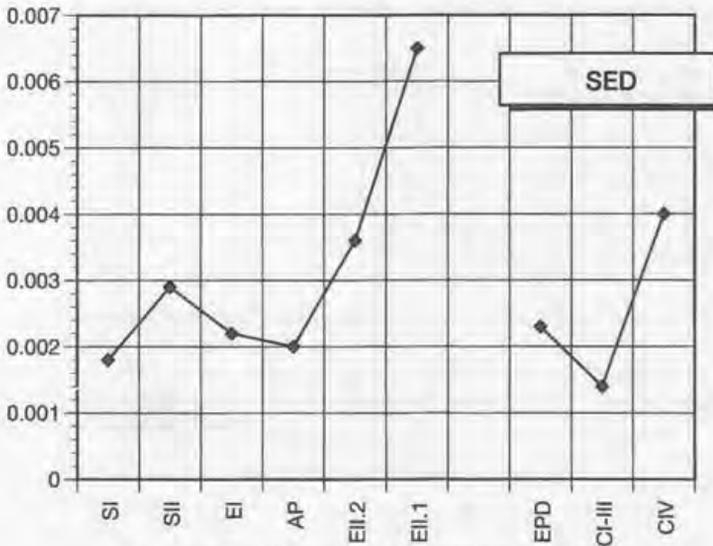


TABLE J: FREQUENCY OF "SED" IN HORACE

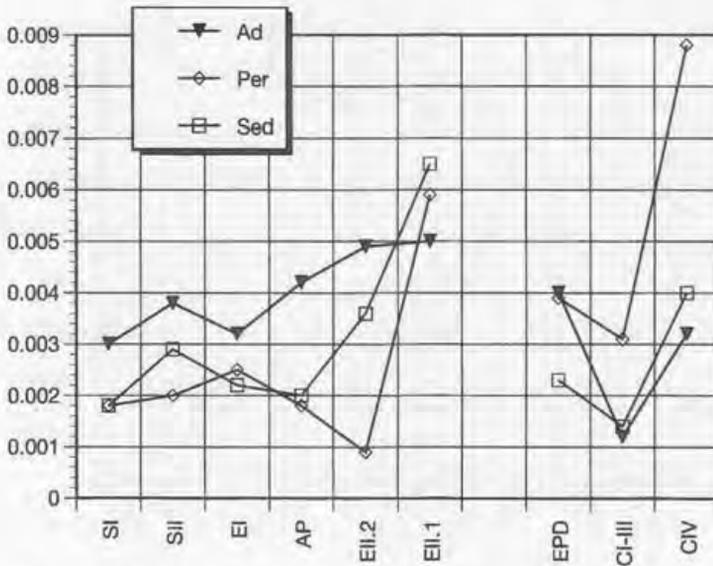


TABLE K: FREQUENCY OF "AD," "PER," AND "SED" IN HORACE

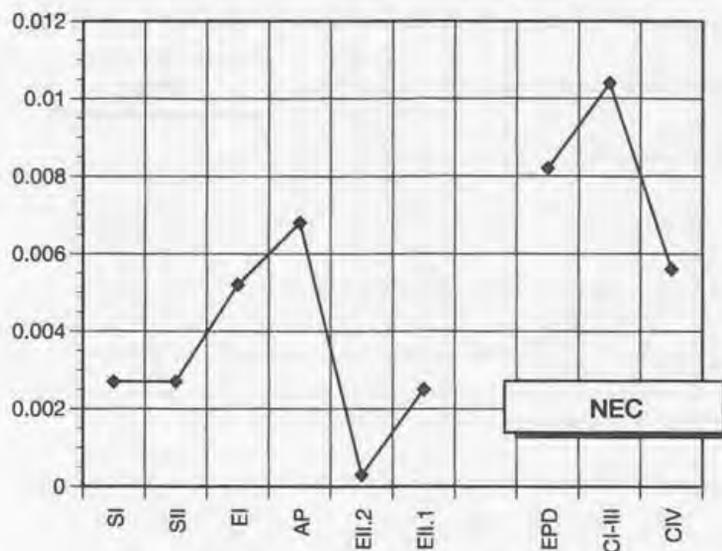


TABLE L: FREQUENCY OF "NEC" IN HORACE

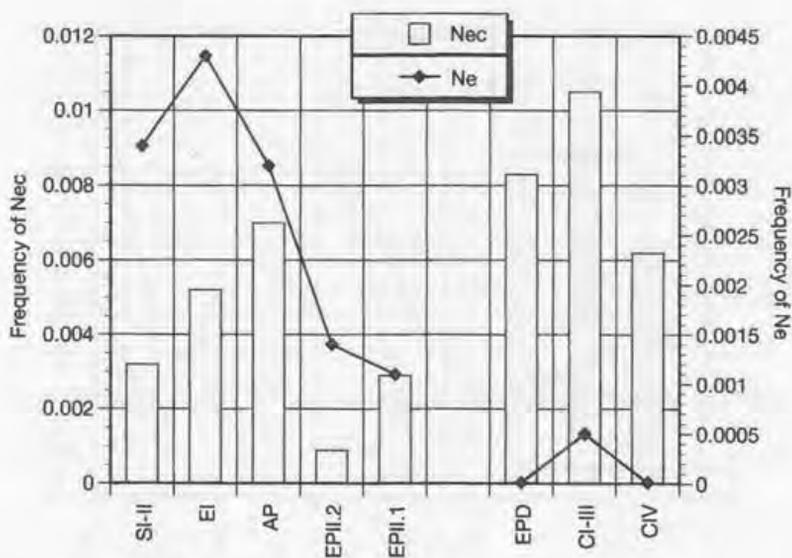


TABLE M: FREQUENCY OF "NEC" AND "NE" IN HORACE

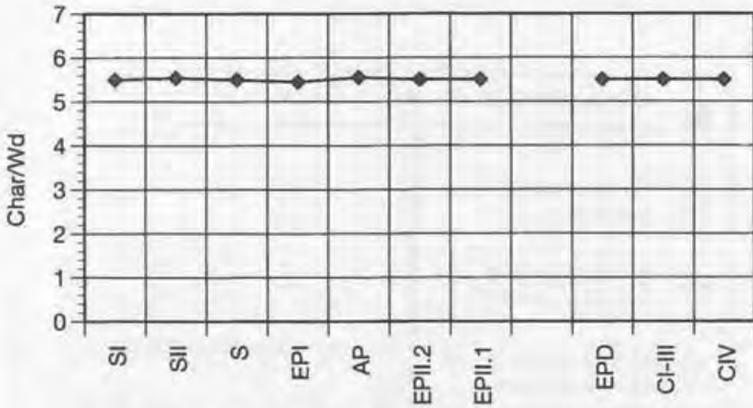


TABLE N: AVERAGE NUMBER OF CHARACTERS  
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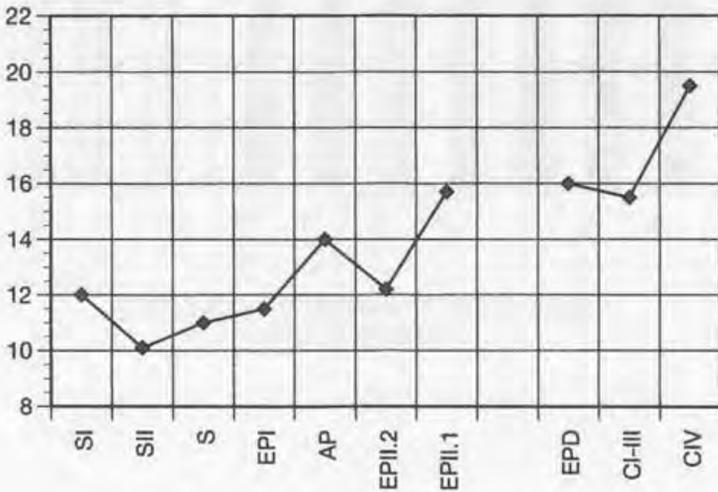


TABLE O: RATIO OF WORDS TO STOPS IN HORACE

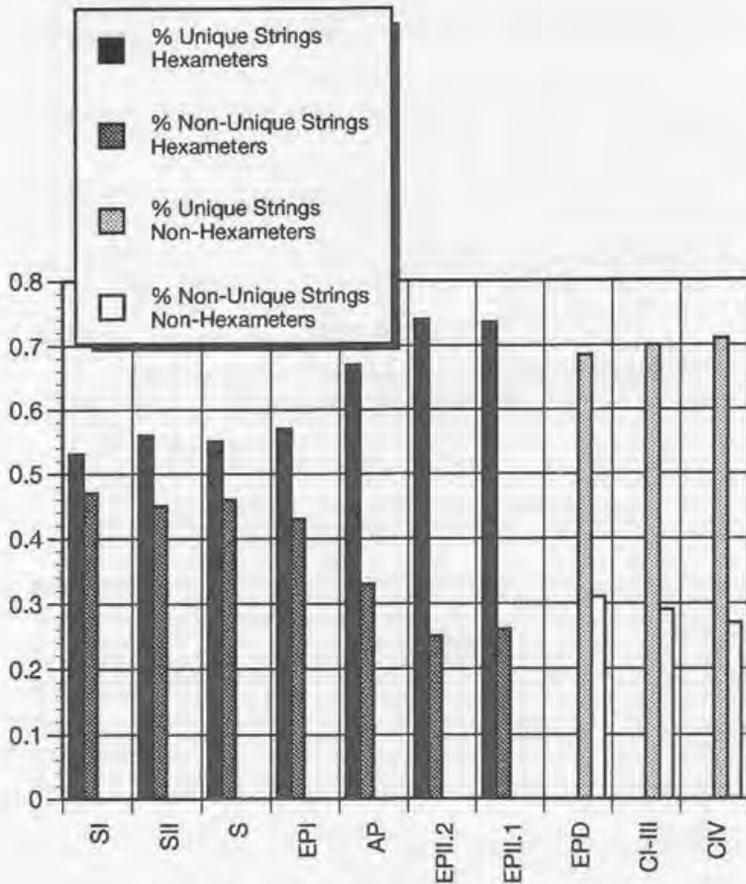


TABLE P: UNIQUE AND NON-UNIQUE STRINGS  
IN HORACE'S POETRY

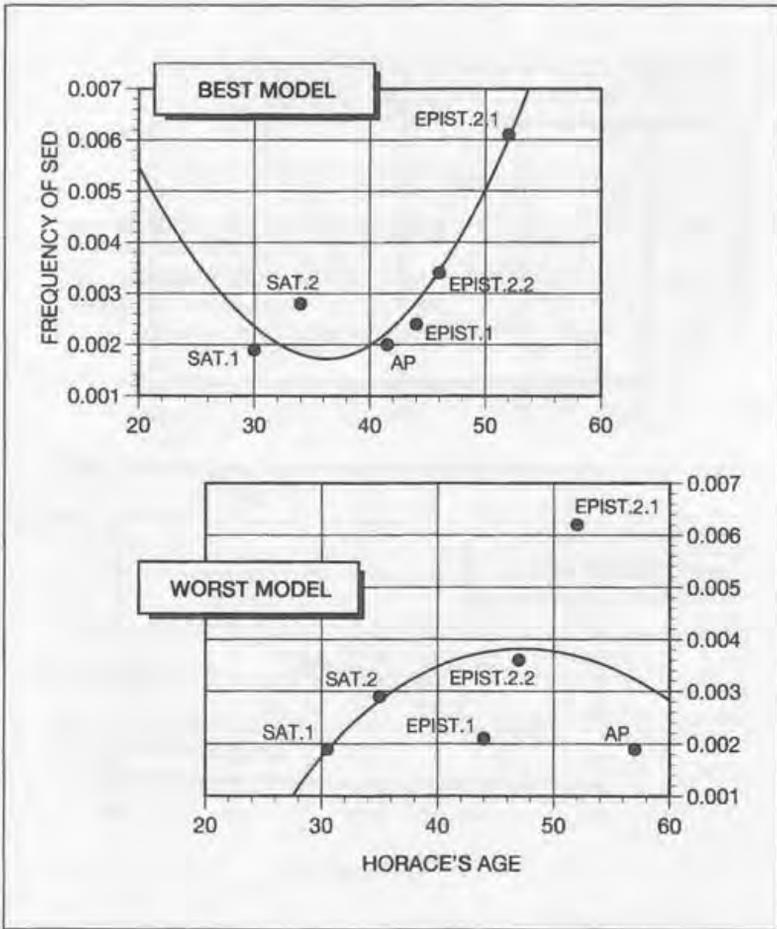


TABLE Q: BEST AND WORST REGRESSION MODELS FOR "SED"

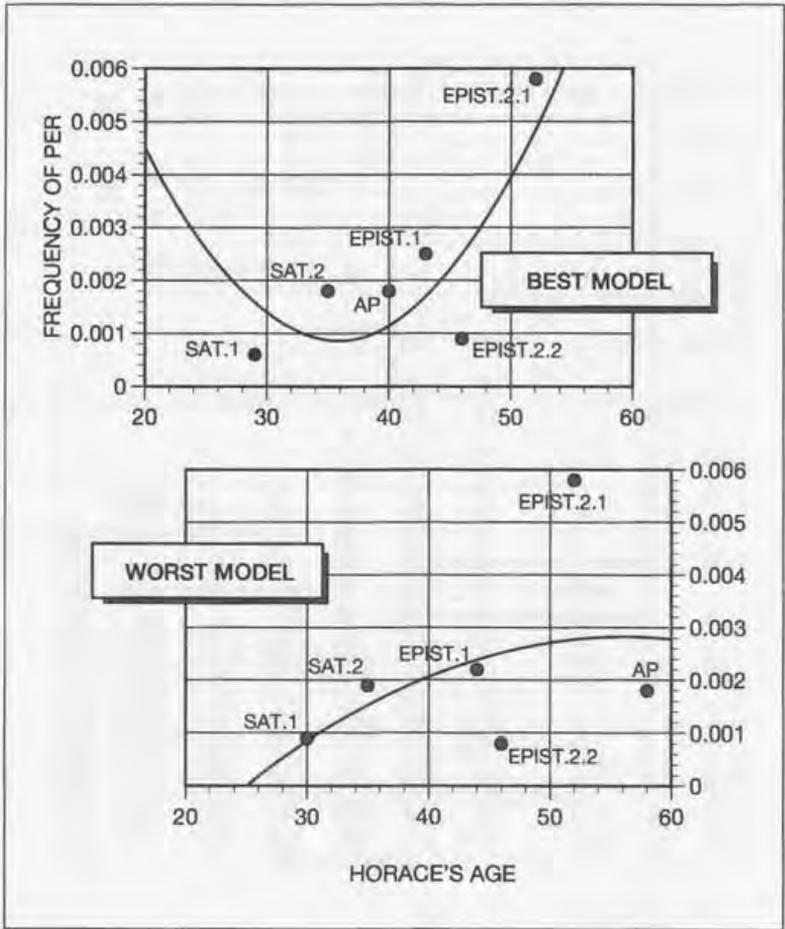


TABLE R: BEST AND WORST REGRESSION MODELS FOR "PER"

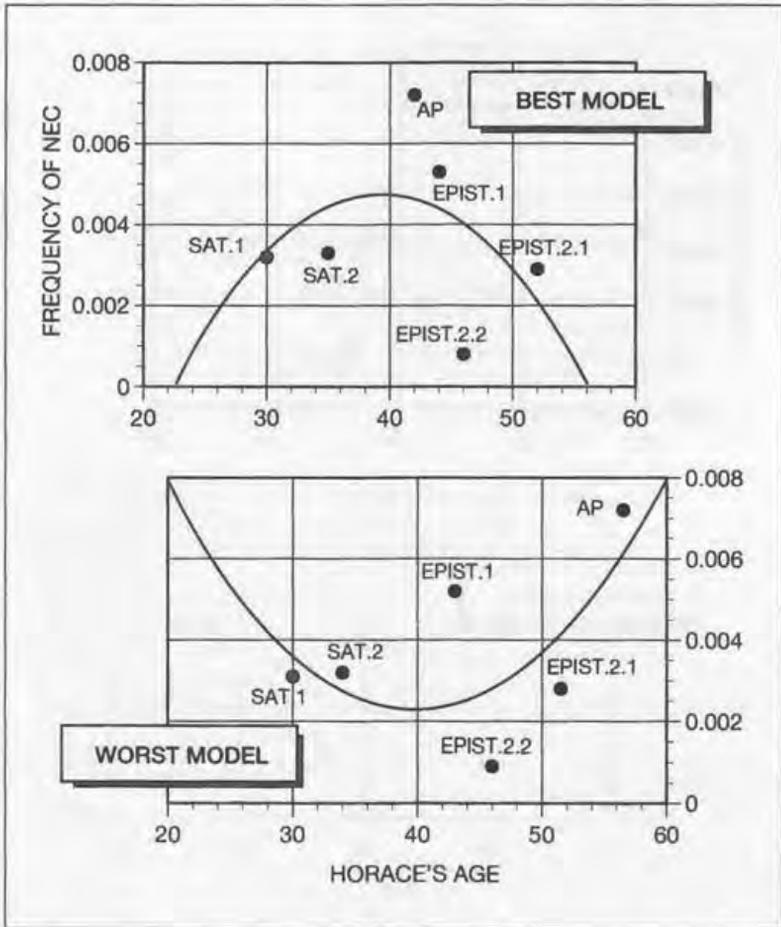


TABLE S: BEST AND WORST REGRESSION MODELS FOR "NEC"

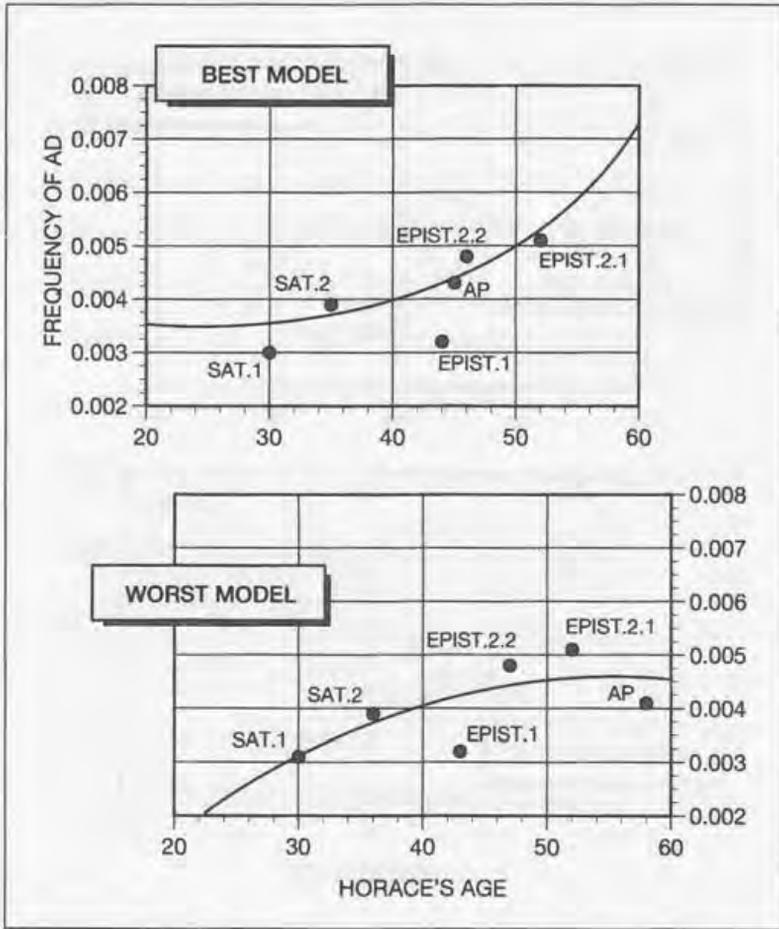


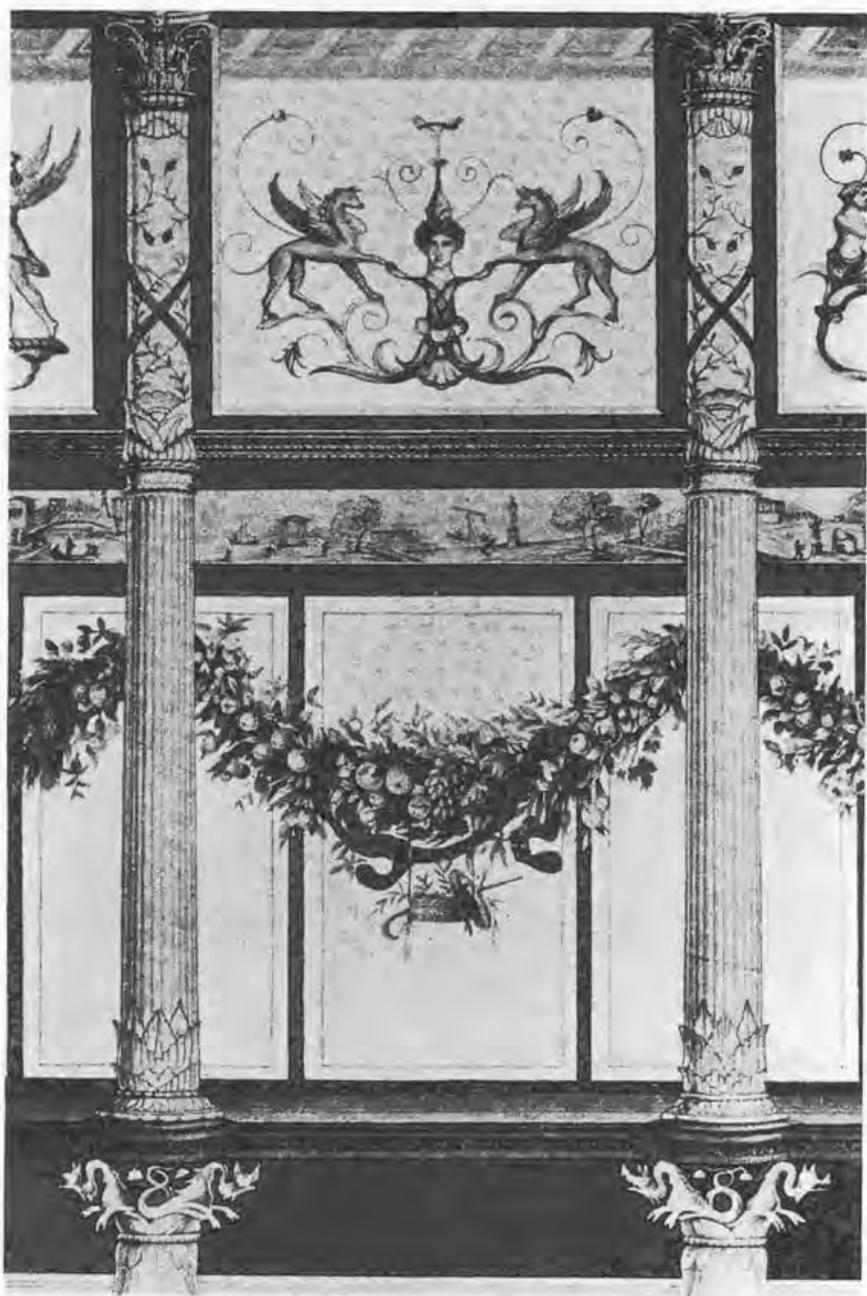
TABLE T: BEST AND WORST REGRESSION MODELS FOR "AD"



*Fig. 1—Inscr. Ital. X.i.65 (Pola, Lapidarium of Arheoloski muzej Istre 214)*



*Fig. 2—Detail from Frieze of the Temple of the Divine Julius Caesar, Rome (DAI Rome 63.1233)*



*Fig. 3—Detail of Wall Painting from Left Ala, House of Livia, Rome  
(DAI Rome 56.435)*

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American Classical Studies

Series Editor

Matthew S. Santirocco

Number 27

Shifting Paradigms

by  
Bernard Frischer

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SHIFTING PARADIGMS  
New Approaches to Horace's *Ars Poetica*

Scholars Press  
Atlanta, Georgia

# SHIFTING PARADIGMS

Bernard Frischer

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The American Philological Association

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Fig. 2—Detail from Frieze of the Temple of the  
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## PREFACE

"You're going to include *this* in your book on the *Ars Poetica*?" asked my friend, Ann Scott, looking incredulously at my tables and charts on the date of the poem. The idea of publishing the material that follows as a separate book was born that day. My motivations in dividing my work on the poem into at least two publications are several. First, the methodological and literary styles of the following work are quite different from those in the purely interpretative book that I also hope to publish on the *Ars Poetica*. The two works may thus appeal to two rather different readerships, neither very interested in the concerns of the other. Secondly, since the longer, interpretative book I plan to publish elsewhere contains a re-reading of the poem as a parody, it makes sense to precede that book with the present study, which provides some of the background assumptions and scholarly underpinnings for my new reading. Not that my new interpretation could not stand on its own, in the event that the following study falls on deaf ears or on minds more mathematically, or prosopographically, agile than mine.

The statistical analyses that follow are based on the digitized text of Horace edited by F. Klingner and kindly made available to me in Macintosh™ format by Tad Brennan of Princeton University with the consent of the publisher, the Packard Humanities Institute. I wish to thank Dr. David Packard for permission to use the text and Dr. John Gleason for helping me to obtain a copy. Mr. Brennan informs me that "the Horace files were created using the Ibycus Scholarly Computer; the P.H.I. Demonstration CD-ROM #1, a collection of Latin texts published by the Packard Humanities Institute; and Ibyxfer, a file-transfer program written by Wilkins Poe of Yale University. The Packard Humanities Institute CD-ROM describes itself as 'partially corrected,' and this must be taken at face value; errors are sure to exist." I have not had the resources to proofread the text nor to do more than correct a few errors that I happened to note in the course of these investigations. Since there are over 40,000 words of Horace extant, I would hope that any textual errors that may

have crept into the P.H.I. text will have but little impact on the statistical studies that follow.

Once transferred to Macintosh format, analysis of the text was aided by the text-processing program, Doug Clapp's Word Tools™, published by Aegis Development, Inc. Most of the statistical analyses and graphics were produced with the help of the statistics package, Systat 3.2™, published by Systat, Inc. I also used the Data Desk—Student Version™.

Readers who are unfamiliar with statistics will inevitably be disappointed to find that this book presumes at least a basic understanding of the field and does not attempt to provide more by way of background than references to the first-year college textbook that I myself used in getting started (A. Agresti and B. Finlay, *Statistical Methods for the Social Sciences* [San Francisco and London, 1986<sup>2</sup>]). Before tackling such a work, students of literature may be directed to A. J. Kenny's approachable book, *The Computation of Style* (Oxford 1982), which introduces many of the fundamental concepts of statistics through literary examples and problems.

I wish to thank the following for helpful discussions and comments about this and related aspects of my work on Horace: William S. Anderson (Classics Dept., Berkeley), Ernst Badian (History Dept., Harvard), David Blank (Classics Dept., UCLA), Irene Bragantini (University of Naples), Dee Clayman (Classics Dept., Brooklyn College, CUNY), Enrica Croda (Economics Dept., University of Venice), Andrew Dyck (Classics Dept., UCLA), Karin Einaudi (Fototeca Unione, Rome), Carlo Ferrari (School of Engineering, University of Padua), Nathan Greenberg (Classics Dept., Oberlin), Patricia M. Greenfield (Psychology Dept., UCLA), Erich Gruen (History Dept., Berkeley), William Harris (History Department, Columbia University), Richard Janko (Classics Dept., UCLA), Daniel Javitch (Comparative Literature Dept., New York University), Rudolf Marloth (Senior Scientist, Radar Systems Group, Hughes Aircraft Co., Los Angeles), Charles Murgia (Classics Dept., Berkeley), Michael Putnam (Classics Dept., Brown University and currently Mellon Professor of Classical Studies at the American Academy in Rome), Lorenzo Quilici (University of Rome), Annalise Quintavalle (Dept. of Statistics, University of Padua), Peter Rockwell (Rome), Ann Scott (Classics Dept., University of Delaware), Russell T. Scott (Dept. of Latin, Bryn Mawr College), Volker Michael Strocka (Archaeological Institute, Freiburg University), and Laura Weiss (Psychology Dept., UCLA). Responsibility for the opinions expressed and the statistics reported here is of course mine alone.

David Konstan (Classics Dept., Brown University) was kind enough to examine the manuscripts of Charisius in Naples for me. Robert Matijasic, of the Archaeological Museum of Istria, graciously supplied information about the Pola inscriptions mentioning L. Calpurnius Piso and also provided a photograph of *Inscr. Ital. X.i.65*. Dott. M. L. Velocchia Rinaldi and Arch. Costantino

Centroni of the Soprintendenza Archeologica per il Lazio provided helpful information about Horace's Villa at Licenza as well as access to archaeological material housed in the Licenza Museum. Mr. Clyde James, Director of the California State Library, Sutro Branch, answered an important bibliographical question about a copy of Lambinus' Horace edition in his collection. I am also very grateful to the German Archaeological Institute in Rome for permission to publish the photographs in figures 2 and 3 and to the Soprintendenza Archeologica per il Lazio for permission to make my own photographs of material housed in the museum of Licenza. Joan Gruen kindly lent me her camera (which I regret to say I inadvertently damaged) for photographing Horace's Sabine Villa; Mr. Antonio von Marx let me use his apartment (which I believe I returned no worse for the wear) when I visited London to work in the British Library (I did, however, manage to crash his Macintosh). Speaking of computers, I owe an enormous debt of gratitude to Apple Computer, Inc. for its generous gift of Macintosh computers to the Division of Humanities of UCLA. Anne Rivera of Apple took an early interest in my work, providing much needed help and advice.

I was fortunate to be able to work in the following libraries, whose staffs I wish to thank for their many kindnesses: the Biblioteca Apostolica Vaticana; the Biblioteca Civica di Bergamo; the Biblioteca dell'Accademia dei Concordi in Rovigo; the Biblioteca Marciana; the British Library; the University Research Library of UCLA; and in Padua, the Biblioteca Civica, the Biblioteca Universitaria, and the Biblioteca dell'Istituto di Filologia Latina. The librarians Marino Zorzi, Marco Buonocore, Leonard E. Boyle, O.P., and Lucilla Marino facilitated my work in many ways.

Special thanks are also due to Nicholas Horsfall (Rome)—who read drafts of the manuscript and made many encouraging comments and helpful bibliographical suggestions—and to Eleanor Winsor Leach (Classics Dept., University of Indiana)—who provided some very valuable suggestions, particularly about how to arrange the various sections of this work. Matthew Santirocco (Classics Dept., University of Pennsylvania) has not only discharged his duties as editor in exemplary fashion but, *Quintilii ritu*, has become a good friend as well. Finally, it is a pleasure once again to acknowledge the support generously given this research by the Academic Senate of UCLA and to thank Prof. Joseph Connors, Director of the American Academy in Rome, for giving me permission to stay in the Academy while researching this book in Rome.

On this numerically highly significant day in our lives, I dedicate this book to my wife, Jane Crawford, who will, I am sure, be even happier than I am to see it completed and sent on its way—at least, as long as *nescit vox missa reverti*.

—Padua, December 1, 1989

revised in Los Angeles, April, 1991

## INTRODUCTION

About one instance of the relationship between historical background and poetic foreground in the works of Catullus, Sir Ronald Syme wrote:

The proconsul and his 'comites', Veranius and Fabullus, have a chronological bearing on the life and writings of Catullus, that imbroglio of problems where dogma and ingenuity have their habitation, where argument moves in circles, and no new passage in or out.<sup>1</sup>

These words might seem to provide an inappropriate—or, at least, inauspicious—beginning to a new study of the centuries-old and interrelated problems of the title, date, addressees, and genre of the poem we call Horace's *Ars Poetica*. Dogma and ingenuity have certainly found their habitation in scholars' treatment of these problems, too. About this work, Horace's longest and most influential, we know much less than we sometimes assume. Moreover, much of what we think we know about these topics is subject to doubt and perhaps even revision. The purpose of this study is to support these claims, which, once demonstrated, set the stage for the new interpretation of the poem as a parody of Peripatetic poetics that I will adumbrate here and present with full details elsewhere.

By titling this book, *New Approaches to Horace's Ars Poetica*, I want, first of all, to allude to Syme's phrase, "new passage in." By using the plural, I also want to suggest that a historical reading of a poem as complex and elusive as the *Ars Poetica* requires that we make our way not along a single royal road, but through a variety of approaches, old and new, if we are to stop moving in the same interpretive circles. Progress in this as in any scholarly project comes from our ability to bring to bear new evidence, new methods, or

<sup>1</sup>*Roman Papers*, vol. 1, ed. E. Badian (Oxford 1979) 301-302 (= *Classica et Mediaevalia* 17 [1956] 130-131).

both to address old problems. These methods help us to eke out more information from the evidence contained within the poem itself and to find more unexploited historical evidence that can help us to calibrate our reactions to the poem with the knowledge and assumptions of Horace's informed, contemporary readership. For the first, I would single out statistical stylistics, which, applied here for the first time to the problem of dating Horace's poetry, can rely on data within the poems themselves to suggest a probabilistic dating of the *Ars Poetica*. Applying art-historical analysis to the interpretation of the opening lines of the poem exemplifies the second way in which a newly applied methodology can provide a richer context for historical understanding of the *Ars Poetica*. Of course, traditional philological techniques have a contribution to make, too, e.g., in helping us to determine the poem's genre and to make sense of the ancient and medieval evidence about its title and position in Horatian manuscripts.

Progress can also be made by shifting our perspectives as critics. For far too long the *Ars Poetica* has been read as something that would be rather anomalous among Horace's poems: a sincere and almost confessional "how-to-do-it" booklet. Read in this way, the poem can be—and in this century generally has been—too easily dismissed as disappointing or worse. "The nineteenth century, like the twentieth so far, did without the *Ars*," wrote the translator C. H. Sisson with much justification.<sup>2</sup> In their history of literary criticism, Wimsatt and Brooks wrote rather dismissively that "the *Ars Poetica*...is a nice mélange of objective and critical rules with snatches of studio wisdom."<sup>3</sup> It is a telling fact that even the most historically-oriented literary critics of Horace have rarely found insights in the *Ars Poetica* that aid them in understanding his other poems. To cite perhaps the most striking example, in his influential book on Horace, Fraenkel did not discuss the poem at any length, mentioning it mainly in footnotes.<sup>4</sup> Yet, if the *Ars Poetica* were really Horace's poetic credo, it ought to be of some utility in the practical criticism of his poetry. Persona-theory, applied so fruitfully to other Roman poetry, including Horace's own, can also serve us well in this endeavor to break free of critical ruts and circles. Once we dis-

<sup>2</sup>C. H. Sisson, *The Poetic Art. A Translation of Horace's Ars Poetica* (Cheadle Hulme, Cheadle 1975) 19.

<sup>3</sup>W. K. Wimsatt, Jr. and C. Brooks, *Literary Criticism. A Short History* (New York 1957) 94. They go on to write: "Keep your pencils sharpened, carry a pocket notebook, drink a pint of beer with lunch...take your time in publishing. It is no derogation from such statements to say that they are not strictly parts of criticism. In the *Ars Poetica* of Horace they are, despite the random structure of the poem, not actually in great danger of being confused with criticism."

<sup>4</sup>E. Fraenkel, *Horace* (Oxford 1957). As far as I can tell, the only references to the poem occur at pp. 77n2, 125n3, 148n2, 177n2, 299, 308n1, 347n4, 365n1, 382, 389n3, 389n5, 393n3, and 398n4.

sociate Horace, the poet, from the speaker of the *Ars Poetica*, the poet's fictional creation, we can stop having to explain or edit away the poem's deficiencies and dullness, and we can begin to appreciate in it the same techniques of wit and satire that are so characteristic of Horace's poetry.<sup>5</sup>

The itinerary we will pursue through these approaches is as follows. In *Chapter 1* I discuss the ancient and medieval evidence about the title of the poem and its location in the ancient manuscripts of Horace's poetry, showing that modern editors' habit of printing the poem after or even with *Epistles II* and of giving it the title *Epistula ad Pisones* goes against the grain of the evidence and reflects the (in most cases probably unconscious) influence of some rather flimsy Renaissance theorizing. The evidence strongly suggests that we should view the poem as an independent work in the Horatian corpus. In *Appendix I*, the pertinent Renaissance texts for the letter-theory are reproduced.

In *Chapter 2* I tackle the problem of the poem's date, using statistical stylistics and more traditional historical and literary arguments to advocate an early date (i.e., 24-20 B.C.) against the currently fashionable late dating to the end of Horace's life. *Appendix II* presents some technical details.

In *Chapter 3* several of the major prosopographical and interpretive consequences of chronology are discussed. Of these, the first and perhaps most important is that the early dating does not force us—as has been assumed for over a century—into the uncomfortable position of having to identify Cn. Calpurnius Piso (cos. 23) as the senior addressee of the *Ars Poetica*. Rather, there is good reason to assign that role to L. Calpurnius Piso Caesoninus (cos. 58), a candidate never before considered, doubtless because of modern scholarly speculation that he died well before the *Ars Poetica* was written. In *Appendix III* is related the historical evidence from Pola supporting my suggestion that this speculation is probably wrong. Caesoninus—who had been memorably pilloried by Catullus for bad taste in choosing his literary companions and who had been branded the "Phalaris of *grammatici*" by Cicero—stood for bad literary taste in this period. The fact that the speaker of the *Ars Poetica* mentions him and Hor-

<sup>5</sup>I am aware of only one earlier attempt to apply persona-theory to the *Ars Poetica*: A. G. Wood, *Literary Satire and Theory. A Study of Horace, Boileau, and Pope* (New York and London 1985) passim. As will be seen below in *Chapters 3* and *4*, I do not agree with Wood's statements that "the 'I' of the [*Ars Poetica*] is portrayed much like the poet..." (p. 4) and that "we should not expect to find great differences between the texts and the stated beliefs of Horace. In the case of Horace it is extremely difficult to find inconsistencies between the poet and his personae" (p. 14). Wood's analysis, while claiming to be based on persona-theory, makes very little progress beyond earlier interpretations of the *Ars Poetica* precisely because it fails to find any inconsistencies between the poem and the behavior and "stated beliefs" of the poet.

ace's *bête noire*, Sp. Maecius Targa, as respected authorities on literature naturally calls the speaker's own authority into question—a suggestive piece of evidence for the parody-theory. This chapter concludes with a reading of the poem's opening lines, where I argue that through his misuse of rhetoric and his display of ignorance about new developments in Roman painting, the speaker is characterized right from the start as a pretentious pedant who abuses poetic license and is out of touch with the taste of Horace and his circle.

In *Chapter 4* I reconsider the generic classification of the poem, arguing that it more closely conforms to the features of Horatian *sermo* than to those of *epistula*—an exercise of interest for at least three reasons. First of all, refutation of the letter-theory reinforces the view that the *Ars Poetica* should not be printed with *Epistles* II or interpreted in the light of those poems. Secondly, the case for classifying the poem as *sermo* on the basis of formal features adds strength to the conclusion of *Chapter 2* that the poem was composed in the period between *Sat.* II and *Epist.* I: for, although, as *Carm.* IV shows, Horace could revisit a genre after a long absence, he generally did not do so, and hence our dating is more plausible to the extent that it puts the poem into a period of Horace's life when he was writing poetry of a similar kind. Finally, the classification of the *Ars Poetica* as *sermo* lends obvious support to its interpretation as a mock-didactic parody, since, especially in *Sat.* II, we find some striking passages and even whole poems in which Horace sends up pedants and their foolish dogmas.

Before joining the imbroglio that rages around these matters, I should stress that one of my main goals here is less to offer new solutions to the old problems than to reveal how speculative our answers to all these questions have been and—in view of the evidence—must, perforce, be. Another goal is to re-open discussion of these major problems facing a critic of the poem, something desirable, I think, because our most recent studies of the *Ars Poetica*, for all their virtues, have been lacking in this regard. Since some of these problems have not been thoroughly reconsidered for a century or more, solutions originally offered as speculations have almost come to have the status of facts. In pursuit of this second goal, I will be proposing some new solutions that, if not necessarily always more cogent than the possibilities encountered in the scholarly literature, are at least no more speculative than those they would replace.

As in the case of Catullus' poetry, which cannot be diachronically understood without bringing to bear what can be ferreted out about such historical personages as Piso, Veranius and Fabullus, the importance of this enterprise lies in the new framework for interpreting the *Ars Poetica* to which it gives rise. As we will see, once we show that there are new possible ways of solving such basic—if seemingly antiquarian—problems as dating and classifying the poem and identifying its addressees, we are well on our way to constructing a fresh reading of what may well be not merely the longest, but also the wittiest, of Horatian poems.

## CHAPTER 1

### THE TITLE OF THE POEM: ANCIENT AND MEDIEVAL EVIDENCE VS. RENAISSANCE SPECULATION

What we know, or think we know, about the background of a literary work can have a decisive effect on our interpretation. Clues provided by the author—particularly the title<sup>1</sup>—and facts uncovered, or commonplaces created, by scholars and recorded in introductions, prefaces, or even, in modern times, on dust jackets create certain expectations in us even before we read the first words of a text. As S. J. Wilsmore has recently written, “the literary work often possesses its title essentially in that it could not be the same literary work without it. Moreover, it often possesses many of its essential aesthetic properties—those that must necessarily be perceived if it is to be ‘appreciated’—as titles reveal them.”<sup>2</sup> J. Fisher noted that “the unique purpose of titling is hermeneutical: titles are names which function as guides to interpretation.”<sup>3</sup> These points are so obvious that they need not be elaborated here. They bear repeating because they have often been forgotten, or at least ignored, by critics of the poem that, as I will show presently, should be called the *Ars Poetica* but which is all too often given the misnomer *Epistula ad Pisones*—as it is, for example, in two otherwise excellent new studies recently published by Rudd and Kilpatrick.<sup>4</sup>

<sup>1</sup>Cf. H. Adams, “Titles, Titling, and Entitlement To,” *JAAC* 46 (1987) 7-21, at p. 17: “Titles don’t come at the ends or middles of texts, so the relation that we have been considering is always one involving expectation....”

<sup>2</sup>S. J. Wilsmore, “The Role of Titles in Identifying Literary Works,” *JAAC* 45 (1987) 403-408, at p. 408.

<sup>3</sup>J. Fisher, “Entitling,” *Critical Inquiry* 11 (1984) 286-298.

<sup>4</sup>I refer to N. Rudd, *Horace. Epistles II and Epistle to the Pisones* (‘*Ars Poetica*’) (Cambridge 1989) 19; and R. S. Kilpatrick, *The Poetry of Criticism. Horace Epistles II and Ars Poetica* (Edmonton, Alberta 1990) ix, 33, 52, 56, 72. In his new book for the general reader, D. Armstrong calls the poem *Epist. II.3* (*Horace* [New Haven 1989] 154), as does N. Rudd in his superb Penguin translation (*Horace, Satires and Epistles; Persius, Satires* [Harmondsworth, Middlesex, England 1979] 190-203).

It is thus useful to begin this study by reviewing what is known about the poem's title. The titles that we find in modern editions—*Ars Poetica*, *Epistula ad Pisones*, or *Epist.* II.3—are not supported by any evidence dating from Horace's lifetime. How Horace and his contemporaries referred to the poem is a mystery and is likely to remain one. Information about the title starts to become available about one hundred years after Horace's death in references to it by other writers. More information is contained in the late-antique scholia and in the medieval manuscript tradition. Now, normally such a wealth of material would be sufficient to establish something like the title of an ancient work, assuming, of course, that the evidence points in a certain direction, as it does in the present case. Why, then, do so many scholars use the titles *Epistula ad Pisones* or *Epist.* II.3 when the only title with strong ancient and medieval support is *Ars Poetica*?

Let us start by looking at the work's location in the ancient and medieval manuscripts of Horace's poetry and in modern printed editions. My aim is simple: not so much to add to our knowledge of such matters as to remind readers of Horace that the custom of printing the *Ars Poetica* at the end of the corpus with (or, next to) the "sincere" poetic letters to Augustus and Florus in *Epistles* II is modern and is not supported by any credible ancient evidence.

Where the *Ars Poetica* appeared in late-antique texts of Horace's works can be inferred from the arrangement of the poems in the principal medieval manuscripts and from the order in which the ancient commentator Porphyrio discusses the works,<sup>5</sup> as Vollmer's table (TABLE I, next page) indicates.<sup>6</sup>

Vollmer compiled this table in order to try to group the mss. into families—that is, for purposes of textual history and criticism. This attempt failed, as Brink trenchantly showed,<sup>7</sup> but the information is still useful for another purpose. With its help, we can easily see that in the ancient texts, the *Ars Poetica* came either fourth, after the *Carm. Saec.* (CLASS I), or else second, after the *Odes* (CLASS II). In either case, the poem was kept quite distinct from *Epist.* I and II. The ancients considered it an independent work in Horace's corpus.

We do not understand why, nor do we know exactly when, the poems of Horace were arranged in these ways. Wickham thought that the *Ars Poetica* and *Odes* appeared as the first two works because of their utility in the schools, but

<sup>5</sup>His commentary presumably follows the order of the works in the ancient edition he was using.

<sup>6</sup>See Brink, II, 14; F. Vollmer, "Die Überlieferungsgeschichte des Horaz," *Philologus Suppl.* 10 (1907) 290. The abbreviations for the *sigla* are from Brink (see II, 53); here and there Vollmer's differ.

<sup>7</sup>Brink, II, 15.

this arrangement only pertains to Vollmer's CLASS II.<sup>8</sup> Vollmer thought that the principle of arrangement of the second class was alphabetical order.<sup>9</sup>

| CLASS I               |                    |                       |        |
|-----------------------|--------------------|-----------------------|--------|
| C(E)                  | B                  | A                     | D      |
| 1. Carm.              | Carm.              | Carm.                 | Carm.  |
| 2. Epod.              | Epod.              | Epod.                 | —      |
| 3. Carm. Saec.        | Carm. Saec.        | Carm. Saec.           | —      |
| 4. <i>Ars Poetica</i> | <i>Ars Poetica</i> | —                     | —      |
| 5. Serm.              | —                  | Epist.                | Epist. |
| 6. Ep./Serm.          | Serm.              | —                     | Serm.  |
| CLASS II              |                    |                       |        |
| R λΙ δπφψ             | V(?)               | Porphyrio             |        |
| 1. Carm.              | Carm.              | Carm.                 |        |
| 2. <i>Ars Poetica</i> | <i>Ars Poetica</i> | <i>Ars Poetica</i>    |        |
| 3. Epod.              | Epod.              | Carm. Saec.           |        |
| 4. Carm. Saec.        | Carm. Saec.        | Carm. lib. V [=Epod.] |        |
| 5. Epist.             | Serm. (?)          | Serm.                 |        |
| 6. Serm.              | Epist. (?)         | Epist.                |        |

TABLE I: POSITION OF THE *ARS POETICA* IN THE MSS. OF HORACE

What is, in any event, clear is that before Henricus Stephanus (Henri Estienne), whose influential edition of Horace was first published in 1549, almost no editor placed the *Ars Poetica* after *Epist.* II at the very end of the Horatian corpus.<sup>10</sup> It is also clear that Stephanus' location was not immediately accepted by everyone: for example, the new version of the great variorum edition of Parrasio, Badius van Assche, Poliziano, Sabellico, et al., published in Venice

<sup>8</sup>E.C. Wickham, *Quinti Horatii Flacci, Opera Omnia*, vol. 2 (Oxford 1891) 327, 332.

<sup>9</sup>Vollmer, op. cit. (*supra* n. 6) 278n30. Brink rightly expresses scepticism at II, 14.

<sup>10</sup>H. Stephanus, *Q. Horatii Flacci, Opera Omnia* (Paris 1549) = Mills 147. A new edition is listed at Mills 199, 200, 209. Second editions of this are found at Mills 239 and 240; the third edition is at Mills 256. On Stephanus (1528-1598), see A. A. Renouard, *Annales de l'imprimerie des Estienne* (Paris 1837); J. Jehasse, *La renaissance de la critique* (Saint-Etienne 1976) 71-88.

An earlier edition to print the *Ars Poetica* as the last work in the Horatian corpus was that of Joannes Aloisius Tuscanus published in ca. 1474 (= Mills 32, with a date of ca. 1475; ca. 1474 is the date given in the British Library catalogue for I.B. 18046, which I have examined in London). There may well have been other pre-Stephanus editions to print the *Ars Poetica* last; I cannot claim to have inspected every printed edition of Horace predating 1549.

in 1553, kept the *Ars* in its old position after the *Carmen Saeculare* and before *Sermones* I, the position in C(E).<sup>11</sup> This is the same place in which the anonymously edited *opera omnia* published *ex officina M. Vascosani* put the *Ars Poetica* in 1551.<sup>12</sup> In Georgius Fabricius' Horace edition, which appeared in Basel in 1555, the poem also appeared after the *Carmen Saeculare* and before *Sermones* I, and was to remain there as late as the Leipzig reprint of 1593.<sup>13</sup> That Stephanus' rearrangement of the corpus became canonical—and remains so to this day—is probably due to Lambinus' great edition with commentary of 1561, where the *Ars Poetica* is printed last, after *Epistles* II.<sup>14</sup>

As the material collected in *Appendix I* shows, no one seems to have called the *Ars Poetica* the *Epistola ad Pisones* before Jason De Nores, the professor of Moral Philosophy at Padua from 1577 to his death in 1590, who in 1553 wrote a commentary on the poem based on the ideas of his friend and teacher,

<sup>11</sup>*Q. Horatii Flacci Poetae Venusini Omnia Poemata* (Venice 1553) = Mills 154 (and cf. Mills 97, 112, 119, etc.). On Aulo Giano Parrasio and his work on Horace's *Ars Poetica*, see F. D'Episcopo, *Aulo Giano Parrasio, fondatore dell'Accademia Cosentina* (Cosenza 1982). In M.-A. Muret's edition published in Venice in 1555 (*Horatius. M. Antonii Mureti in Eundem Annotationes*), the *Ars Poetica* is printed as a separate work after *Epistles* II but before *Serm.* I. Muret entitled the work, "Q. Horatii Flacci De Arte Poetica Liber. Ad Pisones" (p. 189).

<sup>12</sup>*Q. Horatii Flacci Poemata* (Paris 1545-1551) = Mills 137. This edition appeared in five parts; the part containing the *Ars Poetica* was issued in 1551.

<sup>13</sup>See Mills 160 for the 1555 printing; I examined the 1593 reprint in the Bib. Marciana. On Fabricius (1516-1571), see *Biographie universelle*, 13 (Paris 1855) 294.

<sup>14</sup>Lambinus' work appeared in two volumes, of which the first contains the lyric poems and the second the hexameters: *Q. Horatius Flaccus, Ex fide, atque auctoritate decem librorum manuscriptorum, opera Dionys. Lambini Monstroliensis emendatus: Ab eodemque commentariis copiosissimis illustratus, nunc primum in lucem editus* (Lyon 1561) (= Mills 168); and *Q. Horatii Flacci sermonum libri quattuor, seu satyrarum, libri duo, epistolarum, libro duo, a Dionysio Lambino Monstroliensis ex fide novem librorum manuscriptorum emendati ab eodemque commentariis copiosissimis illustrati* (Lyon 1561) (= Mills 171). Note that Mills 171 = Mills 124, the copy in the California State Library, Sutro Branch, which Mills, following the Sutro catalogue entry, erroneously dates to 1541. As I suspected, and as Mr. Clyde Janes, Director of the Library, kindly confirmed in a personal communication, the title page of the Sutro copy dates the book to MDLXI, which was apparently misread as MDXLI. Despite the possible implication of the title of the second volume containing the hexameters, Lambinus did not include the *Ars* in the second book of *Epistles* but printed it as an independent work after *Epist.* II. For an appreciation of Lambinus' edition, see C. O. Brink, "Horatian Poetry. Thoughts on the Development of Textual Criticism and Interpretation," *Wolfenbütteler Forschungen* 12 (1981) 7-17, at p. 10.

Padua professor Trifone Gabriele (*Appendix I* [3]).<sup>15</sup> In the preface to the work, De Nores gave a fairly detailed justification of this title, stating that the poem had the form of a letter, not of a technical treatise. Dismissing the testimony of Quintilian on the title, De Nores argues against possible critics of his new title by noting that letters can offer precepts and treat serious matters; he points out that in several of Horace's own indisputable letters, he does just this. De Nores also sees in the poem's lack of elaborate structure a further argument in favor of the letter-theory, since "the letter likes a certain familiarity of tone, and a highly precise structure tends more towards severity than familiarity."

It is likely that sensitivity of Gabriele and De Nores to the characteristics of the epistolary genre reflects the influence of earlier sixteenth-century works on the epistle, such as that by the northern Italian humanist, Marino Becichemo, who wrote a lengthy and perceptive treatise on this topic, without specific reference to the *Ars Poetica* (*Appendix I* [1]). Another possible influence was Erasmus.<sup>16</sup> At any rate, it is certain that De Nores knew the work of Francesco Robortello, whose career as public humanist took him to teaching positions in Venice, Bologna, and Padova.<sup>17</sup> In his *Paraphrasis* of the poem, printed in 1548 (*Appendix I* [2]) Robortello cautiously called the poem "Libellum...Qui Vulgo De Arte Poetica Inscrititur," and his introductory explanation for the poem's lack of structure foreshadowed De Nores' epistle-theory.

<sup>15</sup>On De Nores (?—1590), see the brief account of his life in *De Gymnasio Patavino Antonii Riccoboni Commentariorum Libri Sex* (Padua 1598) fol. 79r; *Biographie universelle*, 31 (Paris n.d.) 34; F. E. Budd, "A Minor Italian Critic of the Sixteenth Century: Jason Denores," *Modern Language Review* 22 (1927) 421-434. For his work on poetics, see B. Weinberg, *A History of Literary Criticism in the Italian Renaissance*, 2 vols. (Chicago 1961), especially pp. 316-319, 621-626.

<sup>16</sup>Becichemo's work on epistolography was still memorable enough to be singled out for special notice in A. Riccoboni's *De Gymnasio Patavino commentariorum libri sex* (Padua 1598) fol. 28v and in *Gymnasium Patavinum Iacobi Philippi Tomasini Episcopi Aemoniensis Libris V comprehensum* (Udine 1654) 340: "scripsit de ratione scribendarum epistolarum." On Becichemo (ca. 1468-1526), see C. H. Clough in *Biografia degli Italiani* 7 (1965) cols. 511-515; T. B. Deutscher in *Contemporaries of Erasmus*, vol. 1 (Toronto 1985) 114-115. On the epistolary genre in the Renaissance, see M. Fumaroli, "Genèse de l'épistolographie classique," *Revue d'histoire littéraire de la France* 78 (1978) 886-905; C. Fantazzi (ed.), *Juan Luis Vives, De conscribendis epistolis. Critical Edition with Introduction, Translation and Annotation, Selected Works of J. L. Vives*, vol. 3 (Leiden 1989) 5-14. Neither Fantazzi nor Fumaroli takes note of Becichemo.

<sup>17</sup>For a brief *vita* of and bibliography on Robortello (1516-1567), see W. McCuaig, *Carlo Sigonio. The Changing World of the Late Renaissance* (Princeton 1989) 9; *Cambridge History of Renaissance Philosophy* (Cambridge 1988) 835.

De Nores' work was to have great influence through the centuries. The idea of classifying the *Ars Poetica* as a letter first spread through northern Italy. In 1555, Marc-Antoine Muret—who had been living in the Veneto since the previous year, having fled charges of sodomy and heresy in his native France—also implicitly embraced De Nores' theory. In his *In Horatium Scholia* (Venice 1555) he called the poem "Epistola in Artem Poeticam" (*Appendix I* [4]).<sup>18</sup> Another French scholar in Italy in the 1550s was Muret's friend Denis Lambin, whose headnote to the *Ars Poetica* in his great Horace edition of 1561 (*Appendix I* [5]; and cf. above n. 14) repeats De Nores' defense of the letter-thesis against a possible attack that a letter should offer precepts and also suggests that the poem's length is no impediment to interpreting it as a letter. From Henri Estienne's *Schediasmatum* (*Appendix I* [10]), we learn that Lambin spent some time in Padua "many years ago" where he discussed Horace's poetry with Estienne. From Lambin's love letters to Lucia of Padua, we can date their Padua sojourn to 1549-1552.<sup>19</sup> It was doubtless in these years that Lambin and Estienne had their discussions, after exposure to Robortello's and De Nores' new ideas.

With Lambin, De Nores' ideas spread to northern Europe, and not a moment too soon. In 1561, Julius Caesar Scaliger, who praised Horace's lyric poetry, attacked the *Ars Poetica* for displaying a lack of craftsmanship (cf. *Appendix I* [6a-c]).<sup>20</sup> Scaliger's criticisms caught on among such non-scholarly writers as Claude Du Verdier and Henry Peacham, but fell on deaf ears among philologists, who grew ever more bold in their application of the epistle-

<sup>18</sup>Muret also called the poem an *epistola* in his *Variarum Lectionum Liber Duodecimus* in *M. Antonii Mureti Opera Omnia*, tom. 2, ed. D. Ruhnkenius (Leiden 1789) 302. On Muret (1526-1585) see *Biographie universelle*, 29 (Paris n.d.) 606-608; C. Dejob, *Marc-Antoine Muret, un professeur français en Italie dans la seconde moitié du XVIe siècle* (Paris 1881); *Cambridge History of Renaissance Philosophy* (Cambridge 1988) 827.

<sup>19</sup>See H. Potez and F. Préchac (eds.), *Lettres galantes de Denys Lambin, 1552-1554, Publications de la Faculté de l'Université de Lille* 6 (1941) x (for the chronology of Lambin's first Italian trip with Cardinal de Tourmon), and 1-3 for a letter dated 5 December 1552 to Lucia, the last lines of which read: "Quoties ad me scribere voles, huic recte dare poteris. Habitat cum Legato Regio. Est huic nomen Henrico Stephano." On Lambin (1516-1572), see *Biographie universelle*, 23 (Paris n.d.) 58-59. Lambin's observation that some letters could be quite long was a Renaissance commonplace; cf. J. L. Vives, op. cit. (*supra* n. 16) 125-126 (§101).

<sup>20</sup>On Scaliger (1484-1558), see the bibliography cited in *La statue et l'empreinte. La poétique de Scaliger*, ed. by C. Balavoine and P. Laurens (Paris 1986) 193-195. On Scaliger's attack on the *Ars*, see M. Magnien, "Le statut d'Horace dans les *Poetices Libri VII*," *ibid.*, 19-33.

thesis.<sup>21</sup> Thus, Johann Sturm—perhaps most famous as the teacher of Petrus Ramus<sup>22</sup>—suggested that the poem belonged in *Epistles* II. Rejecting as inconclusive the argument that the poem is a letter simply because it was addressed to the Pisones, Sturm rests his case on the facts that *Epistles* I has about 1,000 lines and that *Epistles* II would be approximately as long if the *Ars Poetica* is combined with the letters to Augustus and Florus (cf. *Appendix I* [9]). Sturm also points out that the *Ars Poetica* treats the same subject as *Epist.* II.1 and II.2. Despite his belief about the genre of the poem, Sturm retained the traditional title, *De Arte Poetica Liber*. Sturm's work was published in 1576 by his student Joannes Lobartus Borussus. It was not long before Iacobus Cruquius, in his Antwerp edition of 1578, took the next logical step and actually called the *Ars Poetica* "Epistola Tertia Libri Secundi, Ad Pisones De Arte Poetica."<sup>23</sup> Cruquius' new position and title were accepted by other scholars almost immediately. Petrus Gualterius Chabotius, for example, called the poem "Epistola Tertia Libri Secundi Ad Pisones De Arte Poetica" in his *Expositio analytica et brevis in universum Q. Horatii Flacci poema* (Paris 1582).<sup>24</sup>

Since the late sixteenth century, the speculations of Stephanus, De Nores, Sturm, and Cruquius have become deeply ingrained in our editions, literary histories, and therefore in our assumptions about the poem. Today it comes as a surprise to most non-specialists to discover that, in fact, the ancient and medieval evidence offers virtually no support to the placement of the poem with

<sup>21</sup>Cf. C. Du Verdier, *In Auctores Paene Omnes, Antiquos Potissimum Censio* (Lyons 1586) 57: "Horatius in Lyricis quidem apud Latinos primas tenet, in hexametris duriusculus esse videtur. Versus enim ut plurimum inexculte per monosyllaba desinere facit, quo nihil absurdius, ut illum, 'nascetur ridiculus mus' et innumeros id genus. De Poetica arte multa praecipit quae ipse non observat." H. Peacham, *The Compleat Gentleman* (Oxford 1906; originally published in 1622<sup>1</sup>, 1634<sup>2</sup>, 1666<sup>3</sup>) 89: "his Poetica [is] his worst peece, for while he teacheth the Art, hee goeth unartificially to worke even in the very beginning."

<sup>22</sup>On Sturm (1507-1589), see W. Ong, *Ramus, Method, and the Decay of Dialogue* (Cambridge, Mass. 1958) passim, especially pp. 231-236; N. W. Gilbert, *Renaissance Concepts of Method* (New York 1960) 72-73, 122-124.

<sup>23</sup>Cruquius wrote, in his edition of 1578 (= Mills 210), "iniuria ad Pisones epistola a suis coepistolis (ut ita dicam) est avulsa...." (apud Orelli-Baiter-Mewes, *Q. Horatius Flaccus*, vol. 2 [Berlin 1892] 568; I have not been able to find this passage in the copies of Cruquius I have seen). On the edition, see C. Zangemeister, "Über die älteste Horaz-Ausgabe des Cruquius," *RhM* 23 (1864) 321-339. On Cruquius (dates unknown; first appointed professor of Greek and Latin at Bruges in 1544), see *Biographie universelle*, 9 (Paris n.d.) 537-538.

<sup>24</sup>= Mills 219. On Chabotius (1516-1597), see A. Chalmers, *The General Biographical Dictionary*, 9 (London 1813) 59-60.

*Epistles* II nor even to its classification as a letter.<sup>25</sup> As we have seen, these humanist speculations were presented with great boldness but little argumentation. In particular, De Nores and Lambin did not so much positively establish that the poem is an epistle as defend the unargued epistle-thesis against hypothetical attacks about subject matter and length. Sturm's argument about book-length, while ingenious, is hardly compelling: 500 lines is not abnormal in this period, as Virgil's *Georgics* shows.<sup>26</sup> One can also argue that the *Epodes* (625 lines), *Ars Poetica*, *Epistles* II, and *Odes* IV (580 lines) give sufficient evidence for the existence of modest-sized, "Homeric" books in the Horatian corpus.

In this century, editions, commentaries, and translations either print the poem as *Epistles* II.3 or else put it in Stephanus' position after *Epistles* II.2, which, in both cases, gives the unwary reader the impression that the *Ars* is somehow to be associated with the second book of letters.<sup>27</sup> To the contrary, the evidence strongly suggests that—whatever the basis of the ancient arrangement of Horace's works—the *Ars Poetica* was a separate *liber*, not part of the *Epistles*. We may here express the hope that future editors will restore the *Ars* to its pre-sixteenth century position in the corpus, somewhere after the *Odes* and before the *Satires*. The point is not so much to put it back where Horace wanted it—for, in fact, we have no information that confirms Horace's participation in the planning of the ancient edition of his collected poetry—as to put the poem in a place that is at least not misleading.

As for the title, we have seen that in reclassifying the poem, neither De Nores nor Sturm cited any ancient evidence. Within a few decades of De Nores' treatise, Henri Estienne, in his *Diatribae* (1575), noted that, in two places, the late-antique grammarian Charisius quotes words from the *Ars* as coming from Horace's *epistulae* (cf. *Appendix I* [7]).<sup>28</sup> These are the passages:

<sup>25</sup>Cf. below, *Chapter 4*, where I show that the poem does not display the generic features of Horatian (or, for that matter, other ancient) letters.

<sup>26</sup>See, in general, J. Van Sickle, "The Book Roll and Some Conventions of the Poetic Book," *Arethusa* 13 (1980) 5-42, especially pp. 6-12 on book-length.

<sup>27</sup>By the words "somehow to be associated with" I mean that the poem is either part of *Epistles* II or else is at least written in the same style, genre, or spirit as the poems immediately preceding. While editors who print the *Ars* at the end of their editions as a separate work could claim to be implying nothing of the sort, we might ask why they have not simply kept the *Ars* in one of its less pregnant positions in the medieval mss. Cf. the perceptive comment of Brink (I, 239) on the tendency to date the *Ars* late: "without much reasoning [scholars] assigned to the *Ars* the last place in the chronology...often, one suspects, because H. Stephanus had assigned to it the last place in the sequence of the poems."

<sup>28</sup>See H. Stephanus' new edition of the *Poemata* of Horace, to which he appended (separately paginated) *Diatribae De Hac Sua Editione* (Paris 1575 = Mills 200; cf. Mills 199). On Charisius, see *Restauration und Erneuerung. Die lateinische Litera-*

[1] Charisius, p. 263.9-12 Barwick-Kühnert (= p. 202.26-29 Keil): *Impariter Horatius epistolarum, 'versibus impariter iunctis'* [= *Ars Poetica* 75]; ubi Q. Terentius Scaurus in commentariis in artem poeticam libro X 'adverbium,' inquit, 'figuravit.'

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Horatius *corr.* n<sup>1</sup> [= codex Neapolitanus IV A 9 saec. xv/xvi]

persius N [= codex Neapolitanus IV A 8, olim Bobiensis, saec. vii/viii]

[2] Charisius, p. 265.1-5 Barwick-Kühnert (= p. 204.5-10 Keil): *Longum clamet Horatius epistolarum* [*Ars Poet.* 459], 'licet succurrite longum clamet'; ut Maro quoque [*Ecl.* 3.79] 'et longum...Iolla.'

Aldus Manutius (II), in his commentary on the poem of 1576, summarily rejected Charisius' testimony, noting that it contradicts all other ancient evidence (see *Appendix I* [8]).<sup>29</sup> In favor of Manutius' position, we may note that Charisius, while generally reliable, is not perfect when it comes to citing titles. At 268.5 (Barwick), he refers to Lucretius 1.525 as *Lucretius...de rerum natura libro III*. At 100.18, he calls Caesar's *ad Pisonem* the *de Pisone*. The incipits and explicits of the manuscripts of the poem and the scholia are all but unanimous in calling the poem the (*Liber*) *De Arte Poetica*.<sup>30</sup> Charisius himself twice refers to Terentius Scaurus' second-century A.D. *Commentarii in Artem Poeticam*, thereby showing awareness of a very different title. One such reference comes in [1].<sup>31</sup> Even if unlikely, his reports that the poem belonged in the letters need to be examined in some detail here because they have been taken more seriously than they should by recent commentators.

We may begin by granting that it is, of course, possible that Charisius was correct in assigning the poem to Horace's *epistulae*. If so, we have no way of knowing, on the basis of Charisius, to which book of *Epistles* the *Ars* would have been attached (advocates of the epistle-thesis, following Sturm, too quickly assume *Epist.* II), and we can say that such a text, if it ever really existed, must have been late-antique. Vollmer's observation about Charisius remains valid, at least as far as the *original* publication of the *Ars* and the early ancient texts of Horace are concerned: "mit keiner in Hss. sich findenden Ordnung deckt sich, daß

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*tur von 284 bis 374 n. Chr., Handbuch der lateinischen Literatur der Antike*, vol. 5, ed. R. Herzog and P. L. Schmidt (Munich 1989) 125-131; Schanz-Hosius, *Geschichte der römischen Literatur*, HdA IV.1 (Munich 1914) 165-169.

<sup>29</sup> For Aldus Manutius (II), Paulli filius, Aldi nepos, see his *In Q. Horatii Flacci Venusini Librum De Arte Poetica...Commentarius* (Venice 1576).

<sup>30</sup>The evidence is conveniently presented in the edition of O. Keller and A. Holder, vol. 2 (Jena 1925) 284, 320.

<sup>31</sup>Cf. Charisius 263.11-12, 272.27-28 Barwick.

Charisius gram. I 202,26 und 204,5 die *ars poetica* als *in epistulis* citiert, während doch schon Quintilian das gesonderte Buch kennt.<sup>32</sup> As Bowersock has aptly observed in another context, "the mere antiquity of a testimony is no guarantee, especially when it is testimony of some four hundred years after the text."<sup>33</sup>

However, even the hypothesis of a late-antique text of Horace calling the *Ars* a letter is subject to serious doubts. Charisius, his source(s), a glossator, or the scribe of Naples codex IV A 8 may have simply erred. Insufficient attention has been paid to how Charisius cites his literary parallels. There are, in general, two classes of citations; those with writers cited by name and frequently by title; and those often cited by name but never by title. In the first class belong quotations of, e.g., Cicero, Cinna, Sallust, and Virgil. In the second class are to be found Ovid,<sup>34</sup> Persius, Propertius, and Tibullus.<sup>35</sup> Where does Horace belong? In his grammar, Charisius cites passages of Horace a total of nineteen times. Aside from the problematic passages [1] and [2] above, he never gives the title. In four cases he does not even mention Horace's name.<sup>36</sup> The seventeen secure cases all but ensure that Charisius cited Horace without title and sometimes without name. On this basis, the title cited in [1] and [2] is suspect insofar as it cannot in all probability be supported by the authority of Charisius.<sup>37</sup>

<sup>32</sup>Vollmer, *op. cit.* (*supra* n.6) 290n67.

<sup>33</sup>G. W. Bowersock, "A Date in the *Eighth Eclogue*," *HSCP* 75 (1971) 73.

<sup>34</sup>The passages in Charisius (= C., with pagination of Barwick's edition) are the following (\* = no mention of Ovid's name): *De Medic. Fac.* 39 = C. 114.13; *Art. Am.* 1.249 = C. 91.29; *Art. Am.* 2.300 = C. 132.19; *Art. Am.* 2.375 = C. 131.28; *Art. Am.* 2.653 = C. 92.1; *Metam.* 1.13 = C. 82.6; *Metam.* 3.79 = C. 368.7\*; *Metam.* 3.522 = C. 172.12; *Metam.* 4.494 = C. 102.10.

<sup>35</sup>*Persius* (= Ps.): 1.25 = C. 109.10 (as printed by Keil, not Barwick, i.e., without Putschen's supplement *in sat. I*); Ps. 4.43 = C. 332.3; Ps. 6.4 = C. 88.4; Ps. 6.10 = C. 124.18. *Propertius* (= P.): P. 2.33.37 = C. 137.25; P. 2.13.35 = C. 113.5; P. 3.11.15 = C. 131.19; P. 3.14.1 = C. 85.9. *Tibullus* (= T.): T. 1.5.3 = C. 184.1; T. 1.8.20 = C. 114.11; T. 1.8.26 = C. 109.16, 166.26; T. 2.4.31 = C. 160.8.

<sup>36</sup>The passages in Charisius (= C., with pagination of Barwick's edition) are the following (\* = no mention of Horace's name): *Carm.* 1.1.33ff. = C. 350.30\*; *Carm.* 1.4.1 = C. 104.2; *Carm.* 1.6.6 = C. 357.20; *Carm.* 1.12.41 = C. 133.11; *Carm.* 1.29.7ff. = C. 133.14; *Carm.* 1.36.8 = C. 351.1\*; *Carm.* 2.18.7ff. = C. 127.15; *Carm.* 3.1.17ff. = C. 355.6\*; *Carm.* 3.5.10 = C. 77.22; *Carm.* 3.14.9ff. = C. 83.5; *Epod.* 12.25 = C. 201.2; *Serm.* 1.1.94ff. = C. 295.7; *Serm.* 1.2.89 = C. 128.14; *Serm.* 1.9.13 = C. 123.2; *Serm.* 2.2.122 = C. 123.4; *Epist.* 1.7.22 = C. 352.11; *Epist.* 1.16.20 = C. 354.3.\*

<sup>37</sup>It is reassuring that the same two classes with the same breakdown of authors are to be found in the fifth-century grammar of the Anonymus Bobiensis, which belongs to the "Charisius-group" of late-antique grammarians. See the edition of M. De Nonno, *La grammatica dell'Anonymus Bobiensis* (GL I 533-565 Keil), especially pp. xvi-xvii (on the "Charisius-group"); xix-xx (date); 89 (*index*

That Horace belongs to the second class is also suggested by the information in the *apparatus criticus* under [1]. Here we see that the original reading *Persius epistolarum* in N has been corrected in n<sup>1</sup> to *Horatius epistularum*. This is not the only corruption of an author's name in N. Some other examples are: Varrus instead of Varro (p. 69.2 Barwick); et Ennius instead of Titinius (p. 69.3); Plaustus instead of Plautus (p. 69.16); Aelius Cinna instead of Helvius Cinna (p. 101.23); Aedilius Cilo instead of Aelius Stilo (p. 106.8); Vergilius instead of Verrius (p. 107.14); Patulus instead of Pacuvius (p. 115.29); Lucilius instead of Lucretius (p. 116.8); Lucius instead of Lucilius (p. 125.1); Vergilius instead of Velius Longus (p. 145. 18); and Ninnius instead of Naevius (p. 184.16). These corruptions are all examples of errors arising from the confusion of similar letters, from the omission of letters, and the like. The corruption of Horatius into Persius is different. Two explanations are possible. Instead of a scribal confusion or omission of similar letters, we may have to do with a marginal note or a superscript written in a crabbed hand that was misread when added to the text of Charisius sometime between the first version in the fourth century and the transcription of N, three or four centuries later. The same hand was doubtless responsible for the similar notation (*Horatius epistularum*) that we see in the nearby passage [2].<sup>38</sup> That *Horatius epistolarum* in [1] is an intrusive note is furthermore suggested by the fact that Terentius Scaurus' commentary on the *Ars Poetica* is cited later in the sentence. Is it likely that the same person would have written in the same sentence "Horatius epistolarum" and "ubi Q. Terentius Scaurus in commentariis in artem poeticam?" As a parallel for adscripits of titles in the textual tradition of Charisius, we may cite the example of *in scauro* (at p. 97.19 Barwick) in the margin of N itself. Many citations in Charisius are without author or title, so the impulse for readers to add such notes is obvious.<sup>39</sup> A second possibility is more complicated but perhaps more likely: Charisius may originally have written *Verrius Flaccus epistolarum*, citing two passages where Verrius—who did write *epistulae* on grammatical problems—quoted

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*scriptorum*); cf. also the review article by A. C. Dionisiotti in *JRS* 74 (1984) 202-205. In the Anon. Bob., Virgilian titles are cited rarely (only once out of 36 citations), suggesting that Virgil may have originally belonged to the second group and that most titles were added between the time of Anon. Bob. and N.

<sup>38</sup>The writer of the adscripit may have correctly written *Horatius* in [1] and [2]. Another possibility, of course, is that [2] also had *Persius*, but this was corrected before or after N, or by the scribe of N himself. A reexamination of N, unfortunately, reveals nothing. Notoriously in a poor state of preservation, N may no longer be consulted in Naples. Prof. David Konstan informed me in a personal communication that the photographs of the manuscript in the Naples library are mostly black and illegible and that the legible parts do not include our passage.

<sup>39</sup>For examples, see s.vv. *incerti poetae* and *incerti scriptores* in Barwick's *index scriptorum* (p. 484).

Horatian examples without mention of Horace or the title of his work. Sometime between Charisius and N, *Verrius Flaccus* was changed to the two more famous Flacci: *Persius* in [1] and *Horatius* in [2].<sup>40</sup>

Thus, Charisius' testimony should not be allowed to cast doubt on the otherwise unanimous witness of ancient authors for three reasons. First, even if we suppose that *epistularum* in [1] and [2] was written by Charisius, this attests only a late textual tradition and cannot, in isolation, drive the unequivocal ancient evidence from the field. Secondly, even if written by Charisius, *epistularum* may be wrong, since we have parallels for incorrect titles in the *Ars Grammatica*. Finally—and most likely—the attribution to Horace's letters of the words cited in [1] and [2] may well be an intrusive note that postdates Charisius and predates N since Charisius never elsewhere cites Horace with title.

How, then, did the ancients refer to the *Ars Poetica*? The evidence is overwhelming that, no later than one hundred years after Horace's death, it was considered a separate book called either the *Ars Poetica*<sup>41</sup> or the (*Liber*) *De arte poetica*.<sup>42</sup> These titles are so similar that we need not expend any effort trying to choose between them. The fact that the poem consisted of only one book is attested by the latter title, by the *Vita Horatii* in Ps.-Acro,<sup>43</sup> and by a reference in Quintilian to the *prima parte libri de arte poetica*.<sup>44</sup> What, then, are we to call the poem? In several recent publications, Nicholas Horsfall has reminded us how unreliable our modern—and sometimes even our ancient—titles of the Latin classics really are.<sup>45</sup> The *Ars Poetica* presents an excellent case in point: despite modern speculation, we have no reason to think that Horace or most ancients called the poem an *epistula*. It is welcome news to report that in our latest Teubner editions of Horace by Borszak and Shackleton Bailey the proper titles are now used. However, as noted, these editors have still printed the poem in a misleading position at the very end of the corpus, just after *Epistles* II.

<sup>40</sup>Note that Charisius referred to Verrius as *Verrius Flaccus* at p. 73.9 Barwick. For a similar confusion of Flacci (Persius for Horace), cf. Servius on *Georg.* 3.363.

<sup>41</sup>Quintilian, *Epist. ad Tryph.* 2; Sidonius 9.223; [Probus] *De ultimis syllabis* 223.9 Keil; Priscian *Inst.*, vol. II, 271.19 Keil.

<sup>42</sup>Quintilian, *Inst.* 8.3.60; Terentius Scaurus *apud* Charisius, pp. 263.11-12, 272.27 (Barwick); Priscian *Inst.*, vol. I, 267.23, vol. II, 254.16, 331.15 (Keil); the second *Vita Horatii* in O. Keller's edition of the *Pseudoacronis Scholia in Horatium vetustiora*, vol. 1 (Leipzig 1902) 3 (line 6).

<sup>43</sup>"Scripsit autem carminum libros IIII, carmen saeculare, epodon, de arte poetica lib. I, epistularum lib. II, sermonum lib. II" (ed. Keller, *ibid.*).

<sup>44</sup>*Inst.* 8.3.60.

<sup>45</sup>See N.M. Horsfall, "Horace, Sermones 3?" *LCM* 4.6 (1979) 117-119; "Some Problems of Titulature in Roman Literary History," *BICS* 28 (1981) 103-114.

## CHAPTER 2

### THE DATE OF THE POEM

The argument for keeping the *Ars* separate from *Epistles* II can also be supported by chronology, for, as we will see, the *Ars Poetica* probably predates the two works in *Epistles* II. In any event, the date of the *Ars Poetica*, and, indeed, of any literary work, provides an indispensable framework for interpretation, and so the dating of the *Ars Poetica* would be worth reexamining for this reason alone.

Of all Horace's poems, the *Ars Poetica* is the hardest to date. Scholars have proposed dates ranging from the early 20s B.C. to the very end of Horace's life. In 1965, Duckworth published a useful overview of the various attempts at a date.<sup>1</sup> This may be updated, corrected and augmented as follows:

28-27, between *Satires* II and *Odes* I-III<sup>2</sup>

23-20, between *Odes* I-III and *Epistles* I<sup>3</sup>

<sup>1</sup>G. E. Duckworth, "Horace's Hexameters and the Date of the *Ars Poetica*," *TAPA* 66 (1965) 73-95, at pp. 84-85.

<sup>2</sup>J. Elmore, "A New Dating of Horace's *De Arte Poetica*," *CP* 30 (1935) 1-9. Elmore's dating is based on a rather arbitrary "correction" of Jerome's date for the death of Quintilius Varus (see Elmore, p. 5).

<sup>3</sup>J. H. Van Reenen, *Disputatio philologico-critica de Horatii Epistola ad Pisones* (Amsterdam 1806); A. Michaelis, "Die Horazischen Pisonen," *Commentationes Philologicae in honorem T. Mommseni* (Berlin 1877) 420-432; H. Nettleship, "The *de Arte Poetica* of Horace," *JP* 12 (1883) 43-61; A. Y. Campbell, *Horace. A New Interpretation* (London 1924) 114-15; Schanz-Hosius, *Geschichte der römischen Literatur, Hda*, VIII.ii (Munich 1935<sup>4</sup>) 133; A. Rostagni, *Arte poetica di Orazio* (Turin 1930) xvi-xix; O. Immisch, *Horazens Epistel über die Dichtkunst, Philologus Suppl.* 24.3 (1932) 1-8; F. Villeneuve, *Horace, Epîtres* (Paris 1934) 193-96; F. M. Pontani, *Orazio. Arte poetica* (Rome 1953) xi-xiii; E. Pasoli, *Le epistole letterarie di Orazio* (Rome, n.d.) 31; P. Grimal, *Essai sur l'Art poétique d'Horace* (Paris 1968) 15-35.

20-19, between *Epistles* I and *Epistles* II.<sup>4</sup>

18, between *Epistles* II.2 and the *Carmen Saeculare*.<sup>5</sup>

17-16, after the *Carmen Saeculare* and before *Odes* IV.<sup>6</sup>

15, before *Epist.* II.1.<sup>7</sup>

13-8, after *Odes* IV, making the poem Horace's last.<sup>8</sup>

In the absence of the kind of fairly reliable information that permits us to date Horace's other poetic books with some precision, how have scholars arrived at such widely divergent datings of the *Ars Poetica*? Three distinct approaches to chronology can be identified in the scholarship: (1) placing the *Ars* within some developmental pattern of Horace's ideas about poetry; (2) estab-

<sup>4</sup>A. S. Wilkins, *The Epistles of Horace* (London 1902) 330-32; E. Stemplinger, *RE* VIII s.v. Horatius (Stuttgart 1913) 2367 (in col. 2375 he dates the poem to 16); O. Immisch, op. cit. (*supra* n. 3) 1-8; J. C. Rolfe, *Horace. Satires and Epistles* (Boston 1935), Appendix, p. 13.

<sup>5</sup>J. Vahlen, "Über Zeit und Abfolge der Literaturbriefe des Horaz," *Monatsberichten der Berliner Akademie* 1878, 688-704 at pp. 702-703 (= *Gesammelte philologische Schriften* II [Leipzig and Berlin 1923] 46-61 at pp. 59-60); H. Schütz, *Q. Horatius Flaccus, Episteln* (Berlin 1883) viii; E. P. Morris, *Horace. The Epistles* (New York 1911) 188; C. Becker, *Das Spätwerk des Horaz* (Göttingen 1963) 111.

<sup>6</sup>A. Kiessling and R. Heinze, *Q. Horatius Flaccus. Briefe* (Berlin 1898<sup>2</sup>); cf. J. H. Kirkland, *Horace. Satires and Epistles* (Chicago 1893) 338-39.

<sup>7</sup>Richard Bentley, on the penultimate page of the unpaginated preface to his edition of Horace (Amsterdam 1713<sup>2</sup>), puts the *Ars Poetica* and *Epistles* II after the *Carmen Saec.* and C. IV, saying that they are *annis incertis*; A. Rostagni, op. cit. (*supra* n. 3) xix, xxii, xxxiv; W. Wili, *Horaz und die Augusteische Kultur* (Basel 1948) 309; A. La Penna, *Orazio e l'ideologia del principato* (Turin 1963) 158ff.; J. Perret, *Horace* (Paris 1959<sup>2</sup>) 190ff.; F. Cupaiuolo, *Tra poesia e poetica* (Naples 1966) 30n15; G. D'Anna, "La cronologia dell'epistola di Orazio ad Augusto," *Vichiana* 12 (1983) 121-135, at p. 125 (dating the poem specifically to 13); J.-M. Roddaz, *Marcus Agrippa, BEFAR* 253 (1984) 228n154. Note that Bentley's view on the date fluctuated, as Brink (I, 243n2) points out.

<sup>8</sup>G. Dillenburger, *Q. Horatii Flacci Opera Omnia* (Bonn 1848<sup>2</sup>) 517; L. Mueller, *Quintus Horatius Flaccus* (Leipzig 1880) 79-80; A. Waltz, *Des variations de la langue et de la métrique d'Horace dans ses différents ouvrage* (Paris 1881) 28; E. C. Wickham, *Quinti Horatii Flacci, Opera Omnia*, vol. 2 (Oxford 1891) 331-35; C. L. Smith, *The Odes and Epodes of Horace* (Boston 1894) xxxivf.; C. Cichorius, *Römische Studien* (Leipzig 1922) 340-341; T. Frank, *Catullus and Horace* (New York 1928) 260; J. W. H. Atkins, *Literary Criticism in Antiquity*, vol. 2 (Cambridge 1934) 66-69; O. A. W. Dilke, "When Was the *Ars Poetica* Written?" *BICS* 5 (1958) 49-57; J. Perret, op. cit. (*supra* n. 7) 190; Duckworth, op. cit. (*supra* n. 1) 91; Rudd, 19-21; R. Syme, "The Sons of Piso the Pontifex," *AJP* 101 (1980) 333-341, at p. 340 (= *Roman Papers*, vol. 3, ed. A. R. Birley [Oxford 1984] 1226-1232, at p. 1231).

lishing a *terminus ante-* and *post quem* based on historical persons mentioned in the poem; and (3) stylistics, including diction and meter.

The first approach I will employ elsewhere to show that the ideas of the *Ars* differ so strongly from those found in Horace's other poetry that we cannot properly speak of an evolution of thought but must, instead, consider the possibility that in the *Ars Poetica* Horace contradicts himself. In earlier scholarship, the discontinuity between the *Ars Poetica* and Horace's other expressions of poetic belief was emphasized by L. Ferrero.<sup>9</sup> Ferrero interpreted the evidence in a biographical and rather psychological way, as the sign of an unresolved struggle in Horace's spirit. The parodic reading of the poem offers another and more simple explanation: the *Ars* contradicts much of what Horace says about poetry because it represents a send-up of a pedantic, academic view of poetry put into the mouth of a fictional speaker who we have no reason to suppose is Horace himself (or the Horatian poetic persona). At any rate, since the *Ars Poetica* does not fit into any discernible and datable pattern of Horace's intellectual development, I do not include here a history-of-ideas approach to chronology.

If we generalize this approach and look for any kind of relationship between the *Ars* and Horace's other poems, then we may observe that in the *Ars* there are two echoes of other works of Horace. In line 269 there is an allusion to *Epist.* I.19.11; in line 457 there is an echo of *Odes* I.1.35-36.<sup>10</sup> If either passage were the only one from Horace's corpus alluded to in the *Ars Poetica* we would not be able to make much use of it for the dating. With two such passages, so close in date (*Odes* I-III were published in 23; *Epistles* I in 20), we may guess that Horace echoed these passages because they were still fresh in his mind when he was composing the *Ars*. Later (see pp. 59-61), I will discuss some other important connections between *Epist.* I.19 and the *Ars Poetica*, perhaps implying an affinity in date. We do not know the date of *Epist.* I.19, but, as mentioned, the collection in which it appears was published in c. 20 B.C.<sup>11</sup>

The second approach is more solid. These contemporaries are mentioned in the *Ars*: [1-3] Calpurnius Piso and his two children (lines 6, 24, 235, 291-

<sup>9</sup>L. Ferrero, *La 'Poetica' e le poetiche di Orazio*, *Università di Torino Pubblicazioni della Facoltà di Lettere e Filosofia* vol. 5, fasc. 1 (1953) 9-13.

<sup>10</sup>Here are the texts: *AP* 269 nocturna versate manu, versate diurna ~ *Epist.* I.19.11 nocturno certare mero, putere diurno; *AP* 457 hic, dum sublimis versus ructatur et errat ~ *C.* I.1.36 sublimes feriam sidera vertice. In this connection, the repeated line *Sat.* 1.2.13 and *Ars Poetica* 421 (dives agris, dives positus in fenore nummis) is not relevant for dating (except as a *post quem*, assuming with, e.g., Shackleton Bailey that the earlier occurrence in the *Satires* is not an interpolation, as most modern editors suppose).

<sup>11</sup>So, e.g., Brink, III, 277 (ad *Epist.* II.2.20), and many others earlier.

292, 366, 388);<sup>12</sup> [4] Virgil (55); [5] L. Varius Rufus (55); [6] the booksellers Sosii (345); [7] M. Valerius Messalla Corvinus (371); [8] Aulus Cascellius (371); [9] Sp. Maecius Tarpa; and [10] Quintilius Varus (438).<sup>13</sup>

Of these ten, only numbers [4], [5], [7], and [10] are sufficiently well-known to help with chronology. Quintilius Varus [10] died in 24/23 B.C., and Horace uses the imperfect tense in speaking of him, so that it is clear that he is deceased when the *Ars Poetica* was published. This gives us a *terminus post quem* of 24/23 B.C. Virgil [4] and Varius [5] are mentioned in the poem as representatives of contemporary poetry, and so the implication is that they are still alive when the poem was published. This would give us a *terminus ante quem* of 19/15 B.C. (since Virgil died in 19 and Varius in c. 15),<sup>14</sup> if not for the fact that line 55 of the poem does not necessarily require that such famous poets as Virgil and Varius are still alive.<sup>15</sup> This is, however, the obvious interpretation of the line, and the fact that Aulus Cascellius [8], who was born in c. 100 B.C., would have been in his eighties after 20 B.C. could also be taken as supporting 19/15 B.C. as a *terminus ante quem*.<sup>16</sup> Nevertheless, the cautious conclusion to be drawn from a study of the historical persons mentioned in the *Ars Poetica* is that it provides a firm *post quem* but is only suggestive about a date *ante quem*.

### A Reexamination of Duckworth's Metrical Arguments for Dating

To make further progress, we need to try to find stylistic criteria for dating Horace's poetry, and, as we will see, stylistic and metrical evidence also supports the conclusion that the *Ars Poetica* is an independent work in the corpus, less related to the second book of *Epistles* than to *Epistles* I or *Satires* II. Probably the most impressive attempt to date the *Ars Poetica* by stylometric means was undertaken by G. Duckworth. Although Duckworth read his evidence as linking the *Ars Poetica* to *Epist.* II.1, we will see, by reexamining his data, that if anything they suggest a date for the *Ars Poetica* in the period of *Epistles* I (i.e., 23-20 B.C.).<sup>17</sup>

<sup>12</sup>On whom, see below, pp. 52-59.

<sup>13</sup>On Tarpa and Quintilius, see below, pp. 61-62, 66-68.

<sup>14</sup>On the death of Varius, see P. L. Schmidt in *Der Kleine Pauly* 5 s.v. Varius III (Munich 1975) cols. 1130-1131.

<sup>15</sup>See, e.g., Brink, I, 240n3.

<sup>16</sup>But see Brink, I, 240n3, where, as in the case of Virgil, he points out that the text does not necessarily require that Aulus Cascellius was alive when the *Ars Poetica* appeared.

<sup>17</sup>G. E. Duckworth, op. cit. (*supra* n. 1) 73-95. Metrical features linking the *Ars Poetica* to *Epist.* I were earlier pointed out by H. Nettleship, op. cit. (*supra* n. 3) 46-47.

The reexamination will proceed in two stages: first we will present an inner critique of Duckworth's work by employing his own dubious statistical methodology to show that his numbers do not say what he thinks they do.<sup>18</sup> Second, we will develop an external critique in which Duckworth's naive methodology will be replaced with normal statistical tests used by statisticians. In this part of our study, we will perform new analyses of some, but not all, of Duckworth's data, limiting ourselves to those data sets that Duckworth thought most supported his late dating of the *Ars Poetica*.

Duckworth's methodology is quite simple: he tabulates metrical features and summarizes them as percentages according to poem or poetic book (*Satires I*, *Satires II*, *Epistles I*, *Epistles II.1*, *Epistles II.2*, and *Ars Poetica*). He assumes that when two or more poems or books show the same or nearly the same percentage, they must be close in date. When percentages are not close, he looks for trends in Horace's use of a certain metrical feature, assuming linear development from a lower to a higher percentage, or from a higher to a lower.

Duckworth's **first test** (p. 86) is the frequency of the four most common patterns of dactylic and spondaic feet. Of these, the *Ars Poetica* resembles *Epist.* II.1 for only the first pattern (*Epist.* II.1 = 11.85; *Ars Poetica* = 10.32; *Epist.* I = 12.82). For the rest, the *Ars Poetica* is closer to *Epist.* I than to *Epist.* II.1 (**Second Pattern:** *Ars Poetica* = 9.68; *Epist.* I = 10.74; *Epist.* II.1 = 11.11; **Third Pattern:** *Ars Poetica* = 8.62; *Epist.* I = 9.24; *Epist.* II.1 = 9.26; **Fourth Pattern:** *Ars Poetica* = 8.21; *Epist.* I = 8.05; *Epist.* II.1 = 9.26). So, the results of the first test place the poem closer to *Epist.* I than to *Epist.* II.1.

Duckworth's **second test** (p. 87) shows the same results. The percentage of the first four patterns in the three works is: *Ars Poetica* = 36.84; *Epist.* I = 40.85; *Epist.* II.1 = 41.48. For the second four, the percentages are: *Ars Poetica* = 29.05; *Epist.* I = 25.45; *Epist.* II.1 = 27.79. For the first eight, the percentages are: *Ars Poetica* = 65.89; *Epist.* I = 66.30; *Epist.* II.1 = 69.26. So, here, again, the *Ars Poetica* is closer to *Epist.* II.1 than to *Epist.* I in only one case.

In Duckworth's **third test** (p. 87), the results do show, as his thesis requires, the resemblance of the *Ars Poetica* to *Epist.* II.1. In the **fourth test** (pp. 87-88), the results are about equal. The percentage of units with eight or more different patterns in the *Ars Poetica* is 100%, as it is in *Epist.* II.1; however, the percentage for *Epist.* I is similarly high (97.67%)—a striking figure in view of the much lower results for *Epist.* II.2 (84.62%), *Sat.* I (83.64%), and *Sat.* II (86.67%).

<sup>18</sup>I omit Duckworth's tables and definitions of the various patterns he works with on the assumption that they serve no useful purpose here and can easily be found in the original publication. To have done otherwise would have meant taking up much valuable space recapitulating research that, as we will see, is inconclusive at best.

Duckworth's **fifth test** (p. 88) does not align the *Ars Poetica* with any of the other hexameter poems, and so need not be considered here. In the **sixth test** (of fourth-foot homodyne), the *Ars Poetica* (50.84%) again turns out to be closer to *Epist.* I (51.69%) than to *Epist.* II.1 (52.22). In the **seventh test** (p. 89)—rates of metrical repeats—the *Ars Poetica* (one every 12.2 lines) is closer to *Epist.* I (one every 12.2 lines) than to *Epist.* II.1 (one every 16.9 lines).

In three parts of the **eighth test** (pp. 89-90), the *Ars Poetica* is closer to *Epist.* I than to *Epist.* II.1; in one part it is closer to *Epist.* II.1 than to *Epist.* I; and in the fifth part, it is closer to *Sat.* II. Summing up, then, the eighth test favors the correlation of the *Ars Poetica* with *Epist.* I more than any of the other hexameter poems and indicates a date earlier than *Epist.* II.1. The **ninth test** (p. 90)—use of opposite metrical patterns—confirms Duckworth's thesis. The results of the **tenth test** (p. 90) partly confirm (part 2: ddsd—ssds) and partly disconfirm (sddd—dsss) the thesis. The **eleventh test** (p. 91)—reverse patterns—put the *Ars Poetica* (one every 25 lines) again closer to *Sat.* II (one every 25.8 lines) and *Epist.* I (one every 27.9 lines) than to *Epist.* II.1 (one every 54 lines).

To conclude this purely internal critique of Duckworth, of his eleven tests, six (1, 2, 6, 7, 8, 11) associate the *Ars Poetica* more closely with *Epist.* I than with *Epist.* II.1. In two tests (11 and the fifth part of 8), the *Ars Poetica* is most closely linked with *Sat.* II of c. 30 B.C. Only two tests (3, 9) confirm Duckworth's thesis. Three tests (4, 5, 10) are neutral.

Duckworth's methodology and his results can be attacked on several fronts. First, Duckworth's assumption of a correlation between date of composition and the metrical features he chose to study is assumed but nowhere defended. It is, however, possible, that the features Duckworth used for dating are not, in fact, chronometers. Second, Duckworth never explained the choice of features he selected for analysis. Some are intuitively obvious—for example, patterns of spondees and dactyls in the first four feet of the line. Others are less intuitively acceptable. For example, Duckworth pays attention to opposite patterns in adjacent lines consisting of spondees and dactyls in the first four feet of the line (dsss, sddd, etc.), as if poets strove for or avoided such patterns. Even if we grant that poets may sometimes have paid attention to such things, Duckworth still ought to have gauged the extent to which pure randomness affects his results. Thus, for example, for the *Ars Poetica* he reports 31 such opposites. Yet, random variation alone would lead us to predict 29.69 cases: since there are 16 metrical patterns, any of which can occur after any others (including itself), there are  $16 * 16 = 256$  possible pairs of patterns. Of these, 16, or 6.25%, are opposites. In the 476 lines of the *Ars Poetica*, there are 475 possible pairs of lines (lines 1 and 2, 2 and 3, 3 and 4, etc.). Multiplying 475 by .0625 gives us the number of opposites that we should have expected from chance alone, viz., 29.69. Our impression that the observed number (31) is not

very far off from the expected number can be confirmed by a standard statistical test, the so-called z-test.<sup>19</sup> Let our null-hypothesis ( $H_0$ ) be that the proportion of opposites in the *Ars Poetica* is the same as we should have expected by chance alone and let us (here, as elsewhere in this study) reject  $H_0$  at  $\alpha = .05$ . Our alternative hypothesis ( $H_a$ ) is that the proportion of opposites in the *Ars Poetica* is larger than we should have expected by chance alone (the assumption behind Duckworth's work). The z-value is .244, giving us an alpha-value of .405. So, we do not reject  $H_0$  in favor of  $H_a$ , and we conclude that the observed number of opposite patterns in the poem has no particular statistical significance.

Duckworth's main contention is that as time went on, Horace became more concerned about achieving metrical variety in his poetry. He writes: "To summarize, of the eleven categories listed above, some have more significance than others. Those dealing with larger totals, e.g., the frequency percentages of the first four and the first eight patterns, are the most decisive; they show a steady trend toward less concentration and greater variety...."<sup>20</sup> This hypothesis is, according to Duckworth, his most important, and it may be subjected to rigorous statistical testing in the form of a chi-square test of the data presented in Duckworth's first table (cf. TABLE II, next page).<sup>21</sup>

The chi-square test indicates that the hypothesis that the two variables of poem and metrical pattern are dependent fails at the  $\alpha = .05$  level, since the significance ("prob.") is .270. Thus, Duckworth has failed to find a significant correlation between the poems and the distribution of metrical patterns.

<sup>19</sup>See, in general, e.g., A. Agresti and B. Finlay, *Statistical Methods for the Social Sciences* (San Francisco and London, 1986<sup>2</sup>) 74-77, 146-147.

<sup>20</sup>Cf. Duckworth, op. cit. (*supra* n. 1) 91.

<sup>21</sup>Statisticians distinguish between three kinds of variables: nominal variables, which differ in some quality but not in quantity (e.g., different books of poems in Horace's corpus; different metrical patterns in the dactylic hexameter line); ordinal variables, which differ from each other according to quantities that are vaguely ranked (e.g., top score on an examination, second best score, worst score); and, finally, interval variables, which differ from each other according to a precisely defined quantitative scale (e.g., average number of words or verses in a poem). The chi-square and association tests are applied to nominal variables and determine the probability that the distribution of the actual values of the variables differs very much from their expected distribution. If the actual values do not so differ, then we say that the variables are independent; if they do differ, then we say that they are dependent. The association tests determine the degree of dependence obtaining between two variables. In the present case, no association tests have been reported (though they have been run) because we only test the strength of a dependence once the chi-square test indicates that the variables are not independent (which, as will be seen from TABLE II, is not the case). See, in general, e.g., A. Agresti and B. Finlay, op. cit. (*supra* n. 19) 14-16; 201-212.

Another way of stating this conclusion is that the overall distribution of metrical patterns does not give us a reliable chronometer for the date of a poem.

Duckworth's words cited above would lead us to expect the highest association between poem and metrical pattern in the four most frequent patterns.

| MET. PAT.          | SI    | SII   | EPI   | EPIL2  | EPIL1 | AP  | TOTAL |
|--------------------|-------|-------|-------|--------|-------|-----|-------|
| obs. dsss          | 132   | 152   | 129   | 30     | 25    | 49  | 517   |
| obs. ddss          | 96    | 104   | 81    | 19     | 30    | 41  | 371   |
| obs. dsds          | 104   | 104   | 93    | 24     | 25    | 46  | 396   |
| obs. sdss          | 117   | 116   | 108   | 24     | 32    | 39  | 436   |
| obs. ssss          | 92    | 80    | 62    | 13     | 16    | 31  | 294   |
| obs. ddds          | 51    | 64    | 53    | 9      | 14    | 33  | 224   |
| obs. ssds          | 64    | 69    | 64    | 13     | 13    | 34  | 257   |
| obs. sdds          | 61    | 50    | 57    | 9      | 17    | 28  | 222   |
| obs. dssd          | 67    | 67    | 69    | 14     | 24    | 37  | 278   |
| obs. ddsd          | 37    | 55    | 54    | 8      | 17    | 21  | 192   |
| obs. sdsd          | 42    | 48    | 61    | 16     | 17    | 34  | 218   |
| obs. dsdd          | 39    | 42    | 43    | 12     | 14    | 25  | 175   |
| obs. sssd          | 59    | 46    | 51    | 9      | 9     | 16  | 190   |
| obs. ssdd          | 26    | 37    | 36    | 7      | 6     | 14  | 126   |
| obs. dddd          | 30    | 17    | 23    | 1      | 3     | 10  | 84    |
| obs. sddd          | 13    | 32    | 22    | 8      | 8     | 17  | 100   |
| TOTAL              | 1,030 | 1,083 | 1,006 | 216    | 270   | 475 | 4,080 |
| TEST STATISTIC     |       |       |       | VALUE  |       | DF  | PROB  |
| PEARSON CHI-SQUARE |       |       |       | 82.063 |       | 75  | .270  |

TABLE II: CHI-SQUARE TEST OF DATA IN DUCKWORTH'S TABLE I

Yet, the total of chi-square values for the first four patterns is only 13.78, far less than one-fourth the total value of chi-square; and when the first four patterns are considered in isolation from the rest of the table, the chi-square value is 17.67 with a significance of .609 (cf. TABLE III, next page). Thus, once again, the test of dependence fails, and we see that the four most frequent metrical patterns are not reliable chronometers for Horace's hexameters.

Much more of the chi-square value of Duckworth's first table is concentrated in the last group of metrical patterns. Yet, as TABLE IV (next page) shows, even here, where the chi-square value rises to 29.855 and the significance level reaches .072, the coefficients of association are quite low, indicating that the dependence between poem and metrical pattern is weak.

| PATTERN            | AP  | EPII.1 | EPII.2 | EPI  | SI   | SII  | TOTAL |
|--------------------|-----|--------|--------|------|------|------|-------|
| 1                  | 49  | 25     | 30     | 129  | 132  | 152  | 517   |
| 2                  | 41  | 30     | 19     | 81   | 96   | 104  | 371   |
| 3                  | 46  | 25     | 24     | 93   | 104  | 104  | 396   |
| 4                  | 39  | 32     | 24     | 108  | 117  | 116  | 436   |
| Rest               | 300 | 158    | 119    | 595  | 581  | 607  | 2360  |
| TOTAL              | 475 | 270    | 216    | 1006 | 1030 | 1083 | 4080  |
| TEST STATISTIC     |     | VALUE  |        | DF   |      | PROB |       |
| PEARSON CHI-SQUARE |     | 17.669 |        | 20   |      | .609 |       |

TABLE III: CHI-SQUARE TEST OF DUCKWORTH'S FIRST FOUR PATTERNS

| PATTERN            | AP  | EPII.1 | EPII.2 | EPI              | SI   | SII  | TOTAL |
|--------------------|-----|--------|--------|------------------|------|------|-------|
| 13                 | 16  | 9      | 9      | 51               | 59   | 46   | 190   |
| 14                 | 14  | 6      | 7      | 36               | 26   | 37   | 126   |
| 15                 | 10  | 3      | 1      | 23               | 30   | 17   | 84    |
| 16                 | 17  | 8      | 8      | 22               | 13   | 32   | 100   |
| Rest               | 418 | 244    | 191    | 874              | 902  | 951  | 3580  |
| TOTAL              | 475 | 270    | 216    | 1006             | 1030 | 1083 | 4080  |
| TEST STATISTIC     |     | VALUE  |        | DF               |      | PROB |       |
| PEARSON CHI-SQUARE |     | 29.855 |        | 20               |      | .072 |       |
| COEFFICIENT        |     | VALUE  |        | ASYMPT STD ERROR |      |      |       |
| CRAMER V           |     | .0428  |        |                  |      |      |       |
| CONTINGENCY        |     | .0852  |        |                  |      |      |       |
| LAMBDA             |     | .0087  |        | .00410           |      |      |       |
| UNCERTAINTY        |     | .0024  |        | .00081           |      |      |       |

TABLE IV: CHI-SQUARE TEST OF DUCKWORTH'S LAST FOUR PATTERNS

In TABLE IV the chi-square value is more indicative of the non-independence of the variables than was the case with the first four metrical patterns, but the significance level (.072) still fails to meet the test of  $\alpha = .05$ . Examination of the various tests of association (the Cramer V, Uncertainty Coefficient, etc., all of which vary from 0 to 1.0) confirm that the variables of poem and metrical pattern are weakly associated.

Our conclusion is thus that Duckworth has failed to find any useful indicator of date in his metrical studies. The search for a valid chronometer of Horace's hexameter poems must turn elsewhere for clues—our next task.

### Dating the *Ars Poetica* through Style: A Statistical Approach

The foregoing has shown the utility of statistics for disproving a quantitative argument about the date of the poem. Statistical tests can, of course, also have a more positive, albeit never probative, value.<sup>22</sup> In what follows, I will present some new studies of word frequency which suggest that the *Ars Poetica* should be dated in the period of the composition of *Epistles* I and before the publication of *Epistles* II.2, i.e., c. 24-20 B.C.

This is not the place for even a brief history of stylometrics.<sup>23</sup> Suffice it to say, by way of introduction, that statistical studies of vocabulary have had some success in identifying reliable quantitative chronometers for attribution and relative chronology of works by different authors. They have less often been used for relative chronology within a single author's corpus.<sup>24</sup> Recent work by Lindsay and Mackay suggests that for the latter, the word class that offers the best hope for reliable results is that of the *function word* and the best analytical tool is the chi-square test.<sup>25</sup> In their classic study, Mosteller and Wallace define function words as: "the filler words of a language, such as a, an, by, to and that. Generally they include prepositions, conjunctions, pronouns, and certain adverbs, adjectives, and auxiliary verbs."<sup>26</sup>

<sup>22</sup>Cf. A. Agresti and B. Finlay, op. cit. (*supra* n. 19) 293: "we can never prove that one phenomenon is a cause of another, since causation is imputed by the observer but never actually observed. We can disprove causal hypotheses, however, by showing that empirical evidence contradicts them."

<sup>23</sup>For brief histories and bibliography, see, e.g., R. L. Oakman, *Computer Methods for Literary Research* (Athens, Ga. 1980, 1984) 139-171; K. L. Lindsay and T. W. Mackay, "An Authorship Study of the Pauline Epistles," an unpublished paper given at the *International Conference on Computers in the Humanities* (Brigham Young University, June 26, 1985) 1-13.

<sup>24</sup>F. Mosteller and D. L. Wallace, *Inference and Disputed Authorship: 'The Federalist'* (Reading, Mass. 1964) 20-21, note briefly that the function words *in* and possibly *from* may serve as chronometers for the works of President James Madison. They pay little attention to words in an author whose frequency changes in a patterned way over time (our third class of function words) since their concern is to distinguish one author (Madison) from another (Hamilton).

<sup>25</sup>Cf. Lindsay and Mackay, op. cit. (*supra* n. 23) 15-25, especially p. 25: "word frequency is the most sensitive wordprint." For the purposes of their inter-authorial study of distinguishing Pauline from non-Pauline authorship of Biblical texts transmitted under Paul's name, "sensitivity" was not desirable and so Lindsay and Mackay do not use word frequency. For our intra-authorial study of Horace, it is precisely this high degree of sensitivity that makes function word frequency the proper tool.

<sup>26</sup>F. Mosteller and D. L. Wallace, op. cit. (*supra* n. 24) 17.

Function words are words useful for research on the authorship or chronology of texts because they are not dependent on content, context, or genre. Since, in Latin, about half are monosyllabic, Latin function words are also fairly independent of meter. Examples of such words are *et, in, ut, ad, sub*, etc. In addition to being fairly non-contextual, function words also have the advantage of being more frequent than other words, thus lending themselves more readily to statistical analysis. Since they are used so often and have so little connotative value, speakers of a language employ them with very little awareness of doing so. They are thus potentially good reflectors of a speaker's linguistic sense and development since it is generally through our more automatic behavior that we most plainly give ourselves away. In this sense, the stylometric use of function words is analogous in literary history to the Morellian method in art history.

Authors may use individual function words in any of three ways: (1) with little, if any, change over time; (2) with random fluctuation over time; and (3) with patterned variation over time. The first usage is most valuable for inter-authorial analysis, such as we find in the Mosteller-Wallace study of the authorship of certain *Federalist* papers.<sup>27</sup> On the other hand, it is of no help in determining the relative chronology of the works of one author's corpus. The second kind of usage is by far the most frequently encountered, as was pointed out in an important article by Damerau and as is confirmed by the case of Horace.<sup>28</sup> Function words displaying random fluctuation are of little, if any, use in stylometric analysis since they allow us neither to distinguish one author's works from another's nor to find trends in the individual works of an author's corpus.

For our purposes, then, words of the third type—relatively few as they may be—are the most important. These are words that meet four criteria: (1) as function words, they must, of course, be fairly independent of context, genre, and meter; (2) they must be common enough so that their frequency does not fall below five cases in any single unit of analysis more than 25% of the time;<sup>29</sup> (3) the frequency of their usage must vary according to a trend or pattern (whether linear or non-linear) from Horace's early to his late works; finally, (4) the number of words meeting the first three criteria must surpass, in a statistically significant way, the number expected from chance alone.

The third requirement brings up an important methodological consideration. For over a century, at least, the relative chronology of all the poems and poetic books in Horace's corpus, save the *Ars Poetica*, has been fairly well established on non-stylometric grounds. Even an approximate absolute chrono-

<sup>27</sup>F. Mosteller and D. L. Wallace, *op. cit.* (*supra* n. 24).

<sup>28</sup>F. J. Damerau, "The Use of Function Word Frequencies as Indicators of Style," *Computers and the Humanities* 9 (1975) 271-280.

<sup>29</sup>For this reason, the very short *Carm. Saec.* is left out of account.

logy has long been known.<sup>30</sup> In most cases in which stylometrics is used for attribution or dating, we are not so fortunate, and statistical arguments alone are used by default. Given what we think we know from non-stylometrical sources about the chronology of Horace's poetry, we would be ill-advised to limit our methodology to stylometrics alone, since that would be to forego a finer for a blunter instrument. Indeed, respecting "time order" is a principle of statistical methodology in any case.<sup>31</sup> Thus, I propose to start from the assumption that the conventionally accepted relative chronology is essentially correct and complete, with the exception of the *Ars Poetica*. I do not think this assumption is likely to be controversial. Since, as we have seen, non-stylometric information cannot narrow down the date of that poem to anything less than the long period between the deaths of Quintilius Varus and Horace (24-8 B.C.), we shall resort to the instrument of statistics only to see whether stylometrics (and, in particular, vocabulary analysis) can help decide the issue of whether I am correct in dating the poem to the early part of that period, or Duckworth and others are in putting it at the end. My approach to chronology is thus interdisciplinary; we will, so to speak, triangulate on the date with historical and statistical methods.

The analysis will proceed in two steps. First, the variable of poem will be considered nominal.<sup>32</sup> The object of this part of the study will be to model the data in the most economical way such that the value of the test statistic is optimized. The test statistic used is the chi-square test, which essentially gauges

<sup>30</sup>Cf., e.g., C. Franke, *Fasti Horatiani* (Berlin 1839), 80-81, where we already find the following chronology based primarily on historical references, prosopography, etc.: *Serm.* I, 41-34; *Serm.* II, 35-30; *Epod.* 41-30; *Carm.* I-III, 30-24; *Epist.* I, 24-20; *Carm. Saec.*, 17; *Carm.* IV, 17-13; *Epist.* II ("primo jam edito et post carmen saeculare scriptus est, sed incertum quo anno," p. 81). On the date of the *Ars Poetica*, Franke simply writes: "aetate nil constat" (p. 81). Modified by J. Vahlen's dating of *Epistles* II (op. cit. [*supra* n. 5] 46-61), Franke's chronology is still more or less accepted today; cf., e.g., K. Vretska, *Der Kleine Pauly* 2 s.v. Horatius (8) (Munich 1975) cols. 1219-1225, for the following dating of the composition and publication (indicated with an asterisk [\*]) of Horace's works: *Epodes*-40-30\*; *Sat.* I-35/34\* ("or, 33?"-col. 1221); *Sat.* II-30/29\*; *Carm.* I-III-c. 35 ("Horace began writing the Odes in the time of the Satires"; col. 1222)-23\*; *Epist.* I-23-20\*; *Epist.* II.2-"before 20"\* (col. 1223); *Carm. Saec.*-17\*; *Epist.* II.1-after 14\*; *Ars Poetica*-23-18\* or 13-8\*. Thus, Carl Becker, op. cit. (*supra* n. 5) 12-13, is correct to note that chronological studies of Horace are in a very fortunate position because "über ein ganzes Jahrzehnt hin—von 23 bis 14/13—lassen sich fast jedem Jahr horazische Dichtungen zuordnen." For work on Horatian chronology before Franke, see the survey in J. Tate, *Horatius Restitutus, Or the Books of Horace Arranged in Chronological Order according to the Scheme of Dr. Bentley* (London 1832<sup>1</sup>, 1837<sup>2</sup>) 1-20.

<sup>31</sup>Cf., e.g., A. Agresti and B. Finlay, op. cit. (*supra* n. 19) 293.

<sup>32</sup>For a definition of this concept, see n. 21 above.

the degree to which actual values of the variables differ from values we would expect to find if the variables are independent. The greater the difference, the greater the chi-square value and the greater the likelihood that the variables in question are not independent. Modelling the data, in the present case, means combining values for the poems that relate to their expected values in the same way: the result is a grouping of poems according to actual values that are above, below, or about the same as what we would have expected. The assumption here is that the poems grouped together belong to the same period of composition.<sup>33</sup> At this first step of analysis, then, the dating of Horace's poetry—and, in particular, of the *Ars Poetica*—is quite approximate. At best, we can distinguish between early, middle, early-middle, middle-late, and late groups. The study of each function word will include a frequency graph, in which the poem will be arranged in order of relative chronology, with the *Ars Poetica* included in the appropriate group, but with no firm claim about its relative position in its group. In practice, this means that, although the tests indicate that the *Ars Poetica* belongs in Horace's middle period, we can only guess whether it is earlier or later than the other hexameter poem in the group, viz., *Epist.* I.

In a second step of the analysis, we will treat the poem variable as an interval variable. To do this, we will assign to all the poems except the *Ars Poetica* their generally accepted dates. We will then determine the most probable date for the *Ars Poetica* by inferential and exploratory statistical techniques. It should be stated here that each step of the analysis has an obvious weakness: the first step is too vague, the second too precise. These weaknesses are compensating, and our point is not so much to establish a precise date for the *Ars Poetica* as to demonstrate the greater probability that the poem is to be dated to Horace's middle period of poems than to his late period.

One final word about methodology. In studying the third class of function words, I have spoken till now only of a vague "trend" or "patterned development" in their usage, from, e.g., higher to lower frequency, or vice versa. I have also said that function words are, in general, attractive as chronometers because they are relatively non-contextual. At this point, one clarification should

<sup>33</sup>For a brief discussion of modelling by means of collapsing categories, see S. G. Levy, *Inferential Statistics in the Behavioral Sciences* (New York 1968) 210-213; and cf. P. M. Bentler, *Theory and Implementation of EQS: A Structural Equations Program* (Los Angeles 1985) 28: "when two models...are special cases of each other, chi-square difference tests can be used to evaluate the structural importance of the parametric constraints that differentiate two models. In the...most typical application, two models would differ in that one model would contain extra parameters beyond those provided by the other model: all other parameters would be the same. In such a case, the chi-square difference test evaluates whether the added parameters, considered simultaneously, are necessary to the model."

be made: few words (in Latin, at any rate) are completely "functional" and hence totally devoid of content and connotation. Accordingly, the rate at which a function word is used in Horace is modulated by the demands of genre, sometimes for reasons that may be unclear.<sup>34</sup> So, in establishing trends, we must keep the lyric poems separate from the hexameters, as far as frequency value is concerned; but we also must see the same pattern of development in both the lyric and hexameter group. In statistical terms, we must control for meter. As a result of doing so, another kind of triangulation becomes possible: the prime assumption behind chronology by stylometrics is that some aspects of an author's linguistic sense change in a measurable and consistent way over time. The fact that we can very neatly divide the Horatian corpus by meter and genre into two groups of poems and that members of each group represent Horace's early, middle, and late periods is thus extremely fortunate: it means that the probable explanation for any similarity in trends of function word use in both the lyric and hexameter groups is likely to be Horace's evolution as a speaker of the Latin language and not, e.g., metrical or generic exigencies.

#### Relative Chronology—Function Words as Chronometers of Horace's Poetry

To implement this methodology, we thus need to tabulate the frequencies in Horace of the major function words in Latin (see TABLE A). The following words seemed from inspection of the computer-generated frequency lists to have the greatest promise of surmounting the barrier of at least five cases in each unit of analysis (or, cell). Those in capitals and boldface turned out to satisfy the criteria of chronometers: sufficient frequency and the same pattern of development in the lyrics and hexameters. Most words turned out to be rejected because of low frequency—i.e., in at least 25% of the cells the frequency fell below 5 cases. These words are followed by "l.f." in parentheses. Other words passed the frequency test but failed the "trend" test of patterned development; Damerau's work had prepared us to expect to find just such words, whose random fluctuations make them unsuitable as chronometers. In the following list, they are followed by "n.p." (= "no pattern") in parentheses.<sup>35</sup>

<sup>34</sup>E.g., Horace's consistent preference for *sub* in the lyric [frequency: *c.* .0016] as opposed to hexameter [frequency: *c.* .001] poems. Let our null hypothesis be that the frequency in the two groups is the same; our alternative hypothesis is that the frequency of *sub* in the lyrics is greater than in the hexameters. The *z*-value of  $H_0$  is 3.94, giving a *P*-value of  $P < .000233$ . So we reject  $H_0$  in favor of  $H_a$ .

<sup>35</sup>The following function words were not studied since inspection of the word sorting and counting program's output indicated that they would fail to satisfy

|              |              |              |               |               |
|--------------|--------------|--------------|---------------|---------------|
| a (l.f.)     | cur (l.f.)   | mox (l.f.)   | post (l.f.)   | sine (l.f.)   |
| ab (l.f.)    | de (l.f.)    | nam (l.f.)   | quia (l.f.)   | sive (l.f.)   |
| ac (l.f.)    | donec (l.f.) | ne (l.f.)    | quidem (l.f.) | sub (l.f.)    |
| <b>AD</b>    | dum (l.f.)   | <b>NEC</b>   | quodsi (l.f.) | tam (l.f.)    |
| an (l.f.)    | enim (l.f.)  | neque (l.f.) | quoque (l.f.) | tamen (l.f.)  |
| at (l.f.)    | et (n.p.)    | neu (l.f.)   | saepe (l.f.)  | tandem (l.f.) |
| atque (n.p.) | etiam (l.f.) | nisi (l.f.)  | <b>SED</b>    | ubi (l.f.)    |
| aut (n.p.)   | iam (n.p.)   | non (n.p.)   | seu (l.f.)    | unde (l.f.)   |
| autem (l.f.) | in (n.p.)    | nunc (n.p.)  | si (n.p.)     | ut (n.p.)     |
| cum (n.p.)   | inter (l.f.) | <b>PER</b>   | sic (n.p.)    | vel (n.p.)    |
|              |              |              |               | velut (l.f.)  |

Twelve of the sixteen words passing the frequency test could not be used as chronometers because their distribution among the poems was more or less random, which in this context means that the trends observed in the hexameters (no matter how the *Ars Poetica* is dated) is different from that seen in the lyrics. Since these words will not be of interest, it would be tiresome to discuss them all (see TABLES B-G). *Cum* may serve as a typical example. As the frequency graph of *cum* shows (TABLE C, top), the word changes its frequency with a nonlinear (probably convex parabolic) pattern in the hexameter poems, while in the lyrics, it is used much more often in the epodes of the mid-30s than in the odes of the middle or late periods. In fact, the pattern of the lyrics is linear, with a negative slope. Thus, *cum* fails our test because the linear pattern of the lyrics is not mirrored in the hexameters, with their nonlinear trend. Without a metrical control for *cum*, we are helpless in trying to situate the *Ars Poetica*: arguments can be imagined justifying its location just about anywhere on the graph. For example, it might be considered the low point of the hexameter parabola, in which case we would date the *Ars Poetica* between *Epistles* I and *Epistles* II.2. Contrariwise, if we posit a change in Horace's *Sprachgefühl* from high to low use of the word *cum*, then we might decide to dismiss as anomalous the high frequency of the word in *Epistles* II.1 and place the *Ars Poetica* last among the hexameters so that the result is a linear pattern with negative slope in both the hexameters and lyrics. The point is that such arguments are merely speculative, because we cannot control for meter.

Before proceeding to discuss the four words that satisfy our first three criteria to be considered as chronometers, let us see if our fourth criterion is satisfied, viz., that the number of words satisfying the first three criteria exceed, in a statistically significant way, the number expected from chance alone (*supra*, p. 27). The details of the argument may be found in the *Appendix II*. In brief,

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the frequency requirement: *ante, at, circum, contra, denique, ex, extra, haud, ita, num, numquid, ob, olim, pacto, porro, praeter, quare, quin, siquid.*

our three-point lines (i.e., lyrics) have nine possible distinct trend lines. Our hexameters form eighty-one five-point lines; of these, eight may be considered equivalent to the relevant three-point lines. Thus, we have  $9 \times 81$  different combinations of three-point and five-point lines, for a total of 729. Of these, 8 are possible matched pairs, so that the odds of finding a matched pair are  $8/729$ , or 0.010974. In our study, we have sixteen cases of function words with sufficient frequency: hence, we would expect  $16 \times 0.010974$  matched pairs, or 0.176. Instead of the expected number of zero or, at most one matched pair, we have two exactly matched pairs and two similar pairs. We run a binomial test to determine the probability of our result. The test shows that there is less than a 1.2% probability that this could happen by chance. We may conclude that our fourth criterion is satisfied because there is only a very small possibility that our four words display similar trend lines in the hexameters and lyrics due to random variation alone.

The words that satisfy our criteria and hence are useful for chronology divide into two types: a group of three words (*ad, per, sed*) whose frequency has a high-low-high pattern (i.e., Type I) in the early (*Epodes* and *Satires*), middle (*Carm. I-III, Epistles I*) and late (*Epistles II, Carm. IV*) periods; and a second type (*nec*) whose pattern (Type II) is the mirror-reversal of the first. In all four cases, as we will see, the *Ars Poetica* falls between *Epistles I* and *Epistles II.2*

TABLE V shows a tabulation and chi-square test of the data from the first group of function words. The chi-square test statistic (99.2, with twenty-four degrees of freedom) tells us that the variables are not independent: in fact, its probability level of 0.000 far surpasses our requirement that  $\alpha < .05$ . The degree of dependence, or association, of the variables can be gauged by the Cramer V, Contingency, Lambda, and Uncertainty coefficients, which are measures appropriate to nominal variables. To interpret these, we need to know that all these coefficients vary between 0, indicating little or no association, and 1.0, indicating the highest degree of association. In the present case, the values for the coefficients appear, at a first glance, to be quite low.

Before concluding that the function words *sed* and *ad* are only weakly associated with Horace's poems, and hence are poor chronometers, we need to determine why the coefficients are so much closer to 0.0 than to 1.0. The reason is not far to seek: the category "rest"—with 43,066/43,415 (or, 99.2%) of the cases and with an observed distribution very close to what was expected—is so predominant that there is very little scope for the remaining data to be distributed in a way that appears strong according to the association tests.

|                             |      |       |       |            |       |        |
|-----------------------------|------|-------|-------|------------|-------|--------|
| WORD                        | S1   | S2    | EP1   | EP2.1      | EP2.2 | TOTAL  |
| AD                          | 21   | 28    | 21    | 9          | 7     |        |
| PER                         | 5    | 13    | 16    | 10         | 1     |        |
| SED                         | 12   | 21    | 15    | 11         | 5     |        |
| REST                        | 6957 | 7160  | 6634  | 1733       | 1406  |        |
| TOTAL                       | 6995 | 7222  | 6686  | 1763       | 1419  |        |
| WORD                        | AP   | EPD   | C1-3  | C4         |       |        |
| AD                          | 13   | 12    | 12    | 8          |       | 131    |
| PER                         | 5    | 11    | 32    | 22         |       | 115    |
| SED                         | 6    | 7     | 16    | 10         |       | 103    |
| REST                        | 3058 | 2965  | 10634 | 2519       |       | 43066  |
| TOTAL                       | 3082 | 2995  | 10694 | 2559       |       | 43415  |
| TEST STATISTIC              |      |       |       | VALUE      | DF    | PROB.  |
| PEARSON CHI-SQUARE          |      |       |       | 99.201     | 24    | 0.000  |
| LIKELIHOOD RATIO CHI-SQUARE |      |       |       | 89.662     | 24    | 0.000  |
| COEFFICIENT                 |      | VALUE |       | ASMPT. STD |       | ERROR  |
| CRAMER V                    |      | .0276 |       |            |       |        |
| CONTINGENCY                 |      | .0477 |       |            |       |        |
| LAMBDA                      |      | .0006 |       |            |       | .00027 |
| UNCERTAINTY                 |      | .0005 |       |            |       | .00011 |

TABLE V: THE FUNCTION WORDS *AD*, *PER*, AND *SED* IN HORACE

That the association tests are quite sensitive to such a condition is clear from their formulae. For example, the Contingency Coefficient (*C*) is defined as follows:

$$C = \sqrt{\frac{\chi^2}{\chi^2 + n}}$$

Thus, the greater the number of cases (*n*) whose observed values do not depart very much from their expected values (that is, whose chi-square values are low), the smaller the value of *C*. To give a fair interpretation to our results, we must accordingly determine how high the coefficients can rise toward their theoretical limit of 1.0, given the limitations of the present case. This we do by an experiment in which we control for the category "rest" by keeping it constant while putting the greatest possible number of cases of *ad*, *per*, and *sed* into the cells of *Ep.* II.2 (hexameters) and the *Carm.* IV, where they will generate the maximum values for the coefficients since these works are both late and have the fewest words. The fact that both poems are late is important: it means that the trend in the hexameters and lyrics is the same—another requirement of our test. The other cells are given the minimum number of cases needed to satisfy our requirement

that no more than 25% of all cells have fewer than 5 cases.<sup>36</sup> The results are given in TABLE VI (on the next page).

In this experiment, the chi-square value rises to 2171.8 and that of the coefficients go up about sixfold. Thus, we may say that, controlling for "rest" and taking into account our frequency and trend requirement, the degree of association that we find in Horace's use of *sed* and *ad* is approximately 15-20% of what is actually possible for a function word fulfilling our minimum conditions for consideration as a chronometer. Seen in this light, *ad*, *per*, and *sed* may be considered modestly useful chronometers.

Our next question is what the distribution of *ad*, *per*, and *sed* suggests about the date of the *Ars Poetica*. Since we are now treating poems as nominal variables, we have no way of determining a precise date. What we can do is attempt to model the data to see if we can combine the *Ars Poetica* with any other poem in such a way that there is no loss of significance. Our working assumption is that the most parsimonious model is the best and that poems grouped together belong to the same period of composition. In trying different combinations, we will, of course, respect time order and genre. In practice this means an experiment in which the *Ars Poetica* is combined with *Epistles* I, *Epistles* II.2, and *Epistles* II.1, first singly and then in the various combinations (e.g., *Ep. I* + *AP* + *Ep. II.2*; *AP* + *Ep. II.2* + *Ep. II.1*; etc.).

TABLE VII (next page) reports the results of experiments run using the data in TABLE V. In TABLE V, we have a "full model" of the data: that is, the frequency of each word is studied in each poem or poetic book. The resulting test statistic is reproduced at the top of TABLE VII (under model I = "FULL"). In the following lines of the table, the data from the *Ars Poetica* are combined with those from the other hexameter poems (with the exception of the very early *Sat. I*) in an attempt to simplify and clarify the analysis: the strategy is to find the combinations of poems that give us the maximum and minimum values of the test statistic. The maximum values tell us the most likely period of composition of the *Ars Poetica*; the minimum values tell us the least likely date. Since we are, in effect, comparing the same test statistic at different levels (or, "degrees of freedom" ["DF"]), we must standardize our results by comparing our various collapsed models to the full model. To do this, we simply subtract the  $\chi^2$  values

<sup>36</sup>In practice, this means that the remaining cells are given values of 5 for these words. This we do because we would not be considering a function word as a possible chronometer in the first place if its distribution throughout Horace's poetry violated the requirement that it occur at least five times in 75% of the poems. Since *Carm. IV* and *Epist. II.2* are late works (or middle-late, in the case of *Epist. II.2*), the resulting trend lines are similar in the lyrics and hexameters—a second important criterion for consideration of a function word.

| WORD  | S1   | S2   | EP1  | EP2.1 | EP2.2 | TOTAL |
|-------|------|------|------|-------|-------|-------|
| AD    | 5    | 5    | 5    | 5     | 5     | 66    |
| PER   | 5    | 5    | 5    | 5     | 5     | 25    |
| SED   | 5    | 5    | 5    | 5     | 5     | 45    |
| REST  | 6980 | 7207 | 6671 | 1748  | 1283  |       |
| TOTAL | 6995 | 7222 | 6686 | 1763  | 1419  |       |

| WORD  | AP   | EPD  | C1-3  | C4   |       |
|-------|------|------|-------|------|-------|
| AD    | 5    | 5    | 5     | 30   | 131   |
| PER   | 5    | 5    | 5     | 55   | 115   |
| SED   | 5    | 5    | 5     | 23   | 103   |
| REST  | 3067 | 2980 | 10679 | 2451 | 43066 |
| TOTAL | 3082 | 2995 | 10694 | 2559 | 43415 |

| TEST STATISTIC              | VALUE  | DF | PROB. |
|-----------------------------|--------|----|-------|
| PEARSON CHI-SQUARE          | 2171.8 | 24 | 0.000 |
| LIKELIHOOD RATIO CHI-SQUARE | 0876.3 | 24 | 0.000 |

| COEFFICIENT | VALUE | ASMPT. STD. ERROR |
|-------------|-------|-------------------|
| CRAMER V    | .1291 |                   |
| CONTINGENCY | .2183 |                   |
| LAMBDA      | .0049 | .00042            |
| UNCERTAINTY | .0050 | .00042            |

TABLE VI: TABLE V RECALCULATED TO MINIMIZE THE EFFECT OF "REST"

| MODEL | $\chi^2$ | DF | PROB | DIFFERENCE<br>IN $\chi^2$ FROM<br>FULL MODEL (I) | DF | SIGNIFICANT<br>AT $\alpha = .05?$ |
|-------|----------|----|------|--------------------------------------------------|----|-----------------------------------|
| I     | 99.20    | 24 | .000 | —                                                | —  | —                                 |
| II    | 98.25    | 21 | .000 | 0.951                                            | 3  | NO                                |
| III   | 97.84    | 21 | .000 | 1.362                                            | 3  | NO                                |
| IV    | 97.71    | 21 | .000 | 1.493                                            | 3  | NO                                |
| V     | 83.16    | 21 | .000 | 16.042                                           | 3  | YES                               |
| VI    | 96.42    | 18 | .000 | 2.778                                            | 6  | NO                                |
| VII   | 95.01    | 18 | .000 | 4.193                                            | 6  | NO                                |
| VIII  | 80.73    | 18 | .000 | 18.472                                           | 6  | YES                               |

MODELS: I = FULL; II = AP+S2; III = AP+E1; IV = AP+EP2.2;  
V = AP+EP2.1; VI = AP+S2+E1; VII = AP+E1+E2.2; VIII = AP+E2

TABLE VII: COMPARISONS OF THE FULL AND VARIOUS COLLAPSED MODELS OF THE DATA IN TABLE V

of the full and collapsed model, as well as the difference in their degrees of freedom. We can then consult a standard table of  $\chi^2$  distributions to see if the difference results in a significant gain or loss in probability. This is reported on the table in the last column: if, at the  $\alpha = .05$  level, there is no loss in probability, then we enter "NO" in the column. If the collapsed model is inferior to the full model—i.e., if there is a loss in significance—we enter "YES" in the column.

As can be seen, however we model the data, the *Ars Poetica* is best grouped with *Sat.* II, *Epist.* I, and *Epist.* II.2. The best models are: AP+SII and AP+SII+EI. Models combining the *Ars Poetica* with *Epistles* II.2 are also good. The worst models are those in which the *Ars Poetica* is grouped with *Epistles* II.1. Since the *Epistle to Augustus* is generally considered a late hexameter poem, the implication of our study is that the *Ars Poetica* is most likely a middle-period, not a late-period, hexameter poem. On TABLES H-P, the *Ars* is placed in the position indicated by these tests.

On the graph in TABLE H (a chart showing the frequency of *ad* in Horace's poems), we can see similar nonlinear trends in the lyrics and hexameters. The pattern of usage in both groups is a convex parabola. In accordance with the principle of parsimony in model-building, we disregard the value of *Satires* I. In the hexameters, we find high frequency in the early poems, lower frequency in the poems of the 20s, and higher frequency in the late works. In the case of the non-hexameters, use of *ad* is highest in the early period, with the late *Carm.* IV showing a steep rise as compared to *Carm.* I-III, but not steep enough to overtake the rate of the *Epodes*. The *Ars Poetica* takes its place between *Epist.* I, the nadir of the curve, and *Epist.* II.2.

The somewhat different shapes and values of the curves here and elsewhere in this group are not unexpected or disturbing. They are presumably the result of differences of genre and meter; of the greater number of hexameter as opposed to non-hexameter poems; and of the fact that the time intervals between the different poems (hexameter and non-hexameter alike) are not uniform. Complicating the last factor is the probable overlap in time of the different poems and poem categories. For example, it is likely that Horace was writing some of *Carm.* I-III in the 30s,<sup>37</sup> when he was mainly composing his *Satires*. It is impossible for us to determine which odes date from which period, with a few possible exceptions, like the *Cleopatra Ode* (I.37) or the poem consoling Virgil for the death of his friend Quintilius (I.24). In general, this limitation does not matter since we are concerned with relative chronology and dating the *Ars Poetica* between *Epist.* I and *Epist.* II.2. For this task, it is sufficient that we assume

<sup>37</sup>See, e.g., R. G. M. Nisbet and M. Hubbard, *A Commentary on Horace: Odes Book I* (Oxford 1970) xxviii-xxx; Vretska, op. cit. (*supra* n. 30) col. 1222; E. A. Schmidt, "The Date of Horace, Odes 2.13," *BICS Supplement* 51 (1988) 118-125.

that the linguistic data of the various works reflect Horace's habits of speech in the year or so of revision before final publication.

On TABLE I we have a graph showing Horace's use of *per*. As can be seen, *per* resembles *ad* in its general development, except this time the word is used more frequently in the lyrics than in the hexameters and in both groups of poems the highest use occurs in the late works. The frequency of the *Ars Poetica* is closest to *Epistles* I, though it is harder to visualize whether the data for the *Ars Poetica* fit better before or after those of *Epistles* I. By the principle of parsimonious modelling, the slight increase in value of *Epistles* I is not interpreted as evidence counter to a parabolic trend.

On TABLE J, showing Horace's use of *sed*, we again see a definite non-linear pattern. The frequency of *sed* falls somewhat in the 20s from the level found in the 30s (disregarding, as in the case of *ad*, the data of *Satires* I), and we find this both in the hexameter and in the non-hexameter works. The *Ars Poetica* fits nicely after *Epistles* I in the middle-period poems, whose observed frequencies are lower than expected. In the late poems, the rate with which Horace used *sed* rose again. Thus, the graphs of both hexameters and non-hexameters are convex parabolas described by quadratic equations.<sup>38</sup> The similar trends observed for *ad*, *per*, and *sed* can be seen from the composite graph on TABLE K.

As mentioned, a fourth function word, *nec*, has the opposite trend—a concave parabola. We begin with a table of the data subjected to chi-square and association tests. The results show high statistical significance and non-independence of the variables (TABLE VIII, next page).

Once again, to interpret the degree of association, we need to determine the maximum possible level of association that can be obtained with our frequency requirement and in view of the preponderance of data in the "rest" category ( $43,146 / 43,415 = 99.38\%$ ). Running an experiment similar to that used for *ad*, *per*, and *sed*, we obtain the results seen on TABLE IX (next page). Compared to the maximum values we can expect to find in one of our chronometers, the degree of association actually observed for *nec* is about the same as we found for *ad*, *per*, and *sed*.

<sup>38</sup>In modelling the hexameters, we may legitimately ignore the departure of *Satires* I from the parabolic model without postulating a cubic model; on the principle of parsimony in model-building, see A. Agresti and B. Finlay, *op. cit.* (*supra* n. 19) 363-64; P. Turney, "The Curve Fitting Problem: A Solution," *The British Journal for the Philosophy of Science* 41 (1990) 509-530.

| WORD                        | S1    | S2   | EP1   | EP2.1             | EP2.2 | TOTAL |
|-----------------------------|-------|------|-------|-------------------|-------|-------|
| NEC                         | 23    | 23   | 35    | 5                 | 1     |       |
| REST                        | 6972  | 7199 | 6651  | 1758              | 1418  |       |
| TOTAL                       | 6995  | 7222 | 6686  | 1763              | 1419  |       |
| WORD                        | AP    | EPD  | C1-3  | C4                |       |       |
| NEC                         | 13    | 22   | 26    | 118               |       | 269   |
| REST                        | 3060  | 2969 | 10576 | 2543              |       | 43146 |
| TOTAL                       | 3082  | 2995 | 10694 | 2559              |       | 43415 |
| TEST STATISTIC              |       |      |       | VALUE             | DF    | PROB. |
| PEARSON CHI-SQUARE          |       |      |       | 75.529            | 8     | 0.000 |
| LIKELIHOOD RATIO CHI-SQUARE |       |      |       | 76.994            | 8     | 0.000 |
| COEFFICIENT                 | VALUE |      |       | ASMPT. STD. ERROR |       |       |
| CRAMER V                    | .0417 |      |       |                   |       |       |
| CONTINGENCY                 | .0417 |      |       |                   |       |       |
| LAMBDA                      | .0000 |      |       | .00000            |       |       |
| UNCERTAINTY                 | .0004 |      |       | .00010            |       |       |

TABLE VIII: FREQUENCY OF *NEC* IN HORACE

| WORD                        | S1    | S2   | EP1   | EP2.1             | EP2.2 | TOTAL |
|-----------------------------|-------|------|-------|-------------------|-------|-------|
| NEC                         | 5     | 5    | 5     | 5                 | 112   |       |
| REST                        | 6990  | 7217 | 6681  | 1758              | 1307  |       |
| TOTAL                       | 6995  | 7222 | 6686  | 1763              | 1419  |       |
| WORD                        | AP    | EPD  | C1-3  | C4                |       |       |
| NEC                         | 5     | 5    | 5     | 112               |       | 259   |
| REST                        | 3077  | 2990 | 10689 | 2447              |       | 43156 |
| TOTAL                       | 3082  | 2995 | 10694 | 2559              |       | 43415 |
| TEST STATISTIC              |       |      |       | VALUE             | DF    | PROB. |
| PEARSON CHI-SQUARE          |       |      |       | 2064.2            | 8     | 0.000 |
| LIKELIHOOD RATIO CHI-SQUARE |       |      |       | 915.3             | 8     | 0.000 |
| COEFFICIENT                 | VALUE |      |       | ASMPT. STD. ERROR |       |       |
| CRAMER V                    | .2180 |      |       |                   |       |       |
| CONTINGENCY                 | .2130 |      |       |                   |       |       |
| LAMBDA                      | .0033 |      |       | .00033            |       |       |
| UNCERTAINTY                 | .0053 |      |       | .00042            |       |       |

TABLE IX: TABLE VIII CONTROLLED FOR "REST"

Next, we run some modelling tests, combining the *Ars Poetica* with the other middle and late hexameter poems, to see whether we can improve on the results obtained from the full model. The best reduced model once again turns out to be the one combining the *Ars Poetica* and *Epistles* I, though this time, there is no close runner-up.

As TABLE X shows, in the reduced model combining the *Ars Poetica* with *Epistles* I, we lose just 1.24 of chi-square value at one degree of freedom, which is not statistically significant. Thus, this reduced model is preferable to the full model. The other reduced models, combining the *Ars* with other poems, are much less compelling: the *AP + Epist. II.2* model, with a chi-square value of 68.99, actually represents a result significantly worse than the full model and hence can be rejected, as can that combining the *Ars* with *Sat. II*. The model combining *Ars Poetica + Epist. II.1* is an acceptable reduction, but barely so and with less probability than the model collapsing *AP + Epist. I*. The *Ars Poetica + Sat. II + Epist. I* model, with a chi-square value of 72.16, is almost significantly worse than the full model:  $75.53 - 69.55 = 5.98$ , with one degree of freedom. To reject a reduced model of this type, we would have had to have a remainder of 5.991 or more. As it is, we can simply say that it is much less probable than the reduction *Ars Poetica + Epist. I*.

| MODEL | $\chi^2$ | DF | PROB | DIFFERENCE<br>IN $\chi^2$ FROM<br>FULL MODEL (I) | DF | SIGNIFICANT<br>AT $\alpha = .05?$ |
|-------|----------|----|------|--------------------------------------------------|----|-----------------------------------|
| I     | 75.53    | 8  | .000 | —                                                | —  | —                                 |
| II    | 70.05    | 7  | .000 | 5.48                                             | 1  | YES                               |
| III   | 74.29    | 7  | .000 | 1.24                                             | 1  | NO                                |
| IV    | 68.99    | 7  | .000 | 6.54                                             | 1  | YES                               |
| V     | 72.16    | 7  | .000 | 3.37                                             | 3  | NO§                               |
| VI    | 69.55    | 6  | .000 | 5.98                                             | 2  | NO*                               |
| VII   | 66.99    | 6  | .000 | 8.54                                             | 2  | YES                               |
| VIII  | 67.93    | 6  | .000 | 7.60                                             | 2  | YES                               |

MODELS: I = FULL; II = AP+S2; III = AP+E1; IV = AP+EP2.2; V = AP+EP2.1;  
VI = AP+S2+E1; VII = AP+E1+E2.2; VIII = AP+E2

§The difference would be significant if it were 3.841 instead of 3.37.  
\*The difference would be significant if it were 5.991 instead of 5.980.

TABLE X: COMPARISONS OF THE FULL AND VARIOUS COLLAPSED MODELS OF THE DATA IN TABLE VIII

Having seen the strong evidence associating the *Ars Poetica* with *Epistles* I, we can now place the *Ars Poetica* on a frequency graph of the data for *nec* (see TABLE L). Although we once again put the *Ars Poetica* after *Epistles* I, we make no claim at this point of our argument about its relative position with respect to *Epistles* I. As the graph shows, the *Ars Poetica* takes its place alongside *Epistles* I at the peak of the parabola, which falls off quickly in the late works. For the sake of parsimony, we do not postulate a cubic equation because of the anomalously low frequency of *Epist.* II.2.

It is interesting to note here that the trend in Horace's use of *ne* is much the same as that of *nec*, except that the overall frequency is in general quite a bit lower than it is for *nec*, and the effects of genre are just the reverse. Whereas for *nec*, the non-hexameters showed a higher rate of usage, for *ne* the frequency in the non-hexameters is quite low—so low, indeed, that *ne* has been excluded from our study on account of low frequency. So it must remain. Since *ne* and *nec* are so similar in sound and sense, it is at least worth reporting here the fact that the trends in Horace's use of them are similar, too. Although of no probative value for our argument, the resemblance of the trend of *ne* to that of *nec* may add support to the principal theoretical assumption of this study—namely, that some function words may serve as chronometers because their use changes in a patterned way over time according to quite unconscious linguistic processes.

As before for the first "concave" group, it is useful to combine the graphs of the "convex" group so that we may visualize just how closely the frequency trends of *nec* and *ne* resemble each other (cf. TABLE M). In so doing, we will use two scales to compensate for the fact that *ne* is so much rarer than *nec*. This is justified, needless to say, because we are interested only in the convexity of the pattern, and not in the absolute frequencies of the words in the Horatian corpus. Of course, the fact that *ne* peaks over *Epistles* I and *nec* over the *Ars Poetica* is equally irrelevant: there is no reason why the two words should follow the exact same development. As a further visual aid, we will use the bar graph for *nec* and superimpose a line graph for *ne*.

To conclude this part of our stylometric attempt to date the *Ars Poetica*: two classes of function words emerge from a study of function words in Latin as satisfying the frequency and pattern requirements of chronometers. They are *ad/per/sed*, on the one hand, and *nec*, on the other. The first group has the pattern of a concave parabola; the second class, that of a convex parabola. In both classes, the *Ars Poetica* takes its rightful place next to *Epistles* I. In neither of the two classes do we find any compelling evidence that the *Ars Poetica* should be combined with Horace's late poetry.

### Possible Macrochronometers: Characters, Strings, Strong Stops

Many other stylometric tests for relative chronology are conceivable, and, while it is not my intention to try to exhaust all the possibilities here, it is at least prudent to see if the results reached so far can be confirmed or disconfirmed by other means.

Up to now we have looked at one category of vocabulary—function words. To compensate for this rather restricted approach, let us consider some typical tests of Horace's entire vocabulary. By examining features common to all of Horace's use of language—which we may call *macrochronometers*—we will have looked at Horace's word usage from, so to speak, both ends of the telescope. Once again we will be trying to find some feature that can serve as a chronometer because its usage in the corpus shows patterned development.

Statisticians of style often look at such things as the average number of characters per word, words per sentence, and unique strings as a percentage of all strings. These will serve as our macrochronometers, and we may begin by measuring the average number of characters per word in the works of the corpus. From the graph on TABLE N, it can easily be seen that there is no developmental pattern here. Rather, Horatian usage remains quite stable from poem to poem and genre to genre. The mean values for the poems are 5.636, with a standard deviation of .052. If the Horatian mean turns out to be significantly different from that of other Latin writers, then it could serve as a criterion of attribution. It is clear, however, that it cannot be of much help for establishing a relative chronology of Horace's own works.

The situation is much the same for the ratio of words per strong stop, though for a different reason. Here the problem is not stability but random fluctuation—especially opposite trends in the hexameters and non-hexameters, as can be seen on TABLE O.

The hexameters show a steady rise from *Satires* II through *Epistles* II.2 and II.1 (leaving out of account, of course, the *Ars Poetica*, so as not to be guilty of a *petitio principii*). The hexameters are thus linear. The non-hexameters, on the other hand, have fewer words per stop in *Carm.* I-III of the mid-20s than they did in the *Epodes*, giving them a parabolic shape. It is perhaps just as well that this ratio turns out not to be useful: the pointing is completely dependent on the single text of Horace that has been digitized to date (Klingner's Teubner), and pointing is notoriously arbitrary. For this reason, I first converted all colons and semi-colons to periods before the computer scanned the text to tabulate "sentences." Nevertheless, although "strong stop" is a vaguer category than is "sentence," the result will hardly be found to agree with any other edition

so modified. If for this practical reason words/stop is not a very reliable measure, then it is equally suspect on statistical grounds.<sup>39</sup>

Our last hope for a macrochronometer that can confirm or disconfirm the results of our study of function words is the ratio of unique strings to non-unique strings in Horace.<sup>40</sup> Normally, one would prefer to study words—i.e., lexemes—per se, not strings, or inflected forms of words. However, given the current lack of a parser for Latin, it is impractical to study a corpus as large as Horace's in this way. On the other hand, in the present case very little inaccuracy is likely to result from using for analysis strings, as opposed to words, since Latin does not have many homonyms like *uti*. TABLE P reports the rate at which unique and non-unique strings appear in Horace's works.

As can be seen from TABLE XI, our intuition that we have, indeed, identified a statistically significant pattern is confirmed by chi-square and associ-

|                       |           |              |              |                          |              |              |
|-----------------------|-----------|--------------|--------------|--------------------------|--------------|--------------|
| <u>STRING</u>         | <u>S1</u> | <u>S2</u>    | <u>EPI</u>   | <u>EP2.1</u>             | <u>EP2.2</u> | <u>TOTAL</u> |
| UNIQUE                | 3691      | 3988         | 3804         | 1277                     | 1036         |              |
| NON-UNIQ              | 3304      | 3234         | 2882         | 486                      | 383          |              |
| TOTAL                 | 6995      | 7222         | 6686         | 1763                     | 1419         |              |
| <u>STRING</u>         | <u>AP</u> | <u>EPD</u>   | <u>C1-3</u>  | <u>C4</u>                |              |              |
| UNIQUE                | 2048      | 2038         | 7529         | 1872                     |              | 27283        |
| NON-UNIQ              | 1034      | 957          | 3165         | 687                      |              | 16132        |
| TOTAL                 | 3082      | 2995         | 10694        | 2559                     |              | 43415        |
| <u>TEST STATISTIC</u> |           |              | <u>VALUE</u> | <u>DF</u>                |              | <u>PROB.</u> |
| PEARSON CHI-SQUARE    |           |              | 1147.6       | 8                        |              | 0.000        |
| <u>COEFFICIENT</u>    |           | <u>VALUE</u> |              | <u>ASMPT. STD. ERROR</u> |              |              |
| CRAMER V              |           | .1626        |              |                          |              |              |
| CONTINGENCY           |           | .1605        |              |                          |              |              |
| LAMBDA                |           | .0042        |              | .00245                   |              |              |
| UNCERTAINTY           |           | .0066        |              | .00039                   |              |              |

TABLE XI: CHI-SQUARE TEST OF THE FREQUENCY OF UNIQUE AND NON-UNIQUE STRINGS IN HORACE

<sup>39</sup>See A. Q. Morton, *Literary Detection* (New York 1978); K. L. Lindsay and T. W. Mackay, op. cit. (*supra* n. 23) 8-9. For a similar functional definition of "strong stop," see I. Marriott, "The Authorship of the *Historia Augusta*," *JRS* 69 (1979) 65-77, at p. 66 with 66n4.

<sup>40</sup>This kind of "type/token" analysis was used by Grayston and Herdan in an authorship study of works in the New Testament attributed to Paul; see K. Grayston and G. Herdan, "The Authorship of the Pastorals in Light of Statistical Linguistics," *New Testament Studies* 6 (1959-60) 1-15; the study is usefully criticized by Lindsay and Mackay, op. cit. (*supra* n. 23) 6-7. Grayston and Herdan studied words, not strings (arrays of characters, i.e., forms of words).

ation tests of the data. The high chi-square value tells us that there is very little chance indeed that the figures for the strings are the result of chance and a very high probability that the variables of poem and string-type are not independent. Their degree of dependence is expressed by the various coefficients, which indicate a modest degree of association reflective of the fact that the slopes of the lines in TABLE P are so gentle.

Attempts to model the data by combining the *Ars Poetica* with other poems do not succeed in establishing a more economical model without loss of significance. In fact, collapsing the data in any of the ways used earlier results in significant losses of chi-square value, as TABLE XII shows. The fact that the full model is preferable to any reduction means that we have no basis at this point in the analysis for associating the *Ars Poetica* with one of the datable hexameter poems.

On TABLE P, the location of the *Ars Poetica* between *Epistles* I and *Epist.* II.2 is thus purely speculative, supported only by the smooth linear pattern that results. In a moment we will convert the nominal poem variables to interval variables. Our first order of business will then be to see whether other tests, appropriate only to interval variables, can confirm or disconfirm this speculation.

| MODEL                | LOSS OF $\chi^2$ |    | PROB. |
|----------------------|------------------|----|-------|
|                      | VALUE            | DF |       |
| <i>AP + Ep.</i> I    | 82.48            | 1  | .000  |
| <i>AP + Ep.</i> II.2 | 17.9             | 1  | .000  |
| <i>AP + Ep.</i> II.1 | 17.19            | 1  | .000  |
| <i>AP + Ep.</i> II   | 26.21            | 2  | .000  |

TABLE XII: ALTERNATIVE MODELS FOR GROUPING THE DATA OF TABLE XI

### Absolute Chronology: Conversion to Interval Variables

A number of statistical analyses were unavailable to us because the variables we have been considering so far were nominal, not interval. It is prudent to consider Horace's poems as simple categories; on the other hand, in view of their generally accepted absolute chronology, they can also be taken as points on an interval scale of time. If we do this with due awareness of how approximate our results must be, we can make a provisional attempt to determine whether the *Ars Poetica* should be dated before or after *Epistles* I and we can obtain added confirmation for our rejection of the late dating of the poem.

Because we did not make such a conversion, we could not mathematically describe the linear and quadratic equations that may describe Horace's evolving use of *ad*, *sed*, *ne*, and *nec* as well as his ratio of unique to non-unique strings. Only after arriving at such equations, by building linear and non-linear regression models,<sup>41</sup> can we attempt to make our date of the *Ars Poetica* more precise.

In what follows, the conversion to interval variables will be based on the publication dates given by Vretska (see n. 30 above), with the exception that the *Epodes*—which were written over such a long period of time—are dated to the approximate mid-point of their period of composition (c. 35 B.C.) and *Epistles* II.2 is dated to 19/18.<sup>42</sup> To circumvent the problem that dates B.C. are regressive, dates will be expressed variously in terms of Horace's age or in years *ab urbe condita* (AUC), as follows:

| HEX     | AUC=AGE |    | NON-HEX | AUC=AGE |    |
|---------|---------|----|---------|---------|----|
| S I     | 718     | 30 | EPD     | 718     | 30 |
| S II    | 723     | 35 |         |         |    |
|         |         |    | C1-3    | 730     | 42 |
| EP I    | 733     | 45 |         |         |    |
| EP II.2 | 735     | 47 |         |         |    |
| EP II.1 | 740     | 52 | C4      | 740     | 52 |

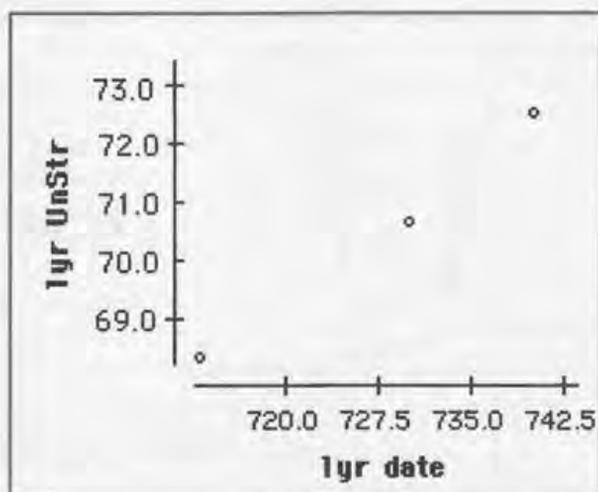
TABLE XIII: APPROXIMATE PUBLICATION DATES OF HORACE'S POETRY

First, equations will be derived for the data from poems, excluding the *Ars Poetica*. Then, the *Ars Poetica* will be dated by means of the equations. As before, the hexameters and non-hexameters will be treated separately. We may note here that our results will only relate to the *terminus ante quem* of the *Ars Poetica* as we have it. No attempt will be made to determine whether the poem we have is, e.g., a revised version or a second edition of an earlier poem.

Let us first examine the unique strings in the non-hexameter poetry. As we recall, these showed a strong linear pattern of development, with increasing rates of unique strings as time went on. We want to see whether there is support for our speculation that the *Ars* belongs roughly in the period between the composition of *Epist.* I and *Epist.* II.2

<sup>41</sup>Cf. A. Agresti and B. Finlay, *op. cit.* (*supra* n. 19) 243-288, 316-356.

<sup>42</sup>Vretska says the date is "before 20," but most scholars put it in 19/18; see Brink, I, 184n1.



Dependent variable is: lyr UnStr (lyric Unique Strings)

$R^2 = 99.1\%$   $R^2$  (adjusted) = 98.3%

$s = 0.2781$  with  $3 - 2 = 1$  degree of freedom

| Source     | Sum of Squares | DF | Mean Square |
|------------|----------------|----|-------------|
| Regression | 8.76931        | 1  | 8.7693      |
| Residual   | 0.077361       | 1  | 0.077361    |

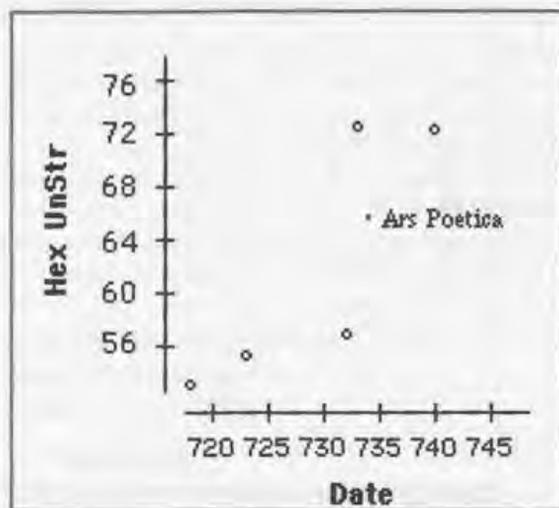
| Variable | Coefficient | S.E. of Coeff | T-ratio |
|----------|-------------|---------------|---------|
| Constant | -41.1566    | 10.49         | -3.93   |
| lyr date | 0.153399    | 0.0144        | 10.6    |

Formula:  $Y = -41.1566 + .153399X$

TABLE XIV: PERCENTAGE OF UNIQUE STRINGS IN  
HORACE'S NON-HEXAMETER POETRY

The figure  $R^2$  is the coefficient of determination, which varies from 0 (indicating that the variables are independent) to 1.0 (indicating that they are strongly associated). In this case, the coefficient is practically 1.0, so that we may be quite confident that the rate of unique strings in a Horatian poem is determined by its date.

The frequency of unique strings in the hexameter poems also increases over time, as the table on the next page shows.



Dependent variable is: HexUnStr (hexameter Unique Strings)

$R^2 = 69.6\%$   $R^2$  (adjusted) = 59.4%

$s = 6.119$  with  $5 - 2 = 3$  degrees of freedom

| Source     | Sum of Squares | DF | Mean Square |
|------------|----------------|----|-------------|
| Regression | 256.923        | 1  | 257.0       |
| Residual   | 112.345        | 3  | 37.4482     |

| Variable | Coefficient | s.e. of Coeff | t-ratio |
|----------|-------------|---------------|---------|
| Constant | -609.812    | 256.5         | -2.38   |
| Date     | 0.921136    | 0.3517        | 2.62    |

Formula:  $Y = -609.812 + .921136X$

Date of *Ars Poetica*:  $Y = 66.1$ ;  $X = 733.78$  (21/20 B.C.)

TABLE XV: PERCENTAGE OF UNIQUE STRINGS IN HORACE'S HEXAMETER POETRY

In this case, the results are more scattered, but the coefficient of determination is still quite high at .696. This means that about 70% of the variability of unique strings from poem to poem is explained by the dates of the poems, as opposed to other (non-specified) factors. The formula resulting from our analysis gives us the Y-intercept and slope of the linear equation that best describes this data:  $Y = -609.812 + .921136X$ . With the Y-value for the *Ars Poetica* (66.1) in hand, we

can solve the equation for X (i.e., for date) for the *Ars Poetica*. The answer is 733.728 a.u.c., or 21/20 B.C. On the scattergram, I have entered the poem into the locus indicated by the equation. The high reliability of this dating is suggested by the t-ratio for the variable "Date." The value of 2.62 with three degrees of freedom results in a rejection of the null hypothesis that the true slope coefficient is 0 (that is, that the variable Y, or frequency of unique strings, does not depend on the variable X, or date) at an alpha-level of less than .05.<sup>43</sup>

Since the fit of our nonlinear data to the most descriptive quadratic equations is not as tight as it is for these two linear patterns, and since the number of poems in our sample is so low in any case, our approach to the words with quadratic equations (i.e., *ad, sed, nec, and ne*) is somewhat different. Instead of deriving a date from all the hexameters except the *Ars Poetica* and then determining the date of the poem by substituting the value of the dependent variable, we will use an exploratory modelling approach.<sup>44</sup> With this method, we increase the plausibility, if not probability, of our results by including the *Ars Poetica* in our regression analysis. Controlling for all the other poems, we run the regression seventeen times by varying the date of the *Ars Poetica* from its earliest to its latest possible year of composition (i.e., 24 to 8 B.C.). We then pick out the years that are most and least likely, as determined, respectively, by the greatest and lowest  $R^2$  value of the regression. This procedure tells us which dates of the *Ars Poetica* are the most and least likely for these data. The results may be seen on TABLE XVI.

| WORD              | BEST |         | WORST |         | RATIO<br>$R_1^2/R_2^2$ |
|-------------------|------|---------|-------|---------|------------------------|
|                   | DATE | $R_1^2$ | DATE  | $R_2^2$ |                        |
| SED               | 24   | .848    | 8     | .257    | 3.3                    |
| PER               | 24   | .687    | 8     | .224    | 3.1                    |
| AD                | 20   | .594    | 8     | .457    | 1.3                    |
| NEC <sup>45</sup> | 24   | .620    | 8     | .415    | 1.5                    |

TABLE XVI: BEST AND WORST REGRESSION MODELS FOR DATING THE *ARS POETICA* BY MEANS OF FUNCTION WORDS

<sup>43</sup>When the t-ratio is 2.62 with three degrees of freedom, alpha is < .05 and > .025.

<sup>44</sup>For the difference between an explanatory and exploratory use of regression, see A. Agresti and B. Finlay, *op. cit.* (*supra* n. 19) 379-80, especially the following: "in exploratory research...the goal is not to explain relationships among variables so much as it is to find a good set of predictors. Here we want to maximize  $R^2$ , and we do not worry so much about theoretical explanations."

<sup>45</sup>The principle of parsimonious model-building suggests that the anomalous *Epist.* II.2 be excluded from consideration.

$R^2$ , as noted earlier, measures the strength of the association of the variables; here,  $R_1^2$  is the correlation coefficient of the best model and  $R_2^2$  that of the worst. Three of the function words (*sed*; *per*; *nec*) give us  $R_1^2$  values superior to that found for the unique strings; one (*ad*) is quite similar. While these absolute values are sufficient to permit the conclusion that, on this basis, the *Ars Poetica* should more likely be dated to the period 24-20 B.C. than to Horace's last years, they do not give us a sense of the degree to which the earlier datings are preferable to the latter. For this, we need to consider the ratio  $R_1^2/R_2^2$ , which quantifies the advantage of the best model over the worst. Perusal of the table confirms that *sed* and *per* are very reliable chronometers indeed, both in absolute and relative terms.

The  $R^2$  value expresses the fit of the observed frequencies of *ad*, *per*, *sed*, and *nec* to those that can be predicted by the appropriate quadratic equation. The closer the fit, the higher the value of  $R^2$ , which varies, as previously noted, from 0.0 to 1.0. The graphs in TABLES Q-T will help the reader visualize the fit of the data to the predictive equations. In examining them, the reader should bear in mind that a quadratic equation can be derived to fit any three points on a graph; thus, it is not surprising that two or three points always fall on or very near the prediction parabolas. Visualization of the goodness of fit ( $R^2$  values) of the predicted to the observed values depends on developing a sense of the number of points off the parabolic line and their distance from their predicted values on the line. The graphs are presented in descending order of their  $R_1^2/R_2^2$  ratios, beginning with *sed*.

### Summary of Arguments for Dating the *Ars Poetica*

At this point, a summary of our statistical investigations and other arguments for dating the *Ars Poetica* is in order.

Of the three approaches to dating the poem, the first—comparing and contrasting ideas of the *Ars Poetica* with Horace's beliefs about poetry in his other, datable poems—was rejected because the ideas in the *Ars* are so different from what we find in his other poems that the poem cannot readily be fitted into a chronological scheme of Horace's ideas about poetry. We did, however, note that the only echoes in the *Ars Poetica* to other passages in Horace's poetry were to poems published in 23-20 B.C., thus suggesting that the *Ars* dates from the same period. The second approach—based on dating the work by reference to biographical information available from other sources about historical personages mentioned in the poem—provided a firm *post quem* (24/23 B.C.), but was only suggestive about a *terminus ante quem* (19 B.C.).

The third approach of stylometrics confirmed this *terminus post quem* and added better evidence for an *ante quem* of c. 20 B.C. Starting from a reexamination of Duckworth's metrical arguments for dating the *Ars Poetica*—which he adduced in favor of a late date—we found that, by his own “naive” statistical methodology, the evidence supported dating the poem in Horace's “middle” period, well before the late hexameters of *Epistles* II. Subjecting the data to standard statistical tests, we then found that his metrical tests did not give strong support to even this revised dating. Instead of looking further for metrical chronometers—something presently difficult to do in the absence of a commercially available metrical scanner for Latin—we shifted our evidentiary base from meter to vocabulary, treating the books of poetry as nominal variables that can be arranged according to a relative chronology. We then sought criteria for dating the poems by running tests on Horace's use of function words, on the average number of characters per word and of words per strong stop, and on the ratio of unique to non-unique strings in Horace. The studies of word-length and words per stop were inconclusive, since no development over time was noted. On the other hand, our examination of function words and ratio of unique to non-unique strings proved fruitful: here we discovered linear and non-linear patterns of development over Horace's career, and both batteries of tests suggested that the *Ars Poetica* fell into Horace's middle period of hexameters. Finally, converting the nominal variables into interval variables by assigning the various poems their generally accepted absolute dates, we ran tests of the ratio of unique to non-unique strings and of the changing frequency of function words. These tests agreed in indicating a date in the period 24-20 B.C. as most probable for the composition of the *Ars Poetica*. The tests of the function words also showed that, the later we attempted to date the *Ars Poetica* down to 8 B.C. (the year of Horace's death), the *less* likely the result in terms of statistical probability. Three of the four function words indicated a best dating of 24 B.C.; one dated the poem to 20 B.C.

Our conclusion is thus that the most likely date of the *Ars Poetica* is between 24 and 20 B.C.

## CHAPTER 3

### INTERPRETIVE IMPLICATIONS OF CHRONOLOGY: THE *ARS POETICA* IN ITS CULTURAL CONTEXT

The problems considered thus far will almost certainly never have definitive answers: we simply lack the kind of information we need to have in order to know what Horace himself called the *Ars Poetica* and when he wrote the poem. Our effort has been much more modest: to show that some possibilities have been overlooked by earlier scholars and to demonstrate that some of these possibilities are even—statistically speaking—probabilities. The poem's title and date are not merely of antiquarian interest. They have a direct and indirect impact on how we construct our reading of the poem.

At this point, then, we need to address three issues. First, what consequences would our dating have for the relationship of the poem to its historical milieu? Secondly, in view of those consequences, what effect can an early dating have on our interpretation and understanding of the *Ars Poetica*? Finally, to what extent are these external and internal implications of the date consistent with—or, indeed, supportive of—a parodic reading of the poem?

For the first issue, the identity of the Pisones to whom the work is dedicated is of paramount importance. In the past, scholars have thought themselves forced by a date in the late 20s to see Cn. Calpurnius Piso (cos. 23) as the senior dedicatee of the poem. This has been resisted because, from what we know about him and his family, they do not seem appropriate recipients of a work on poetics. On the other hand, the favored candidate, L. Calpurnius Piso Pontifex (cos. 15), was too young in the 20s to serve as the senior dedicatee.<sup>1</sup> Once we have offered a new solution to the problem of identifying Piso père, we will examine the implications of our candidate for interpretation of the poem, particularly in the light of Horace's relationship to contemporary literary critics. We will see that by aligning the speaker of the *Ars Poetica* with such critics as

<sup>1</sup>Cf., with admirable succinctness, Brink, I, 239-240.

Piso and Sp. Maecius Tarpa, Horace undermines the speaker's authority in a way suggestive of parody.

Similarly, the dating proposed here invites us to examine the relationship between the poem and contemporary painting and art criticism, which, from the very first lines of the poem, play a prominent part in the *Ars Poetica*. A close reading of the opening lines of the poem will show that, right from the start, Horace portrays the speaker of the poem as a pedant and an ignoramus. This characterization, like the attack on his authority, is consistent with a parodic reading of the work.

Finally, dating the *Ars Poetica* to the 20s, and seeing it as a separate work in the corpus unrelated to the *Epistles* and replete with parodic elements should naturally make us wonder about the genre of the poem. In tackling this matter in *Chapter 4*, we will try both to put the Renaissance epistle-theory to rest once and for all and to link the *Ars Poetica* to the traditions of Horatian *sermo*.

### The Identity of the Pisones

Foremost among the ten historical personages mentioned in the *Ars Poetica* are the Pisones, who are the addressees of the poem. Since their identification is closely connected to the poem's chronology and tone, I will have to delve into the matter here.

A full account of the extensive scholarship on the identity of the Pisones is no longer necessary after the thorough recent contributions of Brink and Syme, on which we can safely try to build. In particular, the claims of the unpoetical Cn. Calpurnius Piso (cos. 23) need no longer be rehearsed and refuted.<sup>2</sup> As mentioned above, Cn. Calpurnius Piso has, since the nineteenth century, been the Piso to whom scholars dating the poem to the 20s have had to turn, since L. Calpurnius Piso (cos. 15) was too young in the 20s to have had children old enough to be called *iuvenes* (cf. *Ars Poetica* 366). Our task here, then, is to find someone other than Cn. Calpurnius Piso who can serve as senior addressee in the late 20s.

Horace addresses his poem to Pisones (6, *credite, Pisones...*). Although there were several important late-republican families with this cognomen, it is at

<sup>2</sup>Brink, I, 239-243; III, 446-448, 554; R. Syme, "The Sons of Piso the Pontifex," *AJP* 101 (1980) 333-341 (= *Roman Papers*, vol. 3, ed. A. R. Birley [Oxford 1984] 1226-1232); *History in Ovid* (Oxford 1978) 115, 178. That the addressee in Horace normally has some connection to the topic of the poem is a commonplace; cf., e.g., R. G. M. Nisbet and M. Hubbard, *A Commentary on Horace: Odes Book II* (Oxford 1978) 2.

least clear that we have to do with Calpurnii Pisones,<sup>3</sup> because lines 291-292 (*vos, o / Pompilius sanguis*) imply that our family descends from Calpus, the son of King Numa.<sup>4</sup> Moreover, verse 366 (*o maior iuvenum*) tells us that our family consists of a father and two children, who must range in age somewhere between about 16 and 45 years of age.<sup>5</sup> Lines 385-388<sup>6</sup> suggest that the elder child is (or, plans to be) a poet and that his father is (or, considers himself to be) an authority on literary criticism. So much for the internal evidence.

The late-antique commentator, Porphyrio, in a note on the first line of the poem, identifies Piso père as L. Calpurnius Piso (cos. 15; *RE* Calpurnius 99): *hunc librum, qui inscribitur de Arte Poetica, ad Lucium Pisonem, qui postea urbis custos fuit, eiusque liberos misit, nam et ipse Piso poeta fuit et studiorum liberalium antistes*. This notice may, however, be incorrect because this Piso is not known to have had any children. Syme, presenting some possible sons of this Piso, must admit a lack of certainty about his candidates, though he sensibly points out that the silence of the ancient sources anent children may be the result of any number of good reasons, e.g., adoptions, early deaths, or political inactivity.<sup>7</sup>

However, even if children are postulated, one problem remains with Porphyrio's Piso père. The text of the poem presumes that the father is primarily a critic, not a poet: he is mentioned as such (388), and Horace says nothing about his poetry, which is strange if he has written anything of note. We are told by Porphyrio that the consul of 15 was a poet (*nam et ipse poeta fuit....*), and we may even have some of his poetry in the *Greek Anthology*.<sup>8</sup> Moreover, Por-

<sup>3</sup>And not, e.g., Domitii Pisones (Pliny, *NH praef.* 17), or Pupii Pisones (cf. *RE* Pupius 10-12; M. H. Crawford, *Roman Republican Coinage*, vol. 1 [Cambridge 1974] 87, 442-443, with bibliography).

<sup>4</sup>On whom see Münzer in *RE* III s.v. Calpurnius, col. 1365. For an updated account, see E. Champlin, "The Life and Times of Calpurnius Piso," *MH* 46 (1989) 101-124, at pp. 119-123. On the alleged descent of the family from Calpus see, in general, T. P. Wiseman, "Legendary Genealogies in Late-Republican Rome," *Greece & Rome* 21 (1974) 153-164, especially pp. 154-155.

<sup>5</sup>Cf. *OLD* s.v. *iuvenis* I.

<sup>6</sup>"Tu nihil invita dices faciesve Minerva: | id tibi iudicium est, ea mens. si quid tamen olim | scripseris, in Maeci descendat iudicis auris | et patris et nostras..."

<sup>7</sup>Syme, "The Sons of Piso," *op. cit.* (*supra* n. 2) 334-341. For a concrete case of how an early death may account for the absence of a famous man's brother from the historical record, see L. E. Reams, "The Strange Case of Sulla's Brother," *CJ* 82 (1987) 301-305.

<sup>8</sup>Cf. C. Cichorius, *Römische Studien* (Leipzig 1922) 325-327, 338-341; E. Groag, *PIR<sup>2</sup>* (Berlin 1936) Calpurnius 289 (p. 66). Because Porphyrio tells us that his Piso père was a poet, *AP* 11.424, attributed to a certain Piso, has been thought to be by this man. That Piso père is presented in the poem largely as a critic and the

phyrio's candidate was born in 48; any children he may have had would accordingly have become *iuvenes* only in the very last years of Horace's life—say after 12, if Piso married young and had his first child early on (e.g., born in 48; married in 29; first child born in 28 and Horace's *maior iuvenum* at age 16 in 12).<sup>9</sup>

If the period 24–20 is considered the likeliest for the composition of the *Ars Poetica*, then we must face the instant repercussion that Porphyrio must be wrong about the identity of Piso père.<sup>10</sup> Or, perhaps, partly wrong.

It is quite possible that Porphyrio has the right family, but the wrong generation.<sup>11</sup> If Piso père is more a critic than a poet and if his elder child is a poet, not a critic, then these requirements are better met by assigning to L. Calpurnius Piso Caesoninus (cos. 58; *RE* Calpurnius 90) the role of père and to his son, L. Calpurnius Piso Pontifex (cos. 15; *RE* Calpurnius 99), the part of *maior iuvenum* (25–28 years old in 23–20 B.C., since he was born in c. 48 B.C., according to Tac. *Ann.* 6.10). The consul of 15 was, as has been noted, a poet, according to Porphyrio; he is *maior iuvenum*, despite his famous elder sister Calpurnia (Caesar's last wife; *RE* Calpurnia 126), because she—betrothed to Caesar in 59, before her brother was even born—was too old in the 20s to be called *iuvenis*, assuming she was even alive (we hear no mention of her after 44). Their father was facetiously called a critic (*grammaticus*) by Cicero.<sup>12</sup> The implication behind Cicero's invective (on which, see pp. 57–59) is that the consul of 58 prided himself on being a literary critic—not unexpected in a man who we know was a patron of poets, including the poet-philosopher Philodemus.

elder child as a budding poet was noted by E. C. Wickham, *Quinti Horatii Flacci, Opera Omnia*, vol. 2, (Oxford 1891) 383–384.

<sup>9</sup>Cf. R. Syme, "The Sons of Piso," *op. cit.* (*supra* n. 2) 338–339, for speculation along these lines. Note that a *iuvenis* is "technically, any adult male up to the age of 45" (*OLD*). The *toga virilis* was assumed, in this period, at c. 16 years of age (cf. J. P. V. D. Balsdon, *Life and Leisure in Ancient Rome* [New York 1969] 120). Thus, in a technical sense, the senior dedicatee of the *Ars Poetica* must have children aged 16–45. To be sure, the term *iuvenis* could also be used more loosely, but the technical sense at least gives us guidance as to what Horace means.

<sup>10</sup>That a date in the 20s B.C. rules out Porphyrio's candidate has been seen since J. H. van Reenen's *Disputatio philologico-critica de Horatii Epistola ad Pisonem* (Amsterdam 1806). As noted, Van Reenen and his followers have recourse to Cn. Calpurnius Piso (cos. 23). *Ars Poetica* 306, "nil scribens ipse," has sometimes been connected with the so-called *intervallum lyricum* of 23–18 B.C., when Horace wrote no lyric poetry. Equally possible is an interpretation based on persona-theory: the *Ars Poetica* speaker is presented as a typical *grammaticus*, who has never written poetry and has no plans to do so.

<sup>11</sup>Similar prosopographical confusions in Porphyrio are collected by A. Michaelis, *op. cit.* (*supra* n. 10) 421.

<sup>12</sup>In *Pisonem* 73.

Although the identifications of Caesoninus and Pontifex fit quite well with the evidence of the *Ars Poetica*, there still remain two potential difficulties that should be explored now. In his influential *RE* article on Caesoninus, Münzer suggested that Caesoninus died shortly after the Battle of Mutina, for he is no longer mentioned in the literary sources after 43 B.C.<sup>13</sup> This is, of course, a speculative argument from silence, but it has apparently been powerful enough to discourage earlier students of the problem from proposing Caesoninus as the senior dedicatee of the *Ars Poetica*. Let us note, first of all, that other speculations about Caesoninus after 43 are possible: we may, for example, just as easily imagine that the conciliatory and Epicurean Piso withdrew in disgust from politics into the pleasures of retirement, or semi-retirement, after 43.<sup>14</sup> In favor of this, we may recall Piso's reluctance to hold the office of censor in 50.<sup>15</sup>

We do not have to content ourselves with guesses that Caesoninus lived on after 43. After Münzer wrote, three inscriptions in Pola mentioning L. Calpurnius L.f. Piso Caesoninus have gradually been published. Here are the texts:

L·CASSIUS·C·F·LONGIN(US) | L·CALPURNIUS·L·F·PISO·I IIVIR(I)...

[CIL V 54 = ILLRP 639 = *Inscr. Ital.* X.i.81 (with photo), from the Porta Herculea]

L·CALP[URNIUS·L·F] | PISO·CA[ESONINUS]·I CO[S]

[= Fig. 1; CIL V.2512 = ILLRP 423 = *Inscr. Ital.* X.i.65 (with drawing); found in v. Castropola (= M. Gupca Street); A. Gnirs, *JÖAI* 13 (1910) 196; P. Sticotti, *AMSI* 30 (1914) 114; A. Gnirs, *Pola* (Vienna 1915) 53; museum, inv. nr. 316]

[L·CAL]PURN[IUS·L·F·]  
[CAE]SON[INUS]

[ILLRP 424 = *Inscr. Ital.* X.i.708 (with photo); now missing, formerly on a wall of the duomo; see M. Mirabella Roberti, *Il Duomo di Pola* (Pola 1943) 31n1]

<sup>13</sup>So, e.g., Münzer, *RE* III s.v. Calpurnius 90 (Stuttgart 1897) cols. 1387-1390; C. L. Neudling, *A Prosopography to Catullus*, *Iowa Studies in Classical Philology* 12 (1955) 42-45. According to A. Fraschetti, "La 'Pietas' di Cesare e la colonia di Pola," *AION* 5 (1983) 77-102, at p. 97n85, this was originally Münzer's suggestion. I have not attempted to trace the idea beyond Münzer.

<sup>14</sup>So E. Scuto, "Realtà umana e atteggiamenti politici e culturali di Lucio Calpurnio Pisone Cesonino," *RAAN* 47 (1972) 149-166, at p. 162.

<sup>15</sup>Dio 40.63.2.

In an article published in an out-of-the-way journal, seventeen years after Münzer's article, Sticotti convincingly identified the Piso mentioned in these inscriptions as our man, the consul of 58. Since the first of the three can be dated as contemporary with Pola's first permanent wall (i.e., to c. 33 B.C.; see Appendix III for details), Pola provides important evidence of Piso's survival into the triumviral period.<sup>16</sup> In 23-20, he would have been about 80 (77-85 is the probable range),<sup>17</sup> and in this connection we should note that his son lived to be 80.

The second difficulty with our identifications of Piso père et fils is that we still lack a younger child. This will be held against my theory by any adherents of the claims of the family of Cn. Calpurnius Piso (cos. 23), who is known to have had two sons. However, one attested son is better than none (a disadvantage taken in stride by such recent supporters of Porphyrio as Brink and Syme). In addition to the reasons given by Syme for the absence of sons from the historical record, we might note that it is not even clear from the text of the *Ars Poetica* that we have to do with two sons, as has always been assumed: the words *iuvenes* (24, 366) and *liberi* (Porphyrio on verse 1) do not rule out the possibility that one of the children was, in fact, a daughter.<sup>18</sup> The odds of a daughter being mentioned in an independent historical source are not very high.

Two final points, this time in favor of my identification of the Pisones. First, we ought to bear in mind that the problem we are trying to solve has another aspect. Thus far, we have been concentrating on whom Horace intended by Piso père and the *maior iuvenum*. Equally important is who Horace's educated reader would have understood these people to be. There is obviously a relationship between these two problems: Horace reveals his intentions to the reader by the information he provides in the poem. That information indicates, as we have seen, Calpurnii Pisones (291-292). Of the two possible families—the Cnaei and Lucii Calpurnii Pisones—only the Lucii have a connection with

<sup>16</sup>See P. Sticotti, "Nuova rassegna di epigrafi romane," *AMSI* 30 (1914) 113-114; A. Degrassi, *Il confine nord-orientale dell'Italia romana*, *Diss. Bern.* ser. I, fasc. 6 (Bern 1954) 65-66 (= *Scritti vari di antichità*, II [Rome 1962] 918); J. Sasel, "Calpurnia L. Pisonis Auguris Filia," *ZAnt* 12 (1962-1963) 387-390; J. Sasel, "Probleme und Möglichkeiten onomastischer Forschung," *Acta CIEGR* 4 (1964) 352-368 at pp. 363-367; J. J. Wilkes, *Dalmatia* (London 1969) 331; L. Keppie, *Colonisation and Veteran Settlement in Italy, 47-14 B.C.* (London 1983) 204; A. Frascchetti, *op. cit.* (*supra* n. 13) 90-91.

<sup>17</sup>For his birth year, see R. G. M. Nisbet, *Cicero, In Pisonem* (Oxford 1961) v (c. 105-101 B.C.); A. Degrassi, *ibid.*, *Il confine*, 66 (= *Scritti vari*, p. 918).

<sup>18</sup>For examples, see *OLD* s.vv. *iuvenis* 2 ("a young person of either sex") and *liberi* ("sons and daughters, children"). Young women did, of course, write poetry in the first century: cf. the cases of Sempronia, whose works do not survive (Sallust, *Cat.* 25), and Sulpicia, on whose poems see D. Roessel, "The Significance of the Name Cerinthus in the Poems of Sulpicia," *TAPA* 120 (1990) 243-250.

literature that is knowable, not only by us, but very likely also by Horace's contemporaries. For Horace's reader, then, the question was simply *which* Lucius, the consul of 58 (Caesoninus) or of 15 (Pontifex).

From the reader's point of view, I do not think that there could have been much hesitation in identifying Piso père as the consul of 58, only assuming that Caesoninus was still alive or very recently deceased when the poem was circulated—something, as we have seen, that we have no grounds for doubting. The reason for this is obvious: Piso Caesoninus was famously connected to literature and to literary criticism. Philodemus dedicated epigrams and at least one philosophical work to him; Catullus wrote two poems about him;<sup>19</sup> and, most importantly, Cicero branded him a cruel "Phalaris of literary critics" in an oration (the *In Pisonem*) that Cicero tells us (doubtless with some exaggeration) quickly became a school text.<sup>20</sup> On the other hand, his son, though rising politically in the period 23-20 B.C., was at best tangentially associated with poetry throughout his career. Tacitus, in his famous obituary, does not even mention this facet of his personality.<sup>21</sup> Once we view the problem of the addressee from the vantage point of the reader instead of the author, then the choice of Caesoninus as Piso père becomes stronger still. He is the literary Piso who would prob-

<sup>19</sup>Cf. Philodemus, *On the Good King According to Homer* and epigram 23 Gow-Page, and cf. Cic. *In Pisonem* 70-71 about other lost poems ("multa ad istum [scil. Pisonem] de ipso quoque scripsit [scil. Philodemus], ut omnis hominis libidines, omnia stupra, omnia cenarum convivorumque genera, adulteria denique eius delicatissimis versibus expresserit..."). Some of these poems may be among the new epigrams of Philodemus whose incipits are in P. Oxy. 3724 (ed. P. Parsons in *P. Oxy.* LIV [1987] 65-82; cf. especially p. 67 on Philodemian authorship of some of the epigrams, and see now also M. Gigante, "Filodemo tra poesia e prosa," *SIFC* 82 [1989] 129-151; D. Sider, "Looking for Philodemus in P. Oxy. 54.3724," *ZPE* 76 [1989] 229-236). Cf. Catullus 28, 47, and on Piso in Catullus see C. L. Neudling, *op. cit.* (*supra* n. 13) 42-45. T. P. Wiseman's efforts to deny that Caesoninus was Catullus' Piso have so far failed to persuade; see *Catullus and His World* (Cambridge 1985) 2 with n2; T. R. S. Broughton, *MRR*, vol. 3 (Atlanta, Ga. 1986) 47.

<sup>20</sup>On the sense of "Phalaris grammaticus" see P. Grimal, *Cicéron, Discours, Contre L. Pison*, Tome XVI, 1<sup>o</sup> Partie (Paris 1966) 186-187. On the *In Pisonem*, see Cicero's remarks in *Ad Q. fr.* 3.1.11 ("meam [scil. orationem] in illum [scil. Pisonem] pueri omnes tamquam dictata perdiscant"); cf. J. Crawford, *M. Tullius Cicero: The Lost and Unpublished Orations, Hypomnemata* 80 (1984) 8; and J. Zetzel, *Latin Textual Criticism in Antiquity* (New York 1981; reprinted Salem, N.H. 1984) 27. On Piso's fame as a man of culture and learning—and the rarity of such qualities among Roman aristocrats of the first century—see E. Rawson, *Intellectual Life in the Late Roman Republic* (Baltimore 1985) 97.

<sup>21</sup>Tacitus, *Ann.* 6.10.

ably have leapt to the mind of Horace's average reader, especially in the absence of any strong counterindications from Horace that someone else was meant.<sup>22</sup>

Our second point is this: we have evidence that Horace knew the works in which Cicero attacked the consul of 58 and his literary pretensions. Keller-Holder give the following *loci similes* between Cicero's *In Pisonem* and *Pro Sestio*<sup>23</sup> and works of Horace. I put them in order of their cogency as evidence that Horace was familiar with the Ciceronian text:<sup>24</sup>

- |     |                            |                                                                      |
|-----|----------------------------|----------------------------------------------------------------------|
| [1] | <i>In Pisonem</i> 37:      | Confer nunc, Epicure noster ex hara<br>producte non ex schola...     |
|     |                            | ~                                                                    |
|     | <i>Epist.</i> I.4.15-16:   | me...Epicuri de grege porcum                                         |
| [2] | <i>In Pisonem</i> 73:      | te non Aristarchum sed Phalarin grammati-<br>cum habemus....         |
|     |                            | ~                                                                    |
|     | <i>Ars Poetica</i> 450-51: | fiet Aristarchus, nec dicit 'cur ego ami-<br>cum offendam in nugis?' |
| [3] | <i>In Pisonem</i> 20:      | supercilium tuum...fugi...frontis tuae<br>nubeculam pertimescerem... |
|     |                            | ~                                                                    |
|     | <i>Epist.</i> I.18.94:     | deme supercilio nubem.... <sup>25</sup>                              |
| [4] | <i>Pro Sestio</i> 42:      | ut aliquo praesidio caput...tutetur...                               |
|     |                            | ~                                                                    |
|     | <i>Epist.</i> I.18.81:     | tuterisque tuo fidenter praesidio....                                |

The first piece of evidence is doubtless the most important and persuasive: Horace applies to himself in a jocular vein the same kind of striking animal comparison that Cicero had used in his bitter invective against the consul

<sup>22</sup>Cf. now E. Champlin, *op. cit.* (*supra* n. 4) 122: "no other branch of the [Calpurnii Pisones] family comes near to rivalling this pair [viz., the cons. of 58 and 15] in war and the patronage of literature."

<sup>23</sup>Where Piso is attacked in 19-24.

<sup>24</sup>Two cases that I consider fortuitous I omit: Cic. *In Pis.* 47, "furiosum...dementiorem" ~ Hor. *Sat.* II.3.303 (sic: should be 133?) "demens"; and Cic. *Ad Q. fr.* 3.1.11, "meam in illum [scil. orationem] pueri omnes tamquam dictata perdisant" ~ Hor. *Epist.* I.18.13-14, "ut puerum saevo credas dictata magistro reddere...."

<sup>25</sup>Nisbet (*ad Pis.* 20) points out the Horatian reminiscence but also presents Greek parallels which show that the background of Horace's text may not be Cicero's.

of 58. Moreover, in both cases it is their allegiance to Epicureanism (which, according to its ancient opponents, debased man to the level of beast because it defined pleasure as the highest good) that justifies the comparison. However natural the metaphor might seem to us, the ancient evidence does not suggest that it was commonplace. So here, as I will argue elsewhere, we have the same humorous association of Horace with Piso that we find in the *Ars Poetica*.<sup>26</sup> If these *loci similes* suggest that Horace had read works in which Piso is attacked, then they also suggest when he did so: during the period in which he was composing *Epistles* I and the nearly contemporaneous *Ars Poetica*.

To conclude the discussion thus far: the *Ars Poetica* was probably written in 24-20 B.C. and dedicated to L. Calpurnius Piso Caesoninus (cos. 58) and his two children, the elder of whom may have been the politician (and amateur poet?) L. Calpurnius Piso Pontifex (cos. 15), the younger of whom is unknown. Our next concern is why Horace should have dedicated the poem to Caesoninus. This raises the question of Horace's relationship to contemporary literary critics.

### The *Ars Poetica* and *Epistles* I.19: Horace and his Critics

As Carl Becker noted, dating the *Ars Poetica* with respect to Horace's other poetry is a "Kardinalfrage."<sup>27</sup> Assigning the poem to the late 20s raises the questions of its relationship to the themes of *Epistles* I, especially as contained in poems like I.19 that deal in a humorous, but ultimately bitter, way with contemporary poets and critics.

If our suggested date of the *Ars Poetica* is correct, then the work was composed at a time when Horace was not yet the grand old man of Latin letters he may have been considered by the end of his life. To the contrary, *Epistles* I.19 suggests that—despite protestations of indifference to his reputation as a poet<sup>28</sup>—Horace was still rather insecure about his place in the literary firm-

<sup>26</sup>This association is most explicit in lines 386-89: "si quid tamen olim | scripseris, in Maeci descendat iudicis auris | et patris et nostras...." See, in general, for animal language used of scholars and philosophers I. Opelt, *Die lateinischen Schimpfwörter und verwandte sprachliche Erscheinungen* (Heidelberg 1965) 233-235.

<sup>27</sup>C. Becker, *Das Spätwerk des Horaz* (Göttingen 1963) 67.

<sup>28</sup>*Epistles* I.19.35-40: "scire velis, mea cur ingratus opuscula lector | laudet ametque domi, premat extra limen iniquus: | non ego ventosae plebis suffragia venor | impensis cenarum et tritae munere vestis; | non ego, nobilium scriptorum auditor et ultor, | grammaticas ambire tribus et pulpita dignor."

ment.<sup>29</sup> Like Virgil, he had his *obtrectatores* and was annoyed, too, by imitative poetasters, as the poem makes clear.

In the first part of the poem (lines 1-20), Horace complains about how bad poets mimic him and naively follow any advice that falls from his lips, so that if, for example, he writes that wine is essential to poetic inspiration, legions of poetasters spend their nights in wine-drinking competitions (cf. lines 1-11). Similarly, if Horace appears pale, his piteous imitators eat cumin to make their skin whiter (cf. 17-18). Horace exclaims that the servile herd of imitators stirs him to anger, but also to laughter (19-20). In the poem's second section (lines 21-34), Horace says that his achievement has been to find an untrodden path for Roman poetry: the implication is that the poetasters are behaving illogically in trying to equal Horace by copying him. In the last section of the poem (35-49), Horace vents his spleen against hypocritical readers, particularly the "tribes of grammarians," who praise Horace's poetry at home but condemn him before the public because Horace does not kowtow to them (35-41). It is important, in this connection, to note how often and how bitterly Horace, in his early and middle periods, expresses his dismay with the contemporary critical reception of his work<sup>30</sup> and how unreceptive the *grammatici* generally were to new poetry, according to Suetonius.<sup>31</sup> We need to think away Horace's millennial status as a classic author and recall that in his lifetime Horace's ultimate reputation was not clear, least of all to the poet himself (*Odes* II.20 and III.30 notwithstanding). Horace concludes *Epistles* I.19 with a testy exchange with a *grammaticus*—the kind of imaginary conversation that we would like to have when we find someone particularly galling.<sup>32</sup> That he should write, in this

<sup>29</sup>For bibliography, see R. S. Kilpatrick, *The Poetry of Friendship. Horace, Epistles I* (Edmonton, Alberta 1986) 169-170.

<sup>30</sup>Cf. *Sat.* 1.10.74-91, II.1.1-4, *Epist.* 1.19.35-49, II.1 passim, II.2.55-64. N. Horsfall, "Poets and Patron Reconsidered," *Ancient Society* (Macquarie) 13 (1983) 161-166, writes suggestively that "I am driven increasingly to conclude that Horace was a controversial or an actually unpopular figure." Cf. Kilpatrick, op. cit. (*supra* n. 29) 22: "Horace's views on both originality and public response [scil., in *Epistles* I.19] are consistent with those expressed earlier in the *Satires*, and are not those of a poet to whom a bad press is either a new or an intolerable experience." For a valuable recent survey of the *obtrectatores* of Virgil, with some pertinent information about ancient critics of Horace, see W. Görler, *Enc. Virg.* III s.v. *obtrectatores* (Rome 1987) 807-813. For a still useful study of Horace's ancient critics, see A. Weichert, "Commentatio de Q. Horatii Flacci Obtrectoribus," in *Memoriam Anniversariam Dedicatae ante hos CCLXXI Annos Regiae Scholae Grimensis* (Grimae 1821).

<sup>31</sup>Thus, Suetonius (*De gramm.* 16) singles out Caecilius Epirota for the innovation of reciting in class the works of Virgil and other contemporary poets.

<sup>32</sup>Cf. Kilpatrick, op. cit. (*supra* n. 29) 22; W. S. Smith, Jr., "Horace Directs a Carouse: *Epistle* I.19," *TAPA* 114 (1984) 255-271, at pp. 266-269.

troubled period, a poem like the *Ars Poetica* as a parody of pedantic critics and as an intentionally misleading "instruction booklet" for poetasters on how to write good poetry is thus psychologically comprehensible.

Read as the parody of a pedantic member of the grammarian tribe, the *Ars Poetica* gives the reins to Horace's anger and sense of humor toward the annoying poetasters and critics. To the poetasters, Horace seems to give, in the *Ars Poetica*, not only a "secret ingredient" like wine or cumin, but the very recipe book for great poetry. In reality, the recipes are not so much tried and tested as trite and bland, and so the unwitting imitator, eagerly following Horace's instructions, ends up with very little poetic sustenance. By aping the grammarians Horace shows that, much like Nabokov, David Lodge, or Malcolm Bradbury in their satires (or like Horace himself in *Sat.* II.3 and 4), he can transmute the leaden utterances of dull academics into brilliantly amusing fiction.

If we read the *Ars Poetica*, not as Horace's sincere declaration of poetic belief but as the monologue of a fictional *grammaticus*, unsympathetic to contemporary poets and talented at composing, not poems, but only tedious rambles on poetics; then we expect that Horace somewhere in the poem will give us a clue dissociating himself from his speaker, who is linked to critics and poetic doctrines with which Horace himself disagrees. That is, we would expect Horace to undermine the authority of the speaker of the *Ars Poetica*.

### Critics in the *Ars Poetica*: Maecius, Piso, and Quintilius

The speaker's authority is an issue implicitly raised in lines 385-390:

|                                                   |     |
|---------------------------------------------------|-----|
| tu nihil invita dices faciesve Minerva;           | 385 |
| id tibi iudicium est, ea mens. si quid tamen olim |     |
| scripseris, in Maeci descendat iudicis auris      |     |
| et patris et nostras nonumque prematur in annum   |     |
| membranis intus positis. delere licebit           |     |
| quod non edideris; nescit vox missa reverti.      | 390 |

In this passage, the elder son of Piso is urged to submit anything he may write to Maecius, his father, and the speaker—"a trio of formidable critics," writes Brink.<sup>33</sup> But how formidable were Maecius and Piso père as critics? The advice given in 388-389 is absurd—as Horace himself tells us in *Epistles* II.1.34-35: *si meliora dies, ut vina, poemata reddit, / scire velim chartis pretium quotus arroget annus*. Poetry does not improve simply by aging. Horace never practiced what he might naively be taken to be preaching here. The fatuousness

<sup>33</sup>Brink, II, 509.

of the speaker's advice ought to have alerted readers that our critical trio habitually plays out of tune. Investigation of its other two members reinforces the interpretation that, in verses 385-390, Horace not only undermines the speaker by putting words of dubious wisdom into his mouth but also by putting him into some very dubious literary-critical company.

Maecius, all agree, is Sp. Maecius Tarpa, the man who chose the plays performed at the opening of Pompey's theater in 55. Maecius' old-fashioned taste on that occasion was belittled by Cicero in a letter written just after the opening.<sup>34</sup> Cicero's opinion was, of course, privately expressed in a collection of letters probably not published for quite a few years. However, its importance for us lies not in its influence but in its reflection of what literati of Cicero's caliber thought of the man and his taste in the 50s. We do not have to guess about Horace's opinion of Maecius some twenty years later, for in *Sat.* I.10.36-39 he writes that Tarpa would hardly approve of what he was composing:<sup>35</sup>

Turgidus Alpinus iugulat dum Memnona dumque  
diffindit Rheni luteum caput, haec ego ludo,  
quae nec in aede sonent certantia iudice Tarpa  
nec redeant iterum atque iterum spectanda theatri.

The implication is that Horace and Tarpa disagreed on the crucial question of what sort of poetry was worth writing: for Tarpa, it was drama; for Horace, satire. If the speaker of the *Ars Poetica*, a promoter of dramatic literature (cf. verses 86-127, 153-294), thinks highly of Tarpa (and he obviously does), then that is only one sign, among many, of his questionable and old-fashioned taste; and it is a strong indication that he is to be distinguished from Horace. As the passage just quoted from *Sat.* I.10 indicates, Horace was little inclined to write for the theater, and he never wrote a play. This attitude Horace explains in detail in *Epistles* II.1, from which it emerges that in rejecting the dramatic genres,

<sup>34</sup>Cic. *Ad Fam.* 7.1.1: "nobis autem erant ea perpetianda, quae Sp. Maecius probavisset."

<sup>35</sup>For the background to his critical activity in approving works for the Roman stage see N. B. Crowther, "The Collegium Poetarum," *Latomus* 32 (1973) 575-580 and N. Horsfall, "The Collegium Poetarum," *BICS* 23 (1976) 83. Crowther and Horsfall are correct in claiming that in *Sat.* I.10 Horace does not ridicule Tarpa (Crowther, p. 578; Horsfall, p. 93n38), yet Tarpa is clearly mentioned as the kind of critic who is not sympathetic to Horace's poetry. The justified opposition of these two scholars to wild speculation about the *collegium poetarum* has led them to misinterpret the tone of this section of *Sat.* I.10 and to forget that Horace could disagree with Maecius' taste in literature even if Maecius was not the *magister* of the college. On the *collegium*, see now E. Gruen, *Studies in Greek Culture and Roman Policy*, *Cincinnati Classical Studies* 7 (Leiden 1990) 87-91.

Horace felt weighed down by the dual burdens of the literary past (Plautus, Terence, Pacuvius, Accius, etc.) and of the debased taste of the contemporary audience.

The striking portrayal of the speaker here as a conservative in literary taste complements his ignorance of the contemporary scene in poetry. This comes across in small ways—for example, in his neglect of love elegy in lines 75-76,<sup>36</sup> where the speaker mentions only funerary and votive uses for the elegiac meter. It also comes across in larger ways—for example, the speaker's emphasis throughout the *Ars* on the genres of tragedy, comedy, and epic—departments of literature most important in Roman literature fifty to one hundred years before the Augustan age.<sup>37</sup> Even more surprising than his omission of love elegy is, in this context, the speaker's failure to mention contemporary plays written by acquaintances of Horace such as Varius' *Thyestes* and the *fabula trabeata* of C. Melissus, a freedman of Maecenas and librarian of the Porticus Octaviae library.<sup>38</sup> The latter might have served various purposes in the *Ars Poetica*, e.g., as an example of how Roman writers can succeed by writing drama on national themes (cf. 285-288). This is not to say that the speaker is depicted as the kind of Varronian archaizer attacked by Horace in the *Letter to Augustus*.<sup>39</sup> The speaker is, characteristically, inconsistent in his attitude toward the past: after he praises the audience and music of the early Roman theater in

<sup>36</sup>See M. E. Clark, "Horace, *Ars Poetica* 75-78. The Origin and Worth of Elegy," *CW* 77 (1983) 1-5. On Horace's attitude toward erotic elegy, see Rudd, 7-8.

<sup>37</sup>Accius (†ca. 85 B.C.) was "the last of the professional playwrights" (E. Fantham, *Seneca's Troades* [Princeton 1982] 5); in the decades after his death—with few notable exceptions—little new tragedy was written (cf. Fantham, pp. 4-7, and for a similar ancient perspective see Velleius Paterculus 1.17; for a different view cf. Rudd, 30). On comedy, see H. D. Jocelyn, "Studies in the Indirect Tradition of Plautus' *Pseudolus*," *BICS* Suppl. 51 (1988), 57-72, at pp. 57-60. As C. Segre noted, "the *Ars Poetica*...ends up being astonishingly anachronistic...unless we wish to regard it as the manifesto of a classical revival which never took effect" (*Introduction to the Analysis of the Literary Text*, trans. J. Meddemen [Bloomington 1988] 202).

<sup>38</sup>On C. Melissus, see Schanz-Hosius, VIII.2, 176-177; H. Bardon, *La littérature latine inconnue*, vol. II (Paris 1956) 49-50. As Maecenas' freedman, he was doubtless known to Horace; cf. L. Müller, "Die Trabeatae des Gaius Melissus," *PhW* 13 (1893) col. 1468f.

<sup>39</sup>See the excellent analysis of Varronian criticism and its possible influence on *Epist.* II.1.50-59 in Brink, III, 83-92. Also important, we might note, was the quarrel over Sallust's archaizing, which was attacked by Asinius Pollio; see Suetonius, *De gramm.* 10 ("...Sallustii scripta reprehendit ut nimia priscorum verborum affectatione oblita..."). For literature and discussion, see L. Duret, "Dans l'ombre des plus grands," *ANRW* II.30.3 (Berlin 1983) 1507.

verses 202-207, we find him criticizing Plautus' wit and metrics and accusing Plautus' audience of stupidity and a lack of sophistication in lines 270-274.<sup>40</sup>

Piso père is an even more famous, or infamous, literary critic. Whatever Horace may privately have thought of Piso as a man of letters (and earlier in his career, he probably thought very highly, indeed, of Piso and his Epicurean circle), Cicero unforgettably branded him *non Aristarchus sed Phalaris grammaticus* (*In Pis.* 73) in a speech that quickly became popular in the schools.<sup>41</sup> Cicero's immediate motivation for so labelling Piso was Piso's charge, in a speech given in the senate in 55, that Cicero had meant to belittle Pompey's military accomplishments in his poem, *De consulatu suo*.<sup>42</sup> As evidence, Piso cited the line: *cedant arma togae, concedat laurea laudi*.<sup>43</sup> Cicero claimed that Piso had missed the point that *arma* and *toga* were meant figuratively, not literally, and that he had been speaking generally, without specific reference to Pompey.<sup>44</sup>

This must have been a rare, if not unique, instance in which a senator's literary criticism of a colleague's poem became the subject of a published exchange of speeches. Cicero's characterization of Piso as *Phalaris grammaticus*<sup>45</sup> must have been all the more effective if Piso prided himself on being something of a literary critic. That he did is suggested by the fact that he was patron of the poet-philosopher Philodemus, one of whose epigrams to Piso is

<sup>40</sup>To be sure, music is the topic in the earlier passage and meter and wit in the later, so that radically different appraisals of the historical development of the Roman theater can be defended. Harder to defend or explain, however, is the opposite opinion of the taste of early Roman audiences in the two passages. First, the speaker sounds like a "soft primitivist," then like a "hard primitivist" (for the concepts, see A. O. Lovejoy and G. Boas, *Primitivism and Related Ideas in Antiquity* [Baltimore 1935]). At no point does he praise a specific Roman dramatist; he remains ever the carping critic, able to find fault with—but seldom willing to express admiration for—Roman poets. I will treat elsewhere the speaker's habitual hostility toward writers.

<sup>41</sup>See above, n. 20. On Horace's connections with the Philodemus circle, patronized by Piso, see the discussion and secondary literary in B. Frischer, *At Tu Aureus Esto. Eine Interpretation von Vergils 7. Ekloge* (Bonn 1975) 168-171 (note that the supplements of Horace's name in the Philodemus passages cited in 171n29 now appear to be incorrect: see M. Gigante and M. Capasso, "Il ritorno di Virgilio a Ercolano," *SIFC* 7 [1989] 3-6).

<sup>42</sup>Remains in Morel-Büchner, *FPL*, M. Tullius Cicero, fr. 5-13; for discussion of the date and related problems see K. Büchner in *RE* s.v. M. Tullius Cicero (Stuttgart 1939) cols. 1245-1250.

<sup>43</sup>Morel-Büchner, *FPL* fr. 11, with the text of W. Allen, Jr., "O fortunatam natam...," *TAPA* 87 (1956) 130-146, at p. 133.

<sup>44</sup>*In Pis.* 73-75.

<sup>45</sup>On which see Nisbet ad *Pis.* 73.7 and Grimal, loc. cit. (*supra* n. 20).

preserved.<sup>46</sup> This also helps explain Catullus' obvious gall at being passed over by Piso for political and poetical patronage. It is amusing to suppose that Horace's source of inspiration in writing this mock didactic poem about poetics and in dedicating it to the Pisones was Cicero's barbed rhetorical question directed at Piso: *quid nunc te, asine, litteras doceam?* (73). That the work dedicated to Piso consists largely of a versification of the poetic theories of Neoptolemus of Parium (cf. Porphyrio on line 1 and Brink, I, 43ff.), must have intensified the fun, since Neoptolemus' poetics had been savagely attacked by Piso's client Philodemus in Book V of his *Περὶ ποιημάτων* (cf. Brink, I, 48ff.).

A parallel for Horace's ironic invocation of critical authority in verses 385-390 may not be far to seek. It has been noted that line 387 (*in [Maeci] descendat ... aures*) contains an allusion to a line in Book XXVI of Lucilius: *haec tu si voles per auris pectus inrigarier* (610 Marx).<sup>47</sup> Now it is interesting to note that in this, his earliest book of satires—and possibly in the first satire of the book<sup>48</sup>—Lucilius expresses the wish that his poem be read, not by learned critics like C. Persius, but by such undistinguished and perhaps even dull readers as M. Iunius Congus, Decimus Laelius and the people of Tarentum, Cosentia, and Sicily (592-596 Marx). Here we may have the source of a second Horatian allusion to the same Lucilian satire. As Erich Gruen notes, "these passages [in Lucilius] have usually been taken seriously by moderns, but they are surely ironic.... That is unquestionably true of Cic. *De Fin.* 1.3.7 (592 Marx) and, I believe, for the other lines as well."<sup>49</sup> To be sure, in Lucilius' case, the poet speaks of his own poetry and the readers he desires to find for it; whereas in the *Ars Poetica*, Horace has the speaker recommend proper readers—not for the speaker's own works—but for those that Piso's elder son, the speaker's addressee,

<sup>46</sup>AP 11.44 (= 23 Gow-Page); Cicero states that Philodemus wrote much other poetry to and about Piso (*In Pis.* 70-71); cf. above, n. 19, for possible new epigram incipits of Philodemus.

<sup>47</sup>Cf. Brink, ad loc. On the overall relationship of the *Ars Poetica* to Lucilius, Book XXVI, it is still useful to read G. C. Fiske, *Lucilius and Horace. A Study in the Classical Theory of Imitation* (Madison 1920) 425-475.

<sup>48</sup>On the problem of reconstructing Book XXVI, see J. Christes, *Der frühe Lucilius. Rekonstruktion und Interpretation des XXVI. Buches sowie von Teilen des XXX. Buches* (Heidelberg 1971).

<sup>49</sup>Personal communication of February 7, 1990. Prof. Gruen will treat the Lucilius passage in more detail in his forthcoming Townsend Lectures. The passage in *De Fin.* runs as follows: "nec vero ut noster Lucilius recusabo quominus omnes mea legant. utinam esset ille Persius! Scipio vero et Rutilius multo etiam magis; quorum ille iudicium reformidans Tarentinis ait se et Consentinis et Siculis scribere." For earlier interpretations of fragments 592-596, see Christes, op. cit. (*supra* n. 48) 87-92. From Christes' discussion, it appears that Gruen's interpretation may have been anticipated by J. Heurgon, *Lucilius* (Paris 1959) 44 (not available to me).

may someday write. Aside from this minor difference between the first and second person, however, the passages are similar in that both ironically advert to the authority of readers whose criticism cannot be accorded much respect.

In view of Horace's longstanding connections with the circle of Piso and Philodemus, we naturally wish to know why Horace dedicated the *Ars Poetica* to L. Calpurnius Piso Caesoninus, of all people. Of course, our answer can only be guesswork. My motivation in presenting a speculative explanation is simply to show that we are not necessarily forced into either of two extreme positions: [1] that for our identification of the senior dedicatee and for our interpretation of his role in the poem to be right, we must posit a strain or, indeed, break in Horace's relationship with Piso. Or, [2], if we have the right Piso, we cannot be correctly interpreting his role in the poem—or, indeed, the tone of the poem. Horace may have been treading a fine line between angering and amusing Piso: on the one hand, advertent tacitly to Piso's notorious reputation as a critic, he utilizes the public stereotypes of Piso and Maecius as critics in order to alert readers to his send-up of academic criticism in the *Ars Poetica*. On the other hand, by associating Piso with a poetic theory condemned so vehemently by Philodemus, and with which the Epicurean Piso will not have agreed, he winks at the old man and suggests that he not take the whole thing too seriously. In any case, Roman grandees of the first century B.C. had—or, at least, affected—a self-deprecating sense of humor in the face of poetic abuse. Catullus' raillery against Piso for his *lauta convivia* (47.5) was apparently echoed in poems by Piso's friend, Philodemus (cf. Cicero, *In Pis.* 70).<sup>50</sup> Horace made bold to convict Maecenas of guilt by association for attending the infamous *Nasidieni cena* of *Sat.* II.8. If Maecenas or Piso felt hurt by Horace's treatment, the poet could have pointed out that in poems like *Sat.* II.3 (cf. lines 305-326) and II.7 he gave himself a much rougher time.

If the two critics mentioned in lines 387-388 of the *Ars Poetica* represent dullness and dubious taste, then the same cannot be said about a third and last critic whose company the speaker seems to keep. The words on poetics of a certain Quintilius are quoted near the end of the poem in verses 438-444:

Quintilio si quid recitares, 'corrige, sodes,  
hoc' aiebat 'et hoc.' melius te posse negares,  
bis terque expertum frustra delere iubebat 440  
et male tornatos incudi reddere versus.  
si defendere delictum quam vertere malles,  
nullum ultra verbum aut operam insumebat inanem,  
quin sine rivali teque et tua solus amares.

<sup>50</sup>Cf. L. Landolfi, "Tracce filodemee di estetica e di epigrammatica simpotica in Catullo," *CronErc* 12 (1982) 137-143, at p. 139.

Quintilius is probably, as Porphyrio says, Quintilius Varus Cremonensis, the Epicurean friend of Virgil, Horace, and Philodemus, who died in *c.* 24/23.<sup>51</sup> Horace consoled Virgil for his death in *Odes* 1.24, a poem combining traditional paramythetic motifs<sup>52</sup> with Epicurean ideas about the value of friendship, the inevitability and finality of death, and the survivor's need for self-control.<sup>53</sup>

The premise of the ode, then, is Horace's desire to mourn with Virgil for their departed friend in the proper Epicurean manner—a desire that is perhaps not so much appropriate because Horace and Virgil are still Epicureans (a doubtful assumption at this advanced stage in their intellectual development) as because Quintilius was.

Quintilius' Epicurean background is important for understanding his role in the *Ars Poetica*. He is the only critic quoted in the poem, and so we need to ask why Horace has presented him to us in this way. To the speaker, Quintilius embodied the same sort of arrogance toward poets that the speaker himself displays throughout the *Ars Poetica*. Quintilius' laconic words, *corrigere, sodes, / hoc...et hoc* (438-439), and his icy silence in the face of a poet's defense of a criticized passage (442-444) are, for the speaker, indicative of an attitude of admirable toughness toward self-indulgent and self-enamored poetasters (444).

The speaker may accurately quote Quintilius and relate his silence in lines 438-444, but another interpretation of his behavior toward poets and his theory of poetics is possible. As an Epicurean and student of Philodemus, Quintilius must have believed that poetics is not a rational science that can be articulated and taught, but is instead an intuitive art, the practice of which depends to a large extent on natural ability.<sup>54</sup> Quintilius' polite words of criticism (*sodes*, 438) and his habitual unwillingness to debate with defensive poets understandably reflect just such an Epicurean view of poetry. For

<sup>51</sup>Philodemus mentions Quintilius two times in his *Περὶ κολακείας* and *Περὶ φιλαργυρίας*; see A. Koerte, "Augusteer bei Philodem," *RhM* 45 (1890) 172-177. For discussion of the ancient sources on Quintilius see C. L. Neudling, *op. cit.* (*supra* n. 13) 151-153; Nisbet-Hubbard, p. 279.

<sup>52</sup>Cf. Nisbet-Hubbard, pp. 279-281.

<sup>53</sup>On death in Epicurean thought see M. Gigante, "La chiusa del quarto libro 'Della morte' di Filodemo," in *Ricerche filodemee* (Naples 1983<sup>2</sup>) 163-234.

<sup>54</sup>On the Epicurean critique of the "sciences," see, in general, M. Gigante, *Scetticismo e epicureismo* (Naples 1981) 179-224; for a recent survey of Philodemus' poetics see E. Asmis, "Philodemus' Epicureanism," *ANRW* II.36.4 (Berlin 1990) 2400-2406. Possibly also relevant to Quintilius' poetics was the intuitive approach of Ser. Clodius, who, according to Cicero, could speak as laconically as Horace's Quintilius when separating authentic from false Plautine verses; cf. *Cic. Ad Fam.* 9.16.4: "facile diceret 'hic versus Plauti non est, hic est' quod tritas aures haberet notandis generibus poetarum et consuetudine legendi...." Cf., in general, J. Zetzel, *op. cit.* (*supra* n. 20) 18-21; E. Rawson, *op. cit.* (*supra* n. 20) 278.

Quintilius the Epicurean the appreciation of poetry is a matter of taste, not science. While he is quite willing to express an opinion about a poem, he is utterly unwilling to debate or to defend his views. This is because, in contrast to the Peripatetic speaker of the *Ars Poetica*, Quintilius' views do not derive from a set of "scientific" principles but from good taste alone.

How different is the speaker's approach to poetics! Quintilius' politeness toward the poets contrasts sharply with the speaker's pathological hatred of them, an attitude most clearly expressed in the very next section of the poem (lines 453-476). Quintilius' five words (three of them monosyllabic) of "literary criticism" contrast even more markedly with the speaker's analogous performance, viz., the *Ars Poetica* itself, Horace's longest poem by far and one filled with advice and rules as useless as they are dull and jejune. The appearance of Quintilius near the climactic end of the poem thus functions in two ways which enhance Horace's parody. First of all, the speaker is made to discredit himself by invoking Quintilius as his critical ideal because the appearance of Quintilius allows us to see how far short of Quintilius the speaker falls and how badly the speaker misinterprets Quintilius' behavior and words. Secondly, Quintilius can emerge from the speaker's mistreatment of him with his reputation as the ideal critic intact, because the speaker cites his *ipsissima verba*. As a result, we are not dependent upon the speaker for what we know about him. Thus, Horace has it both ways: the speaker's critical authority is debased by his misunderstanding of Quintilius; but Quintilius remains the standard by which critical excellence can be assessed. By Quintilius' standard, obtusely invoked by the speaker, the speaker's whole enterprise of an *ars poetica* is called into question.

These thoughts are consistent with a dating of the *Ars Poetica* in the period 24-20. If Quintilius has just died, this helps us understand why Horace gives him—of all possible candidates—such prominent notice near the end of the poem. Much evidence suggests that he was by no means the "inevitable" choice for the role of ideal critic: for example, in Horace's long list of ideal readers of his poetry in *Sat. I.10.78-88*, Quintilius is not mentioned. If Maecius and Piso Caesoninus are still alive, as they may well have been in the late 20s, then this helps explain Horace's strategy of making the speaker proclaim his own poetological guilt by association with these two notoriously old-fashioned and censorious critics.

### The Parodic Introduction: The *Ars Poetica* and Contemporary Painting

But we do not have to wait until verses 385-90, let alone till the end of the poem, to sense that Horace was sending up his speaker as a tiresome and old-fashioned pedant. Although it is by no means a requirement of the parodic mode

that hints of the parody be given at the very beginning of the work, such indications are to be found in the very first lines of the *Ars Poetica*:

Humano capiti cervicem pictor equinam  
 iungere si velit et varias inducere plumas  
 undique collatis membris, ut turpiter atrum  
 desinat in piscem mulier formosa superne,  
 spectatum admissi risum teneatis, amici?

5

The speaker begins his *ars poetica* in a seemingly strange way: with the description of the painting of a monster with a woman's head, the neck of a horse, the feathers of a bird, and the tail of a fish. He claims that such a painting would be so absurd as to cause its viewers to laugh. In lines 6-9 the speaker provides his own gloss on the meaning of these lines and their relevance to what follows: *ut pictura, poesis*. The painting described in lines 1-4 is comparable to a book lacking unity, with no beginning and end, and filled with the empty imaginings of a sick man's dreams.<sup>55</sup> The speaker thus would appear to find two things wrong with such a monstrous figure or book: formally, it lacks unity in the sense of a clearcut division between beginning, middle (we may presume), and end.<sup>56</sup> Substantively, it lacks verisimilitude.<sup>57</sup> The background is clearly Peripatetic: in the *Poetics*, Aristotle stresses the importance of unity of plot, which must have a beginning, middle, and end. Interestingly, he compares such well-made plots to animals, just as the *Ars Poetica* speaker compares disunity to a monster.<sup>58</sup> Next, the speaker confronts the only possible excuse for such a creation: poetic license.<sup>59</sup> Licenses are, to be sure, permissible, he tells us, but not if the result is an *adynaton*: "sed non ut placidis coeant immitia, non ut | serpentes avibus gementur, tigribus agni" (12-13).

<sup>55</sup>"Credite, Pisones, isti tabulae fore librum | persimilem cuius, velut aegri somnia, vanae | finguntur species, ut nec pes nec caput uni | reddatur formae."

<sup>56</sup>Cf. lines 8-9: "ut nec pes nec caput uni | reddatur formae." Unity is, of course, a touchstone of poetic virtue in the Peripatetic tradition; cf. Aristotle, *Poetics* 1450b23 and see also Brink, II, 77-85; M. Heath, *Unity in Greek Poetics* (Oxford 1989).

<sup>57</sup>Cf. lines 7-8: "velut aegri somnia, vanae | finguntur species...."

<sup>58</sup>Cf. Aristotle, *Poetics* 1450b24ff. As J. Pigeaud aptly puts it, "dis-moi ta biologie, je te dirai ton esthétique"; see "La greffe du monstre," *REL* 66 (1988) 197-218, at p. 217.

<sup>59</sup>Lines 9-13: "'pictoribus atque poetis | quidlibet audendi semper fuit aequa potestas.' | scimus, et hanc veniam petimusque damusque vicissim; | sed non ut placidis coeant immitia, non ut | serpentes avibus gementur, tigribus agni."

Despite their obvious importance, these lines have rarely been subjected to close analysis.<sup>60</sup> The most important problem in lines 1-13 for our purposes is what kind of unity the speaker means by the phrase, "uni...formae" (8-9). The precedent of the *Poetics* would lead us to expect that the speaker refers to unity of plot or, more generally, structure. This interpretation is firmly rejected by Brink,<sup>61</sup> and since antiquity other readings have been proposed. In Ps.-Acro, the monster represents a violation of *dispositio et convenientia*; in Porphyrio, of ἀκολουθία, or inconsequentiality. Porphyrio elaborates what he means, saying that the painter of the monster "valde ridebitur, quod contra naturam omnia faciat: ita poetice, si ornatus causa plus, quam exigit materia, aliquid institutum ornetur, meretur contempni." Porphyrio combines the two faults into something composite: a poem that has formal qualities inappropriate to its subject matter is contrary to nature, that is, lacks verisimilitude. Ps.-Acro's interpretation stresses the shift in subject matter from beginning to end of the work: "unde in primordio dicit, deridendum eum, qui de una re disputare inchoans diversitatem materiarum componit ...." For Ps.-Acro, then, a book is monstrous if it lacks unity of subject. If we ask what has motivated ancient and modern commentators to propose these different explanations of the first lines of the *Ars Poetica*, then the answer must be that verses 1-13 are not self-contained but must be read in the context of the first section of the poem, which ends at line 40. The range of subjects touched on in this section is so broad as to make it necessary to interpret the monster of lines 1-5 and the disunity she represents in a way that transcends structure alone.

Perhaps the most interesting interpretation of the passage is to be found in Quintilian. For him, too, the issue is not disunified structure; instead he sees in the monster a symbol of inappropriately mixed *dilectus verborum*, the fault he called Σαρδισμός, or, in Latin, the infelicitous combination of different kinds of vocabulary (poetic and vulgar, elevated and humble, archaisms and neologisms, etc.).<sup>62</sup> How did Quintilian arrive at such a relatively restricted view of the

<sup>60</sup>The most detailed treatments to date are by J. D. Meerwaldt, "Adnotationes in Epistulam ad Pisones ad picturam praesertim collatam pertinentes," *Mnemosyne* 4 (1936-37) 151-163, at pp. 151-155; K. Gantar, "Die Anfangsverse und die Komposition der horazischen Epistel über die Dichtkunst," *SO* 39 (1964) 89-98.

<sup>61</sup>Brink, II, 80-81: "Horace too talks largely of tragedy and epic. Aristotle's confrontation of the whole and its parts appeals to him. But the unity that these forms evince to him is not simply unity of plot. It is the unity of a work of poetry seen by a poet."

<sup>62</sup>Quintilian 8.3.59-60: "Σαρδισμός quoque appellatur quaedam mixta ex varia ratione linguarum oratio, ut si Atticis Dorica, Ionica, Aeolica etiam dicta confundas. Cui simile vitium est apud nos, si quis sublimia humilibus, vetera novis, poetica vulgaribus misceat. Id enim tale monstrum, quale Horatius in prima parte libri

monster's meaning? I would suggest that he did so, not by trying to subsume all the artistic faults discussed in the first section of the poem, but by focussing specifically on lines 11-13 where poetic license is mentioned.

Poetic license was an aspect of poetics about which the ancient theoreticians—including the speaker of the *Ars Poetica*—had definite ideas. Licenses include any unusual use of words, such as neologisms, metrical anomalies (e.g., systole and diastole), and the rhetorical device of metaphor. According to Aristotle and later ancient literary critics, poetic license, as such, can be either good or bad. Speaking of what later came to be called ποιητικὴ ἐξουσία or ἄδεια<sup>63</sup> (he himself used no technical term for the phenomenon), Aristotle wrote:

The merit of diction is to be clear and not commonplace. The clearest diction is that made up of ordinary words, but it is commonplace. An example is the poetry of Cleophon and of Sthenelus. That which employs unfamiliar words is dignified and outside the common usage. By 'unfamiliar' I mean a rare word, a metaphor, a lengthening, and anything beyond the ordinary use. But if a poet writes entirely in such words, the result will be either a riddle or jargon; if made up of metaphors, a riddle, and if of rare words, jargon.<sup>64</sup>

So, unusual words are the spice of good poetry. Without them, literature seems too bland; with too many, it becomes distasteful and obscure. A little later, Aristotle says that the effect of excessive use of metrical, verbal, or rhetorical license is unintentionally comic.<sup>65</sup> The speaker of the *Ars Poetica* obviously agrees.<sup>66</sup>

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de arte poetica fingit: "humano capiti cervicem pictor equinam | iungere si velit," et cetera ex diversis naturis subiciat." It is odd that Brink, II, 85, should write that "the wider context was discerned by Quintilian" (my emphasis); in fact, Quintilian's interpretation is the narrowest on record. On this passage, see the critical and interpretive remarks of J. Cousin, *Quintilien, Institution Oratoire*, vol. 5 (Paris 1978) 285-286.

<sup>63</sup>Illustrated by J. E. B. Mayor, "On Licentia Poetica," *Journal of Philology* 8 (1879) 260-262.

<sup>64</sup>*Poetics* 1458a.18-26 (translation by W. Hamilton Fyfe).

<sup>65</sup>*Poetics* 1458b.11-13. Among Roman writings, we might compare *Rhet. ad Heren.* 4.10.15, where archaism and bad metaphors are condemned as elements of the "swollen" style, the perversion of the grand style of oratory: "Nam ita ut corporis bonam habitudinem tumor imitatur saepe, item gravis oratio saepe inperitis videtur ea quae turget et inflata est, cum aut novis aut priscis verbis aut duriter aliunde translatis aut gravioribus quam res postulat aliquid dicitur...." W. Lebek, *Verba Prisca, Hypomnemata* 25 (1970), reasonably notes that the author of the *Rhet.* probably did not

It is important to note that in the poetic tradition prior to Horace, poetic license is limited to meter, vocabulary, and the use of rhetoric. Nowhere is plot, or, more generally, structure, included among the elements of poetry through which a poet can achieve a special effect by violating normal usage. Given Aristotle's stress on the importance of a unified plot, this is hardly surprising.<sup>67</sup> It is doubtless for this reason that Quintilian "misinterpreted" the sense of the first five lines of the *Ars Poetica* by limiting the application of disunity to *dilectus verborum* alone. Quintilian's error is an intelligent one: this is what the poetic tradition on license would lead one to expect. Brink, on the other hand, perceiving that for Horace "unity...is not simply unity of plot," must argue that lines 1-13 pertain—in some vague way he does not specify—to unity of all the elements of poetry, including structure, something which, if true, he acknowledges to be an Horatian contribution to poetic theory.<sup>68</sup>

Quintilian's overly precise and Brink's overly broad interpretation of the monster of lines 1-3 results from the fact that, even after two millennia of trying,<sup>69</sup> we still cannot be certain we understand what the speaker intends to say in the opening lines of the poem. If the monster represents poetic license carried too far (implied by verses 11-13), then we expect the monster to represent (as Quintilian saw) a misuse of vocabulary, meter or figures of rhetoric. It should not symbolize a work with little or no structure, for we have no evidence that

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intend to condemn all archaism, just "an excessive use of such idioms." (p. 23; my translation). However, it should be noted that the quality of clarity (*explanatio*) is said to be derived, in part, from the use of "current vocabulary" (*usitata verba*, defined as *sunt ea quae versantur in consuetudine cotidiana*, *Rhet. ad Heren.* 4.12.17). It would be nice to be able to include the pertinent parallels that must have been present in Q. Laelius' "De vitiis virtutibusque poematorum" (see Charisius, p. 179.18-20 Barwick); if this is Laelius Archelaus (cf. Suetonius, *De gramm.* 2), the expounder of Lucilius (as Münzer thinks: *RE* s.v. Laelius [13]), then Horace must surely have known his writings. After Horace, we find Aristotle's view on the necessary balance of common and unusual words in, e.g., Seneca, *Epist.* 114.13-14.

<sup>66</sup>Cf. lines 9-13 (general limits of license); 48-51 (limited use of neologism approved); and 263-268 (critics give poets too much metrical license). On excessive license as risible, cf. lines 1-5 (especially 5: "spectatum admissi risum teneatis, amici?").

<sup>67</sup>Cf. *Poetics*, 1450b24ff.

<sup>68</sup>Cf. Brink II, 81: "But the unity that these forms evince to him [i.e., to Horace] is not simply unity of plot. It is the unity of a work of poetry seen by a poet. It lacks Aristotle's clarity of concept and coherence of argument. It cannot ultimately be resolved into a series of propositions."

<sup>69</sup>For the medieval interpretations, see C. Villa, "'Ut Poesis Pictura': Apunti iconografici sui codici dell'*Ars Poetica*," *Aevum* 62 (1988) 186-197, at pp. 187-189.

the ancient theorists were willing to bend their firm rules about the necessity of structural unity. On the other hand, the speaker's comparison of a monster to a book ("isti tabulae fore librum | persimilem," 6-7) would seem better adapted to express problems of relating parts to a whole (i.e., structure) than those of style. Moreover, the simile comparing the contents of such a book to the "dreams of a sick man" ("velut aegri somnia," 7) raises an entirely different matter: the verisimilitude of an artistic representation. Could the subject of a poem or painting really exist, or is it the feverish product of a demented mind (cf. "vanae | fingentur species," 7-8)? That the simile ends with the metaphor "nec pes nec caput" obfuscates rather than clarifies the speaker's meaning because the metaphor must apply simultaneously to four realms—the book, the sick dreams, the idle imaginings, and the monster. The fact that this phrase was proverbial does not diminish its literal force here, which simply cannot bear the weight put on it by the speaker's multiply mixed metaphor. What does it mean for a book to have "caput et pes," and while the monster has a woman's head, it has a fish's tail, not "pes"; etc.<sup>70</sup>

Brink has rightly observed that the speaker, who condemns a *descriptio* in verses 14-19, himself begins with a *descriptio* in lines 1-4. This inconsistency is typical of the speaker and can be seen elsewhere: he does not practice what he preaches. I would suggest that an even greater inconsistency can be found in the whole introduction (1-13): roundly condemning the abuse of poetic license, the speaker hypocritically falls into the error of taking the license of metaphor too far in lines 1-9 as evidenced by the fact that we have no way of understanding how he wants us to apply the monster simile to poetry. Later in the poem, he will likewise botch the simile comparing painting to poetry because, while he tells us a good deal about painting, he says absolutely nothing about poetry (361-365). The literal defectiveness of the simile (it lacks a *sic*-clause) makes it impossible to know in what way poetry is similar to painting. In the *Poetics* (1459a1ff) Aristotle said that metaphor (by which he also meant simile)<sup>71</sup> is the "most important" form of poetic diction because it cannot be acquired from someone else and is a "sign of genius." The speaker's clumsy use of metaphor (or simile) can be attested so frequently in the *Ars Poetica* that we may view the botched metaphor as the speaker's typical rhetorical figure. If

<sup>70</sup>Cf. G. Lakoff and M. Turner, *More than Cool Reason. A Field Guide to Poetic Metaphor* (Chicago and London 1989) 203: "Though wide-ranging metaphorical interpretations are possible, they are far from arbitrary. A metaphor, after all, is not a linguistic expression. It is a mapping from one conceptual domain to another, and as such it has a three-part structure: two endpoints (the source and target schemas) and a bridge between them (the detailed mapping). Such structures are highly constrained. It is not the case that anything can be anything."

<sup>71</sup>Cf. R. Janko, *Aristotle, Poetics* (Indianapolis and Cambridge 1987) 130.

proper use of metaphor is a sign of genius, then consistent misuse of metaphor is not only an example of the abuse of poetic license but also an indication of a lack of genius.

The introduction throws the speaker's authority on poetry into doubt in two other ways. Even so apologetic a critic as Brink has noted that the speaker begins his speech with no formal introduction: "there are no preliminaries. The poem, as it were, jumps into a subject."<sup>72</sup> Similarly, the poem is open-ended, lacking a conventional conclusion.<sup>73</sup> The middle is the most problematic section of all: for centuries, the greatest scholarly issue about the *Ars Poetica* is whether it has a clearcut structure.<sup>74</sup> The monstrous book decried by the speaker and the monstrous image used to represent it, we may conclude, are exemplified by the *Ars Poetica* itself. One might, to be sure, excuse the speaker for these faults by recalling that with mock modesty he does not claim to be a poet,<sup>75</sup> so that the *Ars Poetica* ought not to be judged as a poem. Yet, this actually weakens the case for clemency, since, according to the speaker, poetic licenses such as lack of a proper introduction and ending are granted only to writers of poetry, not prose. As Quintilian put it, "meminerimus tamen, non per omnia poetas esse oratori sequendos nec libertate verborum nec licentia figurarum...." (10.1.28).

There is another way—even more important—in which these key introductory lines discredit the speaker. Since the eighteenth century it has been commonplace to connect the speaker's outburst against monsters in painting to Vitruvius' polemic against contemporary art:<sup>76</sup>

Sed haec, quae ex veris rebus exempla sumebantur, nunc iniquis moribus improbantur. <Nam pinguntur> tectoriis monstra potius quam ex rebus finitis imagines certae: pro columnis enim struuntur calami striati, pro fastigiis appagineculi cum crispis foliis et volutis, item candelabra aedicularum sustinentia figuras, supra fastigia eorum surgentes ex radicibus cum volutis teneri plures habentes in se sine ratione sedentia sigilla, non minus coliculi dimidiata habentes sigilla alia humanis, alia bestiarum capitibus.

<sup>72</sup>Brink, I, 85.

<sup>73</sup>Cf. below, p. 94.

<sup>74</sup>I will elsewhere discuss the structural issues and show that the poem also exemplifies the fault of *Σαρδισμός*.

<sup>75</sup>Lines 301-305: "o ego laevus, | qui purgor bilem sub verni temporis horam; | non alius faceret meliora poemata. verum | nil tanti est. ergo fungar vice cotis, acutum | reddere quae ferrum valet exsors ipsa secandi...."

<sup>76</sup>The first reference to the passage in a commentary on the *Ars Poetica* appears to be in R. P. Sanadon, *Les poésies d'Horace, traduites en français*, tome septième (Amsterdam, Leipzig 1756<sup>2</sup>) 57.

Haec autem nec sunt nec fieri possunt nec fuerunt. Ergo ita novi mores coegerunt, uti inertiae mali iudices convincerent artium virtutes: quemadmodum enim potest calamus vere sustinere tectum aut candelabrum ornamenta fastigii, seu coliculus tam tenuis et mollis sustinere sedens sigillum, aut de radicibus et coliculis ex parte flores dimidiataque sigilla procreari? At haec falsa videntes homines non reprehendunt sed delectantur, neque animadvertunt, si quid eorum fieri potest necne... Neque enim picturae probari debent, quae non sunt similes veritati, nec, si factae sunt elegantes ab arte, ideo de his statim debet 'recte' iudicari, nisi argumentationes certas rationes habuerint sine offensionibus explicatas.<sup>77</sup>

The relationship of Vitruvius' passage with the introduction of the *Ars Poetica* has never been explored in detail.<sup>78</sup> The context is Vitruvius' account of the development of wall painting in homes. Painting should represent "quod est seu potest esse, uti homines, aedificia, naves, reliquarumque rerum" (7.5.1), and in the earlier phases of wall painting, this was the case. First, painters imitated marble (this is equivalent to what, since the last century, we have called the First Pompeian Style; Vitruvius, 7.5.1); then they imitated buildings, columns, gardens, scenery, etc. (the Second Pompeian Style; Vitruvius, 7.5.2). In the passage quoted, Vitruvius recounts the latest developments, the final phase of the Second Style, in which realism has given way to fantastic creatures and architectural constructions.<sup>79</sup> In such works may be seen monsters, stalks functioning as

<sup>77</sup>Vitruvius 7.5.3-4. For a recent philological and archaeological commentary on the passage see W. Ehrhardt, *Stilgeschichtliche Untersuchungen an römischen Wandmalereien von der späten bis zur Zeit Neros* (Mainz 1987) 152-162.

<sup>78</sup>Commentators on the *Ars Poetica* simply note the Vitruvian passage and its polemic against monsters in painting without further analysis; Vitruvian scholars, too, have failed to pursue the relationship in any depth. See, most recently, W. Ehrhardt, *op. cit.* (*supra* n. 77) 162: "Eine Untersuchung dieser Fragen unter Berücksichtigung der historischen und literarischen Quellen geht über den Rahmen einer stilgeschichtlichen Analyse ebenso hinaus wie der Vergleich der von Vitruv angewendeten moralisch-ästhetischen Kriterien mit denen, wie sie z.B. Horaz in seiner *Ars poetica* und Augustus nach der Überlieferung Suetons [Augustus 86] gegenüber Marc Anton auf literarisch-rhetorischem Gebiet erhebt."

<sup>79</sup>The classic work on the Second Style is by H. G. Beyen, *Die Pompejanische Wanddekoration vom zweiten bis zum vierten Stil*, 2 vols. (The Hague 1938, 1960). Beyen divides the Second Style into Phase I and Phase II; each phase has two sub-phases (Phase Ia, Ib, etc.; cf. vol. II, 20; cf. also his article on "Pompeiani, Stili" in *EAA* 6 [Rome 1965] 356-366, at pp. 358-362). The beginning of Phase II Beyen dates to the years 50-30. Beyen's classification has recently been criticized as too elaborate by A. Barbet, *La peinture murale romaine: Les styles décoratifs pompéiens*

columns, men and animals growing up out of plants, etc. (7.5.3). Since such fantasies violate the principle of realism and verisimilitude<sup>80</sup> ("haec autem nec sunt nec fieri possunt nec fuerunt"; 7.5.4), Vitruvius roundly condemns them and the debased taste that approves of them. Telling the anecdote of how Licymnius the mathematician forced the scenery painter Apaturius to replace some overly imaginative sets with more conventionally realistic designs (7.5.5-6), he longingly recalls the good old days when such violations of nature were not permitted and were felt to be signs of bad taste and dullness ("quod enim antiqui insumentes laborem ad industriam probare contendebant artibus, id nunc coloribus et eorum alleganti specie consecuntur"; 7.5.7).

The passage in Vitruvius is important to readers of the *Ars Poetica* for several reasons. First of all, Vitruvius' polemic is roughly contemporary with the *Ars Poetica*, if we date the poem to the late twenties, since 22 B.C. is the last possible date for the composition or revision of the *De Architectura*.<sup>81</sup> Vitruvius' vocal rejection of contemporary tendencies in wall painting is thus consistent with our dating of the *Ars Poetica* to the same period because it shows that, in a period of dramatic change in painting, such reactions as we find in Horace and Vitruvius were understandably topical. Secondly, Vitruvius shows us that Classicizing theorists were just as outspoken and influential in the fine arts as we know they were in literary criticism.<sup>82</sup> Although Vitruvius' condemnation of what we might call the "fantasy-style" was, in the end, to be ignored by painters and patrons, he does seem to have had a restraining influence for several decades.<sup>83</sup> We can only imagine how closely twentieth-century characterizations of him as a pedantic conservative<sup>84</sup> correspond to what artists and

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(Paris 1985) 36-37. Problems of Beyen's dating of Phase II of the Second Style are discussed by Ehrhardt, *op. cit.* (*supra* n. 77) xiv-xv.

<sup>80</sup>Brink, II, 85, errs in saying that Vitruvius is concerned only about the truth of the representations, not their verisimilitude. Verisimilitude is implied by the words "seu potest esse."

<sup>81</sup>For literature on the date of Vitruvius' publication of *De Architectura* in 22 B.C. at the latest, see W. Ehrhardt, *op. cit.* (*supra* n. 77) 153n1330; B. Baldwin, "The Date, Identity, and Career of Vitruvius," *Latomus* 49 (1990) 425-434.

<sup>82</sup>See, e.g., E. Gabba, "Political and Cultural Aspects of the Classicistic Revival in the Augustan Age," *CA* 1 (1982) 43-65; P. Zanker, *Augustus und die Macht der Bilder* (Munich 1987); E. Simon, *Augustus. Kunst und Leben in Rom um die Zeitenwende* (Munich 1986) 188: "Die hier wiedergegebene Stelle (Vit. 7.5.3) läßt etwas von der Lebendigkeit der damals geführten Kunstdiskussionen spüren, auch von der Beschränktheit der Ästhetik Vitruvs, die in der Imitation der Natur befangen bleibt."

<sup>83</sup>Cf W. Ehrhardt, *op. cit.* (*supra* n. 77) 157-162.

<sup>84</sup>See the examples from the older art-historical literature collected by W. Ehrhardt, *op. cit.* (*supra* n. 77) 155n1343 and add, more recently, J.-M. Roddaz, *Marcus Agrippa, BEFAR* 253 (1984) 252.

architects of his day thought of him. In any case, his fulminations against contemporary "avant-garde" painting give us a taste of what an equally avant-garde poet like Horace must have had to hear from his critics.

Besides serving these purposes, the Vitruvius passage can also help us to see the most important way that Horace undermines the authority of his speaker and hence clues the reader into his parody in the very first lines of the poem. Interestingly enough for our purposes, where Vitruvius seems to have had least success was in suppressing paintings of monsters, which, as Ehrhardt notes, were quite common during and just after the period when he was writing.<sup>85</sup> We should note that, whereas Vitruvius condemns actually existing paintings for an excess of imagination, the *Ars Poetica* speaker talks as if no contemporary painter—unless mad—would actually paint the monster described in verses 1-4. So right from the start, the speaker (who elsewhere shows himself to be ignorant of contemporary poetry) shows himself equally uninformed about contemporary painting. In fact, archaeological evidence—which, oddly enough, has hitherto been neglected by commentators on the poem—shows that from the late thirties to the late twenties B.C., Roman painters were experimenting with monsters and other unreal subjects condemned by Vitruvius.<sup>86</sup> So, to any reader knowledgeable about the state of contemporary Roman painting, the speaker's character emerges clearly from his first words: he is not only a pedant of old-fashioned taste like Vitruvius, but—unlike Vitruvius—he is also an ignoramus.

We will soon see which of Horace's readers would have been able to appreciate this clue. The evidence for monsters in Roman painting and from sculpted and stucco friezes of the 30s and 20s has not yet been assembled. The following list of monsters from the city of Rome in the period of ca. 40-20 B.C. will let us see how common *Mischwesen* were in this period and which patrons encouraged their artists to work in the fantasy-style condemned by Vitruvius.<sup>87</sup>

<sup>85</sup>See W. Ehrhardt, *op. cit.* (*supra* n. 77) 157.

<sup>86</sup>Gantar, *op. cit.* (*supra* n. 59) perceptively notes the frequency of monsters in contemporary literature (pp. 90-91) but thinks the pertinent *comparandum* in painting comes not from contemporary Roman works of art (which he does not mention) but from Zeuxis' hippocentaur (pp. 91-92). Rudd, 36, writes: "why should an artist not produce grotesques? Granted, Vitruvius disliked them (7.5.3-4), but *medieval stone-masons and illuminators* thought otherwise" (my emphasis). E. Leach, in *The Rhetoric of Space. Literary and Artistic Representations of Landscape in Republican and Augustan Rome* (Princeton 1988) 6n8, perceptively notes that Horace's monster "may well refer to specific examples of contemporary art."

<sup>87</sup>The best collection of the visual material is to be found in I. Bragantini and M. De Vos, *Le decorazioni della villa romana della Farnesina, Museo Nazionale Romano: Le Pitture*, II.1 (Rome 1982) 32-35, 52-55, 60 (figs. 3-14; 29-35; 60), with examples from the House of Livia, the Villa of the Farnesina, and Pompeii.

| Nr./DATE  | BLDG                | M/C <sup>88</sup> | FIGURES                                                                            |
|-----------|---------------------|-------------------|------------------------------------------------------------------------------------|
| (1) 42-29 | Temple of J. Caesar | S                 | Winged Victory terminating in shoots ( <i>fig. 2</i> ) <sup>89</sup>               |
| (2) 36-27 | House of Augustus   | P/5               | Winged females growing from plants <sup>90</sup>                                   |
| (3)       |                     | P/13              | Winged females growing from plants <sup>91</sup>                                   |
| (4)       |                     | P/14              | Marine centaurs atop frieze <sup>92</sup>                                          |
| (5)       |                     | P/15              | Walls: Winged griffins with shoot tails on sides of a floral obelisk <sup>93</sup> |
| (6)       |                     | P/15              | Ceiling: Winged male and female figures growing from plants <sup>94</sup>          |

TABLE XVII: MONSTERS IN WALL PAINTING, STUCCOES, AND SCULPTED FRIEZES FROM THE CITY OF ROME, C. 35-20 B.C.

<sup>88</sup>M/C=Medium/Context. P=painting; St=stucco; S=sculpture (including sculpted frieze); numbers and letters given under "C" correspond to standard spatial denominations in the referenced archaeological publications.

<sup>89</sup>See M. Montagna Pasquinucci, "La decorazione architettonica del tempio del Divo Giulio nel Foro Romano," *Monumenti Antichi* 48 (1973); M. Floriani Squarciapino, "Il fregio del tempio del divo Giulio," *RAL* 12 (1957) 270-284; H. v. Rohden and H. Winnefeld, *Architektonische römische Tonreliefs der Kaiserzeit* (Stuttgart 1911) 200ff. For a history of the motif, see J. M. C. Toynbee and J. B. Ward Perkins, "Peopled Scrolls: A Hellenistic Motif in Imperial Art," *PBSR* 18 (1950) 1-43.

<sup>90</sup>See G. Carettoni, "La decorazione pittorica della Casa di Augusto sul Palatino," *MDAI(R)* 90 (1983) 373-419 at p. 378 (= Carettoni I). For the date, see G. Carettoni, *Das Haus des Augustus auf dem Palatin* (Mainz 1983) 23-27 (= Carettoni II).

<sup>91</sup>Carettoni I, 396; Carettoni II, 56.

<sup>92</sup>Carettoni I, 400; Carettoni II, 60-66.

<sup>93</sup>Carettoni I, 405; Carettoni II, 74. For griffins in this period and in ancient art generally, see C. Delplace, *Le griffon de l'archaïsme à l'époque impériale, Études de philologie, d'archéologie et d'histoire anciennes, l'Institut Historique Belge de Rome* 20 (1980), especially pp. 346-353.

<sup>94</sup>Carettoni I, 409; Carettoni II, 83.

| Nr./DATE    | BLDG                   | M/C | FIGURES                                                                                |
|-------------|------------------------|-----|----------------------------------------------------------------------------------------|
| (7) 36-30   | House of Livia         | P   | Left <i>Ala</i> : Winged male and female figures with <i>kalathiskos</i> <sup>95</sup> |
| (8)         |                        | P   | Left <i>Ala</i> : Griffins on shoots ( <i>fig. 3</i> ) <sup>96</sup>                   |
| (9)         |                        | P   | Left <i>Ala</i> : Winged victories seated on shoots <sup>97</sup>                      |
| (10)        |                        | P   | Triclinium: Griffins with shoot tails <sup>98</sup>                                    |
| (11) 30-20? | Villa of the Farnesina | P   | Fauces: Griffins with shoot tails <sup>99</sup>                                        |
| (12)        |                        | St  | Cubic. B: Winged griffin with human head and shoot tail <sup>100</sup>                 |
| (13) c. 20  | Aula Isiaca            | P/B | Birds ending in shoots <sup>101</sup>                                                  |

TABLE XVII (CONTINUED)

<sup>95</sup>See G.E. Rizzo, *Le pitture della 'Casa di Livia,' Monumenti della pittura antica*, III.3 (Rome 1937) 9ff., figures 8-10; Bragantini and De Vos, *op. cit. (supra n. 87) fig. 12*. Note that it is possible that the House of Augustus and House of Livia were part and parcel of the same palace complex, not two separate dwellings as they appear today; see W. Ehrhardt, *op. cit. (supra n. 77) 3n74*. On the date, see F. Coarelli, *Roma* (Bari 1980) 131.

<sup>96</sup>See Bragantini and De Vos, *op. cit. (supra n. 87) fig. 10*; Rizzo, *op. cit. (supra n. 95) fig. 10*.

<sup>97</sup>Bragantini and De Vos, *op. cit. (supra n. 87) fig. 13*; Rizzo, *op. cit. (supra n. 95) fig. 9*.

<sup>98</sup>See Bragantini and De Vos, *op. cit. (supra n. 87) fig. 3*.

<sup>99</sup>See Bragantini and De Vos, *op. cit. (supra n. 87) fig. 11, tav. E*. See Bragantini and De Vos, *ibid.*, with literature speculating on the identification and date reported on p. 23 and their own view (20s B.C.) suggested on p. 40. W. Ehrhardt, *op. cit. (supra n. 77) 3*, implies a similar dating, as does A. Bartet, *op. cit. (supra n. 79) 96-97*. E. Leach, "Patrons, Painters, and Patterns," in *Literary and Artistic Patronage in Ancient Rome*, ed. B. Gold (Austin 1982) 135-173, at p. 164 suggests that the owner was the equestrian A. Crispinus Caepio. Roddaz, *op. cit. (supra n. 84)* accepts the identification as the Villa of Agrippa (*passim*; cf. 249n108, 321n55).

<sup>100</sup>See Bragantini and De Vos, *op. cit. (supra n. 87) fig. 14*.

<sup>101</sup>See G. E. Rizzo, *Pitture dell'Aula Isiaca di Caligola, Monumenti della pittura antica* III.2.2 (Rome 1936) *tav. A*. On the date of the building, see A. Barbet, *op. cit. (supra n. 79) 97*.

I stress that the examples on TABLE XVII are from the city of Rome and date to this limited period. Later, monsters become even more common, as Roman painting moves into the Third and Fourth Styles. This means that our need to interpret the discrepancy between the opening lines of the *Ars Poetica* and trends in Roman painting is not dependent on dating the poem to the period 24-20 B.C. but arises even if we date the poem to the last years of Horace's life.

Late Second-Style monsters are also to be found in Campania at, e.g., the House of Obellius Firmus in Pompeii, the wall from Portici in the Naples National Museum (inv. 8593), the Caserma of the Gladiators at Pompeii,<sup>102</sup> and at the villa in Boscotrecase.<sup>103</sup> Outside of Campania, we find painting reminiscent of this style at a villa in Sabine country north of Rome near Licenza (ancient Digentia), where, amid fragments of wall painting, we find a griffin, two sphinxes, and fragments of a wing and the hind parts of creatures that are perhaps also remains of monsters. The villa seems also to have had a mosaic with griffins, now vanished.<sup>104</sup>

<sup>102</sup>For these examples from the first century B.C. and others from the first century A.D., see Bragantini and De Vos, *op. cit.* (*supra* n. 87) 50-61; W. Ehrhardt, *op. cit.* (*supra* n. 77) 17-31.

<sup>103</sup>See P. H. von Blanckenhagen and C. Alexander, *The Paintings from Boscotrecase*, *MDAI(R) Ergänzungsheft* 6 (1962) 58.

<sup>104</sup>Only the griffin (from *riquadro* 31) is published; see G. Lugli, "La villa sabina di Orazio," *Monumenti Antichi* 31 (1926) cols. 456-598, at col. 570 (with fig. 52). The sphinxes are from *riquadri* 3 and 20; the hind parts of an animal and a wing (?) are from *riquadro* 15.

The griffin mosaic is known only from a literary source: like most of the mosaics of the villa, it has vanished. In 1828 Filippo Alessandro Sebastiani, in *Viaggio a Tivoli* (Fuligno 1828) wrote: "mi aveva assicurato il sig. cav. Gell gentiluomo inglese, persona di vastissima erudizione, e già nota per le sue produzioni geografiche, che vi aveva rilevato un altro pezzo di mosaico ornato di piccoli grifi, ma o fosse, che il guidatore non lo conoscesse, o che quest'avanzo venisse distrutto, io non fui così fortunato da poterlo vedere" (395-396).

Gell is Sir William Gell (1777-1836), "Resident Plenipotentiary" of the Society of Dilettanti in Italy; see *The Dictionary of National Biography*, vol. 7 (Oxford 1963-1964) 994-996. He was, indeed, known for his erudition and accuracy; cf. E. Clay (ed.), *Sir William Gell in Italy. Letters to the Society of Dilettanti* (London 1976) 18-36, especially p. 30. Gell himself appears to corroborate Sebastiani's report when he writes in *The Topography of Rome and Its Vicinity* (London 1834<sup>1</sup>, 1846<sup>2</sup>) vol. 2, p. 350: "The ruins of this famous villa consist only of a Mosaic pavement, and of two capitals and two fragments of Doric columns lying among the bushes....The pavement has been much ruined by the planting of a vineyard, and can only be seen on removing the earth which covers it. The groundwork is white, with a border of animals in black."

We can now see what kinds of persons patronized the late Second-Style and Third-Style painters condemned by Vitruvius and the *Ars Poetica* speaker: in the first instance, Livia, Augustus, and the powerful owners of the Villa of the Farnesina and the Villa in Boscotrecase.<sup>105</sup> It is even remotely possible that the same workshop of artists was active at all four projects.<sup>106</sup> Be that as it may,

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The fact that Sebastiani saw only one mosaic on his visit and not the griffin mosaic reported to him by Gell is typical of the period. Different visitors saw different remains, doubtless depending on the knowledge, vigor, and mood of their guides. Thus, some travellers reported seeing two or more mosaics—see Andrea Manazzale, *Viaggio da Roma a Tivoli, Palestrina, Frascati, ed altri contorni di Roma* (Roma 1817) 31 (“in una vigna situata a' piedi del monte Lucretile, si vede qualche vestigio di questa Villa, consistente in differenti camere pavimentate di mosaico....”); Giuseppe Antonio Guattani, *Monumenti Sabini*, tom. 3 (Rome 1830) 16 (“concludiamo che da questi campi Oraziani ore gran parte della sua vita menò il genio delle muse latine non devi partir lettor cortese senza osservare, in mancanza di significanti rovine, i pochi rimasugli de' pavimenti a mosaico della sua casa....”); Fabio Gori, *Viaggio pittorico-antiquario da Roma a Tivoli e Subiaco* (Rome 1855), parte seconda, pp. 22-23 (“il Garzone che n'è custode, alla tua richiesta rompe con la marra la terra e mostra un bel frammento di mosaico. Fattagli la domanda, se vi è altro da vedere, ei ti risponde che scavando profondamente il suolo, si trovano altri pezzi di pavimento di mosaico, e resti di antico edificio, gli stessi che vi scoprì il Baron di Santedille”). Other visitors saw just one (in addition to Gell and Sebastiani, cf. A. Nibby, “Viaggio antiquario alla Villa di Orazio, a Subiaco, a Trevi, presso le sorgenti dell'Aniene,” *Memorie Romane di Antichità e di Belle Arti* [Pesaro 1827] 37 [= *Analisi storico-topografico-antiquaria della carta de' dintorni di Roma*, tomo 3 (Rome 1842) 720] or even none (cf. J. H. Westphal, *Die römische Kampagne* [Berlin und Stettin 1829] 115: “Trümmer derselben sind nicht mehr vorhanden”). Knowledge of the various mosaics probably goes back to the amateur excavations carried out on the site over a thirty-year period from 1755-1783 by the Scottish artist Allan Ramsay; see J. Holloway, “Two Projects to Illustrate Allan Ramsay's Treatise on Horace's Sabine Villa,” *Master Drawings* 14 (1976) 280-286. On Ramsay (1713-1784) see *DNB* vol. 16 (London 1909) 676-677.

<sup>105</sup>The Villa at Boscotrecase is the latest of the group and represents the Third Style; see von Blanckenhagen and Alexander, op. cit. (*supra* n. 103). For speculation about the owners of these villas see Bragantini and De Vos, op. cit. (*supra* n. 87) 22-24; von Blanckenhagen and Alexander, *ibid.*, 59; Simon, op. cit. (*supra* n. 82) 182; Zanker, op. cit. (*supra* n. 82) 279-284.

<sup>106</sup>Cf. von Blanckenhagen and Alexander, op. cit. (*supra* n. 103) 58-59, on the similarity of the Farnesina and the villa in Boscotrecase; for the similarity of the Farnesina and the House of Livia and House of Augustus, see Bragantini and De Vos, op. cit. (*supra* n. 87) 30; Carettoni I, p. 408. Both Carettoni and Bragantini—De Vos think the workshop was of Alexandrian origin. R. E. Ling, “Studius and the Beginnings of Roman Landscape Painting,” *JRS* 67 (1977) 1-16, at pp. 11-12, sees no need to invoke a non-Roman origin for motifs that are vaguely Egyptian.

the evidence from Campania suggests that once given this powerful impetus, the new style caught on rather quickly and spread to households much lower down the socio-economic ladder.<sup>107</sup> These were certainly some of the readers who would have noted, right from the start, that something is quite odd about the *Ars Poetica*.

The material from the Sabine villa is particularly interesting because it was very possibly Horace's own. Its site and characteristics correspond well to the literary evidence from Horace's own poetry, and so it has been identified by twentieth-century Roman topographers and archaeologists.<sup>108</sup> The monster paintings and griffin mosaic—the one lost, the others hidden away in an ill-lit museum of difficult access—have never been the subject of a detailed scholarly study, and the villa as we have it is the result of several building phases, so we cannot be certain that we have here evidence dating from Horace's own lifetime. The extant mosaics of the villa find their closest parallels with mosaics found in the House of Livia on the Palatine and in the Villa of Livia ad Gallinas Albas.<sup>109</sup> The vanished griffin mosaic may have come from a later phase of the building—a possible candidate would be the bath complex on the west—since such creatures are common enough in bath contexts, particularly from the Antonine period. On the other hand, there is a chance that the work was contemporary with the other four preserved mosaics in the villa, which like it, were black and white.<sup>110</sup> As for the wall paintings, these fall into different groups

<sup>107</sup>Cf. Zanker, *op. cit.* (*supra* n. 82) 282; Roddaz, *op. cit.* (*supra* n. 84) 250-251; a similar diffusion has been observed for the so-called sacral-idyllic landscape; see S. R. Silberberg, *A Corpus of the Sacral-Idyllic Landscape Paintings in Roman Art* (Diss. UCLA 1980) xx, 35. E. Leach, *op. cit.* (*supra* n. 99) 164-167, has perceptive remarks on the reasons for the revolutionary change from the middle to late Second Style. See also her book, *op. cit.* (*supra* n. 86) 373-377.

<sup>108</sup>See Lugli, *op. cit.* (*supra* n. 104) cols. 462-492; M. E. Blake, *Pavements of Roman Buildings*, *MAAR* 8 (1930) 89; F. Coarelli, *Lazio* (Bari 1982) 112-113; H. Mielsch, *Die römische Villa* (Munich 1987) 61. In a stimulating recent article, A. Bradshaw makes a strong case against reports in Porphyrio (on *Epod.* 1.31 and *Carm.* II.18.12-14) and Ps-Acro (on *Carm.* II.18.12) that Maecenas gave the villa as a gift to Horace; see "Horace in Sabina," *Collection Latomus* 206 (1986) 160-186.

<sup>109</sup>For similarities in the mosaics, see M. E. Blake, *Ancient Roman Construction in Italy from the Prehistoric Period to Augustus* (Washington 1947) 253; M. L. Morricone Matini, *Roma: Reg. X Palatium, Mosaici Antichi in Italia* (Rome 1967) 6.

<sup>110</sup>That the mosaic was black and white is indicated by Gell's description; see n. 104 above. The earliest griffins of which I am aware are those on a pavement (now vanished) from the Casa del Cinghiale in Pompeii (VIII, 3, 8). The mosaic is described by M. E. Blake, *op. cit.* (*supra* n. 108) 99 as follows: "sea griffins and dolphins were swimming about between a meander center and a border representing a

stylistically, and we thus far have no records of their original location in the villa which would help us establish a chronology. Pasqui—who, according to the Soprintendenza Archeologica per il Lazio, did not leave behind such records—made later study of the fragments harder than it had to be by attaching them to thirty-eight *riquadri* according to subject and color. Thus we have a group of *riquadri* with yellow ground (R. 1, 2, 3, 4, 6, 9, 10, 11, 12, 15, 16, 19, 20, 21, 22, 24, 26, 27, 28, 37); white ground (R. 7, 8, 14, 17, 19, 23, 25, 30, 31, 32, 33, 34, 38); red ground (R. 5, 13); and mouldings from cornices (R. 5, 8, 20, 26, 34, 35, 36). Some fragments may well be from one of the later building/remodelling phases of the villa. Published scholarly opinion on the painting is scarce and quite divergent: Lugli thought they were mostly “secondo stile pompeiano”; Borda, in brief remarks about the fragments, claimed that they were an academic revival of the Second Style during the Flavian or Trajanic period.<sup>111</sup> Borda's position is not so surprisingly different from Lugli's as it might, at first, appear to be: the Fourth Style involves, among other things, a revival of late Second-Style motifs.<sup>112</sup> Though this is not the place to decide the dispute between Lugli and Borda, I can report that Roman painting experts Volker Strocka and Irene Bragantini have informed me in personal communications that they exclude an Augustan date, assigning the paintings to the Fourth Style.

Of course, if the villa is Horace's and if the monster paintings or at least the griffin mosaic are Augustan, then we have striking evidence that Horace and the *Ars Poetica* speaker must be strictly distinguished from one another, for it would mean that Horace, in his beloved Sabine villa, which was completed in the late 30s or early 20s before the *Ars Poetica* was written, chose to decorate his walls and floors with precisely the kind of creatures condemned without qualification by the *Ars Poetica* speaker. As we have seen, the material from Licenza

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turreted wall.” E. La Rocca, et al., *Guida archeologica di Pompeii* (Verona 1976) 139, date the mosaic to the first half of the first century A.D.; Blake states that it is “pre-earthquake” (p. 99). For monster designs in general, see Blake, *ibid.*, 123. The fact that a griffin design would be an “advanced” trait for a villa of the late 30s B.C. should not necessarily deter us from considering such a dating since, for example, the mosaic in room B of the villa also has a design only popular in the next century; cf. M. E. Blake, *ibid.*, 90. We need to keep in mind that our corpus of domestic mosaic designs is biased against the first century B.C. and earlier, since most of our Roman houses are later.

<sup>111</sup>Lugli, *op. cit.* (*supra* n. 104) col. 571; M. Borda, *La pittura romana* (Milan 1958) 90, 266.

<sup>112</sup>Cf. W. C. Archer, “The Paintings in the Alae of the Casa dei Vettii and a Definition of the Fourth Pompeian Style,” *AJA* 94 (1990) 95-123, especially p. 121: “as has been noted in other studies, each of the principal compositional possibilities comprising the Fourth Style...can be found directly previewed in the Second or Third Style....”

must be subjected to further investigation before it can safely be used in this discussion. In any case, it can only have been known to a select few of Horace's readers. Much more important is the fact that, on the basis of the examples of the fantasy-style known from Rome, we can already say that the taste condemned by the speaker in lines 1-5 closely reflects that attested for the imperial circle in which Horace moved.

Is there any way to spare the speaker our unequivocally negative interpretation of his introductory lines? Ehrhardt attempted to moderate Vitruvius' critique and thus make him appear less distastefully extreme by suggesting that Vitruvius did not condemn standard mythological monsters like griffins, but only new-fangled monsters, like the many *Mischwesen* in our list that belong to both the animal and plant kingdoms.<sup>113</sup> If this were the case, then Vitruvius' harsh condemnation of monster painters would apply to a much more restricted set of *Mischwesen*, but Ehrhardt's suggestion is merely a hypothesis and an unlikely one at that. While it is true that griffins, for example, are encountered (albeit rarely) in early Second-Style painting<sup>114</sup>—a fact that might make it appear less likely that Vitruvius could object to them in “decadent” late Second-Style paintings—it is probably not their existence in a painting per se but their verisimilitude that mattered to Vitruvius. In an early Second-Style painting like that in the House of the Labyrinth, griffins are represented as part of the realistic scene: they decorate corbels holding up a construction that could really exist and could really have corbels with griffins. In the late Second-Style examples, they are not integrated into a realistic scene as decorative elements of objects that might actually exist; rather, they are paratactically isolated within a purely whimsical and painterly fancy.<sup>115</sup>

However we understand Vitruvius, the *Ars Poetica* speaker condemns, not (as has sometimes been thought) a painting of a Scylla—that is, a standard mythological creature—but a unique *Mischwesen* that has no exact parallel in

<sup>113</sup>See W. Ehrhardt, *op. cit.* (*supra* n. 77) 157: “Mythische Mischwesen, wie z.B. Sphingen und Kentauren, sind von vornherein von dieser Kritik [scil. of Vitruvius] auszunehmen...”

<sup>114</sup>See Beyen, *op. cit.* (*supra* n. 79), vol. I, p. 261 with 261n3 on the difference between the griffins in the early Second-Style House of the Labyrinth and those in the House of Livia.

<sup>115</sup>Cf. Beyen, *loc. cit.* (*supra* n. 79). E. Leach, *op. cit.* (*supra* n. 99) 162-167, has attractive suggestions about the overall decorative scheme. The primary object, she thinks, is to create a *pinacotheca* and “the unreal structures and impossible ornaments deplored by Vitruvius, however fantastic they may sound in the abstract, explain themselves perfectly in context as the elements of an appropriately rich setting for the display of pictures” (p. 162).

literature or art.<sup>116</sup> While the speaker's creature with a woman's head, birds' feathers, and a fish's tail resembles a Scylla in many respects, it lacks the crucial component of dog protomes at the waist.<sup>117</sup> To this extent, at least, the speaker might be compared to Vitruvius, as interpreted by Ehrhardt. Such an interpretation might spare the speaker our harshest criticism, but it still leaves him open to criticism enough, for by concocting and ridiculing a new *Mischwesen*, the speaker, like Vitruvius, expresses his hostility toward the very skill in inventing monsters in which contemporary Roman painters revelled. As is clear from the material cited in TABLE XVII, this was a period in which painters tried to devise uniquely original monsters, and so we find few, if any, exact correspondences between the monsters found at the different sites. The lack of any exact correspondence between the *Ars Poetica* monster and the monsters of TABLE XVII is thus no surprise and, far from being problematic, is just what we would expect: Horace's monster painter is very à la mode in creating a type that, as far as we can tell, is new. Of course, we should not neglect to notice the *similarity* of Horace's monster to many of the extant examples: they often involve a fusion between the animal and vegetable realms (e.g., nrr. 1, 2, 3, 5, 6) or between sea, land, and air creatures (e.g., nrr. 4, 5, 12). The *Ars Poetica* monster is also such a fusion, with characteristics of the the sea (the fish-tail), land (the human head and horse's neck) and sky (the bird feathers).

The most important point of all is that, unlike Vitruvius, the *Ars Poetica* speaker seems totally unaware of the fact that such a painting was not only conceivable but, indeed, common, particularly in works commissioned by members of the imperial circle. And so, in the end we laugh, not at the painter of verses 1-4, but at the hapless speaker, whose pretentious claims to expertise on the arts are undermined by his eccentric taste, his inept way of expressing himself, and his ignorance of the subject. Right from the start of the poem Horace gives us and his contemporary reader ample reason to suspect that the *Ars Poetica* is to be the inept ramble of an unreliable narrator.

<sup>116</sup>On the *Ars Poetica* monster as a Scylla, cf. Ps.-Acro and later commentators such as Dillenburger and Orelli. Brink, II, 85, following Rostagni ad loc., writes more accurately: "inevitably the painting resembles the hybrid monsters of Classical art...—scyllas, sirens, centaurs, goat-stags, etc."

<sup>117</sup>On the iconography of the Scylla, see E. Paribeni in *EAA* 7 s.v. Scilla (Rome 1966) 109-110.

## CHAPTER 4

### GENRE OF THE *ARS POETICA*: EPISTLE, DIDACTIC POEM, OR TERTIUM QUID?

An interpretation of the *Ars Poetica* based on the assumption that the work contains the speech of a very unauthoritative dullard, holding forth *ad nauseam* about a subject about which he is poorly informed and can only mouth trite truisms, raises important generic questions: how can such a parody be classified and can it be paralleled within the Horatian corpus?

If, as we saw earlier in this study, the *Ars Poetica* is not to be associated with *Epistles* II, what kind of work is it? A debate has continued for centuries over classifying the *Ars Poetica* as a letter or as a didactic poem. Much labor was spent in this century and the last tracing the alleged derivation of the *Ars Poetica* from the genre of the technical handbook—the revival of an idea driven from the field by the epistle-thesis in the sixteenth century.<sup>1</sup> Is the *Ars Poetica* a letter, didactic poem, or technical handbook (or, at least, essay)? The issue is important: classification by genre is not simply a matter of defining a literary work; it concerns the very essence of the communicative act joining author and reader.<sup>2</sup>

<sup>1</sup>Cf. the works of Vahlen, Wecklein, Birt, Cauer, Norden, and others discussed by Brink, I, 18-40. For the sixteenth-century literature, see below, n. 3.

<sup>2</sup>Cf. J. Culler, *Structuralist Poetics* (Ithaca, New York 1975) 147-148 (cf. p. 147: "the function of genre conventions is essentially to establish a contract between writer and reader so as to make certain relevant expectations operative and thus to permit both compliance with and deviation from accepted modes of intelligibility"); A. Fowler, *Kinds of Literature. An Introduction to the Theory of Genres and Modes* (Oxford 1982) 37-53 (cf. p. 22: "of all the codes of our literary *langue*, I have no hesitation in proposing genre as the most important, not least because it incorporates and organizes many others. Just how many other codes are generically articulated remains uncertain....At any rate there is no doubt that genre primarily has to do with communication. It is an instrument not of classification or prescription,

Of commentators working on the poem in recent decades, C. O. Brink has perhaps devoted the most attention to this matter. He has persuasively discredited the view that the *Ars Poetica* is a technical handbook on poetics, noting that although it may share certain structural features that come from the technical tradition of literary criticism, the poem is not to be reduced to a handbook.<sup>3</sup>

but of meaning"). For a critical survey of contemporary theoretical views on the dialectic of genre and interpretation, see J. Reichert, "More Than Kin and Less Than Kind: The Limits of Genre Theory," in *Yearbook of Comparative Criticism* 8 (1978) 57-79; T. Kent, *Interpretation and Genre* (London and Toronto 1986) 147-150.

<sup>3</sup>See Brink, I, 15-40. As I plan to show elsewhere, the debate about whether the poem is an *ars* or merely something loosely derived from the technical tradition of poetics may be traced back to the sixteenth century, particularly the polemics of Antonio Riccoboni and Nicolaus Colonius. See (in chronological order): *Antonii Riccoboni a quodam viro docto dissensio de epistola Horatii ad Pisones: quae nullam quidem methodum habere: sed ad methodum redigi posse ostenditur*, printed at the end of *Compendium Artis Poeticae Aristotelis ad usum conficiendorum poematum ab Antonio Riccobono ordinatum et quibusdam scholiis explanatum* (Padua 1591); *Nicolai Colonii responsio adversus absurdissimam sententiam Antonii Riccoboni de Horatii libello ad Pisones de poetica* (Bergamo 1591); *Antonii Riccoboni l.C. humanitatem in Patavino gymnasio profitentis defensor seu pro eius opinione de Horatii epistola ad Pisones in Nicolaum Colonium ad Ethica Aristotelis in eodem gymnasio interpretanda designatum* (Ferrara 1591); *Epistola Nicolai Colonii Ad Antonium Riccobonum* (n. p. 1591); *Conciliatio Antonii Riccoboni cum Nicolao Colonio ad Illustriss. et Excellentissimum Principem, Alexandrum Estensem* (Padua 1591). Riccoboni's first contribution to the quarrel was written in reaction to Colonius' earlier treatise, *Q. Horatii Flacci Methodus De Arte Poetica: Per Nicolaum Colonium Exposita Quomodo antehac ab alio nemine* (Bergamo 1587).

In their debate, Colonius (c. 1520-1602) represented the view that the *Ars Poetica* had a "method," or plan, and that the plan was based on a technical treatment of all the literary genres, which, according to Colonius, numbered four (epic, tragedy, comedy, satyr drama). Riccoboni (1541-1599) maintained the thesis of Robortello, his predecessor as professor of Humanities at Padua, and of his friend and colleague De Nores (Colonius' predecessor as professor of Moral Philosophy at Padua) that the *Ars Poetica* was not a technical treatise but a loosely written letter. He may be said to be partly responsible for attempts, over the next three centuries, to transpose hundreds of lines of the *Ars Poetica* in a vain attempt to restore order to the poem because, in arguing against Colonius' assertion that the poem had a plan, Riccoboni showed how the poem would have to be rearranged to correspond to the plan of Aristotle's *Poetics*. In contrast to D. Heinsius (*Q. Horatii Flacci Opera cum Animadversionibus et Notis Danielis Heinsi* [Leiden 1612] 295-307), a student of Riccoboni's adversary Joseph Scaliger, Riccoboni did not believe that his wholesale transpositions were to be taken seriously; they were merely illustrative of the informality with which Horace re-worked the Aristotelian technical tradition. Incidentally, Heinsius rewrote through transposition, not only the *Ars Poetica*, but also—a fact rarely mentioned—the *Letter*

Brink does not go on to define the genre of the *Ars Poetica* in any detail, simply asserting baldly that "of course, the *Ars* is a letter."<sup>4</sup> Be that as it may, it should by now be clear that determination of the genre of the *Ars* cannot proceed from any assumption about its title and alleged inclusion in *Epistles* II.

Once we see that the *Ars* is most likely an independent work in the corpus, three possible ways of classifying it as something other than a handbook come to mind, of which the second two have rarely, if ever, been raised in this century: a verse letter, a didactic poem, or some *tertium quid*. The first two possibilities generally stand for distinct categories of writing: a letter is usually informal in spirit and supplies or requests information of some sort from or to a friend. As Ps.-Acro and Porphyrio sensibly remark on *Sat.* I.1.1, a letter presumes an absent recipient: "epistulis enim ad absentes loquimur, sermone cum praesentibus" (Ps.-Acro); "in sermonum autem libris vult intellegi, quasi apud praesentem se loqui, epistolas vero quasi ad absentes missas" (Porphyrio). In a didactic work like Lucretius' *De Rerum Natura* or Virgil's *Georgics*, formal instruction in moral, technical, and like matters is offered to an interlocutor who is imagined to be present listening to the speaker and with whom the speaker has some social bond.<sup>5</sup>

Now, this clearcut distinction between the formal instructive genre of didactic literature and the informal reportorial genre of the letter can and does break down, for it is, of course, possible for a letter to be didactic, and, indeed, in the Augustan age such letters, in prose form, are known to have existed. Interestingly enough, the ones we happen to hear about all resemble the *Ars*

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to *Florus* (pp. 289-294). His methodological model was undoubtedly Joseph Scaliger's edition of Propertius and Tibullus in *Catulli, Tibulli, Propertii Nova Editio* (Paris 1577), on which see A. Grafton, *Joseph Scaliger. A Study in the History of Classical Scholarship*, vol. 1 (Oxford 1983) 177-179. The first scholar seriously to propose large transpositions of the *Ars Poetica* was Francisco Sanchez, explicitly stating that Scaliger's Propertius was his inspiration; cf. *Francisci Sanctii Brocensis...In Artem Poeticam Horatii Annotationes* (Salamanca 1591) fol. 6<sup>r</sup> (transposing 136-152 to follow 38-45, with reference to Scaliger's Propertius) and fol. 9<sup>r</sup> (putting 251-274 after 73-85).

<sup>4</sup>Brink, III, 556. The poem has recently been categorized as epistolary—without detailed argument—by W. Hering, *Die Dialektik von Form und Inhalt bei Horaz* (Berlin 1979) 78-85; and by R. S. Kilpatrick, *The Poetry of Criticism. Horace Epistles II and Ars Poetica* (Edmonton, Alberta 1990) 34-35. Brink (II, 518) and Kilpatrick (p. 54) also (rightly, in my opinion) connect the work to *sermo*.

<sup>5</sup>E.g., Perses is Hesiod's brother; Maecenas is Virgil's benefactor. Lucretius' exact relationship with Memmius is not known, but he appears to have been on "intimate terms" with Memmius, as Bailey puts it (vol. I, p. 6).

*Poetica* in concerning grammatical and literary topics.<sup>6</sup> Adding to the difficulty of distinguishing the two genres from each other is the fact that, since Hesiod, it had been conventional for a didactic poem, like a letter, to have an addressee (cf. Hesiod's *Perses*, Lucretius' *Memmius*, etc.).<sup>7</sup> Moreover, the conventions (if any) of the verse letter could only have been loose indeed when Horace wrote the *Ars Poetica*, since the genre, as far as we can tell, was still in its infancy.<sup>8</sup>

It is strange that the case for categorizing the *Ars* as a didactic poem has not, to my knowledge, been made in a serious way during this century: Lucretius' *De Rerum Natura* and Virgil's *Georgics* certainly show how popular and prestigious was the genre in the mid- to late first century.<sup>9</sup> The question of genre

<sup>6</sup>Such letters are known from the testimonia of lost works by M. Valerius Messalla Corvinus, M. Verrius Flaccus, Sinius Capito, Livy, C. Valgius Rufus, and Asinius Pollio: see Schanz-Hosius, *Geschichte der römischen Literatur*, Hda VIII.2 (Munich 1935) 408-409. On the *genos didaktikon*, see K. Berger, "Hellenistische Gattungen in Neuen Testament," *ANRW* II.25.2 (Berlin 1984) 1031-1432, at pp. 1295-1325.

<sup>7</sup>For a useful survey of the conventions and examples of wisdom literature from around the world see M. L. West, *Hesiod. Works and Days* (Oxford 1978) 3-25 (with sensible comments about the addressee on pp. 23-25). On the addressee in the Roman didactic poem, see E. Pöhlmann, "Charakteristika des römischen Lehrgedichts," *ANRW* I.3 (Berlin 1973) 850, 900.

<sup>8</sup>The earliest verse letters on record are those of Sp. Mummius in 146 B.C.; see Cicero *Ad Att.* 13.4 and cf. P. Cugusi, *Evoluzione e forme dell'epistolografia latina nella tarda repubblica e nei primi due secoli dell'impero con cenni sull'epistolografia preciceroniana* (Rome 1983) 129-130.

<sup>9</sup>The *Ars Poetica* has occasionally been classified as a didactic poem in previous centuries; cf., e.g., *Petri Nannii Alcmanni Commentarius in Q. Horatii Flacci de arte poetica librum*, bound with Laevinus Torrentius, *In Q. Horatii Flacci Satyras et Epistolas Commentarius* (Antwerp 1608) 783: "hoc porro poema Horatii nostri versatur in genere didactico. Docet quippe Poeta, qua ratione tractanda sint poemata"; R. Hurde, *Q. Horatii Flacci Epistolae ad Pisonem et Augustum*, 2 vols. (Cambridge 1757) vol. 1, xiii; F. Dorighello, *Q. Horatius Flaccus Illustratus* (Padua 1774) 3-7; W. Scherer, *Poetik*, ed. G. Reiss (Tübingen 1977; originally published in 1888) 41: "Horaz gehört in weiterem Sinn selbst zur Schule des Aristoteles; die aristotelischen Grundsätze von Nachahmung, Handlung, Führerrolle der Tragödie u.s.w. finden sich bei ihm wieder. Aber er hat doch eine besondere Strömung begründet: das Lehrgedicht über die Poesie hat er eingeführt. Den Brief an die Pisonen, *Epist.* 2,3..., nennt schon Quintilian *Ars poetica*: und damit that man eigentlich wohl Horaz Unrecht, denn er hat gewiß nicht die Absicht gehabt, hiermit eine vollständige Poetik zu liefern, obgleich man die Schrift oft so angesehen hat" (my emphasis). See also Orelli-Baiter-Mewes, *Q. Horatius Flaccus* (Berlin 1892) vol. 2, 566: "Quod ad ipsam poematis formam attinet, illi tantummodo interpretes verum viderunt, qui 'epistolam didactico-satiricam' esse contenderunt, non poema didascalicum universae poesis leges ac regul-

does matter: if we read the poem as a normal letter, then we expect and gladly tolerate a good deal of informality in tone, content, and structure;<sup>10</sup> and, taken as

as proponens, ut olim plerique rati sunt, non animadvertentes praecepta paene omnia referri ad genus dramaticum, ea vero genera, in quibus ipse excellebat, lyricum (quod leviter dumtaxat attingit vv. 83-85), satiras, epistulas, epigramma, poema didascalium, quamquam ipse Lucretium suspiciebat, prorsus praeteriri."

<sup>10</sup>This point was already made by De Noces in 1553 (App. I [3]), who wrote, "amat enim epistola familiaritatem quandam. At nimis accuratus ordo ad severitatem potius, quam ad familiaritatem propendet." For an amusing statement of the effect our generic expectations have upon our interpretation of the *Ars Poetica*, see R. K. Hack, "The Doctrine of Literary Forms," *HSCP* 27 (1916) 1-65, at p. 14. Cf. also l'Abbé Batteux, *Les quatre poetiques d'Aristote, d'Horace, de Vida, de Despréaux* (Paris 1771), vol. I, II<sup>e</sup> Partie, pp. 1-4: "le Poëte n'a pas toute fois eu dessein dans cet Ouvrage, de nous donner un traité complet de Poétique...C'est un Epître qu'il adresse à Lucius Pison, homme de goût, l'un des plus grands Seigneurs de Rome....D'après cette idée, on sent que l'ouvrage d'Horace ne devoit pas être une suite systématique de préceptes, rangé par ordre dans des articles séparés. Ce ne pouvoit être qu'une sorte de Recueil de maximes de goût, d'axiomes presque isolé, renfermans tout leur sens sous une forme sententieuse, et applicables chacun à leur object, indépendamment de ce qui pouvoit les précéder ou les suivre....On ne pouvoit guères en demander davantage, sur-tout à un Poete, qui aux privilèges de la Poesie, déjà très-étendus, avoit joint ceux du Genre épistolaire, dont le premier est la liberté. Il est donc inutile de nous fatiguer, avec Daniel Heinsius, pour remettre dans l'Art Poétique d'Horace, un ordre qui, selon toute apparence, n'y fut jamais." See also Orelli-Baiter-Mewes, op. cit. (*supra* n. 9) vol. 2, 567: "Sententiarum ordo atque mutuus nexus a multis reprehensus, a pluribus etiam parum perspectus, mihi quidem semper admirabilis visus est et talis profecto, qualis debet esse in epistula, vera sermonis familiaris imagine, id est occultior et laxior quam qui requiritur in poemate mere didascalico"; H. Schütz, *Q. Horatius Flaccus, Episteln* (Berlin 1883) 238: "Die Stellung nach den Episteln...ist die naturgemäße....Nur wenn man einen anderen Maßstab anlegt, nämlich den eines wirklichen Lehrbuches der Dichtkunst...verdient das Werk den Tadel, den man über die Lückenhaftigkeit, mangelhafte Anordnung, einseitige Hervorhebung einzelner Teile u.a.m. ausgesprochen hat."

In ancient theory, the looser structure of the letter was noted; cf. Demetrius 229. In recent research on epistolography, the structural conventions of the genre have been emphasized; see the literature cited by K. Berger, op. cit. (*supra* n. 6) 1326-1327; and cf. J. L. White, "New Testament Epistolary Literature in the Framework of Ancient Epistolography," *ANRW* II.25.2 (Berlin 1984) 1730-1756, especially pp. 1733-38. Pietro-Antonio Petrini, *La poetica di Orazio restituita all'ordine suo* (Rome 1777) 9, noted that the argument from genre was a red herring since "costoro per difendere il componimento, fanno manifesta ingiuria all'Autore, il quale era uomo troppo illuminato per non comprendere, che un tal qual metodo è necessario anche in una Lettera, quando è dottrinale, ed istruttiva, e che i documenti perdono assai di vigore, e di efficacia, se sono confusamente proposti."

a letter, then a necessary but not sufficient condition for including it in the second book of *Epistles* is satisfied. After all—despite what we know about the title and place of the text in the Horatian corpus in antiquity—the ancient scribes may have erred in separating the *Ars Poetica* from the *Epistles*. Horace could clearly write verse letters of the normal type but also of the didactic variety (for the first, cf. *Epist.* I.11; for a moralizing letter, cf. *Epist.* I.12 or I.14).

There are perhaps one or two indications that Horace was thinking of the *Ars Poetica* more as a didactic poem than as a conventional epistolary poem, or at least that he did not consider the poem a letter, whatever else he did consider it. In all but one of Horace's poems that are indisputably epistles, the addressee is named, or referred to by some form of *tu* or a verb in the second person singular, in the first sentence and usually in the very first line.<sup>11</sup> The *Ars Poetica* does not begin in this typically epistolary way. In it, the first sentence proceeds through clauses in the third person singular about a hypothetical painter and grotesque figure (lines 1-4) before ending with a clause in the second person plural, the subject of which appears, on a first reading, to be generic, not specific (*amici*, the last word of line 5). The addressees of the poem, the Pisones, are first mentioned in line 6. In having multiple addressees, the *Ars Poetica* also departs from the indisputable epistles. Moreover, nothing about the way they are spoken to in this part of the poem indicates that the Pisones are absent, as the addressee of a letter normally would be. Indeed, in lines 9-10, as if they are present, Horace gives us the response of his addressees to what he has just said—something he frequently does in the *Satires* (especially in Book II) but rarely, if ever, in the first or second book of *Epistles*.<sup>12</sup>

The subject of the first lines—painting, or proper artistic representation in general—is, of course, not a standard *introductory* topic of a letter. Virtually all of the indisputable letters treat topics—at least in the opening section—appropriate to that genre and are strongly motivated *as letters*. They convey information and/or greetings (*Epist.* I.1, 2, 8, 10, 16), request information or

<sup>11</sup>Cf. *Epist.* I.1 (*quaeris / Maecenas*, 2-3); 2 (*Maxime Lolli*, 1); 3 (*Iuli Flori*, 1); 4 (*Albi*, 1); 5 (*potes...Torquate*, 1-3); 6 (*Numici*, 1); 8 (*Celso...Albinovano*, 1); 9 (*Claudi*, 1); 10 (*Fuscum*, 1); 11 (*Bullati*, 1); 12 (*Jeci*, 1); 13 (*te...Vini*, 1-2); 14 (*Vilice*, 1); 15 (*Vala*, 1); 16 (*Quinti*, 1); 17 (*Scaeva*, 1); 18 (*Lolli*, 1); 19 (*Maecenas*, 1); 20 (*liber*, 1); *Epist.* II.1 (*sustineas...Caesar*, 1-4); 2 (*Flore*, 1). The exception is *Epist.* I.7, where Maecenas is not addressed until the second sentence, beginning at the end of the second line of the poem; he is actually named in line 5.

<sup>12</sup>For examples, cf. *Sat.* I.9.1-8; II.1.1-12; II.3.1-18; II.4.1-3; II.5.1-8; II.7.1-5; II.8.1-5. In the *Epistles*, Horace often quotes the typical or imaginary saying or statement of a stock (usually unnamed) character (cf., e.g., *Epist.* I.1.82 ["nullus in orbe sinus Bais praelucet amoenis"]), but Horace is not imagining himself actually conversing with such persons in the same way he, say, exchanges words with Davus in *Sat.* II.7.1-5.

news (*Epist.* I.3, 4, 11, 15), issue an invitation (*Epist.* I.5), moralize (*Epist.* I.6, 12, 14, 17, 18), seek forgiveness (*Epist.* I.7), or commend one friend to another (*Epist.* I.9). The five literary letters (*Epist.* I.13, 19, 20; II.1, 2) have different points of departure. *Epist.* I.20 is written like a conventional letter of farewell; the wit of the poem lies in the fact that the departing "person" is Horace's book of letters. *Epist.* II.1 begins with Horace telling Augustus that he writes so as not to waste Augustus' precious time with idle conversation. *Epist.* I.19 and II.2 begin in a more round-about manner. *Epist.* II.2 tells a moralizing tale in lines 1-24, the point of which becomes clear in verses 24-25: Horace has not answered some letters Florus has sent him from abroad and, in particular, has not responded to Florus' request for new lyric poems. Although it is slow to get to the point, the poem thus concerns a typical epistolary topic.

*Epist.* I.19, addressed to Maecenas, is less ostensibly epistolary; Horace seems, rather, to use the letter format as a mere excuse for publishing a defense of his poetry. Before considering the piece an exception to the epistolary nature of this group of poems, we might note that the addressee has not been chosen accidentally, however small a role he plays in the text itself, for Horace offers his poetic apology to none other than his most illustrious friend.<sup>13</sup> Thus, even this poem has an epistolary occasion—sending someone a letter "accidentally on purpose" in order to be sure that he is apprised of a matter of mutual concern. In this case, Horace wants Maecenas to know that he does have something to say for himself and his poetry in the face of recent critical attacks—attacks that might conceivably make his friend think twice about continuing his support. *Epistles* I.13 is another matter; we will return to it in a moment.

The *Ars Poetica* also stands out from Horace's poetic letters because of its ending—or, better, lack of ending. As Berger has noted, the topics appropriate to the closing section of a letter are: summation; general *sententia*; threats; self-commentary; "epistolaria" (e.g., "I leave here in a week"); demand to pay heed.<sup>14</sup> In Horace's undisputed letters we can readily find such standard endings, as the table on the next page shows.

In contrast to Horace's verse letters, the *Ars Poetica* has no conventional conclusion. As Brink observes (*ad* 453-476), "like many poems of Horace the *Ars* is open-ended. No attempt is made to bring to a close the conceptual schema of his literary theory." Instead, the poem ends as the speaker of the *Ars Poetica* compares the mad poet to a bear or leech (472-476), who must be avoided lest he "read you to death." While it is true that many Horatian poems are open-ended, this is not true, as we have seen, of his epistles. Open-endedness is, however, a

<sup>13</sup>On the friendship of Maecenas and Horace see E. Lefèvre, "Horaz und Maecenas," *ANRW* II.31.3 (Berlin 1981) 1987-2029; M. S. Santirocco, *Unity and Design in Horace's Odes* (Chapel Hill and London 1986) 153-168.

<sup>14</sup>Op. cit. (*supra* n. 6) 1348-1350. I omit the "Ketzerschluß."

typical feature of the *Satires*, which frequently conclude abruptly with the end of a story (*Sat.* I.5, I.7, I.8, I.9, II.5, II.6, II.8) or a conversation (II.1, II.3, II.4, II.7). More rarely, they finish with a moment of self-reflection (I.1, I.3, I.4, I.6) or with a general *sententia* (I.2) and thus have a more substantial sense of an ending. Indeed, as Griffin has noted, "given the special decorum of satire—an aroused or merely a chatty speaker, a virtually unlimited subject matter—endings present a problem which satirists have historically had difficulty solving."<sup>15</sup> In having a "non-ending," the *Ars Poetica* resembles more a *sermo* than an epistle.

If it is a letter, then the *Ars Poetica* stands out from the indisputably "normal" epistles in not having a typically epistolary motivation, topic, situa-

| Epist. | Lines   | Su | S | T | C | E | H | Key Words              |
|--------|---------|----|---|---|---|---|---|------------------------|
| I.1    | 106-08  | x  |   |   |   |   |   | Ad summam              |
| I.2    | 67-71   |    |   |   |   |   | x | adbibe...verba         |
| I.3    | 30-36   |    |   |   |   | x |   | vestrum reditum        |
| I.4    | 12-16   |    | x |   |   |   |   | omnem crede diem       |
| I.5    | 30-31   |    |   |   |   | x |   | tu...rescribe          |
| I.6    | 67-68   |    | x |   |   |   |   | si quid novistis       |
| I.7    | 96-98   |    | x |   |   |   |   | metiri se quemque      |
| I.8    | 15-17   |    |   | x |   |   |   | ut tu fortunam....     |
| I.9    | 11-13   | x  |   |   |   |   |   | scribe tui gregis hunc |
| I.10   | 49-50   |    |   |   |   | x |   | dictabam post fanum    |
| I.11   | 28-30   |    | x |   |   |   |   | quod petis hic est     |
| I.12   | 25-29   |    |   |   |   | x |   | ne tamen ignores....   |
| I.13   | 19      |    |   |   |   |   | x | cave ne titubes....    |
| I.14   | 44      |    | x |   |   |   |   | ...exerceat artem      |
| I.15   | 42-46   |    |   |   | x |   |   | nimirum hic ego sum    |
| I.16   | 79      |    | x |   |   |   |   | mors ultima linea      |
| I.17   | 43-62   |    | x |   |   |   |   | coram rege sua....     |
| I.18   | 104-112 |    |   |   | x |   |   | me quotiens....        |
| I.19   | 48-49   |    | x |   |   |   |   | ludus enim genuit...   |
| I.20   | 19-28   |    |   |   | x |   |   | me libertino natum.... |
| II.1   | 250-270 |    |   |   | x |   |   | nec sermones ego....   |
| II.2   | 205-216 | x  |   |   |   |   |   | non es avarus? abi.... |

Su=Summary; S=Sententia; T=Threats;  
C=Commentary; E=Epistolaria; H= Heed

TABLE XVIII. CONCLUDING TOPICS IN HORACE'S EPISTLES

<sup>15</sup>D. Griffin, "Satiric Closure," *Genre* 18 (1985) 173-189, at p. 173.

tion, or ending. To see the poem as epistolary, one would have to imagine that the elder son of Piso is thinking of writing a poem and has asked Horace for advice—a situation that has, in fact, been proposed since the Middle Ages.<sup>16</sup> However, in contrast to all the other poems that are definitely letters, this situation becomes clear, not in the very first few lines, but only toward the end of the poem, in verses 385-390. Moreover, the point is made (if it is made at all) only by implication, not explicitly.<sup>17</sup> Thus, as correspondents, the Pisones are

<sup>16</sup>Many commentators since the early Middle Ages have imagined just this—or some such similar—background to the poem. The most recent (and, perhaps, original) example is T. P. Wiseman, "Satyrs in Rome? The Background to Horace's *Ars Poetica*," *JRS* 78 (1988) 1-13, at p. 1: "Horace's poem quite clearly presupposes a Calpurnius Piso, the older son of a morally exemplary Roman aristocrat, proposing to write a satyr-play...." For examples in medieval scholia, see C. Villa, "Ut Poesis Pictura": Appunti iconografici sui codici dell'*Ars Poetica*," *Aevum* 62 (1988) 187-189. For example, the anonymous author of the Scholia Vindobonensia wrote: "Facit autem hunc librum amicis suis, patri ac filiis quorum maior erat scriptor comoediarum; ideo istis facit, quia volebant scribere, ut Romano populo placerent et eorum fama tali modo crescerent et quoniam multi scriptores reprehendebantur non habentes certam regulam dictandi, rogaverunt Pisones Horatium, ut certas poeticae artis daret praeceptiones...." (*apud* Villa, p.187). Cf. also Kiessling-Heinze, *Q. Horatius Flaccus, Briefe* (Berlin 1959<sup>6</sup>) 283: "irgend ein Anlaß des Schreibens wird nicht einmal entfernt angedeutet, und der Leser muß sich bei der Möglichkeit beruhigen, daß die Pisonen...dem Dichter den Wunsch geäußert haben mögen, über Fragen der Dichtkunst...unterrichtet zu werden."

The poet Christoph Martin Wieland, in his 1782 translation of the poem, proposed an interesting variation on the epistle-theory: Horace's motivation was to do a favor to Piso père by implicitly warning off his elder son from becoming a poet by showing, in the *Ars*, how few really great poets there are and how many ridiculous poetasters. Cf. *Horaz, Über die Dichtkunst*, in *Christoph Martin Wieland Werke*, 5. Band, ed. H. W. Seiffert (Munich 1968) 586-604, especially p. 591: "Dies vorausgesetzt, stelle ich mir di Veranlassung zu dieser Epistel so vor. Der junge Piso zeigte im Lauf seiner Schulstudien eine besondre Liebe zur Poesie, und einen so starken Hang zum Verse machen, daß der Vater endlich unruhig darüber wurde...." Note that Seiffert, in his excellent *Nachwort* to the edition, errs in claiming (p. 885) that Wieland was the first to explain Horace's lack of "Methode" because the poem is supposedly not a technical treatise on poetics but an informal letter; exactly this explanation was set forth in 1591 by Antonio Riccoboni in the works mentioned above in n. 3.

<sup>17</sup>Here are the lines: "Tu nihil invita dices faciesve Minerva: | id tibi iudicium est, ea mens, si quid tamen olim | scripseris, in Maeci descendat iudicis aures | et patris et nostras, nonumque prematur in annum, | membranais intus positis; delere licebit | quod non edideris, nescit vox missa reverti." The *tu* addressed is the *maior iuvenum*, previously addressed in verse 366; the conditional clause in 385-86 ("si quid tamen olim | scripseris") shows that the posited epistolary situation is, at best, implied.

rather puzzling. On the other hand, their role becomes more comprehensible as the addressees of a didactic poem. Although it must be granted that no other known didactic poem has multiple addressees, in such a poem the addressee is imagined to be present listening to the speaker and need only have a tangential relationship to the topic under discussion. This is, for example, the case with Lucretius' Memmius, whose relevance to the *De rerum natura* is quite problematic.<sup>18</sup> As for Hesiod's *Erga*, West has well observed that "it is apparent that Perses is a changeable figure that Hesiod stations in his poem as he chooses."<sup>19</sup> The same might be said of the Pisones: unlike the addressees of the poems that are clearly letters, the Pisones change identity to suit Horace's didactic intent: they seem to be critics of poetry in vv.6 and 292; poets in v.24; one a critic (the father) and one a poet (366-369, 385-388); and it is even possible to see their number change from plural (16, 235, 291) to singular (102, 119, etc.). If we may say that, generally, the addressee of an epistle determines the writing and contents of a letter and that the needs of instruction dictate the mutable nature of the addressee in a didactic work, then for this reason, too, the *Ars Poetica* more closely resembles a didactic than an epistolary poem.

Nevertheless, at least two technical points, one minor and one major, militate against taking the *Ars* as a didactic work: first, Horace twice uses the word *iste*, which had been avoided by Lucretius and Virgil in their didactic poetry.<sup>20</sup> This is, to be sure, a minor point, but given what we know about the tendencies of Golden Latin poets to associate vocabulary with genre, it may, nevertheless, be telling.<sup>21</sup> Perhaps what Brink rightly calls the word's "derisive nuance"<sup>22</sup> explains the apparent exception: if this is in some sense a mock didactic poem, then *iste* helps make the speaker look unsympathetically supercilious. This is consistent with the speaker's lack of any positive social bond with his addressees. The second point is more telling: a didactic poem generally begins with an invocation to a god, which the *Ars*, of course, does not. Hence, even the apparently anomalous case of the invocation of Tiberius at the beginning of the *Astronomica* is not, in fact, exceptional at all since Manilius calls Tiberius a god (*deus ipse mereris*, l.9).

So, if the simple alternatives of letter or didactic poem are not wholly convincing, then some *tertium quid* solution to the problem of genre is worth consideration. At this point we encounter some complications that may make us

<sup>18</sup>See C. Bailey on Lucretius l.26 (*Memmiadae*).

<sup>19</sup>West, *op. cit.* (*supra* n. 7) 40; E. Pöhlmann, *op. cit.* (*supra* n. 7) 900, with useful comments on the addressee in Greek and Roman didactic poems.

<sup>20</sup>*Ars Poetica* 6, 376, and see P. Watson, "Axelson Revisited: The Selection of Vocabulary in Latin Poetry," *CQ* 35 (1985) 430-448, at p. 438.

<sup>21</sup>See Watson, *loc. cit.*

<sup>22</sup>Brink, II, ad 376.

want to throw our hands up in despair. Some poems in *Epistles* I are either only weakly motivated as letters<sup>23</sup> or else do not seem to be letters at all but conversations. This is particularly true of *Epist.* I.13, the poem in which Horace gives Vinnius instructions on how to deliver his poetry to Augustus.<sup>24</sup> Support for blurring the hard and fast distinction we have up to now been observing between the epistolary and didactic genres comes from Horace himself, who in *Epist.* II.1.250 (and, implicitly, in *Epist.* II.1.4) refers to both his *Sermones* and *Epistulae* as *sermones*.<sup>25</sup> Now, the *Sermones* contain two clearcut paraenetic poems: *Sat.* II.2, Ofellus' discourse on the virtues of simple living; and II.4, the lessons of Catus the cook on correct preparations for a dinner party. So there is nothing generically inconsistent about a didactic *sermo*. Nor is it surprising that the second poem is mock didactic, since *Sat.* II contains several other extended parodies: II.3, the philosophical parody of Damasippus and the Stoic philosopher Stertinius; II.5, the epic parody of Odysseus' *katabasis* in *Odyssey* XI;<sup>26</sup> and II.7, the philosophical parody of the Stoic philosopher Crispinus. In the didactic satires, Horace sets the scene with an exposition which, however brief (that of II.2 is only a parenthetical aside in lines 2-3) does make it plain that the precepts being offered are not Horace's own. Given Horace's own hints that the *Sermones* descend from the traditions of literary moralizing to be found in Old and New Comedy and Platonic philosophy,<sup>27</sup> it is not surprising that the collection should contain didactic poems like these. On the other hand, the *Satires* also contain poems that are not conversations but monologues addressed to no one in

<sup>23</sup>*Epist.* I.1 and I.2, on which see M. J. McGann, *Studies in Horace's First Book of Epistles*, *Collection Latomus* 100 (1969) 39.

<sup>24</sup>A whole list of such examples is given by N. M. Horsfall, "Horace, *Sermones* 3; Epilegomena," *LCM* 4.8 (1979) 169-171. Of the poems cited there, the best is *Epist.* I.13.

<sup>25</sup>See N. Rudd, "The Names in Horace's Satires," *CQ* 10 (1960) 161-178, at pp. 175-176. Rudd is correct, I think, to see at *Epist.* I.4.1 a reference to the *Satires*, not *Epistles* (pace N. M. Horsfall, "Horace, *Sermones* 3?" *LCM* 4.6 [1979] 118). The similarity of the *Sermones* and *Epistulae* has been noted since antiquity and has frequently figured in discussions of genre in the last hundred years; cf. Porphyrio on *Epist.* I.1.1; G. L. Hendrickson, "Are the Letters of Horace Satire?" *AJP* 18 (1897) 313-324; C. A. Van Rooy, *Studies in Classical Satire and Related Literary Theory* (London 1965) 182n100; N. M. Horsfall, *ibid.*, 117-119; H. D. Jocelyn, "Horace, *Epistles* I," *LCM* 4.7 (1979) 146; J. Moles, "Cynicism in Horace *Epistles* I," *PLLS* 5 (1985) 33-60, at p. 33. Kiessling-Heinze, *Q. Horatius Flaccus, Briefe* (Berlin 1959<sup>6</sup>) 283, see the *Ars Poetica* as a *sermo* with an epistolary form. On the relationship between *sermo* and diatribe, see K. Berger, *op. cit.* (*supra* n. 6) 1124-1132.

<sup>26</sup>*Sat.* I.7 also has striking elements of mock epic.

<sup>27</sup>Cf. *Sat.* I.4.1-8; I.10.14-19; II.3.9-14.

particular: cf. *Satires* I.2, I.3,<sup>28</sup> I.4, I.7, I.8, and II.6. True, all of these poems contain lively snatches of conversations, but they are conversations reported or imagined by the speaker, not acted out in the fictional present between the speaker and an interlocutor.<sup>29</sup> In one of these poems, the speaker is not Horace (*Sat.* I.8, whose speaker is Priapus). In others, the speaker is anonymous and could be almost anyone since Horace takes no pains to characterize him (*Sat.* I.2, I.7).<sup>30</sup> In similar fashion, Horace is absent from the mock epic dialogue between Ulysses and Tiresias in *Sat.* II.5, and there is no exposition whatsoever preparing us for the sudden switch from Horace's day and age to the world of epic.

These complications lead us to the following observations that are helpful in considering the genre of the *Ars Poetica* as some *tertium quid* between the epistolary and didactic genres. In accordance with his understanding of the genre of *sermo*, Horace could: [1] write a "letter" that is a conversation (*Epist.* I.13); [2] present a "conversation" that is a monologue or even soliloquy and which hence could easily be a letter if it had a salutation (*Sat.* I.2, I.3, I.4, I.8, II.6); [3] therefore subsume both the *Epistulae* and *Sermones* under the common generic rubric of *sermo* (*Epist.* II.1.4, 250); [4] present didactic monologues in this genre (*Sat.* II.3, II.4); [5] populate poems with *dramatis personae* other than himself (*Sat.* I.8, II.5)—even without an exposition (*Sat.* II.5)—or make his speaker nondescript (*Sat.* I.2, I.7, II.8); and [6] base poems on the parody of other genres (*Sat.* I.7, II.3, II.4, II.5, II.7). Clearly, then, if we seek a genre that is a *tertium quid* between didactic and epistolary poetry, we could do no better than choose Horace's version of *sermo*, a genre so obviously based on a very Hellenistic attempt at *Kreuzung der Gattungen*.

It would be sufficient to classify the *Ars Poetica* as a Horatian *sermo* on the basis of features [1]-[4], and such a classification is likely to be uncontroversial and greeted, I would hope, as a definite improvement over viewing the poem as a letter when it displays so few epistolary features. Even those who insist on classifying the poem as a letter can console themselves with point [3], just as those who would read the poem as didactic (or mock didactic) can take comfort in point [4]. That the *Ars* displays features [5]-[6] as well has emerged from our examination of the speaker's authority. Needless to say, much more can be—and needs to be—said before a reading of the poem along these lines may be called exhaustive. Lest the suggestion that the *Ars Poetica* be classified as exem-

<sup>28</sup>At *Sat.* I.3.63-64 Maecenas is addressed; but the poem as a whole is not presented as a conversation with Maecenas. It might more accurately be called a monologue directed at him in a way that recalls *Epist.* I.19.

<sup>29</sup>Such "reported" or "imaginary" conversations are also frequent in the *Epistles*; cf., e.g., *Epistles* I.15.11-12, 39-41.

<sup>30</sup>*Sat.* I.3 belongs in this class but for the slight brush stroke in lines 63-5, where Horace personalizes the speaker's voice as his own by addressing Maecenas.

plifying the mixed genre of *sermo*—an *Aufhebung* of the simple forms of technical handbook, didactic poem, and letter—seem strange or unlikely, it may be well to point out that such portmanteau arrangements of genres-within-genres have been encountered in other periods and literatures, as the genre-theorists Dubrow and Fowler have noted.<sup>31</sup> Indeed, in a famous poetological statement in *Epistles* I.19, Horace claims that his achievement was due to his originality in mixing generic characteristics—for example, combining the meter of Archilochus with a content and tone different from cruel, Archilochean invective.<sup>32</sup>

Here we may simply conclude by noting that, in answer to the questions asked at the beginning of this chapter, Horatian precedents can be cited for some of the key features we have so far identified in the *Ars Poetica*—in particular, the Horatian version of *sermo* can easily accommodate a mock-didactic parody of a pedantic speaker not to be confused with Horace himself or his usual poetic persona. Moreover, finding features [5] and [6] in the *Ars Poetica*—otherwise attested in the *Satires* but not in the *Epistles*—accords well with dating the *Ars Poetica* to the period just after *Sat. II*, as was suggested in *Chapter 2*.

For now, having adumbrated several key features of how a new reading can result from this “paradigm shift” in the way we view the genre of the *Ars Poetica*, we can stop and summarize our efforts in this book as having mainly concerned the background and external features of the poem.<sup>33</sup> Its title was

<sup>31</sup>H. Dubrow, *Genre* (London and New York 1982) 28-30 (cf. p. 29: “often the Chinese-box arrangement of genre within genre that we observed in *The Jew of Malta* is a reflection of a pattern writ large in the literary system of the period: frequently when two forms assume the relationship of genre and counter-genre they enact their dialogue within poems of either genre as well as in the larger literary culture”); A. Fowler, op. cit. (*supra* n. 2) 179-188. At pp. 188-190, Fowler discusses how “many satiric works can be looked on as hybrid.” See also the brilliant treatment of generic “inclusionism” in R. L. Colie, *The Resources of Kind. Genre-Theory in the Renaissance*, ed. by B. K. Lewalski (Berkeley and Los Angeles, 1973) 76-128.

<sup>32</sup>Lines 21-34, on which see E. Fraenkel, *Horace* (Oxford 1957) 341-348; W. S. Smith, Jr., “Horace Directs a Carouse,” *TAPA* 114 (1984) 255-271, at pp. 263-266. On the οὔμικτον in the poetry of Horace, see L. Ferrero, *La 'Poetica' e le poetiche di Orazio*, *Univ. Torino Pubbl. Fac. Lettere e Filosofia* 5, fasc. 1 (1953) 80-89; Nisbet and Hubbard, *Horace: Odes Book I* (Oxford 1970) xi-xxvi, discuss the mixed features of Horace's *Odes*; and see also J. E. G. Zetzel, “Re-creating the Canon: Augustan Poetry and the Alexandrian Past,” *Critical Inquiry* 10 (1983) 83-105.

<sup>33</sup>The concept of a *paradigm shift* I borrow from T. S. Kuhn, *The Structure of Scientific Revolutions* (Chicago 1962<sup>1</sup>, 1970<sup>2</sup>). For an introduction to Kuhn and the reception of his work, see B. Barnes, *T. S. Kuhn and Social Science* (London 1982). On p. xiv Barnes discusses the terminological controversies surrounding the term *paradigm*, which he defines simply as “an accepted problem-solution in science, a particular concrete scientific achievement.” Though devised by Kuhn with reference

probably something like *Ars Poetica*, not *Epistula ad Pisones*. It almost certainly has nothing to do with *Epistles* II but was an independent work in the corpus, written in the period 24-20 B.C. Generically, it resembles the parodic monologues of *Sat.* II and displays other characteristics of the genre of *sermo*. We have traced the imbroglgios arising from these fundamental and intertwined problems back to their sources and have seen—at the very least—that our arguments do not have to keep moving in the same circles. By a variety of approaches we have certainly found new passages in. Whether they also lead out in the directions I have indicated is, of course, for others to determine.

The invocation of paradigm theory at this late point in our discussion is perhaps not unexpected in a work that began with a discussion of the importance of titles. A new paradigm for *Ars Poetica* interpretation such as that sketched here is, to be sure, very much in keeping with the aesthetics of postmodernism, a time aptly called by Malcolm Bradbury the "age of parody."<sup>34</sup> Yet this may just as easily be a case of the way in which anachrony can serve the ends of diachrony by sensitizing us to ancient precedents for seemingly modern developments, since, in the case at hand, "the parodic tone recently adopted in criticism"<sup>35</sup> can be traced back to ancient sceptics like Timon of Phlius. Moreover, the late Renaissance (or, better, Counter-Reformation) paradigm of "saving" the poem's authority as a poetic rulebook by inventing a generic excuse for its lack of method was itself no less anachronic.<sup>36</sup> Similarly the Romantics' indifference to the *Ars Poetica* was a consequence of their rebellion against a rule-based approach to artistic creativity.<sup>37</sup> The theologian, Hans Küng, has emphasized how paradigm shifts generally involve as much continuity as discontinuity.<sup>38</sup> Such is certainly true in the present case: the new parodic paradigm, far from invalidating earlier models of *Ars Poetica* interpretation, explains how they are possible. But that is another story.

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to the physical sciences, the concept of paradigm has in the meantime been found useful in other branches of scholarship, including the humanities and theology.

<sup>34</sup>"An Age of Parody," *Encounter* 55 (1980) 44.

<sup>35</sup>The title of a stimulating article on recent trends in criticism by G. L. Ulmer in *New Literary History* 13 (1982) 543-560.

<sup>36</sup>For the impact of the Counter Reformation on critical theory see C. Dejob, *De l'influence du Concile de Trente sur la littérature et les beaux-arts chez les peuples catholiques* (Paris 1884); G. Toffanin, *La fine dell'umanesimo* (Milan 1920).

<sup>37</sup>Cf., e.g., F. Schlegel, "Von der Wiedergeburt der neuern Poesie," *Über das Studium der Griechischen Poesie. 1795-97*, vol. 1 in E. Behler (ed.), *Kritische Friedrich-Schlegel-Ausgabe* (Paderborn, Munich, Vienna 1979) 350: "Das Talent kann die Theorie nicht verleihn, und nie hat die Griechische Theorie den Zweck und das Ideal des Künstlers bestimmt..." On Romantic literary theory and its cultural context, see M. H. Abrams, *The Mirror and the Lamp* (New York 1953).

<sup>38</sup>"Paradigm Change in Theology," in *Paradigm Change in Theology*, ed. H. Küng and D. Tracy (Edinburgh 1989) 29-31.

## APPENDIX I

### KEY DOCUMENTS FOR THE RENAISSANCE THEORY THAT THE *ARS POETICA* IS AN EPISTLE

Since the sixteenth-century texts referred to in *Chapter I* are by no means available in the collections of even very good university libraries, I reprint the key passages here.

[1] *Marini Becichemi Scodrensis Epistolicarum Quaestionum Centuria* (Brescia 1504) (unpaginated; printer not indicated). Caput duodecesimum (pp. 59-67):

...Opus est eum, qui diligenter scribere epistolas velit: simplicem et perspicuam materiam proponere. Et neque rescicare neque producere supra quam oportere. Et exornare optima elocutione, non dictionibus turgidis et asperis sed attico more loqui et modice. Perspicuitas ornet literas: et gratia dictionum florida....Et Demetri Phalerii sententia: In tenui humilique dicendi genere epistolam versari; cuius dicendi modus, et stilus gracilis esse debet....Solutior epistolae compositio esse debet: unde Fabius: Est igitur ante omnia oratio alia iuncta atque contexta. Soluta alia qualis in sermone et epistolis: nisi cum aliquid supra naturam suam tractant: ut de philosophia, de republica, similibus....Proverbia sint in ea crebra: Quibus accepta congruaque de qua agitur materia ita sapienter scribi opinantur: Quod in epistolis utcumque versus custodit Horatius: quod epistola sicut proverbium, quiddam commune ac vulgare sit. Qui sententias scribit et adhortationes non similis videtur narranti per epistolam: sed per consilium. Qui decore sententiarum epistolam cupit implere non iam (dicit Demetrius) loquentis similitudinem gerit: sed struentis aliquid. Et Dionysius sententias non pertinere ad epistolas clamat. Quare Seneca olim insectati sunt: ut supra tetigi. Nec hodie inessere desinunt eruditorum plurimi: quod disputationes pro epistolis scripserit....

[2] *Francisci Robortelli Utinensis Paraphrasis in Libellum Horatii, Qui Vulgo De Arte Poetica Inscritur*, 19 pages, printed after *Francisci Robortelli Utinensis, in Librum Aristotelis De Arte Poetica, Explicationes* (Florence, in officina Laurentii Torrentini Ducalis Typographi, 1548)<sup>1</sup> 1:

Etsi libellus hic de Arte poetica inscribitur, videturque ipsa inscriptio prae se ferre, methodo quadam certa et ordinata, praeceptiones tradi scribendorum poematum. Puto tamen ego inscriptionem illam a Poeta non fuisse appositam, neque cum ad Pisones scriberet, in animo habuisse artem ullam aut methodum praeclaræ huius facultatis tradere. Nam si id efficere voluisset, ab initio omnia repetens, et naturæ ordinem sequens, praeceptiones omnes singillatim esset persecutus, quæ ad poema recte scribendum spectant: hac enim commodiore ratione potuisse artem poeticae facultatis describi ab Horatio satis patet. Nunc vero quis credat hominem doctissimum de arte tam confuse fuisse locutum. Sic igitur omnino sentiendum. Cum Romæ sua ætate videret Horatius esse multos, qui poetæ nomen sibi falso vindicabant, diesque totos in scribendo aliquo poemate ponebant, et ignorabant tamen quanto in versibus scribendis opus esset artificio, diutius illorum inscitiam, et insolentiam æquo animo cum ferre non posset, sermone hoc satis longo cum Pisonibus habito, eos reprehendere instituit, ac singillatim omnes illorum errores demonstrare: quibus patefactis, dat operam ut eos ad meliorem frugem reducat, præscribens rectam rationem scribendi poematis: in eo præsertim, in quo eos labi animadvertat. Quo fit, ut ego existimem, temere a multis libellum hunc in plurimas ac minutissimas praeceptiones fuisse dissectum, cum miro ordine totus liber sit contextus, perpetuamque prae se ferat et minime interpellatam de eadem re orationem, ut conabor ostendere, ac facile perspicient ii et probabunt, opinor, qui cognitam habent scribendi rationem, quam ubique secutus est Horatius in Epistulis.

[3] *In Epistulam Q. Horatii Flacci De Arte Poetica Jasonis de Nores Cyprii Ex Quotidianis Tryphonis Gabrielii Sermonibus Interpretatio*. (Venice, apud Aldi filios, 1553).<sup>2</sup> From the Preface to the reader; fol. 3<sup>v</sup>-4<sup>v</sup>:

Quare adductum me primum sciant ad inscriptionem operis immutandam non levioribus de causis, et quod formam epistolæ, non autem libri, in quo praecepta

<sup>1</sup>This has been republished in the series *Poetiken des Cinquecento*, vol. 8, ed. B. Fabian (Munich 1968). In 1555, the work was reprinted in Basle, "per Ioannem Hervagium Iuniorem."

<sup>2</sup>There was a second Venetian edition, "apud A. Arrivabenum," in 1553, according to Mills, 15 (nr. 157). A Paris edition was published in 1554, "ex Typographia M. Davidis."

tradantur, vel ex ipso principio prae se ferat, et quod in vetustis exemplaribus epistolarum libros subsequatur, et quod etiam summi, et praestantissimi homines ita sentiant, et quod minime nobis obstet Quintiliani testimonium, ut nonnullis videtur. Nam etsi librum appellat Quintilianus, non est cur non possit inter epistolas enumerari, cum et illae ab Horatio in libros digestae fuerint. Quod vero de arte poetica idem Quintilianus adiungat, nihil commoveor, cum et in epistolis praecepta de aliqua re tradi possint, ab eodemque in omnibus paene et in iis ad Scaevam et Lollium praecipue iam factum videatur, in quibus breviter eos instituit, qua ratione apud maiores facile versarentur....Quod autem attinet ad ea, quae ab iis, qui interpretantur, ante ipsam interpretationem afferi solent: ea propter eam causam omitemus, quia ordinem in arte poetica demonstranda non ita servatum ab Horatio videmus, ut ab aliis, qui de aliqua re documenta litteris tradiderunt. Est ille quidem peracutus et diligens in praecipienda ratione, ordinem tamen, cum epistolam scribat, non ita custodit, ac tuetur ut si librum scriberet. Amat enim epistola familiaritatem quandam. At nimis accuratus ordo ad severitatem potius, quam ad familiaritatem propendet. Itaque non est alienum ab epistolae decoro non imitari rationem illam, quam ceteri servant in explicanda doctrina. Quo circa ne nos quidem operam non necessariam adhibebimus in ordine declarando....

[4] *M. Antonii Mureti In Horatium Scholia* (Venice, apud P. Manutium, 1555), tom. 2, p. 967:

Poteram facile supersedere hoc labore annotandi quicquam in epistulam de arte poetica: tot enim eruditi homines in eam scripserunt scribuntque quotidie, ut ea brevi pauciores aliquanto versus, quam interpretes, habitura videatur.

[5] *Q. Horati Flacci Sermonum Libri Quattuor...a Dionysio Lambino Montroliensi Ex Fide Novem Librorum Manu Scriptorum Emendati, Ab Eodemque Commentariis Copiosissimis Illustrati* (Lyons, apud Ioan. Tornaesium, 1561), 480. The second edition was published in Paris in 1568. Where the readings differ, the variant of the first edition is in parentheses. Angular brackets indicate my supplements.

De inscriptione autem huius libri, seu epistolae ad Pisones de arte poetica paucis tibi, lector, sententiam quorundam doctorum nostrae aetatis virorum, et meam aperiam. Illi igitur eam inter epistolas referendam, et ita inscribendam censent, *ad Pisones*: nihil praeterea: a quibus dissentire difficile est. Nam, quin ad Pisones scripta sit [est], quemadmodum aliae ad Maecenatem, aliae ad Iulium Florum: una, ad Augustum: aliae, ad alios, negari id quidem non potest. Neque est, quod

quemquam vel longitudo, vel argumentum moveat. De longitudine facilis responsio est. Epistola ad Augustum, epistola ad Iulium Florum lib. 2 longae sunt. Platonis, et M. Tull<ii> epistolae quaedam sunt longissimae, quae tamen non idcirco epistolarum nomen amittunt. De argumento, suo quaeque epistola constat argumento: neque debent esse inanes epistolae. Exempli causa, in prima epistola lib. I hortatur ad studium philosophiae, eius utilitatem demonstrat, vulgi opinionem sequi vetat....Possem eodem modo singulas epistolas percurrere, et quodnam sit cuiusque argumentum indicare, nisi vererem, ne alieno loco haec videar inculcare. Sic igitur Horatius in hac ad Pisones epistola, cum de omni poeseos genere disputat, tum maxime de comoedia, et tragoedia utilissima praecepta dat, non ut philosophus, sed ut poeta. Haec me ratio adduxit, ut putem cum multis doctis, primum hanc esse epistolam, deinde simpliciter ita esse inscribendam *epistola ad Pisones*. Quod si quis volet, haec addi, *de arte poetica*, non reclamabo, modo idem facere licere in omnibus epistolis, fateatur. Ego interea tamen receptam consuetudinem, vulgique opinionem in eo secutus sum, quod hunc titulum *de arte poetica* retinui: in altero, quod epistolam appellavi, doctorum sententiam approbavi [probavi].

[6] Iulius Caesar Scaliger, *Poetics Libri Septem* (Lyons, apud A. Vincent, 1561).

(a) From Preface, p. iii (unpaginated):

Nam et Horatium Artem quam inscripsit, adeo sine ulla docet arte, ut Satyrae propius totum opus illud esse videatur.

(b) p. 336:

Age vero quando non solum Satyra ipsa, verum etiam quodvis opus scripturaque simplex esse debet et unum: neque in Satyris, neque in Epistulis, at ne in Poetica quidem, in qua hoc ipsum praecipit, observavit.

[c] p. 338:

Haec est Horatii ars: quam si praeceptores nostri nobis olim ad hunc modum partiti essent, eius sane facies nota fuisset, ita ut aliunde auxilium petendum esse intelligeremus.

[7] Henricus Stephanus, *Diatribae De Suae Editionis Horatianae Accuratione, et Variis in Eum Observationibus* (Paris, apud H. Stephanum, 1575) 31-32:

DE ARTE POETICA liber ad Pisones, item Carmen, item Epistula dicitur. Atque illorum in numero qui Epistolam vocant, est Charisius. Sed hic certe eam absque adiectione sic appellat: atque adeo quidam verba illa De Arte Poetica non esse addenda contendunt: nihilo magis videlicet quam aliis epistulis titulus argumentum earum ostendens praefigitur. Sed enim uno eodemque loco ille grammaticus inscriptam etiam fuisse *De Arte poetica* hunc librum, vel potius *Artem poeticam*, declarat, cum de adverbio *Impariter* loquens, et versum hunc afferens *Versibus impariter iunctis*, etc. Terentius Scaurus in Commentariis in Artem poeticam, libro 10, Adverbium, inquit, figuravit [Charisius 263.9-12 Barwick]. Quae cum ita sint, varie olim quoque inscriptum fuisse hunc librum existimo. Ad me certe quod attinet, si nomen Epistolam, non libenter addiderim *De arte poetica*: sed tantum *ad Pisones* adiungere Epistolae appellationi malim. Alioqui *De arte poetica librum* vel *libellum*, aut *carmen*, aut *poematium* dixerim. Nisi forte quispiam ignotam illis fuisse hanc vocem *poematium* existimet. Verum haec adeo parvi esse momenti iudico (quamvis longis aliorum disceptationibus agitata) ut mihi propemodum de lana caprina contentio haec esse videatur.

[8] *In Q. Horatii Flacci Venusini Librum De Arte Poetica Aldi Manutii Paulli F. Aldi N. Commentarius* (Venice, Apud Aldum, 1576), on p. i of the (unpaginated) Prolegomena:

Antequam Horatii librum de Arte poetica (sic enim a veteribus inscribitur, Quintiliano lib. VIII. cap. 3 Prisciano, Diomede lib. III. cap. 1., Donato in Ter. Ad. act. 5. sc.3, Servio in Virg. Aen. lib. I et Probo: quamquam Charisius inter epistulas referat lib. II) aggrediamur explanare; definiendum videtur, quid Poetica sit, et unum ne, an plura Poematium genera.

[9] *Commentarii In Artem Poeticam Horatii, confecti ex Scholis Io. Sturmii. Nunc primum editi, opera et studio Ioannis Lobarti Boruſi.* (Argentorati, Excudebat Nicolaus VVyriot, 1576) 1-3:

...Quod autem quidam genus huius scripti, volunt esse ἐπιστολικόν: quidam διδασκαλικόν. Sciendum, si scripsit Horatius ad Pisones, fuisse epistolam, si vero recitavit praesentibus Pisonibus, non iam esse epistolam, sed διδασκαλικόν. Quicquid tandem sit hoc scriptum Horatii, sive epistola, sive διδασκαλία: est ars poetica, docens quomodo faciendus sit λόγος ποιητικός:

ostendens qua ratione possis esse poeta, qua | ratione possis vultum poeticum repraesentare.

Qui scriptum hoc referunt inter epistolas, utuntur hac una ratione, quia scilicet missum sit ad Pisones. Quemadmodum enim illa Horatii, quae inscripta sunt ad viros illustres et amicos: ad Maecenatem, ad Numicium, ad Augustum, ad Iulium Florum, et ad alios, epistolae dicuntur: ita et hoc epistolam dici volunt. Sed haec eorum ratio infirma est, Cicero libros de Oratore misit ad Q. fratrem, non tamen singuli libri sunt epistolae: et liber de Claris oratoribus, ad Brutum scriptus est, non tamen pro epistola habetur. Alia est ratio quae me movet, ut fere accedam ad illorum opinionem. Liber primus epistolarum Horatii, habet supra mille versus; liber secundus vix quingentos: si huic secundo addas hunc de arte poetica, qui est etiam quingentorum prope versuum, secundus erit par primo. Hac ratione puto hanc epistolam tertiam, esse partem secundi libri epistolarum. Ista sunt ingeniosa, sunt subacuta, studium habent novitatis. Est et tertia ratio, quamobrem possit haberi pro epistola. Illa ad Augustum libro 2. epistolarum est λογική, est sermonis, agit de poetis. Ad Iulium Florum epistola item magna ex parte est λογική, continet praecepta de poetis. Sic hoc opus totum est λογικόν, plenum praeceptis poeticis, de oratione scil. poetarum. Si ergo epistolae dicuntur, quae inscriptae sunt. Augusto, et Iulio | Floro libro 2. epistolarum: cur non est et hoc scriptum, epistola diceretur. Hae duae posteriores meae sunt opiniones ut putem esse epistolam. Sed mihi antiquam retinere placet inscriptionem: HORATII DE ARTE POETICA LIBER et hanc libenter retineo (I) honoris et dignitatis causa. Ostendit enim haec inscriptio, in hoc libro res maximas tradi. Non res parva est posse poetam facere. Inter omnes enim scriptores, perfectissimi et consummatissimi sunt poetae....(II) Propter utilitatem, quia unum verbum habet argumentum totius operis. (III) Propter veritatem. Totus enim hic liber est τεχνικός: tradit artem poeticam integram.

[10] *Henrici Stephani Schediasmatum Variorum*, Liber Primus (Paris, apud H. Stephanum, 1578) 78-79:

Nec verbum verbo curabis reddere, fides Interpres [*Ars Poetica* 133-134]. Quotusquisque est enim qui hunc versum Horatii statim in ore non habeat et auctoritate eius nitatur ut verbum verbo reddere, fidei interpretis non esse probet? At ego illis qui in ea sunt opinione non suffragari sed refragari hunc versum Horatii, et contrarium ei quod dicunt, illo probari, atque adeo quod illo probatur, verissimum esse, contendo: esse nimirum fidei interpretis, verbum verbo, quantum fieri potest, reddere. | Sed quoniam nunc satis est eam quam dico fuisse Horatii mentem ostendere, lectorem moneo subesse huic versui familiarem illi poetae ellipsin particulae Ceu vel Tanquam, aliusve huiusmodi: et intellegi debere, Nec verbum verbo reddere curabis, tanquam fides interpres. Id est, Perinde acsi fidum interpretem agere velles. Vel, fidei interpretis officio fungi. Tantum

enim abest ut Horatius ei quem compellat, et cui praecepta dat, neget fidi esse interpretis verbum verbo reddere, ut contra diligentiam hanc, seu diligentem operam, fido interpreti relinquendam esse dicat. Esse autem morem Horatii, relinquere subaudiendam illam vocabulam, multis exemplis docui in quaedam Diatriba ex iis quas operibus huius poetae in mea editione subiunxi. Atque hanc meam observationem ante multos annos Dionysio Lambino communicavi, cum Patavii degeremus....

## APPENDIX II

### CALCULATING THE ODDS OF FINDING MATCHED PAIRS OF TREND LINES IN THE LYRICS AND HEXAMETERS

Our fourth criterion for determining whether we have found a good chronometer for Horace's poetry is that the effect we are measuring is not the result of chance (see above, p. 27). In this Appendix, I will show that chance is probably not responsible for our discovery of four function words with similar trend lines in the hexameters and lyrics.

Since our sample consists of the sixteen function words satisfying the requirement of frequency, we have to do with a small sample, since  $n < 30$ . Four of the sixteen members of our sample display the categorical characteristic of similar trend lines in the lyrics and hexameters; twelve do not. We must thus determine whether finding a sample in which—at first glance—25% of the members may be classified as having the required characteristic is statistically significant or not. The test appropriate to making this determination is the binomial test.<sup>1</sup> The formula for this test is:

$$P(X) = \frac{n!}{X!(n-X)!} \pi^X (1-\pi)^{n-X}$$

where  $P$  means probability,  $X$  the number of observations in sample-size  $n$  classified in the required way, and  $\pi$  is the proportion of  $n$  that we expect to be classified as  $X$ . To solve this equation with  $n = 16$  and  $X \leq 16$ , we need to know  $\pi$ .

The value of  $\pi$  is dependent on a typology of line types: to know the percentage of matched lyric-hexameter patterns that are theoretically possible—

<sup>1</sup>See A. Agresti and B. Finlay, *Statistical Methods for the Social Sciences* (San Francisco and London, 1986<sup>2</sup>) 142-146.

and hence to calculate how many we ought to find given sixteen chances—we need to determine how many combinations of lyric and hexameter trend lines can occur. To perform these calculations, we need a model of line-types.

The very simplest model of line-types is one that standardizes the interval values of the points constituting a line. The simple model is good enough for our purposes because, by standardizing intervallic values, it gives us a sharp reduction of line-types, hence simplifying the task of classification but also making it more difficult to achieve statistical significance. The simple model is thus quite practical for the case at hand. It gives us, as we will see in a moment, 9 three-point and 81 five-point line types ( $3^5$ ), whereas a model only modestly more complex—one in which we distinguish two interval increments and decrements on the Y axis—yields an unworkable 125 three-point and 3,125 ( $5^5$ ) five-point line types with 390,625 combinations of 3- and 5-point line types.

In the simple model, each point on a line may be followed by one of three new points: a point of greater value (+); a point of the same, or roughly the same, value (0); and a point of lesser value (-). Thus, from any existing point or line of  $x$  points, we may generate three new lines of  $x + 1$  points. The simplest line has two points with three types (positive slope, no slope, and negative slope: Types I-III, not shown). From the two-point lines, we may generate nine three-point lines, as follows:

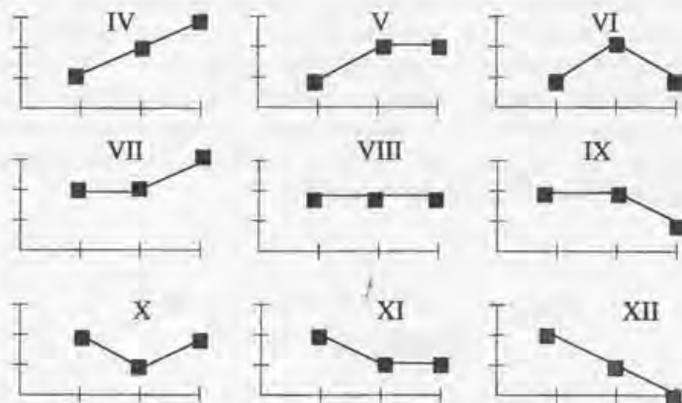


TABLE  $\alpha$ : TYPES OF POTENTIAL PATTERNS IN HORACE'S USE OF FUNCTION WORDS IN THE LYRICS

Since in this study we are using three books of Horatian lyrics (*Epodes*, *Carm.* I-III, and *Carm.* IV), the shapes in TABLE  $\alpha$  provide the typology for the lyrics. We begin our numeration with Type IV, because the complete typology of lines begins with the three two-point lines that generate our nine three-point lines. It may bear repeating that in designing this typology, we are not at all concerned with the

values of actual points on the lines, simply in the mere quantitative relationship of successive points.

Horace's hexameters consist of five works (combining the *Satires* and placing the *Ars Poetica* after *Epistles* I, as implied above in TABLE VII and as seen in TABLE K), and so we move now to the five-point lines. These may be generated from the three-point lines by the same procedure, omitting, for the sake of space, an intermediary generation of twenty-seven four-point lines, from which we derive the 81 five-point line types, such as the following:

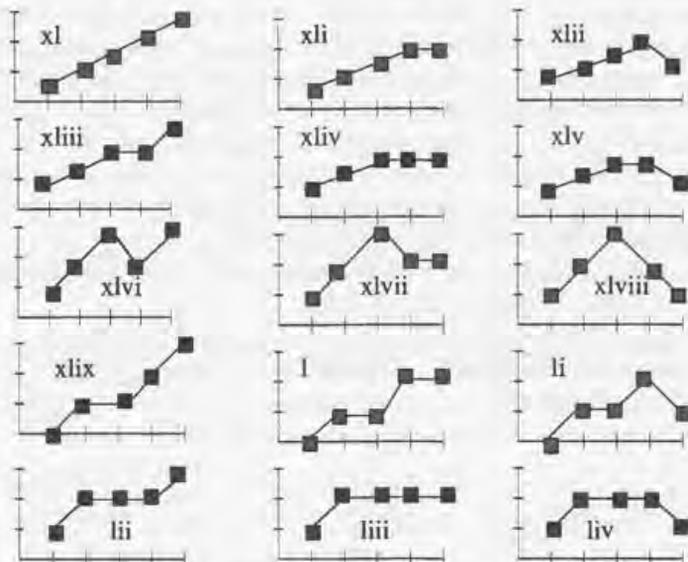


TABLE  $\beta$ : TYPES OF POTENTIAL PATTERNS IN HORACE'S USE OF FUNCTION WORDS IN THE HEXAMETERS

We begin numbering this set at xli and end at cxx, since there are altogether thirty-nine two-, three-, and four-point line ancestors to the five-point lines. From TABLE  $\beta$ , it is easy to see that five-point type xli can be considered equal to three-point type IV; five-point type xlviii can be equated to three-point type VI; etc. The generating principle of such equivalences is symmetry, which is achieved by the insertion of the fourth point between the first and second point of the three-point line and the addition of the fifth point between the second and third point of the three-point line. We will call these equivalences the set (centered), or {C}.

Since we are disregarding interval values in this model, it is important to recognize another possible generating principle for equivalence: asymmetry. Two asymmetrical conversions are possible. The first, in which we may imagine the two new points to be added in between points one and two of the three-point line, we will

call the set {left}, or {L}. In a second conversion, the two new points are added between the second and third points of the three-point line. This set, asymmetrical to the right, we call {R}. Note that it makes no difference whether we visualize our two additional points as being inserted between the preexisting points of the three-point line (as we have done) or before/after the end-points of the three-point line.

From this it follows that there are nine five-point lines in each of the three sets that are exactly equivalent to the nine three-point lines. It also follows that, having converted each three-point type into a five-point equivalent, we can also establish three 81 x 81 matrices—one for each set {L}, {C}, and {R}—measuring the degree of similarity of all five-point lines to each other. The method of measurement is simply the subtraction of one type from another, absolutizing the remainder. If the remainder is 0, the lines are exactly equivalent; if the remainder is 1, they differ slightly at one point; etc. The smaller the remainder, the more similar the lines. Establishing an objective measurement of "similarity" is important, since in statistics, the similarity of line-types is potentially just as important as their exact equivalence.

For the 6,561 combinations of 5-point types in each set, we have the following histogram of equivalence/similarity:

| REMAINDER | CASES | PERCENTAGE |
|-----------|-------|------------|
| 0         | 81    | .0123      |
| 1         | 432   | .0658      |
| 2         | 1080  | .1646      |
| 3         | 1632  | .2487      |
| 4         | 1624  | .2475      |
| 5         | 1088  | .1658      |
| 6         | 480   | .0731      |
| 7         | 128   | .0195      |
| 8         | 16    | .0024      |

TABLE  $\gamma$ : COMBINATIONS OF TWO 5-POINT LINE TYPES IN EACH SET

The "Percentage" column will help us determine the value of  $\pi$  in the formula of the binomial test. Since an equivalent or similar combination can be made by matching a given three-point line to a five-point line in any of the three sets, we must multiply the values in the "Percentage" column by three to establish the probability of finding a pair with these remainders. For example, given a three-point line and a five-point line, the odds of finding an exact match (i.e., remainder = 0) are  $.0123 \times 3 = .0369$ . The odds of finding a similar pair with remainder 1 are much higher:  $.0658 \times 3 = .1974$ . We can see immediately that similar pairs will prove nothing in our case, since  $.197 \times 16 = 3.15$ : that is, all things being

equal, we should expect at least 3 similar pairs among our 16 pairs of function words. We thus limit our search to exact pairs, of which we expect only .590 among our 16 words.

In looking through the five-point line sets for exact matches, we need the following table of the three- to five-point line-type conversions for each set:

| TYPE | = | {L}    | {C}    | {R}   |
|------|---|--------|--------|-------|
| IV   |   | xl     | xl     | xl    |
| V    |   | xli    | xliv   | liii  |
| VI   |   | xlii   | xlvi   | lvii  |
| VII  |   | lxxix  | lxxvi  | lxvii |
| VIII |   | lxxx   | lxxx   | lxxx  |
| IX   |   | lxxxi  | lxxxiv | xciii |
| X    |   | cxviii | cxii   | xciv  |
| XI   |   | cxix   | cxvi   | cvii  |
| XII  |   | cxx    | cxx    | cxx   |

TABLE  $\delta$ : CONVERSION OF THREE-POINT LINE-TYPES TO THEIR EXACT FIVE-POINT EQUIVALENTS IN THE SETS {L}, {C}, AND {R}

The following table reports the remainders of the combinations of lyric and hexameter line-types for the function words with sufficient frequency to be investigated in this study. In boldface are the two words (*ad* and *sed*) with an exact correspondence; in capitals are the two words (*nec* and *per*) that are very similar (remainder = 1):

| WORD      | Lyric<br>Pattern | Hex<br>Pattern | (SET) | WORD       | Lyric<br>Pattern | Hex<br>Pattern | (SET) |
|-----------|------------------|----------------|-------|------------|------------------|----------------|-------|
| <b>AD</b> | X                | xciv           | {R}   | non        | IV               | cii            |       |
| atque     | IX               | cxiv           |       | nunc       | II               | lx             |       |
| aut       | IX               | cxiv           |       | PER        | X                | xcii           |       |
| cum       | IX               | cxv            |       | <b>SED</b> | X                | cxii           | {C}   |
| et        | II               | lxix           |       | si         | V                | c              |       |
| iam       | IV               | lxiv           |       | sic        | VI               | cvii           |       |
| in        | VII              | xlvi           |       | ut         | III              | cxviii         |       |
| NEC       | VI               | lxix           |       | vel        | III              | c              |       |

TABLE  $\epsilon$ : CLASSIFICATION OF FUNCTION WORD PATTERNS IN HORACE'S LYRICS AND HEXAMETERS

We now have all the information we need to determine the  $\pi$ -value and to run the binomial test. In testing the odds of calculating  $\pi$  on the basis of three  $9 \times 81$  matrices of three-point and five-point combinations, we limit our calculation to the types of three-point lines that satisfy our third criterion of a

potential chronometer (above, p. 27) that there be a trend in the variation of a word's frequency. Once we apply this requirement, fully five of our nine three-point types can be eliminated from consideration (Types V, VII, VIII, IX, and XI), for these types either imply no change in frequency at all (Type VIII) or else random variation. Two of the remaining four three-point types (IV and XII) are the same in all three five-point sets; we count them only once. The other two (VI, X) are different in all three sets, giving us six possible matches. Thus, out of a total of 729 possible combinations per set, we have globally  $8 / 729$ , or .01097, possible combinations satisfying all our conditions. We can now solve the binomial test with a  $\pi$ -value of .01097 to see if our two exact equivalences are statistically significant:

|         | Prob. of X: | X or fewer: | X or more: |
|---------|-------------|-------------|------------|
| P(0)    | 0.838154    | 0.838154    | 1.000000   |
| P(1)    | 0.148798    | 0.986952    | 0.161846   |
| P(2)    | 0.012383    | 0.999335    | 0.013048   |
| P(3)    | 0.000641    | 0.999976    | 0.000665   |
| P(4)    | 0.000023    | 0.999999    | 0.000024   |
| P(5)    | 0.000001    | 1.000000    | 0.000001   |
| P(6)    | 0.000000    | 1.000000    | 0.000000   |
| P(7)    | 0.000000    | 1.000000    | 0.000000   |
| P(8-16) | 0.000000    | 1.000000    | 0.000000   |

TABLE  $\eta$ : RESULTS OF BINOMIAL TEST,  $N = 16$ ,  $\pi = .01097$

In this test of the odds of finding two cases like *ad* and *sed*, the probability that chance alone is responsible is quite low—just 1.2%.

What about *per* and *nec*? It may be granted that chance alone may well have given us the similarity of their hexameter and lyric frequencies. However, when we see that the result of using all four of our function words as chronometers is a date for the *Ars Poetica* in a single period of Horace's life (24-20 B.C.), then the probability that mere randomness is at work is reduced—logically, if not statistically—for, if any or all of our four words were not valid chronometers, then we should expect them to indicate widely different dates for the *Ars Poetica*. This is not the case.

### APPENDIX III

#### PISO IN POLA. THE DATE OF *INSCR. ITAL. X.I.81*

As noted in the body of this study, three inscriptions from Pola mention a certain L. Calpurnius Piso Caesoninus, whom Sticotti recognized as the consul of 58 B.C. and father-in-law of Julius Caesar.<sup>1</sup> These monuments are of interest because, if datable, they permit us to determine the validity of Münzer's influential theory that Piso died shortly after the Battle of Mutina—a theory based on Piso's alleged absence from the historical record after April of 43 B.C.<sup>2</sup> Needless to say, Piso's survival well beyond Mutina is a necessary but not sufficient condition for my theory that he is the senior addressee of the *Ars Poetica*. *Inscr. Ital. X.i.81*, from a gate in the city wall, is the only inscription of the three found in a datable context. Neither it nor the other two inscriptions (cf. *fig. 1*) mentioning Piso were taken into account by Münzer. In this appendix, I will reargue the case that *Inscr. Ital. X.i.81* is triumviral (42-31 B.C.),

<sup>1</sup>*Inscr. Ital. X.i.65*, 81, 708. See P. Sticotti, "Nuova rassegna di epigrafi romani," *AMSI* 30 (1914) 113-114. Sticotti's identification can be supported by the facts that the consul's family owned land in Illyria since the second century B.C. (cf. *infra*, n. 34), the inscription is late-Republican in style, and the city gate, contemporaneous with the city wall, can be dated to the 40s or 30s B.C. (cf. B. Forlati Tamaro *AMSI* 44 and 48, *infra*, n. 3) when the consul of 58 was the only known bearer of the name. On Sticotti, see A. Degrassi, "Pietro Sticotti," *AMSI* 55 (1954) 35-41 (= *Scritti vari*, vol. 4 [Trieste 1971] 187-192).

<sup>2</sup>*RE* III s.v. Calpurnius 90 (Stuttgart 1897) cols. 1387-1390. Münzer, of course, must himself be put into an historical context: the identification of the Piso of the three Pola inscriptions as the consul of 58 occurred almost two decades after Münzer was writing.

something necessitated by two recent studies by Frascchetti and Keppie that independently put the monument into the Caesarian period (46-44 B.C.).<sup>3</sup>

Dating the inscription is unfortunately not a straightforward matter, since it contains no explicit chronological indication. We must thus approach the problem by trying to find the most likely political and archaeological context into which the monument can be fitted. The political context at once supplies a solid *terminus post quem* and a somewhat more fluid *terminus ante quem*. In the inscription Piso and L. Cassius Longinus<sup>4</sup> are called *duoviri*, and the existence of this office in Pola presumes that the Roman colony, *Pietas Iulia*, also exists. Although this name, which is transmitted by Pliny,<sup>5</sup> may be incomplete or otherwise inaccurate, the epithet *Iulia* may be safely accepted as a constituent part of the colony's title. This gives us our *post quem*: after the three Caesarian colonies created at Capua in 59 B.C., no colony is known to have been called *Iulia* before Julius Caesar's foundations of the period 46-44.<sup>6</sup> A less firm *ante*

<sup>3</sup>A. Frascchetti, "La 'Pietas' di Cesare e la colonia di Pola," *AION* 5 (1983) 77-102; L. Keppie, *Colonisation and Veteran Settlement in Italy, 47-14 B.C.* (London 1983) 203-204.

Before 1983, it was long held that the colony at Pola was a triumviral foundation by Octavian: see T. Mommsen, "Die italischen Bürgercolonien von Sulla bis Vespasian," *Hermes* 18 (1883) 161-213, at p. 182; E. Pais, "Le colonie militari dedotte in Italia dai triumviri ad Augusto," *Museo italiano di antichità classica* 1 (1885) 56; E. Kornemann in *RE* IV s.v. *Coloniae* (Stuttgart 1900) col. 526; B. Forlati Tamaro, "Cenni preliminari sulle recenti scoperte archeologiche a Pola e Trieste," *AMSI* 44 (1932) 325; "La fondazione della colonia romana di Pola," *AMSI* 48 (1936) 243-246; A. Degrassi, "La data della fondazione della colonia romana di Pola," *AIV* 102 (1942-1943) 667-678 (= *Il confine nord-orientale dell'Italia Romana, Diss. Bernenses*, ser. I, fasc. 6 [1954] 60-68; *Scritti vari di antichità*, vol. 2 [Rome 1962] 913-924 [*N.B.* cited hereafter according to the *Diss. Bernenses* version]); E. Polaschek in *RE* XXI s.v. *Pola* (Stuttgart 1951) cols. 1219-1220; M. P. Charlesworth, *The Cambridge Ancient History*, vol. 10 (Cambridge 1966) 88; M. Zaninovic in *The Princeton Encyclopedia of Classical Sites* (Princeton 1976) 720. Degrassi specifically dated the founding of Pola to 42/41 and has been followed in this by B. Forlati Tamaro, *Pola* (Padua 1971) 14; E. Gabba, "Sulle colonie triumvirali di Antonio in Italia," *PP* 8 (1953) 101-110, at p. 110.

<sup>4</sup>On Longinus, see Münzer, *RE* III s.v. *Cassius* (65) (Stuttgart 1897) col. 1739; Longinus was identified as Cassius (65) by P. Sticotti, loc. cit. (*supra* n. 1), and this identification has been accepted by later scholars.

<sup>5</sup>*N.H.* 3.129 is our source for the name of the colony.

<sup>6</sup>Caesar's earlier colony at Capua came to be known as *Concordia Iulia Felix Augusta*, perhaps indicating that the earliest title was *Concordia Iulia*, as suggested by Mommsen, *CIL* X.1, p. 368. There is no reason to suppose the creation of any Caesarian colonies between 59 and 46. On the colonies of 46-44, see L. Keppie, op. cit. (*supra* n. 3) 49-58.

*quem* is provided by the bestowal of the title *Augustus* on Octavian in 27. After that date, Augustan colonies were generally, though not always, given the epithet *Augusta* or *Iulia Augusta*.<sup>7</sup> Although the absence of *Augusta* from Pola's name would seem to provide a solid enough *ante quem*, it is important to bear in mind that Pliny always omits *Augusta* from his references to colonies, unless the colony is founded at a new site with no preexisting name, leaving him no other recourse.<sup>8</sup> When we know that a *colonia Iulia* mentioned by Pliny is really a *colonia Iulia Augusta*, this is only because of local inscriptions giving a fuller title. In the case of Pola, we have no such inscriptions from the first century B.C. or A.D. so that we cannot be certain that Pola's full name did not contain the epithet *Augusta*. Thus—because such an inscription might someday turn up—in fixing our *ante quem* we cannot completely rule out the possibility of an Augustan (i.e., post-27 B.C.) foundation. For our purposes, this matters but little, since our main aim here is simply to show that Münzer's guess that Piso died just after the Battle of Mutina is likely to be wrong. However, if anyone someday makes the case for a *deductio* of Pola in the years just after 27 B.C., that will only help bolster our interpretation of the *Ars Poetica*.

Within the period 46-27 B.C. there are three moments at which we would expect a colony to have been planted at Pola; and, as might be expected, each possibility has found its scholarly advocate: (1) 46-44, by Julius Caesar<sup>9</sup>; (2) 42-41, by Octavian<sup>10</sup>; and (3) 41-31, by Octavian.<sup>11</sup> For purposes of refuting Münzer, it is not absolutely necessary to reject any of these dates: the context of *Inscr. Ital.* X.i.81 is a city gate known to be contemporary with the earliest city

<sup>7</sup>On the difficulties of interpreting colonial nomenclature see P. A. Brunt, *Italian Manpower 225 B.C.—A.D. 14* (Oxford 1971) 234-235; B. Galsterer-Kröll, "Untersuchungen zu den Beinamen der Städte des Imperium Romanum," *Epigraphische Studien* 9 (1972) 37-145, at pp. 65-66.

<sup>8</sup>Examples of the latter in Italy are *Augusta Praetoria*, *Augusta Taurinorum*, and *Augusta Bagiennorum* (for the archaeological evidence that these were not founded on preexisting sites, cf. *The Princeton Encyclopedia of Classical Sites* [Princeton 1976] 114, 116, 118). Outside Italy, Pliny's policy can be similar: cf. the case of *C(olonia) C(aesarina) A(ugusta) A(sido)* (CIL II.5407), called *Asido Caesarina* by Pliny in *N.H.* 3.30. Cf., in general, B. Galsterer-Kröll, op. cit. (*supra* n. 7) 57-59. This is an important point because in the period 46-27 B.C. Pola was not yet in reg. X Italia. Until c. 18-12 B.C., Pola and Istria formed part of Illyria; see Weiss in *RE* VIII s.v. *Histria* (Stuttgart 1913) cols. 2111-2112; E. Polaschek, op. cit. (*supra* n. 3) cols. 1219-1220; A. Degrassi, Review of Polaschek in *AMSI* n.s. 2 (1952) 226-227 (= *Scritti vari*, vol. 4 [Trieste 1971] 244-245).

<sup>9</sup>L. Keppie and A. Frascchetti, op. cit. (*supra* n. 3).

<sup>10</sup>A. Degrassi, B. Forlati Tamaro, and E. Gabba, op. cit. (*supra* n. 3).

<sup>11</sup>T. Mommsen, E. Pais, E. Kornemann, B. Forlati Tamaro (*AMSI* 44 and 48), M. P. Charlesworth, and M. Zaninovic, op. cit. (*supra* n. 3).

walls of Pola.<sup>12</sup> These walls may be contemporaneous with the founding of the colony, or, as we will see, they may date from a few years later. Thus, even if the controversy over the founding of the colony at Pola should be settled in favor of 46-44, this does not necessarily mean that *Inscr. Ital.* X.i.81 cannot have been inscribed in the 30s. But does the colony date to the Caesarian period?

The odds are against such a date: Octavian/Augustus founded many more colonies than did Julius Caesar.<sup>13</sup> Caesar's colonies were concentrated in a few provinces—particularly in Africa and Spain<sup>14</sup> Augustus' were spread all over the empire.<sup>15</sup> Of the three kinds of colonies—civilian settlements, titular colonies, and veterans' settlements—Pola almost certainly falls into the first class. We know that, in provincial colonization, Caesar favored the last class, for he was, of course, mainly preoccupied with finding land for his veterans. Augustus was also heavily involved in settling veterans on the land.<sup>16</sup> He was, however, also more apt than Caesar to upgrade a *conventus civium Romanorum* into a *colonia*, reinforcing the Roman population with new settlers. Finally, Octavian was personally active in military campaigns on the Dalmatian coast, whereas Caesar did not live long enough to undertake his Balkan expedition. This puts Octavian, but not Caesar, in the immediate vicinity of Pola and makes an Octavian foundation more likely.

Against this background, we can appreciate why, before 1983, the consensus of scholars was that Pola became a colony under Octavian sometime between Philippi and Actium. What arguments did Keppie and Frascchetti bring forward in that year in favor of an earlier, Caesarian date?

Keppie begins by trying to disprove a triumviral date. He first claims that Degrassi probably erred in using the Arch of the Sergii in Pola as evidence of the settlement of military colonists in the town after Philippi. Granting that Piso would have been an excellent candidate to help either Caesar or Octavian organize the new colony because of his experience at Capua in 58, Keppie finds

<sup>12</sup>See B. Forlati Tamaro (*AMSI* 44 and 48), *opp. cit.* (*supra* n. 3).

<sup>13</sup>There are various scholarly estimates. The most conservative (i.e., pro-Caesarian) is perhaps that of F. Vittinghoff, *Römische Kolonisation und Bürgerrechtspolitik*, *Akad. Wiss. Mainz, Abh. Geistes- und Sozialwiss. Kl.* 14 (1951) 85, 125, who assigned thirty-one colonies to Caesar and seventy-five to Augustus (as counted by E. T. Salmon, *Roman Colonization Under the Republic* [London 1969] 193n264).

<sup>14</sup>Cf. P. A. Brunt, *op. cit.* (*supra* n. 7) 255-259; for Italy, see L. Keppie, *op. cit.* (*supra* n. 3) 43-58.

<sup>15</sup>See *Res Gestae* 16, referring only to the many provinces with Augustan military colonies and so understating the case for Augustus' overall colonizing (cf. G. Alföldy, "Caesarische und augusteische Kolonien in der Provinz Dalmatien," *Acta Antiqua* 10 [1962] 357-365, at p. 362).

<sup>16</sup>See P. A. Brunt, *op. cit.* (*supra* n. 7) 238.

a Caesarian date more likely "in that Piso is not known to have been alive after 43 B.C." Finally, the second duovir on *Inscr. Ital.* X.i.81, L. Cassius Longinus, as brother of the tyrannicide C. Cassius, is unlikely to have been reconciled with Octavian after Philippi, though Keppie does note that Longinus was pardoned by Antony.<sup>17</sup>

In rebuttal of Keppie, let us first note that he has not fully appreciated how Degrassi uses the Arch of the Sergii as chronological evidence.<sup>18</sup> Degrassi does not state that Pola was a military colony.<sup>19</sup> Establishing the family relationships of L. Sergius and C. Sergius (brothers) and of L. Sergius L. f. (son of L. Sergius), Degrassi uses the disbandment of Legio XXIX after Actium as a *terminus post quem* for the aedileship of L. Sergius L. f., which he dated to c. 25. Postulating a gap of at least ten years between the aedileships of father and son, Degrassi puts the founding of the colony in the year 35, at the latest. Degrassi then speculates that the gap between the aedileships was a few years greater, considering it unlikely that L. and Cn. Sergius would have colonized Pola when Lucius already had a grown-up child of military age. Degrassi's use of the inscriptions on the Arch of the Sergii can be criticized, but the point is not that Degrassi is wrong to use the arch's inscriptions for chronology, but that he has perhaps tried too hard to push the date back as far as he can toward 42/41. In fact, we can just as easily push the date forward a couple of years, e.g., by imagining that L. and Cn. Sergius did not arrive with the founders of the colony, but a few years later, or by not balking at the idea that L. Sergius L. f. was a teenager when his father settled in Pola.

The arguments about Piso and Longinus are also not compelling. Following Münzer's theory about Piso's demise just after Mutina is fallacious: Münzer wrote before Sticotti identified the Polan Piso as the consul of 58, so he could not take the material from Pola into account in his *RE* article; thus, following Münzer is a *petitio principii*. As for Longinus, it is likely that he was much more in Antony's debt than in Octavian's after his return from exile in Asia in 41 B.C., for it was Antony who permitted his return.<sup>20</sup> This can be taken as evidence supporting a triumviral date, for, invoking the model of the colonization of Capua (to be discussed in a moment in our critique of Fras-

<sup>17</sup>L. Keppie, *op. cit.* (*supra* n. 3) 204.

<sup>18</sup>Degrassi, *op. cit.* (*supra* n. 3) 66-68; cf. "Le iscrizioni dell'arco dei Sergii in Pola," in *Scritti vari*, vol. 4 (Trieste 1971) 179-185.

<sup>19</sup>All the evidence is against a military colony at Pola; cf. E. Polaschek, *op. cit.* (*supra* n. 3) col. 1246; in Degrassi's rather critical review of Polaschek (*op. cit.* [*supra* n. 8]), he does not object to Polaschek's observation "daß Pola eine Militärkolonie gewesen wäre erfährt von keiner Seite eine Bestätigung."

<sup>20</sup>Appian *Bell. Civ.* 5.7.28.

chetti), we might have expected Pola to be organized precisely by a stand-in for each of the two principal triumvirs, if not by the principals themselves.<sup>21</sup>

Fraschetti's case is similar but more complex. Taking aim at Degrassi's date of 42/41, which is based on the theory that the colony's epithet *Pietas* makes most sense just after Octavian's vengeance against his father's murderers at the battle of Philippi,<sup>22</sup> Fraschetti tries to show that a date in Caesar's lifetime is also consistent with the slogan *Pietas*.<sup>23</sup> Of course, such a demonstration cannot be decisive, since it does not, per se, rule out a date after Philippi, nor does Fraschetti deny the possibility that Degrassi is correct. Moreover, Fraschetti's case for 46-44—which is dependent on Caesarian coins issued in 48/47 with *Pietas* themes<sup>24</sup>—is not very cogent. Had it been possible to argue that Pola was founded in 49/48, this evidence might have been useful: however, as Fraschetti is well aware, "Caesar's work in founding colonies did not begin before 46."<sup>25</sup> A date of 46/45 is, however, quite damaging to Fraschetti's thesis, since precisely in that period the slogan of *Pietas* was appropriated by the Pompeian side in the civil war. At Munda in 46, *Pietas* was the battle cry of the Pompeians, *Venus* of the Caesarians.<sup>26</sup> Starting the year after Munda, Sex. Pompeius made *pietas* toward his father a hallmark of his propaganda, especially through his coinage.<sup>27</sup> Moreover, as used by Caesar in 48/47, *pietas* was by no means a novel concept and hence one that the Romans of the period might primarily associate with him. It had been used in several political contexts during the previous fifty years and even during the early triumviral period could be exploited by Antony just as easily as Octavian, judging from the numismatic evidence.<sup>28</sup> The epithet, *Pietas*, then, cannot be a decisive factor in determining

<sup>21</sup>Cf. A. Fraschetti, op. cit. (*supra* n. 3) 93, who astutely recognizes the political balancing act involved in the colonization of Capua whereby a Caesarian law favored settlement of Pompeian veterans and was implemented, first in 58 by Piso—i.e., Caesar's father-in-law—and then, then next year, by Pompey himself.

<sup>22</sup>A. Degrassi, op. cit. (*supra* n. 3) 62.

<sup>23</sup>A. Fraschetti, op. cit. (*supra* n. 3) 80-90.

<sup>24</sup>Fraschetti refers (p. 86) to denarii minted by the Caesarian D. Iunius Brutus Albinus and by Caesar himself; for the coins, see, respectively, nrr. 450, 2 and 452, 3 in M. H. Crawford, *Roman Republican Coinage* (Cambridge 1974).

<sup>25</sup>P. A. Brunt, op. cit. (*supra* n. 7) 101; Z. Yavetz, *Julius Caesar and his Public Image* (London 1983) 144; L. Keppie, op. cit. (*supra* n. 3) 50. Note that Fraschetti himself writes, "nell'ambito delle due datazioni proposte (47 e primi mesi del 46 o ultimi mesi del 46 e 45 a.C.) la più probabile appare forse la seconda" (p. 102).

<sup>26</sup>Appian *Bell. Civ.* 2.104.

<sup>27</sup>Cf. nrr. 477, 3a-3b; 478, 1a; 479, 1 in M. H. Crawford, op. cit. (*supra* n. 24).

<sup>28</sup>Cf. M. H. Crawford, op. cit. (*supra* n. 24) nrr. 308 (108/107 B.C.); 374 (81 B.C.); 477, 3a-3b; 494, 19 (42 B.C.—triumviral); 516, 4 (41 B.C.—M. Anto-

the circumstances of Pola's foundation. If anything, it tends to rule out Caesar and the period 46/45.

Fraschetti next turns his attention to Piso and Longinus, whom he cogently identifies as the *primi duoviri* of the new colony, invoking the parallel case of [L.] Marcus Phi[lippus], the consul of 56 or suffect consul of 38 B.C., who served as *primus duovir* of Herculaneum.<sup>29</sup> Recalling the "compromise" of Capua in 59-57, whereby a notable Caesarian (Caesar's father-in-law, Piso) alternated with Pompey himself as *duovir* of the new colony (see above, n. 21), Fraschetti is perplexed to find such marginal and politically ambivalent men as Piso and Longinus serving as *duoviri* in Pola in the early triumviral period. For Fraschetti, their collaboration in Pola makes much more sense in the mids-40s, when both were ardent Caesarians.

Now, first of all, it should be noted that Fraschetti assumes that the "Capuan compromise" represented a norm in colony foundation, whereas it may only reflect the exceptional and very delicate political situation of the early years of the first triumvirate. In the 40s and 30s, so many colonies were founded that we cannot assume that the same standards obtained in the section of *primi duoviri* (always assuming that Piso and Longinus were such). Secondly, Fraschetti misrepresents Syme on Piso and the historical record when he says that Syme characterized Piso as "as ex-Caesarian turned independent."<sup>30</sup> When he made that statement, Syme was referring to Piso in the fall of 44 B.C.; later, he saw Piso acting as a wise statesman trying to mediate between Antony and the Senate on the eve of the battle of Mutina (April, 43): "Piso stood for concord and good sense when others...were for extreme measures against Marcus Antonius in 44 and 43."<sup>31</sup> Such a stance must have endeared him to Antony as much as it renewed Cicero's old feud with his erstwhile nemesis.<sup>32</sup> It certainly would have positioned him well to serve the interests of Antony and Octavian in the early years of the second triumvirate. As for Longinus, a strong supporter of Caesar in the civil war, his flaw was the guilt-by-association that came from being the brother of the tyrannicide, C. Cassius. Syme called him "a brother of

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ny). For *pietas* in the Julio-Claudian period, see S. Weinstock, *Divus Julius* (Oxford 1971) 258-259.

<sup>29</sup>A. Fraschetti, op. cit. (*supra* n. 3) 91. As Fraschetti notes, the proposal that Piso and Longinus were *primi duoviri* of the colony was first advanced by B. Forlati Tamaro (*AMSI* 48), op. cit. (*supra* n. 3) 245.

<sup>30</sup>A. Fraschetti, op. cit. (*supra* n. 3) 96, incorrectly citing R. Syme, *The Roman Revolution* (Oxford 1939) 136 (not 36, as is reported at 96n78).

<sup>31</sup>R. Syme, "Piso and Veranius in Catullus," *C&M* 17 (1956) 129-134, at p. 130 (= *Roman Papers*, vol.1, ed. E. Badian [Oxford 1979] 300); cf. *The Augustan Aristocracy* (Oxford 1986) 330.

<sup>32</sup>Cf. *Ad Fam.* 12.4.1 (on Piso's embassy to Antony in January, 43): "nihil autem foedius Philippo et Pisone legatis, nihil flagitiosius."

the assassin but a Caesarian in sympathy.<sup>33</sup> When circumstances after Caesar's murder made it dangerous for Longinus to tarry in Rome, he fled to Asia, where, as noted above (cf. n. 20) Antony met and pardoned him in 41. Finally, Piso and Longinus are thus by no means an odd couple to be serving as *duoviri* (whether *primi duoviri* or not) in *Iulia Pietas* in the triumviral period. It was undoubtedly possession of large family estates in the neighborhood of Pola that made their choice seem not only appropriate but logical.<sup>34</sup>

That neither Keppie nor Frascchetti has succeeded in finding a good reason to date the colony to the Caesarian period does not, of course, mean that no good argument or decisive piece of evidence may someday be found, nor does their failure to move the date back necessarily justify our leaving it where it was before 1983. To make further progress, we need to put Pola into a larger geopolitical and archaeological context, which will present us with some evidence less ambiguous than colonial nomenclature and late-republican prosopography.

Doubtless influenced by Pola's later incorporation in regio X Italia, scholars from Mommsen onwards have viewed the problem of Pola in the context of colonial policy in Italy.<sup>35</sup> Yet, as noted above (see n. 8), Pola belonged to Illyria, not to Italia, when it was colonized. Seen as a key base on the eastern Adriatic coast,<sup>36</sup> Pola naturally takes its place among Octavian's colonial foundations or augmentations after his successful Illyrian campaign of 35-33.<sup>37</sup> In fact, all up and down the coast from Epidaurum to Tergeste we find evidence of Roman colonization in the period 47-33. The result was a well-spaced series of colonial ports, each one about sixteen to twenty-four hours sailing time from the next.<sup>38</sup> Here are the approximate sailing distances in Roman miles:

<sup>33</sup>R. Syme, op. cit. (*supra* n. 30) 132n3. On Longinus in the civil war, see *Caesar Bell. Civ.* 3.34-35.

<sup>34</sup>Evidence for these properties is discussed by J. Sasel, "Probleme und Möglichkeiten onomastischer Forschung," *Acta CIEGR* 4 (1964) 352-368, at pp. 363-367; cf. also M. Pavan, "Ricerche sulla provincia romana di Dalmazia," *Mem. Ist. Ven.* 32 (1958) 21, 231-233; J. J. Wilkes, *Dalmatia* (London 1969) 331.

<sup>35</sup>Cf. T. Mommsen, op. cit. (*supra* n. 3) 182, 192, 212; L. Keppie, op. cit. (*supra* n. 3) 203-204.

<sup>36</sup>As suggested, in passing, by M. P. Charlesworth, op. cit. (*supra* n. 3) 88 and J. J. Wilkes, op. cit. (*supra* n. 34) 57: "in Illyricum, the achievement of Octavian was modest and solid rather than spectacular....On the coast colonies were established at Pola in Istria and Iader in Liburnia, and the older Caesarian colonies, Salona, Narona, and Epidaurum, were strengthened by new settlements."

<sup>37</sup>On the campaign, see Wilkes, op. cit., (*supra* n. 34) 46-56.

<sup>38</sup>Roman ships averaged from 2.5 knots (unfavorable winds) to 5.0 knots (favorable); see L. Casson, *Ships and Seamanship in the Ancient World* (Princeton 1971) 281-296. It is possible that Senia should also be included here, but whether the

Tergeste—Pola: 70 miles  
 Pola—Iader: 95 miles  
 Iader—Salona: 100 miles  
 Salona—Narona: 70 miles  
 Narona—Epidaurum: 115 miles

This looks very much like a planned occupation of a strategically vital and agriculturally rich coast,<sup>39</sup> reminiscent of the early Roman maritime colonies on the Tyrrhenian coast and—more pertinently—of Caesar's coastal colonies in Spain and Africa. About the date of most of these colonies, the same debate rages that we have seen in the case of Pola,<sup>40</sup> and so trying to settle the date of Pola by recourse to such slippery data might seem to exemplify explaining *obscurum per obscurius*. This is not, I think, the case, because once these towns are considered together—as, to my knowledge, they never have been—common features emerge that can be decisive for breaking up chronological and other logjams.

One feature common to all the eastern Adriatic colonies is a peculiar form of centuriation in which we find the usual 200-iugera unit with a rather unusual orientation on a NW-SE axis and with a rare system of *limites* demarcated by means of stones.<sup>41</sup> We might explain this distinctive form in one of two ways: either it results from a long-standing regional tradition, or it is the signature of a team of *agrimensores* active at all the sites. In the second case,

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colony there (known from Tac. *Hist.* 4.45) dates from our period (46-27 B.C.) or later is not known; see the discussion in G. Alföldy, *op. cit.* (*supra* n. 15) 362-363.

<sup>39</sup>Strabo 7.5.10 attests the area's economic advantages and implies that Roman appreciation of the Illyrian coast was a relatively recent development: τοιαύτη δ'οὕσα ὠλιγωρεῖτο πρότερον ἢ Ἰλλυρικὴ παραλία, τάχα μὲν καὶ κατ' ἄγνοϊαν τῆς ἀρετῆς, τὸ μὲνται πλέον διὰ τὴν ἀγριότητα τῶν ἀνθρώπων καὶ τὸ ληστρικὸν ἔθος.

<sup>40</sup>On Tergeste, see L. Keppie, *op. cit.* (*supra* n. 3) 201-202; on the Dalmatian towns, see J. J. Wilkes, *op. cit.* (*supra* n. 34) 207 (Iader), 220-238 (Salona), 245-252 (Narona), 252 (Epidaurum).

<sup>41</sup>Cf. J. Bradford, *Ancient Landscapes* (London 1957) 175-193; M. C. Panerai, "Territori centuriati nelle provincie: il caso di Zara," in: *Misurare la terra: Centuriazione e coloni nel mondo romano*, vol. I (Modena 1984) 235-240, at p. 238: "elemento caratterizzante della *pertica* è l'aspetto singolare dei *limites*: questi sono costituiti da muretti di pietra, conservatisi nel corso dei secoli come confini dei campi coltivati. Questa configurazione particolare dei limiti è una peculiarità di tutta la *Provincia Dalmatiarum*: 'ubi saxa collecta ab utrisque partibus limites dederunt' (Grom. Vet., *Liber coloniarum* 2, p. 241)." For parallel cases at Cosa and in Africa vetus see F. Castagnoli, "La centuriazione di Cosa," *MAAR* 24 (1956) 149-165, at p. 161n14.

centuriation can be a factor for chronology, since the *agrimensores* will have worked along the Illyrian coast for a relatively short period of time, and if we can date one colony's centuriation, we have an approximate date for them all.<sup>42</sup> The second explanation seems more likely because such regional traditions are hard to find elsewhere. Of the Illyrian centuriations in question, we do have one firmly datable case—Iader, where the colony was planted in the late thirties or early twenties.<sup>43</sup> Such a period—after Octavian's triumph in the Illyrian campaign of 35-33—is more probable in any case on geopolitical grounds than the period 46-41, since centuriation presumes good enough regional security for exploitation of the territory and hinterlands of a colony. On the other hand, the successful conclusion of the Illyrian war provides more than a mere *post quem*: centuriation generally coincides with the founding of a colony.<sup>44</sup> These considerations make it likely that the colony at Pola was founded by Octavian in the period 33-27 B.C.

A second common element in these colonies is a town wall in stone. As with centuriation, we can use any firmly datable examples to give us a probable time frame for all the sites. Two walls are securely datable by inscriptions giving credit to Octavian/Augustus for their construction: Tergeste (33/32 B.C.) and Iader (27 B.C.).<sup>45</sup> It is sometimes assumed that, like centuriation, the construction of permanent city walls was immediately undertaken when a new colony was started; but this was not always the case. Fanum Fortunae, a triumviral colony, received its first walls decades later in 9/10 A.D.<sup>46</sup> Closer to home, we know that the first colony at Salona had no wall in the 40s B.C. To resist a siege by the Pompeian commander, M. Octavius, the pro-Caesarian

<sup>42</sup>On the use of centuriation for chronology, see, in general, G. Chouquer, M. Clavel-Lévêque, and F. Favory, "Catasti romani e sistemazione dei paesaggi rurali antichi," in *Misurare la terra: Centuriazione e coloni nel mondo romano* (Modena 1984), vol. 1, 39-49, at pp. 41, 42, 45.

<sup>43</sup>The date of the colony is approximately given by *CIL* 3.2907, where Octavian is called Imperator Caesar Divi F(ilius) Aug(ustus).

<sup>44</sup>This is a scholarly commonplace: cf., e.g., F. Vittinghoff, op. cit. (*supra* n. 13) 24, "Landvermessung durch Agrimensoren und Landzuweisung durch kaiserliche Beauftragte waren die selbstverständliche Begleitakte jeder Kolonisation." See also E. T. Salmon, op. cit. (*supra* n. 13) 20. Here I should note that Salona—already a colony in the Caesarian period—is not necessarily counter-evidence of a single centuriation project because it was a double foundation. For the evidence, see J. W. Kubitschek, *Imperium Romanum Tributim Discriptum* (Prague, Vienna, Leipzig 1889) 236; cf. G. Alföldy, op. cit. (*supra* n. 15) 358; J. J. Wilkes, op. cit. (*supra* n. 34) 223-224. The centuriation at Salona may thus be associated with the second colony of the late 30s.

<sup>45</sup>Tergeste: *Inscr. Ital.* X.iii.20-21; Iader: *CIL* III.2907.

<sup>46</sup>Cf. *CIL* XI.6219; A. Degrassi, op. cit. (*supra* n. 3) 52.

Salonians quickly erected a wooden wall that successfully served its purpose.<sup>47</sup> Beseiged on all sides by five *castra*, and protected only by their wooden towers, the Salonians thwarted Octavius' seige, forcing him to withdraw. This episode gives us concrete information showing why stone walls were not a high priority for new colonies, at least on the Illyrian coast. They could be built later, in times of greater peace and security, as happened at Tergeste and Iader. The parallels of these two cities—and the perpendicular of the absence of a stone wall at Salona in the 40s—make a date of *c.* 33 B.C. the likeliest for the walls of Pola, too.

In conclusion, we may say that the rare form of centuriation found at Pola and other Roman colonies on the Illyrian coast suggests that the territory of Pola and of the other cities was first exploitable after Octavian's Dalmatian campaign of the 30s firmed up Roman control of the hinterland; the date of the founding of Iader supports such a chronology of the centuriation project. At the same time the fields were centuriated, the town centers were protected by a permanent wall, as is securely known from the datable examples at Tergeste and Iader. Since their names appear on the oldest gate of the wall at Pola, the *duoviri* Piso and Longinus must have held office in the colony in the late 30s when the wall was built, and Münzer's theory of Piso's demise soon after Mutina — proposed, as we have seen, before Sticotti identified Piso in Pola—can be considered highly unlikely.

<sup>47</sup>Caesar *Bell. Civ.* 3.9: "Sed celeriter cives Romani ligneis effectis turribus his sese munierunt et, cum essent infirmi ad resistendum propter paucitatem hominum crebris confecti vulneribus, ad extremum auxilium descenderunt servosque omnes puberes liberaverunt et praesectis omnium mulierum crinibus tormenta effecerunt."

## ABBREVIATIONS AND BIBLIOGRAPHY

The select bibliography that follows lists most of the books and articles mentioned in the footnotes as well as some other works I found useful but never had occasion to cite. Editions of ancient authors other than Horace, modern guide-books, articles in standard reference works, and the like have not been included. Works quoted in *Appendix I* are also not listed here. Abbreviations are generally those used in *L'Année Philologique*. Unless otherwise noted, the text of Horace used throughout this study is the Teubner of D. R. Shackleton Bailey (Stuttgart 1985). The reader desiring a fuller list of publications on the *Ars Poetica* may consult the bibliographies found in Brink, I-III and Rudd, 234-239.

The following special abbreviations used in the notes are listed here; these works are not listed separately in the bibliography that follows:

- Brink, I = Brink, C. O. *Prolegomena to the Literary Epistles, Horace on Poetry*, vol. 1 (Cambridge 1963).  
Brink, II = Brink, C. O. *The 'Ars Poetica', Horace on Poetry*, vol. 2 (Cambridge 1971).  
Brink, III = Brink, C. O. *Epistles Book II: The Letters to Augustus and Florus, Horace on Poetry*, vol. 3 (Cambridge 1982).  
Carettoni, I = Carettoni, G. "La decorazione pittorica della Casa di Augusto sul Palatino," *MDAI(R)* 90 (1983) 373-419.  
Carettoni, II = Carettoni, G. *Das Haus des Augustus auf dem Palatin* (Mainz 1983).  
Mills = *Quintus Horatius Flaccus Editions in the United States and Canada as They Appear in the Union Catalog of the Library of Congress* (Mills College, California 1938).  
Rudd = Rudd, N. *Horace. Epistles Book II and Epistle to the Pisones ('Ars Poetica')* (Cambridge 1989).



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word-length: 41  
Zeuxis: 77n

| WORD   | EPD | S1  | S2  | C1  | C2 | C3  | EP1 | AP  | EP2.2 | EP2.1 | C4 | TOT  | NOTE |
|--------|-----|-----|-----|-----|----|-----|-----|-----|-------|-------|----|------|------|
| A      | 3   | 10  | 7   | 2   | 1  | 0   | 1   | 0   | 2     | 0     | 1  | 27   | L.F. |
| AB     | 3   | 9   | 8   | 5   | 3  | 14  | 4   | 4   | 1     | 3     | 6  | 60   | L.F. |
| AC     | 2   | 29  | 13  | 7   | 1  | 1   | 15  | 6   | 2     | 2     | 0  | 78   | L.F. |
| AD     | 12  | 21  | 28  | 6   | 1  | 5   | 21  | 13  | 7     | 9     | 8  | 131  | √    |
| AN     | 8   | 9   | 22  | 3   | 2  | 4   | 22  | 12  | 3     | 3     | 1  | 89   | L.F. |
| AT     | 4   | 34  | 9   | 2   | 2  | 1   | 3   | 1   | 2     | 1     | 0  | 59   | L.F. |
| ATQUE  | 12  | 65  | 36  | 11  | 4  | 2   | 12  | 6   | 6     | 5     | 2  | 161  | N.P. |
| AUT    | 32  | 36  | 35  | 21  | 9  | 16  | 23  | 28  | 13    | 11    | 6  | 230  | N.P. |
| AU     | 0   | 0   | 0   | 0   | 0  | 0   | 0   | 1   | 0     | 2     | 0  | 3    | L.F. |
| CUM    | 7   | 65  | 61  | 20  | 8  | 16  | 34  | 9   | 7     | 16    | 9  | 262  | N.P. |
| CUR    | 3   | 8   | 8   | 7   | 2  | 4   | 7   | 6   | 1     | 0     | 5  | 51   | L.F. |
| DE     | 2   | 8   | 10  | 4   | 4  | 2   | 12  | 4   | 3     | 1     | 1  | 51   | L.F. |
| DONEC  | 1   | 2   | 3   | 1   | 0  | 3   | 5   | 1   | 0     | 1     | 0  | 17   | L.F. |
| DUM    | 2   | 14  | 8   | 9   | 3  | 9   | 16  | 3   | 2     | 3     | 2  | 71   | L.F. |
| ENIM   | 0   | 3   | 10  | 1   | 2  | 1   | 7   | 5   | 1     | 4     | 4  | 38   | L.F. |
| ET     | 78  | 134 | 142 | 121 | 86 | 179 | 268 | 147 | 134   | 76    | 85 | 1450 | N.P. |
| ETIAM  | 0   | 5   | 4   | 0   | 0  | 1   | 6   | 6   | 4     | 4     | 1  | 31   | L.F. |
| IAM    | 6   | 8   | 15  | 7   | 10 | 8   | 9   | 5   | 1     | 5     | 14 | 88   | N.P. |
| IN     | 36  | 65  | 69  | 36  | 27 | 35  | 58  | 35  | 12    | 17    | 27 | 417  | N.P. |
| INTER  | 7   | 14  | 7   | 5   | 0  | 9   | 14  | 2   | 4     | 6     | 3  | 71   | L.F. |
| MOX    | 0   | 0   | 2   | 2   | 1  | 3   | 3   | 3   | 2     | 2     | 3  | 21   | L.F. |
| NAM    | 5   | 17  | 18  | 2   | 1  | 1   | 2   | 1   | 0     | 3     | 1  | 51   | L.F. |
| NE     | 2   | 25  | 23  | 9   | 2  | 8   | 29  | 10  | 2     | 2     | 2  | 114  | L.F. |
| NEC    | 26  | 23  | 23  | 47  | 32 | 39  | 35  | 22  | 1     | 5     | 16 | 269  | √    |
| NEQUE  | 14  | 26  | 22  | 16  | 13 | 18  | 5   | 2   | 2     | 3     | 5  | 126  | L.F. |
| NEU    | 1   | 3   | 3   | 9   | 0  | 0   | 3   | 3   | 0     | 0     | 0  | 22   | L.F. |
| NISI   | 1   | 9   | 10  | 2   | 3  | 2   | 8   | 2   | 1     | 4     | 0  | 42   | L.F. |
| NON    | 30  | 74  | 73  | 38  | 29 | 46  | 94  | 39  | 17    | 13    | 41 | 494  | N.P. |
| NUNC   | 8   | 13  | 16  | 16  | 4  | 13  | 12  | 6   | 10    | 6     | 6  | 110  | N.P. |
| PER    | 11  | 5   | 13  | 10  | 9  | 13  | 16  | 5   | 1     | 10    | 22 | 115  | √    |
| POST   | 1   | 10  | 6   | 4   | 0  | 5   | 7   | 5   | 2     | 4     | 3  | 47   | L.F. |
| QUA    | 0   | 5   | 7   | 0   | 0  | 0   | 8   | 0   | 0     | 1     | 0  | 21   | L.F. |
| QUIDEM | 0   | 1   | 0   | 0   | 1  | 0   | 2   | 0   | 0     | 2     | 0  | 6    | L.F. |
| QUODSI | 4   | 0   | 1   | 1   | 0  | 1   | 8   | 0   | 0     | 1     | 0  | 16   | L.F. |
| QUOQUE | 0   | 5   | 8   | 4   | 3  | 3   | 4   | 0   | 1     | 5     | 1  | 34   | L.F. |
| SARPE  | 1   | 17  | 1   | 5   | 3  | 3   | 10  | 1   | 0     | 2     | 0  | 43   | L.F. |
| SED    | 7   | 12  | 21  | 4   | 6  | 6   | 15  | 6   | 5     | 11    | 10 | 103  | √    |
| SEU    | 2   | 2   | 19  | 12  | 5  | 12  | 7   | 3   | 0     | 1     | 2  | 65   | L.F. |
| SI     | 7   | 56  | 61  | 7   | 9  | 29  | 80  | 34  | 13    | 18    | 9  | 323  | N.P. |
| SIC    | 4   | 21  | 15  | 7   | 6  | 2   | 13  | 11  | 3     | 5     | 3  | 90   | N.P. |
| SINE   | 0   | 7   | 10  | 5   | 1  | 10  | 7   | 5   | 1     | 0     | 3  | 49   | L.F. |
| SIVE   | 1   | 2   | 12  | 13  | 2  | 2   | 0   | 1   | 0     | 1     | 1  | 35   | L.F. |
| SUB    | 4   | 4   | 9   | 13  | 5  | 8   | 7   | 4   | 2     | 1     | 4  | 61   | L.F. |
| TAM    | 0   | 4   | 5   | 3   | 0  | 0   | 0   | 0   | 0     | 3     | 0  | 15   | L.F. |
| TAMEN  | 0   | 7   | 12  | 6   | 1  | 5   | 12  | 5   | 5     | 3     | 3  | 59   | L.F. |
| TANDEM | 1   | 1   | 3   | 2   | 1  | 1   | 2   | 1   | 0     | 3     | 1  | 16   | L.F. |
| UBI    | 5   | 8   | 5   | 1   | 5  | 2   | 12  | 1   | 2     | 1     | 2  | 44   | L.F. |
| UNDE   | 3   | 8   | 13  | 4   | 2  | 4   | 1   | 3   | 1     | 1     | 1  | 41   | L.F. |
| UT     | 34  | 92  | 75  | 13  | 1  | 8   | 60  | 23  | 11    | 12    | 8  | 337  | N.P. |
| VEL    | 7   | 5   | 8   | 6   | 3  | 5   | 15  | 5   | 4     | 8     | 3  | 69   | N.P. |

L.F.=low frequency (25% of cells [i.e., 2.25, rounded up to 3] have fewer than 5 cases; C.I-III count as one cell) N.P.=no pattern √=meets conditions for consideration as chronometer.

TABLE A: FREQUENCY OF CERTAIN FUNCTION WORDS IN HORACE

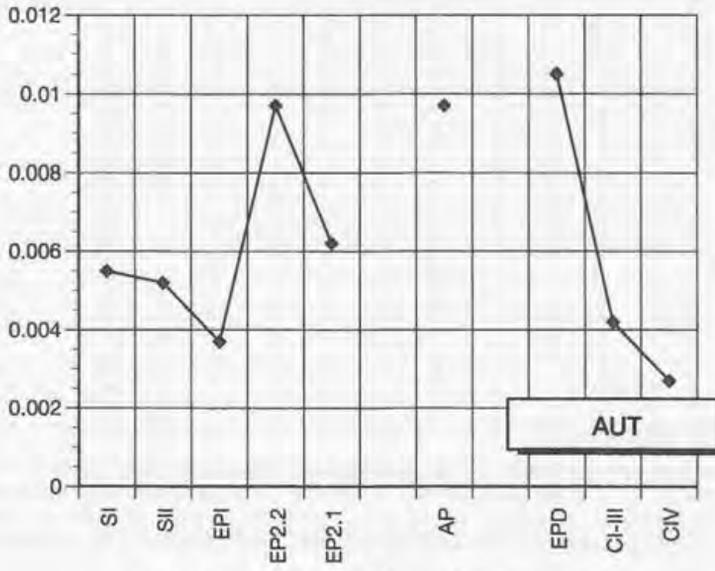
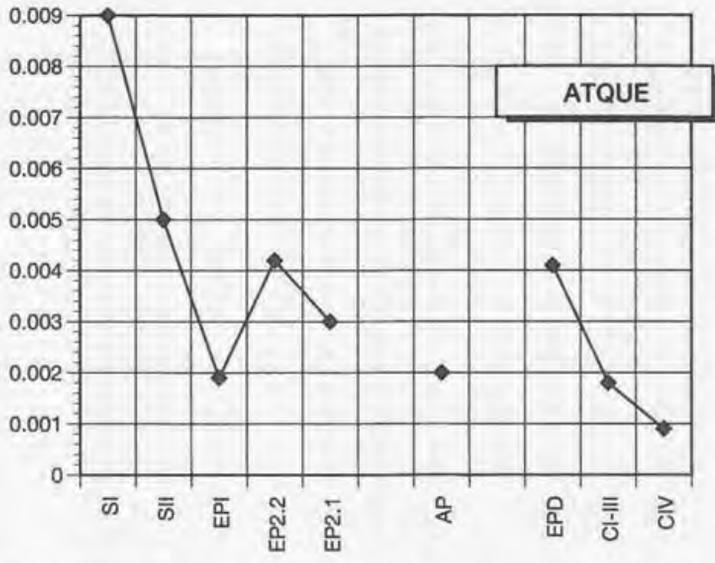


TABLE B: GRAPHS OF RANDOMLY OCCURRING FUNCTION WORDS (1)

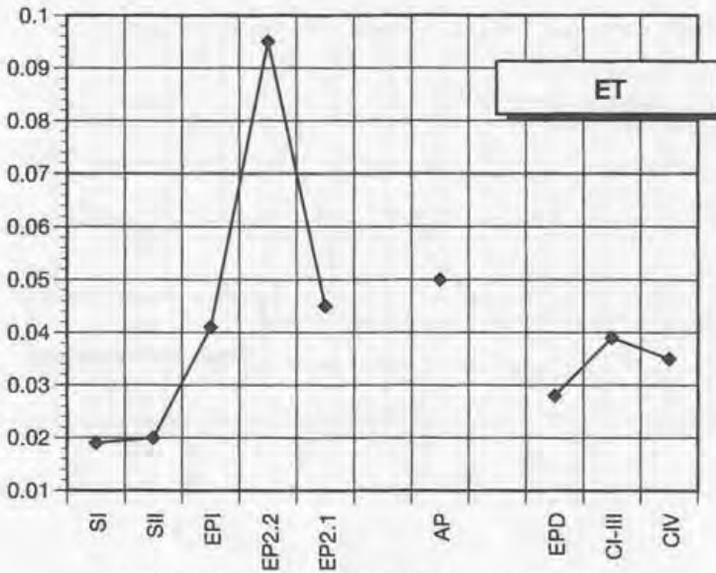
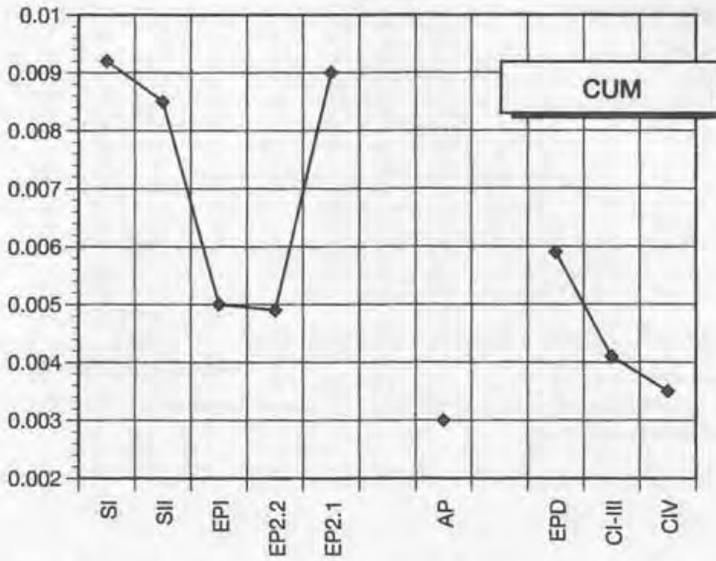


TABLE C: GRAPHS OF RANDOMLY OCCURRING  
FUNCTION WORDS (2)

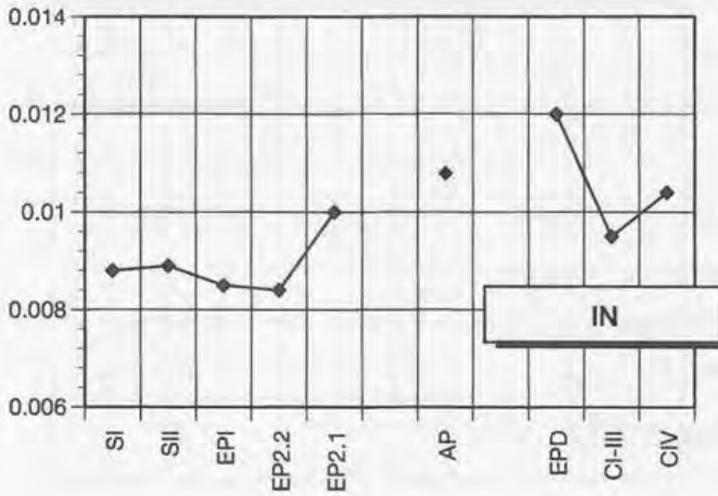
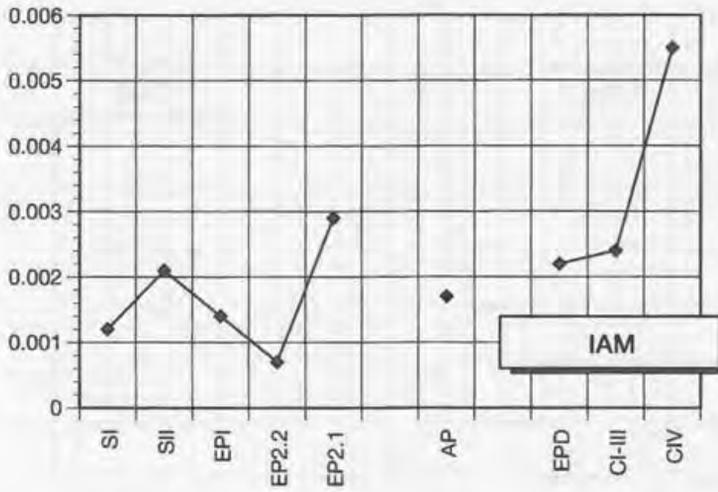


TABLE D: GRAPHS OF RANDOMLY OCCURRING FUNCTION WORDS (3)

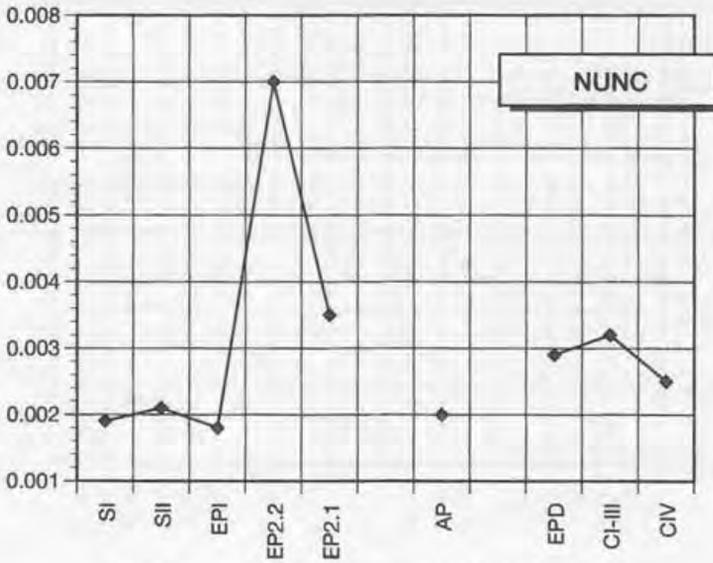
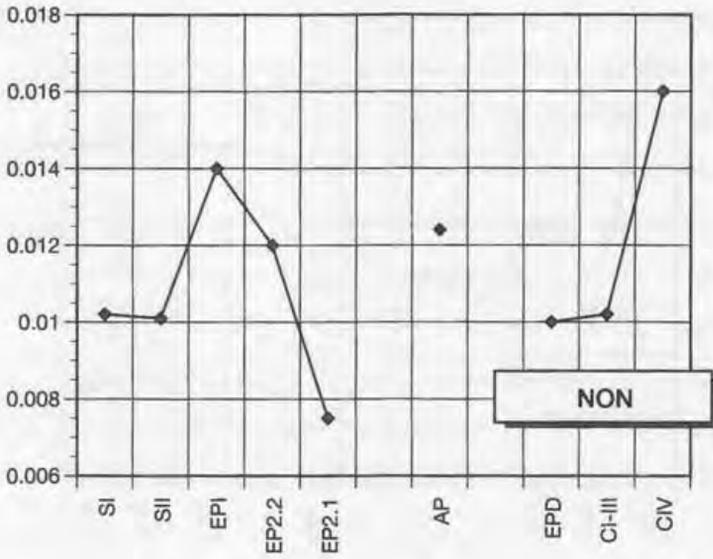


TABLE E: GRAPHS OF RANDOMLY OCCURRING FUNCTION WORDS (4)

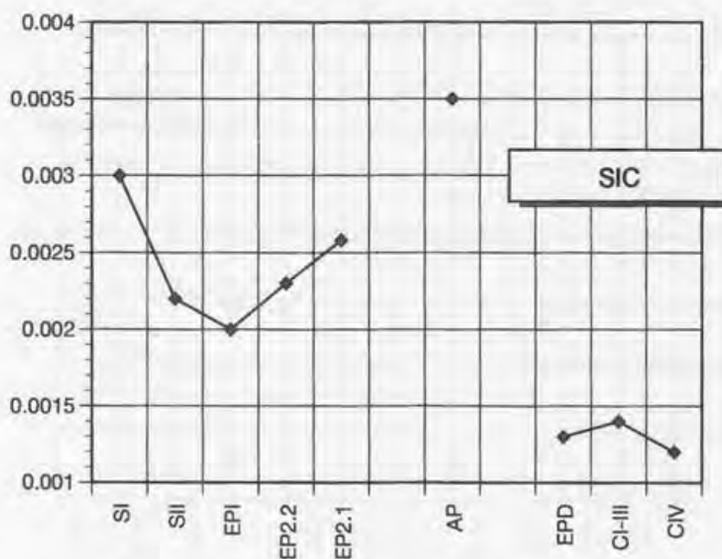
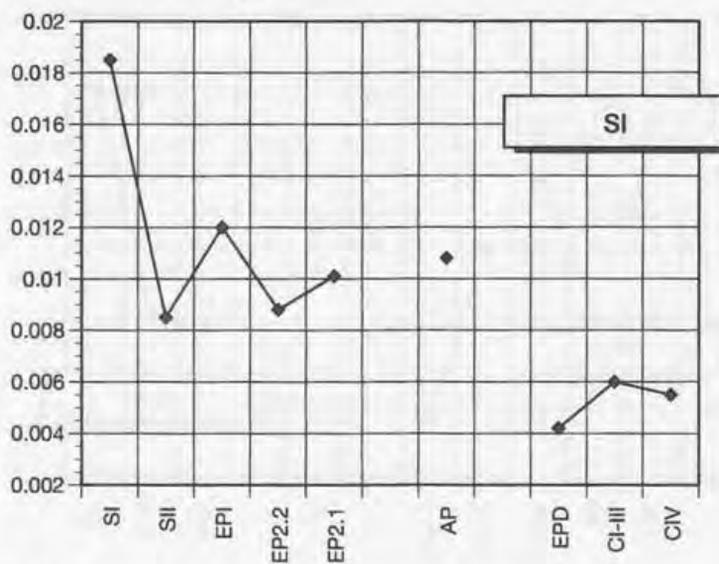


TABLE F: GRAPHS OF RANDOMLY OCCURRING  
FUNCTION WORDS (5)

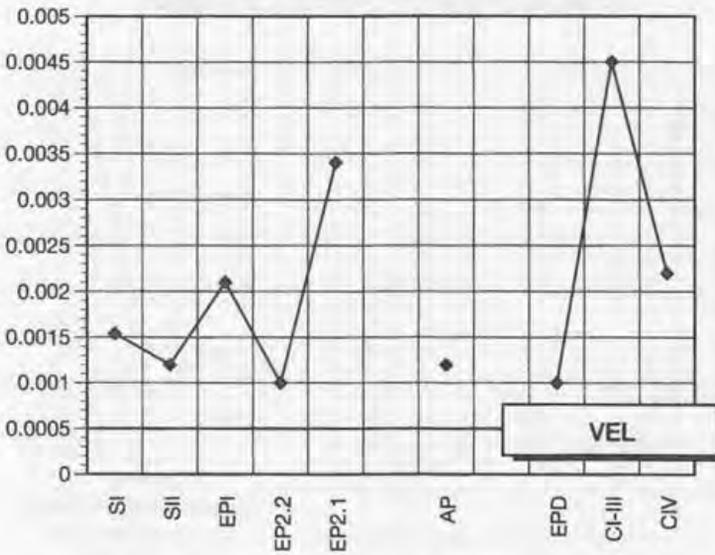
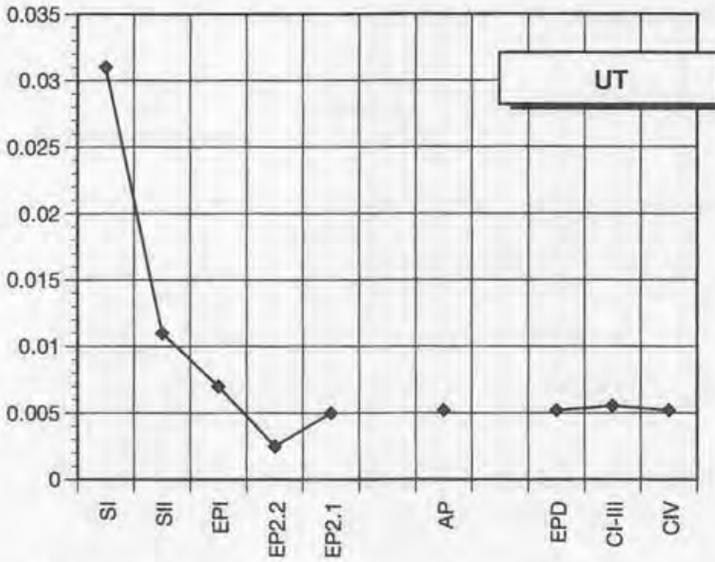


TABLE G: GRAPHS OF RANDOMLY OCCURRING  
FUNCTION WORDS (6)

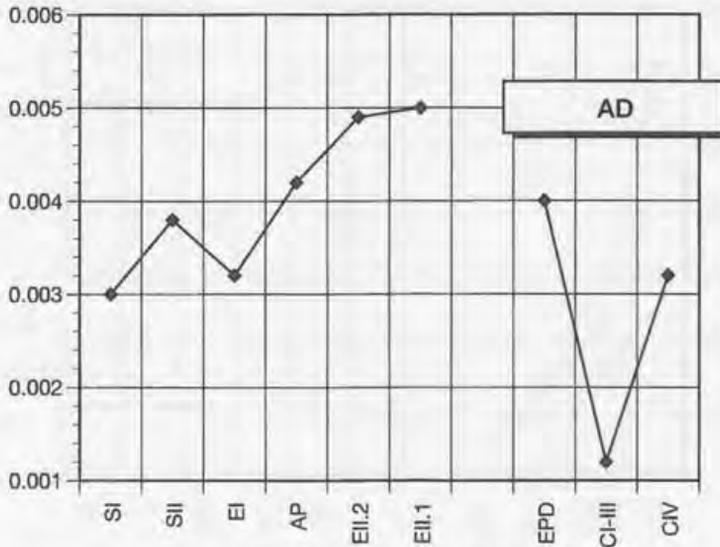


TABLE H: FREQUENCY OF "AD" IN HORACE

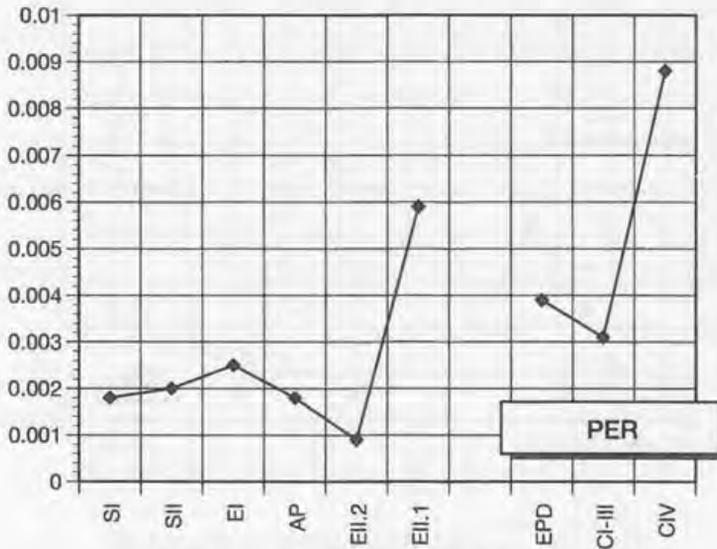


TABLE I: FREQUENCY OF "PER" IN HORACE

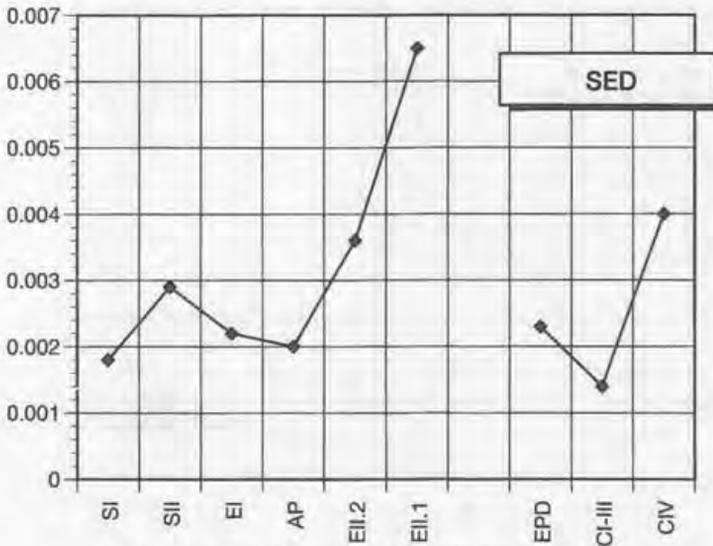


TABLE J: FREQUENCY OF "SED" IN HORACE

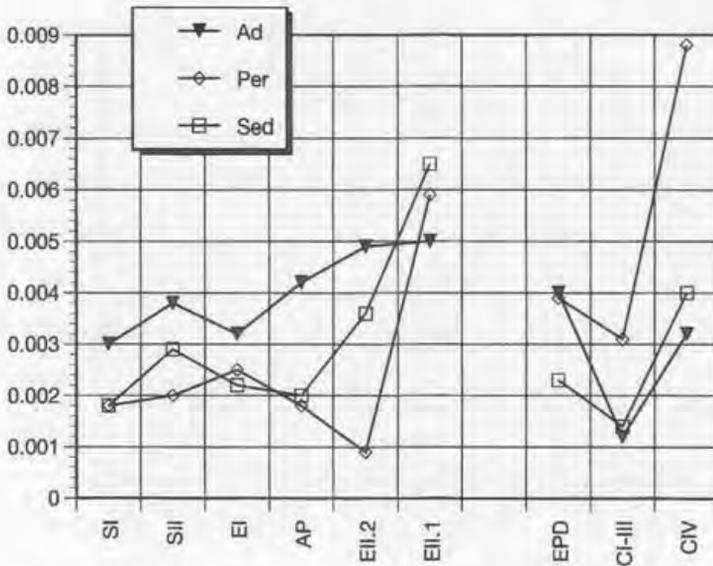


TABLE K: FREQUENCY OF "AD," "PER," AND "SED" IN HORACE

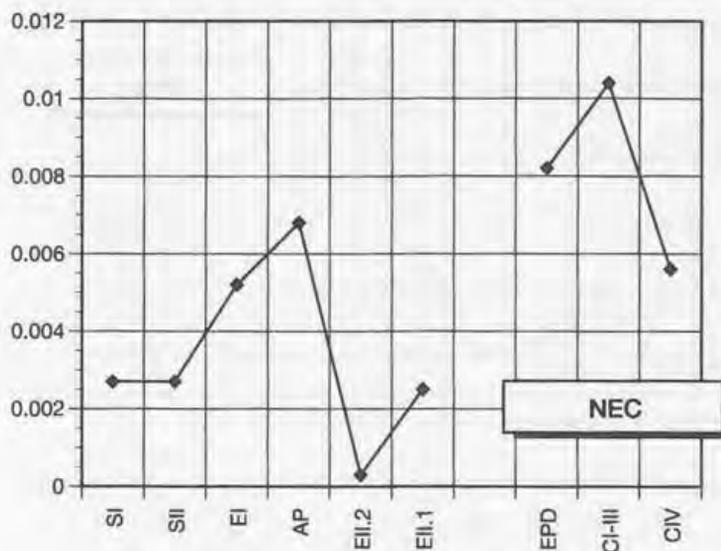


TABLE L: FREQUENCY OF "NEC" IN HORACE

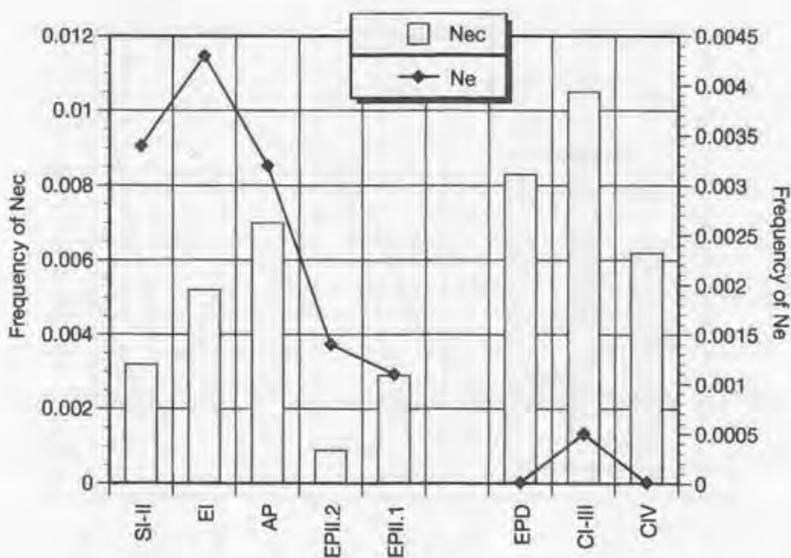


TABLE M: FREQUENCY OF "NEC" AND "NE" IN HORACE

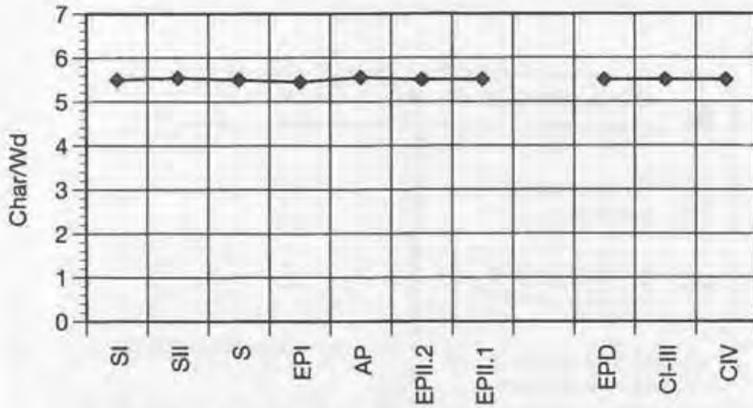


TABLE N: AVERAGE NUMBER OF CHARACTERS PER WORD IN HORACE

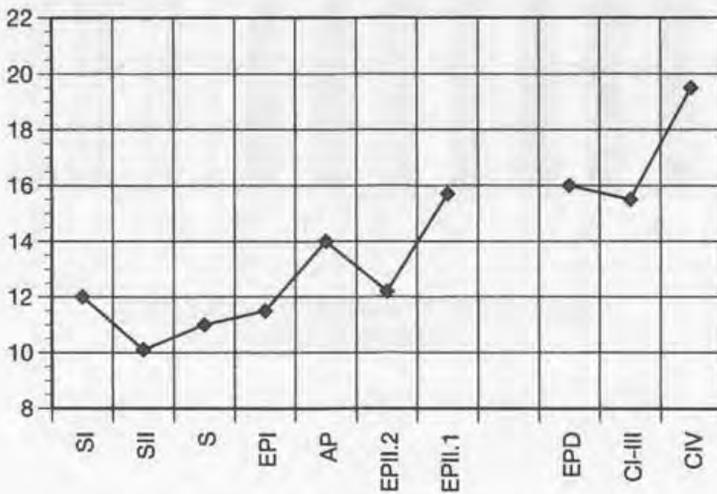


TABLE O: RATIO OF WORDS TO STOPS IN HORACE

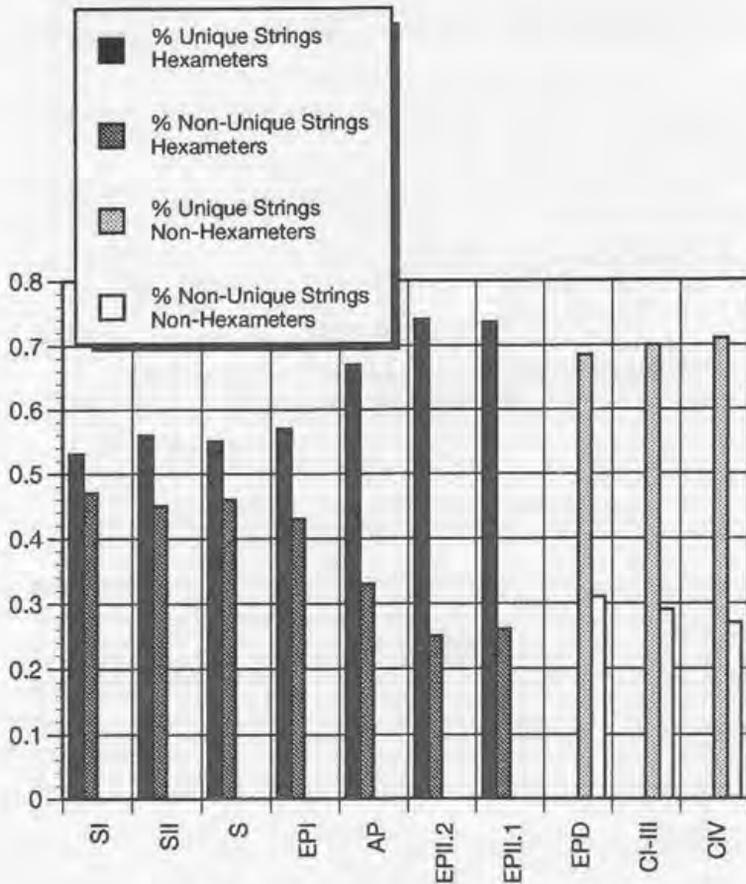


TABLE P: UNIQUE AND NON-UNIQUE STRINGS  
IN HORACE'S POETRY

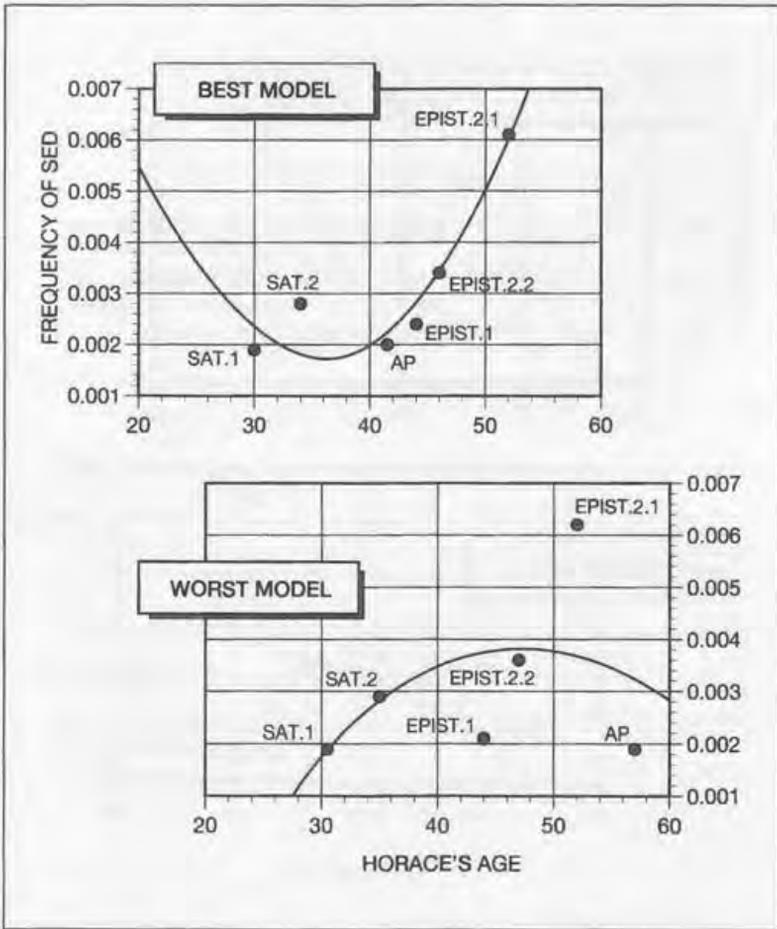


TABLE Q: BEST AND WORST REGRESSION MODELS FOR "SED"

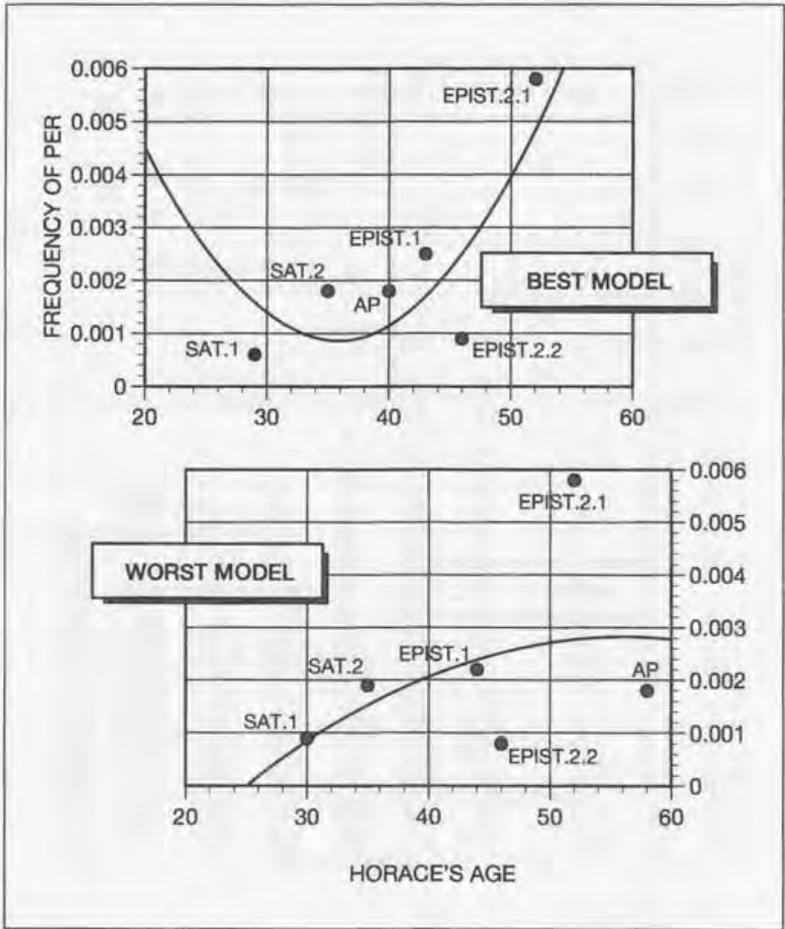


TABLE R: BEST AND WORST REGRESSION MODELS FOR "PER"

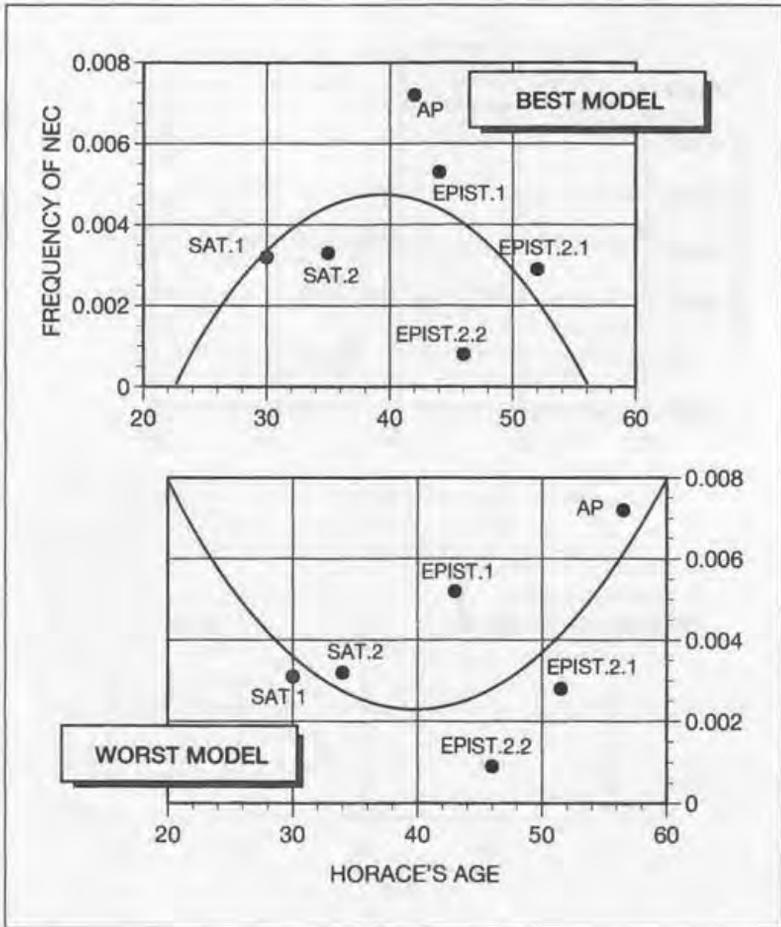


TABLE S: BEST AND WORST REGRESSION MODELS FOR "NEC"

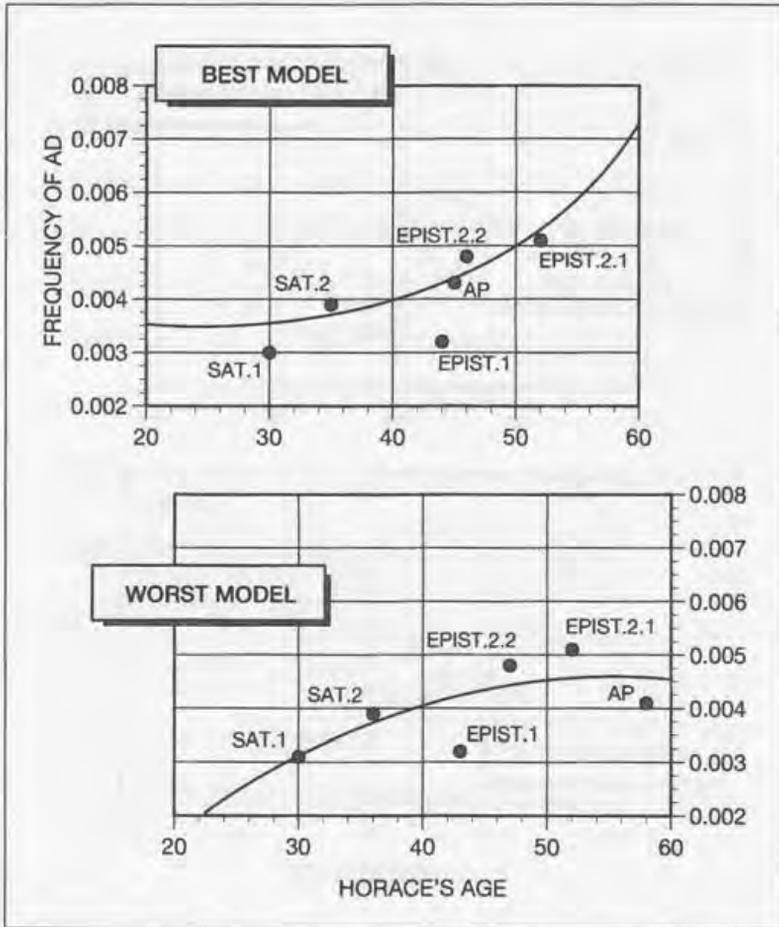


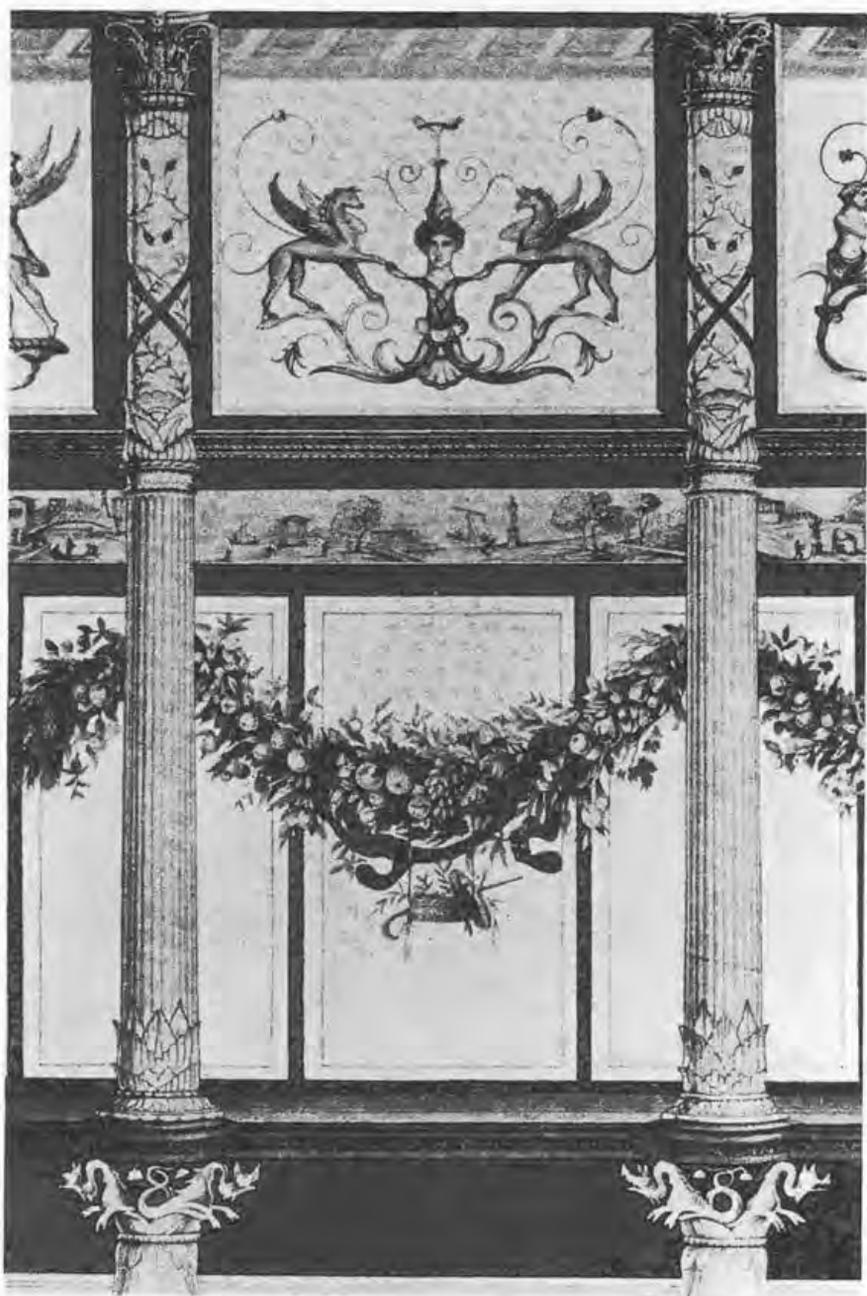
TABLE T: BEST AND WORST REGRESSION MODELS FOR "AD"



*Fig. 1—Inscr. Ital. X.i.65 (Pola, Lapidarium of Arheoloski muzej Istre 214)*



*Fig. 2—Detail from Frieze of the Temple of the Divine Julius Caesar, Rome  
(DAI Rome 63.1233)*



*Fig. 3—Detail of Wall Painting from Left Ala, House of Livia, Rome  
(DAI Rome 56.435)*

# ASPECTS OF LATIN

Papers from the  
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on Latin Linguistics

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## How to do things with words per strong stop Two studies on the *Historia Augusta* and Cicero

BERNARD FRISCHER

Deux études sur l'Histoire Auguste et Cicéron: En étudiant les variations de longueur des «phrase» (c.-à-d., le nombre des mots par chaque signe fort de ponctuation), Marriott a tenté de prouver qu'un auteur seul a écrit l'Histoire Auguste. Notre étude soulève des objections philologiques et montre que l'analyse de Marriott comprend aussi des imperfections statistiques. L'étude d'autres historiens et biographes nous révèle quelque chose d'inattendu: le nombre de mots par signe fort de ponctuation n'est pas un bon vérificateur d'auteur, puisqu'il est assez constant d'un auteur latin à l'autre. Cette homogénéité est rattachée à la théorie de rhétorique au sujet de la période. La théorie cicéronienne nous suggère que la variabilité de longueur de la période de l'orateur sera plus grande que celle de l'historien. L'étude des discours de Cicéron soutient cette conclusion. La théorie cicéronienne nous suggère aussi que les discours écrits dans le *genus grande* devraient avoir plus de mots par signe fort que ceux écrits dans le *genus humile*. Les deux discours cités par Cicéron lui-même (Pro Caec. et Pro Rab.) en sont une bonne démonstration.

### 1. "Sentence"-length and the *Historia Augusta*: A philological and statistical critique of Marriott and of Sansone's critique of Marriott

The so-called *Historia Augusta* is a late-antique collection of biographies of Roman emperors, heirs-apparent, and pretenders from Hadrian to Numinian. For the long period it covers (A. D. 117–285), it often is our main source of information about imperial history. Its singular importance is therefore clear: as Sir Ronald Syme wrote, "the student of the Roman Empire cannot do without the *HA*" (Syme 1983a: 12). According to the manuscripts, the various lives are the work of six different authors. Dedications of thirteen of the lives to Diocletian and Constantine suggest a date of composition in the period ca. 290 to 325.

Ever since publication of a celebrated article by Hermann Dessau in 1889, these "facts" about authorship and date have been a matter of lively dispute.<sup>1</sup> Arguing primarily on the basis of nomenclature and style, Dessau proposed two theses: (1) that the collection was not written by six different authors but by one only; and (2) that this author was active, not in the period of Diocletian and Constantine, but much later in the fourth century. Proving, disproving, or amending one or both of Dessau's theses has been the focus of *Historia Augusta* research ever since.

In this effort, one work stands out as offering seemingly objective evidence in favor of Dessau's first thesis: Marriott 1979 presents two studies that used

<sup>1</sup> Dessau 1889 and 1892.

stylo-metrical arguments to discriminate the author of the *Historia Augusta* from other authors datable to the fourth century. The result appeared to confirm the Dessau-thesis of single authorship, and this was greeted with enthusiasm by several scholars, including Sir Ronald Syme, who wrote: "it will not be easy to impugn [this study]. Those who conducted the inquiry may await attempts without undue apprehension."<sup>2</sup>

My first goal is to show that it is indeed rather easy to impugn Marriott's first (and more important) study, on both philological and statistical grounds. Then I will consider ancient rhetorical theory and oratorical practice regarding proper "sentence"-length. The two goals are intimately related, for Marriott's first study was precisely an attempt to distinguish the *Historia Augusta* from other fourth-century texts on the basis of "sentence"-length. Now, "sentence"-length is a concept that depends on how one punctuates a text, and different editors will do this differently. A compound sentence whose parts are separated by a comma or semi-colon in one edition may be divided into two independent sentences in another edition. Thus, in quantitative studies it has long been recognized that a higher degree of accuracy will be achieved if we count, not words per sentence, but words per strong punctuation mark,<sup>3</sup> which is basically any of the above except the comma.

Marriott defines "sentence"-length in the *Historia Augusta* as "a sequence of words terminated by a full-stop, colon, or interrogation mark"<sup>4</sup>. He compared the distribution of word-sequences in the *HA* to those found in the following control texts: the anonymous *De rebus bellicis*, the Codex Theodosianus, and Ammianus Marcellinus. As can be seen on table 1, the result of the comparison seemed to be a philologically and statistically significant difference between the distributions of these texts.

| TEXT                       | MEAN<br>WORDS PER STOP |
|----------------------------|------------------------|
| Historia Augusta.....      | 16.06                  |
| De rebus bellicis.....     | 21.73                  |
| Codex Theodosianus .....   | 26.19                  |
| Ammianus Marcellinus ..... | 36.00                  |

Table 1: Mean "Sentence"-length in the *HA* and some fourth-century texts  
[Source: Marriott 1979]

I emphasize the word "seemed" in the previous sentence, for Sansone 1990 pointed out some of the fundamental problems with Marriott's study.<sup>5</sup> First, Sansone rightly

<sup>2</sup> Syme 1983b: 212. Marriott's conclusion has also been accepted by Honoré 1987: 156 n. 8 and Scheithauer 1987: 160.

<sup>3</sup> Marriott 1979 cites Wake 1957; cf. also, e.g., Frischer 1991: 42; Hörandner 1981: 36.

<sup>4</sup> Marriott 1979: 66. In what follows, I put the word *sentence* into quotation marks when the word is used loosely to mean "a sequence of words between two strong stops."

<sup>5</sup> Sansone's critique has been accepted by Meißner 1992.

criticized the failure to include hyphens and semi-colons among the strong stops indicating what we can loosely call "sentence"-end. We might also add that words in parentheses should also have been taken into account. Secondly, Sansone noted that Marriott's control texts represent different literary genres: the *HA* is biographical; the *De rebus bellicis* is a technical treatise; the *Codex* is a legal code; and Ammianus wrote a history. Sansone observed that the only control text Marriott used from the same genre as the *HA* was the *Liber De Caesaribus* of Aurelius Victor, but Marriott inexplicably used Victor only in his second study of word-type at the beginning and end of "sentences", not in his comparisons of "sentence"-length. Since generic conventions affect so much of ancient style, Sansone rightly considered this comparison of apples and oranges to be a major flaw in the design of Marriott's "sentence"-length experiment.

Sansone's purpose was purely critical; he did not attempt to repeat Marriott's "sentence"-length study, making the necessary corrections. This we can do by comparing the *HA* to other examples of Roman biography and historiography, including this time the text of Aurelius Victor. As table 2 shows, with proper control texts, the large differences Marriott found between the *HA* and other texts all but vanish.

| AUTHOR/TEXT          | CENTURY | GENRE     | MEAN WORDS/STOP | SD    |
|----------------------|---------|-----------|-----------------|-------|
| Historia Augusta     | IV      | Biography | 16.06           | 10.67 |
| Eutropius            | IV      | History   | 14.42           | 07.77 |
| Aurelius Victor      | IV      | Biography | 16.36           | 09.19 |
| Suetonius            | II      | Biography | 17.18           | 10.32 |
| Tacitus, Ann., Hist. | II      | History   | 14.06           | 08.79 |
| Tacitus, Agricola    | I       | Biography | 14.93           | 09.69 |
| Livy                 | I B.C.  | History   | 14.92           | 10.35 |
| Caesar               | I B.C.  | History   | 17.33           | 11.87 |
| Cornelius Nepos      | I B.C.  | Biography | 15.87           | 10.17 |
| Sallust              | I B.C.  | History   | 15.90           | 10.26 |

Table 2: Mean words per Strong Stop in *HA* and generically-related control texts<sup>6</sup>

From these data, it is clear that the mean length in the *HA* (16.06) is near the middle of what may be called the normal range for biography and history. This extends from a low of 14.06 (Tacitus' historical works) to a high of 17.33 (Caesar). Mean length

<sup>6</sup> SD = standard deviation. The texts used were the following: Eutropius — random sample of 100 sentences (ed. Ruehl [1919]); Aurelius Victor — random sample of 100 sentences (ed. Pichlmayr [1911]); *Historia Augusta* — complete text (Hohl 1965); Suetonius — complete text (Ihm 1908); Tacitus, Agricola, Ann. 1–3, Hist. 1–3 (Fisher 1906); Livy — random samples of Books 1–4, 24–26 (Conway, Walters 1955); Cornelius Nepos — complete lives of Alcibiades, Atticus, Chabrias, Cimon, Conon, Dion, Lysander, Miltiades, Pausanias, Themistocles, Thrasybulus, Timotheus (Marshall 1977); Sallust — complete *Bellum Jugurtinum* and *Catilinae* (Kurfess 1957).

does not appear to be determined by the difference in genre between history and biography, nor by the difference in date. The range among the historians is from 14.06 (Tacitus) to 17.33 (Caesar). Among the biographers, it is quite similar, going from a low of 14.93 (Tacitus' *Agricola*) to a high of 17.18 (Suetonius). In the first century B.C., the means vary from a low of 14.92 (Livy) to a high of 17.33 (Caesar); in the first and second century A.D., the variation is similar, rising from a low of 14.06 (Tacitus' historical works) to a high of 17.18 (Suetonius). Finally, in the fourth century, we find much the same thing: the lowest mean is 14.42 (Eutropius); the highest is 16.36 (Aurelius Victor).

We should also note that the difference Marriott found between the *HA* and one of his control texts — Ammianus Marcellinus — was inflated by the fact that Marriott used C. U. Clark's edition (Berlin 1910) that consciously applied a peculiar system of punctuation favoring the comma over the other internal punctuation marks. Using Gardthausen's edition of 1874 or Galletier's of 1968 (both of which use a more standard punctuation) makes the mean for Ammianus drop from Clark's 36.0 to 22.7 and 23.4 respectively. (Here it might be noted with regret that Marriott never specified which editions he used nor why he chose the ones he did.) Now the adjusted difference between Ammianus and the other texts is still stylistically significant. In explaining this difference, we should perhaps take into account the fact that Ammianus was a native speaker of Greek, not Latin, and his *Sprachgefühl* may therefore be abnormal. Because, e.g., Greek has the definite article and uses particles with greater frequency, Greek sentences tend to be longer than Latin ones. For example, in Book I of Polybius the mean is 25.0 (S.D. = 13.65; random sample of 250 sentences; text: Paton); in Plutarch's life of Cicero the mean is 24.6 (S.D. = 14.73; text: Ziegler); in Book 50 of Dio the mean is 24.5 (S.D. = 16.67; text: Boissevain).

Table 3 shows that within the *HA* itself, we find practically the same distribution of mean lengths as we find between the *HA* and the control texts used in table 2:

| AUTHOR/TEXT              | CENTURY | GENRE     | MEAN       |       |
|--------------------------|---------|-----------|------------|-------|
|                          |         |           | WORDS/STOP | SD    |
| Historia Augusta (whole) | IV      | Biography | 16.06      | 10.67 |
| Spartianus               | "       | "         | 16.03      | 09.90 |
| Capitolinus              | "       | "         | 16.54      | 10.60 |
| Gallicanus               | "       | "         | 14.24      | 09.64 |
| Lampridius               | "       | "         | 15.99      | 11.07 |
| Pollio                   | "       | "         | 16.61      | 11.65 |
| Vopiscus                 | "       | "         | 15.37      | 10.40 |

Table 3: Mean words per Strong Stop in *HA* (whole) and in the six *HA* authors

Here, the lowest mean is found in Gallicanus (14.24); the highest occurs in Pollio (16.61). Thus, if Marriott's assumption that words per strong stop is a good indicator of authorship were correct, we could at this point use the data of tables 2 and 3 to reject Dessau's thesis of unitary authorship of the *HA*. The reason is clear: if Marriott is

on the right track, Dessau's thesis would require that the range of lengths within the *HA*-group be much smaller than that in the entire group of control texts; but this is not the case. In fact, the *HA* range of 14.24 to 16.61 is quite similar to what we found on table 2. The Dessau-Marriott thesis would also require that the overall *HA* mean (16.06) differ markedly from the overall mean of the control group (15.49 excluding the *HA*, or 15.70 including it). However, the difference we actually find of about one-half word is philologically trivial – and far less than the difference that emerged when Marriott's generically unrelated control texts were used. Here it is important to distinguish sharply between statistical and philological significance. Given a large enough sample, the difference between a mean of 15.49 and 16.06 could easily be statistically significant in a hypothetical case. This would simply indicate that the difference is not the result of chance. It does not imply that the difference has any particular importance from the point of view of philology or stylistics. To gauge such importance, there is no substitute for the judgment of the qualified subject-expert. Thus, even when we utilize statistics, a subjective element of judgment remains inevitable and, indeed, necessary in our work as philologists.

At this point, we should consider Sansone's third criticism of Marriott. Implicit in Marriott's study and in my preceding remarks is the assumption that number of words per "sentence" is a legitimate tool of analysis. Sansone challenges this assumption head-on. He grants that it might be valid for works of modern literature, which were punctuated by their authors. However, he denies that it is valid for ancient Latin texts punctuated by modern editors because there must inevitably be differences between the modern text and the author's lost original, just as there are (allegedly) great differences in punctuation between modern editions of an ancient text.<sup>7</sup>

On this score, I believe that Sansone has gone too far in his critique, exaggerating the difficulties that arise because we must rely on modern editions. I would defend Marriott's reliance on words-per-strong-stop on five grounds. First, as Wingo has shown, Latin literary texts were typically punctuated. The units indicated by punctuation marks include: word-breaks that we, today, mark with spaces; phrases and clauses that we, today, mark with commas; compound sentences that we mark with semicolons; parenthetical asides that we mark with hyphens or parentheses; sentences that we mark with periods, exclamation points or question marks; and paragraphs, which we, today, indicate by indentation.<sup>8</sup> Thus, in studying words per strong-stop, we are working with a feature that falls within ancient practices of punctuation.

Secondly, as Wingo has also shown in the cases of texts like the *Monumentum Ancyranum* and the *Laudatio Murdiae*, when an ancient literary text happens to survive, there is a high degree of coincidence between ancient and modern punctuation.<sup>9</sup>

<sup>7</sup> Cf. Sansone, 1990: 174–75.

<sup>8</sup> See Wingo 1972: 94–131.

<sup>9</sup> Wingo 1972: 37–41 (*Monumentum Ancyranum*); 90–91 (*Laudatio Murdiae*).

Thirdly, Sansone has overestimated the degree of difference to be found in two modern editions of the same text. I have compared mean words per strong stop in two editions of Ammianus Marcellinus produced a century apart by scholars of different nationalities. I found that there was only a slight difference in the two means. The study considered random samples of about 200 "sentences" of Books 14–16 of Ammianus Marcellinus. As noted earlier, in Gardthausen's edition of 1874, mean number of words per strong stop was 22.7. In Galletier's text of 1968, the mean was quite close: 23.4. Similar results are also found in a study of two editions of Cicero's Sixth Philippic.<sup>10</sup> Fourthly, this similarity undoubtedly arises in part from the fact that in Latin there are some obligatory lexical markers of sentence-beginning, especially the inceptive adverbs.

Finally, Sansone does not take into account the fact that statistical tests typically have confidence intervals and so are robust enough to take into account such minor differences as that just reported in editions of Ammianus Marcellinus. If, for example, we run a comparison of means test to see if we are justified with 95% certainty in rejecting the hypothesis that Gardthausen's text could be a sample from the same work as Galletier's, the result is negative. That is, we are not justified in supposing that the two editors are punctuating a different original text.<sup>11</sup>

To return to Marriott, thus far in our critique, we have been speaking of philological significance. What about statistical significance? Here, too, Marriott's study claims more than we can grant. Marriott reports that he ran a difference of means test on the six *HA* authors. This test yields values ranging between 0% probability and 100% probability in favor the so-called null-hypothesis. Normally, one accepts the null-hypothesis when the probability is 5% or more in its favor; if the probability falls below 5%, then one rejects the null hypothesis and accepts the alternative hypothesis. In Marriott's application of the test, the null hypothesis is that the mean "sentence"-lengths of each *HA* author are so similar that they are probably samples of a single author. The alternative hypothesis is that the mean "sentence"-lengths for each of the *HA* authors are so different that they are unlikely to be samples drawn from the works of a single author.

<sup>10</sup> In the edition of A. C. Clark (1918), there are 156 "sentences" with a mean of 10.94 words and a standard deviation of 7.99 words. In the edition of Shackleton Bailey (1985) the same speech is divided into 141 "sentences" with a mean of 11.16 words and a standard deviation of 8.439 words.

<sup>11</sup> For Gardthausen (1874) the data is:  $Y = 22.73$ ; Standard Deviation = 12.82;  $N = 170$ . For Galletier (1968), the data is:  $Y = 23.40$ ; Standard Deviation = 12.45;  $N = 187$ . In the  $z$ -test,  $H_0$  is that Galletier's mean equals Gardthausen's (implying that the two texts are samples from the same underlying text, i.e., Books 14–16 as written and punctuated by Ammianus himself).  $H_a$  is that Galletier's mean does not equal Gardthausen's (implying that the two texts are not samples from the same underlying text).  $Z = .768$ , which has a  $P$ -value of .2236, so we fail to reject  $H_0$  at  $\alpha = .05$ .

Marriott does not give the calculations<sup>12</sup> but merely asserts (67–68), “if this test is applied ... the *Historia Augusta* is homogeneous. The six ‘authors’ show no significant difference among themselves, while they are totally distinct from any of the control texts.” Yet, *pace* Marriott, if the means of the two extreme authors—Gallicanus and Pollio — are compared with this test, we find that the probability in favor of the null hypothesis is far less than 1%, and so we firmly reject the hypothesis that Gallicanus and Pollio are really the same author and accept the alternative hypothesis of their heterogeneity.<sup>13</sup> Moreover, here, again, we find a design flaw in Marriott’s experiment. If one suspects that the six authors of the manuscripts are fictions, and that one author really wrote the entire collection, then the proper course of action is to compare — not each of the six authors against the other five — but each of the thirty biographies against the other twenty-nine. This we will presently do.

Once again, having the right control texts helps us to see the futility of using words per strong stop as an indicator of authorship. If we run a difference of means test for the overall mean of the *HA* as against the mean of Cornelius Nepos, we get a P value of 29.7%. This P-value is far greater than 5%, the highest value that would permit us to reject the null hypothesis that the texts are random samples from the same author. When we run the same test comparing Aurelius Victor and the *HA*, our P-value is 31.3%, so that once again we fail to reject the null hypothesis of unitary authorship.<sup>14</sup> Thus, by Marriott’s reasoning, the *HA* and the biographies of Cornelius Nepos and of Aurelius Victor could have been written by the same person. I would argue that a more reasonable explanation would be that words per strong stop is not a good indicator of authorship in the genre of Latin biography.

The statistical test that Marriott uses is called “bivariate” and is not as efficient for the kinds of multiple comparisons we would like simultaneously to make as is a multivariate test like the chi-square test. In this test, we can compare all thirty lives of the *HA* at the same time, trying to determine if they have as many words per strong stop as we might expect if they were all written by the same author. Like the difference of means test, the chi-square test also yields values ranging between 0% probability and 100% probability in favor the null-hypothesis. Once again, we reject the null-hypothesis when the probability in its favor is less than 5%. In our case, the null hypothesis is that all the lives were written by the same author. The test of this hypothesis is firmly rejected, because the probability of its being correct is less than

<sup>12</sup> And (at p. 67) he errs in giving the formula, where instead of the equal sign (=) read +/-.

<sup>13</sup> The exact P-value is just 0.0019, meaning that the odds are only about 2 out of 1,000 that the texts attributed to Gallicanus and Pollio are actually samples of a single author.

<sup>14</sup> This is not to say that the difference of means test does not sometimes work: it does, for example, in the case of Suetonius vs. *HA*, where the P-value is .000. My point is not that the test never works, but that it is too unreliable to be of use in a case like the present one where authors are striving to conform to a stylistic norm.

1%: only 0.5%, to be exact.<sup>15</sup> This is not surprising: although the chi-square test does strongly suggest that Nepos' biographies were all written by the same person,<sup>16</sup> the probability in favor of Tacitus' historical works being written by the same author is only about 3.5%; and for Livy, the odds are even lower — ca. 2.0%.<sup>17</sup> So, here, too, we find that the mean number of words per strong stop is not a very reliable indicator of authorship. The reasons are that even though the mean values in these authors are philologically close as a group, within each author they differ enough from work to work, and there are a sufficient number of cases to give these differences statistical significance.

A still more powerful test is the analysis of variance (ANOVA). Thus far, in both our test of the difference of means and of chi-square, we have considered only the mean number of words per strong stop and the standard deviation from the mean in the *HA* and in our control texts. In so doing, we have been ignoring the information we have about the precise shape of the distribution of "sentence"-types: the percentage of sentences of one word, two words, three words, etc. If the number of words per strong stop is in fact a good way of discriminating one author from another, we might well expect that not only the mean "sentence" length but also the distribution of all "sentence" lengths in texts by an author provide telltale signs of his unique style. However, this turns out not to be the case, driving yet another nail into the coffin of Marriott's hypothesis.

To show this, Nepos' longer biographies were studied because they had done so well on the chi-square test. If we run an ANOVA test of the 429 "sentences" of Nepos's lives of Alcibiades, Atticus, and Dion, we find that the probability is 0.00% that the distribution of "sentence"-types in each life is so similar that we may view them as samples from the same population.<sup>18</sup> The same result (0.00%) was found when an ANOVA test of lives of Suetonius was run.<sup>19</sup>

We may conclude, then, by observing that "sentence"-length is not a reliable indicator of authorship in our group of Roman historians and biographers. Mean "sentence"-lengths in works by authors writing in these related genres are too similar and the distributions of "sentence"-lengths in individual works by an author are too disparate to allow "sentence"-length mean or variability to help us discriminate the works of one author in the group from another. This does not necessarily mean that

<sup>15</sup> Chi-square = 91.932; degrees of freedom are 58;  $P = 0.005$ .

<sup>16</sup> Chi-square = 2.38 with 12 degrees of freedom, giving a  $P$ -value of ca. .999.

<sup>17</sup> For Livy, chi-square = 23.31 with 12 degrees of freedom. For Tacitus, chi-square = 29.53, with 14 degrees of freedom.

<sup>18</sup> In the ANOVA test run, the sum-of-squares was 913.026 with two degrees of freedom; the mean-square was 156.513. The  $F$ -Ratio was 34.887, which has a  $P$ -value of 0.000.

<sup>19</sup> In the ANOVA test, the lives of Caesar, Augustus, Tiberius, and Claudius were studied. The sum-of-squares was 2,452.74 with three degrees of freedom; the mean-square was 817.58. The  $F$ -Ratio was 6.12, which has a  $P$ -value of 0.000.

the Dessau thesis is wrong — only that it cannot be proven, as Marriott supposed, by using words per strong stop as a discriminator.

## 2. Theory and practice of “Sentence”-length in Cicero

This negative conclusion does, however, give rise to a more positive and important insight into the stylistic characteristics of these genres of Latin literature. The discovery that mean “sentence”-length of the works in the *HA* and our control texts fall into a rather narrow band of ca. 14–17 words (with philological, if not statistical, significance) is unexpected and therefore interesting.<sup>20</sup> How are we to account for this fact?

One place to start is rhetorical theory. Beginning with Aristotle, it is clear that the ancients had a theory of the proper size of a period. In the *Rhetoric*, Aristotle said that the orator’s period should be εὐσύννοτος (“of a size to be taken in at one view”) and εὐανάπνευστος. This Aristotelian hapax means either “easy to repeat in a breath” or, as Adamik has recently suggested, “easily utterable from the point of view of breathing.”<sup>21</sup> In terms of constituent parts, the ideal Aristotelian period consisted of one or two cola. Demetrius implies an orator’s normal period-length would be two to four cola long (16); he also recognizes the one-colon period and sets four cola as the upper limit (17).

On the Roman side, Cicero felt that the average sentence should have four cola, making it about as long as a line of dactylic hexameter; but he is not insistent (*Orat.* 221–222). Quintilian (9.4.68) assumes that a period should be pronounced in one breath — in terms of length, four *senarii*; measured in cola, he sets two as the minimum length and four as the normal maximum, but he grants (9.4.125) that some periods have more than four cola.<sup>22</sup>

The rhetoricians also recognized that the styles of periods should vary by literary genre. Demetrius distinguishes between the genres of narration, dialogue, and oratory.<sup>23</sup> In Quintilian, there is a similar scheme, with oratory and history (9.4.15–18) contrasted to the looser genres of the letter and dialogue (*ibid.* 19–20). Cicero may well have agreed — he recognizes the genres of philosophic writing and of history

<sup>20</sup> As far as I am aware, the only anticipation of this finding is in Charpin’s observation of the number and size of sequences of phrases (measured in terms of words) in sample texts ranging from Plautus to St. Augustine; see Charpin 1977: 222. There are, however, many problems with Charpin’s work, including small sample size; paucity of authors in the study; ignoring of the genre of the works; and calculation based on sentence-length, not on words per strong stop. Nevertheless, Charpin’s thesis contains many suggestive findings that deserve further study that would be much more easily done today in view of advances in computing and the digitization of the bulk of the Latin authors by the Packard Humanities Institute.

<sup>21</sup> *Arist. Rhet.* 1409b 13ff., on which see Adamik 1984: 187–188.

<sup>22</sup> On the subject of period length in the rhetoricians, see Schenkeveld 1964: 33.

<sup>23</sup> 19; see Schenkeveld 1964: 40.

next to oratory in the *Orator*<sup>24</sup> — but in his discussion of the period in that work, he is primarily concerned with oratory. He does, however, tell us that the historian's period in his *contiones et hortationes* is "carried along and smooth-flowing" (*tracta quaedam et fluens*, *Orat.* 66),<sup>25</sup> while that of the orator is "vigorous and forceful" (*contorta et acris*).<sup>26</sup> Demetrius makes a somewhat similar contrast between the simplicity (*ἀπλότης*, 19) of the historian's period as against the tenseness and roundness of the orator's (*συνεστραμμένον ... καὶ κυκλικόν*, 20).

Calboli has recently suggested that with the help of the computer we are in a better position to gauge the degree to which ancient prose reflects rhetorical theory.<sup>27</sup> The present study is a case in point. Measuring sentences in terms of words per strong stop is very different from calculating, as the ancients did, by the number of cola in a period. Words can have one, two, or more syllables and so are not a fixed unit of measurement. The colon can have few or many words; it is therefore an even more elastic measuring rod than the word. Moreover, not all Roman prose is periodic. For us, the importance of ancient theories of the period is that they existed at all and had a quantitative as well as a qualitative aspect. This encourages us to investigate the possibility that a measurement in terms of words per strong stop might turn up similarities between authors writing in related genres. Thus far, we have seen such similarities in the case of biographers and historians. Let us see if their mean "sentence"-length differs from that of the orators, as is suggested by Ciceronian theory.

Who better to study than Cicero himself? Table 4 gives the data follows for slightly over half of his 58 extant speeches: Cicero's mean number of words per strong stop (16.55) is well within the range we have seen for the biographers and historians. However, in Cicero's case, there is a great deal more variation around the mean, and the fluctuations may be associated with chronology. As figure 1 shows, in the earliest preserved orations and in the latest, the average number of words per strong stop is far below the overall average in the corpus as a whole. In the big middle period of Cicero's oratorical career (say, from 70 to 52 B.C.), the number of words found in the typical clause exceeds the overall average. Thus, Cicero's development as a speaker can be characterized as parabolic, rising from a low mean in an early speech like the *Pro Quinctio* (12.81) to a high of 23.44 in the mid-career *Post Reditum ad Populum* and then falling back into the 11–15 range in two of the three "Caesarian speeches"

<sup>24</sup> 62–66. Cicero also makes a strong distinction between Thucydides' style and that of the orator in *De Optimo Genere Oratorum* 15.

<sup>25</sup> I take *tracta* closely with *fluens* in the sense of carrying along currents of water (cf. OLD s.v. *traho* 3).

<sup>26</sup> Cf. *Orat.* 66: *huic generi historia finitima est, in qua et narratur ornate et regio saepe aut pugna describitur; interponuntur etiam contiones et hortationes, sed in his tracta quaedam et fluens expetitur, non haec contorta et acris oratio.*

<sup>27</sup> In Norden 1988: II | 139.

and in the *Philippicae*.<sup>28</sup> Given the relationship between strong stops and natural pauses for breathing, this development may well reflect the gain in strength and lung-power that Cicero tells us occurred when he studied with the rhetor, Molon, in the years 79–77.<sup>29</sup> The drop in words per strong stop from 46 to the end of his life may likewise be a reflection of the fact that Cicero's oratorical powers were on the decline after what he called (Marc. 1) the *diuturnum silentium* of the years from 51 to 47 in which he gave no public speeches. He had apparently allowed himself to get out of shape, but his breath control was improving as he reached the late *Philippics*.<sup>30</sup>

Mean Words/Stop in 30 Orations of Cicero

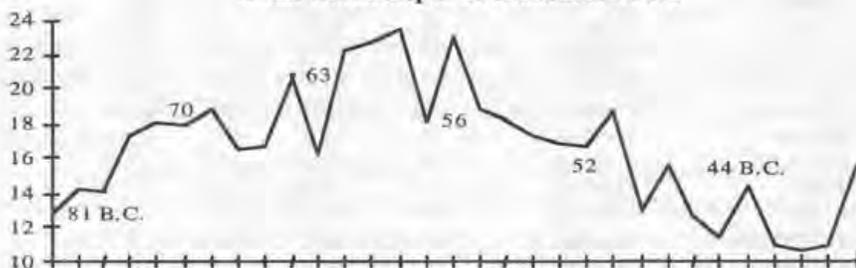


Figure 1: Graph showing words per Strong Stop in 30 Ciceronian orations  
[Y axis = Mean number of words per strong stop; X axis = Date (not to scale)]

<sup>28</sup> Here we may note that the anomalous *Pro Marcello* (whose mean "sentence" length is 18.64 words) is much shorter than the other "Caesarian speeches." Whereas the *Pro Marcello* has 151 strong stops, the *Pro Ligario* has 251 and the *Pro Rege Deiotaro* 280. The source of these and the other Ciceronian texts was the CD-ROM published by the Packard Humanities Institute.

<sup>29</sup> Cf. Brut. 312–316, especially 316: *ita recepi me biennio post non modo exercitior sed prope mutatus, nam et contentio nimia vocis resederat et quasi deferverat oratio lateribusque vires et corpori mediocris habitus accesserat*. Of course, Cicero's published speeches do not have to correspond exactly to the original orally-delivered versions (cf. Humbert 1925), but Narducci (1991: 33) is certainly correct in calling the relationship between the lost oral originals and the preserved written versions a "vetusta, e secundo me insolubile, questione." In lieu of any definitive reason not to do so, I will use as a working hypothesis the assumption that the preserved speeches do give us fairly accurate evidence of the "sentence"-lengths of the oral originals.

<sup>30</sup> Cicero speaks about the orator's need to stay in good physical condition at De Orat. 3.220. A similar development in the case of Demosthenes was postulated by Pearson 1975. Pearson did not study the data for mean words per strong stop but looked only at sentences he considered particularly difficult to pronounce. If, however, we take his two extreme cases — the *Against Leptines*, Demosthenes' first public oration, and the *Third Philippic*, which Pearson called filled "with the most remarkable examples of virtuosity" (p. 227) — we find virtually no difference in the overall demands that the speeches make upon the orator. The mean number of words per strong stop in the *Against Leptines* is 19.13; in the *Third Philippic*, 19.17. The standard deviation in the *Against Leptines* is 14.28; in the *Third Philippic*, 14.24.

| SPEECH                | TYPE      | DATE     | MEAN  | SD    | SD/MEAN |
|-----------------------|-----------|----------|-------|-------|---------|
| 1. Pro Quinctio       | Forensic  | 81       | 12.81 | 11.19 | .87     |
| 2. Pro Roscio Amer.   | Forensic  | 80       | 14.19 | 11.44 | .81     |
| 3. Pro Tullio         | Forensic  | 75 (ca.) | 14.10 | 11.88 | .84     |
| 4. In Caecilium       | Forensic  | 70       | 17.17 | 11.92 | .69     |
| 5. Verrines I         | Forensic  | 70       | 18.10 | 12.46 | .68     |
| 6. Pro Fonteio        | Forensic  | 69       | 18.86 | 14.37 | .76     |
| 7. Pro Caecina        | Forensic  | 69       | 16.45 | 13.03 | .79     |
| 8. Pro Cluentio       | Forensic  | 66       | 16.54 | 11.31 | .68     |
| 9. In Catilinam IV    | Political | 63       | 20.76 | 14.43 | .70     |
| 10. Pro Murena        | Forensic  | 63       | 16.27 | 11.87 | .73     |
| 11. Pro Archia        | Forensic  | 62       | 22.27 | 15.81 | .71     |
| 12. Post Red. in Sen. | Political | 57       | 22.57 | 13.51 | .60     |
| 13. Post Red. ad Pop. | Political | 57       | 23.44 | 15.09 | .64     |
| 14. De Domo Sua       | Forensic  | 57       | 18.06 | 14.81 | .82     |
| 15. In Vatinius       | Forensic  | 56       | 23.09 | 16.88 | .73     |
| 16. De Prov. Cons.    | Political | 56       | 18.91 | 13.77 | .73     |
| 17. Pro Balbo         | Forensic  | 56       | 18.22 | 14.36 | .79     |
| 18. In Pisonem        | Political | 55       | 17.28 | 12.78 | .74     |
| 19. Pro Cn. Plancio   | Forensic  | 54       | 16.83 | 12.28 | .73     |
| 20. Pro Milone        | Forensic  | 52       | 16.71 | 13.81 | .83     |
| 21. Pro Marcello      | Political | 46       | 18.64 | 11.96 | .64     |
| 22. Pro Ligario       | Forensic  | 46       | 13.01 | 09.53 | .73     |
| 23. Pro Rege Deiot.   | Forensic  | 45       | 15.43 | 10.68 | .69     |
| 24. Philip. I         | Political | 44       | 12.62 | 09.34 | .74     |
| 25. Philip. II        | Political | 44       | 11.45 | 08.13 | .71     |
| 26. Philip. III       | Political | 44       | 14.43 | 10.06 | .70     |
| 27. Philip. VI        | Political | 43       | 10.94 | 07.99 | .73     |
| 28. Philip. VIII      | Political | 43       | 10.67 | 08.63 | .81     |
| 29. Philip. XII       | Political | 43       | 10.88 | 07.54 | .69     |
| 30. Philip. XIV       | Political | 43       | 15.68 | 12.63 | .81     |
| AVERAGE               |           |          | 16.55 | 12.12 | .74     |

Table 4: Mean words per Strong Stop in some orations of Cicero

Breath control cannot furnish the entire explanation of the variations we find in Ciceronian practice, because our parabola is anything but smooth. In most periods of Cicero's life, we find speeches with quite different mean "sentence"-lengths. Recent work by Adamik would suggest that such fluctuations are related to the three levels of style (as discussed by Cicero in the *Orator*), with longer units being characteristic of the grand style and shorter ones of the plain style.<sup>31</sup> Thus, at Orat. 102, Cicero uses the *Pro Rabirio* to exemplify the high style and the *Pro Caecina* for the low. From the table, we see that the *Pro Caecina* of 69 B.C. had 16.45 words per strong stop, on average, with a standard deviation of 13.03. Adding the *Pro Rabirio* of 63 B.C. to

<sup>31</sup> Cf. Adamik 1993.

table 4, we find that it has a mean "sentence"-length of 20.40, with a standard deviation of 18.35.<sup>32</sup> Here, then, Ciceronian theory would appear to be confirmed by his practice.

Another factor to be considered is the influence on Cicero of contemporary Roman rhetors and orators — particularly in his formative years. In this connection it is pertinent to note that in the *Ad Herennium* the "sentence"-lengths of the short speeches adduced to exemplify the three styles at IV.viii.12, 13, and 14 respectively, are: Grand Style — 12.25 (S.D. = 7.216); Middle Style — 14.53 (S.D. = 9.62); Plain Style — 9.36 (S.D. = 5.76; text: Marx). Here the number of words per strong stop is considerably lower than the Ciceronian average, as we found was also the case in Cicero's early orations written about the time of the *Rhetorica Ad Herennium*. Thus, a full model explaining figure 1 would have to take into account, at the very least, Cicero's early training, his study of breath control, and his application of the doctrine of the three levels of style.

If we compare Cicero's practice with that of the biographers and historians, we find that the differences outweigh the similarities. The main similarity, of course, is in the overall mean number of words per strong stop. As noted, Cicero's 16.55 is within the range we have found for the historians and biographers of all periods. However, works of the latter do not vary as much as do Cicero's and show no pattern of development reflecting the writer's physical condition or use of a particular level of style. Moreover, within each work, the ratio of standard deviation to mean number of words is lower in the historians and biographers than it is in Cicero: Cicero's is .74, whereas that of the historians and biographers is only .63. This means that the degree of variability in the "sentence"-lengths of Cicero's speeches is nearly 20% greater than that found in the historians and biographers. Here it is interesting to note that the *Pro Rabirio* has an even higher ratio — .899. This suggests that "sentence"-length and variability taken together might be good indicators of Cicero's grand style, which among other things is characterized by forcefulness and variety at Orat. 20. These terms might have a range of stylistic applications, including *dilectus verborum*, syntax, rhythm, as well as "sentence"-length.

In this sense, the computer does, indeed, help us begin to test and confirm the accuracy of Cicero's comment in the *Orator* (66) that the historians' style is more smooth-flowing and continuous and that of the orator is more vigorous and forceful, or discontinuous. Obviously, a much more detailed study would be required to test the full conformity of Cicero's practice to his theory of "sentence"-length. For example, at Orat. 66, Cicero does not contrast the historians' style generally to the orators' (as we have done), but specifically comments on the differences in their handling of

<sup>32</sup> I have not included the fragments in the count.

speeches.<sup>33</sup> He also characterizes the philosophical style, which suggests that it might be instructive to compare his philosophical works to his speeches. At any rate, the results reported here may be taken as giving strong encouragement to the potential value of further study, and they lead to the provisional conclusion that Cicero's actual practices involving words per strong stop do, indeed, reflect his theory about the generic factors determining prose style.\*

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<sup>33</sup> *In qua et narratur ornate et regio saepe aut pugna describitur; interponuntur etiam contiones et horationes. Sed in his tracta quaedam et fluens expetitur, non haec contorta et acris oratio.* Cicero contrasts the style of the orator with that of the historian in a general way at *De Optimo Genere Oratorum* 15.

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# Zeitgenosse Horaz

Der Dichter und seine Leser seit  
zwei Jahrtausenden

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Bernard Frischer

**Rezeptionsgeschichte and Interpretation:  
The Quarrel of Antonio Riccoboni and Nicolò  
Cologno about the Structure of Horace's  
*Ars Poetica*\***

I

For Antonio Riccoboni, the fifty-year-old senior humanist at the University of Padua, the summer of 1591 should have been a time of relaxation at the end of a hard academic year that ended with a major disappointment. He had been passed over for the vacant and more prestigious professorship of Moral Philosophy in favor of an obscure Bergamasco priest and schoolmaster, Nicolò Cologno. From mid-July to the end of August Padua is usually muggy and mosquito-ridden – not a place to be doing serious work, if you can avoid it. But Riccoboni had to stay in the city, attending to important business and shoring up his world against the forces that suddenly seemed bent on destroying it.

The Jesuits were causing trouble in Padua, threatening to open their “Counter-University” with offerings in direct competition with Riccoboni's

own poorly-attended classes. Tempers were short, and the students were divided between supporters and opponents of the Jesuits' scheme, which was motivated by their desire to remedy the University's alleged tolerance of heresy.

In early July, some noble university students had run naked through the town, covered only by sheets, and had entered the Jesuit College, where, dropping their sheets, they insulted all present. Riccoboni had to start organizing a defense of his discipline against the Jesuits, which was to bear fruit the next November when the University formally agreed to ask the Venetian Senate to prohibit the Jesuits from offering courses in Padua. What was at stake for a professor like Riccoboni was nothing less than his position and livelihood. University appointments usually were for four years, with a two-year extension at the convenience of the University. Renewal of contracts depended upon a teacher's satisfactory performance of his duties and sufficient student demand for his classes. The Jesuits planned to offer courses in grammar and rhetoric – Riccoboni's field. If successful (and they almost always were, in no small measure because they did not charge fees) the Jesuits could provoke the Venetian Senate into not renewing Riccoboni's contract, or at least into reducing his salary, which at 650 florins was quite handsome for a humanist.

Most on Riccoboni's mind that July, however, was a more pressing and gnawing problem affecting his professional standing at Padua: how best to respond to the brutally sarcastic attack against his views on Horace's *Ars Poetica* published in the late spring by his new nemesis, Cologno.

That Riccoboni and Cologno would project their many-faceted rivalry onto the seemingly unlikely text of Horace's *Ars Poetica* is not as strange as it might seem: the work was a mainstay of the curricula of both religious and lay schools. This fact made the Riccoboni-Cologno debate much more important than we might suspect today and caused the disputants to invest a great deal of emotion in their fight. Just listen to this typical passage, dripping with vitriol, in which Cologno attacks Riccoboni:

You, on the other hand, who think that Horace has written nothing that is coherent and connected, but like a madman babbled things that are

\* The following abbreviations are used in the notes below:

ACBergamo = Archivio della Curia di Bergamo, Archivio Capitolare

AAUPadova = Archivio Antico dell'Università di Padova

ASVenezia = Archivio di Stato, Venezia

*Atti Borromeo* = *Gli atti della visita apostolica di S. Carlo Borromeo a Bergamo* (1575), a cura di Angelo Giuseppe Roncalli (= Pope John XXIII), Fontes Ambrosiani 13-17 (Florence 1936-1957)

BAVaticana = Biblioteca Apostolica Vaticana

BCBergamo = Biblioteca Civica Angelo Mai (Bergamo)

BCPadova = Biblioteca Civica, Padova

BCSiena = Biblioteca Comunale di Siena

BSPadova = Biblioteca del Seminario, Padua

Frischer = B. Frischer, *Shifting Paradigms. New Approaches to Horace's Ars Poetica*, American Philological Association, American Classical Studies 27 (1991)

Weinberg = B. Weinberg, *History of Literary Criticism in the Italian Renaissance*, 2 vols. (Chicago 1961)

10 disconnected, disjointed, and incoherent. ... You, you, Riccoboni, are mad, not Horace.<sup>1</sup>

No wonder Riccoboni was spending July in Padua trying to frame an effective response so that he did not become a laughing-stock.

The *Ars Poetica* is Horace's longest and – at least until the nineteenth century – his most influential poem. The purpose of this talk is to investigate the quarrel of Riccoboni and Cologno, a forgotten, but colorful, event in the modern history of the poem's reception. The Cologno-Riccoboni debate was the first occasion on which scholars came to blows about the internal problem that has most exercised editors and critics over the past four centuries: does the *Ars Poetica* have a clear plan or structure? As such, the quarrel is a landmark in Horatian scholarship that deserves to be better known.

The quarrel arose as a result of Cologno's publication of a book in 1587 in which he claimed to have uncovered the secret of the plan, or *methodus*, of Horace's poem (cf. nr.1 in Appendix I). Although Cologno did not

<sup>1</sup> Cologno, *Responsio*, 27. That Riccoboni was in Padua in mid-July of 1591 is known from a letter addressed to him then by his friend, Belisario Bulgarini (see BCSiena MS C.II.25, fol.18, a letter that I will publish elsewhere). For the story of the rampage of the *bovisti*, see A. Favaro, *Lo studio di Padova e la compagnia di Gesù sul finire del sec. XVI*, *Atti dell'Istituto Veneto di scienze, lettere ed arti*, Ser.5, vol.4 (1877-78) 428ff. For professorial contracts in the sixteenth century see L. Rossetti, *The University of Padua. An Outline of Its History*, trans. A.W. Maladorno Hargraves (Trieste 1982) 27-28. On Jesuit education, see P. Grendler, *Schooling in Renaissance Italy. Literacy and Learning, 1300-1600* (Baltimore and London 1989) 363-399. That Riccoboni's course in rhetoric and poetics in 1590-91 was poorly attended is clear from his published *prolusio*: *Quas quidem artes [i.e., rhetoric and poetics] ad humanitatem praecipue pertinentes quamvis pauci in hoc frequentissimo gymnasio complecti videantur; vel quod damnent studium Humanitatis, prorsus inhumani, earum rerum contemptores, quas ignorant; vel quod depravatos nostri seculi mores sequantur, vendibilioribus quibusdam studiis plus nimio addicti, ut ea tantum curent, unde quaestum faciant, cetera aspernentur ...* (= *oratio xvii* in A. Riccoboni, *Orationes*, vol.2 [Padua 1591] fol.88.). That professors like Riccoboni feared competition from the Jesuits is clear from the speech given by Cesare Cremonini before the Venetian Senate later in 1591, several mss. of which are preserved (cf. BAVaticana Urb. lat. 1028, p.II, ff.415-430: "Oratione ... detta in nome dell'Università del studio di Padova, in Venezia nell'eccellentissimo collegio per levar le scuole delli Padri Gesuiti"). For assessments of Cremonini's speech, see A. Favaro, *Galileo Galilei e lo Studio di Padova*, vol.1, 85.

71 explain why he chose to write specifically about the *Ars Poetica*, his motivation is not far to seek. The *Ars Poetica* starts *in medias res* with the description of the painting of a monster representing a poorly made poem and continues with very little explicit attention paid to its own structure – in fact, most sections follow the previous section without transition or obvious logical connection.<sup>2</sup> As Riccoboni was to put it:

... what do we have [scil., in Horace's *Ars Poetica*]? First there is discussion of plot ... Then the topic is poetic diction. Then we return to plot. Next there is arrangement. Then we are back to diction. After this comes the genres of poetry and the three kinds of diction. Then come comic characters and tragic roles. Then we return to the epic plot. Next, we are back to characters ... What does it mean [for a poem] to be muddled, if not this?<sup>3</sup>

It is obvious even from this brief quotation that for Riccoboni the *Ars Poetica* was far from the "methodical" work that Cologno took it for. The Riccoboni-Cologno quarrel began in April or May of 1591 when Riccoboni, in his *Dissensio*, made his objections to Cologno's reading known, and it continued throughout the spring and summer of that year with a rapid-fire exchange of five tracts (cf. Appendix I, nrs.2 to 6).

How did a quarrel arise on such a seemingly modern question as the structure of the *Ars Poetica*? The distant background of the Cologno-Riccoboni debate is the division of the poem into precepts by the ancient scholiasts, Ps.-Acro and Porphyrio.<sup>4</sup> Cinquecento commentators such as Badius Ascensius (1500), Pigna (1561), and Kragius (1583) imitated this way of analyzing the poem's structure, though they felt no compunction about departing from the scholiasts in detail. For example, whereas Ps.-Acro divides the poem into twelve or thirteen precepts, Badius has 25 *regulae*, Pigna 80 *praecepta*, and Kragius just 18.<sup>5</sup>

<sup>2</sup> See P. Cauer, *Zur Abgrenzung und Verbindung der Theile in Horazens Ars Poetica*, *RhM* 61 (1906) 232-243.

<sup>3</sup> A. Riccoboni, *Dissensio*, 7. The passage quoted relates to just the first 250 lines of the 476-line poem; Riccoboni's disparaging list of jumbled topics continues, touching on the subjects dealt with in the next 226 lines, but the extract given above is sufficient to allow us to see how perplexing a learned reader could find the poem's structure.

<sup>4</sup> On which see Weinberg, vol.1, 73, 78-79.

<sup>5</sup> *De arte poetica, cum commento Iodoci Badii Ascensii* (Paris, Durand Gerlier 1500); *Ioan. Baptistae Pignae poetica Horatiana* (Venice, Apud

A second and more recent motivation for concern with the structure of the poem was the introduction of the convention of paragraphing printed texts. Paragraphing originated in the fifteenth century, gaining popularity as the century proceeded.<sup>6</sup> To divide a work into paragraphs requires that you have at least an elementary idea of its structure. As is clear from Watkins' study of paragraphing of Horace,<sup>7</sup> from their earliest attempts to divide the *Ars Poetica* into sections, editors encountered great difficulties in arriving at a consensus.

Finally, the third motive involved the rediscovery of Aristotle's *Poetics* by sixteenth-century Italian scholars. This is an old story that can be summarized quickly here. Before the Latin translation of Pazzi in 1536, Aristotle's work was little known in the West. Pazzi's Aldine set off a flurry of studies in the 1540s, culminating in what Bernard Weinberg has aptly called the "great commentaries" of Robortello (1548), Maggi-Lombardi (1550), Vettori (1560) and Castelvetro (1570).

Until the mid-sixteenth century, the *Ars Poetica* had dominated Western thinking about poetics. It – not Aristotle's *Poetics* – was, as Stephen Halliwell has recently written, "the central classical source of literary principles, and one which could be much more comfortably combined with the pagan texts at the core of the Renaissance – Vergil, Seneca, Roman Comedy, Ovid – than Aristotle's treatise could ever have been."<sup>8</sup>

All of this changed very quickly once Aristotle's *Poetics* moved to center stage in the 1540s and 50s. To contrast the trajectories of the *Poetics* and the *Ars Poetica* consider that, in his 1318 *Letter to Can Grande della Scala*, Dante cites Horace's *Ars Poetica* but not Aristotle's *Poetics*. In the mid-fourteenth century, Boccaccio cites the *Metaphysics*, not the *Poetics*, for Aristotle's ideas about poetry. A century later, the curriculum of Guarini

Guarini's famous school in Verona included Aristotle's *Ethics*, but for poetic theory, Horace's *Ars Poetica*.<sup>9</sup>

Yet by 1545, less than a decade after Pazzi's translation, Lilio Gregorio Giraldi ranked Aristotle as the best writer on poetics, a view that is also found in Bernardo Tasso's 1562 *Ragionamento della poesia*, and again and again in the *secondo Cinquecento*. Indeed, in Tasso's *Ragionamento*, the *Ars Poetica* is mentioned as a treatment of merely secondary interest along with works by Plato, Plutarch, Strabo, Cicero, and Maximus of Tyre.<sup>10</sup> Clearly in the sixteenth century, Horace's popularity fell in proportion to the rise of Aristotle's.

In the four decades preceding the Cologno-Riccoboni debate in 1591, scholars had first explicitly addressed the problem of the structure of the *Ars Poetica*, and almost all agreed that it suffered by comparison with *Poetics*, which was written by the authority of authorities whom humanists called "the master of method".

By 1561, two explanations for the disjointedness of the *Ars Poetica* had been proposed, neither demonstrated in any detail and neither very satisfactory: the first was that the *Ars Poetica* was loosely written because it was not a technical treatise at all but (allegedly) a letter, and letters are very informal in tone, contents, and structure, or plan. So persuaded were some of the adherents of this view that they even suggested changing the transmitted title of the poem from *Ars Poetica* to *Epistula ad Pisones* and including the poem in Book II of Horace's *Epistles*. These suggestions have been taken very seriously indeed over the past four centuries and have, I have argued elsewhere, seriously distorted our perception of the work. Opposed to what we might call the "letter-thesis" was the alternative

Vincentium Valgrisium 1561); *Q. Horatii Flacci ars poetica, ad P. Rami dialecticam & rhetoricam, resoluta: studio Andreae Kragli Ripensis Dani* (Basle, Per Sebastianum Henricpetri n.d. [preface dated 1583]).

6 See M.M. Smith, Printed Foliation: Forerunner to Printed Page-numbers?, *Gutenberg-Jahrbuch* 63 (1988) 54-70, especially Figure 1 (p.58), with a graph showing the dramatic growth of paragraphing between the years 1465/69 and 1495/1500.

7 R.E. Watkins, A History of Paragraph Divisions in Horace's *Epistles*, *Iowa Studies in Classical Philology* 10 (1940).

8 S. Halliwell, *Aristotle's Poetics* (Chapel Hill 1986) 295.

9 On Dante, see E.R. Curtius, *European Literature and the Latin Middle Ages*, trans. W.R. Trask (New York 1953) 354. For the curriculum in Guarini's school, see J.E. Sandys, *Harvard Lectures on the Revival of Learning* (Cambridge 1905) 79.

10 *De poetica et poetarum dialogus I*, in *Historiae poetarum tam graecorum quam latinorum dialogi decem ... L. Greg. Gyraldo Ferrariensi autore* (Basle 1545) 6. For Tasso, see Bernardo Tasso, *Ragionamento della poesia* (Venice, Gabriel Giolito de' Ferrari, 1562), quoted in E. Williamson, Bernardo Tasso (Rome 1951) 28. According to Williamson, Tasso's *Ragionamento* is chiefly interesting because it reflects the views of the Venetian Academy, of which Tasso was a member.

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position that the *Ars Poetica* was so confusedly written that it deserved neither its title nor much respect from modern students of poetics. Rather, it resembled the very monster that Horace condemns at the beginning of the poem.<sup>11</sup>

Cologno's *Methodus* of 1587 must be read against this background. Explicitly responding to earlier *Cinquecento* attacks disputing the claim of the *Ars Poetica* to be considered a technical treatise, Cologno thought that he had found a way to save the reputation of the poem and of the poet. The key was none other than Aristotle's *Poetics*. In the *Poetics*, Aristotle considers plot to be the "soul" of poetry and thing that distinguishes poetics from the other arts.<sup>12</sup> According to Cologno, there are four kinds of plot – epic, tragedy, comedy, satyr drama. Since these are all treated in a separate section in the *Ars Poetica*, the poem has a plan in the sense that it exhaustively treats its topic.

In 1591, four years after publishing the *Methodus*, Cologno accepted the post of professor of Moral Philosophy at Padua as successor of Jason De Nones, who died the previous December.<sup>13</sup> Before the 1591-92 academic year began in November, Antonio Riccoboni published the *Dissensio*, his first attack on the theory of his new colleague, Cologno. For Riccoboni, the main problems were, in brief, that Cologno did not define what he meant by "plan" or "method"; that the number of genres in the poem and in ancient literature exceeded four; that Horace does not, in any case, treat the epic genre in a separate section, as he does tragedy, comedy, and satyr drama; and that the *Ars Poetica* is not a technical treatise on the model of Aristotle's *Poetics* but simply a friendly letter that Horace sent to the Pisones. To clinch this last point, Riccoboni showed how the poem would have to be rewritten, if it were to have a "plan", in the technical sense of the word.

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The quarrel is worth studying for several reasons, of which undoubtedly the most important is that this was the first serious debate on the problem (still very much on the scholarly agenda, today) of whether or not Horace's longest work has a structure. Scholarly quarrels – if not always pretty sights – do at least have the virtue of raising to consciousness issues that have been lying dormant and of thereby giving impetus to new research.

As we will see, the Riccoboni-Cologno debate resembles most scholarly quarrels in yielding at least as much smoke and heat as light. The light – however weak – is precious: Riccoboni and Cologno grasped that their problem had three theoretical answers, and these three solutions have become perennial in *Ars Poetica* scholarship. The first – Riccoboni's position – is that the poem has no clear structure, but need not have one because it is not a formal treatise but merely an informal letter. The second – Cologno's misunderstanding of Riccoboni's position – is that the poem can be given a structure through massive transpositions of lines to restore an original order supposedly lost through scribal error; and the third – Cologno's position – is that the *Ars Poetica*, for all its superficial confusion, has an implicit structural principle which, once revealed, lends the poem more coherence and unity than are apparent on a first reading.

There are other reasons, as well, for studying the Cologno-Riccoboni debate. Of least importance, perhaps, is the fact that the very few references to the quarrel in the scholarly literature are quite understandably inaccurate. A complete dossier of five tracts has not been available to the handful of scholars over the past three centuries who have shown any awareness whatsoever of the matter. Without all the texts – which I found in the Marciana in Venice several years ago – it is impossible to follow the twists and turns of the debate. This is especially the case because in the most widely circulated polemic, Riccoboni's *Dissensio* (nr.2 in Appendix I), Cologno is not referred to by name but only as "a certain learned man". Of greater importance is the fact that the topic under discussion – poetic theory – has a special importance in sixteenth-century Italy, for, as Bernard Weinberg showed in his monumental study and as has been

<sup>11</sup> The first view is associated with scholars active in northern Italy, such as Francisco Robortello, Jason Denores, and Denys Lambin. The second position was held by Julius-Caesar Scaliger in his influential *Poetices libri septem*. For details, see Frischer, 4-7, with Appendix I for the key texts.

<sup>12</sup> Poet. 1450a39-50b1: "So plot is the origin and as it were the soul of tragedy, and the characters are secondary."

<sup>13</sup> On De Nones see F.E. Budd, A Minor Italian Critic of the Sixteenth Century: Jason Denores, *Modern Language Review* 22 (1927) 421-434.

reconfirmed in two recent surveys,<sup>14</sup> Italian scholars in this period were unusually preoccupied with what might at first glance seem to be surprisingly post-modern subject of critical theory. Our study will suggest some of the reasons for this obsession, which, then as now, have to do with such things as contemporary educational curricula and ideologies; the precarious position of humanities in the universities; the relationship of poetics to logic, rhetoric, and political science in the classification of the sciences; and purely professional rivalries of scholars competing for private and university patronage. So the subject of poetic theory gave scholars interested in many different disciplines a common field on which to joust for public and professional rewards and prestige.

Finally, this study can contribute to the contemporary discussion of the canonization of literary works. Daniel Javitch has recently written an important book tracing how a new work, Ariosto's *Orlando Furioso*, was canonized during the second half of the sixteenth century.<sup>15</sup> Horace's *Ars Poetica* was, as we have seen, long since part of the Western literary canon when Cologno and Riccoboni had their debate in 1591. As we have also seen, the poem's status was threatened by the reemergence of Aristotle's *Poetics* in the middle of the century. In his book, Javitch's focus was on the process whereby a new work becomes part of the literary canon. In this paper I will be studying something complementary: not the original process of textual inclusion but the ongoing and no less important processes of textual retention and exclusion. Let us look briefly at the disputants themselves.

<sup>14</sup> Weinberg; D. Aguzzi-Barbagli, Humanism and Poetics, in *Renaissance Humanism. Foundations, Form, Legacy*, ed. by A. Rabil, Jr. (Philadelphia 1988) 85-169; B. Vickers, Rhetoric and Poetics, in *The Cambridge History of Renaissance Philosophy* (Cambridge 1988) 715-745.

<sup>15</sup> See D. Javitch, *Proclaiming a Classic: The Canonization of Orlando Furioso* (Princeton 1991).

## II Antonio Riccoboni<sup>16</sup>

Antonio Riccoboni was the leading humanist at Padua in the last three decades of the sixteenth century, a glorious period in the history of the University of Padua, in which it was one of the best in Europe. Compared to Cologno, we know a great deal about Riccoboni's character and intellectual formation, both of which are quite relevant to understanding his work on Horace's *Ars Poetica*.

Born in the small town of Rovigo in 1541 to parents "of moderate means, but respectable",<sup>17</sup> he studied Greek and Latin with the leading Veneto humanists of his youth, including, at Venice, Paolo Manuzio and Marc-Antoine Muret and, at Padua, Carlo Sigonio.<sup>18</sup> Returning by 1558 to

<sup>16</sup> A full-length study of Riccoboni's life has never been written. Most informative are the following works: *De Gymnasio Patavino Antonii Riccoboni Commentariorum Libri Sex* (Padua, Apud Franciscum Bolzetam, 1598; reprinted by *Athenaeum. Biblioteca di Storia della Scuola e delle Università*, vol.32, ed. E. Cortese and D. Maffei, 1980) ff.53r-57v; Iacobus Philippus Tomasini, *Patavini Elogia virorum literis et sapientia illustrium* (Padua 1644) 109-112; N.C. Papadopoli, *Historia Gymnasii Patavini*, vol.1 (Venice 1726) 337; G. Mazzacurati, *La crisi della retorica umanistica (Antonio Riccoboni)* (Naples 1961); M. Schiavone s.v. Antonio Riccoboni in *Enciclopedia filosofica*, vol.4 (Florence 1967) col.750; M. Pecoraro, s.v. Antonio Riccoboni in *Dizionario critico della letteratura italiana*, vol.3 (Turin 1973) 187-189; M.R. Canton, *Intorno alla figura di Antonio Riccoboni lettore dello Studio di Padova (1541-1599)*, Tesi di Laurea, Università degli Studi di Padova (Padua 1973); P. Griguolo, *Antonio Riccoboni (1541-1599). interprete della Poetica di Aristotele*, Tesi di Laurea, Università degli Studi di Padova, Facoltà di Magistero [1984].

<sup>17</sup> BCPadova, A. Lollini, in *Patavinorum professorum decadem praefatio ad virum amplissimum oratoremque praestantissimum Iocubum Baronetum*, p. v., c.61r, cited apud M.R. Canton, *Riccoboni*, 12n28.

<sup>18</sup> *Iacobi Philippi Tomasini Patavini Elogia virorum literis et sapientia illustrium* (Padua 1644) 109-112; N.C. Papadopoli, *Historia Gymnasii Patavini*, vol.1 (Venice 1726) 337. On Muret, see C. Dejob, *Marc-Antoine Muret, un professeur français en Italie dans la seconde moitié du XVIe siècle* (Paris 1881); on Sigonio, see W. McCuaig, *Carlo Sigonio. The Changing World of the Late Renaissance* (Princeton 1989); on Manutius, see the bibliography cited by McCuaig, op.cit., at p.9n16. On the Studio of Venice in the sixteenth century, see R. Palmer, *The Studio of Venice and Its Graduates in the Sixteenth Century*. Contributi alla Storia dell'Università di Padova 12 (1983), especially pp.48-49, for the philologically-oriented Scuola di San Marco, where Robortello and Sigonio taught.

78 Rovigo, Riccoboni was enrolled in the College of Notaries.<sup>19</sup> In 1562, he was hired to be a school teacher in the public school founded in the middle of the fourteenth century.<sup>20</sup> By 1570, his prestige was so high that he was elected to the local council and given the task of revising the town's statutes.<sup>21</sup>

Riccoboni never married. He had several siblings, including a learned younger brother, Barnaba. Barnaba lived in Rovigo his whole life, rising to the position of abbot of the Olivetan monastery of S. Bartolomeo and head of the Accademia degli Uniti.<sup>22</sup> The brothers had a close relationship all through their lives, sharing intellectual, as well as personal, interests.

Antonio's rise to local prominence did suffer one major setback. During the early 1560s, he was a member of the Accademia degli Addormentati ("Academy of Sleepers") in Rovigo.<sup>23</sup> Far from being the antiquarian debating societies they were later to become, the *accademie* of mid-sixteenth century Italy were instrumental in promoting religious reform and in some cases even Protestantism.<sup>24</sup> Such was the case with the

<sup>19</sup> Archivio di Stato di Rovigo, Matricola dei notai, 1286-1568, cc. 80 (cited by P. Griguolo, *Antonio Riccoboni (1541-1599), interprete della Poetica di Aristotele*, Tesi di Laurea, Università degli Studi di Padova, Facoltà di Magistero [1984] 10n8).

<sup>20</sup> Accademia dei Concordi di Rovigo, Archivio Storico del Comune di Rovigo, Registri del Consiglio, D.c. 151 (cited by L. Contegiacomo, *Rovigo: Personaggi e famiglie*, in *Le 'iscrizioni' di Rovigo* [Trieste 1985] 485). For a history of the school, see C. Cessi, *La scuola pubblica in Rovigo a tutto il secolo XVI* (Rovigo 1896).

<sup>21</sup> For Riccoboni's enrollment in the *consiglio*, see Accademia dei Concordi di Rovigo, Archivio Storico del Comune di Rovigo, Registri del Consiglio, DE, c. 62 (cited by L. Contegiacomo, *Rovigo: Personaggi e famiglie*, in *Le 'iscrizioni' di Rovigo* [Trieste 1985] 485); for Riccoboni's revision of the town statutes, see A. Nicolio, *Historia dell'origine et antichità di Rovigo* (Brescia 1578) 139.

<sup>22</sup> See S. Malavasi, *Cultura religiosa e cultura laica nel Polesine del Cinquecento: Le accademie degli Addormentati e dei Pastori Fratregiani*, Archivio Veneto 120 (1989) 61-70 at pp.68-69. For information about the Riccoboni family, see L. Contegiacomo, *Rovigo: Personaggi e famiglie*, in *Le 'iscrizioni' di Rovigo* (Trieste 1985) 484-485.

<sup>23</sup> See S. Malavasi, *Giovanni Domenico Roncalli e l'Accademia degli Addormentati di Rovigo*, Archivio Veneto 95 (1972) 47-58, at p.47.

<sup>24</sup> On the *accademie* in general, cf. M. Maylender, *Storia delle accademie d'Italia*, 5 vols. (Bologna 1926); F.A. Yates, *The Italian Academies, in Renaissance and Reform. The Italian Contribution, Collected Essays*, vol.2 (London 1983) 6-29; D.A. LaRusso, *Rhetoric in the Italian*

79 Accademia degli Addormentati. In 1561, anonymous posters plastered around the city accused the Accademia of being a Protestant sect. The next year, the Venetian governor of the city ordered its closure;<sup>25</sup> and its members were investigated by the Inquisition on charges of heresy.<sup>26</sup> These investigations stretched on for several years and uncovered evidence against Riccoboni and the others of Anabaptism and Calvinism.<sup>27</sup> This is not surprising: the Veneto had, from the first, been a center of the diffusion of Protestant ideas in Italy.<sup>28</sup> This episode – which climaxed with the execution of one member of the academy – is, however, a side issue for the 1591 quarrel, and I leave it behind just noting that it left a bitter, anti-clerical taste in Riccoboni's mouth. As we will see, Riccoboni's anti-clericalism played a role in his quarrel with Cologno, an enthusiastic post-Tridentine priest.

Once the trials had ended, Riccoboni left Rovigo for the freer, more tolerant air of Padua, where he began what was to be a brilliant university career in 1571. Upon his arrival in Padua, Riccoboni quickly earned his *laurea* in canon and civil law, which he received in February of 1571.<sup>29</sup> When the distinguished Classicist Marc-Antoine Muret turned down Padua's offer of a professorship in Greek and Roman Humanity, replacing the deceased Francesco Robortello (†March 18, 1567), the posi-

Renaissance, in *Renaissance Eloquence*, ed. J.J. Murphy (Berkeley, Los Angeles 1983) 37-55 at p.44. For the *accademie* in Venice and the Veneto, see the literature cited by Malavasi, *op.cit.* (supra n.23) 48n6; G. Benzoni, *Aspetti della cultura urbana nella società veneta del '5-'600*. *Le Accademie*, Archivio Veneto 108 (1977) 87-159 (cf. pp.113-115 on heterodox academies, including the Accademia degli Addormentati at Rovigo).

<sup>25</sup> See M.R. Canton, *op.cit.* (supra n.17) 18-19.

<sup>26</sup> S. Malavasi, *op.cit.* (supra n.23) 55.

<sup>27</sup> S. Malavasi, *op.cit.* (supra n.23) 50-53; *Intorno al testamento di Giovanni Domenico Roncalli eterodosso rodigino del Cinquecento*, Archivio Veneto 95 (1972) 5-9, at p.7. Veneto Anabaptism generally was the subject of a study by A. Stella, *Dall'anabattismo al socinianesimo nel Cinquecento veneto* (Padova 1967). For Rovigo, in particular, see S. Ferlin Malavasi, *Sulla diffusione delle teorie ereticali nel Veneto durante il '500: Anabattisti rodigini e polesani*, Archivio Veneto 95 (1972) 5-24.

<sup>28</sup> See E. Cochrane, *Italy, 1530-1630* (London and New York 1988) 134-141; A. Stella, *Dall'anabattismo al socinianesimo nel Cinquecento veneto* (Padua 1967).

<sup>29</sup> See M.R. Canton, *op.cit.* (supra n.17) 35.

tion was offered to Riccoboni in May of 1571.<sup>30</sup> This rather surprising turn of events was due, as he tells us himself, to the intervention of a well-placed friend, the Venetian Lorenzo Massa, who worked in Venice for the *Riformatori*, or the public officials in charge of the university. Riccoboni had presumably met Massa during his student days in Venice or Padua.<sup>31</sup> At Padua, Riccoboni taught courses on Greek and Roman, rhetoric, poetics, and oratory.<sup>32</sup> Although he published no scholarly *magnum opus* that would justify our calling him a figure of monumental importance to the field of Classical philology, Riccoboni was quite prolific as a writer and has many books, tracts, and orations to his credit.<sup>33</sup> He is undoubtedly best remembered for offering the first reconstruction of the lost second book of Aristotle's *Poetics* and for his successful attack on the authenticity of the pseudepigraphal *Consolatio Ciceronis* of 1583, which had been vigorously defended by his old teacher, Sigonio – the man who probably forged it.<sup>34</sup>

<sup>30</sup> For the history of the chairs in *litterae humaniores* at Padua in the sixteenth century, see Tomasini, *op.cit.* (supra n.18) 340-343. The decision of the Venetian Senate to hire Riccoboni is dated May 14, 1571: "ha molto bisogno il studio nostro di Padova di uno eccellente lettor di humanità per quelli che danno opera a lettere greche et latine, et però havendosi bonissima informazione della dottrina et peritia di legger dell'ecc.te domino Antonio Riccoboni ... il sudetto ... sia condotto a legger la lettura di lettere greche et latine in concorrenza dell'ecc.te mess Zuanne Fasuo!" (ASVenezia, Registro Senato Terra 48, f.98r, apud A.E. Baldini, *Per la biografia di Girolamo Frachetta, Atti e Memorie dell'Accademia Patavina di Scienze, Lettere, ed Arti, Memorie della Classe di Scienze Morali, Lettere, Ed Arti* 92,3 [1979-1980] 34n89). In Cologno's case, we find quite similar language: I will publish the *condotta* elsewhere.

<sup>31</sup> For Riccoboni's friendship with Massa, see M. R. Canton, *op.cit.* (supra n.17) 35-38, and on Massa see S. Ferlin Malavasi, Domenico Mazzarelli eterodosso rodigino, *Archivio Veneto* 100 (1977) 73n30.

<sup>32</sup> Information about annual course offerings contained in the *rotuli* of the University of Padua in the AAUPadova permit one to reconstruct Riccoboni's activities as a teacher for much of his career. This I will do elsewhere.

<sup>33</sup> An accurate and full bibliography is lacking; for a partial list of titles, see M.R. Canton, *op.cit.* (supra n.17) 50n128.

<sup>34</sup> See W. McCuaig, *op.cit.* (supra n.18) 291-344, for a good account of the Riccoboni-Sigonio quarrel over the *Consolatio*. Riccoboni gives his own version of the quarrel in *op.cit.* (supra n.16) ff.82v-94r. On the forging of Classical texts and their exposure in the Renaissance (without reference to the *Consolatio* affair) see the excellent general article on A.

After the *Consolatio* affair had ended, Riccoboni shifted his attention to rhetoric and poetic theory. The turning-point came during Carnevale of 1585, when Palladio's Teatro Olimpico was inaugurated in nearby Vicenza with a performance of Sophocles' *Oedipus Rex*. Riccoboni attended the performance and soon wrote a critical letter about its lack of historical fidelity to the governor of the city. In the letter, Riccoboni already shows himself to be a staunch Aristotelian.<sup>35</sup> In 1587, Riccoboni published his translation and commentary on the *Poetics*, whose primary goal was to distinguish his views from those of Lodovico Castelvetro.<sup>36</sup> Riccoboni's *Compendium* on the *Poetics* – an abridgement with brief commentary – came out in 1591. In the same year, he included in a book of his speeches two *prolusiones* on Aristotle's rhetoric and poetics that were delivered during the 1590-91 academic year.<sup>37</sup>

This was also a period when – despite a lack of evidence that he was teaching Horace's *Ars Poetica* – he was known to have a keen interest in that text.<sup>38</sup> He taught the poem during the 1596-97 academic year. Finally, after publishing various other works on rhetoric and poetics in the 1590s, in 1599 he published a book comparing the poetics of Aristotle and Horace.<sup>39</sup>

Grafton, *Higher Criticism Ancient and Modern: The Lamentable Deaths of Hermes and the Sibyles*, Warburg Institute Surveys and Texts 16 (1988) 155-170.

<sup>35</sup> See Weinberg, vol.2, 942-945; the text of the letter is published by A. Gallo, *La prima rappresentazione al Teatro Olimpico* (Milan 1973) 39-52.

<sup>36</sup> *Poetica Aristotelis latine conversa: eiusdem Riccoboni paraphrasis in Poeticam Aristotelis: eiusdem Ars Comica ex Aristotele* (Padua, apud Paulum Meietum, 1587); *Antonii Riccoboni Poetica, Aristotelis poeticam per paraphrasim explicans, et nonnullas Ludovici Castelvetrii captiones refellens* (Padua, Apud Paulum Meietum, 1587).

<sup>37</sup> A. Riccobonus, *Orationes, volumen secundum* (Padua 1591). The *prolusio* on rhetoric is *oratio* nr. xvii (ff.88r-93v); that on poetics is *oratio* nr. xviii (ff.94r-99v).

<sup>38</sup> As evidenced by the fact that his former student Giovanni Bonifacio sent him a letter on 7 September 1590 discussing, among other things, his proposal for emending the text of the *Ars Poetica* 139 from *parturient* to *parturiet*, supposedly on the basis of an ancient Horace manuscript he owned; cf. G. Bonifaccio, *Delle lettere familiari*, vol.1 (Rovigo 1627) 113-116, at p.114-115.

<sup>39</sup> *De poetica Aristotelis cum Horatio collatus auctore Antonio Riccobono* (Padua, Apud Laurentium Pasquatium, 1599).

Riccoboni died after a brief illness in the summer of 1599, nearly sixty years old. He was buried in the family tomb he erected three years earlier in S. Francesco in Rovigo, which housed the city's oldest school.

### III Nicolò Cologno<sup>40</sup>

Relatively little is known about Cologno and very little has been written about him in the past three centuries. As will be seen, his obscurity is well-deserved.

Cologno was born in Bergamo sometime in the period, 1510-1520. Since few, if any, baptismal records are extant in Bergamo prior to 1564, it is difficult to document Cologno's exact birth date. For our purposes, the most important point is that he was at least twenty years older than Riccoboni. From unpublished sources we learn that Cologno's father's name was Girardo, son of Moyses, and he had at least one sibling, a brother named Antonio.<sup>41</sup>

In published sources we have very little information about Cologno's family. A source dating to the mid-1530s described Cologno's social status as "middle-class" (*mediocre*). In an autobiographical poem dedicated to Federico Cornaro on the occasion of Cornaro's appointment as Bishop of Bergamo in 1561, Cologno tells us that his father died when he was young, leaving him impoverished. Perhaps because of the economic blow of the premature death of his father, Cologno seems never to have earned the *laurea*, but he did go to Padua as a young man.<sup>42</sup> Since he had

<sup>40</sup> See *Index Bio-bibliographicus Notorum Hominum*, vol.39 (Osnabrück 1986) 336, citing C.G. Jöcher, *Allgemeines Gelehrten-Lexicon*, 1. Theil (Leipzig 1750) 2020.

<sup>41</sup> See BC Bergamo MS AB 155, Giuseppe Mozzo, *Antichità bergamasche*, tom.IIc (ca. 1750-1770), Index book 22 (Gab. 0.1.16 bis) fol.113r: "1577 ... Nicolaus fig[lio] d[i]. Girardi de Colonio"; fol.113r: "1588 ... Antonius f[iglio] d[i] Girardi de Colonio."

<sup>42</sup> That he may not have earned the *laurea* may be inferred from the absence of his name from E. Martellozzo Forin (ed.), *Acta graduum academicorum ab anno 1526 ad annum 1537* (Padua 1970) and from the index volume to the *Acta graduum* for the years, 1501-1550 (Padua 1982). There is a chance he may have earned his degree elsewhere since

a good knowledge of Latin and Greek, he was able while there in 1536 to find employment as the household tutor of Cosimo Gheri, the 23-year-old Bishop of Fano.<sup>43</sup> From a series of letters, published and unpublished, we can reconstruct this most happy period in Cologno's life, which ended with the tragedy of Gheri's death at age 24 on September 24, 1537 from a Tertian fever. It was in this period that Cologno's deep interest in religion was awakened – in no small measure because of the execution of the Catholic martyrs, Thomas More and John Fisher, by Henry VIII and the flight of inspirational English churchmen like Reginald Pole to the Veneto. Pole and Gheri were members of the Pietro Bembo circle. Though a mere satellite in that circle, Cologno was able to rub elbows with some of the intellectual elite of his day. That he viewed this as one of his life's peak moments is clear from an autobiographical poem he wrote twenty-five years after Gheri's death, in which at one point he exclaims:

How happy and pleasing to me were those days, o Gheri, when I chanced to live with you – indeed that, that was truly deserving to be called life:

Toil or Death, ... you beware lest you think anyone could be better or more brilliant than was that godlike youth, the late Bishop of Fano!

Both Priuli and Pole revered him as a friend;

he was honored by most learned Bembo, whom no age surpasses and no age may ever match: at that time the famous city had such great heroes. I rejoice to have lived then. If perchance I have anything of value, I seized it then from his golden gatherings ...

Every man mentioned in these lines was a bishop or cardinal. Religion, then, played just as fundamental a role in the life of the young Cologno as it did for Riccoboni, but the circumstances of their times were quite different. For Cologno, it was Protestant cruelty and the exemplary piety and learning of Catholic churchmen like Gheri and Bembo that was

S. Carlo Borromeo calls him "doctorem ... Nicolaum Colonium, virum eruditum" in *Acti Borromeo*, vol.1 (Florence 1936) 372.

<sup>43</sup> On Gheri, see Vita di Monsignor Cosimo Gheri, in *Monumenti di varia letteratura tratti dai manoscritti di Monsignor Lodovico Beccadelli, arcivescovo di Ragusa*, Tom.I, Parte I (Bologna, Nell'Istituto delle Scienze, 1797) 171-196; P. Paschini, *Un amico del Card. Polo: Alvise Priuli, Lateranum* 2 (Rome 1921) 35-41. There is much useful information and more recent bibliography about Gheri in G. Fragnito, *Aspetti della censura ecclesiastica nell'Europa della Controriforma*, *Rivista di Storia e Letteratura Religiosa* 21 (1985) 3-48.

decisive. Born a generation later, Riccoboni associated the Church's role in Italy with the equal-but-opposite repression of the Counter-Reformation.

Cologno seems to have been present in Fano a few weeks after Bishop Gheri's death, but after October, 1537<sup>44</sup> we lose track of him for over eighteen months. The reason for this is that, with the death of Gheri, his brothers were sent to the courts of Cardinals Pole and Contarini in Rome, so there was no more need of the services of Cologno.<sup>45</sup>

We next encounter Cologno in Bergamo, giving a public lecture on the poetry of Horace. The lecture went so well that a few days later, on June 3, 1539, the *Magnifico Consiglio* of Bergamo hired him for three years to serve as grammar teacher in the town's revived public school.<sup>46</sup> The contract survives in the records of the town council. Not preserved is any notice of the renewal or termination of Cologno's contract.

From two unpublished letters, we also learn that during the period, 1536-1543, Cologno was friendly with the publisher and scholar, Paolo Manuzio, with whom he occasionally corresponded.<sup>47</sup> In the second letter, dated January 29, 1543, Cologno sounds somewhat bored with life in Bergamo and eagerly asks Manuzio for the news from Venice. We also learn that he is once again friendly with a bishop. The unnamed bishop is Cesare Trivulzio, who served as bishop of Como from 1519 to 1548, and

<sup>44</sup> Elsewhere I will publish a letter of Benedetto Ramberti to Filippo Gheri and his brothers, dated Venice, October 7, 1537. Ramberti asks Filippo to greet Cologno, if he is still in Fano two weeks after Cosimo Gheri's death.

<sup>45</sup> For the breakup of Gheri's household in Fano after an abortive attempt to gain the appointment of Beccadelli as Gheri's successor, see P. Paschini, *Un amico del card. Polo: Alvise Priuli, Lateranum* 2 (Rome 1921) 60-61.

<sup>46</sup> See BC Bergamo, MS s.4.20, Azioni dei Consigli, fol.131v-132r, dated 3 May 1539. The identification of this Nicolò Cologno as our man is also accepted by G. Locatelli, *L'istruzione a Bergamo e la Misericordia Maggiore* (Storia e documenti), Bollettino della Civica Biblioteca di Bergamo 4.4 (1910) 57-169, at p.93.

<sup>47</sup> The letters are in BSPadova ms. 71, foll.87r-88r (Nicolaus Colon[i]us Benedicto Rhamberto, Fano Fortunae, 26 November 1536); foll.93r-94v (Nicolaus Colonius Paulo Manutio, Bergomi, 4 Kal. Feb. 1543). Mention of study of Aristotle is made in the 1536 letter (fol.88r). On Paulus Manutius (1511-1574), see *Nouvelle Biographie Générale* 33 (Paris 1860) 303-310.

who, according to Cologno, had come to Bergamo to find peace and quiet for his literary studies.<sup>48</sup>

No trace of Cologno is found in published or unpublished documents for ten years. In the acts of the canons of the cathedral of Bergamo, Cologno's name appears as a canon from December, 1553 to March, 1566.<sup>49</sup> In 1575, on the occasion of the apostolic visit to Bergamo of S. Carlo Borromeo, whose reports give us many glimpses of life in the town at that period, we find that Cologno is a priest living in the suburban parish of S. Caterina, a modest quarter of the city. His neighbors included a dyer named Stefano, a tailor and his brother, and "the place where the poor of S. Tomaso dwell".<sup>50</sup> We know from one of his tracts of 1591 that he also possessed a *villula* near the Brembo River. The reports of S. Carlo's visit also list Cologno as the *clericus titulatus* of the church of S. Stefano, from which he derived a small income.<sup>51</sup>

Cologno is mentioned as the head of the Accademia dei Chierici di S. Maria Maggiore, a school founded in 1566 and devoted to providing sound, orthodox religious education of clerics aged twelve and older.<sup>52</sup>

<sup>48</sup> I will elsewhere publish Cologno's letter to Manuzio, dated Bergamo, January 29, 1543. On Cesare Trivulzio, see Van Gulik/Eubel/Schmitz-Kallenberg, *Hierarchia Catholica Medii et Recentioris Aevi, sive Summorum Pontificum, S.R.E. Cardinalium, Ecclesiarum Antistitum Series*, vol.3, editio altera (Monasterii 1923) 182.

<sup>49</sup> See AC Bergamo, ms. 158, foll.41v-88v (passim). That Cologno was not a *canonicus* later in his life is also confirmed by the fact that in the marginal notes to Achilles Mutius' poem in praise of Bergamo entitled 'Theatrum, sex partibus distinctum' (Bergamo, Typis Comini Venturae, 1596), Cologno is called a *philosophus* but not a *canonicus*, a title that appears in other notes (e.g., for "Christoforus Tassus Canonicus et Philosophus"; fol.69v).

<sup>50</sup> See *Supplica del parroco di S. Caterina per ottenere che la sua parrocchia facesse parte non del suburbio ma della città*, in *Atti Borromeo* at vol.II, p.70, where in n.1 Cologno is mentioned in the catalogue of residences in the parish.

<sup>51</sup> On Cologno in the reports of S. Carlo's apostolic visit, see *Atti Borromeo* at vol.IV, pp.369, 373. On Cologno's *villula* near the Brembo River, see Cologno, *Epistola*, 1.

<sup>52</sup> For the meaning of "cleric" in the context of such schools, cf. P. Grendler, op.cit. (supra n.1) 6: "a general term that could mean boys intending to become priests, youths in minor orders, or adult clergymen". In the case of Cologno's school, the students belonged to the first two groups.

Here Cologno taught orations of Cicero, Virgil, Horace, Aristotle's *Prior Analytics*, and catechism.<sup>53</sup>

This picture of a cleric, living on his own in modest quarters and earning his living in part from prebends and in part from his own efforts as a teacher conforms to a well-known pattern that has been recently studied by Grendler.<sup>54</sup> In Bergamo itself, Cologno's position was by no means unique, for the town was no provincial backwater but had a modest cultural life, mainly centered on its clerical humanists. Other clerical teachers of humanity in Bergamo in the period include Giovanni Peliccioli, who published a book on Cicero's *Pro Milone*;<sup>55</sup> Christoforo Romanelli, who, like Cologno, published a Latin grammar;<sup>56</sup> and Ercole Manzoni,

<sup>53</sup> *Ant Borromeo* at vol.I, 372; cf. G. Locatelli, op.cit. (supra n.46) vol.4 (1910) 77; *Accademia distincta est in tres classes. Doctorem habet dominum Nicolaum Colonium virum eruditum. Habet quatuor hipodidascalos seu adiutores. Singulis diebus explicatur oratio ciceroniana et poeta unus vel Horatius vel Virgilius. Explicatur etiam liber Aristotelis Priorum. Festis dominicis tantum diebus, catechismus exponitur ab eodem domino Nicolao. Studiorum exercitationes fiunt in dictatis conscribendis, explicationes lectionum repetuntur. Quae observatione digna sunt in commentariis reservantur. Latina vulgariter redduntur et contra dictata vulgariter latine scribuntur aut explicantur. Virgilius aut Horatius memoriae mandantur et singulis sabbatis memoriter pronuntiantur.* Locatelli gives a narrative account of the history of the school at vol.4 (1910) 128-139; see also A. Roncalli (= Pope John XXIII), *La 'Misericordia Maggiore' di Bergamo e le altre istituzioni di beneficenza amministrate dalla Congregazione di Carità* (Bergamo 1912) 65-66.

<sup>54</sup> Cf. P. Grendler, op.cit. (supra n.1) 11: "... clerical masters neither lived nor taught under ecclesiastical roofs, but lived and taught anywhere in the town. Indeed, after Trent, bishops sometimes obliged seminarians to take employment as household tutors after several years of study but before ordination, if they had not secured postings through their own efforts. One suspects that some of these clerics simply continued to teach after ordination. Residence requirements were not always enforced on the Renaissance clergy. Hence, some clerics became independent masters and, like laymen, moved from quarter to quarter and town to town searching for more pupils and better positions."

<sup>55</sup> *Ars oratoria seu in M.T. Ciceronis Orationem pro Milone* (Bergamo, Apud Cominum Venturam 1599). On Peliccioli see D. Calvi, *Scena letteraria de gli scrittori bergamaschi* (Bergamo 1664) 209-210. Like Cologno, Peliccioli seems to have been part of the circle around Bishop Federico Cornaro, to whom he dedicated the *Ars oratoria*.

<sup>56</sup> *Epitomes totius artis grammaticae* (Bergamo, Apud Cominum Venturam 1594). On Romanelli, see Calvi, op.cit. (supra n.55) 102-103.

who shared with Cologno an interest in the plan of Horace's *Ars Poetica*, on which he published a book in 1604.<sup>57</sup>

Whether or not Cologno was associated with the Accademia dei Chierici di S. Maria Maggiore since its founding is not clear from our sources but is suggested by the coincidence that the school was founded in the same year (1566) that Cologno ceased to be a canon. At any rate, when S. Carlo Borromeo visited the school and interviewed the students, he did not find them a group high in either intelligence or achievement.<sup>58</sup> The Bergamasco Pope John XXIII (Angelo Roncalli) characterized conditions in the school at this period as "not particularly flourishing", and attributed the school's closure in 1590 to the shortcomings already apparent in 1575.<sup>59</sup>

Be that as it may, when Cologno's school closed in 1590, the schoolmaster, now in his seventies, was available for other employment. The position of professor of Moral Philosophy at the University of Padua came Cologno's way rather unexpectedly. He did not apply for the post (or so he claimed) but was given it through the good offices of Giovanni Michiel, one of the *riformatori* and a man Cologno called his patron in 1591.<sup>60</sup> Most important for the Paduan appointment was his long-standing relationship with the Cornaro family. Cardinal Federico Cornaro was Cologno's old friend and the bishop of Bergamo from 1561 until 1577 and then the bishop of Padua until his death in 1590. Sixtus V made him a cardinal in 1585.<sup>61</sup> Cologno had dedicated the *Methodus* to Cornaro in

<sup>57</sup> *In Q. Horatii Flacci de Arte Poetica Librum, Hercules Manzonius, Civis ab origine Bergomas. Qui aperte demonstrat, expressum ab Aristotelis Poetice Horatii poetices ordinem. Quos vero interscribit particularum numeros, Aristotelicam in eos poetice prudentia Madii dispositam fecit* (Bergamo, Apud Cominum Venturam 1604). On Manzoni, see D. Calvi, op.cit. (supra n.55) 334.

<sup>58</sup> For the documentation, see Locatelli, op.cit. (supra n.46) vol.5 (1911) 77-78.

<sup>59</sup> A. Roncalli, op.cit. (supra n.53) 66.

<sup>60</sup> Cf. Cologno, *Responsio*, p.17: "What has moved you [scil., Riccoboni] to be so ill-willed toward me I cannot for my part imagine - unless it is the fact that you are vexed because, even though you sought the position of professor of Moral Philosophy, I who did not apply was chosen, even though I resisted the appointment, as my patron, the most illustrious Giovanni Michiel can attest."

<sup>61</sup> On Cardinal Cornaro (1531-1590), see Niccolò Antonio Vescovo di Padova, *Serie cronologica dei vescovi di Padova* (Padua 1786) 138-140; G. Moroni, *Dizionario di erudizione storico-ecclesiastica*, vol.17

1587, and at the end of the volume he published a laudatory poem about his friend.<sup>62</sup> Since the Cardinal predeceased De Nores, any help he may have given Cologno's cause could only have been quite general, aimed at paving the way for an eventual appointment, should a vacancy arise. That he may have done so is suggested not only by his friendship for Cologno but also by the fact that the Cardinal was strongly committed to the Tridentine reforms, particularly those regarding religious education.<sup>63</sup> Moreover, as Magnus Cancellarius of the University, Cornaro naturally interested himself in university affairs, expressing concern at the number of Protestants in the student body and befriending such professors as the famous physician, Gerolamo Mercuriale.<sup>64</sup> Cornaro's successor, his nephew Alvise Cornaro, continued his educational policies. Cologno's

(Venice 1842) 144; P. Frasson in *Dizionario biografico degli italiani* 29 (Rome 1983) 183-185.

<sup>62</sup> This is the first poem, entitled *Ad Federicum Cornelium, cum esset Episcopus Bergomi*, in the collection *Eiusdem Nicolai Colonii Carmina*, pp.57-59.

<sup>63</sup> See C. Bellinati, *Un aspetto della riforma tridentina a Padova: le scuole e le compagnie di dottrina cristiana (1541-1664)*, Tesi di laurea, Università di Pavia, anno accademico 1953-54, 75-85. On the Church's keen interest in the universities generally in the period after Trent, see L. Willaert, S.I., *La restaurazione cattolica dopo il Concilio di Trento (1563-1648), Storia della Chiesa*, vol.XVIII/1 (Turin 1966) 226-228. Of special interest is the section on 'I religiosi nelle Università' (227), where the general trend to encourage religious to assume professorships is discussed.

<sup>64</sup> Cf. Mercuriale's letter in [anon.], *Lettere d'uomini illustri che fiorirono nel principio del secolo decimosettimo* (Venice, Nella Stamperia Baglioni, 1744) 468-471, at p.468, where we find Mercuriale's nostalgic recollections of the hospitality given him by the Cardinal during his Padua days before his transfer to Bologna in 1588: "credo ... che se fosse piaciuto, che io ritornassi a Padova, siccome ne vive in me desiderio, fra le altre mie consolazioni, questa sarebbe la maggiore d'aver a servire sua Sign. Illustrissima, e spererei siccome il Sign. Cardinale Federico [Cornaro] mi aveva fatta grazia de darmi goder in vita il Palazzo di Torre, con quel Brolo e Giardino ..." On Mercuriale's later attempt to return to his position in Padua and on his unhappiness in Bologna, see F. Seneca, *Un fallito tentativo di Girolamo Mercuriale di tornare nell'ateneo patavino, Rapporti tra le Università di Padova e Bologna, Centro Per la Storia dell'Università di Padova* 20 (1988) 161-172. On Cornaro and the University, cf. P. Frasson, op.cit. (supra n.61) 185; C. Bellinati, *ibid.*, 31; on the position of Magnus Cancellarius of the University of Padua, on whose authority as papal deputy the laurea was conferred, see *Nicolai Comneni Papadopoli Historia Gymnasii Patavini* (Venice, Apud Sebastianum Coleti, 1726) vol.1, 104-117.

inaugural lecture, *De veritate*, is dedicated to the new bishop, whom he calls upon to continue the *patrocinium* of his uncle.<sup>65</sup>

The Venetian Senate's decision to hire Cologno for four years is preserved and is dated May 6, 1591.<sup>66</sup> The document justifies the appointment by noting that Cologno had written much on the subject of moral philosophy. In fact, the only publication on record from his pre-Padua days was the *Methodus*, published in 1587, which is a work on poetics. The fact that Cologno was so old and so relatively obscure when he was hired by the Venetian Senate suggests that personal connections were indeed an important factor in his selection.

We are fortunate in having not only the polemics exchanged with Riccoboni but also his inaugural lecture *De veritate* as evidence of Cologno's one-year tenure at the University of Padua. This evidence suggests that the year was probably not his happiest. Having had to confront the intellectual challenge of Riccoboni in the very days in which his appointment became official (Riccoboni's *Dissensio* can be dated to April, 1591 on the basis of the date of the dedicatory letter of the accompanying *Compendium*), Cologno next found that he was unable to get through the ceremony of his inaugural lecture because of serious disturbances from his students. In the preface of the *De veritate*, he writes: "Because of the bad behavior of the shouting students, I was unable to finish all the things that I had planned to say in my first lecture about Political Science ... [so] many people have asked me to publish it ..." <sup>67</sup>

<sup>65</sup> Cf. *Nicolai Colonii Disputatio de veritate quam pronuntiavit in praefatione De Politica Scientia* (Padua, apud Paulum Meietum, 1591) p.[1]: "... Haec ego volui in nomine tuo apparere, ut intelligeres me vehementer optare, quo sum usus antea patrocinio FEDERICI CARDINALIS Illustrissimi Patris tui, idem ut amplitudo sua suscipere ne recuset clientis tibi addictissimi fidem optimam et observantiam defero singularem. On Alvise Cornaro (1558-1594) see G. Gullino, *Biografia degli Italiani*, vol.29 (Rome 1983) 149-50.

<sup>66</sup> As noted above, I will publish the *condotta* elsewhere.

<sup>67</sup> Pp.i-ii of the unpaginated dedicatory letter to Aloysius Cornelius, Bishop of Padua: *Quoniam quae praefari cogitaveram de Politica scientia, quae Doctrinam traditam in Libris Ethicis et Politicis complectitur, corrupta obstrepentium adolescentum consuetudine peragere omnia non potui, rogatus sum a multis ut ea publice legenda proponerem. On p.ii of the dedication Cologno writes to the new bishop, Haec ego volui in nomine tuo apparere: ut intelligeres me vehementer optare, quo sum usus antea patrocinio FEDERICI CARDINALIS Illustrissimi Patris tui,*

Little wonder, then, that, as Facciolati wrote in his 18th-century history of the University of Padua, the 70- to 80-year old Cologno resigned his four-year position at the end of the first year, "exhausted by his age and his unusual labors".<sup>68</sup>

Cologno returned to Bergamo in 1592, where he spent the remaining years of his life writing, publishing and teaching.<sup>69</sup> He died on April 7, 1602 and was buried in his family chapel in S. Agostino.

#### IV The Substantive Dispute

The Riccoboni-Cologno debate was comprised of some forty-nine separate issues. Of these, only nineteen directly concerned the *Ars Poetica*; almost as many – 17 – involved Aristotle's *Poetics*; and the rest include such personal or general matters as the definition of method and whether Riccoboni coveted Cologno's appointment as Professor of Ethics. As the debate proceeded, the emphasis shifted away from the *Ars Poetica* and toward personal issues and the elucidation of the *Poetics*. By the time we

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*idem ut amplitudo sua suscipere ne recuset Clientis tibi addictissimi fidem optimam et observantiam defero singularem.*

<sup>68</sup> J. Facciolati, *Fasti Gymnasii Patavini* (Padua 1757) 316: *Vix autem defuncto Jasone, scholarium Universitas summo opere commendavit Magistratui Michaelem Bradiolum Medici Collegii Praesidem. Sed locus vacavit usque ad diem pridie non. febr. MDXCII. [sic] quo die Nicolaus Colonius Bergomas conductus est florentis ducensis. Anno post aetate atque insolito labore fractus in patriam rediit. Riccoboni in op.cit. (supra n.16), fol.79r, wrote more succinctly: Eius locus [i.e., De Nores'] datus est an. 1591 Nicolao Colonio Bergomati, qui per annum eam cathedram tenuit, posteaque in patriam suam rediit. An. autem 1594 ad talem explicationem habendam electus est Ioannes Bellonius Venetus et Canonicus Patavinus, vir ingeniosissimus et doctissimus, ac non solum iuris utriusque peritus, cuius insignia est consecutus, sed etiam in studio Philosophiae fructuose versatus et potissimum in doctrina Platonica exercitatus.*

<sup>69</sup> We catch a glimpse of Cologno just after his return from Padua in *Achillis Mucii Theatrum sex partibus distinctum* (Bergomi, Typis Comeni Venturac, 1596) fol.68v. This work is a poem celebrating Bergamo, its history, topography, and famous citizens. "Nicolaus Colonius philosophus praestantissimus", as he is called in the marginal note, is mentioned in the *Pars Quarta* as inhabiting the vicus S. Antonii (cf. fol.68r).

arrive at Riccoboni's *Conciliatio* – Appendix I, nr.6 – the *Ars Poetica* is almost wholly absent from the discussion.

Here it will be possible to present just a sampler of the debate by looking at how the two disputants interpreted the first 45 lines of the *Ars Poetica*.

Cologno's discussion in the *Methodus* begins by praising Horace's learning, especially his mastery of all the branches of philosophy. His only fault he shared with Aristotle: a penchant for brevity, which could sometimes make his writings appear to be obscure (p.1). The *Ars Poetica* is a case in point.

Scholars have been misled by Horatian brevity into thinking that the poem is not a methodical technical treatise – by which Cologno means a comprehensive treatment of the subject of poetics, with the topic covered in an orderly way (p.3). These scholars believed that the *Ars Poetica* treated some (but not all) of the problems connected with tragedy and comedy, but very little of those otherwise handled in a formal treatise such as Aristotle's *Poetics*. According to these commentators, then, Horace's emphasis is on the dramatic genres, and he gives short shrift to epic. Cologno's aim is to correct this misinterpretation by showing that the work is an *ars*, i.e., a formal treatise, and that it treats epic as thoroughly as it does the other genres and hence is comprehensive.

Cologno accepts Aristotle's doctrine that plot is the "soul of poetry" (p.3).<sup>70</sup> As such, it is the principle around which a poetic treatise ought to be arranged. Cologno speculates that Horace (whom he assumes agreed with Aristotle about the importance of plot) might have proceeded in two ways in structuring the *Ars Poetica*: by dealing with the properties peculiar to the four kinds of plots (epic, tragic, comic, and satyric); or by discussing the properties of plot common to all four genres (p.3).

According to Cologno, much of the first section of the poem (verses 1-37) represents a fusion of the two options. Cologno agrees with such earlier commentators as Maggi and Pigna that the first section concerns all the literary genres, but he thinks it has a special relevance to the epic plot (p.4).<sup>71</sup> This is because of the fact that an epic poem is typically the

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<sup>70</sup> Aristotle, *Poetics* 1450a38.

<sup>71</sup> *Vincentii Madii Brixiani in Q. Horatii Flacci de arte poetica librum ad Pisonem, Interpretatio* (Venice, In officina Erasmiana Vincentii Valgrisi).

longest of the four kinds of poems, making the epic poet more likely to err in composing his plot (p.4). Epic has this quality because it is filled with episodes, whereas poems in the other genres either have no episodes or just a few, short ones. By *episode*, Cologno means "an extraneous matter added for the sake of pleasure" (p.4). Now, the danger run by the epic poet is to compromise the unity<sup>72</sup> of his work by adding too many episodes, by giving his episodes too much variety, and so on (p.4).

Cologno thinks that Horace's emphasis on epic can be confirmed by a host of details in the poem's first forty-five lines. The image of the monster in lines 1-4 he interprets as representing an epic poem that is bad because it is episodic. He bases this reading both in the general argument about the length of epics but also in the word *librum* in line 7, for he thinks that the word implies a long poem, and epics are long poems (p.5). The words, *inceptis gravibus plerumque et magna professis* (*Ars Poetica* 14: "a serious work of large pretensions") he likewise takes as proof that Horace is thinking specifically of the epic poet, because only the epic poet announces his theme at the beginning of the poem (p.6). In verses 21-22, he takes the *amphora* to represent an epic, because it is a big vase; and he interprets the *urceus*, a small vase, to be episodes (p.8). In verse 27, the vice of turgidity applies specifically to epic, because epic is written in the high style (p.11). In the next lines (28-29), Horace criticizes epic writers who desire to give too much variety to their episodes, with the result that their poem loses its unity and resembles the monster with which the *Ars Poetica* begins (pp.11-12). The simile about the craftsman whose shop is near the Ludus Aemilius (lines 32-37) indicates the difficulties faced by the composer of epic: he must not only pay attention to unity; he must also have more training than other poets because the epic is the most difficult genre of all (pp.12-13). Finally, in lines 42-45 on proper arrangement, Horace deals with a topic of concern to all poets, but by using the words *promissi carminis auctor* (45: "the writer pledged to produce a poem") he shows that he once again puts special emphasis on the epic poet, the length

1550) 329-330; *Ioan. Baptistae Pignae poetica Horatiana* (Venice, Apud Vincentium Valgrisium, 1561) 1-5.

<sup>72</sup> Aristotle assumes that unity is a poetic virtue in passages like *Poetics* 1451a1, 1451a16-17, 1462b4.

of whose poem and the variety of whose episodes make proper arrangement an urgent necessity (pp.13-14).

In the *Methodus*, Cologno's desire to defend the *Ars Poetica* as a technical treatise against earlier *Cinquecento* attacks by scholars like Robortello and De Nores is readily comprehensible. Perhaps less immediately clear to us is why Cologno bases his defense on a reading of the first section of the poem as relating to epic and to the problem of the episodic plot. To the twentieth-century reader, such an interpretation seems far-fetched.

Cologno's motives were undoubtedly two-fold. On the one hand, his definition of *method* led him to seek in the text an apparently missing section on epic corresponding to the sections on the other genres. Secondly, in *Cinquecento* literary controversies, the issue of the episodic plot bulked large, particularly in the quarrel over the *Orlando Furioso* of Ariosto. Right from the beginning in the *Spositione* of Simone Fornari, debate over this work was centered on the question of whether Ariosto's epic was too episodic.<sup>73</sup> Cologno's awareness of this controversy is demonstrated at p.7 of the *Methodus*, where he writes, "Horace rejects digressions from ... epic as if they were unbecoming and unsuitable. Horace ... had observed [this fault] in the poets of his own age ... so, too, in our times there are men, otherwise noble and learned, who have written about *Orlando* and *Rinaldo*." Concern for episodiness was not, however, limited to this debate but is a recurrent theme in practical criticism in the sixteenth century, appearing, e.g., in discussions of works as different as the *Divina Commedia*,<sup>74</sup> Pagello's tragedy, *Heraclea*,<sup>75</sup> and Guarini's controversial pastoral tragicomedy, the *Pastor Fido*.<sup>76</sup>

Thus, by his revisionist reading of the beginning of the *Ars Poetica*, Cologno's strategy was defensive and offensive at the same time. He both

<sup>73</sup> *La Spositione di M. Simon Fornari da Rheggio sopra l'Orlando Furioso di M. Ludovico Ariosto* (Florence, Appresso Lorenzo Torrentino 1549) 34-35. For a history of the quarrel, see Weinberg, vol.2, 954-1073.

<sup>74</sup> Cf. *Discorso di messer Anselmo Castravilla, nel quale si mostra l'imperfezione della comedia di Dante con il dialogo delle lingue del Varchi*, VL MS 6528, foll.76-84, at fol.79.

<sup>75</sup> Cf. *Giuditio d'Ant.o Riccobono sulla tragedia Heraclea di Liv.o Pagella*, VL MS 6528, foll.132-134<sup>v</sup> at fol.132; on the problem of the authorship of the *Giuditio*, see Weinberg, vol.2, 939-940.

<sup>76</sup> Cf. *Discorsi poetici dell'eccell. sig. Faustino Summo Padouano* (Padua, Appresso Francesco Bolzetta, 1600) fol.90.

staved off attacks on the poem's weakness as a technical treatise by showing that it was more methodical than had been recognized; and he also reestablished its positive claim to authority in the matter of a central cultural issue by suggesting its relevance to the debate about the episodic plot.

Riccoboni published the *Dissensio*, his critical reply to Cologno's *Methodus* in April of 1591, perhaps just after he had learned that Cologno was a serious candidate for the post of professor of Ethics at the University of Padua. Cologno's appointment was formally approved by the Venetian Senate on May 6, 1591. Throughout the *Dissensio*, Riccoboni refers to his opponent only as "a certain learned man". That Cologno was meant cannot have been difficult for Riccoboni's erudite readership to infer: Riccoboni repeatedly quotes or paraphrases passages from the *Methodus*.<sup>77</sup>

From the beginning, Riccoboni makes it clear that he disagrees with Cologno in viewing the *Ars Poetica* as a technical treatise. Instead, he reads the work as an informal letter on some, but not all, of the topics that a methodical treatise would handle (p.i). The *Dissensio* is devoted to defending this view and also to showing that, despite its epistolary informality, the poem is derived from a methodical source, namely, Aristotle's *Poetics* (p.i).

In holding this position, Riccoboni is far from original. Since the revival of interest in Aristotle's *Poetics* earlier in the *Cinquecento*, scholars had labored to show the parallels between that work and Horace's poem – sometimes misinterpreting both texts in the process.<sup>78</sup> In particular, Riccoboni follows Grifoli in seeing that the *Poetics* was Horace's source but that Horace changed the order of topics in his source and, indeed, omitted many of the topics treated by Aristotle.<sup>79</sup>

<sup>77</sup> Cf. *Dissensio*, 1, 6, 7, 12, 13, 15.

<sup>78</sup> See Weinberg, vol.1, 111-155.

<sup>79</sup> Cf. *Q. Horatii Flacci liber de arte poetica Iacobi Grifoli Lucinianensis interpretatione explicatus* (Paris, Ex typographia Matthaei Davidi 1552; originally published in Florence, 1550) 10-11: *Cum itaque Horatius de poetica facultate curam scribendi suscepisset, tametsi de comoedia nonnulla, tamen de Tragoediae ratione multa in primis disputavit. Nam quae pertinent ad Epicos, non plura scripsit, quam communia sint utriusque generi, vel leviter omnino, et pauca gustavit ... Videns igitur*

Riccoboni scrutinizes what Cologno means by the word, *method* (p.2). According to Riccoboni, there are two kinds of method: the resolving method, proceeding from whole to its parts; and, its opposite, the composing method (p.2).<sup>80</sup> Cologno's tacit position is that Horace used the first method, since Cologno believes that the poem begins by defining plot as the element common to all poems, and continues with a demonstration of the nature of the plot of the different varieties of poetry (epic, tragic, comic, and satyric). Riccoboni grants that if this is the case, then Horace's poem would, indeed, be methodical (p.2).

At this point, we will do well to tarry a moment to note that Riccoboni's definition of method represents the latest thinking of late-Paduan Aristotelianism. In the decade before the *Dissensio*, two Padua philosophers – Giacomo Zabarella and Francesco Piccolomini, both friends of Riccoboni – had quarrelled about the definition of the compository and resolatory methods and about their application to the various branches of knowledge.<sup>81</sup> There is no question but that Riccoboni was familiar with their debate since he summarizes it in his history of the University of Padua. Here, then, at the beginning of the Riccoboni-Cologno dispute we see something that is quite typical of the whole debate: Riccoboni, the insider, with twenty years of active participation in the intellectual life of the University of Padua, is able to run circles around the obscure priest from Bergamo, whose only authorities are Aristotle, Horace, and Lambinus' commentary on Horace.

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*Aristotelis iudicio Tragoediam constare fabula, moribus, sententia, dictione, apparatu, et melodia, primum de constitutione fabulae disserendum esse statuit, nam rei totius imitandae rationem ea continet; deinde, cum more, et sententiae verbis explicentur, orationem statim post fabulam coepit expolire: in quo non est secutus nec ordinem, nec rationem Aristotelis ..."*

<sup>80</sup> For more on these methods, see N.W. Gilbert, *Renaissance Concepts of Method* (New York and London 1960).

<sup>81</sup> There is no extensive account of this quarrel, and my account of it here will focus on those aspects that are most important for understanding the Riccoboni-Cologno dispute. For earlier literature, see N.W. Gilbert, *ibid.*, 173-176 (pp.164-176 provide useful background); *Jacobi Zabarella De methodis libri quatuor: liber de regressu, Instrumenta Rationis. Sources for the History of Logic in the Modern Age*, vol.1, edited by C. Vasoli (Bologna 1985) xxvii-xxviii.

Riccoboni agrees with Cologno in seeing plot as the category of things treated by poetics (p.2). He disagrees with Cologno, however, in interpreting the first section of the *Ars Poetica* as emphasizing epic plot as against plot in general. In Riccoboni's Aristotelian terminology, such a view attributes to members of a single species characteristics that are common to the whole genus of poetry (p.2). In defending this view, Cologno violates the key principle of Aristotle's analytical method, viz., of proving the unknown from the known (p.3).

Cologno is right to say that the epic plot is both the longest and most difficult of all (p.3), but Riccoboni criticizes Cologno for proving this with a false argument about episodes. The main error that Cologno makes is in defining the word episode in too general a way as "an extraneous matter added for the sake of pleasure". In fact, Aristotle uses the word in four senses. In his *Defensor*, Riccoboni will give his source for this observation as Castelvetro's 1570 commentary on the *Poetics*.<sup>82</sup> Riccoboni's receptivity to Castelvetro's insight shows again that Riccoboni was *au courant* with the work of contemporary scholars.

Next, Riccoboni attacks Cologno's claim that there are four kinds of plot and hence four genres of literature. He notes that Horace mentions six kinds of poetry, adding the elegiac, iambic, and lyric genres to those mentioned by Cologno and subsuming satyr drama under tragedy (p.6).

Riccoboni's next task is to show that the arrangement of the *Ars Poetica* is far from methodical. Had Horace done what Cologno thinks he has done that would indeed have resulted in a poem methodically arranged (p.6). Instead, the *Ars Poetica* lurches from topic to topic with no particular rationale (p.7). By Cologno's own admission, the large section running from 251 to 476 contains material that is at best "not unrelated" to the alleged plan of the poem (*Dissensio*, p.7, quoting *Methodus*, p.40). So, for Riccoboni, the topics are treated in a "jumbled up" order, quite differently from the tight organization found in Aristotle (p.8).

Not content to refute Cologno on the central issue of the poem's structure, Riccoboni goes on to rearrange sections of the poem to show how Horace's informal letter can be "reduced" to an orderly plan. It is important to stress that Riccoboni's intention is not *textual criticism* – he is not

<sup>82</sup> For the passage in Castelvetro, see *Dissensio*, 4n10.

proposing to transpose lines of the poem which supposedly have been displaced from their original location. Rather, his purpose involves *source-criticism*: he thinks that Horace wrote the *Ars Poetica* inspired by a methodical technical treatise, which Riccoboni, following earlier commentators like Maggi and Grifoli, believed to be Aristotle's *Poetics*.<sup>83</sup> Riccoboni's aim is thus to rearrange the lines of the *Ars Poetica* in order to show both that Horace treats the same topics as did Aristotle and that these topics can be arranged in a more coherent fashion than we find in Horace, who was trying to give his poem the chatty, informal air of a letter to friends. This notion of reduction to a system is Aristotelian: in the *Rhetoric*, Aristotle says that the chief characteristic of a science is its reduction to a system of the random experiences of mankind in a certain field of endeavor.<sup>84</sup>

Presenting all the details of Riccoboni's reduction would far exceed the space at my disposition; instead, in Appendix II, I give an example of his approach. I should note that in his subsequent tract, the *Responsio* (Appendix I, nr.3) Cologno misconstrues Riccoboni's purpose as philological transposition, in the manner of Riccoboni's enemy, Joseph Scaliger, and as not a mere *Quellenkritik*. But that involves a part of the quarrel that we have no time for here. Instead, let us pass on to Riccoboni's criticisms of specific points of Cologno's case.<sup>85</sup>

Riccoboni rejects Cologno's interpretation of the first thirteen lines of the poem, which supposedly relate more to epic than to the other genres. For Riccoboni, the point of the opening verses is to warn poets against disunified plots of any kind (p.13). Thus, he also contests Cologno's

<sup>83</sup> Cf. Madius, op.cit. (supra n.71) 328: *Quoniam vero partes illae duae libelli huius, quas praecipuas esse diximus, totae fere ad Poeticas Aristotelis imitationem conscriptae sunt: non inutile futurum existimavi, si postquam ea, quae ad Aristotelis Poeticam attinebant, explicavimus; cuius ratione omnis mihi fuerat susceptus labor; quae hic ab Horatio habentur, in Aristotele, velut in fonte demonstrarem, a quo velut rivulum, librum hunc deduxit; J. Grifoli, op.cit. (supra n.79) 7: illud certe affirmare non dubito, ostendisse me locos Horatianos, ac totum fere hoc opus ex Aristotelis Arte poetica decerptum: Nec res in occulto latet: perspiciet, an ita sit, quicumque leget.*

<sup>84</sup> Cf. Aristotle, *Rhetoric* 1354a1ff.

<sup>85</sup> Omitting his criticisms of specific passages in Cologno's commentary that have no bearing on the main issues of the quarrel.

attempts to link specific details here with epic. The word *librum* (7) could refer to any genre and need not be restricted to epic (p.14). Poems with "serious beginnings that make grand promises" (14) could just as easily refer to dithyrambs as epics (p.14). In verses 21-22, the *amphora* does not stand for epic and the *urceus* for an episode. The point here is not that the bad poet loses sight of the whole epic by focussing too narrowly on the episodes, as Cologno seems to think, but that he is unable to execute whatever kind of poem he chooses to undertake (p.14). Lines 24-31 pertain to diction, not to epic plot (p.15). Riccoboni interprets the simile about the craftsman in lines 32-37 as referring, not specifically to epic, but to any genre of poetry, in which the poet should excell not simply in one part of the work but in the whole (p.10). As for arrangement, he disagrees with Cologno that verses 42-45 concern epic alone because the problem of where to begin telling a story is common to many of the literary genres (p.13).

## V Significance of the Quarrel

So much for the sampler of the debate, which should suffice to show why I believe that Riccoboni emerged the clear victor. More important, however, than determining the winner and loser in what was essentially a local dispute with few repercussions outside Padua, is to pose the question about the overall significance of the debate for our understanding of late Renaissance culture and of the *Ars Poetica*. I would like briefly to suggest two very different kinds of answers to this question: the first, from the perspective of the sixteenth century; the second, from our own viewpoint today.

First, from the point of view of the disputants the quarrel can be seen to reflect not just literary disputes about Horace and Aristotle but also a conflict of fundamental professional, economic and ideological interests.

The element of professional rivalry between Riccoboni and Cologno is not something about which we must speculate; it was clear to the disputants themselves. At stake was the succession to Jason De Nores' chair in the Moral Philosophy of Aristotle at the University of Padua. As noted, De

Nores died in 1590.<sup>86</sup> Cologno was not shy about acknowledging the fact that he was backed for the position by one of the *Riformatori* of the University, Giovanni Michiel.<sup>87</sup> Cologno claimed that he did not seek the post but that Riccoboni did; according to Cologno, this rejection is what motivated Riccoboni's attack on his work.

Riccoboni admits that he did apply for the post, but denies that his rejection has prejudiced him against Cologno:

For my part, I am not biased [against you] because I have sought the post of professor of Ethics and Morality ... since other most famous men of my order have held this position. I also had put so much study into this subject that I thought myself worthy to offer my labor, however modest, to my Most Serene Prince. However, I at once and utterly acquiesced in the decision of the most illustrious *Riformatori* of the University.<sup>88</sup>

As this passage demonstrates, Riccoboni was well aware that his predecessor, Robortello, had held both the chair of Humanity and of Moral Philosophy at Padua, as had Marc-Antoine Muret at Rome.<sup>89</sup> There was more at stake, however, than the mere accumulation of academic titles (and very possibly a rise in salary): Riccoboni says at the end of the *Conciliatio* that he is inferior to Cologno in three ways: as a man younger in age; as a lay person as opposed to a priest; and as a professor of Humanity as compared to a professor of Moral Philosophy.<sup>90</sup> This is not only a facetious gibe. Academic disciplines in the *Cinquecento* did enjoy different statuses, and the status of Moral Philosophy was higher than that of Humanity. The documentation of this comes from the case of Lionardo Salviati's appointment to the Studio of Ferrara in 1586. At first, he was

<sup>86</sup> Cf. above, n.13.

<sup>87</sup> Cf. Cologno, *Responsio* 17.

<sup>88</sup> Riccoboni, *Defensor*, 8.

<sup>89</sup> Riccoboni speaks of Robortelli's dual appointment at: op.cit. (supra n.16) fol.25<sup>v</sup> (misnumbered as 27<sup>v</sup>): *Aristotelis Ethicorum ad Nicomachum libri decem, ab Antonio Riccobono latine conversi: capitum partitionibus, ac periochis distincti* (Hanoviae, Typis Wecheliani, apud haeredes Claudii Marnii, 1610) 10-11: *Quae nimirum causa fuit, cur saepe non fuerint distincti Humanitatis, et moralis, ac civilis Philosophiae doctores, sed iidem in publicis Gymnasiis utramque facultatem professi sint; ut inter caeteros Romae Marcus Antonius Muretus, in hoc Gymnasio Patavino Franc. Robortellus, alibi alii ...*

<sup>90</sup> Riccoboni, *Conciliatio* [6<sup>r</sup>].

offered the title of *lettore d'umanità* but, in the words of his biographer, Salviati considered this "an affront to his dignity", and demanded instead, and received, the title of *lettore delle morali d'Aristotele*.<sup>91</sup>

How Riccoboni viewed Horace's poem before 1591 is of great interest for our study of his quarrel with Cologno. We are in the fortunate position of being able to document his views from several years before the quarrel with Cologno broke out – an important fact if we wish to gauge the extent to which Riccoboni's fight against Cologno was motivated by genuine intellectual disagreement (as Riccoboni claimed) or merely by Riccoboni's dog-in-the-manger jealousy of Cologno's selection for the post of Professor of Moral Philosophy (as Cologno claimed).

The document in question is an unpublished letter written by Riccoboni to Belisario Bulgarini, the Sieneese humanist, dated Padua, March 24, 1587. Riccoboni writes in answer to a previous letter from Bulgarini informing him of the news that an oration of Girolamo Zoppio on Horace's poetics had just appeared. It is not clear to what text of Zoppio's Bulgarini is referring, but this is a side issue and need not concern us here. In his reply, Riccoboni writes to Bulgarini:

... the speech of Zoppio has not yet arrived in Padua, and thus I don't know what else to say except that I have always esteemed Zoppio and believe that this will also be true of his exposition of the poetics of Horace, of which you have advised me. I can also give you some news. Thomas Correa, the new humanist in the University of Bologna, writes me that his commentary on the *Ars Poetica* is now in Venice being printed. So, I think that before too long there will be more commentaries than there are verses of that letter, which was written without much craft and which does not completely teach the art [of poetry] – let all those commentators say and do what they will!<sup>92</sup>

<sup>91</sup> Salviati was the founder of the famous Accademia della Crusca in Florence. The quotation is from P.M. Brown, *Lionardo Salviati. A Critical Biography* (Oxford 1974) 205, where more details about the affair can be found.

<sup>92</sup> BCSiena MS C.II.25, fol.24: "... l'orazione del Zoppio non è arrivata a Padova, et perciò non li vi so dir altro, si non che lo stimo sempre Zoppio, et tali credo, che sarà anchora nella spositione della poetica d'Horatio; di cui V.S. mi da aviso, potendole anch'io dar novita, che mi scrivi il S.or Thomasso Correa, novello Humanista nello Studio di Bologna, nel primo luoco, esser hormai in Vinegia un suo commento

Riccoboni's position, as expressed in this early document, shows that he has embraced what I have called the "letter-thesis" of the *Ars Poetica*, as expressed by Jason De Nores, Gabriel Trifone, and Francesco Robortello. According to these mid-sixteenth century critics, the poem is a letter, not a technical treatise; and, although its ideas are compatible with the doctrines found in Aristotle's *Poetics*, it is not to be held to the same high standards of philosophical rigor.<sup>93</sup> Thus, Cologno was certainly wrong to accuse Riccoboni of attacking his theory about the *Ars Poetica* simply out of spite. Riccoboni had good scholarly grounds for taking the position he did.

On the other hand, notwithstanding Riccoboni's disclaimer and his long-standing belief in the letter-thesis, one of his motivations in attacking Cologno was certainly his desire to succeed De Nores. The proof of this is clear: timing. The *Methodus* was published in 1587. Why, then, did Riccoboni wait until April of 1591 – one month before the Venetian Senate was to vote on Cologno's appointment – before publishing his *Dissensio*? This is reminiscent of the polemics exchanged by the professors of Humanity, Carlo Sigonio and Francesco Robortello in Padua in 1562. The polemics were largely responsible for Sigonio's decision to depart Padua for a chair in Bologna in 1563.<sup>94</sup> That Riccoboni pursued the quarrel after Cologno's appointment went through may be a sign that he had not completely given up on the chair: by making life miserable for Cologno, he could perhaps succeed in driving him away, as Robortello had done. It may be pertinent to recall that Riccoboni studied with both Sigonio and Robortello.

sopra la stessa poetica per stamparsi; di maniera che per mio credere sarà di breve maggior il numero de' commenti, che di' versi di quella Epistola, non con molto artificio scritta, et non abb[i]a a insegnare compiutamente l'arte, dicano e faccino quello, che si vogliono tanti commentatori ..." The new commentary by Correa is: *Thomae Corrae in librum de arte poetica Q. Horatii Flacci explanationes* (Venice, Apud Franciscum de Francis Senensem, 1587). On Correa and his tenure in Bologna (from 1586 until his death in 1596) see L. Simeoni, *Storia della Università di Bologna*, vol.2 (Bologna 1947) 45.

<sup>93</sup> See Frischer, 8-10.

<sup>94</sup> On which, see W. McCuaig, op.cit. (supra n.18) 43-54.

In the event, Riccoboni may well have succeeded in driving Cologno back to Bergamo after one year in Padua, but he did not succeed in obtaining the professorship of Ethics. This remained vacant for two years until it was filled in 1594 by Giovanni Belloni, a canon of the Padua cathedral.

This brings up the matter of religious, or, more generally, ideological conflict that permeates the Riccoboni-Cologno debate. We earlier noted the contrasting religious formations of the two disputants and their different statuses as priest and layman. Religion plays a determining role in the debate in at least three ways.

First, insofar as the quarrel was sparked by competition for the professorship of Ethics at Padua, Riccoboni probably lost because he was not a religious. I began this paper by alluding to the greatest controversy of 1591: the attempt by the Jesuits to open their Anti-Studio in Padua to stamp out heresy at the public university. The *Riformatori* seem to have responded to the Jesuit challenge in part by trying to pre-empt them in the prestigious and sensitive field of Ethics by changing their appointment policy at the death of De Nores. Before Cologno, every holder of the chair had been a layperson. After De Nores, until at least the middle of the next century, every professor of Ethics at Padua, starting with Cologno in 1591 and Belloni in 1594, was a religious.<sup>95</sup> Such a change of policy would also explain the otherwise puzzling fact that Riccoboni could have lost the appointment to Cologno, for, besides his clerical status, what else could the aged priest put forward in support of his candidacy?

The role of religion is also explicitly present in the polemics themselves. Near the end of the *Defensor*, Riccoboni writes that Cologno has violated the etiquette of quarrelling as set forth by Cicero in the *Pro Sestio* by resorting to personal attacks. (p.38):

I follow the advice that Cicero used, advice that is truly saintly and, I should say, nearly Christian:

If any are secretly hostile to my welfare, let them not show themselves; if any have at any time done anything, but now keep quiet and say nothing, we also, I hope, have forgotten; if any place themselves in my way or insolently follow on my heels, I will tolerate them as far as possible, and my speech will hurt no one, unless he puts himself right before me – and then it will be clear

<sup>95</sup> Cf. Tomasinus, *op.cit.* (supra n.18) 322-324.

that I did not deliberately assail him, but just stumbled upon him.<sup>96</sup>

Cologno responds in kind in his next polemic, the *Epistola*, by admitting that in mocking and abusing Riccoboni he has behaved in an unchristian way and by rather facetiously asking Riccoboni's forgiveness (fol.3). Finally, in the *Conciliatio*, the last of the five polemics, Riccoboni agrees – also facetiously – to pardon Cologno, calling him the "greatest of priests" (fol.3r).

This explicit presence of religion in the polemics is but the superficial expression of the third and most fundamental way in which religion plays a role in the quarrel. Just over a century ago, Dejob wrote a famous book about the influence of the Council of Trent on the fine arts in Catholic countries.<sup>97</sup> Just as Trent sponsored a return to the canonical authorities of the Church, rejecting all recent theological innovations as heterodox; so, too, in the arts the post-Trent mentality favored the development of Classicism in the arts based on rules derived from an ancient authority. In literature, the authorities were Aristotle and Horace. The application of their rules led to such repressive measures as the Index, first published on Italian soil in Milan in 1538,<sup>98</sup> and expurgated editions of the ancient and modern classics, including Boccaccio and Horace. Seen in this light, the passion of Cologno's defense of the *Ars Poetica* as a technical treatise is more easily comprehended. The man who spent many years teaching young clerics in Bergamo felt the need for an authoritative rulebook for literature, and Horace's poem had certain advantages over even Aristotle's *Poetics* – not least of which was that it defined the end of literature as giving pleasure as well as instruction (333), whereas Aristotle speaks only of pleasure.<sup>99</sup>

Riccoboni, on the other hand, was always a critical thinker, if not necessarily a free-thinker, and a man known to thumb his nose at the Index by

<sup>96</sup> Cicero, *Pro Sestio* 14. Note that Riccoboni added the word "insolently".

<sup>97</sup> C. Dejob, *De l'influence du concile de Trente sur la littérature et les beaux-arts chez les peuples catholiques* (Paris 1884).

<sup>98</sup> See P. Grendler, *The Roman Inquisition and the Venetian Press, 1540-1605* (Princeton 1977) 73.

<sup>99</sup> See M.T. Herrick, *The Fusion of Horatian and Aristotelian Literary Criticism, 1531-1555* (Urbana 1946) 39-47.

buying banned Protestant books. His Venetian bookseller, Pietro Longo, was caught by the Holy Office and drowned in the lagoon in January of 1588.<sup>100</sup> Riccoboni undoubtedly was horrified by that and by such things as the expurgated edition of Horace prepared for the Jesuit schools in 1569 and frequently reprinted.<sup>101</sup> In his own poetic theory, he came down firmly on the side of those who, like Aristotle, defined the purpose of poetry as providing pleasure *without* instruction.<sup>102</sup> As for the *Ars Poetica*, he treated it with no less respect than he did the *Poetics* of Aristotle. Both works – and, incidentally, Aristotle's *Rhetoric*, too – he subjected to his procedure of methodical reduction. In the end, what that procedure really means is a recognition that in the authoritarian culture of his day, any original contribution to knowledge had to be packaged as more Aristotelian than Aristotle. To be openly anti-Aristotelian and to scoff at rules for the arts, as Giordano Bruno did, meant to run the risk of ending up as Bruno did, arrested for heresy in Venice in 1592 and burned at the stake in Rome in 1600.

And what are we, today, to make of the Riccoboni-Cologno quarrel? Both disputants were driven by a conscious need to defend the *Ars Poetica* against disparaging attacks. Implicit in those attacks is a sense that the poem will not stand comparison with Aristotle's *Poetics* as a technical treatise. In Cologno's hands, the poem was made more Aristotelian, i.e., more methodical and therefore more technical, by *reinterpretation*: If only Riccoboni and other learned readers will grant that the first section pertains to epic, then Cologno is certain that the work will be comprehensive and complete, with one section devoted to each of the genres. Riccoboni's approach was to shift the terms of appraisal by granting the poem's lack of technicality but then insisting that, judged on its own terms as an informal letter, it is quite successful in conveying helpful advice to Horace's friends, the Pisones. Moreover, for Riccoboni the quality of that advice

<sup>100</sup> See P. Grendler, *op.cit.* (supra n.99), 186-189.

<sup>101</sup> *Quintus Horatius Flaccus ab omni obscenitate purgatus ad usum Gymnasiorum Societatis Iesu* (Rome, Apud Vicotrium Helianum 1569).

<sup>102</sup> Cf. G. Toffanin, *La fine dell'umanesimo* (Milan, Turin, Rome 1920) 136-140.

was guaranteed by the fact that through *Quellenkritik* its source can be shown to be that indisputable authority, the *Poetics* of Aristotle.

Of all possible defenses of Horace's claim to our attention and respect, the late sixteenth-century strategy of showing that the *Ars Poetica* is as Aristotelian as the *Poetics* might appear to be one of the weakest. Like most sixteenth-century commentators, both Cologno and Riccoboni ignored Porphyrio's scholium attributing to Neoptolemus, not Aristotle, the main ideas in the *Ars Poetica*.<sup>103</sup> Moreover, why read Horace at all if he simply purveys Aristotle's insights into the poetic art? Does that not make the poem *recentior et deterior*? This issue neither Cologno nor Riccoboni confronts. That they were capable of doing so is clear from Pedemonte's interesting argument that Aristotle is actually inferior to Horace because, coming later, Horace had the advantage of more advanced ideas and refined taste.<sup>104</sup> Of course, Pedemonte was writing in 1546, just before the appearance of what Weinberg aptly called the "great [Cinquecento] commentaries" on the *Poetics*.<sup>105</sup> Those publications helped Italian scholars to appreciate just how seriously the *Poetics* was to be taken.

Most sixteenth century scholars were wholly pre-Romantic in their lack of interest in originality, in their almost automatic deference to the authority of Aristotle in field after field.<sup>106</sup> They suffered more from an anxiety of heterodoxy than from the anxiety of influence that, according to Harold Bloom, plagues post-Enlightenment civilization. Even if the typical

<sup>103</sup> Cf. Porphyrio on line 1 of the *Ars Poetica*: *hunc librum, qui inscribitur de Arte Poetica ad Lucium Pisonem, qui postea urbis custos fuit eiusque filios misit. Nam et ipse Piso poeta fuit et studiorum liberalium antistes; in quem librum congegit praecepta Neoptolemi τοῦ Παριάνου de Arte Poetica, non quidem omnia sed eminentissima. Exceptional commentators who do cite Neoptolemus, along with Aristotle, as Horace's chief authorities include: A. Iani Parrhasii Cosentini in *Q. Horatii Flacci artem poeticam commentaria luculentissima* (Naples, Opera et diligentia Ioannis Sultzenbachii Hagenovensis Germani 1531) 4v; T. Correa, *op.cit.* (supra n.92) 1.*

<sup>104</sup> *Francisci Philippi Pedimontii ephrasis in Horatii Flacci artem poeticam* (Venice, Apud Aldi Filios 1546) fol.31v.

<sup>105</sup> Cf. Weinberg, vol.1, 388.

<sup>106</sup> Cf. P.F. Grendler, *Critics of the Italian World [1530-1560]*, Anton Francesco Doni, Nicolò Franco, & Ortensio Lando (Madison, Milwaukee, and London 1969) 140-142.

*Cinquecento* intellectual's bias is the opposite of what we labor under, a Bloomian analysis of the positions of Cologno and Riccoboni is no less informative, for the famous map of misreading can be applied to chart abysses as well as mountain ranges. In applying Bloom, we must of course take into account a second key difference in what we will be doing as compared to what Bloom has done in books like *The Anxiety of Influence* (New York 1973) and *A Map of Misreading* (New York 1975). Instead of looking at how later *poets* react to the work of earlier poets, as Bloom does, we will be looking at how later *critics* react to the work of earlier critics. These adaptations of Bloom ought not to cause major difficulties: after all, Bloom's map was itself (appropriately enough) inspired by the sixteenth-century Kabbalistic Bible commentaries of Isaac Luria and Moses Cordovero.<sup>107</sup>

To begin with Cologno: his reading of the *Ars Poetica* exemplifies a *tessera*, the second of Bloom's six kinds of misprision. Adapting Bloom's definition to the present case, we can define *tessera* as a new reading produced when "a later critic provides what his imagination tells him would complete the otherwise 'truncated' precursor text ...".<sup>108</sup> For Cologno, such completion requires reading the first section of the *Ars Poetica* as pertaining to epic, so that each genre has its own treatment in the poem. Bloom speaks of the urgency felt by the later writer in saving the text of his predecessor, an urgency that reflects a passion to bring redemption to what might otherwise appear to be a flawed and fragmentary text.<sup>109</sup> Such passion can be detected in the highly emotional state of mind that Cologno reveals throughout the quarrel, as evidenced in the passage I quoted in my introduction in which he calls Riccoboni mad, but also in the following pitiful plea he makes to Riccoboni in the *Responsio*: "if only

<sup>107</sup> On this inspiration, see H. Bloom, *Kabbalah and Criticism* (New York 1975) 86-88. On the map of misreading and its background, see D. Fite, *Harold Bloom. The Rhetoric of Romantic Vision* (Amherst, 1985) 55-90; P. De Bolla, *Harold Bloom. Towards Historical Rhetorics* (London and New York 1988) 36-60.

<sup>108</sup> Cf. H. Bloom, *The Anxiety of Influence* (New York 1973) 66.

<sup>109</sup> Cf. Bloom, *ibid.*, 67: "In this sense of a completing link, the *tessera* represents any later poet's attempt to persuade himself (and us) that the precursor's Word would be worn out if not redeemed as a newly fulfilled and enlarged Word of the epebe."

you would grant that ... verses [1-3] ... concern the epic plot ..., [then you would see that] in that treatise nothing necessary is lacking and everything is presented through a most proper and splendid method" (p.19).

As for Riccoboni, even if he succeeded in winning the debate against Cologno by scoring the most debating points, he was no less guilty of misprision. Although to the disputants it seemed obvious that one must be right and the other wrong, from our perspective they can both be wrong. The fact that Riccoboni demolished most of Cologno's arguments does not mean that his are more true or probable. The flaws in Riccoboni's position are fundamental: he adduces no evidence in support of classifying the *Ars Poetica* as a letter; even if the poem is a letter, that does not mean it will necessarily have the lack of structure that Riccoboni claims to perceive; and deriving the poem from Aristotle's *Poetics* flies in the face of the testimony of Porphyrio, now supported (as, admittedly, Riccoboni could not know) by the witness of Philodemus on Neoptolemus in Book V of the *Περὶ ποιημάτων*.<sup>110</sup> Worst of all, there is a piece missing in Riccoboni's argument: how would the mere fact of derivation from the *Poetics* ensure the quality of the *Ars Poetica*? This question is especially urgent when we consider Riccoboni's critique of the arrangement of topics in the poem and his failure to explain, as Grifoli had before him,<sup>111</sup> what principle had motivated Horace to include or exclude topics covered by Aristotle.

In Bloom's terms, Riccoboni's reading can be categorized as a *kenosis*. To quote Bloom, "whereas the synecdoche of *tessera* makes a totality, however illusive, the metonymy of *kenosis* breaks this up into discontinuous fragments ... Psychologically, a *kenosis* is not a return to origins, but is a sense that the separation from origins is doomed to keep repeating itself".<sup>112</sup> Riccoboni breaks up Horace's text in two ways: figuratively by his disparaging words about its surface disorder (e.g., at *Dissensio*, 7);

<sup>110</sup> The text was only published in this century; see C. Jensen, *Philodemus über die Gedichte, Fünftes Buch* (Berlin 1923). On Neoptolemus' influence on the *Ars Poetica* see, especially, C.O. Brink, *Horace on Poetry*, vol.1 (Cambridge 1963).

<sup>111</sup> Cf. J. Grifoli, *op.cit.* (supra n.79) 10-11.

<sup>112</sup> Cf. H. Bloom, *A Map of Misreading* (New York 1975) 99.

and literally, by his "reduction" to method with its transposition of hundreds of verses. In a defensive move typical of a *kenosis*, Riccoboni undoes the rich texture of Horace's poem, reweaving its strands so that a colorful and vital tapestry comes to resemble a pure white shroud. In the next stage of Riccoboni's work on poetics – the *De poetica Aristotelis cum Horatio collatus* (Padua, Apud Laurentium Pasquatium 1599) – he will subject the *Poetics* itself to such reduction and transposition. Here the original critical work lending authority to the whole of Riccoboni's critical enterprise – the *Poetics* – is itself seen to be the flawed, not true, expression of Aristotelianism, and it is the late-comer *Cinquecento* critic, Riccoboni, who must restore the true lost version through a reductive *kenosis* that represents, in effect, the repetition of its own origin.

Bloom tells us that he undertook to chart his map of misreading in order to gain insight into the ambivalences of canon-formation.<sup>113</sup> As I mentioned earlier, my interest is in something closely related: canon-maintenance. Through quarrels like that between Cologno and Riccoboni the *Ars Poetica* was able to retain its position in late Renaissance schools and culture. What kept it in the canon was much the same thing that permitted new works like Ariosto's *Orlando* or Aristotle's *Poetics* to enter the canon: in the words of Javitch, it became a "site of contestation ... where the culture debate[d] artistic or other issues that may be central to the culture but that bear less and less on the poem as such ..."<sup>114</sup> This siting of the poem in a semantic field ever farther removed from that of Horace's own is exactly what we find in the Riccoboni-Cologno debate: as we have seen, Cologno's point of departure was Aristotle's idea that plot is the distinguishing characteristic of poetry and, as the quarrel continued, the issues shifted from the *Ars Poetica* to Aristotle's *Poetics* so that in the last two tracts, Horace is hardly mentioned at all.

Driving this re-siting of the *Ars Poetica* were processes of creative reading so perceptively described by Bloom. But, as Bloom suggests, and as Javitch implies, the result was and remains ambivalent. The poem that was able to stay in the canon throughout the sixteenth century, in the face of competition from Aristotle's *Poetics*, could do so by 1591 only by hosting

<sup>113</sup> H. Bloom, *ibid.*, 4.

<sup>114</sup> D. Javitch, *op.cit.* (supra n.15) 8.

a debate about issues that are much more relevant to the *Poetics* than to Horace's text. Worse still, the *Ars Poetica* emerged in the early seventeenth century as, literally, a completely rewritten work, when Scaliger's student, Daniel Heinsius, in his famous edition of 1610 seriously undertook to do what Cologno mistakenly thought Riccoboni had done – transpose hundreds of lines of the *Ars Poetica*.<sup>115</sup>

Lest this be dismissed as a mere aberration, I hasten to add that I have found fourteen editions of Horace published between 1591 and 1950 in which the *Ars Poetica* is subjected to wholesale transposition, no two examples of which agree on how the poem should be rearranged.

Riccoboni's solution to the problem of the poem's structure – simply to evade it by calling the poem a loosely-written letter – also lives on. Niall Rudd, in his 1989 text and commentary published by Cambridge, calls the poem *Epistula ad Pisonem* and then adds in parentheses and with quotation marks, "*Ars Poetica*", as if the better title were the one deriving from Renaissance conjecture, not from manuscript evidence. He goes on to characterize the poem in a way that Riccoboni would have found congenial, writing: "the [work], then, is not a systematic handbook of literary theory; nor ... was it ever meant to be. It is a lively, entertaining, verse-epistle, written by a well-read man for his friends, who shared his love of poetry and whose company we are invited to join" (p.34). Little wonder, then, that Rudd is not dismayed by having to admit that, by his analysis, the structure of the poem is marked (or marred) by a fault-line dividing lines 1 to 152 from verses 153 to 476 (cf. Rudd, p.22).

Cologno's approach of trying to find a principle of unity lurking below the surface confusion of the poem has had the biggest run of all. The only problem is that, as was the case with the transposers, no two critics agree, throwing the whole project of uncovering the poem's hidden unity into doubt. What Rudd has recently written about one such plan – Jensen's – could well be applied to them all: "[my] failure to discern a threefold division ... corresponding to that which Jensen attributed to Neoptolemus need not cause undue dismay. For even if [I am] wrong, and Horace did

<sup>115</sup> Q. Horatii Flacci opera omnia cum notis Dan. Heinsii accedit Horatii ad Pisonem epistola, et Aristotelis de poetica libellus, ordine suo nunc demum ab eodem Heinsio restitutus (Leiden, Ex Offic. Plant. Raphel. 1610).

adopt a ... scheme from Neoptolemus, he cannot have regarded it as of major importance. If he had, he would have taken more trouble to make it clear" (p.25).

## VI From *Rezeptionsgeschichte* to Interpretation: A Reader-Response Approach

Among the various Topics I have fallen into in these Observations, there is nothing, I have so much endeavoured to interest your Grace in the Truth of, as what I have said concerning the Uselessness, in general, of Rules in Poetry, and the like: I might produce many Authorities on this Head, if Authorities were, or ought to be, of any weight with Men of Sense ... Horace has, even in his *Ars Poetica*, thrown out several things, which plainly shew, he thought, an *Art of Poetry* was of no sort of Use, even while he was writing one.

– Leonard Welsted (1724)<sup>116</sup>

What we, today, can learn the Cologno-Riccoboni debate is first and foremost the sobering lesson that after 401 years of looking for a solution to the enigma of the structure of the *Ars Poetica*, we are still very much where we began. Four centuries of reactions of learned readers to the *Ars Poetica* bring a solid phenomenological proof of the thesis that the poem has neither a clearcut structure nor any generic excuse not to have one. For, if Cologno and his followers have found no persuasive hidden structural principle, that does not yet mean that Riccoboni's letter-thesis is correct. The Northern Italian apologetic attempt to explain the problem has at least two errors: all the evidence speaks against classifying the poem as a letter; and, at any rate, letters are not formless but are themselves subject to certain conventions of structure and content.<sup>117</sup>

<sup>116</sup> *Epistles, Odes, &c. Written on Several Subjects with a Translation of Longinus' Treatise on the Sublime. By Mr. Welsted. To which is prefix'd a Dissertation concerning the Perfection of the English Language, the State of Poetry, &c.* (London, Printed for J. Walthoe, 1724) lii-liii, in the Preface to the Duke of Newcastle. On Leonard Welsted (1688-1747) see G.A. Aitken in *DNB* 60 (London 1899) 240-242.

<sup>117</sup> See Frischer, 87-100.

To stop spinning our wheels, we need to reconsider our concepts of unity and structure, for, as Malcolm Heath has recently (and with some justification) argued, "where[as] the characteristic tendency of ... criticism [since the Renaissance] is to seek coherence in thematic unity, the characteristic tendency of ancient criticism was to seek coherence in thematic plurality ordered primarily at a *formal* level"<sup>118</sup>. What interests me about the *Ars Poetica* is how Horace achieves this formal unity not despite thematic disunity but by means of it. Space limitations prevent my giving more than a brief example of how Horace achieves such formal unity – but the example I choose to present here is the one that gets closest to the heart of the matter and thereby helps to move us closer to a resolution of this four hundred year-old dispute.

In shifting our focus, we can also profit from a return to the intersecting point where Riccoboni and Cologno met and collided in interpreting the poem. It is curious that they agreed on one fundamental point: if their explanations of the structure of the *Ars Poetica* were not accepted, then there would be no alternative to the conclusion that Horace was mad. In this they followed the ancient – and Horatian – idea that "le style est l'homme même". Cologno and Riccoboni, of course, denied that Horace was mad. Thus, like all their successors, vainly pursued endless variations of the same three basic solutions to the problem of structure that were already clear by 1591.

Horace was mad – I find the idea fascinating but unprovable as well as an evasion of critical responsibility. The working hypothesis of the literary critic must be to assume that everything in a text is motivated. To do otherwise necessitates going off onto the tangent of textual criticism (if you think you must change the text to improve it) or of literary biography (if you think that you must excuse the author's artistic lapse). Is there, then, a literary-critical way of motivating the "insane" structurelessness of the *Ars Poetica*? There is indeed: *persona*-theory.

*Persona*-theory (assuming that the main speaker of a text is not necessarily to be equated to its author) finds explicit attestation in Augustan literature in poems like Ovid's *Tristia* II; and it has been applied with fruitful results

<sup>118</sup> M. Heath, *Unity in Greek Poetics* (Oxford 1989) 150.

to all the main Augustan poets, including Horace, as Doblhofer's excellent new survey of Horatian research since 1957 shows.<sup>119</sup>

If we consider the awkwardly constructed speech of the speaker of the *Ars Poetica* from the perspective of characterization and not, as before, from that of rhetoric and logic, then we can say that, not Horace, but his speaker is the madman and that the speaker's theory of poetry is thereby implicitly undermined by Horace. Such an interpretation would accord with many other features of the poem, including perhaps the strangest one of all: if this is really Horace's sincere poetic manifesto, then why is it of so little use in the interpretation of his own poetry?

Let us consider the most fundamental sense in which the speaker's madness is expressed both in terms of style and content. This concerns his belief that there is such a thing as an *ars poetica* in the first place. Like the Peripatetics and the Stoics, the *Ars-Poetica* speaker believes that poetry and the other arts have a rational quality and that its creation and appraisal can be based on objective norms independent of such accidental factors as individual talent. However, for the Epicureans and Skeptics such a belief was misguided.<sup>120</sup> In their eyes, poetry had a strong element of the unpredictable and the uncertain. Thus, according to Philodemus, an Epicurean contemporary and acquaintance of Horace, a rational theory of poetry is in itself a futile and insane enterprise.<sup>121</sup> The proof for Epicureans like Philodemus was simple: the poets cannot practice what they preach.

In the passage quoted by Leonard Welsted at the beginning of this section, Welsted teases us with a brilliant idea, thrown out all too casually: Horace wrote the *Ars Poetica* to show the futility of writing an *ars poetica*! Unfortunately, Welsted never enlarged on what he meant, but perhaps he

was alert to the way in which the *Ars Poetica* speaker often does not practice what he preaches. A striking, and for our purposes, highly relevant example occurs in lines 40-41. There the speaker preaches in favor of *lucidus ordo*, asserting blithely that "clear order and eloquence will not be lacking in the poet who chooses his subject in accordance with his resources".<sup>122</sup> If the *Ars Poetica* is disorderly, this can only mean by the speaker's own theory that he has waded above his head into the deep waters of poetic theory. Yet, who better than our speaker should be able to apply the rational art of poetics to the creation of a well-formed poem – if, that is to say, this "rational" art is worth anything at all? By presenting the speaker's sermon in favor of *lucidus ordo* with *caliginosus ordo*, Horace thus makes the speaker resemble the famous *inepti doctores* of *Satires* II – Damasippus, Catus, Tiresias, and Davus – and he also makes the speaker himself present the strongest possible evidence for the futility and, indeed, madness of his project of composing an *ars poetica*.<sup>123</sup>

<sup>122</sup> *Cui lecta potenter erit res, / nec facundia deseret hunc nec lucidus ordo.*

<sup>123</sup> I owe many debts of gratitude for help received during the research leading to publication of this article. First, I should like to thank the UCLA Academic Senate Research Committee for generous financial support of this research over the past four years. The UCLA Department of Classics and its chair, Prof. David Blank, have also been extremely helpful by creating an atmosphere supportive of research generally and by permitting me periodic brief leaves of absence to pursue work related to this project – as did my wife, Jane Crawford. For permission to study documents in their collections and for remarkable kindness and helpfulness far beyond the call of duty, I wish to express my gratitude to the following librarians and archivists: Don Camillo Bellinati (Archivio della Curia di Padova), Father Leonard E. Boyle (Biblioteca Apostolica Vaticana), Don Pierantonio Gios (Biblioteca del Seminario, Padova), Dr. Lucilla Marino (Library of the American Academy in Rome), Dr. Paolo Pezzolo (Biblioteca dell'Accademia dei Concordi, Rovigo), and Dr. Marino Zorzi (Biblioteca Marciana, Venezia). I must also give warmest thanks to Dr. Pezzolo for gaining me access to the Archivio della Curia di Rovigo and to Don Gios for critical palaeographical help in deciphering some all-but-illegible documents in his collection. For their stimulating conversations and for supporting this project in various ways, I wish to thank the following colleagues: Andrew Dyck (UCLA), Giovanna Franci (Bologna), Anthony Grafton (Princeton), James Hankins (Harvard), Daniel Javitch (NYU), Stefania Malavasi (Padua), Antonio Rigon (Padova), and Anne Scott (Bryn Mawr). Versions of this paper, besides that on the occasion of the Tübingen symposium on Horace, were given at the University of

<sup>119</sup> E. Doblhofer, *Horaz in der Forschung nach 1957* (Darmstadt 1992) 9, 20, 92f., 96, 109.

<sup>120</sup> I will elsewhere treat the Skeptic and Epicurean critique of the arts, the main source for which is Sextus Emp. *Adv. Math.* I and II.

<sup>121</sup> I will explore this in greater detail elsewhere; here it will be enough to cite one example: Philodemus, "Trattato D" of *Περὶ Ποιημάτων*, fr.17.16-24 (Nardelli, pp.24-25): ... ἡ παράκουσιμα λέγο / μεν ἡμεῖς ἡ παραπλήξ / ἐκεῖνος ἐμαίνετο πο / ἤματα φάσκων τὰ [Δη / μοσθένους καὶ ἰάντιφῶντος μᾶλλον (δὲ καὶ / τὰ Ἡροδότου καί περ κατὰ / τὴν συνθήκην [τούτου συγ / γράφοι]τος. The name of the rationalist critic against whom Philodemus writes is not preserved in the fragment.

## Appendix I

In this Appendix full bibliographical information is given about Cologno's *Methodus* of 1587 and about the five polemical tracts exchanged by Riccoboni and Cologno from April to September of 1591. As far as I know, the only library with a complete set is the Marciana in Venice. I am currently preparing an edition with translation.

- 1 *Q. Horatii Flacci Methodus De Arte Poetica; Per Nicolaum Colonium Exposita Quomodo antehac ab alio nemine* (Bergamo, Comino Ventura 1587) 56pp. [= *Methodus*]
- 2 April-May, 1591: *Antonii Riccoboni a quodam viro docto dissensio de epistola Horatii ad Pisones: quae nullam quidem methodum habere: sed ad methodum redigi posse ostenditur*, printed at the end of *Compendium Artis Poeticae Aristotelis ad usum conficiendorum poematum ab Antonio Riccobono ordinatum et quibusdam scholiis explanatum* (Padua, Apud Laurentium Pasquatium Typograph. Almae Univ. Iurist., 1591) 16pp. [= *Dissensio*]
- 3 May-June, 1591: *Nicolai Colonii responsio adversus absurdissimam sententiam Antonii Riccoboni de Horatii libello ad Pisones de poetica* (Bergamo, Typis Comini Venturae, 1591) 34pp., 19 cm. [= *Responsio*]
- 4 After July 7, 1591: *Antonii Riccoboni I.C. humanitatem in Patavino gymnasio profitendis defensor seu pro eius opinione de Horatii epistola ad Pisones in Nicolaum Colonium ad Ethica Aristotelis in eodem gymnasio interpretanda designatum* (Ferrara, Apud Benedictum Mammarellum, 1591) 38pp., 20 cm. [= *Defensor*]
- 5 September 13, 1591: *Epistola Nicolai Colonii Ad Antonium Riccobonum* (n.p., 1591) [5 foll.], 19 cm. [= *Epistola*]
- 6 Second half of September, 1591: *Conciliatio Antonii Riccoboni cum Nicolao Colonio ad Illustriss. et Excellentissimum Principem, Alexandrum Estensem* (Padua, Apud Laurentium Pasquatium Typograph. Almae Univ. Iurist., 1591) 5 [i.e. 6] foll. num., 19.5 cm. [= *Conciliatio*]

## Appendix II

In this Appendix, I print Riccoboni's reconstruction of the beginning of the source of the *Ars poetica*. The original line numbers are in the left margin.

- |     |                                                                                                                                                                                              |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 391 | Silvestris homines sacer interpresque deorum<br>caedibus et victu foedo deterruit Orpheus,<br>dictus ob hoc lenire tigres rabidosque leones;<br>dictus et Amphion, Thebanæ conditor urbis,   |
| 395 | saxa movere sono testudinis et prece blanda<br>ducere quo vellet. fuit hæc sapientia quondam,<br>publica privatis secernere, sacra profanis,<br>concubitu prohibere vago, dare iura maritis. |

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- oppida moliri, leges incidere ligno.  
 400 sic honor et nomen divinis vatibus atque  
 carminibus venit. post hos insignis Homerus  
 Tyrtaeusque mares animos in Martia bella  
 versibus exacuit; dictae per carmina sortes  
 et vitae monstrata via est et gratia regum  
 405 Pieris temptata modis ludusque repertus  
 et longorum operum finis: ne forte pudori  
 sit tibi Musa lyræ sollers et cantor Apollo.  
 natura fieret laudabile carmen an arte,  
 quaesitum est: ego nec studium sine divite vena  
 410 nec rude quid prosit video ingenium: alterius sic  
 altera pascit opem res et coniurat amice  
 qui studet optatam cursu contingere metam  
 multa tulit fecitque puer, sudavit et alsit,  
 abstinuit venere et vino: qui Pythia cantat  
 415 tibicen, didicit prius extimuitque magistrum,  
 nunc satis est dixisse 'ego mira poema pango:  
 occupet extremum scabies: mihi turpe relinqui est  
 418 et quod non didici sane nescire fateri.'  
 295 ingenium misera quia fortunatius arte  
 credit et excludit sanos Helicone poetas  
 Democritus, bona pars non unguis ponere curat,  
 non barbam, secreta petit loca, balnea vitat,  
 nanciscetur enim pretium nomenque poetae,  
 300 si tribus Anticyris caput insanabile numquam  
 tonsori Licino commiserit. o ego laevus,  
 qui purgo bilem sub verni temporis horam,  
 non alius faceret meliora poemata; verum  
 nil tanti est. ergo fungar vice cotis, acutum  
 305 reddere quae ferrum valet exsors ipsa secandi;  
 munus et officium, nil scribens ipse, docebo,  
 unde parentur opes, quid alat formetque poetam.  
 308 quid deceat, quid non, quo virtus, quo ferat error.  
 361 ut pictura poesis; erit quae, si propius stes,  
 te capiat magis, et quaedam, si longius abstes;  
 haec amat obscurum, volet haec sub luce videri,  
 iudicis argutum quae non formidat acumen:  
 365 haec placuit semel, haec deciens repetita placebit.

From: *Roma, Magistra Mundi. Itineraria culturae medievalis. Mélanges offerts au Père L. E. Boyle à l'occasion de son 75<sup>e</sup> anniversaire. Fédération Internationale des Instituts d'Études du Moyen Âge*, ed. J. Hamesse (Louvain L-Neuve 1998) 265-289.

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**NOTES ON THE FIRST EXCAVATION  
OF HORACE'S VILLA NEAR LICENZA (ROMA)  
BY THE BARON DE SAINT'ODILE**

Alessandra Contini has recently called for a full-scale study of the life and career of one of the more fascinating figures on the stage of Rome in the Age of the Grand Tour: the Baron de Saint'Odile, the Tuscan ambassador to the Papal States from 1752 to 1774<sup>1</sup>. In this article, a small start will be made on the larger project, which should be of interest to a wide range of scholars occupied with the Settecento and that we may hope Dottsa. Contini herself may soon take in hand. The episode to be treated here is Saint'Odile's excavation of a Roman villa — long identified as Horace's — near the small Sabine hill town of Licenza, about 40 kilometers northeast of Rome. For students of antiquity, Saint'Odile's work at Licenza — never published by the excavator and never studied in depth by modern scholars — is no less fascinating than are his efforts to transfer to Florence most of the ancient sculpture collection of the Villa Medici, which is the subject of a forthcoming article by Maria Maugeri<sup>2</sup>. Indeed, since new excavations are being

<sup>1</sup> A. CONTINI, « Pompeo Neri tra Firenze e Vienna (1757-1766) », in *Pompeo Neri* (Castelfiorentino, 6-7 May, 1988), pp. 239-331, at p. 250n18.

<sup>2</sup> See M. MAUGERI, « Il trasferimento a Firenze della collezione d'antichità di Villa Medici in epoca leopoldina », p. 17 (forthcoming in *Paragone*). The fullest accounts of the history of studies of Horace's Villa since the Renaissance are to be found in G. LUGLI, « La villa d'Orazio nella valle del Licenza », in *Monumenti antichi pubblicati dall'Accademia dei Lincei*, 31 (1926), cols. 453-598 and F. DIONISI, « Le ville di Orazio. La villa rurale del Digentia e la villa signorile di Tibur », in *Atti e Memorie della Società Tiburtina di Storia e d'Arte*, 39 (1966), pp. 15-97. Lugli does not discuss Saint'Odile's excavations (the only mention of Saint'Odile is

conducted at the Licenza site from 1997-2000, co-sponsored by the American Academy in Rome and the Soprintendenza Archeologica per il Lazio, and because the work undertaken there earlier in this century by Angiolo Pasqui and his continuators has never been fully published<sup>3</sup>, a precise account of the first excavation in the time of Saint'Odile is now more than ever a desideratum.

Born Mathieu-Dominique Charles Poirot de la Blandinier in Blamont (Lorraine) sometime during the early 1700s, Saint'Odile came to be one of the leading diplomats of mid-eighteenth century Rome<sup>4</sup>. Practically nothing is known about his childhood and upbringing, except that his father's name was François Poirot, who does not appear to have been a nobleman<sup>5</sup>. Saint'Odile first appears on the historical record in his adulthood as a functionary in the Habsburg foreign service. For students of Horace, he is mainly of interest as the person who usually receives credit for being the first excavator of the Licenza villa site, which he

in a quotation at col. 467 from p. 43 of D. DE SANCTIS, *Dissertazione sopra la villa d'Orazio*, first edition, Rome, 1761). F. Dionisi, at p. 29, gives only passing notice to them in the context of C. De Chaupy's defense of his priority in discovering the site of Horace's Villa against the claims of others (C. DE CHAUPY, *Découverte de la maison de campagne d'Horace : ouvrage utile pour l'intelligence de cet Auteur, & qui donne occasion de traiter d'une suite considérable de lieux antiques par M. l'Abbé Capmartin de Chaupy*, Rome, 1767-69, vol. 1, p. xli).

<sup>3</sup> For Pasqui's work at Licenza see G. LUGLI, *op. cit.* (supra n. 2).

<sup>4</sup> On Saint'Odile's birth name see R.B. LITCHFIELD, *Emergence of a Bureaucracy. The Florentine Patricians, 1530-1790*, Princeton, 1986, p. 268. In eighteenth-century sources and in modern scholarship his name is spelled variously as Sainte-Odile, s. Odill, Saint-Odile, St. Odil, St. Audil, Saint-Odill, di Santedille, Saint Odyle, Santodile, Sant'Odile. I will spell it Saint'Odile, which is how he signed himself in his official correspondence.

<sup>5</sup> On his father's name see H. WALPOLE, *Horace Walpole's Correspondence with Sir Horace Mann*, ed. W.H. SMITH, W.S. LEWIS, AND G.L. LAM, New Haven, Connecticut, 1954-, vol. 4, p. 305n7; on his non-aristocratic lineage, cf. *Le lettere di Benedetto XIV al Card. De Tencin*, ed. E. MORELLI, Rome, 1955-1984, vol. 2, pp. 448-450 (nr. 501). A sketch of his family history, showing its long service to the House of Lorraine, is given in a forthcoming article by A. CONTINI, « Gli uomini della *Maison Lorraine* : Ministri, 'savants', militari e funzionari lorennesi nella Toscana della Reggenza », at pp. 533-534.

identified as Horace's Sabine estate<sup>6</sup>. If we want to understand what drove him to study Horace's villa while in the midst of an active and successful diplomatic career, we need to delve into his career and world.

In doing so, we are aided by an ample documentation concerning his ministerial affairs, consisting primarily of several thousand dispatches and other documents in the Archivio di Stato, Firenze ; in the Archivio Diplomatico Storico of the Italian Foreign Ministry in Rome ; and in the Haus-, Hof- und Staatsarchiv in Vienna<sup>7</sup>. The great gap in our primary sources at the moment is Saint'Odile's personal correspondence. This was inventoried at the Tuscan Embassy in Rome after Saint'Odile's removal from office early in 1774 but apparently did not pass in 1859 with his ministerial papers to the Archivio Diplomatico Storico of the Italian Foreign Ministry after Tuscany's incorporation into the new state of Italy<sup>8</sup>. To date, the whereabouts of the personal papers is unknown.

<sup>6</sup> Cf. F.A. SEBASTIANI, *Viaggio a Tivoli, antichissima città Latina-Sabina. Lettere*, Fuligno, 1828, p. 397 ; F. GORI, *Viaggio pittorico-antiquario da Roma a Tivoli e Subiaco sino alla famosa grotta di Collepardo*. Rome, 1855, p. 23 ; F. DIONISI, op. cit (supra n. 2), p. 21.

<sup>7</sup> There are also several documents in the Archivio di Stato, Roma (hereafter : ASR) and in the Biblioteca Nazionale, Firenze. I have personally inspected these as well as the Archivio di Stato, Firenze (hereafter : ASF) and the Archivio Diplomatico Storico of the Italian Foreign Ministry in Rome (hereafter : ADS). I thank Dr. Eva-Katharina Ledel for researching the Haus- und Hof- und Staatsarchiv in Vienna (hereafter : HHSA) for me. Prof. Carlo Mangio of the University of Pisa kindly alerted me to material concerning Saint'Odile in the Archivio Segreto Vaticano under « Nunciatura di Firenze », which I have been personally able to consult. Additional light might be shed on Saint'Odile by the correspondence of his friend, Cardinal Alessandro Albani, in the Public Record Office, London, on which see L. LEWIS, *Connoisseurs and Secret Agents in Eighteenth Century Rome*, London, 1961, pp. 12-13. Saint'Odile (whose name is spelled « St. Odil ») is mentioned in a letter cited by Lewis at p. 228.

<sup>8</sup> Saint'Odile was forced by Peter Leopold to leave Rome for Tuscany hurriedly in February 1774. He hardly had time to pack his bags, let alone to arrange for the removal of his personal property. Indeed, when he first left Rome, Saint'Odile did not even know that he was not to return after successfully defending himself before the Grand Duke. It is possible that Saint'Odile's personal letters and effects were retrieved by his nephew (known to have been with him when he died in Aix-en-Provence in 1775) after his death, but, if so, all trace of them in public records has been lost. For

As will be seen, this complicates research of our immediate topic, since the excavation of Horace's Villa would appear to be something that Saint'Odile undertook privately and very possibly clandestinely, and no mention of it has yet come to light in the aforementioned archives in Rome, Florence, or Vienna. Thus we must rely on accounts by third parties, several of which fortunately survive.

Despite being born in Lorraine, Saint'Odile served in his prime as Tuscany's representative at the papal court. The background to this seemingly unlikely posting was the Treaty of Vienna in 1735. The last Medici Duke of Tuscany, Giangastone (1671-1737), died childless, and for some years before his death the dynasts of Europe debated the succession of the Grand Duchy of Tuscany. Under the terms of the Treaty of Vienna, Tuscany was given to Francis I, Duke of Lorraine (1708-1765), in return for which Francis gave Lorraine to the Polish King, Stanislaus I Leszczyński. In 1736, Francis married Maria Theresa, Archduchess of Austria, and with her ruled the Habsburg possessions from the court in Vienna. Francis was elected Holy Roman Emperor in 1745. When Giangastone died in 1737, Francis came into possession of Tuscany, installing as his regent Prince Marc de Beauvau-Craon (1679-1754). He was to stay in Florence until his retirement in 1749, after which the dominant Lorrainer in Tuscany was Déodat Emmanuel Count of Nay-Richecourt, a member of the Council of the Regency in Florence, who had for years vied for power with Prince Beauvau-Craon. A number of civil servants were sent from the court at Lunéville to hold important offices in Florence. Saint'Odile was to be one of these Lorrainers helping the Habsburgs to rule their new state, as were several of his relatives. As might be expected, native Tuscans, proud of their past, did not take kindly to foreign rule, and « Lorrainer » quickly came to have a pejorative connotation<sup>9</sup>.

the inventory mentioned in the text above, see ASF, Fondo : Segreteria del Gabinetto, Filza 80 (dated March 31, 1774). For a printed inventory of the state papers of Tuscany formerly in the Tuscan Embassy in Rome and now in the ADS see R. MORI, *Le scritture della Legazione e del Consolato del Granducato di Toscana in Roma, dal 1737 al 1859*, Rome, 1959.

<sup>9</sup> Cf. F. DIAZ, *I Lorena in Toscana. La Reggenza*, Turin, 1987, pp. 3-4, 12-13, 224-25 ; E. COCHRANE, *Florence in the Forgotten Centuries, 1527-1800. A History of Florence and the Florentines in the Age of the Grand Dukes*, Chicago and London,

Saint'Odile's career began before Giangastone de' Medici died. He was first employed at the Francis' court in Lunéville, where he is mentioned in surviving documents dating to the period 1734-36. Shortly after the Lorrainers moved to Tuscany in 1737, Saint'Odile was sent to Vienna, the Habsburg capital and the real power center for a dependency like Tuscany. Locally, Florence was ruled by the Council of the Regency, which in turn reported to the Council of Tuscany in Vienna. Vienna's role was especially predominant in foreign affairs, and Saint'Odile served on the Council of Tuscany from around 1740, becoming its Secretary in 1744<sup>10</sup>. He was appointed to the position of Tuscan ambassador to the Holy See in 1752.

While in Vienna, Saint'Odile received a solid preparation for dealing with the duties of his office in Rome. During the decade or so in which he followed Tuscan developments from the Foreign Ministry in Vienna, Saint'Odile witnessed the gradual rise in tensions between Habsburg Tuscany and the Papacy. These tensions grew in part out of the

1973, pp. 346-347. On Saint'Odile's two De Poirot relatives see R.B. LITCHFIELD, *op. cit.* (supra n. 4), pp. 268, 317n8. One wonders whether they were the two relatives of Saint'Odile who served as witnesses when Pope Benedict XIV canceled the Edict of the Roman Inquisition in Tuscany in May-June, 1754; see G. MORONI, *Dizionario di erudizione storico-ecclesiastica*, Venice, 1846, vol. 78, p. 190; vol. 5, pp. 46-47. As early as 1743-45 we hear of Joseph Poirot's employment in the Customs House of Florence; see J.-C. WAQUET, *Le Grand-Duché de Toscane sous les derniers Médicis*, *Bibliothèque des Écoles Françaises d'Athènes et de Rome*, Rome, 1990, p. 557 (the name Joseph is given in the Index at p. 634).

<sup>10</sup> See F. DIAZ, *op. cit.* (supra n. 9), pp. 11, 15; R.B. LITCHFIELD, *op. cit.* (supra n. 4), p. 267. Cf. ANON., *Guida generale degli archivi di stato italiani*, Rome, 1983, vol. 2, p. 90: « con l'avvento di Francesco Stefano di Lorena i rapporti con gli Stati esteri erano tenuti attraverso la diplomazia austriaca. » The date of Saint'Odile's appointment as Secretary of the Council of Tuscany is given as 1739 at H. WALPOLE, *op. cit.* (supra n. 5), vol. 4, p. 305n7; and as 1744 in F. DIAZ, *op. cit.* (supra n. 9), p. 15. Before his employment in Vienna, he was the author and recipient of several documents in the Lorrainer House Archive (now in Vienna); see J. SEIDL, « Das Lothringische Hausarchiv », *Gesamtinventar des Wiener Haus-, Hof- und Staatsarchivs*, ed. L. BITTNER, Vienna, 1937, Box 206.681 (1736), Box 214.815 (1734-36). Reference to Saint'Odile's earlier service in France (i.e., Lorraine?) is found in a story told by Benedict XIV; see *op. cit.* (supra n. 5), vol. 2, pp. 519-520 (nr. 542).

Habsburgs' desire to clean house after a period of what they considered to be misrule by the last of the Medici<sup>11</sup>. Among other measures to which the Vatican objected were Tuscany's negotiations with the Turks over release of Tuscan prisoners and over a general improvement of commercial relations. Even more worrisome to Rome was the new Tuscan Press Law issued by edict in 1743. Under the law, the government had the right to censure the press in general, while the Church could only control religious publications. Shortly after it went into effect, the Holy Office declared the law heretical and threatened to excommunicate authors and publishers who obeyed it. Eight years later, in 1751, the Tuscan ambassador to Rome, Count Migazzi, was recalled for failure to resolve an even more bitter controversy centering on the Tuscan Dead-hand Law (*Legge sulla Manomorta*) regulating bequests to the Church<sup>12</sup>.

The importance of Rome to Tuscany in this period should not be underestimated. Archduke Peter Leopold (1747-1792) was to write toward the end of the century, « on [my] arrival in Tuscany, I found that ecclesiastical affairs were generally in the same state of dependency on the Court of Rome as Tuscany has always had because of several factors, including : its proximity [to Rome] and the relationship that the two countries have to each other ; and the continuous relationships — i.e., dependency — that the House of the Medici affected to have with the Court of Rome ; the principal families — especially in Siena and Pistoia — have gained their wealth from various popes and cardinals who were related to them ; and the quantity of people (especially among the nobility) who studied at Rome where they were employed or

<sup>11</sup> Cf. F. DIAZ, « Agli inizi della dinastia Lorenese in Toscana. I problemi della reggenza », in *Studi di storia medievale e moderna per Ernesto Sestan*, 2 vols, Florence, 1980, vol. 2, pp. 669-702 ; F. DIAZ, *op. cit.* (supra n. 9), p. 4.

<sup>12</sup> G. MORONI, *op. cit.* (supra n. 9), vol. 5, pp. 46-47 ; F. DIAZ, *op. cit.* (supra n. 9), p. 54 ; N. RODOLICO, *Stato e Chiesa in Toscana durante la Reggenza lorenese (1737-1765)*, Florence, 1910, pp. 225-256, 302. On Count Christophe Migazzi see A.L. JADIN, ed., *Relations des Pays-bas, de Liège et de Franche-Comté avec le Saint-Siège d'après les 'lettres de vescovi,' (1566-1779)*, Brussels - Rome, 1952, fasc. IV, p. 569.

gratified by that Court with pensions and monasteries in Tuscany »<sup>13</sup>. Meanwhile, for its part, the Papal court had grave doubts about the piety of the Lorrainer regime in Florence. In particular, Count Richecourt, who ran the Council of the Regency until illness forced his retirement in 1757, was considered no friend of the Church, and the Pope wrote to the Holy Roman Emperor claiming that he was receiving many letters from Tuscan bishops stating their concern — a concern they were afraid to express openly in Tuscany itself for fear of reprisals against their relatives<sup>14</sup>. Relations had become so bad that the Pope was refusing to deal directly with the Council of the Regency in Tuscany and instead insisted on going to the top — the Holy Roman Emperor himself — to get satisfaction<sup>15</sup>.

Such was the state of affairs when Saint'Odile arrived in Rome. He had the delicate task not only of pacifying a disgruntled pontiff but also of serving two masters : the Habsburg court in Vienna, and the Council of the Regency in Florence. Through the correspondence of Pope Benedict XIV and of Horace Walpole, the English ambassador to Tuscany, we can follow Saint'Odile's progress from Vienna to Florence and from there to Rome in 1752.

The Pope was informed of the new appointment in a letter written to him by Migazzi on January 7, 1752. Saint'Odile's predecessor assured the Pope that the Emperor hoped that in sending his new ambassador to Rome, he could clear up all the difficulties plaguing the Holy See's

<sup>13</sup> P. LEOPOLDO, *Relazioni sul governo della Toscana*, ed. A. SALVESTRINI, Florence, 1969-1974, vol. 1, p. 163 ; cf. F. DIAZ, *op. cit.* (supra n. 11), vol. 2, pp. 682-689. In general on Church-State relations in Tuscany during the Regno Lorenese see N. RODOLICO, *op. cit.* (supra n. 12)

<sup>14</sup> *Correspondance de Benoît XIV*, ed. E. DE HEERKEREN, Paris, 1912, vol. 2, p. 164 ; E. MORELLI, ed., *op. cit.* (supra n. 5), vol. 2, pp. 448-49. On Richecourt's retirement and his replacement by Marchese Antonio Botta Adorno (a career diplomat who had previously served in such offices as Austrian commander at Genova and ambassador in Russia), see R.B. LITCHFIELD, *op. cit.* (supra n. 4), p. 267 ; F. DIAZ, *op. cit.* (supra n. 4), pp. 19, 224-225.

<sup>15</sup> H. WALPOLE, *op. cit.* (supra n. 5), vol. 4, p. 305 : « [Saint'Odile] is expected here soon on his way to Rome to settle many disagreements, which the Pope declared long ago he would not treat about with the Regency of Tuscany. »

relations with Tuscany<sup>16</sup>. Several days after receiving this letter, Benedict wrote that he had learned that the newly nominated Saint'Odile was « a man of intelligence, learning, and good will, » but the Pope also wrote cautiously that « we will have to test him to know through his deeds whether he is really such as he is described »<sup>17</sup>.

Before Saint'Odile could be tested by the Pope, he first had to stop in Florence where Count Richecourt, whom at least one observer called Saint'Odile's antagonist, was anxiously awaiting his arrival. He arrived on March 16, 1752 and was to stay for over two months, apparently kept in virtual isolation by Richecourt and able to communicate with the Pope only in writing. When Saint'Odile finally got to Rome only to find that the Pope was leaving immediately for a vacation at his villa at Castel Gandolfo, Saint'Odile followed him out of town and pressed business upon him<sup>18</sup>.

<sup>16</sup> A.L. JADIN, ed., *op. cit.* (supra n. 12), fasc. IV, p. 569 : « ...L'empereur m'a prié également de vous assurer de son désir de voir s'aplanir les difficultés avec la Toscane. Il a chargé le baron de Saint'Odile de régler le différend.... »

<sup>17</sup> E. MORELLI, ed., *op. cit.* (supra n. 5), vol. 2, pp. 448-450 (nr. 501) : « ....Si dà da tutti per un uomo di garbo, di buona cognizione e di sincera volontà. A Noi toccherà sperimentarlo e conoscere in atto pratico, se è tale, quale viene dipinto.... »

<sup>18</sup> Cf. the letter from Mann to Walpole, Florence, 10 March 1752 H. WALPOLE, *op. cit.* (supra n. 5), vol. 4, p. 305 : « The Florentines flatter themselves with the hopes of some agreeable event by the arrival of Monsieur St Odil, who has long been at Vienna the professed antagonist of our earl here.... » For the arrival date in Florence, see H. WALPOLE, *ibid.*, vol. 4, p. 305n8 ; for the arrival date in Rome, see E. MORELLI, ed., *op. cit.* (supra n. 5), vol. 2, pp. 478-79 (nr. 519). On Saint'Odile's stay in Florence cf. H. WALPOLE, *ibid.*, vol. 4, p. 308 : « ...people have nothing to employ themselves about except the motions of Monsieur St Odil, who is going minister to Rome to give more power to the priests and Inquisition. He was always the greatest antagonist at Vienna of the Earl, who is vastly jealous of him here, and excludes everybody from him. » For Saint'Odile's letters to the Pope at this time see E. MORELLI, ed., *op. cit.* (supra n. 5), vol. 2, pp. 476-477 (nr. 518) : « Il barone di Sainte-Odile spedito da Vienna per gli affari dell'Imperadore, come granduca di Toscana con questa Santa Sede, fra i quali in ciò che appartiene ad esso non entra quello della Carpegna, arrivò a Firenze sino nel passato mese di marzo. Di ciò diede parte a Noi, accennando che quanto prima sarebbe stato in Roma ; in tal maniera che fummo in procinto di non rispondergli in carta, ma d'aspettare di rispondergli in voce, ma ciò non ostante, li risponderemo cortesemente in carta. Da quel tempo in qua,

Whatever Richecourt thought of Saint'Odile, Pope Benedict grew to appreciate the energetic, new Tuscan ambassador as he got to know him better<sup>19</sup>. Although the Pope was at first disappointed that the envoy served less as a creative diplomat than as a postman, simply transmitting letters to and from Vienna, within a short time of his arrival Saint'Odile did indeed prove himself to be a man of intelligence and good will, solving the outstanding problems nagging Tuscan-Papal relations by 1754<sup>20</sup>. He even revived a lapsed Medici custom of the giving the Pope an annual Christmas present<sup>21</sup>. Needless to say, the change in Saint'Odile's comportment and the improvement in Tuscan relations pleased Benedict. Driving these developments was a shake-up in the Habsburg Foreign Ministry, which was taken over in 1753 by Wenzel Anton Kaunitz, an impressive administrator and diplomat who was to dominate foreign policy in Vienna for the next four decades<sup>22</sup>.

nulla abbiamo saputo di lui, se non che per anche si tratteneva in Firenze.... » For Saint'Odile's arrival in Rome and ceremonial reception at the Papal court, see E. MORELLI, ed., *op. cit.* (supra n. 5), vol. 2, pp. 478-479 (nr. 519). For Saint'Odile at Castel Gandolfo see E. MORELLI, ed., *op. cit.* (supra n. 5), vol. 2, p. 480 (nr. 520). From Saint'Odile's letters sent to Richecourt from Rome, no particular sign of antagonism between the two can be detected; see ASD, Fondo Legazione del Granducato di Toscana in Roma, pacco 3 (1751-60).

<sup>19</sup> See E. MORELLI, ed., *op. cit.* (supra n. 5), vol. 2, p. 535 (nr. 550).

<sup>20</sup> On Saint'Odile's resolution of the controversy regarding the Tuscan Press Law and the role of the Inquisition in Tuscany see E. MORELLI, ed., *op. cit.* (supra n. 5), vol. 2, pp. 154-156 (nr. 634); G. MORONI, *op. cit.* (supra n. vol. 78, p. 190; vol. 5, pp. 46-47; F. DIAZ, *I Lorena in Toscana. La Reggenza*, Turin, 1987, pp. 130-131. On Saint'Odile's success in settling the quarrel over possession of Carpegna, see E. MORELLI, ed., *op. cit.* (supra n. 5), vol. 3, pp. 145-146 (nr. 628). A great deal of documentation about the Carpegna affair can be found in ADS, Fondo Legazione del Granducato di Toscana in Roma, Pacco 3 (1751-1760), including an interesting 30-page printed document stating the Papal position dated January 30, 1739; see *Lettera di un Anonimo ad un suo Amico sopra l'affare presente della Carpegna per quello riguarda alle pretese ragioni del Ministero di Toscana fondate sù certe Accomandigie*.

<sup>21</sup> On the present, see E. MORELLI, ed., *op. cit.* (supra n. 5), vol. 2, p. 107 (nr. 604).

<sup>22</sup> For Pope Benedict's complaint that Saint'Odile was a mere postman, see E. MORELLI, ed., *op. cit.* (supra n. 5), vol. 2, p. 527: « Tutti i gravi affari, che ha questa Santa Sede colla Corte di Vienna, dormono, ma non per colpa nostra. Il barone

Saint'Odile served as Tuscan ambassador in Rome until 1774, when he was fired by Archduke Peter Leopold (1747-1792, Holy Roman Emperor from 1790) for reasons that are not entirely clear but that involved a series of mishaps and missteps. We are told in one source that Saint'Odile was dismissed because he was caught sending secret reports to the Archduke's mother, Maria Theresa of Austria. This fact was revealed in the midst of an investigation of the charge that Saint'Odile was secretly selling antiquities from the Villa Medici collection to Cardinal Albani<sup>23</sup>. Whatever the truth of this charge, the fact that Saint'Odile was dealing directly with his sovereign's mother, from whom he jealously guarded his independence, was sufficient to put him in bad odor with the court in Florence. Another possible reason for his dismissal was the Baron's involvement in an ill-fated scheme started by a German named Johann Christian Miller to settle parts of the malaria-infested Maremma with colonies of Romans. The plan failed after just one year in 1773, costing Miller his job and Peter Leopold his substantial investment. Whether Saint'Odile incurred any of Peter Leopold's displeasure for this is not known, but it would not be surprising, especially since in the investigation of the affair, it became clear that Miller did nothing without Saint'Odile's knowledge and approval. The immediate cause, however, of the Baron's dismissal was undoubtedly his high-handed arrest of the head of the Tuscan post office in Rome<sup>24</sup>. In a letter to Archduke Peter Leopold dated February 17, 1774, Maria Theresa wrote that Saint'Odile was now « mad » and

di Saint'Odile, che doveva fare qui la comparsa d'un plenipotenziario e d'un angelo di pace, in sostanza non può far altro che prender fogli, mandarli alla sua Corte, e portare le risposte, quando vengono, il che sino ad ora non è succeduto, ancorché siano mesi che gli furono consegnati i fogli di risposta col piano di quanto poteva farsi per accomodamento in tutto ciò che appartiene alle intollerabili novità, violentemente introdotte nella Toscana. » On Kaunitz, see F.A.J. SZABO, *Kaunitz and Enlightened Absolutism, 1753-1780*, Cambridge, 1994.

<sup>23</sup> For the details, see M. MAUGERI, *op. cit.* (supra n. 2), p. 17.

<sup>24</sup> See the long report on the affair in ASF, Fondo Segreteria di Gabinetto, Filze 76-82. For accounts of Saint'Odile's dismissal in the recent secondary literature, see A. WANDRUSKA, *Pietro Leopoldo un grande riformatore*. Florence, 1968, pp. 317-329; Leopold II. *Erherzog von Österreich, Grossherzog von Toskana, König von Ungarn und Böhmen, Römischer Kaiser*, 2 vols. Vienna, 1963-65, vol. 1, pp. 292-297; M. MAUGERI, *op. cit.* (supra n. 2), p. 10.

should be sent off into retirement<sup>25</sup>. Soon, the hapless ambassador was taken by the Archduke's agents from Rome to Siena, where he was put under house arrest. There Saint'Odile spun his own theory for the various scandalous accusations made against him : a conspiracy by the Prince Bartolomeo Corsini to destroy his close relationship with the Pope<sup>26</sup>. The full truth behind these charges and Peter Leopold's decision to pension off his ambassador to Rome will probably never be known. At any rate, by March 3, his resignation had been offered and accepted, and he was given a pension and told never to set foot again in Rome or Florence<sup>27</sup>. One year later, he died in Aix-en-Provence, leaving behind a nephew who tended him in his last days but apparently no wife or offspring<sup>28</sup>.

We have seen that the report reaching Pope Benedict shortly before Saint'Odile's arrival in Rome about his intelligence and good will was reliable, at least as far as the early years of his mission are concerned. The report about Saint'Odile's learning and culture, while exaggerated, was fairly accurate as well. To his credit, from the early years of his mission Saint'Odile took steps to preserve the famous but dilapidated Villa Medici. In late 1755, he expressed his concern to Richecourt about

<sup>25</sup> ASF, Fondo Segreteria di Gabinetto, Filza 80.

<sup>26</sup> ASF, Fondo Segreteria di Gabinetto, Filza 80, letter by Cav. Francesco Siminetti to Giovanni Evangelista Humbourg, dated March 4, 1774.

<sup>27</sup> ASF, Fondo Segreteria del Gabinetto, Filza 80, letter of Count Piccolomini to Saint'Odile dated March 3, 1774.

<sup>28</sup> On the year of Saint'Odile's death see H. WALPOLE, *op. cit.* (supra n. 5), vol. 4, p. 305n7 ; on the story of why Saint'Odile was fired in 1774, see A. ZOBÌ, *Storia civile della Toscana dal MDCCXXXVII al MDCCCXLVIII*, Florence, 1850, vol. 2, pp. 155-157. On the Miller affair see P. LEOPOLDO, *op. cit.* (supra n. 13), vol. 3, pp. 30-31, 175-179, 190-191 ; L. BORTOLOTTI, *La Maremma settentrionale 1738-1970. Storia di un territorio*, Milan, 1976, pp. 23-94 (without reference to Saint'Odile's activities). On Johann Christian Miller see E. DIANA, *In viaggio con il granduca*, Florence, 1994, p. 106n20 ; D. BARSANTI, *Castiglione della Pescaia. Storia di una comunità dal XVI al XIX secolo*, Florence, 1984, pp. 106, 107, 116 ; D. BARSANTI AND L. ROMBAI, *Leonardo Ximenes, uno scienziato nella Toscana lorenese del Settecento*, Florence, 1987, p. 76. That Saint'Odile was not survived by a wife or child can be inferred from the fact that only his nephew was with him when he died and from the silence of R.B. LITCHFIELD, *op. cit.* (supra n. 4).

the sad condition of the Villa's statues and bas reliefs<sup>29</sup>. From 1756 to 1764, the Baron had the villa restored to its former glory by the architect Antonio Asprucci, even adding an obelisk with fountain to the gardens<sup>30</sup>. The villa had long been an obligatory destination for the powerful and talented passing through the city or residing there. During Saint'Odile's tenure, we hear particularly about visits there by those in the circle of Cardinal Alessandro Albani, who, as Austrian Chargé d'Affaires and Imperial Minister Plenipotentiary in Rome, was Saint'Odile's close colleague and collaborator on behalf of Habsburg interests<sup>31</sup>.

Through Albani, Saint'Odile met Winckelmann, who became a welcome visitor to the Villa Medici, an admirer of its antiquities, and an acquaintance of the Baron. We can only guess what Saint'Odile felt when he had to organize the transfer of many of the prize antiquities decorating the Villa to Florence from 1770 to 1774. Saint'Odile's keen interest in antiquity extended beyond Rome and the Villa Medici. He enjoyed touring the Roman Campagna, and we happen to hear of one trip he made to the Tivoli area, during which he traveled far and wide, staying at Count Fede's villa, which stood on the grounds on the Villa of Hadrian. He himself wrote that Tivoli was his « customary place to breathe fresh air »<sup>32</sup>. On another trip, he traveled up the Anio Valley,

<sup>29</sup> See ASD, Fondo Legazione del Granducato di Toscana in Roma, Pacco 3 (letter dated December 27, 1755 of Saint'Odile to M. de Richécourt): « il n'est pas douteux, que les Statues, et Bas reliefs de la Ville Medici ont beaucoup souffert, mais c'est un objet negligé de longue main, et d'une depense considerable... »

<sup>30</sup> G. MORONI, *op. cit.* (supra n. 9), vol. 100, p. 271; E. FUMAGALLI, « La villa sous les derniers Médicis et les Lorraine », in *La Villa Médicis*, ed. A. CHASTEL, 3 vols. Rome, 1991, vol. 2, pp. 587-600. In 1758, Saint'Odile also engaged Asprucci to restore the Palazzo di Firenze, the seat of the Tuscan embassy and the residence of many embassy employees; see the letter dated August 30, 1758 by Saint' Odile to Colloredo in the HHSA, Staatenabteilung, Rom-Korrespondenz, Karton 162 (= old 226, 227). On Antonio Asprucci (1723-1808) see *Dizionario Biografico degli Italiani*. Rome, 1962, vol. 4, p. 425.

<sup>31</sup> On Albani's diplomatic role, see L. LEWIS, *op. cit.* (supra n. 7), pp. 11, 12, 14, 123, 137, 179.

<sup>32</sup> ASF, Fondo Affari Esteri, Filza 2284, in a dispatch to Count Piccolomini dated July 31, 1773.

eventually reaching Ancona before returning to Rome<sup>33</sup>. An unconfirmed source tells us that Saint'Odile even corrected the map of the Campagna published in 1711 by the great French cartographer, Guillaume Del'Isle<sup>34</sup>. This map was not noticed by Frutaz in his comprehensive collection of the maps of Lazio<sup>35</sup>, and no trace of it

<sup>33</sup> On Saint'Odile's friendship with the philo-Austrian Albani, see F. DIAZ, *op. cit.* (supra n. 9), pp. 130-131. On Winckelmann's visits to the Villa Medici, see C. JUSTI, *Winckelmann und seine Zeitgenossen*, zweite durchgesehene Auflage, Leipzig, 1898, vol. 3, p. 285; J.J. WINCKELMANN, *Briefe*, ed. W. REHM, Berlin, 1954, Nr. 362 to Musil von Stosch; Rome, May 4, 1760 (pp. 87-89, at p. 88); Nr. 364 to Musil von Stosch, Rome, June 14, 1760 (pp. 89-90); Nr. 376, to Musil von Stosch, Rome, Nov. 1, 1760 (pp. 104-106); Nr. 486, to Mengs (draft), Rome, first half of May, 1762 (pp. 230-231; also in J.J. WINCKELMANN, *Lettere italiane*, ed. G. ZAMPA, Milan, 1961, p. 195); Nr. 605, to Musil von Stosch, Rome, Nov. 23, 1763. On the removal of many antiquities from the Villa Medici to the Uffizi between 1770 and 1774, see R.R. VILLANI and G. CAPECCHI, « Per Francesco Carradori copista e restauratore », in *Paragone*, 41 (1990), p. 134; E. FUMAGALLI, *op. cit.* (supra n. 30), p. 597; M. MAUGERI, *op. cit.* (supra n. 2). For Saint'Odile's visit to the property of the Count Fede at Hadrian's Villa see J.J. WINCKELMANN, *Briefe*, ed. W. REHM, Berlin, 1954, Nr. 486, to Mengs (draft), Rome, first half of May, 1762 (pp. 230-231; also in J.J. WINCKELMANN, *Lettere italiane*, ed. G. ZAMPA, Milan, 1961, p. 195). It is not surprising that Saint'Odile and Count Giuseppe Fede (? - 1777) should have been friends: the Count's ancestor, Antonio Maria Fede (1649-1718; see *Dizionario biografico degli Italiani*, Rome, 1995, vol. 45, pp. 553-54) served under the Medici as Tuscan ambassador to Rome from 1693 to 1718. Little has been written about Fede; some interesting remarks may be found in R.R. VILLANI and G. CAPECCHI, *ibid.*, pp. 132, 154, 164n39; on his property at Hadrian's Villa see now W.L. MACDONALD and J.A. PINTO, *Hadrian's Villa and Its Legacy*, New Haven and London, 1996). On Saint'Odile's trip up the Anio Valley to Ancona, see the dispatches to the Council of the Regency sent in October, 1757 by Saint'Odile's secretary, Antonio Valentini, in ASF, Fondo Affari Esteri, Filza 2278.

<sup>34</sup> See G. MORONI, *op. cit.* (supra n. 9), vol. 36, p. 195. For Del'Isle's map see G. DEL'ISLE, *Tabula Italiae Antiquae in regiones XI ab Augusto divisae et tum ad mensuras itinerarias tum a observationes astronomicas exactae*, Paris, 1711; Amsterdam, 1745, on which cf. A.P. FRUTAZ, ed., *Le carte del Lazio*, 2 vols. Rome, 1972, vol. 1, pp. 81-82. I have been unable to confirm the existence of Saint'Odile's map.

<sup>35</sup> A.P. FRUTAZ, ed., *op. cit.* (supra n. 34).

remains in the cartographical collections I have consulted in Washington, D.C., London, and Rome.

Great as may have been his love for the physical remains of Greece and Rome, we have no evidence that Saint'Odile was, or pretended to be, a scholar, as the following vignette attests. On October 24, 1758 the Council of the Regency forwarded to Saint'Odile a request from Antonio Maria Bandini, the Librarian of the Bibliotheca Laurentiana, that he check to see whether the missing folio of *codex Mediceus* 39.1 containing *Aeneid* VIII.585-642 might be in the Vatican Library<sup>36</sup>. This was a reasonable guess, since the manuscript was known to have been in Rome before its purchase by the Medici in 1587<sup>37</sup>. Saint'Odile wrote back promptly on October 28 informing the Council that the Vatican Library was closed for vacation and that he would attend to the matter immediately upon its reopening. But in there is no sign that Saint'Odile ever followed up on his promise.

Horace's Villa is not mentioned in the Saint'Odile documents I have examined, but that he was the first to excavate the site of a Roman villa near Licenza is attested in contemporary printed sources. Why Saint'Odile became interested in Horace's villa is unclear from these informants. A Papal excavation permit, which the Baron ought to have obtained and that would give us information about the date and exact spot where Saint'Odile dug, is not to be found in the surviving documents in the Archivio di Stato, Rome<sup>38</sup>. He himself never

<sup>36</sup> ASF, Fondo : Affari Esteri, Filza 2277. For bibliography on *codex Mediceus* 39.1 see SCHANZ-HOSIUS, *Geschichte der römischen Literatur*, Abt. VIII. Munich, 1935, vol. 2, p. 95.

<sup>37</sup> For the history of the ms., see K. BÜCHNER, *P. Vergilius Maro. Der Dichter der Römer*, Stuttgart, 1966, col. 455.

<sup>38</sup> In 1750 a Papal edict was published requiring a permit from the Commissioner of Antiquities « for the extraction of statues of marble or bronze, pictures, and similar antiquities »; for the text see Biblioteca Comunale e Dell'Accademia Etrusca di Cortona, ms. *Notti Coritane*, tomo VII, pp. 43-44; and A. EMILIANI, *Leggi, bandi e provvedimenti per la tutela dei beni artistici e culturali negli antichi stati italiani, 1571-1860*, Bologna, 1978, pp. 96-108 (where are also to be found earlier Papal edicts on this subject dating from 1624 to 1733). Conceivably, Saint'Odile could have claimed not to have needed a permit if he was only digging to

published anything about the site. His personal letters — a packet of which was still to be found in the Segreteria del Real Palazzo di Campo Marzio after Saint'Odile was fired in 1774 — might reveal important clues, but, as noted, they did not pass with his ministerial correspondence to the Archivio Storico Diplomatico in Rome, and I have not been able to determine their present location.

Our best source of information about Saint'Odile's excavations of Horace's villa is Domenico de Sanctis, who in 1761 published the following account near the end of his *Dissertazione sopra la villa di Orazio Flacco* :

....I will conclude by making honored mention of the further lights shed by the most praiseworthy care and diligence of the Baron di Saint'Odile, the Plenipotentiary to the Holy See of his Majesty the Emperor and Grand Duke of Tuscany, a man who in the midst of his duties nourishes a strong love for learning and literature. He, too, completely persuaded that Horace's villa was located in Licenza, did not neglect to investigate the truth of the matter in a more certain way. Since having observed the remains of an ancient structure not far from the site I have indicated, and under a spring from which without doubt the stream of the Digenza takes its name, he imagined that Horace's house once stood here, and he undertook its excavation [*scavamento*]. There he discovered well-built foundations and a cellar, which may be signs of a dwelling that — if not magnificent and luxurious — was at least proper and comfortable. There a pipe is also seen bringing water from the spring to the house both for domestic use and also, perhaps, for the convenience of a domestic bath complex<sup>39</sup>.

identify the site of Horace's Villa and not to extract any antiquities. The licenses issued in the period 1750-1780 may be found in ASR, Camerale II, Inventario 113/6.

<sup>39</sup> D. DE SANCTIS, *op. cit.* (supra n. 2), p. 43 : « ...finirò col fare onorata menzione degli'ulteriori lumi, che à potuto somministrare la lodevolissima cura, e diligenza del Signor Baron di Santodille, Ministro Plenipotenziario della Maestà dell'Imperadore Gran Duca di Toscana appresso la Santa Sede, Uomo che in mezzo alle sue cure nutrice il bon genio dell'erudizione, e delle lettere. Persuasissimo anch'egli che in Licenza situata fosse la villa di Orazio non ha lasciato di investigarne

De Sanctis' short book was first published in 1761, which gives us an *ante quem* for Saint'Odile's excavations in Licenza. We can also establish a *post quem* of 1756, the year in which the Abbé Capmartin de Chaupy arrived in Rome in exile from his native France<sup>40</sup>. De Chaupy enters the story of Saint'Odile's excavations because, as his acquaintance, Joseph Jérôme La Lande, wrote in 1769 :

All the antiquarians placed the house of Horace at Tivoli because he often speaks of Tivoli in his works. But the Abbé Chaupy having thoroughly discussed this matter, and having combed the whole area with the Baron de Saint'Odile, wrote a work in several volumes in which he strongly argued the view that when Horace speaks of Tivoli, he refers to the house of Maecenas or of someone else ; but when he speaks of his own house, he speaks of the Digentia [River], the Mons Lucretilis, or the Sabine valleys, which is therefore where one has to find its location<sup>41</sup>.

Thus, by dating the beginning of De Chaupy's work at Horace's Villa, we can also date the project of Saint'Odile. De Chaupy tells us that he started work on Horace's Villa « a few years after the discovery » of the inscription now referred to as *CIL XIV.3482*, which was found in 1757 near Mandela<sup>42</sup>. Elsewhere, he writes that he arrived at his first sketch of the idea that the Licenza villa was Horace's a few months before the publication of De Sanctis' *Dissertazione*, which could not

anche più sicuramente la verità. Poichè avendo osservati i vestigj d'antica Fabrica nel sito appunto da me indicato non molto lungi, ed al di sotto di un Fonte da cui senza fallo prese il suo nome il Ruscello Digenza, immaginossi che quivi un dì fosse il Casino di Orazio, e ne intraprese lo scavamento. A egli di già scoperte le fondamenta & un sotterraneo di molto bene intesa struttura, che indicar possono, se non un magnifico, e ricco edificio, almeno una ben propria, e commoda Abitazione. Vi si osservano ancora gli avanzi di un piccol condotto, che l'Acqua del Fonte al Casino portava non solo per gli usi domestici, ma forse ancora per comodo di qualche domestico Bagno.... »

<sup>40</sup> On the Abbé Capmartin De Chaupy, see *Biographie Universelle*, Paris, 1854, vol. 8, pp. 45-46.

<sup>41</sup> J.J. LA LANDE, *Voyage d'un François en Italie, fait dans les années 1765 et 1766*, Venice and Paris, 1769, vol. 5, pp. 385-386 (my translation).

<sup>42</sup> C. DE CHAUPY, *op. cit.* (supra n. 2), vol. 3, p. 249.

have happened before mid-April of 1761<sup>43</sup>. Putting these two passages together, we may infer that De Chaupy and Saint'Odile were exploring the countryside sometime in late 1760 or early 1761<sup>44</sup>. From an archaeological point of view, such a dating makes sense, since sites in central Italy are most easily studied in the months between the harvest and planting season.

Whatever the exact date of their collaboration in 1760/61, the baron and abbot do not make as odd a couple as they might at first glance appear to do. Both fervent believers in the absolutist state, they were ideological soulmates. De Chaupy had been exiled in 1756 for publishing two books attacking the Parliament of Paris. Later, at the beginning of the French Revolution, he was to publish a harsh attack on Voltaire and republicanism<sup>45</sup>. Saint'Odile had campaigned to be the head of Regency in Florence after the death of Richecourt. In support of his candidacy, he drafted a *Mémoire sur le gouvernement de la Toscane* in late 1756 or early 1757, in which he criticized Richecourt's regime for tolerating too many features of the old Florentine republic<sup>46</sup>. The tract failed to gain the Baron the promotion he sought, which went instead to Marshal Antonio Botta Adorno. Adorno ruled Tuscany from 1757 to 1766 as head of a regime that reduced the influence of Lorrainers such as Saint' Odile<sup>47</sup>.

<sup>43</sup> vol. 1, p. xxxix. The earliest De Sanctis' book could have been printed is after he received permission from the Holy Office to publish it on April 18, 1761 (see *op. cit.* [supra n. 2], p. [v]).

<sup>44</sup> The preface to De Sanctis' third printing of his book in 1784 makes the date of early 1761 more probable, since there (at p. x) we read of De Chaupy that he « accidentalmente con un Personaggio di qualche rango capitò nel 1761 in Vicovaro. » The « Personaggio di qualche rango » was presumably Saint'Odile.

<sup>45</sup> For details and bibliography, see *Biographie Universelle*, Paris, 1854, vol. 8, pp. 45-46.

<sup>46</sup> On the date and authorship of the *Mémoire*, see A. CONTINI, *op. cit.* (supra n. 1), p. 247n14.

<sup>47</sup> See A. CONTINI, *op. cit.* (supra n. 1), pp. 242-248, on the « delorenizzazione » of the Grand Duchy of Tuscany under Botta Adorno; and see A. CONTINI, *op. cit.* (supra n. 5), p. 535 specifically on the political marginalization of Saint'Odile in the 1760s.

It is no surprise that, with Tuscan-Church relations in good order, and with his political ambitions blocked, the Baron should have turned to such recreational, if edifying, activities as studying Horace's country house. He certainly had the resources and staff needed for an excavation: in addition to twelve secretaries working on ministerial business, his truly baronial household employed over twenty servants, lackeys, cooks, footmen, coachmen, musicians for the hunt, tailors, etc.<sup>48</sup>

De Sanctis' account of Saint'Odile's discoveries at Licenza cannot be considered a definitive record, which only the excavator himself could have written. On the other hand, we have no reason to doubt De Sanctis' accuracy, especially since his observations are corroborated by De Chaupy, who adds several more details about an excavation he reports without mentioning Saint'Odile's name as his partner or patron. We will consider this oddity in a moment; for now we simply need to note that La Lande's notice cited above makes it all but certain that the excavations of De Chaupy and of Saint'Odile were one and the same.

De Chaupy presents two consistent descriptions of the finds in the third volume of his book. These are too lengthy to quote, so a summary must suffice. He reports finding two separate structures, both in *opus reticulatum*, which he dates to the first century B.C. and takes as evidence that the villa is Augustan. The first structure, he tells us, occupied the ruined church of St. Peter. Because of its small size, the water pipes found leading to it, and its low position, he conjectures that it was probably a bath complex<sup>49</sup>. The second building was located in a more open position and was much larger, implying to De Chaupy that it was the residence. Also found scattered around the site were *tesserae* of mosaics — some polychrome<sup>50</sup> — as well as fragments of columns and entablatures<sup>51</sup>. Near these structures was a garden, which, from De Chaupy's description, corresponds to the area below what today is called the Nymphaeum of the Orsini several hundred meters to the west

<sup>48</sup> See ASF, Segreteria del Gabinetto, Filza 80, *Affare di Baron di S. Odile, Visitatore Miller, & Del Sig.<sup>o</sup> Vaseige*, Tomo V (1774), « Nota di tutte le persone che sono al servizio del Sig.<sup>o</sup> Barone di Saint'Odile ».

<sup>49</sup> C. DE CHAUPY, *op. cit.* (supra n. 2), vol. 3, pp. 10, 352-353.

<sup>50</sup> C. DE CHAUPY, *op. cit.* (supra n. 2), vol. 3, pp. 10, 353-354.

<sup>51</sup> C. DE CHAUPY, *op. cit.* (supra n. 2), vol. 3, p. 10.

of the archaeological site we know from Pasqui's excavations in the period 1911-16. In this area the local wine-growers found fragments of lead pipes inscribed T. CLAVDI BURRI and TI. CLAVDI B. These were destroyed later in the eighteenth century when the Archpriest of Licenza, to whom they had been entrusted, used them for birdshot, as the Scottish painter, Allan Ramsay, recounted some years later in an unpublished manuscript on Horace's Villa now in Edinburgh<sup>52</sup>.

It is tempting but frustrating to integrate the contemporary descriptions of Saint'Odile's work with what is known about the site today. The absence of a site plan in De Chaupy and De Sanctis is a major impediment to relating the eighteenth-century reports to features now visible in the archaeological zone ; and the requirement that this article not be illustrated means that a detailed discussion must be reserved for another occasion in any case. Nevertheless, several important points can be made. The first is that digging occurred in the area known then and now as the Vigna di S. Pietro<sup>53</sup> around the cascade today known as the Nymphaeum of the Orsini, which is several hundred meters to the west of the twentieth-century archaeological area and has not yet been studied. Not surprisingly, ancient pipes were found here, directing water downhill to the east, where two structures were seen at some distance from each other. At least one of these, the larger of the two, was excavated. All over the surface, ancient fragments were seen, ranging from *cubilia* and *tesserae* to marble architectonic elements such as column drums and pieces of entablature.

<sup>52</sup> C. DE CHAUPY, *op. cit.* (supra n. 2), vol. 3, p. 356-357. The inscriptions are CIL XIV.3487 and XV.3897b. For the story about the Archpriest, see A. RAMSAY, *An Enquiry into the Situation and Circumstances of Horace's Sabine Villa*, N.p., 1784 (Edinburgh University Library ms. La. III.492), p. 39n\* : « We are obliged to the Abbé Chaupy for the knowledge of these inscriptions, which would otherwise have been, before this time, consigned to eternal oblivion. For, after selling the bulk of the leaden pipes, the late Arciprete of Licenza preserved the two bits containing the name of Burrus and would have transmitted them to his successor, had not, unhappily, a want of shot for killing partridges made it necessary to employ them in that service », C. De Chaupy, at vol. 3, p. 10, confirms Ramsay's statement that the fragments inscribed with Burrus' name were entrusted to the local priest.

<sup>53</sup> Cf. D. DE SANCTIS, *op. cit.* (supra n. 2), p. 31 ; C. DE CHAUPY, *op. cit.* (supra n. 2), vol. 3, p. 2.

Identification of the two structures would be desirable, but any efforts to do so must obviously be speculative. It is safer to say where they were *not* located : on the grounds of the modern archaeological zone. We can make this perhaps unexpected assertion because the scope of Saint'Odile's project is ascertainable from what was not found in the 1760s but is known to have been discovered by the late 1770s and afterwards. Near the end of the next decade, visitors were shown remains of several rooms whose mosaic floors are still intact. One — labeled G 1 by Lugli — is illustrated at the upper right-hand corner of the relief map published Jacob Philipp Hackert and in an unpublished manuscript by Scottish painter Allan Ramsay<sup>54</sup>. This, and four other mosaics in rooms labeled by Lugli C 1, C 2, G 2, and G 3 are preserved in the residence section of the modern archaeological site. Three other mosaics in the same general area have been reported by late eighteenth- and nineteenth-century visitors. These floors do not survive today and do not appear in the accounts of Saint'Odile's project. Had Saint'Odile dug in this area, he would undoubtedly have uncovered at least one of these mosaics. The silence of De Sanctis and De Chaupy is telling evidence that he did not.

From these facts we may infer that, having observed pipes near the Nymphaeum of the Orsini taking water downslope to the east, Saint'Odile and De Chaupy looked for related structures nearby. Working their way eastward, they encountered one small building still seen and sketched by Allan Ramsay in the late 1770s but which has since vanished<sup>55</sup> ; and beyond this, at an indeterminate distance but not as far as the residence area of the twentieth-century site, they found foundations of the second structure. Ramsay's description of the Vigna

<sup>54</sup> J.P. HACKERT, *Carte generale de la partie de la Sabine où étoit située la Maison de Campagne d'Horace, suite de dix Vûes des sites de cette Campagne et de ses Environs, nommés dans les Oeuvres d'Horace, et relatives aux dissertations que Mr. l'Abbé de Santis, Mr. l'Abbé Capmartin de Chaupy et Mr. de Ramsay ont publié à ce sujet*, Rome, 1780 ; A. RAMSAY, *op. cit.* (supra n. 52), p. 53c.

<sup>55</sup> See A. RAMSAY, *View of the Licenza Valley from the Orsini Palace*, National Gallery of Scotland, RSA 509 ; black chalk on paper, 44.7 x 61.0 cm. This sketch was the basis of a watercolor commissioned by A. Ramsay from Jacob More, which is also in the National Gallery of Scotland (D 1417).

di S. Pietro as it appeared just seventeen years later may shed further light on this building :

....Besides the general circumstances of the ground, what proves fully its being a fit place for setting down a house or Villa is, that there are actually still to be found there the ruins of two ancient dwellings or of two parts of a large one....The two remains of building stand at the distance of about 100 yards from one another. That to the east consists only of a mosaic pavement of very elegant foliage, and expensive workmanship beyond what was to be expected from the simplicity profest by Horace...<sup>56</sup>.

If Ramsay's second building corresponds to De Chaupy's, then we can say that it was about 90 meters to the east of the first, and smaller, structure ; and that sometime between 1760/1761 and 1777, the local farmers continued the work and found the mosaic seen by Ramsay with « elegant foliage. » No other observer has reported seeing this mosaic, which may still exist under the modern surface. Ramsay tells us that the two buildings he saw were on an east-west axis. This corroborates our conclusion that Saint'Odile's site differs from the modern archaeological zone, which has a north-south orientation. In this connection the map of the Licenza Valley on the title page of the second edition of De Sanctis' *Dissertazione* is helpful in that it shows the rectangular plan of « ruins » of Horace's Villa running in an east-west direction. For the contemporary student of Horace's Villa, this is welcome for two reasons : first, it suggests that the eighteenth-century excavators did not disturb a large part of the site we know today ; secondly, it implies that further explorations to the north and west of the twentieth-century archaeological zone may well turn up evidence of the two structures seen by De Chaupy and Ramsay.

That Saint'Odile published no account of his excavations is certain ; but it is less clear that he wanted his important discoveries to remain completely unknown. In favor of the hypothesis that Saint'Odile wanted to keep silent about his finds is not only the lack of a publication but also the odd fact that De Chaupy never explicitly mentions his partner, or sponsor, Saint'Odile, in his three-volume work on Horace's villa.

<sup>56</sup> A. RAMSAY, *op. cit.* (supra n. 52), p. 25.

Instead, Saint'Odile is named only by De Sanctis, a man who was to become De Chaupy's bitter rival in a dispute about who could rightly claim priority in identifying the Licenza site as Horace's Villa. Yet, the excavations at Licenza, if made known to the world, could only have raised the Baron's standing in the eyes of the cultural and political elite of Europe in this Age of the Grand Tour. In this context we may compare Robert Adam's archaeological publication of Diocletian's palace at Split, which was begun in the mid-1750s and was intended to be, in Adam's memorable words, « a great puff, conducive to raising all at once one's name & character »<sup>57</sup>.

If Saint'Odile chose to forego the glory of being known as the discoverer of the site, then this may have been a necessary consequence of his failure to obtain an excavation permit : publishing a report would have been a *de facto* admission of flouting the law<sup>58</sup>. Another reason is that Saint'Odile may have felt that his project was not yet finished and hence not ready for publication. At the end of the first printing of De Sanctis' *Dissertazione* of 1761, we read : « thus continuing the enterprise he [*scil.*, Saint'Odile] has begun — as is most desirable for the Republic of Letters — one can hope that some more singular monument can be found, which will make the identification of Horace's Villa in Licenza even more secure »<sup>59</sup>. At the end of the third, and final, printing of De Sanctis' study in 1784, this expression of hope has been changed into a statement of disappointment that « well-known events have prevented [Saint' Odile] from completing the enterprise he began »<sup>60</sup>. The allusion is undoubtedly to Saint'Odile's abrupt dismissal from office in 1774 and to Archduke Peter Leopold's order that his erstwhile ambassador never set foot in Rome again.

<sup>57</sup> Cited apud I.G. BROWN, *Monumental Reputation. Robert Adam & the Emperor's Palace*, Edinburgh, 1992, p. 11.

<sup>58</sup> One may compare Saint'Odile's similar failure in 1769 to obtain a licence to export the Niobe group and Apollino from the Villa Medici to Florence. M. MAUGERI, *op. cit.* (supra n. 2), p. 7 speculates that this failure resulted from the Baron's unsuccessful attempt to export the statues through legal means and his resort to corruption of the relevant Papal authority.

<sup>59</sup> P. 44.

<sup>60</sup> P. 62.

This may explain Saint'Odile's silence in his own behalf, but it does not account for De Chaupy's silent treatment of his former partner. We can easily imagine that the abbot's account suppressed the illustrious ambassador's name in order to protect him. This may also explain why De Chaupy never uses the word « excavation » to describe the work at Licenza, implying instead that activities there were limited to a close reading of the surface finds on the site. Yet we must agree with De Sanctis that what was involved was really a *scavamento* — a term he could presumably use because, as an outsider, he was not privy to the fact that Saint-Odile lacked an excavation permit<sup>61</sup>. Besides De Sanctis' report that foundations of the residence were dug up, a revealing piece of evidence is De Chaupy's report about pipes leading into the smaller structure as well as the fragments of pipe found inscribed with the name of Burrus. The latter, he tells us, were found by the wine-growers while he was working on the site. What he does not tell us is that these farmers had probably been hired by him as diggers ; and that, in any event, the other pipes found around the smaller « bath » structure (on the particulars of whose discovery De Chaupy does not report) could only have been found by digging below the surface, which today and in Pasqui's time is roughly 1 meter above the ancient level.

But something more than discretion and the laudable attempt to protect a patron may have motivated the quarrelsome De Chaupy : near the beginning of his lengthy work, he refers obliquely to « c'étoit ceux qu'on avoit cru pouvoir recevoir sur le fondement d'un part qu'on avoit eu à la découverte qui avoit consisté à en faire naitre l'idée, & à être le chef du premier voïage fait pout l'entreprendre »<sup>62</sup>. Dionisi was correct to read into these discreet words the abbot's irritation that Saint'Odile had tried to claim credit for the project and the discovery of Horace's Villa<sup>63</sup>. De Chaupy goes on to argue that merely initiating the undertaking does not suffice to earn one the credit for its success : for that, one has to have made the crucial discoveries that alone confirm the site as Horace's. These, the proud abbot claims, he alone has made —

<sup>61</sup> D. DE SANCTIS, *op. cit.* (supra n. 2), p. 43 ; cf. D. DE SANCTIS, *Dissertazioni sopra I. La Villa d'Orazio Flacco. II. Il Mausoleo de' Plauzj in Tivoli. III. Antino Città Municipio ne' Marsi*, third ed. Ravenna, 1784, p. 61.

<sup>62</sup> C. DE CHAUPY, *op. cit.* (supra n. 2), vol. 1, p. xli.

<sup>63</sup> F. DIONISI, *op. cit.* (supra n. 2), p. 26.

one as recently as the previous winter of 1766, five years after the actual work at the site. At any rate, De Chaupy's failure to name and indeed to thank Saint'Odile in his publication of 1767 strongly suggests that in the six years since their collaboration, something had gone wrong in their relationship. De Chaupy's text also informs us that Saint'Odile was only present during « the first trip » made to start the project, implying thereby that there were other — and more rewarding — trips on which the actual work of studying and digging the site were conducted. In view of the Baron's burdensome duties in Rome, this is not at all surprising. Moreover, we can well doubt that Saint'Odile was a detail man. The operational chores of studying the site in detail he doubtless felt he could, and should, delegate to an underling like De Chaupy.

From these considerations we may conclude that Saint'Odile's otherwise puzzling nonchalance about publicizing his work about the place he believed to be Horace's Villa stemmed from one or more of the following factors : his failure to obtain an excavation permit, forcing him to keep a low profile ; his absence from some or all of the actual work of studying the site ; and his subsequent falling out with his collaborator, De Chaupy, without whose detailed knowledge of the investigations on the site any publication would have been impossible. What motivated the Tuscan ambassador to Rome to excavate Horace's Villa in the first place is still a mystery, though, in view of his reputation as an intriguer, the scandalous end to which he came, and the eighteenth-century view of archaeology as a business the purpose of which was to find salable treasure<sup>64</sup>, we may well suspect that Saint'Odile's motives were more mercenary than scientific. Be that as it may, at least we know from De Chaupy that it was the Baron de Saint'Odile who first had the idea of digging at the Licenza site and of initiating the long project, still very much alive today, of empirically testing the thesis that the Roman villa located there was Horace's *Sabinum*. Given how fruitful that project has turned out to be, we can be grateful to Saint'Odile's

<sup>64</sup> See the brief but pertinent remarks of I. BIGNAMINI and I. JENKINS, « The Antique », in *Grand Tour. The Lure of Italy in the Eighteenth Century*, ed. A. WILTON and I. BIGNAMINI, London, 1996, pp. 203-205 (with bibliography).

initiative, however dubiously motivated from a late twentieth-century perspective it may have been<sup>65</sup>.

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Allan Ramsay  
and the Search for  
Horace's Villa

Edited by Bernard D. Frischer  
and Iain Gordon Brown

with contributions by  
Patricia R. Andrew,  
John Dixon Hunt and  
Martin Goalen

ASHGATE

## Ramsay's 'Enquiry': Text and Context

Bernard D. Frischer

Besides, we may observe, in every art or profession, even those which most concern life or action, that a spirit of accuracy, however acquired, carries all of them nearer their perfection.

David Hume, *An Enquiry Concerning Human Understanding*, 1748

The first issue of *Archaeologia, or Miscellaneous Tracts, Relating to Antiquity. Published by the Society of Antiquaries of London*, appeared in 1770.<sup>1</sup> Among its sixty-one articles, two stand out both because of their authors' renown and because of their diametrically opposed views of archaeology: Martin Folkes's 'On the Trajan and Antonine Pillars at Rome'; and William Stukeley's 'The Sanctuary at Westminster'. Stukeley was the eighteenth century's most distinguished scholar of Stonehenge. Folkes was President of the Society of Antiquaries and one of Stukeley's most vocal critics.<sup>2</sup> Ramsay had been a fellow of the society since 1743.<sup>3</sup> To appreciate his 'Enquiry into the Situation and Circumstances of Horace's Sabine Villa' we do well to position Ramsay between the two poles in British antiquarianism represented by Folkes and Stukeley. These might be characterized as the pole of quantitative empiricism, championed by Folkes; and the pole of high-flying speculative rationalism, associated with Stukeley.

Folkes's article is purely descriptive and quantitative – a relentless accumulation of numbers and measurements without interpretation or commentary. The tone is set at the very beginning: 'The Trajan column at Rome, is all of white marble, and consists of 30 stones, whereof 8 make the pedestal, 19 the pillar, and 3 the basis of the statue that stands on top. The side of the lowest plinth of the pedestal contains 20 English feet and three inches'.<sup>4</sup>

Stukeley's essay is quite different. In six short pages it covers not only the little church (seventy-five feet square) known as The Sanctuary, which was being torn down when Stukeley visited it in 1750, but also ranges discursively over an amazing range of issues, including a catalogue of stone buildings before the Conquest<sup>5</sup> and the origin of architecture itself:

Our church at Westminster is of the ... sort ... we may call Roman-Saxon ... from whence I infer it is later Saxon work, when there was and had been many years, perhaps, as now, too much intercourse between us and France; and when our builders began to conform to that later sort of architecture, with pointed arches.

How this later manner of pointed arches prevailed in Europe, over the former manner of semicircular arches, I cannot otherwise account for, but in supposing we had it from the Saracens ... they brought it from Africa, originally from Arabia; and from the southern parts of Asia ...

When I have thought on the origin of architecture, I persuade myself, this Arabian manner, as we ought to call it, is the most antient of all ... The original of all arts is deduced from nature; and assuredly the idea of this Arabian arch, and slender pillars, is taken from the groves sacred to religion, of which the great patriarch

Abraham was the inventor. The present Westminster Abby, and generally our cathedrals ... present us with a true notion of those verdant cathedrals of antiquity; and which our Druids brought from the east into our own island, and practised before the Romans came hither.<sup>8</sup>

For Stukeley, the little building of his study was a synecdoche for vast themes and contexts. On the other hand, Folkes' essay – though written about monuments of far greater cultural import to the learned readers of his age – is couched in a tone so dry as to be dessicated. One almost wishes that Folkes and Stukeley could have exchanged topics: it is Stukeley whom we would like to read on Trajan's Column, and Folkes on the Sanctuary at Westminster.

To assess Ramsay's achievement in the 'Enquiry' we must apply the standards both of his day and of our own. There is, in fact, much more to praise in the 'Enquiry' than to criticize. Ramsay's essay is the first compendious presentation of the Licenza site conventionally known as Horace's Villa, and the range of information synthesized exceeds anything until Mazzoleni (1891) or Lugli (1926). Ramsay knew the key works of earlier scholars, and he was intimately familiar with the villa site and the valley in which it is situated. He presented most of the passages about the villa that occur in Horace's poetry, relating the poet's descriptions to the topography of the Licenza valley. Observing standards set by *Archaeologia* and by British antiquarians such as Robert Plot and John Aubrey in the previous century, he apparently planned at one stage to provide illustrations of the valley, commissioned from Jacob More. He also wished to include a relief map, commissioned from Jakob Philip Hackert, and to present his own drawings of architectural details and small finds. Hackert's map was printed separately, and even today it is a useful aid for understanding the topography of the Licenza valley (see Fig.6.3).

The 'Enquiry' stands the test of time well, not simply because it offers several precious verbal and visual descriptions of archaeological remains not otherwise available for study, but also because it integrates so well the very different themes of a Stukeley and a Folkes. Methodologically, it succeeds because it represents an application of the 'mitigated scepticism' of Ramsay's friend, David Hume. 'To be a Humean, precisely, is to take no system as final, nothing as ultimate except the spirit of enquiry.'<sup>9</sup> Ramsay's treatise, entitled with the very Humean word 'Enquiry',<sup>9</sup> shows that its author was as critical of himself and his views as he was of his predecessors and their theories, and that he knew full well that the investigation in which he was engaged would continue long after his death. He even concluded with a modest disclaimer about the finality of his results and sketched a future plan of research for finding the Temple of Vacuna near Rocca Giovine that is still valid today:

[I] shall conclude these remarks by observing that though they contain all the lights I have been able to acquire, I am far from thinking that the subject has received all the light that may be possibly thrown upon it. Something more certain and precise may still be learnt concerning the particular situation of Mandela and the extent of the Massa Mandelana by an examination of the title deeds of the family of Orsini, anciently Lords of all this territory; or of those of Nuñez and Borghese who derive

from them; and still more from the Archives of the Vatican, and of the Church of St. John Lateran, if they happen to be accessible. Much, likewise, may be still learnt concerning the true situation of the Fanum Vacunae, and other particulars of this interesting valley, if any man of classical curiosity with 20 or 30 spare sequins in his pocket would employ the country people to dig upon Colle Franco, and other places already mentioned by me in these remarks.<sup>10</sup>

The enquiry into Horace's Villa is organized into two parts. Ramsay began with the 'situation,' or location, of Horace's estate (pp.1-5 in Ramsay's pagination), examining the arguments of such earlier scholars as Biondo, Cluverius, Holstenius and Volpi.<sup>11</sup> Comparing their views with Horace's own hints about where his country house was located, he found that everyone except Holstenius is contradicted by passages in Horace's poetry, by geographical features or by both. Holstenius, the great geographer and Vatican librarian of the mid seventeenth century,<sup>12</sup> had implicitly placed Horace's villa in the valley of the Licenza River, several kilometres to the north of Vicovaro.<sup>13</sup> Ramsay agreed, as have most scholars down to the present day.<sup>14</sup> As we will see, this reflects Ramsay's Folkesian side of careful measurement and observation.

In the much longer second part of his treatise (pp.6-67), Ramsay considered the 'circumstances' of the villa. This term covers a large number of topics, including the hydrology, agriculture and flora of the Licenza valley; the probable size of Horace's estate; the exact location of the dwelling and its unexpectedly large scale; the later owners and subsequent history of the estate; and the characteristics of the valley's inhabitants. Throughout, Ramsay showed himself competent at handling a surprisingly wide range of disciplines, including archaeology and architectural history, literary and textual criticism, cartography, epigraphy, geography, linguistics and even Church history. He also displayed admirable warmth toward the humble *comunisti* of Licenza. Here, then, we see Ramsay working in a more expansive, Stukeleyan mode.

Unfortunately, Ramsay did not organize his treatment topically but according to the order of poems in the edition of Horace he was using.<sup>15</sup> Since the poems are not arranged in chronological order, it was awkward for Ramsay to treat the historical evolution of the villa or the poetic development of the villa theme.<sup>16</sup> Then, too, the poems are to some degree repetitive in their presentation of the villa. To solve this problem, Ramsay made good use of cross-references, but he did not entirely avoid the trap of repetitiousness.<sup>17</sup> Finally, while the structure of the 'Enquiry' might have made sense had Ramsay been pursuing the villa theme as an element in Horace's poetry, it is rare that he stopped to consider the role played by a villa passage within the overall context of the poem in which it appears.<sup>18</sup> Similarly, he did not pay attention to the effects of the various genres (satiric, lyric, and epistolary) on Horace's descriptions of his villa, although this is a topic to which the structure of his essay would have been well suited.

Of course, Ramsay's approach to organizing his material had the virtue of being straightforward and, whatever its flaws, does not detract from the



5.1. Map of the Diocese of Tivoli, from D. G. De Revillas, *Dioecesis et agri tiburtini*, 1739

material itself and his methodology. It is to these that we will turn after setting the stage for Ramsay's essay by reviewing work on the villa by other antiquarians in the period 1440–1770.

### The Antiquarian Context: Situating Horace's Villa, 1440–1770

Not surprisingly, in over twenty poems mentioning his villa Horace never had occasion to locate the place with any precision. That is not what poets generally do. Horace did, however, note several places that were near his villa. Locating the villa, at least in a general way, has thus always entailed finding the modern places that correspond to the ancient sites in Horace since, as was well known by the mid sixteenth century, if not before, place names in Italy quite frequently had changed beyond recognition from antiquity to modern times.<sup>19</sup> The places appearing in Horace's villa poems include the Digentia River (*Epistles* 1.18.104), the Fanum Vacunae (*Epistles* 1.10.49), Mandela (*Epistles* 1.18.105), the Mons Lucretilis and Valley of Ustica (*Odes* 1.17), and Varia (*Epistles* 1.14.3).<sup>20</sup> None of these names survived intact to modern times.

There were old local traditions at Tivoli, Vicovaro and Licenza placing Horace's villa near these towns.<sup>21</sup> Such folklore was at first ignored or



5.2. Detail of Fig.5.1, showing the Licenza area

neglected by scholars concerned about the situation of the villa, the earliest of whom was Flavio Biondo. Biondo's influential *Italia Illustrata*, written in the mid fifteenth century, put the villa near Farfa.<sup>22</sup> This view was adopted by such important sixteenth-century Horatian commentators as Cruquius.<sup>23</sup>

In 1624, Cluverius's *Italia Antiqua* put the villa near Montelibretti on the basis of the similarity of the modern place name with Horace's Mons Lucretilis. This was soon challenged by Cluverius's student, Lucas Holstenius, in posthumously published notes on his teacher's book.<sup>24</sup> Holstenius was librarian of the Vatican Library until his death in 1661 and an acknowledged expert on ancient geography. His views were thus taken very seriously, and his new placement of Horace's Villa in the Licenza valley quickly received important support from the cartographers Mattei and Ameti<sup>25</sup> as well as from Fabretti in his influential work on the Roman aqueducts.<sup>26</sup>

Holstenius's identification rested on Cluverius's equation of Vicovaro with Varia;<sup>27</sup> on an etymological derivation of Licenza from Digentia; and on a religious-historical syncretism of the Roman goddess Victoria with the Sabine

goddess Vacuna. Holstenius knew of a Roman inscription mentioning Victoria at Rocca Giovine,<sup>28</sup> and he inferred from this that since Rocca Giovine was in Sabine territory, this might reflect a pre-Roman cult of Vacuna. While this is certainly possible, it should be noted that the Romans equated Vacuna with several Roman goddesses, not just with Victory,<sup>29</sup> and that no other evidence has come to light in Rocca Giovine of a cult of Vacuna, whereas since the Renaissance much evidence of such cults has been discovered elsewhere in the Sabina, particularly in the area around Rieti.<sup>30</sup> Thus, Holstenius's thesis required additional support. It also needed to be made more precise, since it did no more than situate the villa somewhere in the valley of the Licenza, which is over eight kilometres long. Kircher, Fabretti, Mattei and Ameti in their maps of the valley differed about where Horace's villa should be situated and made mistakes that show they were only vaguely familiar, at best, with the valley's principal features.<sup>31</sup>

Precision in locating the villa required, first of all, an accurate map, and this was still a desideratum for the Licenza valley at the beginning of the eighteenth century. The first map of the area, made with the aid of trigonometry and containing a scale, was that of Diego de Revillas in 1739 (Fig. 5.1).<sup>32</sup> Though considered accurate for its day, its quality should not be overestimated, for if we superimpose a scaled version of Revillas's map over an accurate contemporary map such as the Carta Tecnica Regionale of the Regione Lazio, Sezione 366110 (Licenza), we can see that Revillas's map is distorted. For example, Rocca Giovine is one kilometre farther north than it should be, and the Licenza River and adjacent land extend too far to the east. At any rate, Revillas's map caught the attention of antiquarians because he followed Holstenius in identifying Licenza as Digentia and Rocca Giovine as Fanum Vacunae. Though he did not, in his first edition, include Horace's Villa, he was apparently eager to take this next logical step, and in the posthumous second edition of 1767 we find the first indication of 'ruins of Horace's Villa' on a map. When Allan Ramsay made his first trip to find Horace's Villa in 1755, we know that he used a sketch he made of Revillas's 1739 map (Fig. 5.3).<sup>33</sup>

Finally, in 1755, the Jesuits Cristoforo Maire and Ruggero Giuseppe Boscovich published their highly praised maps of central Italy, including one of the Papal States undertaken at the request of Pope Benedict XIV.<sup>34</sup> On this map we find few ancient sites or place names, and none in the Licenza valley. But the location of modern sites was determined with a scientific exactness that easily surpasses anything found earlier.<sup>35</sup> The Maire-Boscovich map of Latium was republished and reused many times in the later eighteenth century and became the basis for modern maps of the area. Ramsay knew it and referred to it in the 'Enquiry', using it to criticize the map of De Chaupy (Fig. 5.4; on De Chaupy, see below), which was a throwback to the days of unscientific mapmaking, in which the position of Mandela, Vicovaro, Rocca Giovine and Licenza could shift about unreliably from one cartographer to another.<sup>36</sup> Maire-Boscovich provided antiquarians with a critical new tool that they would need if further progress was to be made.





5.4. Map of the Licenza area, from Abbé C. De Chaupy, *Découverte de la maison*, 1769

In 1757, the situation changed somewhat when the Vicovaro notary Giuseppe Petrocchi found an ancient inscription giving an important clue about the location of another place name mentioned by Horace in his villa poetry. The inscription (CIL xiv.3482; Fig.5.5) is an epitaph mentioning Valeria Maxima, the proprietor of a large group of properties (*massa*) known as Massa Mandelana. *Massae* were often named after a nearby town, and a



5.5. Inscription mentioning Valeria Maxima, owner of property in the Licenza area

'Massa Mandelana' should thus be an estate near a town called Mandela. Horace says in *Epistles* 1.18.104–105 that his country estate is near the Digentia River, 'the cool stream from which Mandela drinks'.

Petrocchi recognized the importance of the inscription, finding suggestive, too, the fact that it was found near a town called Bardella. Bardella, he concluded, is the modern name for Mandela; a new piece of the puzzle about the location of Horace's Villa had been found. Of course, the new piece resembled *Varia* and *Fanum Vacunae* in simply indicating in a general way where the villa had been built. However, the fact that another Horatian place name had been located raised anew the old problem of finding the exact spot.

None of the leading antiquarians in Rome seems to have been inspired by Petrocchi's find to grapple with the problem. Winckelmann, for example, made no contribution to the study of Horace's Villa. All we know about his views is that he placed the Fons 'Blandusiae' near Tivoli.<sup>39</sup> It may or may not be coincidental that the few people known to have been interested in Horace's Villa were (like Revillas before them) members of the *Accademia degli Arcadi*: the Dutch physician and poet George Nicolaus Heerkens and a priest of Tivoli, Domenico de Sanctis. Heerkens gave a talk to the Arcadians about his visit to Horace's Villa.<sup>40</sup> The talk does not survive, nor is there a trace of it in the Archives of the Arcadians at the *Biblioteca Angelica* in Rome, though the date would appear to be in the period 1757–58. A few years later, in 1761, de Sanctis wrote a short tract on Horace's Villa, and he began by saying that it was Petrocchi's discovery of the *Massa Mandelana* inscription that made him eager to see if the site itself could be found.<sup>41</sup>

De Sanctis's little book is less important for its author's own account of the Licenza site – which is in fact minimal, since most of the book concentrates on the villa passages in Horace's poetry – than it is for the light it throws on another pair of colourful figures who in c.1760 undertook the first known excavations of the Licenza site: the Baron de Saint'Odile and the abbot Bertrand Capmartin De Chaupy. The nature of the Saint'Odile–De Chaupy partnership is complex and has been treated more fully elsewhere.<sup>44</sup> Born Mathieu-Dominique Charles Poirot de la Blandinier at Blamont (Lorraine) in the early 1700s, Saint'Odile came to be one of the leading diplomats of mid-eighteenth century Rome.<sup>45</sup> Though mainly concerned with his diplomatic duties, he was typical of his age in also cultivating antiquarian interests. He enjoyed touring the Roman Campagna, and we hear of one trip he made to the Tivoli area, during which he travelled far and wide and stayed at Count Fede's villa, which stood on the grounds of the Villa of Hadrian. He himself wrote that Tivoli was his 'customary place to breathe fresh air'.<sup>46</sup> On another trip he travelled up the Anio Valley, eventually reaching Ancona before returning to Rome.<sup>47</sup> An unconfirmed source tells us that Saint'Odile even corrected the map of the Campagna published in 1711 by the great French cartographer Guillaume Del'Isle.<sup>48</sup> This map was not noticed by Frutaz in his comprehensive collection of the maps of Lazio,<sup>49</sup> and no trace of it remains in the cartographical collections in Washington, DC, London and Rome. One wonders whether it might not correspond to the map published in De Chaupy that was criticized by Ramsay.

As will be seen, Saint'Odile promoted the explorations at Horace's Villa. De Sanctis, our best informant about the De Chaupy–Saint'Odile project, describes their work as follows:

I will conclude by making honoured mention of the further lights shed by the most praiseworthy care and diligence of the Baron de Saint'Odile, the Plenipotentiary to the Holy See of his Majesty the Emperor and Grand Duke of Tuscany, a man who in the midst of his duties nourishes a strong love for learning and literature. He, too, completely persuaded that Horace's Villa was located in Licenza, did not neglect to investigate the truth of the matter in a more certain way. Since having observed the remains of an ancient structure not far from the site I have indicated, and under a spring from which without doubt the stream of the Licenza takes its name, he imagined that Horace's house once stood here, and he undertook its excavation [*scavamento*]. There he discovered well-built foundations and a cellar, which may be signs of a dwelling that – if not magnificent and luxurious – was at least proper and comfortable. There a pipe is also seen bringing water from the spring to the house both for domestic use and also, perhaps, for the convenience of a domestic bath complex.<sup>45</sup>

De Sanctis's short book was first published in 1761, which provides a *terminus ante quem* for Saint'Odile's excavations in Licenza. We can also establish a *terminus post quem* of 1756, the year in which the Abbé Capmartin De Chaupy arrived in Rome in exile from his native France.<sup>46</sup> As De Chaupy's acquaintance Joseph Jérôme La Lande wrote in 1769:

All the antiquarians placed the house of Horace at Tivoli because he often speaks of Tivoli in his works. But the Abbé Chaupy having thoroughly discussed this matter,



Mandela.<sup>31</sup> Elsewhere, he explained that he arrived at his first sketch of the idea that the Licenza villa was Horace's a few months before the publication of de Sanctis's *Dissertazione*, which could not have happened before mid April of 1761.<sup>32</sup> Putting these two passages together, we may infer that De Chaupy and Saint'Odile were exploring the countryside sometime in late 1760 or early 1761.<sup>33</sup>

De Chaupy presented two lengthy and consistent descriptions of the finds in the third volume of his book. To summarize, he reported finding two separate structures, both in *opus reticulatum*, which he dated to the first century BC and took as evidence that the villa was Augustan. The first structure, he wrote, occupied the ruined church of St Peter. Because of its small size, the water pipes found leading to it and its low position, he conjectured that it was probably a bath complex. The second building was located in a more open position and was much larger, implying to De Chaupy that it was the residence. Also found scattered around the site were *tesserae* of mosaics – some polychrome – as well as fragments of columns and entablatures.<sup>34</sup> Near these structures was a garden, which, from De Chaupy's description, corresponds to the area below what today is called the Nymphaeum of the Orsini, several hundred meters to the west of the archaeological site known from Pasqui's excavations in the period 1911–14. In this area the local winegrowers found fragments of lead pipes inscribed T. CLAVDI BURRI and TI. CLAVDI B. These were destroyed later in the eighteenth century when the Archpriest of Licenza, to whom they had been entrusted, used them for birdshot, as Allan Ramsay recounted several years later.<sup>35</sup>

That Saint'Odile published no account of his excavations is certain; but it is less clear that he wanted his important discoveries to remain completely unknown. In favour of the hypothesis that Saint'Odile meant to keep silent about his finds is not only the lack of publication but also the odd fact that De Chaupy never explicitly mentioned his partner, or sponsor, Saint'Odile, in his publication of Horace's villa. Instead, Saint'Odile is named only by de Sanctis, a man who was to become De Chaupy's bitter rival in a dispute about who could rightly claim priority in identifying the Licenza site as Horace's Villa. Yet, the excavations at Licenza, if made known to the world, could only have raised the Baron's standing in the eyes of the cultural and political élite of Europe in this age of the Grand Tour. In this context we may compare Robert Adam's archaeological publication of Diocletian's palace at Split, which was begun in the late 1750s and was intended to be, in Adam's memorable words, 'a great puff, conducive to raising all at once one's name & character'.<sup>36</sup>

If Saint'Odile consciously chose to forego the glory of being known as the discoverer of the site (as opposed to having been deliberately omitted from the story of the excavations by De Chaupy), this may have been a necessary consequence of his failure to obtain an excavation permit: publishing a report would have been a *de facto* admission of flouting the law.<sup>37</sup> Another reason may have been that Saint'Odile felt his project was not yet finished and hence not ready for publication. The end of the first printing of de Sanctis'

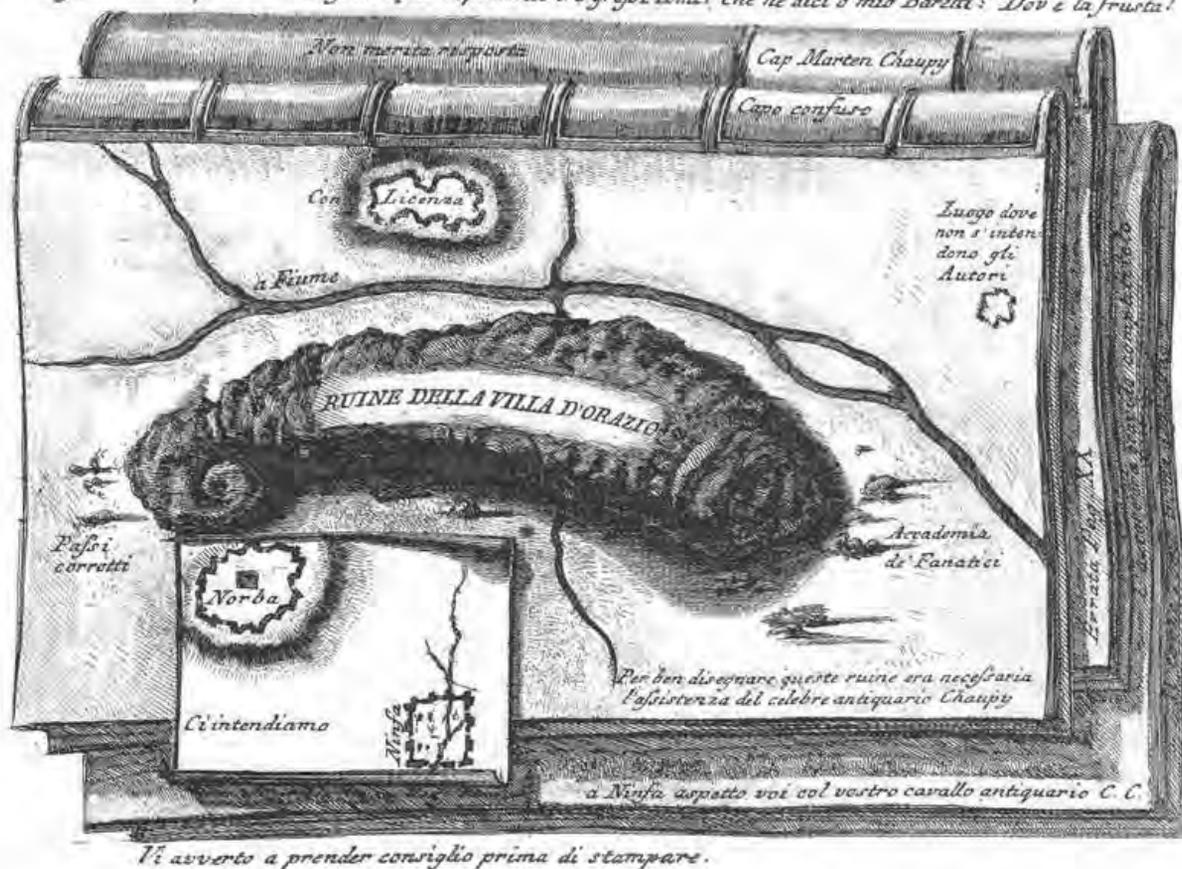
*Dissertazione* of 1761 reads: 'thus continuing the enterprise he [Saint'Odile] has begun – as is most desirable for the Republic of Letters – one can hope that some more singular monument can be found, which will make the identification of Horace's Villa in Licenza ever more secure.'<sup>58</sup> At the end of the third and final printing of de Sanctis' study in 1784, this expression of hope has been changed into a statement of disappointment that 'well-known events have prevented [Saint'Odile] from completing the enterprise he began'.<sup>59</sup> The allusion is undoubtedly to Saint'Odile's abrupt dismissal from office in 1774 for improper behaviour and to Archduke Pietro Leopoldo's order that his erstwhile ambassador never again set foot in Rome or Florence.

What motivated the Tuscan ambassador to Rome to excavate Horace's Villa in the first place is still a mystery, though in view of his reputation as an intriguer, the scandalous end to which he came and the eighteenth-century view of archaeology as a business the purpose of which was to find salable treasure,<sup>60</sup> we may well suspect that Saint'Odile's motives were more mercenary than scientific. Be that as it may, at least we know from de Sanctis that it was the Baron de Saint'Odile who first had the idea of digging at the Licenza site and of initiating the long project, still alive today, of empirically testing the thesis that the Roman villa located there was Horace's *Sabinum*.

As for De Chaupy, the fact that he never mentioned the Baron by name in his book may have been a deliberate attempt to rob his partner of any credit due him for the project at Horace's Villa.<sup>61</sup> This was typical of the abbé, who also felt compelled to belittle the contribution of de Sanctis and to claim priority in discovering the villa site, even though (as de Sanctis and others noted) it was really Holstenius who deserved to be considered its discoverer. De Chaupy's quarrelsomeness was perhaps less of a problem than his prolixity: his book on Horace's Villa ran to three stubby volumes. Contemporaries noted this with disapproval or amusement. Ramsay, in the 'Enquiry', wrote: 'at least one half of his book is employed upon subjects which, though very interesting in themselves and very learnedly and ingeniously treated, have little or no relation to the general title of the work.'<sup>62</sup>

Immediately upon completion of his three-volume *Diverse maniere d'adornare i cammini*, in 1769, Ramsay's friend Piranesi mocked the poor abbé with a scatological satirical engraving (Fig. 5.7) serving as the tailpiece to the book's 'Apologia'.<sup>63</sup> Although Piranesi makes no reference to it and does not express his motives in printing it, the engraving is self-explanatory. It depicts a work in three volumes, on the spines of which the author is given variously as Cap Martin Chaupy and Capo confuso ('Muddle-Head'). At the top of the engraving is an inscription with the exclamation, 'A dry spring and a few broken walls have brought forth three big volumes. What do you have to say about this, o my Baretti! Where is your goad?' Giuseppe Marco Antonio Baretti was the author of an Italian-English dictionary, a traveller's guide to Italy and, more to the point, a book of literary criticism called *La frusta letteraria* ('The Literary Goad'). Below the inscription is a large map with a real place name, Licenza, but also with such imaginary places as Corrupt Passages and the Academy of Fanatics. Dominating the centre of the map are

*Una fonte secca, e pochi muri infranti, hanno prodotto tre grossi tomi. Che ne dici o mio Barotti? Dov'è la frusta!*



5-7. Engraving by Piranesi satirizing Capmartin De Chaupy's *Découverte de la maison*, from *Diverse maniere d'adornare i cammini*, 1769

the 'Ruins of Horace's Villa,' and the turd-like shape these take leaves very little doubt about Piranesi's opinion of their worth.

Such satirical engravings were Piranesi's characteristic mode of attacking important antiquarian adversaries.<sup>64</sup> His satire also reflects more profound disagreements with De Chaupy, the man and the scholar. We do not know if the two ever met, but if they did, they must have found very little in common. Piranesi was a member of Monsignor Giovanni Gaetano Bottari's anti-Jesuit circle of antiquarians.<sup>65</sup> Bottari and his followers believed in the necessity of preserving, interpreting and publishing Rome's pagan and Early Christian monuments, and they viewed a reformed and enlightened Church as the institution best suited to undertake this enormous task. De Chaupy – who at the beginning of the French Revolution was to publish a long attack on Voltaire<sup>66</sup> – upheld the *ancien régime* and had been exiled from France in 1756 for publishing an attack on the Parliament of Paris. Beyond their ideological differences, Piranesi and De Chaupy held strongly divergent views about the purpose of antiquarian research. For Piranesi, study of the past served to provide creative sources of inspiration for new architecture.<sup>67</sup>

For De Chaupy, the study of Horace's villa was an end in itself, justifiable by the importance of Horace's poetry. Piranesi was influenced by Bottari's view that the archaeologist should modestly serve the public, not promote himself. Bottari even went so far as to leave his name off the books he published.<sup>66</sup> De Chaupy's egotistical boasting about his priority in discovering the true site of Horace's Villa must have been highly offensive to Piranesi and other members of the Bottari circle. Finally, where Piranesi revelled in providing detailed technical diagrams and (often fanciful) architectural renderings and reconstructions of the sites he studied, De Chaupy's text is wholly unillustrated. That De Chaupy's verbal approach to archaeological description would have displeased Piranesi is clear from the title page to Piranesi's *Osservazioni sopra la lettre de M. Mariette* (1765). Two insets contrast Mariette's one-and-only tool, the pen, with the well-stocked toolkit of an architect such as Piranesi, which included a compass, a palette with brushes for illustration, a hammer and chisel, etc.<sup>67</sup>

With Piranesi, we come to the end of the period leading up to Ramsay's 'Enquiry'. It is apparent that the problem of Horace's Villa never engaged the leading Italian antiquarians at any period, except in passing. The remains on the surface were too spare in comparison with other sites closer to Rome or Naples. In the eighteenth century, excavations were often undertaken to find treasure such as statues, and both the condition of the Licenza site and Horace's descriptions of his villa as a humble farm must have made it seem unlikely that digging there would repay the investment. When excavations finally did occur, they did not result in significant finds that anyone could or would talk about. To make matters worse, the site had become the focus of a distasteful and pitiful *baruffa* in which, from the Italian point of view, the aggressor was a foreigner and an egotistical bully. By 1769 the Licenza site almost seemed to suffer from 'guilt by association' with De Chaupy, whom, as Piranesi's engraving shows, Italian scholars understandably found disagreeable.

### Ramsay's 'Enquiry': Composition, Characteristics, Significance

Ramsay was an old friend of Piranesi, though they, too, had their public disagreements, especially about the relative merits of Greek and Roman art (see pp. 12–13 above).<sup>70</sup> Ramsay's decision to write about Horace's Villa shows that on the matter of its importance, he also took leave to differ from his friend. For Ramsay, the villa was important not for the height of its walls, nor for the art treasures to be found there, and certainly not for the fame that a book about it might bring to its author, but for its literary and sentimental associations and for the scientific discoveries that could still be made there. As the son of a poet who had been a long-time admirer of Horace (see pp. 7–10 above),<sup>71</sup> a wealthy and successful portraitist and a Fellow of the Society of Antiquaries, whose journal, *Archaeologia*, shows that there was practically no antiquity, no matter how humble, that was not worthy of a

serious publication, Ramsay approached the Licenza site with very different goals and expectations from a Piranesi, a De Chaupy or a Saint'Odile. Moreover, we should not neglect a purely personal motive for Ramsay's decision to persist with the writing of the 'Enquiry': he found the related travel and study a fillip to his spirits, if not to his health, which was failing in the period of his fourth and final visit to Italy (1782–4). What Ramsay wrote to his friend Archibald Hamilton about his visit to Naples in June of 1783 is valuable testimony of this: 'Here my infirm body is relieved by the gentleness of the climate; and my spirits kept up by the company of my son, and the variety of objects which a country, uncommonly interesting, daily presents to me.'<sup>72</sup>

But even before the infirmity of his old age, Ramsay did not need Petrocchi's 1757 discovery of the Massa Mandelana inscription or the de Sanctis-De Chaupy controversy to draw his interest to the site. This is clear from the fact that he had already visited Licenza looking for Horace's Villa during his second trip (1754–7) to Italy;<sup>73</sup> indeed, he is the first person on record to have visited. Sketches and a crudely drawn map (cf. Fig.5.3) survive, showing us where he went and what he saw.

Ramsay journeyed to the site in September of 1755 with his wife and an English lady friend of hers. In a letter to Sir Alexander Dick, Ramsay described the trip as a pleasant jaunt of two days, during which time he saw the Fons Blandusiae and some other things that he sketched on a map and in some views he made. These survive and show that Ramsay put the villa up the Licenza Valley north of Vicovaro, between Rocca Giovine and Licenza. He placed the site to the west of the town mill, which is not shown on his map but in a drawing preserved in Edinburgh.<sup>74</sup>

When the idea of writing the 'Enquiry' occurred to Ramsay is not known with certainty; it is, however, likely that the project began to form in his mind during his first visit to Licenza in 1755. We know only that he began the book during travels through Italy in 1775, as the title indicates. The manuscript was not finished when Ramsay returned to England in 1777, and Ramsay appears not to have touched it again until he went back to Rome in 1782. By the time he died in Dover on 10 August 1784, the text was almost finished,<sup>75</sup> and Ramsay had commissioned an unknown amanuensis to copy his second draft, making what was possibly a fair copy by incorporating the various changes of the draft of 1782–3 and by the addition of finished drawings of the illustrations he planned to use. Judging from this third copy, now at the University of California, Los Angeles, Ramsay decided in the end not to use the watercolours he had commissioned from Jacob More, which he perhaps planned originally to have converted into engravings. The appearance in 1783 of Jakob Philipp Hackert's ten engravings of the Licenza valley, supplemented (with Ramsay's knowledge and encouragement) by the publication of a map showing the valley, doubtless made Ramsay see that publishing his own views would be superfluous. At pages 55–6, Ramsay added a note in which he mentioned Hackert's ten views and praised his map.

The deliberate pace at which Ramsay let his project develop, despite the enthusiastic encouragement to publish quickly, which he received as early as 1778 from such friends as Boswell, Gibbon, Sir Joshua Reynolds and Samuel Johnson, shows that Ramsay was operating in the careful spirit of a scientist-antiquarian, not that of a self-promoting writer on the make. Of course, this is hardly surprising, since his reputation had already been made by the time he started his project on Horace's Villa.<sup>66</sup>

The diary of Ramsay's son, John (*b* 1768), gives us some precious glimpses into Ramsay's work on the 'Enquiry' from late 1782 to 4 October 1783, when he and his father were living in Rome.<sup>67</sup> Despite Ramsay's failing health,<sup>68</sup> he had enough good days to enable him to make progress on his project. We can easily imagine that he was determined to finish the 'Enquiry' before dying. From the diary, it is clear that Ramsay still had an impressive range of acquaintances among the artists and antiquarians of Rome, including James Byres, Jacob Philip Hackert, Gavin Hamilton, Angelica Kauffman and Jacob More.<sup>69</sup> Unfortunately, our diarist was only a youngster when observing the events and personages he covered, and he had a tendency to write about his father's meetings without conveying anything about their content, giving the reader the impression of watching fascinating encounters behind soundproof glass. Thus, despite John's record of several meetings between Ramsay and More, we have no idea what the two discussed.<sup>69</sup>

Luckily, there are some important exceptions. For example, on 12 February 1783, John and his father 'called upon ... Mr Hackert who showed us several of the drawings he had made near Horace's Villa, all of which he was making prints to which my Father subscrib'd.' Two days later John returned home to find Hackert talking with his father. On 8 April Hackert visited the Ramsays, and John wrote that he showed his father 'the drawings from which he means to make his prints my father assisted him very much in adjusting their titles and motto's.' From 9 April to 27 June the Ramsays travelled south through Albano, Nemi and Velletri to the Pomptine Marshes, Terracina and ultimately to the Bay of Naples. On 1 July, a few days after their return to Rome, Hackert spent an evening with Ramsay, bringing with him 'a map he had made of Horace's country house and the country adjacent' (see Fig.6.3), about which Ramsay wrote in the 'Enquiry'.<sup>70</sup> Ramsay obviously had maps on his mind, for John wrote that on 8 July, 'In coming home we stopped at the Calcografia and bought the map of the Sabine country as also that of Latium by Ametio.' These are the Revillas and Ameti maps to which Ramsay referred several times in the 'Enquiry'. Meanwhile, there are several more visits with Hackert, on 2 and 9 July, and finally, after these preparations, John and his father set out for Tivoli on 17 July.

At this point, John's strengths as a diarist, such as they are, came to the fore, since he and his father then retreated to the countryside more to tour and observe than to socialize and converse. They used Tivoli as a base from which to explore the area up to Licenza, staying at Signor Cochimara's house, where the garden covered the site of the Temple of the Sibyl – 'the most beautiful elegant thing I ever saw,' wrote John. Work related to the 'Enquiry' began in earnest on 30 July; John described the day as follows:

Set off from Tivoli at 7. The country all the way betwixt Tivoli and Vico Varo is very picturesque the road being all by the side of the Anio whose banks are famous for their beauty. Arrived at Vico Varo at 10. Went to Sig.a Camilla whose house we found in a very quiet disorder. ... Went to the Villa Bolognetti where I copied some inscriptions and particularly that one of Abbé Chaupy in which [is indicated] the situation of the ancient town of Mandela. Dined at 2. At 4, we ordered the chaise & went to San Cosimato a convent in a most charming picturesque situation. From it you have a very fine view taking in Licenza, Cantalupo, Vico Varo, Castel Madama &c. From there, we came home straight to Tivoli ... Arrived at Tivoli at 8.

A few days later, on 4 August, the Ramsays and a fellow hotel guest whom John calls 'the Frenchman',<sup>12</sup> and some *ciceroni* set off on asses for Vico Varo at three o'clock in the morning. They reached the town in time for breakfast. John continued:

I went to the Arciprete who gave me a letter of recommendation to the Arciprete of Rocca Giovane. Travelling for almost an hour in the most delightful country we arrived at Licenza where we found that my father could get good lodgings at the Arciprete's. From thence we set out for Rocca Giovane. Rocca Giovane is situated upon the top of a high rock to which the ascent and descent is very difficult. The arciprete of Rocca Giovane told us that this town was so miserably poor; that there were not a house that had a window in it; that it was utterly impossible to find a lodging of any sort. Going out of the gate of Rocca Giovane I copied an inscription which said that Vespasian had restored the temple of Victory which was going to ruin. Set out from Rocca Giovane at 11. Arrived at Sig.a Camilla's at Vico Varo about 12. Dined at 1. After dinner we took a walk about the town in which there is nothing very remarkable ... Set off from Vico Varo at 5 ... Arrived at Tivoli at 8.

The purpose of this visit appears to have been to find a place to lodge near Horace's Villa and to record the Victory inscription (*CIL* xiv.3485) in the town. Having failed to find a place to stay, the Ramsays returned to Tivoli, presumably somewhat disappointed. In the days that followed, John Ramsay took short trips in the Tivoli area, visiting the villa of Quintilius Varus, the Lago della Solfatara (that is, Bagni di Tivoli), and churches in Tivoli itself. John sat for his portrait, which his father worked on for several hours at a time over a period of several days. Ramsay père remained in his room, reading and making sketches of the landscape. Finally, on 18 August, the Ramsays returned to Rome. On 22 August Allan Ramsay received a letter from Count Orsini giving him permission to use the palace at Licenza, and by the next day he had returned to Tivoli with his son. By the 27th, the Ramsays were settled in the Orsini Palace in Licenza. John wrote:

Arrived at Licenza about 9 where we got very good lodgings in the Palace of Count Orsini out of each of the windows we had a most beautiful view of the valley of Licenza which reached down to San Cosimato & of Horace's country house which was just under our windows. The arciprete & Sig. Antonio dined with us. After dinner we went all together to see Horace's country house of which there is very few remains. They dug for us and opened us up a piece of marble which was in this form [here follows in the manuscript a drawing of the arrowhead mosaic in Lugli room G1; see Fig.5.8 below]. Near this there is a great piece of antient wall. From thence we went up to the Cascada which is a little artificial fountain pretty enough. Came home at 7.

On the next day, John read de Sanctis's *Dissertazione* to his father, undoubtedly to refresh his memory, since Ramsay already shows familiarity with the book in the 1777 manuscript of the 'Enquiry'. On the 29th the Ramsays went to the Fonte Ratini, where they drank the water 'with a great zeal and found it to be most excellent water tho' very cold'. Next, they visited the little church between Horace's Villa and Rocca Giovine known as S. Maria delle Case. After having a 'pleasant repast' at Rocca Giovine, the Ramsays returned to Licenza. On 31 August the Ramsays went to Percile, where Ramsay *père* wished to see 'Theresa a young girl of Licenza married to the surgeon of Percile and who had been the companion of my sister Amelia when she was in this country. She was exceedingly happy to see my father again and inquired a great deal about my sister.' This recalls the ending of the 'Enquiry', where Ramsay, after making a rather disparaging remark about the superstitiousness of the 'country people' of Licenza, concluded by saying of them:

they seem to be of the same stamp with those who, according to the poets and historians, inhabited that country in the days of Numa Pompilius, with the same laborious manner of living, the same contented poverty, and the same innocence; so that when my wife, my daughter Amelia, and I took our leave of them upon the 28 of June, 1777, we did it with much regret.<sup>65</sup>

For the next twelve days, Allan Ramsay seems to have stayed in the town of Licenza, continuing his work on the portrait of his son, who read to him from Cellini's autobiography in the evenings. It is a fair guess that he also worked on the text of the 'Enquiry'. Meanwhile, John Ramsay explored the area, taking walks to Colle Franco, Riocupo, Percile etc. On 7 September the mysterious Frenchman came to Licenza from Tivoli, paying the Ramsays a visit and being shown Horace's Villa by John. Allan Ramsay felt strong enough on the 12th to travel in his chaise to Colle Franco to see the view of Horace's Villa visible from that vantage point. He also visited the local apothecary, who had an ancient seal found at Horace's Villa, which close inspection showed to be Christian. The next day, Ramsay *père* travelled by chaise to Civitella. By the 14th, the Ramsays felt that they had completed their researches in the Licenza area and started their return to Rome via Vicovaro and Tivoli.

Ramsay lived almost one more year before dying on 10 August 1784 at Dover, where he had sailed in order to be reunited with his daughter Amelia, who had returned to England from Bermuda, where her husband was stationed. At the time of his death, his manuscript of the 'Enquiry' was all but complete. It is to an assessment of this that we now turn.

Ramsay's account of previous work on the situation of Horace's villa is solid and reliable. He knew the work of his predecessors, omitting only two of any importance.<sup>66</sup> He was *au courant* about the recent publications on the site by de Sanctis and De Chaupy, though he never showed awareness of the driving force behind their researches, the shadowy Baron de Saint'Odile. He even consulted an unpublished manuscript by the Vicovaro notary, Abate

Giuseppe Petrocchi.<sup>85</sup> In treating the work of previous scholars, he was fair and balanced, just as likely to assign praise as blame. After the nasty and absurd battle that had broken out in the previous decade between de Sanctis and De Chaupy, Ramsay's dispassionate objectivity is a welcome relief. For example, although he criticized De Chaupy for the incorrect orientation of his map and other errors,<sup>86</sup> he praised the abbé for his work in identifying the Fons Bandusia near Horace's birthplace of Venusia (Venosa) and for his publication of an inscription important for locating the ancient site of Mandela.<sup>87</sup>

In method, Ramsay showed himself to be firmly committed to empiricism and autopsy. For centuries, he believed, scholars had fallen into error because they allowed their prejudices or 'prepossessions' to dictate their beliefs about Horace's Sabinum.<sup>88</sup> This was as true of the ancient commentators (or, 'scholiasts') as of contemporaries such as De Chaupy. Thus, writing about the latter, he stated, 'but in [the map] of the Valley of Licenza drawn by Abbé De Chaupy ... the good Abbé has suffered his pencil to be guided rather by his prepossessions than his eyesight and has moved heaven and earth in order to make the actual situation of things correspond with what he believed to be Horace's description of them.'<sup>89</sup> Similarly, he penned the following complaint against one of the ancient commentators on Horace's poetry:

But here our Scholiast is of very little authority, as he appears to have no knowledge of the place [ie, Ustica; cf. *Odes* 1.17.11] or its circumstances beyond what he had picked up from passages of Horace and Virgil, which were they sufficient, lie at this time as open to us moderns as to him. ... The best commentary upon this passage in Horace is to be found in the present Valley of Licenza.

It should be noted that Ramsay was prepared for just such an attack on ancient and modern authorities by papers printed by the Society of Antiquaries in the 1770s. In 1770, Smart Lethieullier published a letter showing that Stukeley's speculative reconstruction of the route of the Icening-street between Newbury and Old Sarum was fanciful. In 1772 Daines Barrington argued that Caesar was mistaken in identifying the Medway River as the Thames. Thus, in questioning the authority of the scholiast and in suspecting that his identification of Ustica is an unreliable back-formation from the poetry, Ramsay was a product of his age. This form of criticism has gathered strength in recent years, anticipating the trend to doubt the veracity of many of the biographical details reported by the scholiasts.<sup>90</sup>

For Ramsay, the corrective to such prepossession was accurate observation of the 'present Valley of Licenza.' He encouraged the successful engraver Jacob Philipp Hackert to prepare a new map of the valley (see Fig.6.2), and he struggled through various attempts to identify the site of Ustica by reconciling Horace's descriptive passages about the place with several possible hills in area. We can follow Ramsay's mind at work in the 1777 version of the 'Enquiry' in the National Library of Scotland, wherein his first idea was that 'perhaps Ustica might have been the name anciently given to the sloping ground to the west of Licenza'. But a moment's reflection told

him that this spot did not particularly correspond to Horace's description, and so he crossed out this passage and wrote: 'To say the truth, there is nothing in the appearance of this piece of ground that is very distinguishing, or deserving of any epithet at all, and Horace's *curiosa felicitas* in the choice of his terms ought to make us suspect that none of them are employed idly.'<sup>91</sup>

So Ramsay had second thoughts about equating the slope to the west of the town of Licenza with Ustica, and he set off in a new direction, trying to find a feature that could fairly be described in the words Horace uses in *Odes* 1.17 as being *cubans* ('reclining') and as having *levia saxa* ('smooth rocks'):

What if the present Rocca Giovane was the ancient Ustica? It is a singular situation to which the word *cubans* and *levia Saxa* will very well apply. For here is a village built upon the top of a bare rock in most places perpendicular [see Pl.VIII]. The whole of this rock lies in a hollow, shaped like a cradle, and on every side, except to the east, is surrounded by ground higher than itself; particularly to the west. All this is in the straight part which gives entrance into the Valley, and one afternoon in my return from Horace's farm, I had occasion to hear a remarkable echo in this place, by one country man bawling to another, on the other side of the Digentia.

But Ramsay was not satisfied with this conjecture, and so he again cancelled his text, writing instead: 'Some inscription may be hereafter found, or some charters of the neighbouring lands, able to give us light into this matter; in the mean time it would be shutting the door against future discoveries if we were to mention things as certain, which have no better support than loose conjectures.' Ramsay knew that others would rely on his accuracy of thought and observation and that if he put forward an identification as certain that was merely speculative, it might 'shut the door against future discoveries'. Moreover, if documentary evidence should emerge from which the location of Ustica could be inferred, and if his guess was wrong, then he would open himself to the kind of criticism that Stukeley had to endure from his critics.

In 1777, then, Ramsay decided to play it safe, noting that Horace's Valley of Ustica could not be securely identified and that his readers should be so apprised. But, as the final draft of 1783 shows, Ramsay continued to ponder the question, and in the end decided that he was on the right track in his initial supposition but had wrongly limited his survey to the western slope of the hill of Licenza. Thus, in the final draft, he wrote:

In reading the words *levia saxia* which resounded with the pipe, I had, all my life, formed an idea of living rocks of considerable magnitude; which by the help of valleys, or recesses, adjoining to them performed this mimic function. Accordingly upon coming into the middle of the Valley of Licenza I looked about for some place which might correspond to the image I had formed in my mind and soon observed at the north end of the valley some rocky ground, and particularly one rock, perpendicular on the east side, upon which is built the little village called Licenza ... I observed likewise other deep recesses to the west of this rock and was satisfied that this rock was the Ustica, and these recesses the valleys mentioned in the ode, as uniting to produce the echo.

With regard to the *Usticae cubantis*, the old Scholiast does not seem to have accurately performed his function of grammarian in assigning the same meaning to *jacens* and *cubans*, as the one means in the best authors 'lying', and the other 'reclining'. The epithet of 'reclining' may tolerably well suit the hill of Licenza which

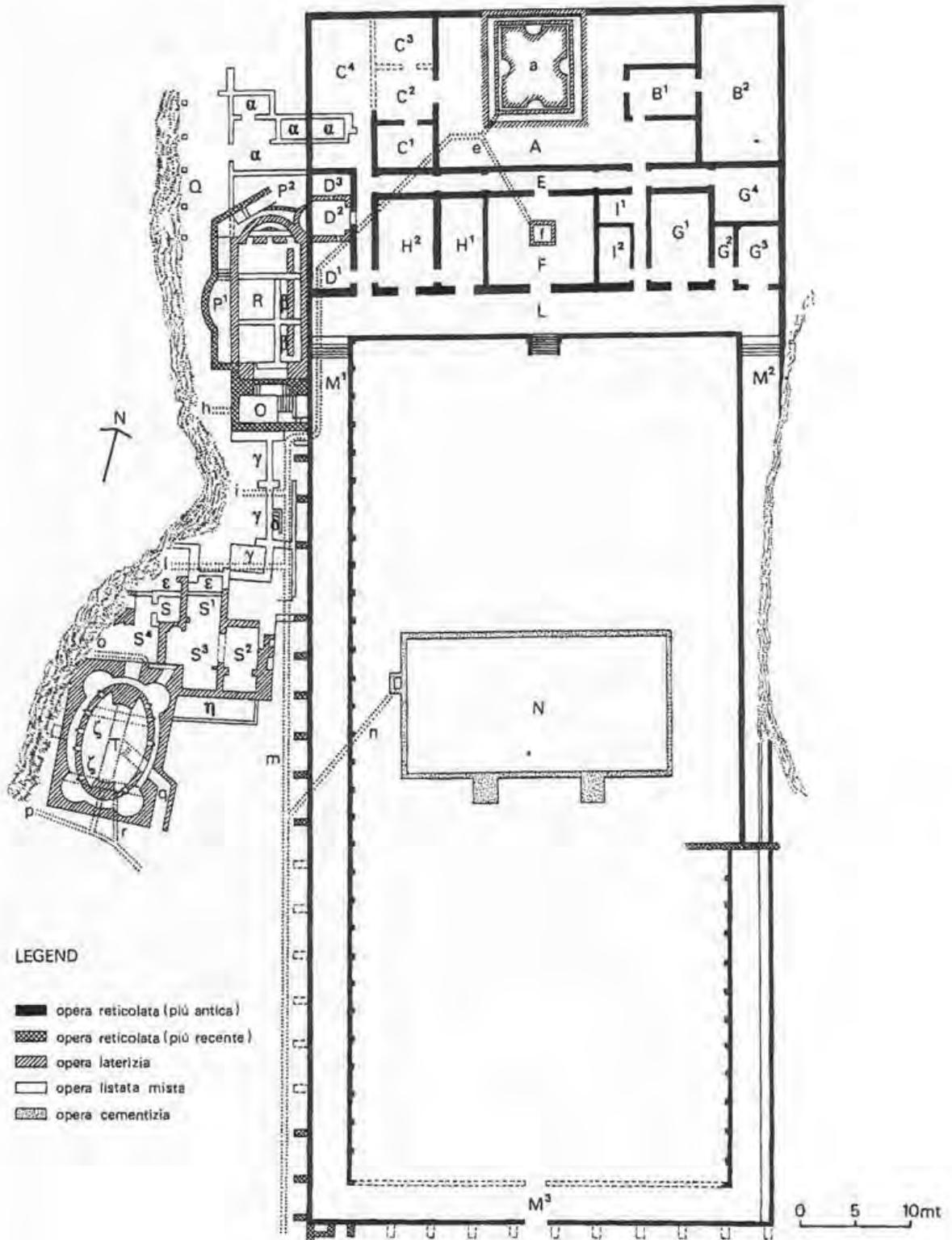
5.8. Plan of Horace's Villa, from G. Lugli, 'La villa sabina', 1926

slopes all the way to the top on that side which looks towards Horace's house; and the whole hill, though high with respect to the plain, is low with respect to the hills behind, and on each side of it, to a degree that will surprise any one who views it from Civitella.<sup>93</sup>

Ramsay's ultimate solution to the puzzle of where Ustica was located may not be completely compatible with the one immediately preceding it, but we must at least grant that Ramsay did not present the identification as unproblematically as he did in his first suggestion or as speculatively as he did in his third idea. In navigating between the overly optimistic speculation of Stukeley and the overly cautious empiricism of Folkes, Ramsay may even have hit upon the correct solution, since two important twentieth-century topographers have independently arrived at the same conclusion: that Ustica is the hill on which the town of Licenza sits.<sup>94</sup> The key factor enabling Ramsay to reach the solution of 1783 was his autopsy of the Licenza valley from the top of Civitella, which he first visited on 13 September 1783, just when he was writing the final passage.<sup>95</sup> Observing Ramsay struggling to identify Ustica, we are reminded of Hume's 'doctrine of belief': 'the sentiment of belief is nothing but a conception more intense and steady than what attends the mere fictions of the imagination, and ... this manner of conception arises from a customary conjunction of the object with something present to the memory or senses'.<sup>96</sup>

Ramsay's methods included excavation, at least to a modest extent. He recorded two specific dates on which he had the country people dig in the Vigne di San Pietro to expose a mosaic in the room labelled G<sub>1</sub> on Lugli's plan of 1926 (Fig. 5.8).<sup>97</sup> Although on the first occasion, 27 June 1773, he incorrectly inferred from the layout of the mosaic that the building of which it was a part was orientated to the cardinal points of the compass (it is actually oriented NW-SE), Ramsay was right to attempt to raise this issue. He also tells us that he had 'at other times been shown parts of this mosaic composed of flowering foliages'. The mosaic in room G<sub>1</sub> was completely exposed in Pasqui's excavations of 1911-14, and it cannot be described as having 'flowering foliages'. Some of the nearby rooms and passageways are lacking a pavement. Perhaps what Ramsay saw (but, unfortunately, did not draw) was part of a mosaic in one of these other parts of the building. Be that as it may, Ramsay gave no sign of planning to undertake large-scale excavations of the site; nor did he show any of Thomas Jefferson's grasp of how stratigraphy could be used to illuminate the history of a site. When Bernardo Pomfili, a local farmer, brought to Ramsay's attention the remains of *cubilia* in his field,<sup>98</sup> Ramsay did not bother to dig the site but was satisfied to indulge in some speculation that the gatehouse to Horace's Villa might have been located there. His goal in writing the 'Enquiry' appears to have been simply to provide a stimulus for someone else to undertake the task of thoroughly digging and publishing the villa.

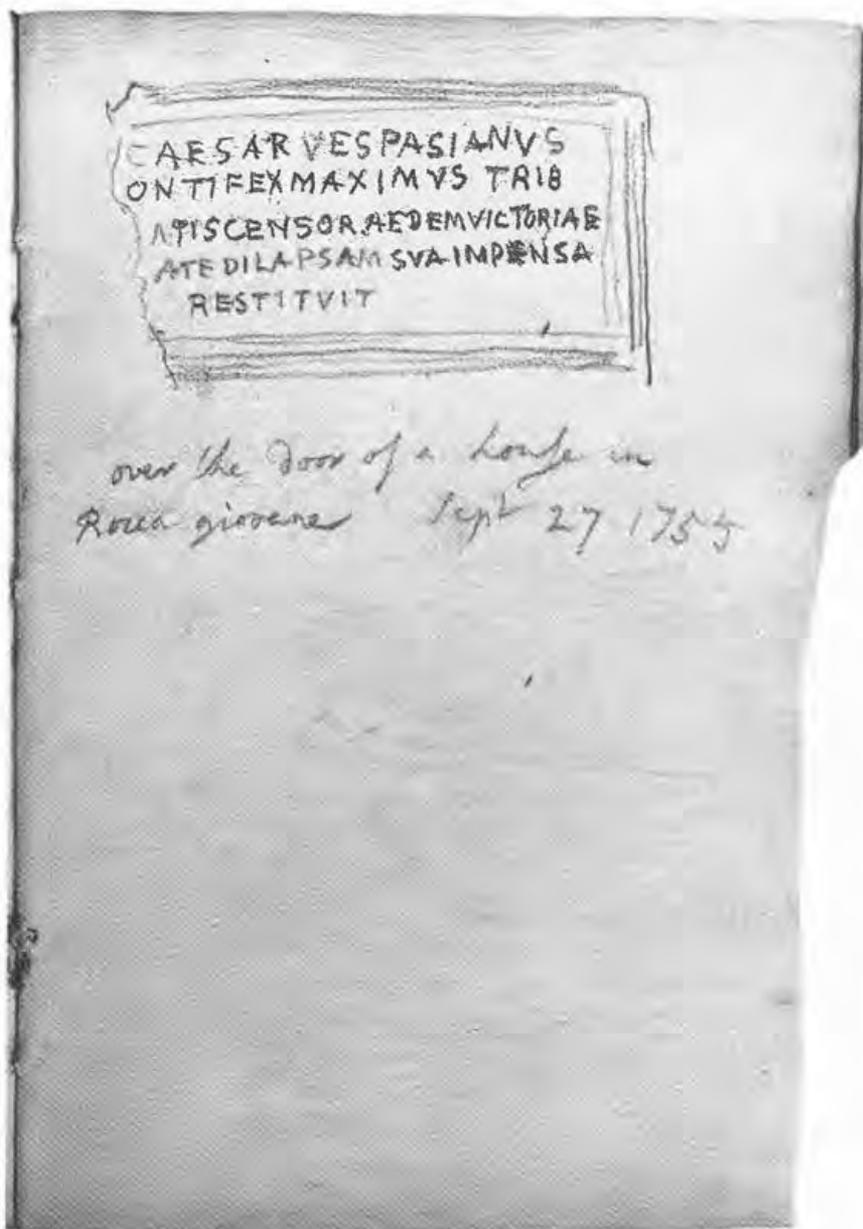
Turning from Ramsay's method to his results, the first thing to note is that he raised some issues that were far ahead of his time. This is, doubtless, not because he was farsighted but because he had a Stukeleyan breadth of vision



of the scope of antiquarian research, which went far beyond the quantitative aspects of a monument to its real-life uses and its cultural significance. Like recent scholars, for example, he wondered about the size of the estate, speculating that it was very large.<sup>98</sup> He had a panoramic view of the history of the property, differentiating the various ancient periods from each other, antiquity from the Middle Ages, and the Middle Ages from his own day. He realized that understanding the Horatian phase of the site required peeling away layers from his day back to the first occupation of the area. His ideas about dating the various phases have held up remarkably well, considering how slight the evidence was on which they were based. For example, he was right to conjecture a major rebuilding in the mid imperial period, though he was wrong in identifying the person responsible as Sextus Afranius Burrus.<sup>99</sup> He was also probably correct in imagining that the property was donated by Constantine to the church of St Peter and Marcellinus, remaining largely in Church hands until his own day.<sup>100</sup> Among students of Horace's Villa to the present day, he is unique in wondering how often and at what times of the year Horace used the place.<sup>101</sup>

Also quite progressive is Ramsay's survey of the ancient remains all around the Licenza valley. He was interested not only in standard questions such as the identification of Horatian place names, but also in such new problems as whether Horace had any neighbours and, if so, where their properties might be located. In giving the results of his survey, he reported finds not otherwise known, such as an inscription on an altar at the door of a peasant in Licenza.<sup>102</sup>

Ramsay's sympathy for the country people enabled him to track down places and objects that other investigators missed, perhaps because they did not stay at Licenza as long as he did and because they were not nearly so open to intercourse with the uneducated inhabitants of the valley. Bernardo Pomfili (whom Ramsay familiarly calls 'Bernardo') showed him the ruins of an important structure in *opus reticulatum* on his land not far from the villa site.<sup>103</sup> Ramsay's informant thought that the *cubilia* on his land were used as pavement for a road, but Ramsay perceptively noted that the Romans never used this construction technique for laying causeways. He was quite right, too, to ponder the still unresolved question of how the villa site was reached by a *diverticulum* from the main Roman road through the valley. Another man in Rocca Giovine invited Ramsay into his house to see a missing piece of the Victory inscription over the door (Fig. 5.9), and Ramsay went beyond previous students of the inscription by probing the circumstances that may have surrounded Vespasian's restoration of the temple of the goddess.<sup>104</sup> Other natives told him about various place names (Il Sainese, Il Pomario etc) that gave him leads (albeit possibly false) about the ancient identity of the areas.<sup>105</sup> At least once he appeared to have misunderstood what his informants told him when he reported the find of a 'marble chariot' instead of 'a cartload full of marble', though in general his Italian was quite good.<sup>106</sup> Ramsay's most significant discovery was the mosaic in room G1 on the Lugli plan. It is easy to imagine that it was Ramsay's interest in the inhabitants of



5.9. The so-called Victory inscription from Roccagiovine, sketched by Ramsay in 1755

the Licenza valley that enabled him to be the first scholar on record to see this pavement; in his description of how he came to view the mosaic, he wrote as though it had long been known to 'the master of the vineyard' and did not imply that it was found through his own independent efforts.<sup>107</sup> Even if we might wish that Ramsay had dug more extensively on the site, he must be praised for garnering as much information as possible from local peasants. Here, Ramsay looks forward to the Romantic antiquarians of the nineteenth century.<sup>108</sup>

5.10 Autograph page from Ramsay's 'Enquiry', recording *opus reticulatum* wall facing and individual *cubilia*, from the version in the National Library of Scotland

Of course, for all his virtues, Ramsay suffered both from the general limitations of his age and from his own personal shortcomings. While he was generally effective in linking Horace's descriptions of places in the valley to likely sites on the map, he sometimes went too far, as when he thought he could find the spot mentioned in *Odes* 3.18, where 'the peasants play / on the grassy-matted soil, / round their oxen, free from toil.'<sup>109</sup> His description of the villa site as covered with 'thousands of stones' is precious, but even more valuable would have been various views of the site. The one long view he made from a window in the Orsini Palace is, for its time, uniquely informative but cannot substitute for a series of close-ups in and around the Vigne di San Pietro.<sup>110</sup> Likewise, we are grateful for his illustrations of the mosaic in room G1 but wish he had also left a drawing of the apothecary's Christian seal or of the mosaic, now vanished and never otherwise recorded, with 'flowering foliage.'<sup>111</sup> Undoubtedly, the poor state of his health – particularly during his last visit to the site – prevented him from making as many illustrations as he might have liked.

Ramsay's sense of the topography of the valley was very strong and reliable, but he too blithely assumed an uninterrupted continuity from antiquity to his own day. For example, he thought that the modern place name 'Il Pomario' marked the spot of Horace's garden, and he believed that 'La Romana' applied to the site of an ancient Roman structure.<sup>112</sup> In the last example, he may be faulted for violating his own principle of autopsy, since he relied on the hearsay of the country people for the report that there were ancient walls on the site. In general, when he most went astray it was because he digressed or neglected his own policy of sceptical enquiry.<sup>113</sup>

Nevertheless, Ramsay's strengths outweigh his weaknesses. What most differentiates him from many of his contemporary antiquarians in Italy is the honesty with which he conducted his research and the purely scientific aims that he pursued.<sup>114</sup> He viewed digging as a tool for ascertaining the truth of archaeological conjecture, not as a means of finding treasure that could be sold for self-enrichment. Indeed, he realized that excavation undertaken on behalf of the advancement of knowledge will certainly cost more money than it will return. But, whatever the costs, Ramsay knew from personal experience that digging would bring sufficient satisfaction to 'men of classical curiosity' to justify the expense.<sup>115</sup>

Ramsay's plan for an extensive excavation of the Vigne de San Pietro site took over a century to be realized. Throughout most of the nineteenth century, the Licenza site was unquestioningly accepted as Horace's in the guidebooks,<sup>116</sup> but it was occasionally challenged by scholars.<sup>117</sup> In 1891 Mazzoleni published a magisterial article re-arguing the case in favour of the site in the Vigne de San Pietro, and after repeated official requests by the town of Licenza to the government in Rome, the first scientific excavations were undertaken from 1911 to 1914 by Angiolo Pasqui on behalf of the Ministry for Public Instruction. Pasqui died before completing his work, and in 1926 his preliminary results were published by Giuseppe Lugli,<sup>118</sup> who was to become

been of consequence, for, seeing that Horace's <sup>41</sup> 55  
ground extended at least so far South, and the  
more conclusive that at the remains of the Ville  
itself, which is about three quarters of a mile off, there  
are thousands of Stone to be gathered exactly formed  
like this opus reticulatum pavement, but as these Stones  
are prepared for opus reticulatum, like those made use of in  
the opus reticulatum, to be found in the Mausoleum  
of Augustus, and almost all the Buildings of the first  
Emperors as far down as Trajan, thus,



We must suspend our belief concerning the alleged  
pavement till it is actually <sup>uniquely</sup> seen in its unbroken  
state.

habebatur quinque fores

Et quinque bonos solitum Variam demittere patris.

Here Horace means to show his Villians that his  
farm could not be very contemptible, as it had been sufficient  
for the maintenance of five families of distinction. In the  
common editions the above-mentioned town is called Varia  
by a change very usual in the Roman times of the opus reticulatum  
the inscriptions of which often present us with BIXIT and  
SE BISO instead of Vixit and Sevicos, but Dr Bentley  
gives us Variam upon the authority of the most ancient  
manuscripts. It is now called Vesuvio, standing upon

one of the twentieth century's leading scholars of Roman topography. In 1930–31, Thomas Drees Price, a Fellow in Landscape Architecture at the American Academy in Rome, reopened the excavations in collaboration with Lugli, continuing work on the east side of the quadriporticus where Pasqui had stopped digging fifteen years earlier.<sup>119</sup>

By 1932 the foundations of the villa on the San Pietro site had largely been revealed. The core of the site was a structure orientated NW–SE and measuring c.110 x 40 m. The structure consisted of three parts (Fig. 5.8): a two-storey residence to the north, with an atrium and peristyle and well-preserved floor mosaics in several rooms; a garden and quadriporticus to the south; and a bath complex to the west. Four phases were identified but only vaguely dated to the pre-Horatian period, the Horatian period, the mid imperial period and the early medieval period. The significant remains from the site were placed in a local museum in the Palazzo Orsini in Licenza. These included some statuary from the quadriporticus, statuettes from the residence, and wall painting dating to various building phases from an undetermined part of the complex. No hard evidence was found proving or disproving the identification of the site as Horace's. Occasional archaeological surveys of the Licenza valley have found no other villa occupied during Horace's lifetime, and so the latest authority agrees that, *faute de mieux*, it is probable that the San Pietro site was the one owned by Horace.<sup>120</sup>

## Notes

1. On the creation of the journal, see J. Evans, *Society of Antiquaries*, 1956, pp.134–47.
2. On Stukeley see S. Piggott, *William Stukeley*, 1985; on Martin Folkes and his quarrel with Stukeley, see *ibid.*, pp.115–17, and Evans, *loc. cit.*, pp.91–2, 126 (citing Stukeley's diary entry on the death of Martin Folkes in 1754, that 'most miserable object of dereliction').
3. A. Smart, *Allan Ramsay*, 1992, p.30.
4. M. Folkes, 'Trajan and Antonine Pillars', 1770, p.130.
5. W. Stukeley, 'Sanctuary at Westminster', 1770, p.47.
6. *ibid.*, p.44.
7. On archaeological illustration, see S. Piggott, *Antiquity Depicted*, 1978.
8. J. A. Passmore, *Hume's Intentions*, 1952, p.159.
9. The term 'enquiry' appears only once in a title in *Archaeologia* during the period 1770–80, when over 175 articles were published. On Ramsay's close personal and intellectual relationship with Hume, see D. Macmillan, *Scottish Art*, p.104.
10. 'Enquiry', pp.65–6 (Ramsay's manuscript pagination, here and elsewhere).
11. For the identification of these scholars, see pp.152–3 below, notes 3, 4, 5 and 7.
12. See R. Almagià, *L'opera geografica*, 1942.
13. See L. Holstenius, *Annotiones*, 1666, p.106. On this page, Holstenius equates modern Rocca Giovine with the Fanum Vacunae and the hilltown of Licenza with Digentia, both places stated by Horace to be near his villa (cf. *Epistles* 1.10.49 [Vacuna] and 1.18.104 [Digentia]). Holstenius does not explicitly discuss Horace's Villa.
14. For recent years, cf. F. Coarelli, *Lazio*, 1984, pp.109–13; Z. Mari, 'La valle del Licenza', 1994, pp.66–8; E. A. Schmidt, *Sabinum*, 1997.
15. Bentley's; cf. 'Enquiry', p.22 ('Doctor Bentley, whose text I generally follow') and p.6 ('I shall therefore, according to the order in which they commonly stand in Horace's works, select all those passages which relate to his farm, accompanying them with such explanations and remarks as my reading upon the subject, and my attentive inspection of the ground itself have enabled me to make').

16. Scholars had begun working out the chronology of Horace's poems before Ramsay wrote the 'Enquiry'; see A. Dacier, *Oeuvres d'Horace*, 1733; J. Masson, *Q. Horatii Flacci Vita*, 1708.
17. See, for example, 'Enquiry', p.47: 'Following the Colle Franchisi, or Francolisi, westward, up the Lucretilis, and along the north side of the Fossa Sainese, this ground has the name 'Il Sainese,' that is the Sabinenses, as I learnt from several of the country people'; and p.60: 'The Digentia anciently divided the Sabina from the country of the Marsi, and the country people to this day call part of the ground on the west side of it the Sainese, that is the Sabinensis.'
18. The exception to this comes at p.59 in his discussion of *Epistles* I. 16, where he writes, 'Upon a general review of this Epistle, I suspect that it has come down to us mutilated and confused, and very different from what it was when sent out by Horace to his friend, if ever it was sent. He begins it with a number of questions concerning the produce of his farm, all which he promises to answer *loquaciter* or in a very particular manner. But we look in vain for those answers, and after sixteen lines of general and desultory hints, fall all at once into a string of moral precepts, very good in themselves, and very much in the spirit of Horace, but as little connected with one another, as with the proposed subject of the epistle. The whole is probably made up of memorandums left unfinished at the author's death, or of fragments of his finished works picked up afterwards by his admirers, and stuck together in the best way they could.'
19. cf. G. di Gastaldi, *I nomi antichi*, 1564, in which over 300 ancient places in Italy are listed with their sixteenth-century Italian equivalents.
20. I omit mention of the *Fons Bandusiae* (*Odes* 3.13), which may not have been near Horace's Villa.
21. For the tradition linking the Convent of St Antonio in Tivoli with Horace, see A. Del Re, *Dell'antichità tiburtina*, 1611, p.116; J. Landucci, *Voyage de Rome*, 1792, p.45. The most recent study of the subject is G. D'Anna, 'E veramente esistita', 1994, who argues that Horace had only the Licenza villa until c.17 BC, when he seems to have come into possession of a property at Tivoli. For the popular tradition of the villa of Horace near Vicovaro (in the area called San Giovanni in Camporaccio), see L. Torrentius, *Q. Horatius Flaccus*, 1608, p.679: 'Atque adeo nunc quoque inter Tibur et Praeneste locus est non incelebris, qui Italis Vicovaro appellatur: quo fit, ut facilius credam Horatii villam ad octavum ultra Tibur lapidem fuisse ... Quin et incolas affirmantes audivi, extare adhuc eius vestigia in campo, quem hodieque Horatium vocant' ('and now there is a place, not unknown, between Tivoli and Palestrina, which the Italians call Vicovaro, where [as I can easily believe] the villa of Horace was located near the eighth milestone beyond Tivoli ... Indeed, I have heard the inhabitants state that there are still remains of it in a field that today is called 'Camporaccio'). Cf. also 'Mr T—' in J. Spence, *Observations*, 1966, vol.2, p.674 (no.34): 'Horace's villa was in the hilly country of the Sabines, not far from Vicovari.' I am indebted to Iain Gordon Brown for this reference. As for Licenza, when in 1755 Allan Ramsay, the first visitor in modern times to record his visit to the Licenza site, turned up in the area asking to be taken to the Fons Blandusiae, he was immediately taken by a country man to a spring in the vicinity of the town, which must have been known to him and others for quite some time; see Ramsay's letter to Sir Alexander Dick, *NAS* GD331/5/18, and I.G. Brown, *Poet and Painter*, 1984, p.39.
22. See F. Biondo, *De Roma*, 1527; see also p.100 above, note 3.
23. J. Cruquius, *Q. Horatius Flaccus*, 1579.
24. L. Holstenius, *Annotiones*, 1666; see also p.152 below, note 7.
25. I. Mattei, *Nuova ed esatta tavola*, 1674, on which see A.P. Frutaz, *Le carte del Lazio*, 1972, vol.2, tav. 157 (xxx.2 b); G. F. Ameti and D. de Rossi, *Il Lazio*, 1693, on which see Frutaz, loc. cit., vol.1, p.xxvii, vol. 2, map xxxiii.2.
26. R. Fabretti, *De Aquis*, 1680.
27. Cluverius emended the text of Strabo, *Geography* 5.3.11, from Valeria to Varia.
28. *CIL* xiv.3485.
29. See Porphyrio and Ps.-Acro on Horace's *Epistles* 1.10.49 (quoted in Ramsay's 'Enquiry', p.42).
30. See *CIL* 1.1844=*CIL*x.4636=*ILS* 3484; *CIL* ix.4751=*ILS* 3486; *CIL* ix.4752=*ILS* 3485; *ILS* 9248; *L'Année Epigraphique*, 1907, no.212; 1981, no.199; 1990, no.332.
31. R. Fabretti, *De Aquis*, 1680, in his third map bound before p.3, puts Licenza and Cantalupo on the wrong sides of the Licenza River; I. Mattei, *Nuova ed esatta tavola*, 1666, has Percile and Civitella in the wrong places with respect to Licenza; and although he puts the Fons Blandusiae near Licenza, he (like Ameti, following his lead) puts Ustica and the Villa Horatii too close to Palombara Sabina. A. Kircher, *Latium*, 1669, and G.F. Ameti and D. de Rossi, *Il Lazio*, 1693, put Rocca Giovine north of Licenza, an error that can be traced to Pirro Ligorio's 1551 map, which was the first map of Latium to include the Licenza Valley.
32. On Revillas see M. Pedley, 'Diego de Revillas', 1991; A.P. Frutaz, *Le carte del Lazio*, 1972, vol.1, pp.xxix-xxx.
33. Ramsay's map can be linked to Revillas's through a number of features the two share that are not common on other eighteenth-century maps. These include the Rio Cupo south of Rocca Giovine; Casal Questione at the junction of the Rio Cupo and the Licenza River; and 'La Villa

- diruta' on the east side of the valley. Ramsay wrote an account of the trip in a letter to Sir Alexander Dick; above, note 21.
34. A. P. Frutaz, *Le carte del Lazio*, vol. 1, pp. xxix–xxx, 90–92; *ibid.*, vol. 2, carta XL c; M. Pedley, 'I due valentuomini', 1993.
  35. Maire and Boscovich, *Carta geografica*, 1769 (whose map is at a scale of c. 1:100,000), place Licenza 0° 29' east of Monte Mario, while the I.G.M. map of 1940 puts it 27' east of Monte Mario; Maire and Boscovich place Licenza at about 42° 4' of latitude, not far different from the 42° 4' 3" of the I.G.M. map.
  36. See Ramsay, 'Enquiry', p. 54.
  37. C. De Chaupy, *Découverte de la maison*, 1767–9, vol. 1, p. xxxvii, reported that he was told that the first visitors to Licenza in living memory were two Englishmen who arrived in 1755. George Nicolaus Heerkens, a Dutch physician and poet, states in a book published in 1765 that he visited Licenza during the pontificate of Benedict XIV (d. 1758). Heerkens is vague about the exact date of his visit, stating only that he arrived in Rome in the first days of December of a year he does not mention. His dedication, on the other hand, is dated to 14 November 1755, but this is an oddly early date for a book not published for ten years and may represent a typographical error. On Lumisden's visit, see A. Lumisden, 'Letter to John MacGouan', 1765; on his and Boswell's visit see also pp. 16–17 above. I am indebted to Iain Gordon Brown for this reference.
  38. For an overview see C. Pietrangeli, *Scavi e scoperti*, 1983.
  39. cf. Erdmannsdorf's diary for 3 April 1766 in J. J. Winkelmann, *Briefe*, 1957, p. 246; also Erdmannsdorf's letter to Huber dated 3 April 1766, *ibid.*, p. 255.
  40. See G. Vichi, *Gli Arcadi*, 1977.
  41. D. de Sanctis, *Dissertazione*, 1784, p. ix.
  42. See B. Frischer, 'First Excavation of Horace's Villa', 1998.
  43. On Saint'Odile's birth name see R. B. Litchfield, *Emergence of a Bureaucracy*, 1986, p. 268. In eighteenth-century sources and in modern scholarship his name is spelled variously as Sainte-Odile, S. Odill, Saint-Odile, St. Odil, St. Audil, Saint-Odill, di Santedille, Saint Odyle, Santodile, Sant'Odile.
  44. Archivio di Stato Firenze, Fondo Affari Esteri, Filza 2284, in a dispatch to Count Piccolomini dated 31 July 1773.
  45. On Saint'Odile's trip up the Anio Valley to Ancona, see the dispatches to the Council of the Regency sent in October 1757 by Saint'Odile's secretary, Antonio Valentini, in Archivio di Stato Firenze, Fondo Affari Esteri, Filza 2278.
  46. See G. C. Moroni, *Dizionario*, 1846, vol. 36, p. 195. For Del'Isle's map see G. Del'Isle, *Tabula Italiae*, 1711, on which cf. A. P. Frutaz, *Le carte del Lazio*, 1972, vol. 1, pp. 81–2.
  47. Frutaz, *op. cit.*
  48. D. de Sanctis, *Dissertazione*, 1761, p. 43.
  49. On the Abbé Capmartin De Chaupy, see *Biographie universelle*, vol. 8, pp. 45–6; E. Galletier, 'L'Abbé Capmartin de Chaupy', 1935; N. Mathieu, 'Capmartin de Chaupy', 1987.
  50. J. J. La Lande, *Voyage d'un François*, 1769, vol. 5, pp. 385–6.
  51. C. De Chaupy, *Découverte de la maison*, 1767–9, vol. 3, p. 249.
  52. *ibid.*, vol. 1, p. xxxix. The earliest de Sanctis's book could have been printed *is* after he received permission from the Holy Office to publish it on 18 April 1761 (p. [v]).
  53. The preface to de Sanctis's third printing of his book in 1784 makes the date of early 1761 more probable, since there (at p. x) we read of De Chaupy that he 'accidentalmente con un Personaggio di qualche rango capitò nel 1761 in Vicovaro.' The 'Personaggio di qualche rango' was presumably Saint'Odile.
  54. De Chaupy, *op. cit.*, vol. 3, pp. 10, 352–4.
  55. *ibid.*, pp. 356–7. The inscriptions are *CIL* xiv.3487 and xv.3897b. For the story about the Archpriest, see Ramsay, 'Enquiry', p. 39, note. De Chaupy, *op. cit.*, vol. 3, p. 10, confirms Ramsay's statement that the fragments inscribed with Burrus' name were entrusted to the local priest.
  56. Cited in I. G. Brown, *Monumental Reputation*, 1992, p. 11.
  57. One may compare Saint'Odile's similar failure in 1769 to obtain a licence to export the Niobe group and Apollino from the Villa Medici to Florence. M. Maugeri, 'Il trasferimento a Firenze', speculates that this failure resulted from the Baron's unsuccessful attempt to export the statues through legal means and his resort to corrupting the relevant authorities. On Papal edicts concerning excavation permits in the eighteenth century, see A. Emiliani, *Leggi*, 1996, pp. 66–83.
  58. *Dissertazione*, p. 44.

59. *ibid.*, p.62.
60. See the brief but pertinent remarks of I. Bignamini and I. Jenkins, 'The Antique', 1996 (with bibliography).
61. See B. Frischer, 'First Excavation of Horace's Villa', 1998, p.287.
62. 'Enquiry', p.5.
63. See J. Wilton-Ely, *Piranesi: The Complete Etchings*, 1994, vol.2, p.890 (no.817); H. Lavagne, 'Piranesi', 1985, p.267). I am indebted to Iain Gordon Brown for bringing Piranesi's joke to my attention.
64. cf. J. Wilton-Ely, *Piranesi as Architect*, 1993, pp.35–61.
65. See A. Monferini, 'Piranesi e Boltari', 1985.
66. See B. Frischer, 'First Excavation of Horace's Villa', 1998, p.281.
67. cf. J. Wilton-Ely, *Piranesi as Architect*, 1993, p.35.
68. A. Monferini, *op. cit.*, p.222.
69. For an illustration of the title page see Wilton-Ely, *Piranesi as Architect*, 1993, fig.51.
70. Piranesi wrote *Della magnificenza ed architettura de' Romani* partly in response to Ramsay's *Dialogue on Taste* (1755); see I.G. Brown, *Poet and Painter*, 1984, pp.40–41; A. Smart, *Allan Ramsay*, 1992, pp.123, 147.
71. cf. Brown, *op.cit.*, *passim*.
72. cf. the letter to Archibald Hamilton, quoted below at n.78.
73. See A. Smart, *Allan Ramsay*, 1992, p.126.
74. Smart, *loc. cit.*, the letter to Dick (GD 331/5/18) is quoted in part.
75. It only lacked a few minor details such as the measurements of the capitals Ramsay saw in front of a blacksmith's shop in Licenza; 'Enquiry', p.38.
76. For Boswell's remarks see the Introduction. Ramsay's attitude towards his project contrasted with that of Robert Adam towards Split; see pp.19–20 and 84 above.
77. National Library of Scotland, MSS 1833–4.
78. cf. Ramsay's letter to Archibald Hamilton, Esq., Naples, 14 June 1783 (National Library of Scotland, MS 10782, f.156).
79. On James Byres see B. Ford, 'James Byres', 1974; B. Skinner, *Scots in Italy*, 1966, pp.16–17; on Gavin Hamilton see S.Q. Hutton in N.T. de Grummond, *Encyclopedia*, 1996, vol. 1, pp.562–6; on Angelica Kauffman see O. Sandner, *Angelika Kauffmann*, 1998. On Jakob Philipp Hackert and Jacob More see chapter 4.
80. cf., for example, the entries for 5, 8, 10, 13, 21, 29 and 30 March, 7 April, and 2 and 8 July. On 10 March More showed the Ramsays his picture of Cicero's villa, which, John Ramsay opined, 'was very well painted.'
81. 'Enquiry', pp.55–6.
82. This is not (as one might be tempted to speculate) the French-Swiss painter Louis Ducros, who was a friend of Ramsay and who painted views of the Licenza valley; cf. [Ducros], *Images of the Grand Tour*, 1985, pp.75–6 (note 54). From John Ramsay's diary we know that the Ramsays first met 'the Frenchman' on 17 July 1783 in Tivoli. From the diary (see entries for 29 March and 7 July 1783) it is clear that the Ramsays already knew Ducros before that date.
83. 'Enquiry', pp.66–7.
84. A. Kircher, *Latium*, 1669; R. Fabretti, *De Aquis*, 1680.
85. cf. 'Enquiry', p.8; on Petrocchi, see Petrocchi, *Orazio*, 1958, p.36, note 6.
86. cf. 'Enquiry', p.54.
87. *op. cit.*, pp.24, 61–2.
88. The term 'prepossession' has a Humean ring; cf. D. Hume, *Enquiry*, 1975, p.151: 'It seems evident, that men are carried, by a natural instinct or prepossession, to repose faith in their senses; and that, without any reasoning, or even almost before the use of reason, we always suppose an external universe, which depends not on our perception, but would exist, though we and every sensible creature were absent or annihilated ... But this universal and primary opinion of all men is soon destroyed by the slightest philosophy, which teaches us, that nothing can ever be present to the mind but an image or perception, and that the senses are only the inlets, through which these images are conveyed, without being able to produce any immediate intercourse between the mind and the object.'
89. 'Enquiry', p.54.

90. See N. Horsfall, *Companion*, 1995, p.1.
91. NLS, MS 730, f.10.
92. EUL, La.III.492, p.14.
93. G. Lugli, 'La villa sabina', 1926, col.484; Z. Mari, 'La valle del Licenza', 1994, p.20.
94. cf. the entry for that date in the diary of John Ramsay, NLS, MS 1834, p.145.
95. D. Hume, 'Enquiry', 1975, p.50.
96. Ramsay, 'Enquiry', p.53. Note that when Ramsay dates the second occasion to 27 September 1783, he is mistaken. John Ramsay's diary entry (cf. p.90 above) shows that the correct date was 27 August and that by 14 September the Ramsays had left Licenza to return to Tivoli and Rome.
97. Ramsay, 'Enquiry', p.46.
98. *ibid.*, pp.45-6; see also Z. Mari, 'La valle dell'Aniene', 1995, p.33.
99. 'Enquiry', p.36, note 39.
100. *ibid.*, p.6.
101. *ibid.*, p.40.
102. *ibid.*, p.38.
103. *ibid.*, p.46.
104. *ibid.*, p.42.
105. *ibid.*, pp.34 and 48.
106. *ibid.*, p.38, note 40.
107. *ibid.*, p.57.
108. See S. Piggott, *Ruins in a Landscape*, 1976, p.129.
109. cf. 'Enquiry', p.52.
110. *ibid.*, p.46. For the long view, see Ramsay's *View of Horace's Farm* (Catalogue: Ramsay 2) and More's *View near Horace's Villa* (Catalogue: More 2). See also I.G. Brown's essay in *Archives and Excavations*, forthcoming.
111. 'Enquiry', p.57.
112. *ibid.*, pp.34 and 48.
113. The best example of this is his irrelevant digression on the etymology of Cotiso; see *ibid.*, p.21, note 29.
114. One might contrast the 'sharp and seductive practices' of a Thomas Jenkins; cf. S. Howard in N. T. de Grummond, *Encyclopædia*, 1996, vol.1, pp.619-20.
115. cf. 'Enquiry', p.66.
116. See B. Frischer, 'Shifting Paradigms', 1991, p.80, note 104.
117. cf. P. Rosa, 'Notizie intorno', 1857.
118. See G. Lugli, 'La villa sabina', 1926.
119. See T.D. Price, 'A Restoration', 1932.
120. cf. Z. Mari, 'La valle dell'Aniene', 1995.

## A Note on the Text of Ramsay's 'Enquiry'

*Bernard D. Frischer and Iain Gordon Brown*

Three versions of Ramsay's 'Enquiry' survive. They are located in the National Library of Scotland (hereafter NLS); the Edinburgh University Library (EUL); and the Library of the University of California, Los Angeles (UCLA). All three manuscripts make reference, in their titles, to Ramsay's travels in Italy between 1775 and 1777: in no case has the title been changed to indicate that on his later visit in the early 1780s Ramsay continued to pursue the project. The manuscripts represent work done largely in the 1770s, although it is evident that they must comprehend also the results of Ramsay's topographical explorations and his thinking about the subject during his final visit to the region. Indeed, additions in Ramsay's hand in the Edinburgh University Library manuscript are dated 1782 or 1783 and refer to the personal observations on the site, or reflections on the topic in general, made in those years.

The earliest of the manuscripts, and the least polished, is the version in NLS, MS730. It is largely in Ramsay's hand and in that of his wife, who acted as amanuensis. The earlier portion of the manuscript is more or less a fair copy in her hand. Later folios indicate that she had been allotted the task of copying quotations which appear between passages of commentary or argument in her husband's autograph. Mention on f. 29 of an event in June 1777 (cf. 'Enquiry,' p. 67) gives a *terminus post quem* for the composition of at least this portion of the manuscript. Ramsay evidently returned from time to time to this original manuscript, for there are passages or insertions in his later and rather more infirm hand. All in all, it is something of a patchwork of hands and additions of varying dates. The binding is modern blue buckram. Paper size is 18.5 x 24.5 cm. The NLS manuscript was presented to the Library in 1932 by The Hon. Sir Hew Hamilton Dalrymple, sometime Vice-Chairman of the Library's Board of Trustees and Chairman of the Trustees of the National Gallery of Scotland. He had collected a number of manuscripts and sketchbooks relating to the history of Scottish art of the period. The earlier history of the manuscript is not known. The NLS manuscript is primarily interesting for the five landscape sketches by Ramsay which are bound at the end (cf. Catalogue, Ramsay 3).

The next manuscript in date is that in EUL, MS.LA.III.492. It is more complete and more polished, being later than the NLS version. On the title page, the author's name was originally given as 'A.R.' At an indeterminate later date, someone added 'Allan Ramsay.' It is almost wholly written in the hand of Ramsay's wife, who died in March 1782. Ramsay later added some passages in his own hand. The manuscript retains its original grey paper-covered boards. Paper size is 19 x 23 cm. The EUL manuscript was presented to the Library under the bequest of the distinguished bookseller, librarian and collector, David Laing, who died in 1878. Laing also owned (and bequeathed

to the Library) a number of important manuscripts of the elder Ramsay and the autograph life of his father by the painter, as well as drawings and sketchbooks of Allan Ramsay the Younger and Jacob More, which he bequeathed to the Royal Scottish Academy. From there these graphic works passed to the National Gallery of Scotland. All the manuscripts had been bought by Laing at the sale of the library of Sir John Murray of Henderland, Lord Murray, a Scottish judge who was the heir of General John Ramsay, the painter's son. The 'Enquiry' can be identified as lot 1527 in the Dowell and Lyon sale catalogue, Edinburgh, February 1862. From a collation of the NLS and EUL copies, we can see that from 1777 to 1783 Ramsay continued to struggle with difficulties such as the identification of the Valley of Ustica, and he also moderated his tone and degree of assertiveness on problematic points. Thus in 1777 he wrote: 'Volpi's opinion is still more foolish' (NLS ms., f. 5); but by 1783 this had become the more diplomatic 'Volpi's opinion is more foreign' (EUL ms., p.30). At first Ramsay attempted to date the composition of Odes I.17 to 'about the beginning of August' on the basis of when strawberries become available in the Licenza Valley; but in the EUL version he wisely dropped this piece of speculation.

The third, latest, and by far the best version of the text is the UCLA copy. Purchased in 1965, it has been catalogued under 'Anonymous' since then because, unlike the NLS and EUL manuscripts, it lacks Ramsay's name or initials on the title page. The shelfmark is: Bound Manuscripts, Collection 170/376, Department of Special Collections, Charles E. Young Research Library, UCLA. The manuscript contains 67 pages, which are numbered. The paper size is 29 x 23.25 cm. It is bound in half-calf over pink papered cardboard. The binding is 30 cm. high, 24.2 cm. wide, and 1.3 cm. thick. There are head- and footbands. The spine is tooled with seven compartments. "M.S." is blocked on the second compartment, and there are fleurons in the other compartments. The end-papers are of the same paper as was used for the text, as can be determined from one watermark which is just barely visible (on the paper and watermark, see below), making it all but certain that the binding (which UCLA Rare Books Librarian P. G. Naiditch independently dated as 'late eighteenth-century') and manuscript are contemporary. The provenance of the manuscript is unknown. It was accessioned by UCLA in October 1965 and attributed to Ramsay by Bernard Frischer in October 2000, immediately after it was brought to his attention by P. G. Naiditch.

Examination of the UCLA version shows that it was written by an amanuensis and fitted out with finished drawings of the illustrations he intended to use. We do not know who was responsible for the drawings, nor the identity of the amanuensis. The close association of the UCLA manuscript with Ramsay is demonstrated by two facts. There are two corrections written in pencil, very probably in the unmistakable infirm hand of Ramsay's old age. Secondly, the UCLA version is written on the same paper as the EUL copy: the Turkey Mill paper of James Whatman II, whose paper was considered the finest in England (see A. H. Shorter, *Paper Mills and Makers in England 1495-1800*, *Monumenta Chartae Papyraceae Historiam Illustrantia*, vol. VI

[Hilversum 1957] pp. 58-9, 187-88; and for the watermark [crown, horn, fleur-de-lis, and the initials GR] see nr. 198 [p. 378 with p. 268]). In view of the foregoing, we have based our text of Ramsay's 'Enquiry' on the UCLA manuscript. We thank P. G. Naiditch for bringing it to our attention; and Anne Caiger for granting us permission to publish it. Conceivably, the UCLA manuscript was Ramsay's final copy, but definite proof is lacking.

The changes between the EUL and UCLA manuscripts are few and not substantive. The UCLA version incorporates corrections to the EUL manuscript, and so is later. The UCLA copy enabled us to ensure that the text we present corresponds to Ramsay's last wishes; and it also confirms our earlier suspicion that Ramsay did not, in the end, intend to use Jacob More's views to illustrate his text.

The UCLA copy was still incomplete with respect to a trivial detail when Ramsay died: at p. 38 he has left blank the measurement of a pillar. Since the pillar in question is no longer to be found in Licenza where Ramsay saw it, the editor has had perforce to retain the blank. Ramsay's Latin was excellent, and Latinity was universal among the educated public for whom he wrote. There is no indication that he would have translated the Horatian passages and other Latin quotations. To help the modern reader who may well have little or no Latin, extended passages from Horace have been quoted in the original, followed by the English versions of Philip Francis, the most popular British translator of Horace in Ramsay's day. Translations of shorter passages and other Latin texts have been furnished by the editor. Spelling, punctuation and capitalization have been modernized. The editor's additions are indicated by square brackets. The text has been equipped by the editor with endnotes which explain points that might be obscure to the non-Classicist; and the attempt has been made to provide an update on several of the most important topics discussed by Ramsay such as, for example, the location of the Fons Bandusiae of Odes 3.13. Ramsay's own notes are printed as footnotes. Since the UCLA manuscript is thought to be Ramsay's last, we have given its pagination in the margins of the 'Enquiry', and this pagination has been used throughout in all references to the 'Enquiry' in this volume. In illustrating the 'Enquiry', we have used the UCLA drawings, wherever possible.

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Allan Ramsay  
and the Search for  
Horace's Villa

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## Ramsay's 'Enquiry': Text and Context

Bernard D. Frischer

Besides, we may observe, in every art or profession, even those which most concern life or action, that a spirit of accuracy, however acquired, carries all of them nearer their perfection.

David Hume, *An Enquiry Concerning Human Understanding*, 1748

The first issue of *Archaeologia, or Miscellaneous Tracts, Relating to Antiquity. Published by the Society of Antiquaries of London*, appeared in 1770.<sup>1</sup> Among its sixty-one articles, two stand out both because of their authors' renown and because of their diametrically opposed views of archaeology: Martin Folkes's 'On the Trajan and Antonine Pillars at Rome'; and William Stukeley's 'The Sanctuary at Westminster'. Stukeley was the eighteenth century's most distinguished scholar of Stonehenge. Folkes was President of the Society of Antiquaries and one of Stukeley's most vocal critics.<sup>2</sup> Ramsay had been a fellow of the society since 1743.<sup>3</sup> To appreciate his 'Enquiry into the Situation and Circumstances of Horace's Sabine Villa' we do well to position Ramsay between the two poles in British antiquarianism represented by Folkes and Stukeley. These might be characterized as the pole of quantitative empiricism, championed by Folkes; and the pole of high-flying speculative rationalism, associated with Stukeley.

Folkes's article is purely descriptive and quantitative – a relentless accumulation of numbers and measurements without interpretation or commentary. The tone is set at the very beginning: 'The Trajan column at Rome, is all of white marble, and consists of 30 stones, whereof 8 make the pedestal, 19 the pillar, and 3 the basis of the statue that stands on top. The side of the lowest plinth of the pedestal contains 20 English feet and three inches'.<sup>4</sup>

Stukeley's essay is quite different. In six short pages it covers not only the little church (seventy-five feet square) known as The Sanctuary, which was being torn down when Stukeley visited it in 1750, but also ranges discursively over an amazing range of issues, including a catalogue of stone buildings before the Conquest<sup>5</sup> and the origin of architecture itself:

Our church at Westminster is of the ... sort ... we may call Roman-Saxon ... from whence I infer it is later Saxon work, when there was and had been many years, perhaps, as now, too much intercourse between us and France; and when our builders began to conform to that later sort of architecture, with pointed arches.

How this later manner of pointed arches prevailed in Europe, over the former manner of semicircular arches, I cannot otherwise account for, but in supposing we had it from the Saracens ... they brought it from Africa, originally from Arabia; and from the southern parts of Asia ...

When I have thought on the origin of architecture, I persuade myself, this Arabian manner, as we ought to call it, is the most antient of all ... The original of all arts is deduced from nature; and assuredly the idea of this Arabian arch, and slender pillars, is taken from the groves sacred to religion, of which the great patriarch

Abraham was the inventor. The present Westminster Abby, and generally our cathedrals ... present us with a true notion of those verdant cathedrals of antiquity; and which our Druids brought from the east into our own island, and practised before the Romans came hither.<sup>8</sup>

For Stukeley, the little building of his study was a synecdoche for vast themes and contexts. On the other hand, Folkes' essay – though written about monuments of far greater cultural import to the learned readers of his age – is couched in a tone so dry as to be dessicated. One almost wishes that Folkes and Stukeley could have exchanged topics: it is Stukeley whom we would like to read on Trajan's Column, and Folkes on the Sanctuary at Westminster.

To assess Ramsay's achievement in the 'Enquiry' we must apply the standards both of his day and of our own. There is, in fact, much more to praise in the 'Enquiry' than to criticize. Ramsay's essay is the first compendious presentation of the Licenza site conventionally known as Horace's Villa, and the range of information synthesized exceeds anything until Mazzoleni (1891) or Lugli (1926). Ramsay knew the key works of earlier scholars, and he was intimately familiar with the villa site and the valley in which it is situated. He presented most of the passages about the villa that occur in Horace's poetry, relating the poet's descriptions to the topography of the Licenza valley. Observing standards set by *Archaeologia* and by British antiquarians such as Robert Plot and John Aubrey in the previous century, he apparently planned at one stage to provide illustrations of the valley, commissioned from Jacob More. He also wished to include a relief map, commissioned from Jakob Philip Hackert, and to present his own drawings of architectural details and small finds. Hackert's map was printed separately, and even today it is a useful aid for understanding the topography of the Licenza valley (see Fig.6.3).

The 'Enquiry' stands the test of time well, not simply because it offers several precious verbal and visual descriptions of archaeological remains not otherwise available for study, but also because it integrates so well the very different themes of a Stukeley and a Folkes. Methodologically, it succeeds because it represents an application of the 'mitigated scepticism' of Ramsay's friend, David Hume. 'To be a Humean, precisely, is to take no system as final, nothing as ultimate except the spirit of enquiry.'<sup>9</sup> Ramsay's treatise, entitled with the very Humean word 'Enquiry',<sup>9</sup> shows that its author was as critical of himself and his views as he was of his predecessors and their theories, and that he knew full well that the investigation in which he was engaged would continue long after his death. He even concluded with a modest disclaimer about the finality of his results and sketched a future plan of research for finding the Temple of Vacuna near Rocca Giovine that is still valid today:

[I] shall conclude these remarks by observing that though they contain all the lights I have been able to acquire, I am far from thinking that the subject has received all the light that may be possibly thrown upon it. Something more certain and precise may still be learnt concerning the particular situation of Mandela and the extent of the Massa Mandelana by an examination of the title deeds of the family of Orsini, anciently Lords of all this territory; or of those of Nuñez and Borghese who derive

from them; and still more from the Archives of the Vatican, and of the Church of St. John Lateran, if they happen to be accessible. Much, likewise, may be still learnt concerning the true situation of the Fanum Vacunae, and other particulars of this interesting valley, if any man of classical curiosity with 20 or 30 spare sequins in his pocket would employ the country people to dig upon Colle Franco, and other places already mentioned by me in these remarks.<sup>10</sup>

The enquiry into Horace's Villa is organized into two parts. Ramsay began with the 'situation,' or location, of Horace's estate (pp.1-5 in Ramsay's pagination), examining the arguments of such earlier scholars as Biondo, Cluverius, Holstenius and Volpi.<sup>11</sup> Comparing their views with Horace's own hints about where his country house was located, he found that everyone except Holstenius is contradicted by passages in Horace's poetry, by geographical features or by both. Holstenius, the great geographer and Vatican librarian of the mid seventeenth century,<sup>12</sup> had implicitly placed Horace's villa in the valley of the Licenza River, several kilometres to the north of Vicovaro.<sup>13</sup> Ramsay agreed, as have most scholars down to the present day.<sup>14</sup> As we will see, this reflects Ramsay's Folkesian side of careful measurement and observation.

In the much longer second part of his treatise (pp.6-67), Ramsay considered the 'circumstances' of the villa. This term covers a large number of topics, including the hydrology, agriculture and flora of the Licenza valley; the probable size of Horace's estate; the exact location of the dwelling and its unexpectedly large scale; the later owners and subsequent history of the estate; and the characteristics of the valley's inhabitants. Throughout, Ramsay showed himself competent at handling a surprisingly wide range of disciplines, including archaeology and architectural history, literary and textual criticism, cartography, epigraphy, geography, linguistics and even Church history. He also displayed admirable warmth toward the humble *comunisti* of Licenza. Here, then, we see Ramsay working in a more expansive, Stukeleyan mode.

Unfortunately, Ramsay did not organize his treatment topically but according to the order of poems in the edition of Horace he was using.<sup>15</sup> Since the poems are not arranged in chronological order, it was awkward for Ramsay to treat the historical evolution of the villa or the poetic development of the villa theme.<sup>16</sup> Then, too, the poems are to some degree repetitive in their presentation of the villa. To solve this problem, Ramsay made good use of cross-references, but he did not entirely avoid the trap of repetitiousness.<sup>17</sup> Finally, while the structure of the 'Enquiry' might have made sense had Ramsay been pursuing the villa theme as an element in Horace's poetry, it is rare that he stopped to consider the role played by a villa passage within the overall context of the poem in which it appears.<sup>18</sup> Similarly, he did not pay attention to the effects of the various genres (satiric, lyric, and epistolary) on Horace's descriptions of his villa, although this is a topic to which the structure of his essay would have been well suited.

Of course, Ramsay's approach to organizing his material had the virtue of being straightforward and, whatever its flaws, does not detract from the



5.1. Map of the Diocese of Tivoli, from D. G. De Revillas, *Dioecesis et agri tiburtini*, 1739

material itself and his methodology. It is to these that we will turn after setting the stage for Ramsay's essay by reviewing work on the villa by other antiquarians in the period 1440–1770.

### The Antiquarian Context: Situating Horace's Villa, 1440–1770

Not surprisingly, in over twenty poems mentioning his villa Horace never had occasion to locate the place with any precision. That is not what poets generally do. Horace did, however, note several places that were near his villa. Locating the villa, at least in a general way, has thus always entailed finding the modern places that correspond to the ancient sites in Horace since, as was well known by the mid sixteenth century, if not before, place names in Italy quite frequently had changed beyond recognition from antiquity to modern times.<sup>19</sup> The places appearing in Horace's villa poems include the Digentia River (*Epistles* 1.18.104), the Fanum Vacunae (*Epistles* 1.10.49), Mandela (*Epistles* 1.18.105), the Mons Lucretilis and Valley of Ustica (*Odes* 1.17), and Varia (*Epistles* 1.14.3).<sup>20</sup> None of these names survived intact to modern times.

There were old local traditions at Tivoli, Vicovaro and Licenza placing Horace's villa near these towns.<sup>21</sup> Such folklore was at first ignored or



5.2. Detail of Fig.5.1, showing the Licenza area

neglected by scholars concerned about the situation of the villa, the earliest of whom was Flavio Biondo. Biondo's influential *Italia Illustrata*, written in the mid fifteenth century, put the villa near Farfa.<sup>22</sup> This view was adopted by such important sixteenth-century Horatian commentators as Cruquius.<sup>23</sup>

In 1624, Cluverius's *Italia Antiqua* put the villa near Montelibretti on the basis of the similarity of the modern place name with Horace's Mons Lucretilis. This was soon challenged by Cluverius's student, Lucas Holstenius, in posthumously published notes on his teacher's book.<sup>24</sup> Holstenius was librarian of the Vatican Library until his death in 1661 and an acknowledged expert on ancient geography. His views were thus taken very seriously, and his new placement of Horace's Villa in the Licenza valley quickly received important support from the cartographers Mattei and Ameti<sup>25</sup> as well as from Fabretti in his influential work on the Roman aqueducts.<sup>26</sup>

Holstenius's identification rested on Cluverius's equation of Vicovaro with Varia;<sup>27</sup> on an etymological derivation of Licenza from Digentia; and on a religious-historical syncretism of the Roman goddess Victoria with the Sabine

goddess Vacuna. Holstenius knew of a Roman inscription mentioning Victoria at Rocca Giovine,<sup>28</sup> and he inferred from this that since Rocca Giovine was in Sabine territory, this might reflect a pre-Roman cult of Vacuna. While this is certainly possible, it should be noted that the Romans equated Vacuna with several Roman goddesses, not just with Victory,<sup>29</sup> and that no other evidence has come to light in Rocca Giovine of a cult of Vacuna, whereas since the Renaissance much evidence of such cults has been discovered elsewhere in the Sabina, particularly in the area around Rieti.<sup>30</sup> Thus, Holstenius's thesis required additional support. It also needed to be made more precise, since it did no more than situate the villa somewhere in the valley of the Licenza, which is over eight kilometres long. Kircher, Fabretti, Mattei and Ameti in their maps of the valley differed about where Horace's villa should be situated and made mistakes that show they were only vaguely familiar, at best, with the valley's principal features.<sup>31</sup>

Precision in locating the villa required, first of all, an accurate map, and this was still a desideratum for the Licenza valley at the beginning of the eighteenth century. The first map of the area, made with the aid of trigonometry and containing a scale, was that of Diego de Revillas in 1739 (Fig. 5.1).<sup>32</sup> Though considered accurate for its day, its quality should not be overestimated, for if we superimpose a scaled version of Revillas's map over an accurate contemporary map such as the Carta Tecnica Regionale of the Regione Lazio, Sezione 366110 (Licenza), we can see that Revillas's map is distorted. For example, Rocca Giovine is one kilometre farther north than it should be, and the Licenza River and adjacent land extend too far to the east. At any rate, Revillas's map caught the attention of antiquarians because he followed Holstenius in identifying Licenza as Digentia and Rocca Giovine as Fanum Vacunae. Though he did not, in his first edition, include Horace's Villa, he was apparently eager to take this next logical step, and in the posthumous second edition of 1767 we find the first indication of 'ruins of Horace's Villa' on a map. When Allan Ramsay made his first trip to find Horace's Villa in 1755, we know that he used a sketch he made of Revillas's 1739 map (Fig. 5.3).<sup>33</sup>

Finally, in 1755, the Jesuits Cristoforo Maire and Ruggero Giuseppe Boscovich published their highly praised maps of central Italy, including one of the Papal States undertaken at the request of Pope Benedict XIV.<sup>34</sup> On this map we find few ancient sites or place names, and none in the Licenza valley. But the location of modern sites was determined with a scientific exactness that easily surpasses anything found earlier.<sup>35</sup> The Maire-Boscovich map of Latium was republished and reused many times in the later eighteenth century and became the basis for modern maps of the area. Ramsay knew it and referred to it in the 'Enquiry', using it to criticize the map of De Chaupy (Fig. 5.4; on De Chaupy, see below), which was a throwback to the days of unscientific mapmaking, in which the position of Mandela, Vicovaro, Rocca Giovine and Licenza could shift about unreliably from one cartographer to another.<sup>36</sup> Maire-Boscovich provided antiquarians with a critical new tool that they would need if further progress was to be made.





5.4. Map of the Licenza area, from Abbé C. De Chaupy, *Découverte de la maison*, 1769

In 1757, the situation changed somewhat when the Vicovaro notary Giuseppe Petrocchi found an ancient inscription giving an important clue about the location of another place name mentioned by Horace in his villa poetry. The inscription (CIL xiv.3482; Fig.5.5) is an epitaph mentioning Valeria Maxima, the proprietor of a large group of properties (*massa*) known as Massa Mandelana. *Massae* were often named after a nearby town, and a



5.5. Inscription mentioning Valeria Maxima, owner of property in the Licenza area

'Massa Mandelana' should thus be an estate near a town called Mandela. Horace says in *Epistles* 1.18.104–105 that his country estate is near the Digentia River, 'the cool stream from which Mandela drinks'.

Petrocchi recognized the importance of the inscription, finding suggestive, too, the fact that it was found near a town called Bardella. Bardella, he concluded, is the modern name for Mandela; a new piece of the puzzle about the location of Horace's Villa had been found. Of course, the new piece resembled *Varia* and *Fanum Vacunae* in simply indicating in a general way where the villa had been built. However, the fact that another Horatian place name had been located raised anew the old problem of finding the exact spot.

None of the leading antiquarians in Rome seems to have been inspired by Petrocchi's find to grapple with the problem. Winckelmann, for example, made no contribution to the study of Horace's Villa. All we know about his views is that he placed the Fons 'Blandusiae' near Tivoli.<sup>39</sup> It may or may not be coincidental that the few people known to have been interested in Horace's Villa were (like Revillas before them) members of the *Accademia degli Arcadi*: the Dutch physician and poet George Nicolaus Heerkens and a priest of Tivoli, Domenico de Sanctis. Heerkens gave a talk to the Arcadians about his visit to Horace's Villa.<sup>40</sup> The talk does not survive, nor is there a trace of it in the Archives of the Arcadians at the *Biblioteca Angelica* in Rome, though the date would appear to be in the period 1757–58. A few years later, in 1761, de Sanctis wrote a short tract on Horace's Villa, and he began by saying that it was Petrocchi's discovery of the *Massa Mandelana* inscription that made him eager to see if the site itself could be found.<sup>41</sup>

De Sanctis's little book is less important for its author's own account of the Licenza site – which is in fact minimal, since most of the book concentrates on the villa passages in Horace's poetry – than it is for the light it throws on another pair of colourful figures who in c.1760 undertook the first known excavations of the Licenza site: the Baron de Saint'Odile and the abbot Bertrand Capmartin De Chaupy. The nature of the Saint'Odile–De Chaupy partnership is complex and has been treated more fully elsewhere.<sup>44</sup> Born Mathieu-Dominique Charles Poirot de la Blandinier at Blamont (Lorraine) in the early 1700s, Saint'Odile came to be one of the leading diplomats of mid-eighteenth century Rome.<sup>45</sup> Though mainly concerned with his diplomatic duties, he was typical of his age in also cultivating antiquarian interests. He enjoyed touring the Roman Campagna, and we hear of one trip he made to the Tivoli area, during which he travelled far and wide and stayed at Count Fede's villa, which stood on the grounds of the Villa of Hadrian. He himself wrote that Tivoli was his 'customary place to breathe fresh air'.<sup>46</sup> On another trip he travelled up the Anio Valley, eventually reaching Ancona before returning to Rome.<sup>47</sup> An unconfirmed source tells us that Saint'Odile even corrected the map of the Campagna published in 1711 by the great French cartographer Guillaume Del'Isle.<sup>48</sup> This map was not noticed by Frutaz in his comprehensive collection of the maps of Lazio,<sup>49</sup> and no trace of it remains in the cartographical collections in Washington, DC, London and Rome. One wonders whether it might not correspond to the map published in De Chaupy that was criticized by Ramsay.

As will be seen, Saint'Odile promoted the explorations at Horace's Villa. De Sanctis, our best informant about the De Chaupy–Saint'Odile project, describes their work as follows:

I will conclude by making honoured mention of the further lights shed by the most praiseworthy care and diligence of the Baron de Saint'Odile, the Plenipotentiary to the Holy See of his Majesty the Emperor and Grand Duke of Tuscany, a man who in the midst of his duties nourishes a strong love for learning and literature. He, too, completely persuaded that Horace's Villa was located in Licenza, did not neglect to investigate the truth of the matter in a more certain way. Since having observed the remains of an ancient structure not far from the site I have indicated, and under a spring from which without doubt the stream of the Licenza takes its name, he imagined that Horace's house once stood here, and he undertook its excavation [*scavamento*]. There he discovered well-built foundations and a cellar, which may be signs of a dwelling that – if not magnificent and luxurious – was at least proper and comfortable. There a pipe is also seen bringing water from the spring to the house both for domestic use and also, perhaps, for the convenience of a domestic bath complex.<sup>45</sup>

De Sanctis's short book was first published in 1761, which provides a *terminus ante quem* for Saint'Odile's excavations in Licenza. We can also establish a *terminus post quem* of 1756, the year in which the Abbé Capmartin De Chaupy arrived in Rome in exile from his native France.<sup>46</sup> As De Chaupy's acquaintance Joseph Jérôme La Lande wrote in 1769:

All the antiquarians placed the house of Horace at Tivoli because he often speaks of Tivoli in his works. But the Abbé Chaupy having thoroughly discussed this matter,



Mandela.<sup>31</sup> Elsewhere, he explained that he arrived at his first sketch of the idea that the Licenza villa was Horace's a few months before the publication of de Sanctis's *Dissertazione*, which could not have happened before mid April of 1761.<sup>32</sup> Putting these two passages together, we may infer that De Chaupy and Saint'Odile were exploring the countryside sometime in late 1760 or early 1761.<sup>33</sup>

De Chaupy presented two lengthy and consistent descriptions of the finds in the third volume of his book. To summarize, he reported finding two separate structures, both in *opus reticulatum*, which he dated to the first century BC and took as evidence that the villa was Augustan. The first structure, he wrote, occupied the ruined church of St Peter. Because of its small size, the water pipes found leading to it and its low position, he conjectured that it was probably a bath complex. The second building was located in a more open position and was much larger, implying to De Chaupy that it was the residence. Also found scattered around the site were *tesserae* of mosaics – some polychrome – as well as fragments of columns and entablatures.<sup>34</sup> Near these structures was a garden, which, from De Chaupy's description, corresponds to the area below what today is called the Nymphaeum of the Orsini, several hundred meters to the west of the archaeological site known from Pasqui's excavations in the period 1911–14. In this area the local winegrowers found fragments of lead pipes inscribed T. CLAVDI BURRI and TI. CLAVDI B. These were destroyed later in the eighteenth century when the Archpriest of Licenza, to whom they had been entrusted, used them for birdshot, as Allan Ramsay recounted several years later.<sup>35</sup>

That Saint'Odile published no account of his excavations is certain; but it is less clear that he wanted his important discoveries to remain completely unknown. In favour of the hypothesis that Saint'Odile meant to keep silent about his finds is not only the lack of publication but also the odd fact that De Chaupy never explicitly mentioned his partner, or sponsor, Saint'Odile, in his publication of Horace's villa. Instead, Saint'Odile is named only by de Sanctis, a man who was to become De Chaupy's bitter rival in a dispute about who could rightly claim priority in identifying the Licenza site as Horace's Villa. Yet, the excavations at Licenza, if made known to the world, could only have raised the Baron's standing in the eyes of the cultural and political élite of Europe in this age of the Grand Tour. In this context we may compare Robert Adam's archaeological publication of Diocletian's palace at Split, which was begun in the late 1750s and was intended to be, in Adam's memorable words, 'a great puff, conducive to raising all at once one's name & character'.<sup>36</sup>

If Saint'Odile consciously chose to forego the glory of being known as the discoverer of the site (as opposed to having been deliberately omitted from the story of the excavations by De Chaupy), this may have been a necessary consequence of his failure to obtain an excavation permit: publishing a report would have been a *de facto* admission of flouting the law.<sup>37</sup> Another reason may have been that Saint'Odile felt his project was not yet finished and hence not ready for publication. The end of the first printing of de Sanctis'

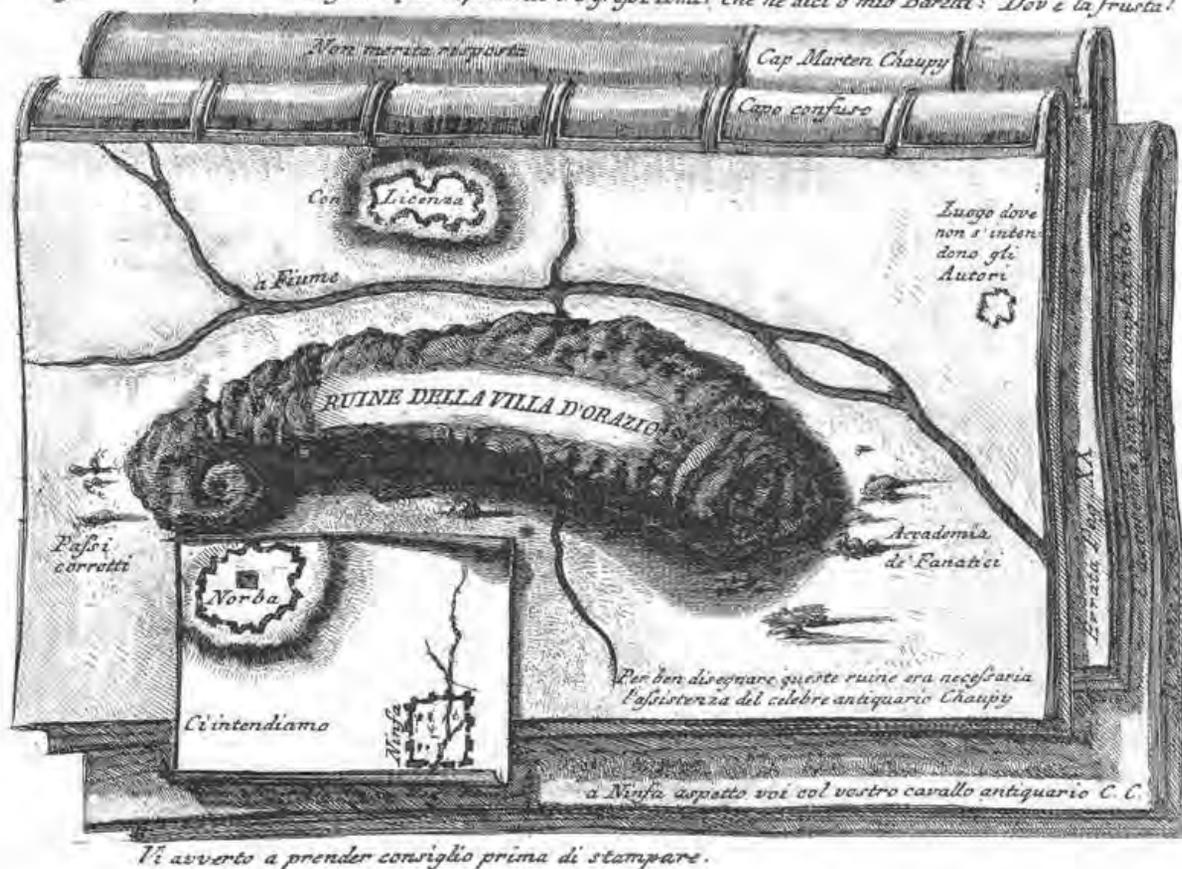
*Dissertazione* of 1761 reads: 'thus continuing the enterprise he [Saint'Odile] has begun – as is most desirable for the Republic of Letters – one can hope that some more singular monument can be found, which will make the identification of Horace's Villa in Licenza ever more secure.'<sup>58</sup> At the end of the third and final printing of de Sanctis' study in 1784, this expression of hope has been changed into a statement of disappointment that 'well-known events have prevented [Saint'Odile] from completing the enterprise he began'.<sup>59</sup> The allusion is undoubtedly to Saint'Odile's abrupt dismissal from office in 1774 for improper behaviour and to Archduke Pietro Leopoldo's order that his erstwhile ambassador never again set foot in Rome or Florence.

What motivated the Tuscan ambassador to Rome to excavate Horace's Villa in the first place is still a mystery, though in view of his reputation as an intriguer, the scandalous end to which he came and the eighteenth-century view of archaeology as a business the purpose of which was to find salable treasure,<sup>60</sup> we may well suspect that Saint'Odile's motives were more mercenary than scientific. Be that as it may, at least we know from de Sanctis that it was the Baron de Saint'Odile who first had the idea of digging at the Licenza site and of initiating the long project, still alive today, of empirically testing the thesis that the Roman villa located there was Horace's *Sabinum*.

As for De Chaupy, the fact that he never mentioned the Baron by name in his book may have been a deliberate attempt to rob his partner of any credit due him for the project at Horace's Villa.<sup>61</sup> This was typical of the abbé, who also felt compelled to belittle the contribution of de Sanctis and to claim priority in discovering the villa site, even though (as de Sanctis and others noted) it was really Holstenius who deserved to be considered its discoverer. De Chaupy's quarrelsomeness was perhaps less of a problem than his prolixity: his book on Horace's Villa ran to three stubby volumes. Contemporaries noted this with disapproval or amusement. Ramsay, in the 'Enquiry', wrote: 'at least one half of his book is employed upon subjects which, though very interesting in themselves and very learnedly and ingeniously treated, have little or no relation to the general title of the work.'<sup>62</sup>

Immediately upon completion of his three-volume *Diverse maniere d'adornare i cammini*, in 1769, Ramsay's friend Piranesi mocked the poor abbé with a scatological satirical engraving (Fig. 5.7) serving as the tailpiece to the book's 'Apologia'.<sup>63</sup> Although Piranesi makes no reference to it and does not express his motives in printing it, the engraving is self-explanatory. It depicts a work in three volumes, on the spines of which the author is given variously as Cap Martin Chaupy and Capo confuso ('Muddle-Head'). At the top of the engraving is an inscription with the exclamation, 'A dry spring and a few broken walls have brought forth three big volumes. What do you have to say about this, o my Baretti! Where is your goad?' Giuseppe Marco Antonio Baretti was the author of an Italian-English dictionary, a traveller's guide to Italy and, more to the point, a book of literary criticism called *La frusta letteraria* ('The Literary Goad'). Below the inscription is a large map with a real place name, Licenza, but also with such imaginary places as Corrupt Passages and the Academy of Fanatics. Dominating the centre of the map are

*Una fonte secca, e pochi muri infranti, hanno prodotto tre grossi tomi. Che ne dici o mio Baratti? Dov'è la frusta!*



*Vi avverto a prender consiglio prima di stampare.*

5-7. Engraving by Piranesi satirizing Capmartin De Chaupy's *Découverte de la maison*, from *Diverse maniere d'adornare i cammini*, 1769

the 'Ruins of Horace's Villa,' and the turd-like shape these take leaves very little doubt about Piranesi's opinion of their worth.

Such satirical engravings were Piranesi's characteristic mode of attacking important antiquarian adversaries.<sup>64</sup> His satire also reflects more profound disagreements with De Chaupy, the man and the scholar. We do not know if the two ever met, but if they did, they must have found very little in common. Piranesi was a member of Monsignor Giovanni Gaetano Bottari's anti-Jesuit circle of antiquarians.<sup>65</sup> Bottari and his followers believed in the necessity of preserving, interpreting and publishing Rome's pagan and Early Christian monuments, and they viewed a reformed and enlightened Church as the institution best suited to undertake this enormous task. De Chaupy – who at the beginning of the French Revolution was to publish a long attack on Voltaire<sup>66</sup> – upheld the *ancien régime* and had been exiled from France in 1756 for publishing an attack on the Parliament of Paris. Beyond their ideological differences, Piranesi and De Chaupy held strongly divergent views about the purpose of antiquarian research. For Piranesi, study of the past served to provide creative sources of inspiration for new architecture.<sup>67</sup>

For De Chaupy, the study of Horace's villa was an end in itself, justifiable by the importance of Horace's poetry. Piranesi was influenced by Bottari's view that the archaeologist should modestly serve the public, not promote himself. Bottari even went so far as to leave his name off the books he published.<sup>66</sup> De Chaupy's egotistical boasting about his priority in discovering the true site of Horace's Villa must have been highly offensive to Piranesi and other members of the Bottari circle. Finally, where Piranesi revelled in providing detailed technical diagrams and (often fanciful) architectural renderings and reconstructions of the sites he studied, De Chaupy's text is wholly unillustrated. That De Chaupy's verbal approach to archaeological description would have displeased Piranesi is clear from the title page to Piranesi's *Osservazioni sopra la lettre de M. Mariette* (1765). Two insets contrast Mariette's one-and-only tool, the pen, with the well-stocked toolkit of an architect such as Piranesi, which included a compass, a palette with brushes for illustration, a hammer and chisel, etc.<sup>67</sup>

With Piranesi, we come to the end of the period leading up to Ramsay's 'Enquiry'. It is apparent that the problem of Horace's Villa never engaged the leading Italian antiquarians at any period, except in passing. The remains on the surface were too spare in comparison with other sites closer to Rome or Naples. In the eighteenth century, excavations were often undertaken to find treasure such as statues, and both the condition of the Licenza site and Horace's descriptions of his villa as a humble farm must have made it seem unlikely that digging there would repay the investment. When excavations finally did occur, they did not result in significant finds that anyone could or would talk about. To make matters worse, the site had become the focus of a distasteful and pitiful *baruffa* in which, from the Italian point of view, the aggressor was a foreigner and an egotistical bully. By 1769 the Licenza site almost seemed to suffer from 'guilt by association' with De Chaupy, whom, as Piranesi's engraving shows, Italian scholars understandably found disagreeable.

### Ramsay's 'Enquiry': Composition, Characteristics, Significance

Ramsay was an old friend of Piranesi, though they, too, had their public disagreements, especially about the relative merits of Greek and Roman art (see pp. 12–13 above).<sup>70</sup> Ramsay's decision to write about Horace's Villa shows that on the matter of its importance, he also took leave to differ from his friend. For Ramsay, the villa was important not for the height of its walls, nor for the art treasures to be found there, and certainly not for the fame that a book about it might bring to its author, but for its literary and sentimental associations and for the scientific discoveries that could still be made there. As the son of a poet who had been a long-time admirer of Horace (see pp. 7–10 above),<sup>71</sup> a wealthy and successful portraitist and a Fellow of the Society of Antiquaries, whose journal, *Archaeologia*, shows that there was practically no antiquity, no matter how humble, that was not worthy of a

serious publication, Ramsay approached the Licenza site with very different goals and expectations from a Piranesi, a De Chaupy or a Saint'Odile. Moreover, we should not neglect a purely personal motive for Ramsay's decision to persist with the writing of the 'Enquiry': he found the related travel and study a fillip to his spirits, if not to his health, which was failing in the period of his fourth and final visit to Italy (1782–4). What Ramsay wrote to his friend Archibald Hamilton about his visit to Naples in June of 1783 is valuable testimony of this: 'Here my infirm body is relieved by the gentleness of the climate; and my spirits kept up by the company of my son, and the variety of objects which a country, uncommonly interesting, daily presents to me.'<sup>72</sup>

But even before the infirmity of his old age, Ramsay did not need Petrocchi's 1757 discovery of the Massa Mandelana inscription or the de Sanctis-De Chaupy controversy to draw his interest to the site. This is clear from the fact that he had already visited Licenza looking for Horace's Villa during his second trip (1754–7) to Italy;<sup>73</sup> indeed, he is the first person on record to have visited. Sketches and a crudely drawn map (cf. Fig.5.3) survive, showing us where he went and what he saw.

Ramsay journeyed to the site in September of 1755 with his wife and an English lady friend of hers. In a letter to Sir Alexander Dick, Ramsay described the trip as a pleasant jaunt of two days, during which time he saw the Fons Blandusiae and some other things that he sketched on a map and in some views he made. These survive and show that Ramsay put the villa up the Licenza Valley north of Vicovaro, between Rocca Giovine and Licenza. He placed the site to the west of the town mill, which is not shown on his map but in a drawing preserved in Edinburgh.<sup>74</sup>

When the idea of writing the 'Enquiry' occurred to Ramsay is not known with certainty; it is, however, likely that the project began to form in his mind during his first visit to Licenza in 1755. We know only that he began the book during travels through Italy in 1775, as the title indicates. The manuscript was not finished when Ramsay returned to England in 1777, and Ramsay appears not to have touched it again until he went back to Rome in 1782. By the time he died in Dover on 10 August 1784, the text was almost finished,<sup>75</sup> and Ramsay had commissioned an unknown amanuensis to copy his second draft, making what was possibly a fair copy by incorporating the various changes of the draft of 1782–3 and by the addition of finished drawings of the illustrations he planned to use. Judging from this third copy, now at the University of California, Los Angeles, Ramsay decided in the end not to use the watercolours he had commissioned from Jacob More, which he perhaps planned originally to have converted into engravings. The appearance in 1783 of Jakob Philipp Hackert's ten engravings of the Licenza valley, supplemented (with Ramsay's knowledge and encouragement) by the publication of a map showing the valley, doubtless made Ramsay see that publishing his own views would be superfluous. At pages 55–6, Ramsay added a note in which he mentioned Hackert's ten views and praised his map.

The deliberate pace at which Ramsay let his project develop, despite the enthusiastic encouragement to publish quickly, which he received as early as 1778 from such friends as Boswell, Gibbon, Sir Joshua Reynolds and Samuel Johnson, shows that Ramsay was operating in the careful spirit of a scientist-antiquarian, not that of a self-promoting writer on the make. Of course, this is hardly surprising, since his reputation had already been made by the time he started his project on Horace's Villa.<sup>66</sup>

The diary of Ramsay's son, John (*b* 1768), gives us some precious glimpses into Ramsay's work on the 'Enquiry' from late 1782 to 4 October 1783, when he and his father were living in Rome.<sup>67</sup> Despite Ramsay's failing health,<sup>68</sup> he had enough good days to enable him to make progress on his project. We can easily imagine that he was determined to finish the 'Enquiry' before dying. From the diary, it is clear that Ramsay still had an impressive range of acquaintances among the artists and antiquarians of Rome, including James Byres, Jacob Philip Hackert, Gavin Hamilton, Angelica Kauffman and Jacob More.<sup>69</sup> Unfortunately, our diarist was only a youngster when observing the events and personages he covered, and he had a tendency to write about his father's meetings without conveying anything about their content, giving the reader the impression of watching fascinating encounters behind soundproof glass. Thus, despite John's record of several meetings between Ramsay and More, we have no idea what the two discussed.<sup>69</sup>

Luckily, there are some important exceptions. For example, on 12 February 1783, John and his father 'called upon ... Mr Hackert who showed us several of the drawings he had made near Horace's Villa, all of which he was making prints to which my Father subscrib'd.' Two days later John returned home to find Hackert talking with his father. On 8 April Hackert visited the Ramsays, and John wrote that he showed his father 'the drawings from which he means to make his prints my father assisted him very much in adjusting their titles and motto's.' From 9 April to 27 June the Ramsays travelled south through Albano, Nemi and Velletri to the Pomptine Marshes, Terracina and ultimately to the Bay of Naples. On 1 July, a few days after their return to Rome, Hackert spent an evening with Ramsay, bringing with him 'a map he had made of Horace's country house and the country adjacent' (see Fig.6.3), about which Ramsay wrote in the 'Enquiry'.<sup>70</sup> Ramsay obviously had maps on his mind, for John wrote that on 8 July, 'In coming home we stopped at the Calcografia and bought the map of the Sabine country as also that of Latium by Ametio.' These are the Revillas and Ameti maps to which Ramsay referred several times in the 'Enquiry'. Meanwhile, there are several more visits with Hackert, on 2 and 9 July, and finally, after these preparations, John and his father set out for Tivoli on 17 July.

At this point, John's strengths as a diarist, such as they are, came to the fore, since he and his father then retreated to the countryside more to tour and observe than to socialize and converse. They used Tivoli as a base from which to explore the area up to Licenza, staying at Signor Cochimara's house, where the garden covered the site of the Temple of the Sibyl – 'the most beautiful elegant thing I ever saw,' wrote John. Work related to the 'Enquiry' began in earnest on 30 July; John described the day as follows:

Set off from Tivoli at 7. The country all the way betwixt Tivoli and Vico Varo is very picturesque the road being all by the side of the Anio whose banks are famous for their beauty. Arrived at Vico Varo at 10. Went to Sig.a Camilla whose house we found in a very quiet disorder. ... Went to the Villa Bolognetti where I copied some inscriptions and particularly that one of Abbé Chaupy in which [is indicated] the situation of the ancient town of Mandela. Dined at 2. At 4, we ordered the chaise & went to San Cosimato a convent in a most charming picturesque situation. From it you have a very fine view taking in Licenza, Cantalupo, Vico Varo, Castel Madama &c. From there, we came home straight to Tivoli ... Arrived at Tivoli at 8.

A few days later, on 4 August, the Ramsays and a fellow hotel guest whom John calls 'the Frenchman',<sup>12</sup> and some *ciceroni* set off on asses for Vico Varo at three o'clock in the morning. They reached the town in time for breakfast. John continued:

I went to the Arciprete who gave me a letter of recommendation to the Arciprete of Rocca Giovane. Travelling for almost an hour in the most delightful country we arrived at Licenza where we found that my father could get good lodgings at the Arciprete's. From thence we set out for Rocca Giovane. Rocca Giovane is situated upon the top of a high rock to which the ascent and descent is very difficult. The arciprete of Rocca Giovane told us that this town was so miserably poor; that there were not a house that had a window in it; that it was utterly impossible to find a lodging of any sort. Going out of the gate of Rocca Giovane I copied an inscription which said that Vespasian had restored the temple of Victory which was going to ruin. Set out from Rocca Giovane at 11. Arrived at Sig.a Camilla's at Vico Varo about 12. Dined at 1. After dinner we took a walk about the town in which there is nothing very remarkable ... Set off from Vico Varo at 5 ... Arrived at Tivoli at 8.

The purpose of this visit appears to have been to find a place to lodge near Horace's Villa and to record the Victory inscription (*CIL* xiv.3485) in the town. Having failed to find a place to stay, the Ramsays returned to Tivoli, presumably somewhat disappointed. In the days that followed, John Ramsay took short trips in the Tivoli area, visiting the villa of Quintilius Varus, the Lago della Solfatara (that is, Bagni di Tivoli), and churches in Tivoli itself. John sat for his portrait, which his father worked on for several hours at a time over a period of several days. Ramsay père remained in his room, reading and making sketches of the landscape. Finally, on 18 August, the Ramsays returned to Rome. On 22 August Allan Ramsay received a letter from Count Orsini giving him permission to use the palace at Licenza, and by the next day he had returned to Tivoli with his son. By the 27th, the Ramsays were settled in the Orsini Palace in Licenza. John wrote:

Arrived at Licenza about 9 where we got very good lodgings in the Palace of Count Orsini out of each of the windows we had a most beautiful view of the valley of Licenza which reached down to San Cosimato & of Horace's country house which was just under our windows. The arciprete & Sig. Antonio dined with us. After dinner we went all together to see Horace's country house of which there is very few remains. They dug for us and opened us up a piece of marble which was in this form [here follows in the manuscript a drawing of the arrowhead mosaic in Lugli room G1; see Fig.5.8 below]. Near this there is a great piece of antient wall. From thence we went up to the Cascada which is a little artificial fountain pretty enough. Came home at 7.

On the next day, John read de Sanctis's *Dissertazione* to his father, undoubtedly to refresh his memory, since Ramsay already shows familiarity with the book in the 1777 manuscript of the 'Enquiry'. On the 29th the Ramsays went to the Fonte Ratini, where they drank the water 'with a great zeal and found it to be most excellent water tho' very cold'. Next, they visited the little church between Horace's Villa and Rocca Giovine known as S. Maria delle Case. After having a 'pleasant repast' at Rocca Giovine, the Ramsays returned to Licenza. On 31 August the Ramsays went to Percile, where Ramsay *père* wished to see 'Theresa a young girl of Licenza married to the surgeon of Percile and who had been the companion of my sister Amelia when she was in this country. She was exceedingly happy to see my father again and inquired a great deal about my sister.' This recalls the ending of the 'Enquiry', where Ramsay, after making a rather disparaging remark about the superstitiousness of the 'country people' of Licenza, concluded by saying of them:

they seem to be of the same stamp with those who, according to the poets and historians, inhabited that country in the days of Numa Pompilius, with the same laborious manner of living, the same contented poverty, and the same innocence; so that when my wife, my daughter Amelia, and I took our leave of them upon the 28 of June, 1777, we did it with much regret.<sup>65</sup>

For the next twelve days, Allan Ramsay seems to have stayed in the town of Licenza, continuing his work on the portrait of his son, who read to him from Cellini's autobiography in the evenings. It is a fair guess that he also worked on the text of the 'Enquiry'. Meanwhile, John Ramsay explored the area, taking walks to Colle Franco, Riocupo, Percile etc. On 7 September the mysterious Frenchman came to Licenza from Tivoli, paying the Ramsays a visit and being shown Horace's Villa by John. Allan Ramsay felt strong enough on the 12th to travel in his chaise to Colle Franco to see the view of Horace's Villa visible from that vantage point. He also visited the local apothecary, who had an ancient seal found at Horace's Villa, which close inspection showed to be Christian. The next day, Ramsay *père* travelled by chaise to Civitella. By the 14th, the Ramsays felt that they had completed their researches in the Licenza area and started their return to Rome via Vicovaro and Tivoli.

Ramsay lived almost one more year before dying on 10 August 1784 at Dover, where he had sailed in order to be reunited with his daughter Amelia, who had returned to England from Bermuda, where her husband was stationed. At the time of his death, his manuscript of the 'Enquiry' was all but complete. It is to an assessment of this that we now turn.

Ramsay's account of previous work on the situation of Horace's villa is solid and reliable. He knew the work of his predecessors, omitting only two of any importance.<sup>66</sup> He was *au courant* about the recent publications on the site by de Sanctis and De Chaupy, though he never showed awareness of the driving force behind their researches, the shadowy Baron de Saint'Odile. He even consulted an unpublished manuscript by the Vicovaro notary, Abate

Giuseppe Petrocchi.<sup>85</sup> In treating the work of previous scholars, he was fair and balanced, just as likely to assign praise as blame. After the nasty and absurd battle that had broken out in the previous decade between de Sanctis and De Chaupy, Ramsay's dispassionate objectivity is a welcome relief. For example, although he criticized De Chaupy for the incorrect orientation of his map and other errors,<sup>86</sup> he praised the abbé for his work in identifying the Fons Bandusia near Horace's birthplace of Venusia (Venosa) and for his publication of an inscription important for locating the ancient site of Mandela.<sup>87</sup>

In method, Ramsay showed himself to be firmly committed to empiricism and autopsy. For centuries, he believed, scholars had fallen into error because they allowed their prejudices or 'prepossessions' to dictate their beliefs about Horace's Sabinum.<sup>88</sup> This was as true of the ancient commentators (or, 'scholiasts') as of contemporaries such as De Chaupy. Thus, writing about the latter, he stated, 'but in [the map] of the Valley of Licenza drawn by Abbé De Chaupy ... the good Abbé has suffered his pencil to be guided rather by his prepossessions than his eyesight and has moved heaven and earth in order to make the actual situation of things correspond with what he believed to be Horace's description of them.'<sup>89</sup> Similarly, he penned the following complaint against one of the ancient commentators on Horace's poetry:

But here our Scholiast is of very little authority, as he appears to have no knowledge of the place [ie, Ustica; cf. *Odes* 1.17.11] or its circumstances beyond what he had picked up from passages of Horace and Virgil, which were they sufficient, lie at this time as open to us moderns as to him. ... The best commentary upon this passage in Horace is to be found in the present Valley of Licenza.

It should be noted that Ramsay was prepared for just such an attack on ancient and modern authorities by papers printed by the Society of Antiquaries in the 1770s. In 1770, Smart Lethieullier published a letter showing that Stukeley's speculative reconstruction of the route of the Icening-street between Newbury and Old Sarum was fanciful. In 1772 Daines Barrington argued that Caesar was mistaken in identifying the Medway River as the Thames. Thus, in questioning the authority of the scholiast and in suspecting that his identification of Ustica is an unreliable back-formation from the poetry, Ramsay was a product of his age. This form of criticism has gathered strength in recent years, anticipating the trend to doubt the veracity of many of the biographical details reported by the scholiasts.<sup>90</sup>

For Ramsay, the corrective to such prepossession was accurate observation of the 'present Valley of Licenza.' He encouraged the successful engraver Jacob Philipp Hackert to prepare a new map of the valley (see Fig.6.2), and he struggled through various attempts to identify the site of Ustica by reconciling Horace's descriptive passages about the place with several possible hills in area. We can follow Ramsay's mind at work in the 1777 version of the 'Enquiry' in the National Library of Scotland, wherein his first idea was that 'perhaps Ustica might have been the name anciently given to the sloping ground to the west of Licenza'. But a moment's reflection told

him that this spot did not particularly correspond to Horace's description, and so he crossed out this passage and wrote: 'To say the truth, there is nothing in the appearance of this piece of ground that is very distinguishing, or deserving of any epithet at all, and Horace's *curiosa felicitas* in the choice of his terms ought to make us suspect that none of them are employed idly.'<sup>91</sup>

So Ramsay had second thoughts about equating the slope to the west of the town of Licenza with Ustica, and he set off in a new direction, trying to find a feature that could fairly be described in the words Horace uses in *Odes* 1.17 as being *cubans* ('reclining') and as having *levia saxa* ('smooth rocks'):

What if the present Rocca Giovane was the ancient Ustica? It is a singular situation to which the word *cubans* and *levia Saxa* will very well apply. For here is a village built upon the top of a bare rock in most places perpendicular [see Pl.VIII]. The whole of this rock lies in a hollow, shaped like a cradle, and on every side, except to the east, is surrounded by ground higher than itself; particularly to the west. All this is in the straight part which gives entrance into the Valley, and one afternoon in my return from Horace's farm, I had occasion to hear a remarkable echo in this place, by one country man bawling to another, on the other side of the Digentia.

But Ramsay was not satisfied with this conjecture, and so he again cancelled his text, writing instead: 'Some inscription may be hereafter found, or some charters of the neighbouring lands, able to give us light into this matter; in the mean time it would be shutting the door against future discoveries if we were to mention things as certain, which have no better support than loose conjectures.' Ramsay knew that others would rely on his accuracy of thought and observation and that if he put forward an identification as certain that was merely speculative, it might 'shut the door against future discoveries'. Moreover, if documentary evidence should emerge from which the location of Ustica could be inferred, and if his guess was wrong, then he would open himself to the kind of criticism that Stukeley had to endure from his critics.

In 1777, then, Ramsay decided to play it safe, noting that Horace's Valley of Ustica could not be securely identified and that his readers should be so apprised. But, as the final draft of 1783 shows, Ramsay continued to ponder the question, and in the end decided that he was on the right track in his initial supposition but had wrongly limited his survey to the western slope of the hill of Licenza. Thus, in the final draft, he wrote:

In reading the words *levia saxia* which resounded with the pipe, I had, all my life, formed an idea of living rocks of considerable magnitude; which by the help of valleys, or recesses, adjoining to them performed this mimic function. Accordingly upon coming into the middle of the Valley of Licenza I looked about for some place which might correspond to the image I had formed in my mind and soon observed at the north end of the valley some rocky ground, and particularly one rock, perpendicular on the east side, upon which is built the little village called Licenza ... I observed likewise other deep recesses to the west of this rock and was satisfied that this rock was the Ustica, and these recesses the valleys mentioned in the ode, as uniting to produce the echo.

With regard to the *Usticae cubantis*, the old Scholiast does not seem to have accurately performed his function of grammarian in assigning the same meaning to *jacens* and *cubans*, as the one means in the best authors 'lying', and the other 'reclining'. The epithet of 'reclining' may tolerably well suit the hill of Licenza which

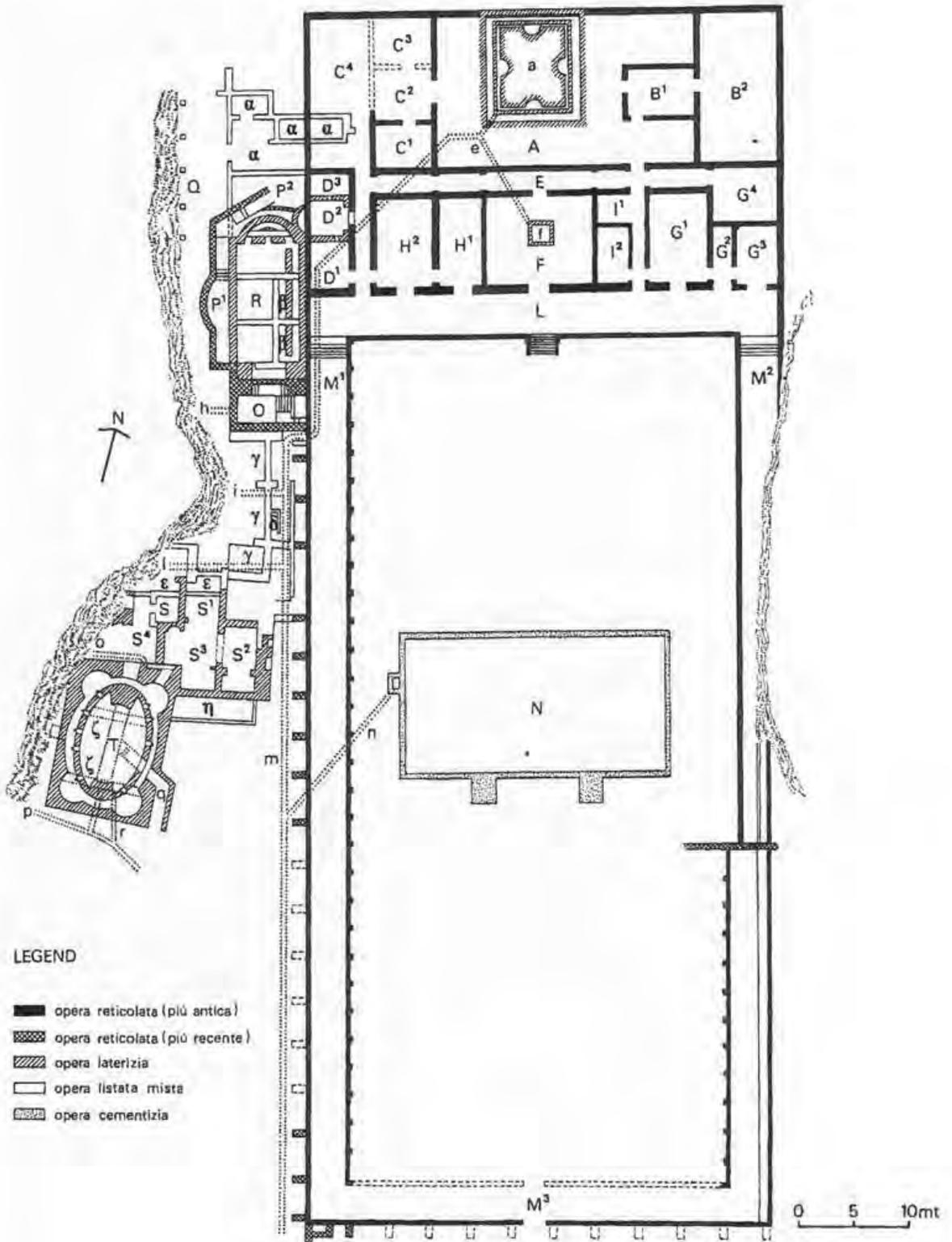
5.8. Plan of Horace's Villa, from G. Lugli, 'La villa sabina', 1926

slopes all the way to the top on that side which looks towards Horace's house; and the whole hill, though high with respect to the plain, is low with respect to the hills behind, and on each side of it, to a degree that will surprise any one who views it from Civitella.<sup>93</sup>

Ramsay's ultimate solution to the puzzle of where Ustica was located may not be completely compatible with the one immediately preceding it, but we must at least grant that Ramsay did not present the identification as unproblematically as he did in his first suggestion or as speculatively as he did in his third idea. In navigating between the overly optimistic speculation of Stukeley and the overly cautious empiricism of Folkes, Ramsay may even have hit upon the correct solution, since two important twentieth-century topographers have independently arrived at the same conclusion: that Ustica is the hill on which the town of Licenza sits.<sup>94</sup> The key factor enabling Ramsay to reach the solution of 1783 was his autopsy of the Licenza valley from the top of Civitella, which he first visited on 13 September 1783, just when he was writing the final passage.<sup>95</sup> Observing Ramsay struggling to identify Ustica, we are reminded of Hume's 'doctrine of belief': 'the sentiment of belief is nothing but a conception more intense and steady than what attends the mere fictions of the imagination, and ... this manner of conception arises from a customary conjunction of the object with something present to the memory or senses'.<sup>96</sup>

Ramsay's methods included excavation, at least to a modest extent. He recorded two specific dates on which he had the country people dig in the Vigne di San Pietro to expose a mosaic in the room labelled G<sub>1</sub> on Lugli's plan of 1926 (Fig. 5.8).<sup>97</sup> Although on the first occasion, 27 June 1773, he incorrectly inferred from the layout of the mosaic that the building of which it was a part was orientated to the cardinal points of the compass (it is actually oriented NW-SE), Ramsay was right to attempt to raise this issue. He also tells us that he had 'at other times been shown parts of this mosaic composed of flowering foliages'. The mosaic in room G<sub>1</sub> was completely exposed in Pasqui's excavations of 1911-14, and it cannot be described as having 'flowering foliages'. Some of the nearby rooms and passageways are lacking a pavement. Perhaps what Ramsay saw (but, unfortunately, did not draw) was part of a mosaic in one of these other parts of the building. Be that as it may, Ramsay gave no sign of planning to undertake large-scale excavations of the site; nor did he show any of Thomas Jefferson's grasp of how stratigraphy could be used to illuminate the history of a site. When Bernardo Pomfili, a local farmer, brought to Ramsay's attention the remains of *cubilia* in his field,<sup>98</sup> Ramsay did not bother to dig the site but was satisfied to indulge in some speculation that the gatehouse to Horace's Villa might have been located there. His goal in writing the 'Enquiry' appears to have been simply to provide a stimulus for someone else to undertake the task of thoroughly digging and publishing the villa.

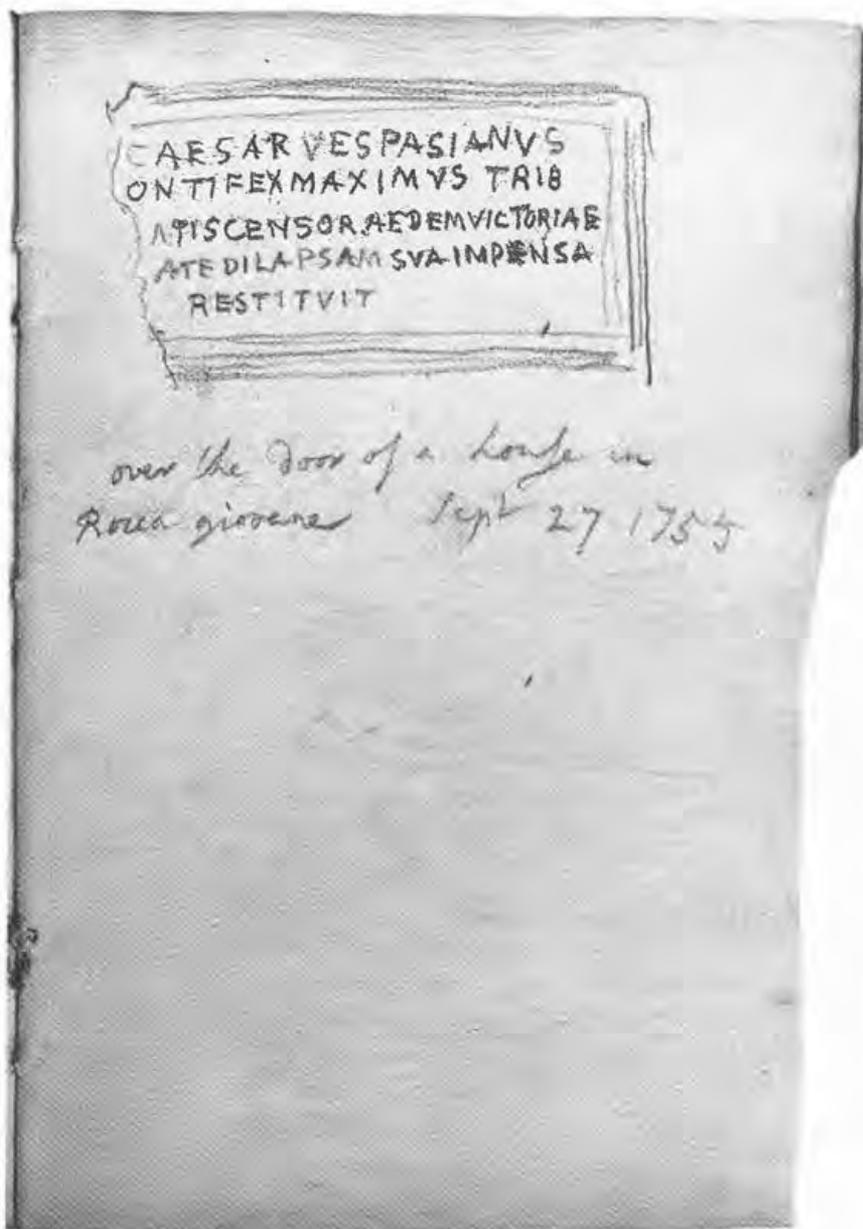
Turning from Ramsay's method to his results, the first thing to note is that he raised some issues that were far ahead of his time. This is, doubtless, not because he was farsighted but because he had a Stukeleyan breadth of vision



of the scope of antiquarian research, which went far beyond the quantitative aspects of a monument to its real-life uses and its cultural significance. Like recent scholars, for example, he wondered about the size of the estate, speculating that it was very large.<sup>98</sup> He had a panoramic view of the history of the property, differentiating the various ancient periods from each other, antiquity from the Middle Ages, and the Middle Ages from his own day. He realized that understanding the Horatian phase of the site required peeling away layers from his day back to the first occupation of the area. His ideas about dating the various phases have held up remarkably well, considering how slight the evidence was on which they were based. For example, he was right to conjecture a major rebuilding in the mid imperial period, though he was wrong in identifying the person responsible as Sextus Afranius Burrus.<sup>99</sup> He was also probably correct in imagining that the property was donated by Constantine to the church of St Peter and Marcellinus, remaining largely in Church hands until his own day.<sup>100</sup> Among students of Horace's Villa to the present day, he is unique in wondering how often and at what times of the year Horace used the place.<sup>101</sup>

Also quite progressive is Ramsay's survey of the ancient remains all around the Licenza valley. He was interested not only in standard questions such as the identification of Horatian place names, but also in such new problems as whether Horace had any neighbours and, if so, where their properties might be located. In giving the results of his survey, he reported finds not otherwise known, such as an inscription on an altar at the door of a peasant in Licenza.<sup>102</sup>

Ramsay's sympathy for the country people enabled him to track down places and objects that other investigators missed, perhaps because they did not stay at Licenza as long as he did and because they were not nearly so open to intercourse with the uneducated inhabitants of the valley. Bernardo Pomfili (whom Ramsay familiarly calls 'Bernardo') showed him the ruins of an important structure in *opus reticulatum* on his land not far from the villa site.<sup>103</sup> Ramsay's informant thought that the *cubilia* on his land were used as pavement for a road, but Ramsay perceptively noted that the Romans never used this construction technique for laying causeways. He was quite right, too, to ponder the still unresolved question of how the villa site was reached by a *diverticulum* from the main Roman road through the valley. Another man in Rocca Giovine invited Ramsay into his house to see a missing piece of the Victory inscription over the door (Fig. 5.9), and Ramsay went beyond previous students of the inscription by probing the circumstances that may have surrounded Vespasian's restoration of the temple of the goddess.<sup>104</sup> Other natives told him about various place names (Il Sainese, Il Pomario etc) that gave him leads (albeit possibly false) about the ancient identity of the areas.<sup>105</sup> At least once he appeared to have misunderstood what his informants told him when he reported the find of a 'marble chariot' instead of 'a cartload full of marble', though in general his Italian was quite good.<sup>106</sup> Ramsay's most significant discovery was the mosaic in room G1 on the Lugli plan. It is easy to imagine that it was Ramsay's interest in the inhabitants of



5.9. The so-called Victory inscription from Roccagiovine, sketched by Ramsay in 1755

the Licenza valley that enabled him to be the first scholar on record to see this pavement; in his description of how he came to view the mosaic, he wrote as though it had long been known to 'the master of the vineyard' and did not imply that it was found through his own independent efforts.<sup>107</sup> Even if we might wish that Ramsay had dug more extensively on the site, he must be praised for garnering as much information as possible from local peasants. Here, Ramsay looks forward to the Romantic antiquarians of the nineteenth century.<sup>108</sup>

5.10 Autograph page from Ramsay's 'Enquiry', recording *opus reticulatum* wall facing and individual *cubilia*, from the version in the National Library of Scotland

Of course, for all his virtues, Ramsay suffered both from the general limitations of his age and from his own personal shortcomings. While he was generally effective in linking Horace's descriptions of places in the valley to likely sites on the map, he sometimes went too far, as when he thought he could find the spot mentioned in *Odes* 3.18, where 'the peasants play / on the grassy-matted soil, / round their oxen, free from toil.'<sup>109</sup> His description of the villa site as covered with 'thousands of stones' is precious, but even more valuable would have been various views of the site. The one long view he made from a window in the Orsini Palace is, for its time, uniquely informative but cannot substitute for a series of close-ups in and around the Vigne di San Pietro.<sup>110</sup> Likewise, we are grateful for his illustrations of the mosaic in room G1 but wish he had also left a drawing of the apothecary's Christian seal or of the mosaic, now vanished and never otherwise recorded, with 'flowering foliage.'<sup>111</sup> Undoubtedly, the poor state of his health – particularly during his last visit to the site – prevented him from making as many illustrations as he might have liked.

Ramsay's sense of the topography of the valley was very strong and reliable, but he too blithely assumed an uninterrupted continuity from antiquity to his own day. For example, he thought that the modern place name 'Il Pomario' marked the spot of Horace's garden, and he believed that 'La Romana' applied to the site of an ancient Roman structure.<sup>112</sup> In the last example, he may be faulted for violating his own principle of autopsy, since he relied on the hearsay of the country people for the report that there were ancient walls on the site. In general, when he most went astray it was because he digressed or neglected his own policy of sceptical enquiry.<sup>113</sup>

Nevertheless, Ramsay's strengths outweigh his weaknesses. What most differentiates him from many of his contemporary antiquarians in Italy is the honesty with which he conducted his research and the purely scientific aims that he pursued.<sup>114</sup> He viewed digging as a tool for ascertaining the truth of archaeological conjecture, not as a means of finding treasure that could be sold for self-enrichment. Indeed, he realized that excavation undertaken on behalf of the advancement of knowledge will certainly cost more money than it will return. But, whatever the costs, Ramsay knew from personal experience that digging would bring sufficient satisfaction to 'men of classical curiosity' to justify the expense.<sup>115</sup>

Ramsay's plan for an extensive excavation of the Vigne de San Pietro site took over a century to be realized. Throughout most of the nineteenth century, the Licenza site was unquestioningly accepted as Horace's in the guidebooks,<sup>116</sup> but it was occasionally challenged by scholars.<sup>117</sup> In 1891 Mazzoleni published a magisterial article re-arguing the case in favour of the site in the Vigne de San Pietro, and after repeated official requests by the town of Licenza to the government in Rome, the first scientific excavations were undertaken from 1911 to 1914 by Angiolo Pasqui on behalf of the Ministry for Public Instruction. Pasqui died before completing his work, and in 1926 his preliminary results were published by Giuseppe Lugli,<sup>118</sup> who was to become

been of consequence, for, seeing that Horace's <sup>41</sup> 55  
ground extended at least so far South, and the  
more conclusive that at the remains of the Ville  
itself, which is about three quarters of a mile off, there  
are thousands of Stone to be gathered exactly formed  
like this opus reticulatum pavement, but as these Stones  
are prepared for Route workings, like those made use of in  
the opus reticulatum, to be found in the Mausoleum  
of Augustus, and almost all the Buildings of the first  
Emperors as far down as Trajan, thus,



We must suspend our belief concerning the alleged  
pavement till it is actually <sup>uniquely</sup> seen in its unbroken  
state.

habebatur quinque fores

Et quinque bonos solitum Variam demittere patens.

Here Horace means to show his Villians that his  
farm could not be very contemptible, as it had been sufficient  
for the maintenance of five families of distinction. In the  
common editions the above-mentioned town is called Isavia  
by a change very usual in the Roman times of the same Empire.  
The inscriptions of which often present us with BIXIT and  
SE BISO instead of Vicit and Servicos, but Dr Bentley  
gives us Variam upon the authority of the most ancient  
manuscripts. It is now called Vico Vero, standing upon

one of the twentieth century's leading scholars of Roman topography. In 1930–31, Thomas Drees Price, a Fellow in Landscape Architecture at the American Academy in Rome, reopened the excavations in collaboration with Lugli, continuing work on the east side of the quadriporticus where Pasqui had stopped digging fifteen years earlier.<sup>119</sup>

By 1932 the foundations of the villa on the San Pietro site had largely been revealed. The core of the site was a structure orientated NW–SE and measuring c.110 x 40 m. The structure consisted of three parts (Fig. 5.8): a two-storey residence to the north, with an atrium and peristyle and well-preserved floor mosaics in several rooms; a garden and quadriporticus to the south; and a bath complex to the west. Four phases were identified but only vaguely dated to the pre-Horatian period, the Horatian period, the mid imperial period and the early medieval period. The significant remains from the site were placed in a local museum in the Palazzo Orsini in Licenza. These included some statuary from the quadriporticus, statuettes from the residence, and wall painting dating to various building phases from an undetermined part of the complex. No hard evidence was found proving or disproving the identification of the site as Horace's. Occasional archaeological surveys of the Licenza valley have found no other villa occupied during Horace's lifetime, and so the latest authority agrees that, *faute de mieux*, it is probable that the San Pietro site was the one owned by Horace.<sup>120</sup>

## Notes

1. On the creation of the journal, see J. Evans, *Society of Antiquaries*, 1956, pp.134–47.
2. On Stukeley see S. Piggott, *William Stukeley*, 1985; on Martin Folkes and his quarrel with Stukeley, see *ibid.*, pp.115–17, and Evans, *loc. cit.*, pp.91–2, 126 (citing Stukeley's diary entry on the death of Martin Folkes in 1754, that 'most miserable object of dereliction').
3. A. Smart, *Allan Ramsay*, 1992, p.30.
4. M. Folkes, 'Trajan and Antonine Pillars', 1770, p.130.
5. W. Stukeley, 'Sanctuary at Westminster', 1770, p.47.
6. *ibid.*, p.44.
7. On archaeological illustration, see S. Piggott, *Antiquity Depicted*, 1978.
8. J. A. Passmore, *Hume's Intentions*, 1952, p.159.
9. The term 'enquiry' appears only once in a title in *Archaeologia* during the period 1770–80, when over 175 articles were published. On Ramsay's close personal and intellectual relationship with Hume, see D. Macmillan, *Scottish Art*, p.104.
10. 'Enquiry', pp.65–6 (Ramsay's manuscript pagination, here and elsewhere).
11. For the identification of these scholars, see pp.152–3 below, notes 3, 4, 5 and 7.
12. See R. Almagià, *L'opera geografica*, 1942.
13. See L. Holstenius, *Annotiones*, 1666, p.106. On this page, Holstenius equates modern Rocca Giovine with the Fanum Vacunae and the hilltown of Licenza with Digentia, both places stated by Horace to be near his villa (cf. *Epistles* 1.10.49 [Vacuna] and 1.18.104 [Digentia]). Holstenius does not explicitly discuss Horace's Villa.
14. For recent years, cf. F. Coarelli, *Lazio*, 1984, pp.109–13; Z. Mari, 'La valle del Licenza', 1994, pp.66–8; E. A. Schmidt, *Sabinum*, 1997.
15. Bentley's; cf. 'Enquiry', p.22 ('Doctor Bentley, whose text I generally follow') and p.6 ('I shall therefore, according to the order in which they commonly stand in Horace's works, select all those passages which relate to his farm, accompanying them with such explanations and remarks as my reading upon the subject, and my attentive inspection of the ground itself have enabled me to make').

16. Scholars had begun working out the chronology of Horace's poems before Ramsay wrote the 'Enquiry'; see A. Dacier, *Oeuvres d'Horace*, 1733; J. Masson, *Q. Horatii Flacci Vita*, 1708.
17. See, for example, 'Enquiry', p.47: 'Following the Colle Franchisi, or Francolisi, westward, up the Lucretilis, and along the north side of the Fossa Sainese, this ground has the name 'Il Sainese,' that is the Sabinenses, as I learnt from several of the country people'; and p.60: 'The Digentia anciently divided the Sabina from the country of the Marsi, and the country people to this day call part of the ground on the west side of it the Sainese, that is the Sabinensis.'
18. The exception to this comes at p.59 in his discussion of *Epistles* I. 16, where he writes, 'Upon a general review of this Epistle, I suspect that it has come down to us mutilated and confused, and very different from what it was when sent out by Horace to his friend, if ever it was sent. He begins it with a number of questions concerning the produce of his farm, all which he promises to answer *loquaciter* or in a very particular manner. But we look in vain for those answers, and after sixteen lines of general and desultory hints, fall all at once into a string of moral precepts, very good in themselves, and very much in the spirit of Horace, but as little connected with one another, as with the proposed subject of the epistle. The whole is probably made up of memorandums left unfinished at the author's death, or of fragments of his finished works picked up afterwards by his admirers, and stuck together in the best way they could.'
19. cf. G. di Gastaldi, *I nomi antichi*, 1564, in which over 300 ancient places in Italy are listed with their sixteenth-century Italian equivalents.
20. I omit mention of the *Fons Bandusiae* (*Odes* 3.13), which may not have been near Horace's Villa.
21. For the tradition linking the Convent of St Antonio in Tivoli with Horace, see A. Del Re, *Dell'antichità tiburtina*, 1611, p.116; J. Landucci, *Voyage de Rome*, 1792, p.45. The most recent study of the subject is G. D'Anna, 'E veramente esistita', 1994, who argues that Horace had only the Licenza villa until c.17 BC, when he seems to have come into possession of a property at Tivoli. For the popular tradition of the villa of Horace near Vicovaro (in the area called San Giovanni in Camporaccio), see L. Torrentius, *Q. Horatius Flaccus*, 1608, p.679: 'Atque adeo nunc quoque inter Tibur et Praeneste locus est non incelebris, qui Italis Vicovaro appellatur: quo fit, ut facilius credam Horatii villam ad octavum ultra Tibur lapidem fuisse ... Quin et incolas affirmantes audivi, extare adhuc eius vestigia in campo, quem hodieque Horatium vocant' ('and now there is a place, not unknown, between Tivoli and Palestrina, which the Italians call Vicovaro, where [as I can easily believe] the villa of Horace was located near the eighth milestone beyond Tivoli ... Indeed, I have heard the inhabitants state that there are still remains of it in a field that today is called 'Camporaccio'). Cf. also 'Mr T—' in J. Spence, *Observations*, 1966, vol.2, p.674 (no.34): 'Horace's villa was in the hilly country of the Sabines, not far from Vicovari.' I am indebted to Iain Gordon Brown for this reference. As for Licenza, when in 1755 Allan Ramsay, the first visitor in modern times to record his visit to the Licenza site, turned up in the area asking to be taken to the Fons Blandusiae, he was immediately taken by a country man to a spring in the vicinity of the town, which must have been known to him and others for quite some time; see Ramsay's letter to Sir Alexander Dick, *NAS* GD331/5/18, and I.G. Brown, *Poet and Painter*, 1984, p.39.
22. See F. Biondo, *De Roma*, 1527; see also p.100 above, note 3.
23. J. Cruquius, *Q. Horatius Flaccus*, 1579.
24. L. Holstenius, *Annotiones*, 1666; see also p.152 below, note 7.
25. I. Mattei, *Nuova ed esatta tavola*, 1674, on which see A.P. Frutaz, *Le carte del Lazio*, 1972, vol.2, tav. 157 (xxx.2 b); G. F. Ameti and D. de Rossi, *Il Lazio*, 1693, on which see Frutaz, loc. cit., vol.1, p.xxvii, vol. 2, map xxxiii.2.
26. R. Fabretti, *De Aquis*, 1680.
27. Cluverius emended the text of Strabo, *Geography* 5.3.11, from Valeria to Varia.
28. *CIL* xiv.3485.
29. See Porphyrio and Ps.-Acro on Horace's *Epistles* 1.10.49 (quoted in Ramsay's 'Enquiry', p.42).
30. See *CIL* 1.1844=*CIL*x.4636=*ILS* 3484; *CIL* ix.4751=*ILS* 3486; *CIL* ix.4752=*ILS* 3485; *ILS* 9248; *L'Année Epigraphique*, 1907, no.212; 1981, no.199; 1990, no.332.
31. R. Fabretti, *De Aquis*, 1680, in his third map bound before p.3, puts Licenza and Cantalupo on the wrong sides of the Licenza River; I. Mattei, *Nuova ed esatta tavola*, 1666, has Percile and Civitella in the wrong places with respect to Licenza; and although he puts the Fons Blandusiae near Licenza, he (like Ameti, following his lead) puts Ustica and the Villa Horatii too close to Palombara Sabina. A. Kircher, *Latium*, 1669, and G.F. Ameti and D. de Rossi, *Il Lazio*, 1693, put Rocca Giovine north of Licenza, an error that can be traced to Pirro Ligorio's 1551 map, which was the first map of Latium to include the Licenza Valley.
32. On Revillas see M. Pedley, 'Diego de Revillas', 1991; A.P. Frutaz, *Le carte del Lazio*, 1972, vol.1, pp.xxix-xxx.
33. Ramsay's map can be linked to Revillas's through a number of features the two share that are not common on other eighteenth-century maps. These include the Rio Cupo south of Rocca Giovine; Casal Questione at the junction of the Rio Cupo and the Licenza River; and 'La Villa

- diruta' on the east side of the valley. Ramsay wrote an account of the trip in a letter to Sir Alexander Dick; above, note 21.
34. A. P. Frutaz, *Le carte del Lazio*, vol. 1, pp. xxix–xxx, 90–92; *ibid.*, vol. 2, carta XL c; M. Pedley, 'I due valentuomini', 1993.
  35. Maire and Boscovich, *Carta geografica*, 1769 (whose map is at a scale of c. 1:100,000), place Licenza 0° 29' east of Monte Mario, while the I.G.M. map of 1940 puts it 27' east of Monte Mario; Maire and Boscovich place Licenza at about 42° 4' of latitude, not far different from the 42° 4' 3" of the I.G.M. map.
  36. See Ramsay, 'Enquiry', p. 54.
  37. C. De Chaupy, *Découverte de la maison*, 1767–9, vol. 1, p. xxxvii, reported that he was told that the first visitors to Licenza in living memory were two Englishmen who arrived in 1755. George Nicolaus Heerkens, a Dutch physician and poet, states in a book published in 1765 that he visited Licenza during the pontificate of Benedict XIV (d. 1758). Heerkens is vague about the exact date of his visit, stating only that he arrived in Rome in the first days of December of a year he does not mention. His dedication, on the other hand, is dated to 14 November 1755, but this is an oddly early date for a book not published for ten years and may represent a typographical error. On Lumisden's visit, see A. Lumisden, 'Letter to John MacGouan', 1765; on his and Boswell's visit see also pp. 16–17 above. I am indebted to Iain Gordon Brown for this reference.
  38. For an overview see C. Pietrangeli, *Scavi e scoperti*, 1983.
  39. cf. Erdmannsdorf's diary for 3 April 1766 in J. J. Winkelmann, *Briefe*, 1957, p. 246; also Erdmannsdorf's letter to Huber dated 3 April 1766, *ibid.*, p. 255.
  40. See G. Vichi, *Gli Arcadi*, 1977.
  41. D. de Sanctis, *Dissertazione*, 1784, p. ix.
  42. See B. Frischer, 'First Excavation of Horace's Villa', 1998.
  43. On Saint'Odile's birth name see R. B. Litchfield, *Emergence of a Bureaucracy*, 1986, p. 268. In eighteenth-century sources and in modern scholarship his name is spelled variously as Sainte-Odile, S. Odill, Saint-Odile, St. Odil, St. Audil, Saint-Odill, di Santedille, Saint Odyle, Santodile, Sant'Odile.
  44. Archivio di Stato Firenze, Fondo Affari Esteri, Filza 2284, in a dispatch to Count Piccolomini dated 31 July 1773.
  45. On Saint'Odile's trip up the Anio Valley to Ancona, see the dispatches to the Council of the Regency sent in October 1757 by Saint'Odile's secretary, Antonio Valentini, in Archivio di Stato Firenze, Fondo Affari Esteri, Filza 2278.
  46. See G. C. Moroni, *Dizionario*, 1846, vol. 36, p. 195. For Del'Isle's map see G. Del'Isle, *Tabula Italiae*, 1711, on which cf. A. P. Frutaz, *Le carte del Lazio*, 1972, vol. 1, pp. 81–2.
  47. Frutaz, *op. cit.*
  48. D. de Sanctis, *Dissertazione*, 1761, p. 43.
  49. On the Abbé Capmartin De Chaupy, see *Biographie universelle*, vol. 8, pp. 45–6; E. Galletier, 'L'Abbé Capmartin de Chaupy', 1935; N. Mathieu, 'Capmartin de Chaupy', 1987.
  50. J. J. La Lande, *Voyage d'un François*, 1769, vol. 5, pp. 385–6.
  51. C. De Chaupy, *Découverte de la maison*, 1767–9, vol. 3, p. 249.
  52. *ibid.*, vol. 1, p. xxxix. The earliest de Sanctis's book could have been printed *is* after he received permission from the Holy Office to publish it on 18 April 1761 (p. [v]).
  53. The preface to de Sanctis's third printing of his book in 1784 makes the date of early 1761 more probable, since there (at p. x) we read of De Chaupy that he 'accidentalmente con un Personaggio di qualche rango capitò nel 1761 in Vicovaro.' The 'Personaggio di qualche rango' was presumably Saint'Odile.
  54. De Chaupy, *op. cit.*, vol. 3, pp. 10, 352–4.
  55. *ibid.*, pp. 356–7. The inscriptions are *CIL* xiv.3487 and xv.3897b. For the story about the Archpriest, see Ramsay, 'Enquiry', p. 39, note. De Chaupy, *op. cit.*, vol. 3, p. 10, confirms Ramsay's statement that the fragments inscribed with Burrus' name were entrusted to the local priest.
  56. Cited in I. G. Brown, *Monumental Reputation*, 1992, p. 11.
  57. One may compare Saint'Odile's similar failure in 1769 to obtain a licence to export the Niobe group and Apollino from the Villa Medici to Florence. M. Maugeri, 'Il trasferimento a Firenze', speculates that this failure resulted from the Baron's unsuccessful attempt to export the statues through legal means and his resort to corrupting the relevant authorities. On Papal edicts concerning excavation permits in the eighteenth century, see A. Emiliani, *Leggi*, 1996, pp. 66–83.
  58. *Dissertazione*, p. 44.

59. *ibid.*, p.62.
60. See the brief but pertinent remarks of I. Bignamini and I. Jenkins, 'The Antique', 1996 (with bibliography).
61. See B. Frischer, 'First Excavation of Horace's Villa', 1998, p.287.
62. 'Enquiry', p.5.
63. See J. Wilton-Ely, *Piranesi: The Complete Etchings*, 1994, vol.2, p.890 (no.817); H. Lavagne, 'Piranesi', 1985, p.267). I am indebted to Iain Gordon Brown for bringing Piranesi's joke to my attention.
64. cf. J. Wilton-Ely, *Piranesi as Architect*, 1993, pp.35–61.
65. See A. Monferini, 'Piranesi e Boltari', 1985.
66. See B. Frischer, 'First Excavation of Horace's Villa', 1998, p.281.
67. cf. J. Wilton-Ely, *Piranesi as Architect*, 1993, p.35.
68. A. Monferini, *op. cit.*, p.222.
69. For an illustration of the title page see Wilton-Ely, *Piranesi as Architect*, 1993, fig.51.
70. Piranesi wrote *Della magnificenza ed architettura de' Romani* partly in response to Ramsay's *Dialogue on Taste* (1755); see I.G. Brown, *Poet and Painter*, 1984, pp.40–41; A. Smart, *Allan Ramsay*, 1992, pp.123, 147.
71. cf. Brown, *op.cit.*, *passim*.
72. cf. the letter to Archibald Hamilton, quoted below at n.78.
73. See A. Smart, *Allan Ramsay*, 1992, p.126.
74. Smart, *loc. cit.*, the letter to Dick (GD 331/5/18) is quoted in part.
75. It only lacked a few minor details such as the measurements of the capitals Ramsay saw in front of a blacksmith's shop in Licenza; 'Enquiry', p.38.
76. For Boswell's remarks see the Introduction. Ramsay's attitude towards his project contrasted with that of Robert Adam towards Split; see pp.19–20 and 84 above.
77. National Library of Scotland, MSS 1833–4.
78. cf. Ramsay's letter to Archibald Hamilton, Esq., Naples, 14 June 1783 (National Library of Scotland, MS 10782, f.156).
79. On James Byres see B. Ford, 'James Byres', 1974; B. Skinner, *Scots in Italy*, 1966, pp.16–17; on Gavin Hamilton see S.Q. Hutton in N.T. de Grummond, *Encyclopedia*, 1996, vol. 1, pp.562–6; on Angelica Kauffman see O. Sandner, *Angelika Kauffmann*, 1998. On Jakob Philipp Hackert and Jacob More see chapter 4.
80. cf., for example, the entries for 5, 8, 10, 13, 21, 29 and 30 March, 7 April, and 2 and 8 July. On 10 March More showed the Ramsays his picture of Cicero's villa, which, John Ramsay opined, 'was very well painted.'
81. 'Enquiry', pp.55–6.
82. This is not (as one might be tempted to speculate) the French-Swiss painter Louis Ducros, who was a friend of Ramsay and who painted views of the Licenza valley; cf. [Ducros], *Images of the Grand Tour*, 1985, pp.75–6 (note 54). From John Ramsay's diary we know that the Ramsays first met 'the Frenchman' on 17 July 1783 in Tivoli. From the diary (see entries for 29 March and 7 July 1783) it is clear that the Ramsays already knew Ducros before that date.
83. 'Enquiry', pp.66–7.
84. A. Kircher, *Latium*, 1669; R. Fabretti, *De Aquis*, 1680.
85. cf. 'Enquiry', p.8; on Petrocchi, see Petrocchi, *Orazio*, 1958, p.36, note 6.
86. cf. 'Enquiry', p.54.
87. *op. cit.*, pp.24, 61–2.
88. The term 'prepossession' has a Humean ring; cf. D. Hume, *Enquiry*, 1975, p.151: 'It seems evident, that men are carried, by a natural instinct or prepossession, to repose faith in their senses; and that, without any reasoning, or even almost before the use of reason, we always suppose an external universe, which depends not on our perception, but would exist, though we and every sensible creature were absent or annihilated ... But this universal and primary opinion of all men is soon destroyed by the slightest philosophy, which teaches us, that nothing can ever be present to the mind but an image or perception, and that the senses are only the inlets, through which these images are conveyed, without being able to produce any immediate intercourse between the mind and the object.'
89. 'Enquiry', p.54.

90. See N. Horsfall, *Companion*, 1995, p.1.
91. NLS, MS 730, f.10.
92. EUL, La.III.492, p.14.
93. G. Lugli, 'La villa sabina', 1926, col.484; Z. Mari, 'La valle del Licenza', 1994, p.20.
94. cf. the entry for that date in the diary of John Ramsay, NLS, MS 1834, p.145.
95. D. Hume, 'Enquiry', 1975, p.50.
96. Ramsay, 'Enquiry', p.53. Note that when Ramsay dates the second occasion to 27 September 1783, he is mistaken. John Ramsay's diary entry (cf. p.90 above) shows that the correct date was 27 August and that by 14 September the Ramsays had left Licenza to return to Tivoli and Rome.
97. Ramsay, 'Enquiry', p.46.
98. *ibid.*, pp.45-6; see also Z. Mari, 'La valle dell'Aniene', 1995, p.33.
99. 'Enquiry', p.36, note 39.
100. *ibid.*, p.6.
101. *ibid.*, p.40.
102. *ibid.*, p.38.
103. *ibid.*, p.46.
104. *ibid.*, p.42.
105. *ibid.*, pp.34 and 48.
106. *ibid.*, p.38, note 40.
107. *ibid.*, p.57.
108. See S. Piggott, *Ruins in a Landscape*, 1976, p.129.
109. cf. 'Enquiry', p.52.
110. *ibid.*, p.46. For the long view, see Ramsay's *View of Horace's Farm* (Catalogue: Ramsay 2) and More's *View near Horace's Villa* (Catalogue: More 2). See also I.G. Brown's essay in *Archives and Excavations*, forthcoming.
111. 'Enquiry', p.57.
112. *ibid.*, pp.34 and 48.
113. The best example of this is his irrelevant digression on the etymology of Cotiso; see *ibid.*, p.21, note 29.
114. One might contrast the 'sharp and seductive practices' of a Thomas Jenkins; cf. S. Howard in N. T. de Grummond, *Encyclopædia*, 1996, vol.1, pp.619-20.
115. cf. 'Enquiry', p.66.
116. See B. Frischer, 'Shifting Paradigms', 1991, p.80, note 104.
117. cf. P. Rosa, 'Notizie intorno', 1857.
118. See G. Lugli, 'La villa sabina', 1926.
119. See T.D. Price, 'A Restoration', 1932.
120. cf. Z. Mari, 'La valle dell'Aniene', 1995.

## A Note on the Text of Ramsay's 'Enquiry'

*Bernard D. Frischer and Iain Gordon Brown*

Three versions of Ramsay's 'Enquiry' survive. They are located in the National Library of Scotland (hereafter NLS); the Edinburgh University Library (EUL); and the Library of the University of California, Los Angeles (UCLA). All three manuscripts make reference, in their titles, to Ramsay's travels in Italy between 1775 and 1777: in no case has the title been changed to indicate that on his later visit in the early 1780s Ramsay continued to pursue the project. The manuscripts represent work done largely in the 1770s, although it is evident that they must comprehend also the results of Ramsay's topographical explorations and his thinking about the subject during his final visit to the region. Indeed, additions in Ramsay's hand in the Edinburgh University Library manuscript are dated 1782 or 1783 and refer to the personal observations on the site, or reflections on the topic in general, made in those years.

The earliest of the manuscripts, and the least polished, is the version in NLS, MS730. It is largely in Ramsay's hand and in that of his wife, who acted as amanuensis. The earlier portion of the manuscript is more or less a fair copy in her hand. Later folios indicate that she had been allotted the task of copying quotations which appear between passages of commentary or argument in her husband's autograph. Mention on f. 29 of an event in June 1777 (cf. 'Enquiry,' p. 67) gives a *terminus post quem* for the composition of at least this portion of the manuscript. Ramsay evidently returned from time to time to this original manuscript, for there are passages or insertions in his later and rather more infirm hand. All in all, it is something of a patchwork of hands and additions of varying dates. The binding is modern blue buckram. Paper size is 18.5 x 24.5 cm. The NLS manuscript was presented to the Library in 1932 by The Hon. Sir Hew Hamilton Dalrymple, sometime Vice-Chairman of the Library's Board of Trustees and Chairman of the Trustees of the National Gallery of Scotland. He had collected a number of manuscripts and sketchbooks relating to the history of Scottish art of the period. The earlier history of the manuscript is not known. The NLS manuscript is primarily interesting for the five landscape sketches by Ramsay which are bound at the end (cf. Catalogue, Ramsay 3).

The next manuscript in date is that in EUL, MS.La.III.492. It is more complete and more polished, being later than the NLS version. On the title page, the author's name was originally given as 'A.R.' At an indeterminate later date, someone added 'Allan Ramsay.' It is almost wholly written in the hand of Ramsay's wife, who died in March 1782. Ramsay later added some passages in his own hand. The manuscript retains its original grey paper-covered boards. Paper size is 19 x 23 cm. The EUL manuscript was presented to the Library under the bequest of the distinguished bookseller, librarian and collector, David Laing, who died in 1878. Laing also owned (and bequeathed

to the Library) a number of important manuscripts of the elder Ramsay and the autograph life of his father by the painter, as well as drawings and sketchbooks of Allan Ramsay the Younger and Jacob More, which he bequeathed to the Royal Scottish Academy. From there these graphic works passed to the National Gallery of Scotland. All the manuscripts had been bought by Laing at the sale of the library of Sir John Murray of Henderland, Lord Murray, a Scottish judge who was the heir of General John Ramsay, the painter's son. The 'Enquiry' can be identified as lot 1527 in the Dowell and Lyon sale catalogue, Edinburgh, February 1862. From a collation of the NLS and EUL copies, we can see that from 1777 to 1783 Ramsay continued to struggle with difficulties such as the identification of the Valley of Ustica, and he also moderated his tone and degree of assertiveness on problematic points. Thus in 1777 he wrote: 'Volpi's opinion is still more foolish' (NLS ms., f. 5); but by 1783 this had become the more diplomatic 'Volpi's opinion is more foreign' (EUL ms., p.30). At first Ramsay attempted to date the composition of Odes I.17 to 'about the beginning of August' on the basis of when strawberries become available in the Licenza Valley; but in the EUL version he wisely dropped this piece of speculation.

The third, latest, and by far the best version of the text is the UCLA copy. Purchased in 1965, it has been catalogued under 'Anonymous' since then because, unlike the NLS and EUL manuscripts, it lacks Ramsay's name or initials on the title page. The shelfmark is: Bound Manuscripts, Collection 170/376, Department of Special Collections, Charles E. Young Research Library, UCLA. The manuscript contains 67 pages, which are numbered. The paper size is 29 x 23.25 cm. It is bound in half-calf over pink papered cardboard. The binding is 30 cm. high, 24.2 cm. wide, and 1.3 cm. thick. There are head- and footbands. The spine is tooled with seven compartments. "M.S." is blocked on the second compartment, and there are fleurons in the other compartments. The end-papers are of the same paper as was used for the text, as can be determined from one watermark which is just barely visible (on the paper and watermark, see below), making it all but certain that the binding (which UCLA Rare Books Librarian P. G. Naiditch independently dated as 'late eighteenth-century') and manuscript are contemporary. The provenance of the manuscript is unknown. It was accessioned by UCLA in October 1965 and attributed to Ramsay by Bernard Frischer in October 2000, immediately after it was brought to his attention by P. G. Naiditch.

Examination of the UCLA version shows that it was written by an amanuensis and fitted out with finished drawings of the illustrations he intended to use. We do not know who was responsible for the drawings, nor the identity of the amanuensis. The close association of the UCLA manuscript with Ramsay is demonstrated by two facts. There are two corrections written in pencil, very probably in the unmistakable infirm hand of Ramsay's old age. Secondly, the UCLA version is written on the same paper as the EUL copy: the Turkey Mill paper of James Whatman II, whose paper was considered the finest in England (see A. H. Shorter, *Paper Mills and Makers in England 1495-1800*, *Monumenta Chartae Papyraceae Historiam Illustrantia*, vol. VI

[Hilversum 1957] pp. 58-9, 187-88; and for the watermark [crown, horn, fleur-de-lis, and the initials GR] see nr. 198 [p. 378 with p. 268]). In view of the foregoing, we have based our text of Ramsay's 'Enquiry' on the UCLA manuscript. We thank P. G. Naiditch for bringing it to our attention; and Anne Caiger for granting us permission to publish it. Conceivably, the UCLA manuscript was Ramsay's final copy, but definite proof is lacking.

The changes between the EUL and UCLA manuscripts are few and not substantive. The UCLA version incorporates corrections to the EUL manuscript, and so is later. The UCLA copy enabled us to ensure that the text we present corresponds to Ramsay's last wishes; and it also confirms our earlier suspicion that Ramsay did not, in the end, intend to use Jacob More's views to illustrate his text.

The UCLA copy was still incomplete with respect to a trivial detail when Ramsay died: at p. 38 he has left blank the measurement of a pillar. Since the pillar in question is no longer to be found in Licenza where Ramsay saw it, the editor has had perforce to retain the blank. Ramsay's Latin was excellent, and Latinity was universal among the educated public for whom he wrote. There is no indication that he would have translated the Horatian passages and other Latin quotations. To help the modern reader who may well have little or no Latin, extended passages from Horace have been quoted in the original, followed by the English versions of Philip Francis, the most popular British translator of Horace in Ramsay's day. Translations of shorter passages and other Latin texts have been furnished by the editor. Spelling, punctuation and capitalization have been modernized. The editor's additions are indicated by square brackets. The text has been equipped by the editor with endnotes which explain points that might be obscure to the non-Classicist; and the attempt has been made to provide an update on several of the most important topics discussed by Ramsay such as, for example, the location of the Fons Bandusiae of Odes 3.13. Ramsay's own notes are printed as footnotes. Since the UCLA manuscript is thought to be Ramsay's last, we have given its pagination in the margins of the 'Enquiry', and this pagination has been used throughout in all references to the 'Enquiry' in this volume. In illustrating the 'Enquiry', we have used the UCLA drawings, wherever possible.

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WORD-ORDER TRANSFERENCE BETWEEN  
LATIN AND GREEK: THE RELATIVE POSITION  
OF THE ACCUSATIVE DIRECT OBJECT AND  
THE GOVERNING VERB IN CASSIUS DIO AND  
OTHER GREEK AND ROMAN PROSE AUTHORS

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**T**HROUGH statistical analysis of a great number of sentences, we confirm one major difference between Latin and Greek word order, and we explore the ramifications of this observation for some possible cases of word-order transference between Latin and Greek. The difference to which we refer concerns the positioning of the accusative direct object before or after the verb governing it. That there is a significant difference in the Greek and Latin distributions will come as no surprise to Classical linguists: it has long been observed that Latin has a greater tendency to place the verb at the end of the clause than does Greek.<sup>1</sup> From this fact alone one might predict that the direct object in Latin is more likely to precede than to follow the verb on which it depends than is the case in Greek—although, logically, this need not be the case. In our study we tested this prediction empirically by tabulating the direct object distributions in sixty passages written by fifteen Latin and ten Greek prose authors. Each passage was randomly selected in the text of an author. We analyzed the first one hundred direct objects in the accusative

<sup>1</sup> See, e.g., Linde 1923; Schwyzer and Debrunner 1939–53: 2.695 (with older literature); Marouzeau 1953: 44 ff.; Humbert 1954: 92 ff.; Dover 1960: 25 ff.

case that were encountered, tabulating those that occurred before (DO before) and those after (DO after) the verbs that govern them.<sup>2</sup> The raw data can be found at the end of this article in Appendix I.

For classification of the raw data into groups we relied upon cluster analysis. This is a popular numerical method of partitioning data sets from individuals or other objects of study developed in the biological sciences for the purpose of obtaining objective and stable classifications. Whereas other methods of discrimination begin by partitioning the data into predetermined groups, the purpose of cluster analysis is to discover natural groupings (or, "clusters") of the individuals or data sets. Both approaches have their uses, but cluster analysis suits our needs because we want to test the hypothesis that Greek and Latin texts will naturally and consistently clump together into homogeneous groups if measured by the rate at which they put the DO before and after the governing verb.

Essential to cluster analysis is an ability to quantify the characteristics of individuals or other data sets that we wish to categorize. The concept of *cluster* is dependent on a measurement of the relative distances between values displayed by the various individuals or data sets under study. Values that, when graphed, coincide or are close indicate that the individuals or data sets under study can be clumped together in the same cluster.

There are different techniques for measuring distance and for

<sup>2</sup> In several passages, somewhat more or fewer than 100 cases were collected (the lowest number was 96; the highest, 101). The results from these passages were therefore scaled to be comparable to those for other passages. The scaled passages can be easily recognized in Appendix I because they have fractional values. As for the tabulation of direct objects, the following principles were applied:

(1) For the sake of uniformity and to simplify matters, only cases represented by nouns or pronouns (including substantives) in the accusative case were counted as direct objects. Not counted as direct objects were constructions like indirect statement or relative clauses; nouns and pronouns dependent on verbs requiring the genitive, dative, or ablative; gapped constructions in which the verb or direct object was implied but not explicitly given. Direct objects within indirect statements, relative clauses, etc. were counted.

(2) In relative clauses, relative pronouns in the accusative introducing the clause were counted as direct objects within the clauses.

(3) When there were many direct objects, only the first three were counted.

(4) In the case of apposition, both members were counted (unless, of course, they were parts of a name: e.g., *Gaium Caesarem*).

determining which objects of study belong to which clusters.<sup>3</sup> In this paper, we use two popular nonhierarchical and hierarchical clustering techniques that are commonly available in statistics packages today. The data sets we study are sentences in texts of Greek and Roman authors; the quantifiable feature we tabulate is the percentage of direct objects positioned before and after the governing verb.

Of the two clustering techniques, we mainly relied on *K*-means clustering, an example of nonhierarchical analysis. In *K*-means clustering, the cases are assigned to clusters in a process that calculates how well the mean values of each newly considered case correspond to the overall means (or, centroids) of all the passages in the existing clusters.<sup>4</sup> This form of cluster analysis was chosen because its strength is the determination of natural partitions in a data set, whereas hierarchical techniques are better at uncovering subdivisions within the partitions and the "nearest neighbors."<sup>5</sup> Since we wanted to test whether the data divided naturally into two groups, one composed of Latin texts, the other of Greek texts, *K* (the initial number of clusters) was set at 2.<sup>6</sup> As the following table shows, the passages did divide nicely into two clusters, one Greek and the other mainly Latin:

| CLUSTER 1: MEMBERS          |          |                              |          |
|-----------------------------|----------|------------------------------|----------|
| CASE                        | DISTANCE | CASE                         | DISTANCE |
| Varro <i>Res Rust.</i>      | 9.18     | Ammianus Marcellinus 18      | 1.18     |
| Cicero <i>De Off.</i> 3a    | 4.18     | Pliny (Jr.) <i>Epist.</i>    | 9.18     |
| Cicero <i>De Nat. Deor.</i> | 1.82     | Pliny the Elder <i>NH</i> 36 | 6.65     |

<sup>3</sup> On the basic concepts of cluster analysis used in this and the preceding paragraph, see Everitt 1993: 1–10.

<sup>4</sup> On *K*-means clustering, see Affifi and Clark 1984: 394–397. The algorithm is described on pages 394–395 as follows: "(1) Divide the data into *K* initial clusters. The members of these clusters may be specified by the user or may be selected by the program, according to an arbitrary procedure. (2) Calculate the means or centroids of each of the *K* clusters. (3) For a given case, calculate its distance to each centroid. If the case is closest to the centroid of its own cluster, leave it in that cluster; otherwise, reassign it to the cluster whose centroid is closest to it. (4) Repeat step 3 for each case. (5) Repeat steps 2, 3, and 4 until no cases are reassigned."

<sup>5</sup> Cf. Everitt 1993: 55: "in a hierarchic classification the data are not partitioned into a particular number of classes or clusters at a single step."

<sup>6</sup> On the logic of setting *K* at its "natural" value in an initial analysis of the data, see Affifi and Clark 1984: 400.

|                              |       |                                    |       |
|------------------------------|-------|------------------------------------|-------|
| Cicero <i>Brutus</i>         | 2.18  | Ammianus Marcellinus 22            | 1.18  |
| Cicero <i>De Off.</i> 2a     | 6.18  | SHA <i>Marcus</i>                  | 0.18  |
| Cicero <i>De Off.</i> 1b     | 2.18  | Caesar <i>BG</i> 3                 | 13.82 |
| Cicero <i>De Off.</i> 1a     | 3.18  | Tacitus <i>Ann.</i>                | 5.82  |
| Cicero <i>De Leg.</i>        | 7.18  | Caesar <i>BG</i> 1                 | 12.82 |
| Cicero <i>De Off.</i> 3b     | 1.82  | Livy 21                            | 4.83  |
| Cicero <i>De Off.</i> 2b     | 0.18  | Livy 3                             | 3.41  |
| Pliny the Elder <i>NH</i> 34 | 10.55 | Tacitus <i>Hist.</i>               | 9.82  |
| Aulus Gellius <i>Misc.</i> 1 |       | Celsus <i>De Med.</i> 2            | 3.82  |
| (Greek sources)              | 3.82  | Cassius Dio 36                     | 1.18  |
| Cicero <i>Ad Att.</i>        | 2.18  | Cato <i>De Agric.</i>              | 12.82 |
| Cicero <i>Cat.</i>           | 8.18  | Cassius Dio 40                     | 1.82  |
| Seneca <i>Epist.</i>         | 2.18  | Augustus <i>Res Gestae</i> (Latin) | 6.82  |
| Aulus Hirtius <i>BG</i> 8    | 1.18  | Augustus <i>Res Gestae</i> (Greek) | 2.82  |
| Aulus Gellius <i>Misc.</i> 2 |       | Tacitus <i>Agric.</i>              | 4.61  |
| (Latin sources)              | 2.82  | Cassius Dio 59                     | 6.51  |
| SHA <i>Hadrian</i>           | 0.18  | Cassius Dio 54                     | 7.01  |
| Seneca <i>De Clem.</i>       | 2.77  |                                    |       |

## CLUSTER 1: SUMMARY STATISTICS

| VARIABLE  | MINIMUM | MEAN  | MAXIMUM | ST.DEV. |
|-----------|---------|-------|---------|---------|
| DO After  | 3.00    | 16.82 | 27.37   | 6.08    |
| DO Before | 72.63   | 83.18 | 97.00   | 6.08    |

## CLUSTER 2: MEMBERS

| CASE                      | DISTANCE | CASE                                          | DISTANCE |
|---------------------------|----------|-----------------------------------------------|----------|
| Plutarch <i>Dinner</i>    | 2.90     | Plutarch <i>Alcib.</i>                        | 6.10     |
| Plutarch <i>Alex.</i>     | 0.10     | Thucydides 2                                  | 4.90     |
| Xenophon <i>Anab.</i> 1   | 18.10    | Marcus Aurelius 3                             | 12.90    |
| Polybius 2                | 11.10    | Marcus Aurelius 8                             | 3.90     |
| Herodotus 2               | 0.10     | Plutarch <i>Themist.</i>                      | 2.90     |
| Herodotus 1               | 10.10    | Plutarch <i>Quaest. Rom.</i>                  | 2.90     |
| Polybius 1                | 8.10     | Dionysius of Halicarnassus <i>Rom. Ant.</i> 2 | 5.29     |
| Plutarch <i>Cicero</i>    | 3.90     | Thucydides 7                                  | 0.24     |
| Plutarch <i>Sertorius</i> | 10.90    | Plutarch <i>Camillus</i>                      | 5.90     |
| Musonius Rufus            | 7.68     | Thucydides 5                                  | 2.10     |
|                           |          | Plutarch <i>Quaest. Graec.</i>                | 6.90     |

## CLUSTER 2: SUMMARY STATISTICS

| VARIABLE  | MINIMUM | MEAN  | MAXIMUM | ST.DEV. |
|-----------|---------|-------|---------|---------|
| DO After  | 32.00   | 44.90 | 63.00   | 7.54    |
| DO Before | 37.00   | 55.10 | 68.00   | 7.54    |

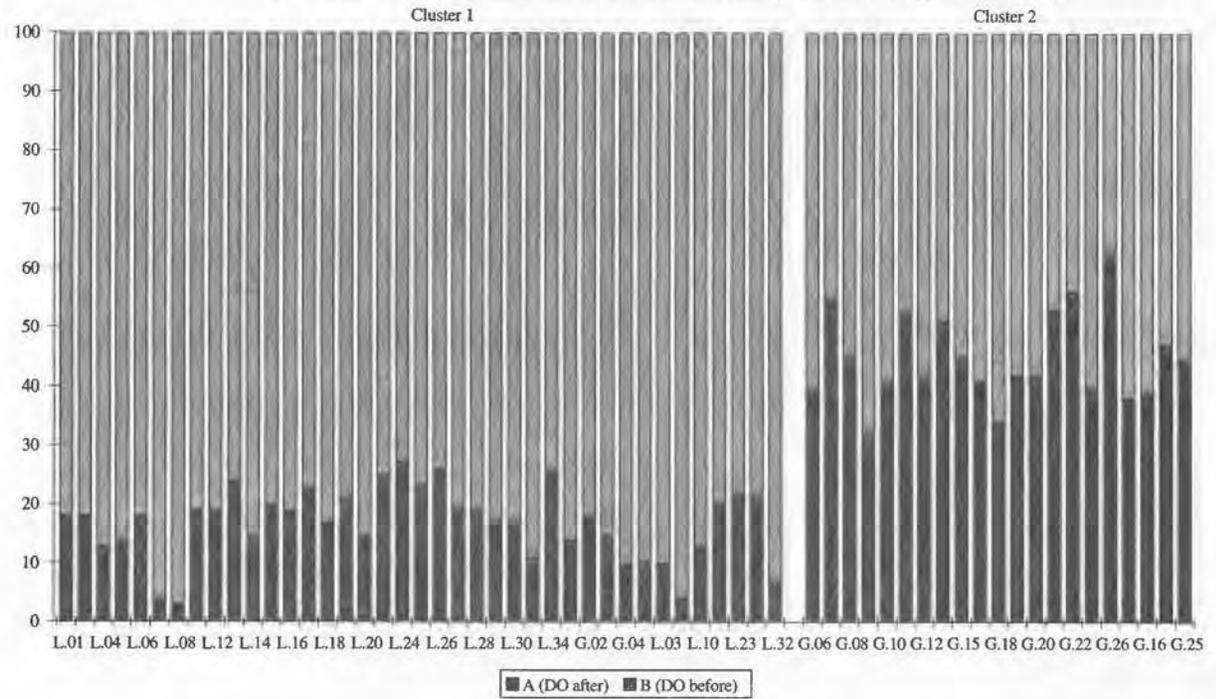
TABLE I: Cluster Analysis of Relative Positive of Direct Object (DO) Before and After Its Governing Verb (*K*-means; division into 2 groups). See Appendix I for details about passages and editions used.

The first cluster has 39 passages, all but five of which are Latin. These five cases are interesting and will be discussed below. Cluster 1 is characterized by a relatively high mean (83.18%) for the position of direct object before the governing verb, ranging from a minimum value of 72.63% to a high of 97%. The high value of this mean is what previous linguistic research led us to expect. All 21 passages in Cluster 2 are Greek. Typical of passages in this cluster is a greater balance between direct objects before (55.10%) and after (44.90%) the governing verb. For the position after the verb, the minimum value we find is 32% and the maximum value is 63%. The bar graph of Figure A shows the clearcut division of our passages into two clusters, one (the "Latin" cluster) with a high value of direct objects before the verb and a low value of direct objects after; the other (the "Greek" cluster) with a more evenly balanced distribution of direct objects. In Figure A, the percentage of occurrence of direct objects before (gray) and after (black) the governing verb in a passage can be read on the vertical axis. The horizontal axis gives the numeric code of each text in the database.<sup>7</sup> For example, on the extreme left, we have the values for Ammianus Marcellinus Book 18 (L.1; DO after=18%; DO before=82%). On the extreme right, we have those for Thucydides Book 7 (G.25; DO after=45%; DO before=55%). We can see that there is a natural division into two clusters: passages on the righthand side, in which the direct object is almost as likely to occur before as after the verb; and those to the left, in which the direct object is much more likely to occur before the verb. The passages on the right (Cluster 2) are all from Greek texts; those on the left (Cluster 1) are primarily from Latin.

We do not have to rely on our visual impression of the graph to grasp that the division into two clusters is statistically significant. The

<sup>7</sup> We use numerical reference to save space. For a concordance of the numeric codes and the texts to which they refer, see Appendix I.

FIGURE A: Bar Graph of Data on Table I. Horizontal axis is the code for author and passage. Vertical axis is percentage of accusatives after and before governing verb. For the numeric codes identifying the texts, see Appendix I.



summary statistics for the *K*-means test show that there is an extremely low probability ( $p < 0.001$ ) that the sharp division of passages into two clusters occurs by chance. The proximity of the means of each passage to the centroids of its cluster can be gauged from the value given on the table under Distance. Thus, in our first cluster, the values of 0.18 for the passages from the *Lives* of Hadrian (DO before = 83%) and Marcus Aurelius (DO before = 83%) in the *Historia Augusta* and from Cicero's *De Officiis* 2b (2.36–55; DO before = 83%) indicate that the mean values of direct object before and after the governing verb found in these passages most closely approximates the centroids of the cluster as a whole (83.18%). The passage least characteristic of the cluster is Caesar's *Bellum Gallicum* 3 (DO before = 97%; Distance = 13.82).

A recent article by Pinkster suggested to us that our results might differ if we distinguished between direct objects of the main verb in *main clauses* (MC) and those that are objects in *other constructions* (OC) such as subordinate clauses, participial and infinitive phrases, etc.<sup>8</sup> A detailed investigation of constructions other than direct objects of main verbs would require more data than we collected, but we do have sufficient information at least to gauge whether the consistent breakdown into Latin and Greek groups is maintained if the cases are categorized by MC and OC. We once again used *K*-means clustering, increasing the number of clusters (*K*) until we reached a point at which a cluster contained only one passage. This we considered too fine a degree of analysis. That happened when  $K = 5$ , suggesting that our data naturally breaks down into four clusters:

## SUMMARY STATISTICS

| VARIABLE | BETWEEN SS | DF WITHIN SS | DF | F-RATIO | PROBABILITY |
|----------|------------|--------------|----|---------|-------------|
| MCB      | 8658.233   | 3809.04      | 59 | 44.70   | < 0.0005    |
| MCA      | 2813.183   | 1229.14      | 59 | 45.01   | < 0.0005    |
| OA       | 4422.423   | 1749.99      | 59 | 49.70   | < 0.0005    |
| OB       | 7924.673   | 3697.08      | 59 | 42.16   | < 0.0005    |

<sup>8</sup> Pinkster 1991: 69.

## CLUSTER I: MEMBERS

| CASE                         | DISTANCE | CASE                         | DISTANCE |
|------------------------------|----------|------------------------------|----------|
| Cicero <i>De Off.</i> 3a     | 6.99     | Cicero <i>Cat.</i>           | 5.94     |
| Cicero <i>De Nat. Deor.</i>  | 10.14    | Seneca <i>Epist.</i>         | 1.72     |
| Cicero <i>Brutus</i>         | 7.59     | Aulus Hirtius <i>BG</i> 8    | 3.00     |
| Cicero <i>De Off.</i> 2a     | 5.93     | Aulus Gellius <i>Misc.</i> 2 |          |
| Cicero <i>De Off.</i> 1b     | 6.35     | (Latin sources)              | 2.55     |
| Cicero <i>De Off.</i> 1a     | 4.70     | SHA <i>Hadrian</i>           | 4.68     |
| Cicero <i>De Leg.</i>        | 4.60     | Seneca <i>De Clem.</i>       | 4.24     |
| Cicero <i>De Off.</i> 3b     | 4.32     | Ammianus Marcellinus 18      | 4.51     |
| Cicero <i>De Off.</i> 2b     | 3.38     | Pliny (Jr.) <i>Epist.</i>    | 8.99     |
| Pliny the Elder <i>NH</i> 34 | 5.63     | Pliny the Elder <i>NH</i> 36 | 7.16     |
| Aulus Gellius <i>Misc.</i> 1 |          | Ammianus Marcellinus 22      | 5.01     |
| (Greek sources)              | 2.86     | SHA <i>Marcus</i>            | 5.49     |
| Cicero <i>Ad Att.</i>        | 1.13     | Caesar <i>BG</i> 3           | 8.20     |
|                              |          | Tacitus <i>Ann.</i>          | 7.61     |
|                              |          | Caesar <i>BG</i> 1           | 8.59     |

## CLUSTER I: SUMMARY STATISTICS

| VARIABLE | MINIMUM | MEAN  | MAXIMUM | ST.DEV. |
|----------|---------|-------|---------|---------|
| MCB      | 19.00   | 34.06 | 48.00   | 7.83    |
| MCA      | 3.00    | 10.25 | 20.00   | 4.70    |
| OA       | 0.00    | 7.96  | 19.00   | 4.25    |
| OB       | 34.00   | 47.74 | 62.00   | 6.86    |

## CLUSTER II: MEMBERS

| CASE                    | DISTANCE | CASE                               | DISTANCE |
|-------------------------|----------|------------------------------------|----------|
| Livy 21                 | 7.07     | Cassius Dio 40                     | 3.61     |
| Livy 3                  | 6.31     | Augustus <i>Res Gestae</i> (Latin) | 2.27     |
| Tacitus <i>Hist.</i>    | 8.10     | Augustus <i>Res Gestae</i> (Greek) | 4.01     |
| Celsus <i>De Med.</i> 2 | 5.02     | Tacitus <i>Agric.</i>              | 8.03     |
| Cassius Dio 36          | 3.47     | Cassius Dio 59                     | 8.98     |
| Cato <i>De Agric.</i>   | 6.98     | Cassius Dio 54                     | 9.78     |

## CLUSTER II: SUMMARY STATISTICS

| VARIABLE | MINIMUM | MEAN  | MAXIMUM | ST.DEV. |
|----------|---------|-------|---------|---------|
| MCB      | 48.45   | 60.08 | 75.49   | 8.48    |
| MCA      | 3.00    | 9.37  | 16.49   | 4.08    |
| OA       | 0.00    | 4.33  | 12.24   | 3.55    |
| OB       | 13.27   | 26.22 | 40.00   | 8.42    |

## CLUSTER III: MEMBERS

| CASE                    | DISTANCE | CASE                         | DISTANCE |
|-------------------------|----------|------------------------------|----------|
| Plutarch <i>Dinner</i>  | 8.55     | Plutarch <i>Sertorius</i>    | 7.92     |
| Plutarch <i>Alex.</i>   | 6.58     | Musonius Rufus               | 4.42     |
| Xenophon <i>Anab.</i> 1 | 8.87     | Plutarch <i>Alcib.</i>       | 4.18     |
| Polybius 2              | 10.80    | Thucydides 2                 | 7.49     |
| Herodotus 2             | 4.07     | Marcus Aurelius 3            | 7.91     |
| Herodotus 1             | 5.32     | Marcus Aurelius 8            | 5.18     |
| Polybius 1              | 4.65     | Plutarch <i>Themist.</i>     | 5.12     |
| Plutarch <i>Cicero</i>  | 4.06     | Plutarch <i>Quaest. Rom.</i> | 7.41     |
|                         |          | Dionysius of Halicarnassus   |          |
|                         |          | <i>Rom. Ant.</i> 2           | 8.38     |

## CLUSTER III: SUMMARY STATISTICS

| VARIABLE | MINIMUM | MEAN  | MAXIMUM | ST.DEV. |
|----------|---------|-------|---------|---------|
| MCB      | 14.00   | 23.61 | 37.62   | 6.02    |
| MCA      | 5.00    | 17.03 | 25.00   | 6.16    |
| OA       | 16.00   | 28.51 | 47.00   | 7.36    |
| OB       | 20.00   | 30.85 | 44.00   | 7.61    |

## CLUSTER IV: MEMBERS

| CASE                           | DISTANCE |
|--------------------------------|----------|
| Thucydides 7                   | 3.51     |
| Plutarch <i>Camillus</i>       | 3.81     |
| Thucydides 5                   | 2.48     |
| Plutarch <i>Quaest. Graec.</i> | 4.74     |

## CLUSTER IV: SUMMARY STATISTICS

| VARIABLE | MINIMUM | MEAN  | MAXIMUM | ST.DEV. |
|----------|---------|-------|---------|---------|
| MCB      | 37.86   | 41.97 | 50.00   | 4.72    |
| MCA      | 28.00   | 32.97 | 37.86   | 4.08    |
| OA       | 6.80    | 9.20  | 11.00   | 1.85    |
| OB       | 12.00   | 15.87 | 21.00   | 3.61    |

TABLE II: Cluster Analysis of Relative Position of Direct Object Before (B) and After (A) Its Governing Verb in Main Clauses (MC) and Other Constructions (O) (*K*-means; division into 4 groups)

In Table II, we show our tabulations for the position of direct objects. MCB is our abbreviation for a direct object occurring before the verb in a main clause. OB indicates any other kind of syntactic construction in which the direct object occurs before the verb governing it. This might be a subordinate clause, a participial construction, an infinitive clause, etc. MCA stands for a direct object occurring after the verb in a main clause. OA indicates any other kind of syntactic construction in which the direct object occurs after the verb governing it.

From the table, we can see that when subjected to a *K*-means cluster analysis, our 60 passages can be assigned to four groups—two mainly Latin and two exclusively Greek. Clusters I and II are almost entirely composed of Latin authors and are distinguished from the two Greek groups (Clusters III and IV) by the fact that they have a much higher percentage of direct objects that come before their verb (i.e., MCB and OB). Contrariwise, the Greek Clusters III and IV have a much higher percentage of direct objects that follow their verb (i.e., MCA and OA). As the summary statistics at the head of Table II show, there is very low probability that the assignment of the texts to four clusters reflects the operation of chance alone. The variables MCB, MCA, OB, and OA are very useful in separating the clusters.

Table III consolidates the summary statistics for the individual clusters from Table II, showing that our Cluster I differs from Cluster II analogously to the way in which Cluster III is different from Cluster IV. In Cluster I, the mean value for DO in the OB position is greater than

that in the MCB position; Cluster II has the reverse.<sup>9</sup> Similarly, Cluster III has more direct objects in the OA than the MCA position; and Cluster IV has the reverse. Figure B permits us easily to visualize these relationships.

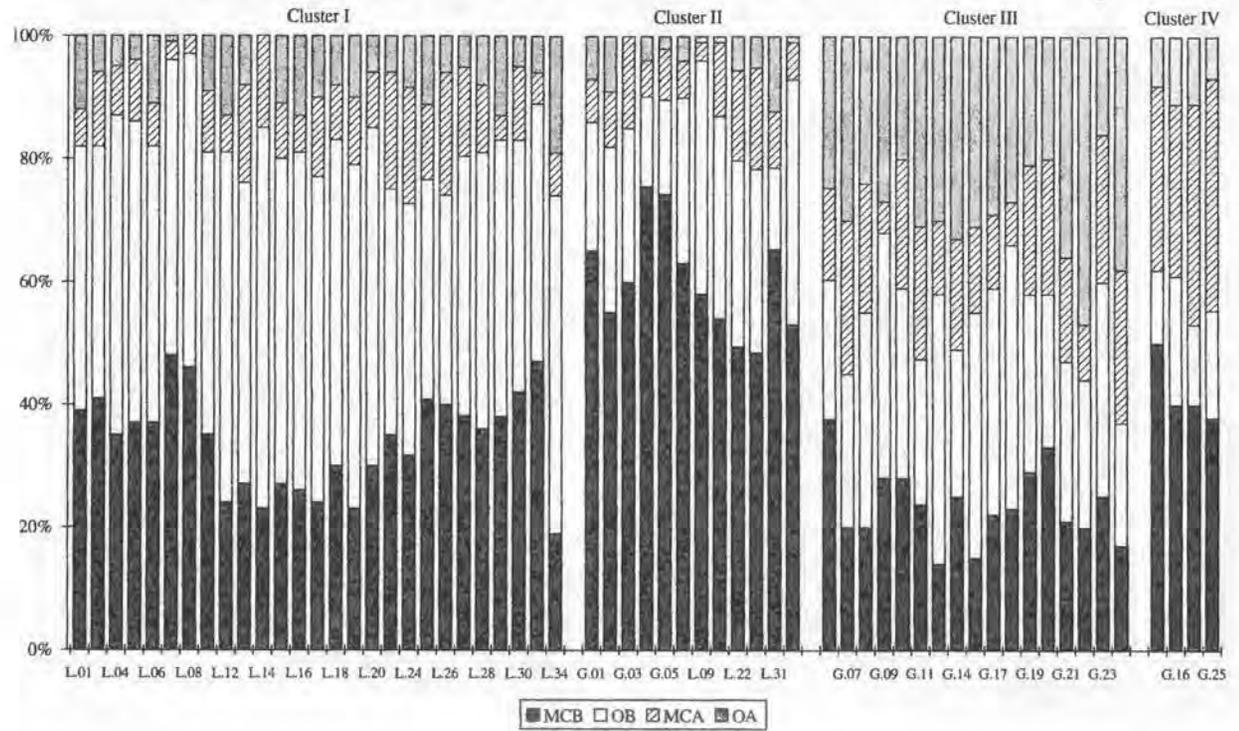
| VARIABLE                                   | MINIMUM | MEAN  | MAXIMUM | ST.DEV. |
|--------------------------------------------|---------|-------|---------|---------|
| <b>GROUP I (Latin): More OB than MCB</b>   |         |       |         |         |
| MCB                                        | 19.00   | 34.06 | 48.00   | 7.83    |
| MCA                                        | 3.00    | 10.25 | 20.00   | 4.70    |
| OA                                         | 0.00    | 7.96  | 19.00   | 4.25    |
| OB                                         | 34.00   | 47.74 | 62.00   | 6.86    |
| <b>GROUP II (Latin): More MCB than OB</b>  |         |       |         |         |
| MCB                                        | 48.45   | 60.08 | 75.49   | 8.48    |
| MCA                                        | 3.00    | 9.37  | 16.49   | 4.08    |
| OA                                         | 0.00    | 4.33  | 12.24   | 3.55    |
| OB                                         | 13.27   | 26.22 | 40.00   | 8.42    |
| <b>GROUP III (Greek): More OA than MCA</b> |         |       |         |         |
| MCB                                        | 14.00   | 23.61 | 37.62   | 6.02    |
| MCA                                        | 5.00    | 17.03 | 25.00   | 6.16    |
| OA                                         | 16.00   | 28.51 | 47.00   | 7.36    |
| OB                                         | 20.00   | 30.85 | 44.00   | 7.61    |
| <b>GROUP IV (Greek): More MCA than OA</b>  |         |       |         |         |
| MCB                                        | 37.86   | 41.97 | 50.00   | 4.72    |
| MCA                                        | 28.00   | 32.97 | 37.86   | 4.08    |
| OA                                         | 6.80    | 9.20  | 11.00   | 1.85    |
| OB                                         | 12.00   | 15.87 | 21.00   | 3.61    |

TABLE III: Summary Statistics for Groups I-IV

Of our twenty-four authors, sixteen are represented by two or more texts. Examination of the cluster analysis shows that most of these sixteen authors' passages consistently appear in just one cluster. Only one Latin author (Tacitus; L.31-L.34) and two Greek authors (Plutarch;

<sup>9</sup> There are two exceptions (Pliny *NH* 36 and Pliny the Younger *Epist.*), which are classified into Cluster I despite having more MCB than OB. This occurs because their mean OB falls more than 2 standard deviations below the mean value for OB of Cluster II, and their mean MCB is close to the mean MCB for Cluster I.

FIGURE B: Bar Graph of Data in Table II. Horizontal axis is the code for author and passage. Vertical axis is percentage of accusatives before (MCB) and after (MCA) verb in main clause, and before (OB) and after (OA) verb in other constructions.



G.12–G.20 and Thucydides; G.23–G.25) have works appearing in two clusters. Within each cluster, we can determine how closely related the texts are to each other by hierarchical cluster analysis. The first step is to divide the texts once again into clusters, though this time a different technique of partition is used. Once again, four clusters (two Latin, and two Greek) emerge, as follows:

- (A) Thucydides (5, 7) and Plutarch (*Camillus*, *Quaest. Gr.*)
- (B) Augustus, Cassius Dio (36, 54, 59), and Tacitus (*Agricola*)
- (C) Marcus Aurelius, Dionysius of Halicarnassus, Herodotus, Musonius, Plutarch (the remaining works), Polybius, Thucydides (2), and Xenophon
- (D) Ammianus Marcellinus, Caesar, Cassius Dio (40), Cato, Celsus, Cicero, Gellius, Hirtius, Pliny the Elder, Pliny the Younger, *Scriptores Historiae Augustae*, Seneca, Tacitus, Varro

As can be seen when the results are graphed in the form of a dendrogram (Figure C), not infrequently works by the same author are nearest neighbors in a cluster. The author with the most texts is Cicero, who is represented by eleven works in the genres of epistle, oratory, rhetoric, and philosophy. All of these works are grouped together in Cluster (D) and, as can be seen in Figure C, many are nearest neighbors. These results suggest that preferences in positioning the direct object with respect to construction type may turn out to be a useful instrument in the tool kit of authorship studies, especially if the authors under consideration for our target text for attribution belong to different clusters in a dendrogram.

Returning to our nonhierarchical form of cluster analysis, we have characterized Clusters I and II as “Latin,” and Clusters III and IV as “Greek.” As noted, there are two complications. As Table II shows, Cluster II has twelve passages taken from the works of seven authors. Seven passages were certainly written by native speakers of Latin (the works by Augustus [L.3], Cato [L.9], Celsus [L.10], Livy [L.22, L.23], and Tacitus [L.31–L.33]); the remaining five were written in Greek by two authors—one by the unknown translator of Augustus’ *Res Gestae* (G.1) and four by Cassius Dio (G.2–G.5).<sup>10</sup> We note that the same five

<sup>10</sup> Four passages—an unusually high number for our study—were taken from different books by Dio in order to be sure that our unexpected results were generally valid for this author.

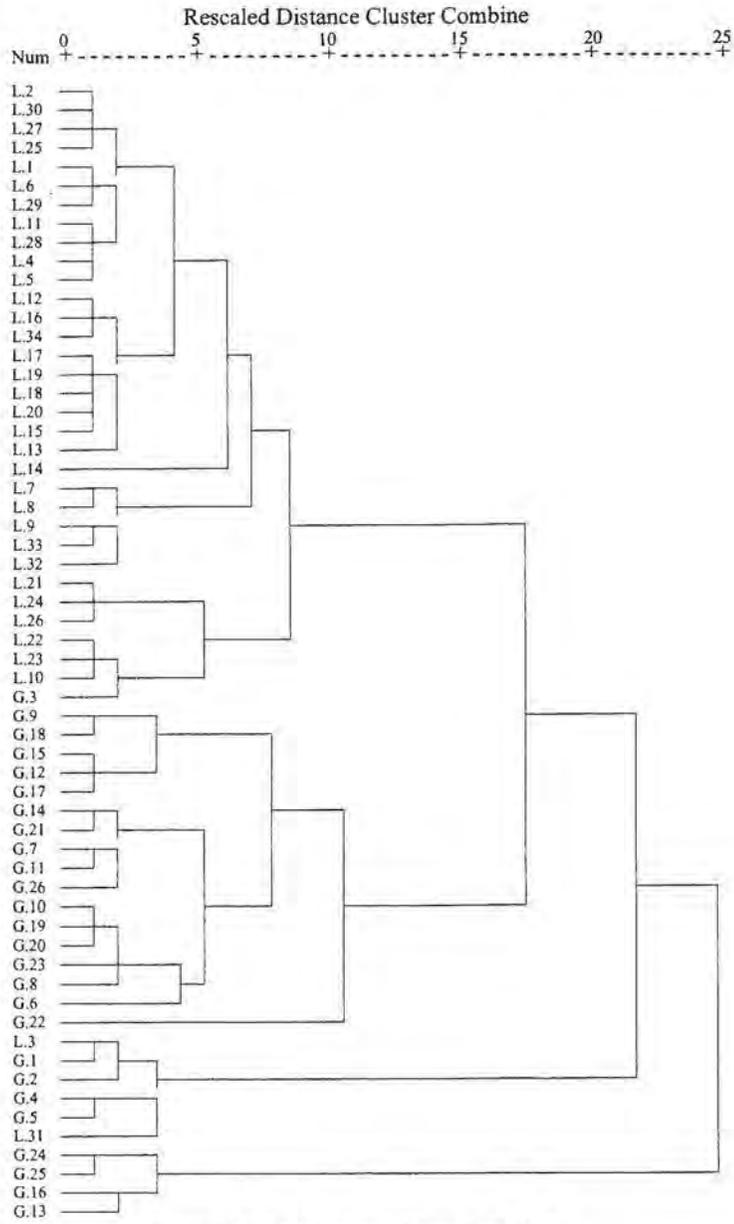


FIGURE C: Dendrogram of Data in Table II.

Greek passages were classified into our first ("Latin") cluster on Table I and into our hierarchical Cluster (B) in Figure C. On Table II, the Greek texts fall into the middle of Cluster II. The average sum of MCB and OB is 87%. Cassius Dio's Greek texts range from a low of 82% to a high of 92%. The Greek translation of Augustus' *Res Gestae* weighs in at 86%. The gap between the Greek texts of Cluster II and Cluster IV (the corresponding group in which MCB exceeds OB) is considerable: the average sum of MCB and OB in Cluster IV is just 58%, with the highest values registered for Plutarch, *Quaestiones Graecae* (62%) and *Life of Camillus* (61%).

To understand what factors are most responsible for the presence of our five Greek texts in the "Latin" cluster, we can use a technique such as Principal Components Analysis (PCA). In PCA, we try to reduce the number of dimensions (i.e., variables) in a data set with only a small loss of information. Since in our case the data are 3-dimensional—as they are percentages, the fourth variable is just 100% minus the other three—there will be just three principal components, and the third one should play an insignificant role. The point of PCA is to enable us to "see" the relevant pattern of authors and works by plotting the principal component scores in the space of just the first two components, thereby obtaining a 2-dimensional picture of the data set.<sup>11</sup> PCA is an exploratory statistical technique in that the reduction of the descriptive complexity of a data set allows the key variables and their interrelationships to be better understood.

Figure D shows the 60 works plotted in the space of the first two principal components, using the symbol "L" for Latin works and "G"

<sup>11</sup> Affifi and Clark 1984: 309–310, describe PCA as follows: "principal components analysis is performed in order to simplify the description of a set of interrelated variables. In principal components analysis the variables are treated equally; i.e., they are not divided into dependent and independent variables, as in regression analysis. The technique can be summarized as a method of transforming the original variables into new, uncorrelated variables. The new variables are called the *principal components*. Each principal component is a linear combination of the original variables. One measure of the amount of information conveyed by each principal component is its variance. For this reason the principal components are arranged in order of decreasing variance. Thus, the most informative principal component is the first, the least informative is the last . . . An investigator may wish to reduce the dimensionality of the problem, i.e., reduce the number of variables without losing much of the information. This objective can be achieved by choosing to analyze only the first few principal components. The principal components not analyzed convey only a small amount of information since their variances are small."

for Greek works. The proportion of the variation in our original data set which is accounted for by the principal components is:

| PC1   | PC2   | PC3   |
|-------|-------|-------|
| 45.3% | 38.9% | 15.8% |

Hence the 2-dimensional representation accounts for fully 84.2% of the original variation, a clearly acceptable simplification of the data matrix with minimal loss of information.

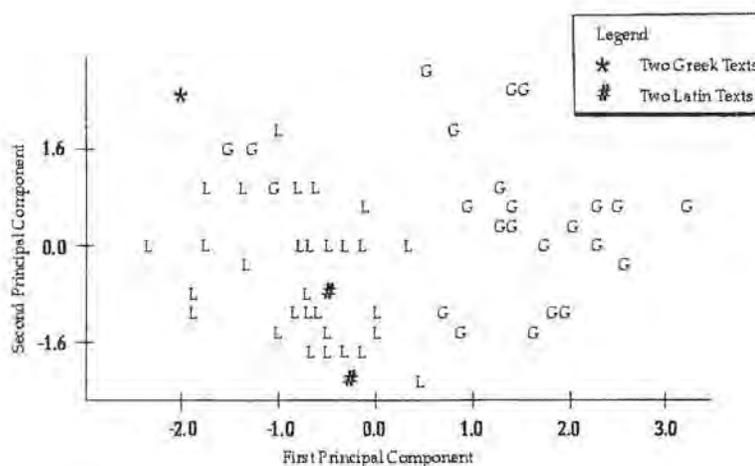


FIGURE D: Plot of Data in Table II in the space of the first two principal components. "L" = Latin texts; "G" = Greek texts.

This remarkable plot highlights the separation of the works into Latin and Greek clusters along the axis of the first principal component, which, in the present case, contrasts the MCB value against the sum of MCA + OA, with the Latin works having strong MCB measures. Apart

from five Greek works appearing in the “L” cluster, the works written in each language cluster closely together. The five anomalous works are the same Greek texts that have emerged as exceptional in our previous analyses: the four books of histories by Cassius Dio and the Greek translation of Augustus’ *Res Gestae*. The PCA enables us to grasp the complex pattern in our data set and to see that the five Greek texts are unusual in that their MCB measures are very high in comparison to the sum of MCA and OA.

The presence of Greek texts in Cluster II, and the absence of Latin texts from Clusters III and IV are striking results that warrant discussion. As we have seen, PCA is a statistical technique whose power is primarily descriptive: through simplification, it enables us to see factors and patterns that would otherwise be hard to discern; however it does not offer an explanation for what it brings into view. For that, further literary, linguistic, and historical analysis is required. A solid point of departure is offered by the Greek version of the *Res Gestae*, since we know that this is a translation of the (preserved) Latin original<sup>12</sup>—the Greek version’s nearest neighbor in our hierarchical cluster analysis (see L.3 and G.1 in Figure C). Close comparison of the two texts shows that the Greek gives practically a word-for-word rendering of the Latin version, so much so, in fact, that we cannot be certain that the translator was a native speaker of Greek, Latin, or some other language.<sup>13</sup> A typical paragraph (20) is printed below, facilitating a comparison of the Greek and Latin versions:

Capitolium et Pompeium theatrum utrumque opus impensa grandi  
refeci  
Καπιτώλιον καὶ τὸ Πομπηίου θέατρον ἐκάτερον τὸ ἔργον ἀνα-  
λώμασιν μεγίστοις ἐπεσκεύασα

<sup>12</sup> The text written in large letters over the first seventeen columns of the Greek version of the Monumentum Ancyranum states that the text is a translation of an original inscribed on two bronze pillars in Rome (cf. Suet. *Vita Aug.* 101).

<sup>13</sup> In the literature on the inscription, debate about the native language of the translator has gone on for over a century without reaching a conclusion; see Gagé 1977: 11–13 (native language is uncertain); Meuwese 1926 (translator could have been either a Roman or a Greek); T. Mommsen and G. Kaibel in Mommsen 1883: 197–202 (the translator was a Roman); Nissen 1886: 494 (the translator’s native language was neither Latin nor Greek but a language of Asia); Pugliese Carratelli 1947: 79 (agrees with Nissen that translator was from Asia); Regard 1924 (native language is κοινή).

sine ulla inscriptione nominis mei. Rivos aquarum compluribus locis

ἄνευ ἐπιγραφῆς τοῦ ἐμοῦ ὀνόματος. Ἄγωγούς ὑδάτων ἐν πλείστοις τόποις

vetustate labentes refeci, et aquam, quae Marcia appellatur, duplicavi fonte

τῇ παλαιότητι ὀλισθάνοντας ἐπεσκεύασα καὶ ὕδωρ τὸ καλούμενον Μάρτιον ἐδίπλωσα πηγὴν

novo in rivum eius inmisso.

νέαν εἰς τὸ ρεῖθρον αὐτοῦ ἐποχετεύσας.

In this passage, every direct object precedes the verb in both the Latin and the Greek; indeed, the Greek word order almost exactly mirrors that of the Latin original, a process that when taken to extremes is known as relexification.<sup>14</sup> The same technique of translation (with perhaps even less freedom) was apparently used in the Greek version of Octavian's edict concerning Seleucus of Rhosos (42–30 B.C.)<sup>15</sup> and Augustus' funeral oration for Agrippa. Of these two texts only the Greek translations survive, but their word order is so unnatural that scholars have not hesitated to detect the influence of the Latin original on the Greek and even (in the case of the oration for Agrippa) to attempt a back-translation.<sup>16</sup>

Word-for-word translation from Latin gives Greek a *color Latinus*,<sup>17</sup> a Latin flavor. As a method of official translation into Greek, word-for-word translation is not limited to the Augustan age but may be attested at least as late as the third century A.D. Examples include the Pisidian inscription on requisitioned transport from the beginning of the reign of Tiberius;<sup>18</sup> the Monumentum Ephesenum of A.D. 62;<sup>19</sup> and, from the

<sup>14</sup> See H. Zobl 1980; Andersen 1990: 62. We do not mean to imply that the Greek text always reflects the Latin original with complete fidelity. A typology of errors found with some examples is given, e.g., in Gagé 1977: 10 n. 1.

<sup>15</sup> Roussel 1934: 33 ff.

<sup>16</sup> See Haslam 1980: 193–199, esp. 195.

<sup>17</sup> Stroux 1928: 22; De Visscher 1940: 36.

<sup>18</sup> See Mitchell 1976: 106–131, esp. 106 for the date and 110 for the style of the Greek translation. Note that the word order of the Pisidian inscription follows the Latin text with greater freedom than, e.g., the *Res Gestae* translation, with occasional words and phrases relocated in the sentence.

<sup>19</sup> Ed. pr. in *Epigr. Anatol* 14 (1989); cf. *AE* 1989 nr. 681; *SEG* 39 (1989) nr. 1180;

years 212 and 215, the first and third edicts of Caracalla preserved in Papyrus Giessen 15.<sup>20</sup> Thus, this form of translation may have been a perennial feature of the Imperial chancellery. Its absence, though infrequent, is attested and may be taken, in conjunction with other linguistic evidence, as further support of theories that the documents in question were originally composed in Greek, not Latin. A case in point are the Augustan inscriptions from the agora of Cyrene. Stroux speculated on linguistic grounds other than the relative position of direct object and its governing verb that the first four documents were written in Greek, while the fifth (a *senatus consultum*) was composed in Latin. Adding the longest of Stroux's Greek documents (I) to the cluster analysis of our Table I, we find that it is classified into the Greek Cluster 2. Likewise, Stroux's Latin document (V) is assigned squarely to the Latin Cluster 1.<sup>21</sup>

One reason for the word-for-word style was perhaps a desire to ensure that translations of official documents were as close to the original as possible so as to avoid mistakes and misunderstandings.<sup>22</sup> A second factor is what might be called Roman linguistic imperialism in dealings with the Greek world. Latin remained the official language for legal and government business, even in the Greek East, until well into the third century A.D.<sup>23</sup> Laws and *senatus consulta* were of course composed in Latin, and in bilingual inscriptions the Latin copy generally precedes the Greek translation.<sup>24</sup> The use of Latin word order in the

Lewis 1995: 248. The *editio princeps* (p. 6) speaks of how the Greek text is a "word for word" translation from the Latin.

<sup>20</sup> See Meyer 1910-12: 25-45 (and esp. 29, where Meyer notes the Latin word order of the Greek translation of the edict). Stein 1915: 154-156, thinks that the second edict is a translation from the Latin, too. On the styles found in Greek translations of official Roman documents see Viereck 1888; Stroux 1928: 18-43.

<sup>21</sup> The figures are as follows: Text I (DO after = 55%; DO before = 45%); Text V (DO after = 14%; DO before = 86%).

<sup>22</sup> Cf. Stroux 1928: 19; cf. Sherk 1969: 13: "*senatus consulta* were important documents, and their translation could not be left in the hands of amateurs or Greek provincials, who might deliberately or unintentionally distort the true meaning. One official source was responsible for them, and, in the light of the *color latinus* which they display, that source could only have been in Rome."

<sup>23</sup> See Stein 1915: 138-160; Sherk 1969: 13 writes: "the texts span a period of two hundred years, yet one sometimes feels that a single individual has done them all."

<sup>24</sup> Cf. Stein 1915: 152 and the literature cited by Laffi 1967: 39 n. 45. This is also true of the Pisidian inscription, published in Mitchell 1976. Stroux thought that the four Augustan edicts from Cyrene were originally written in Greek (Stroux 1928: 24-25). The

typical Greek translation of an official document may perhaps reflect yet another manifestation of the same striving for linguistic hegemony. As one scholar has put it while describing linguistic conflict in the Roman empire: Roman official texts in Greek “were literal and wooden . . . Evidently official Rome would not concede too much. Their Greek had to have a strong Latin flavor.”<sup>25</sup>

What “official Rome” did collectively in commissioning Greek translations of official documents reflected the behavior of individual Romans in the government. As early as the second century B.C., the Roman senatorial class, for all its philhellenism and sense of linguistic inferiority vis-à-vis Greek, was uncomfortable about the use of the Greek language for public business.<sup>26</sup> Relevant for understanding the style of the *Res Gestae* and similar official translations are anecdotes like that about Roman officials like L. Aemilius Paullus, who, though (like Cassius Dio) fluent in Greek, addressed the Greeks in Latin at Amphipolis at the end of the Third Macedonian War.<sup>27</sup> Later, Cicero was criticized by his fellow senator, L. Metellus, for addressing the Syracusan senate in Greek.<sup>28</sup> According to Cicero (perhaps writing tongue-in-cheek), L. Lucullus wrote a Greek history containing some intentional Latinisms, “to make his readers more willing to believe that it was written by a Roman.”<sup>29</sup>

We do not have any of Lucullus’ history, so it is impossible to know just what Latinisms he used to season his style with a Roman flavor.<sup>30</sup> That Greeks perceived an SOV word order as characteristically Latinate is suggested by an amusing anecdote in Lucian’s *Demonax*. “A man named Polybius,” wrote Lucian, “quite uneducated and ungrammatical,

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situation may sometimes have been more complicated; cf. Laffi 1967: 38–39 (a calendar from the province of Asia which may represent a Latin draft by the proconsul or other official written up for publication in Greek).

<sup>25</sup> Bonner 1929–30: 589.

<sup>26</sup> Gruen 1984: 1.264–270; on the Roman sense of linguistic inferiority see Rosén 1996: 533.

<sup>27</sup> Gruen 1984: 1.267.

<sup>28</sup> Cf. Crawford 1984: 51–52; Cicero also addressed the citizens of Henna in Greek: see Crawford, 53–54.

<sup>29</sup> Cf. Cic. *Ad Att.* 19.10 (Shackleton Bailey): *commentarium consularis mei Graece compositum nisi ad te, in quo si quid erit quod homini Attico minus Graecum eruditumque videatur, non dicam quod tibi, ut opinor, Panhormi Lucullus de suis historiis dixerat, se, quo facilius illas probaret Romani hominis esse, idcirco barbara quaedam et soloeca dispersisse . . .*

<sup>30</sup> For modern secondary literature on Latinisms in Greek, see Domingo 1979: 30.

said: 'The emperor has honored me with Roman citizenship.' 'Oh, why didn't he make you a Greek instead of a Roman?' said Demonax.<sup>31</sup> Polybius' word order is SOV, with the verb placed at the end of the sentence—"Romanized Greek," as one scholar has recently noted.

The stories about Polybius and Lucullus may help us to understand not only the chancellery style of the *Res Gestae* translation but the prose style of Cassius Dio as well.<sup>32</sup> We see no evidence that would justify explaining Dio's tendency to end clauses with a verb on diachronic grounds of Greek linguistic evolution or as a feature of the κοινή. Rather, we believe that one or both of the following two factors may explain his unusual placement of direct objects relative to the governing verb: (1) like Lucullus, Dio may have intentionally added a Latinism to his style; (2) despite his undeniable Greek ethnic background, Latin may have been Dio's preferred language for many years, especially in the period in which he composed his history. The first reason is more conscious: Dio would presumably be embellishing his text with a Latinism in order to reinforce the *Romanità* of his account of Roman history. The second is more unconscious: living in Italy for so long, Dio has fallen into a Latinate pattern of word order.

To begin with the second possibility, Dio was ethnically a Greek who identified his fatherland as Nicaea but also a second- or possibly even third-generation Roman senator by status, who rose to be praetor in 194, suffect consul in 205 or 206, and who was a member of the *consilium principis* during the reign of Septimius Severus.<sup>33</sup> For many years, then, Dio was immersed in life in Rome, participating in the Senate and, as a writer of a Roman history, constantly studying texts and documents written in Latin. His father was a senator, which probably meant that Dio (who was born c. 164) spent at least a portion of his

<sup>31</sup> Lucian *Demonax* 40: Πολυβίου δέ τινος, κομιδῆ ἀπαιδεύτου ἀνθρώπου καὶ σολοῦκου, εἰπόντος, ὁ βασιλεὺς με τῇ Ῥωμαίων πολιτείᾳ τετίμηκεν. Εἶθε σε, ἔφη, Ἑλληνα μᾶλλον ἢ Ῥωμαῖον πεποιήκει. Jones 1986: 96 n. 43 notes that the word order of Polybius' boast "seems to be Latin."

<sup>32</sup> Latinisms in Dio's prose have long been remarked, but seldom studied in any depth. See Millar 1964: 41–42; and Baldwin 1986: 479–486, esp. 481 with n. 16.

<sup>33</sup> On Dio's family background, and its strong ties to Rome going back to the first century A.D., see Millar 1964: 8; and on his career, 15–17. On Nicaea as Dio's fatherland, see 76[75].15.3, 80[80].5.2. On Dio's relationship with Bithynia see W. Ameling 1984, who also notes that when in Italy Dio lived in Campania, as did many other provincial Greeks working in the Roman administration, thus making for a large, Greek-speaking population in that area.

childhood in Italy. He tells us (72.4.2) that beginning with his treatment of the reign of Commodus (180–192) he was an eyewitness of the events he recounts, implying that he was living in Rome. He was to remain in Italy until 218, returning briefly to serve as consul in 229, which means that he was there during much of the period in which he wrote the *Roman History*.<sup>34</sup>

While Dio's habit of using a more Latin than Greek word order might even suggest that his mother tongue was Latin, this, as we will see, would be a conclusion that does not necessarily follow from our evidence. To be sure applied linguists have observed that learners of second languages often transfer features of their first language (L1) to the language they are studying (L2).<sup>35</sup> These features may range from the phonological to the morphological or syntactic, including word order. An example is reported by Selinker (1969). He studied the English of 132 Hebrew-speaking children in Israel and that of 31 native English speakers in the United States. As the following example shows (concerning the relative order of words for time and place in Hebrew, English, and the English interlanguage of the native Hebrew speakers), when in L2 and L1 two word orders are possible, but a different one is preferred in each language, the interlanguage reflects the preference of L1. In Selinker's example, the issue is the relative order of words for time and place in Hebrew and English. Speakers of Hebrew prefer to put time before place; English speakers do the opposite. When native Hebrew speakers learned English, they retained their natural tendency to put words for time before words for space.

| <i>Word combination</i> | <i>Arrangement</i> | <i>Hebrew</i> | <i>Interlang.</i> | <i>English</i> |
|-------------------------|--------------------|---------------|-------------------|----------------|
| Time + place            | PI-Ti              | 34            | 24                | *33            |
|                         | Ti-PI              | *44           | *46               | 4              |

TABLE IV. Relative order of words for time and place in utterances of native speakers of Hebrew (*Hebrew*), of English (*English*), and of the English interlanguage of native Hebrew speakers (*Interlanguage*; \* = preferred word order; PI = place; Ti = time)<sup>36</sup>

<sup>34</sup> See Barnes 1984 and Rich 1990: 1–4.

<sup>35</sup> The literature on transference is substantial. For a bibliography see Singh and Martohardjono 1991; for a survey of recent trends in transference theory see Odlin 1992: 176–178.

<sup>36</sup> Data are taken from Selinker 1969, Table 1.

Other examples are reported by Odlin involving word-order shifts from L1 to L2 in second language acquisition of Hawaiian Pidgin English, Bamboo English, Andean Spanish, and Pidgin Fijian.<sup>37</sup>

But we need not hypothesize that Dio was a native Latin speaker and a mere learner of Greek (he obviously was not) to explain our data by the theory of linguistic transference. It has been noted that even highly proficient speakers of L2 may persist in borrowing features from L1 that are not present (or, in our case, we should say that are not as frequent) in L2 if they perceive that the distance between L1 and L2 is not great.<sup>38</sup> It is not necessary to invoke the ancient theory that Latin was a Greek dialect<sup>39</sup> to make plausible a claim that a writer like Cassius Dio would have viewed Latin and Greek as closely related languages. The fact is that concerning the location of the accusative direct object there was no correct and incorrect position in either language, just a distributional trend.

This is not to say that the first reason of intentional Latinism was not (also) operative. Whether or not Latin was Dio's native or preferred language, Millar observed that Dio's "identification with the Roman world is complete and unquestioned."<sup>40</sup> Aalders noted that Dio speaks of the Romans in the first person—a rarity among Greek authors. He calls Italy, "this land which we inhabit" (1 F 1.3), and calls the toga, the dress "we use in the Forum" (9 F 39.7). While not eschewing his Greek heritage, by virtue of his education and training, and most importantly his career as a Roman senator and historian, he was deeply immersed in the Latin literary tradition.<sup>41</sup> One possible explanation of Dio's Latinate placement of the direct object relative to the verb, then, is that it is very much in keeping with his self-definition as a Roman. Although far from the quasi-relexification of the official texts we have mentioned, Dio's style would have had the added advantage of giving reinforcement to his goal of Thucydidean objectivity: to his Greek reader (and it was primarily for such a reader that Dio wrote),<sup>42</sup> Dio may have given the

<sup>37</sup> Odlin 1990: 98–104. That the cases studied here should be considered examples of Second Language Acquisition and not Foreign Language Learning is a point Odlin makes at p. 114.

<sup>38</sup> Corder 1983: 95; Kellerman 1983: 114.

<sup>39</sup> See Giomini 1953; Gabba 1963.

<sup>40</sup> Millar 1964: 190. Jones 1986: 89, notes that Lucian is the first Greek to identify himself with the Romans in this way.

<sup>41</sup> See Millar 1964: 34 and *passim*.

<sup>42</sup> On Dio's intended readership, see Aalders 1986: 290–291.

impression that his history was in some sense "official," or at least based closely on Latin sources.<sup>43</sup>

Beyond the problem of Dio's style, the lack of a Latin text in Clusters III and IV is just as interesting as the presence of the Greek works in Cluster II. Applied linguists have observed that transference need not be bidirectional.<sup>44</sup> In our study, we failed to find bidirectionality of the kind seen in Dio—though, in the case of Ammianus Marcellinus we have a Greek writing in a Latin style that in some other, unrelated respects does betray Graecisms.<sup>45</sup> We were especially curious to see if in the passages of Latin writers like Aulus Gellius and Cicero differences could be detected between texts with Greek sources and those with Roman sources. We were unable to find any such differences: even the passages with Greek sources are written in a normal Latin style as far as the relative position of direct object and governing verb is concerned.<sup>46</sup>

In an important article about word-order transfer, Odlin concludes with mostly linguistic explanations of the data he considered, which were quite different from the Latin and Greek texts we have been studying. Our limited study suggests that some but not all explanations are linguistic. On the linguistic level, it was surely the greater consistency of Latin SOV word order that helped the Latin pattern to prevail over the more flexible Greek positioning of the verb and direct object.<sup>47</sup> This was true not only for Roman authors writing Latin with a Greek

<sup>43</sup> See Millar 1964: 34.

<sup>44</sup> Cf. Andersen 1983: 191–192; Jordens 1983; and the literature cited by Gass and Selinker 1983: 14.

<sup>45</sup> See Frischer 1996: 113 (on Ammianus' "sentence" length); Rosen 1982.

<sup>46</sup> For example, we found no differences between a very Roman passage such as Cic. *De Leg.* 3.18–38 and a very Greek-inspired passage such as *De Off.* 1.11–30. Similarly, the works of Aulus Gellius with probable Greek and Roman sources did not differ to any detectable degree, thus confirming Steinmetz's observations that Gellius "does not translate [Greek] word for word but clause for clause, and he shapes his clauses according to the requirements of Latin" (Steinmetz 1992: 207, about Gellius' translation of a passage from Plato's *Symposium* [our translation]). Steinmetz finds that Gellius also observes Latin word order in translations of Aeschines (p. 205), of a letter of King Philip of Macedonia to Aristotle (p. 208), and of correspondence between Aristotle and Alexander the Great (p. 209). The passages in Aulus studied with probable Roman sources are: 6.2–3; those studied with probable Greek sources are: 1.1–3. For a recent study of the adaptive linguistic tools used by Roman writers to Latinize the Greek texts they were translating see Rosén 1996 with the literature there cited.

<sup>47</sup> Odlin 1990: 109, notes another problem that should be mentioned: the observational difficulty that when a language, like Greek, has a flexible word order, it is difficult to

source before them (like Aulus Gellius or Cicero) but also for a Greek author like Ammianus Marcellinus writing in Latin. It was evidently normally easy for both Greeks and Romans to recognize and to respect the tendency of Latin to place the verb at the end of the clause.<sup>48</sup> However, we would supplement Odlin's purely linguistic explanation with Thomason and Kaufman's thesis that "it is the social context, not the structure of the languages involved, that determines the direction and the degree of interference."<sup>49</sup> Certainly, in the interesting case of the Greek translation of the *Res Gestae* and other official documents, where we encountered the Roman chancellery's habit of translating Latin into Greek through quasi-relexification, we found at work either Roman scrupulosity in legal matters or a sociological factor of linguistic hegemony. Finally, in the case of Cassius Dio we saw the operation of a psycholinguistic or sociolinguistic cause for word-order transference: Dio's conscious or unconscious presentation of himself as a Roman.<sup>50</sup>

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determine whether any given case of SOV is normal or an instance of the influence of Latin.

<sup>48</sup> On such metalinguistic awareness see Odlin 1990: 109–110.

<sup>49</sup> Thomason and Kaufman 1988: 19.

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APPENDIX I: Authors, Texts, Editions, Concordances of Clusters, and Numeric Codes

| Author                  | Text                                          | MCB   | OB    | MCA   | OA    | Total  | Cluster<br>(1,2) <sup>1</sup> | Cluster<br>(I-IV) <sup>2</sup> | Numeric<br>code <sup>3</sup> |
|-------------------------|-----------------------------------------------|-------|-------|-------|-------|--------|-------------------------------|--------------------------------|------------------------------|
| Ammianus<br>Marcellinus | 18 <sup>4</sup>                               | 39.00 | 43.00 | 6.00  | 12.00 | 100.00 | I                             | I                              | L.1                          |
| Ammianus<br>Marcellinus | 22 <sup>5</sup>                               | 41.00 | 41.00 | 12.00 | 6.00  | 100.00 | I                             | I                              | L.2                          |
| Aulus<br>Gellius        | <i>Misc. (Greek<br/>sources)</i> <sup>6</sup> | 35.00 | 52.00 | 8.00  | 5.00  | 100.00 | I                             | I                              | L.4                          |
| Aulus<br>Gellius        | <i>Misc. (Latin<br/>sources)</i> <sup>7</sup> | 37.00 | 49.00 | 10.00 | 4.00  | 100.00 | I                             | I                              | L.5                          |
| Aulus<br>Hirtius        | <i>Bell. Gall.</i> 8 <sup>8</sup>             | 37.00 | 45.00 | 7.00  | 11.00 | 100.00 | I                             | I                              | L.6                          |
| Caesar                  | <i>Bell. Gall.</i> 1 <sup>9</sup>             | 48.00 | 48.00 | 3.00  | 1.00  | 100.00 | I                             | I                              | L.7                          |
| Caesar                  | <i>Bell. Gall.</i> 3 <sup>10</sup>            | 46.00 | 51.00 | 3.00  | 0.00  | 100.00 | I                             | I                              | L.8                          |
| Cicero                  | <i>Ad Att.</i> <sup>11</sup>                  | 35.00 | 46.00 | 10.00 | 9.00  | 100.00 | I                             | I                              | L.11                         |
| Cicero                  | <i>Brutus</i> <sup>12</sup>                   | 24.00 | 57.00 | 6.00  | 13.00 | 100.00 | I                             | I                              | L.12                         |
| Cicero                  | <i>In Cat.</i> <sup>13</sup>                  | 35.00 | 40.00 | 19.00 | 6.00  | 100.00 | I                             | I                              | L.21                         |
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| Cicero                  | <i>De Off.</i> 2b <sup>17</sup>               | 30.00 | 53.00 | 9.00  | 8.00  | 100.00 | I                             | I                              | L.18                         |
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| Plutarch                      | <i>Alex</i> <sup>48</sup>           | 15.00 | 40.00 | 14.00 | 31.00 | 100.00 | 2                             | III                            | G.15                         |
| Plutarch                      | <i>Cicero</i> <sup>49</sup>         | 22.00 | 37.00 | 12.00 | 29.00 | 100.00 | 2                             | III                            | G.17                         |
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- <sup>1</sup> See Figure A.
- <sup>2</sup> See Figure B.
- <sup>3</sup> See Figures A, B, and D.
- <sup>4</sup> 18.1.1–18.3.6 (ed. J. C. Rolfe).
- <sup>5</sup> 22.1.1–22.7.3 (ed. J. C. Rolfe).
- <sup>6</sup> Passages selected because they probably had Greek sources are the following: *Noctes Atticae* 1.1, 1.2, 1.3, 1.5 (ed. J. C. Rolfe).
- <sup>7</sup> *Noctes Atticae* 6.2.1–6.3.35 (ed. J. C. Rolfe).
- <sup>8</sup> 8.1–8.14 (ed. H. J. Edwards).
- <sup>9</sup> 1.1–1.12 (ed. R. L. A. Du Pontet).
- <sup>10</sup> 3.1–3.13 (ed. R. L. A. Du Pontet).
- <sup>11</sup> Letters 367, 367B, 368, 408, 409 (ed. D. R. Shackleton Bailey).
- <sup>12</sup> 75–110 (ed. G. L. Hendrickson).
- <sup>13</sup> In *Catilinam* 1.1–17 (ed. C. Macdonald).
- <sup>14</sup> *De officiis* 1.11–1.30 (ed. W. Miller).
- <sup>15</sup> *De officiis* 1.32–1.63 (ed. W. Miller).
- <sup>16</sup> *De officiis* 2.11–2.35 (ed. W. Miller).
- <sup>17</sup> *De officiis* 2.36–2.55 (ed. W. Miller).
- <sup>18</sup> *De officiis* 3.15–35 (ed. W. Miller).
- <sup>19</sup> *De officiis* 3.37–3.55 (ed. W. Miller).
- <sup>20</sup> *De Natura Deorum* II.lxvii.168–III.i.3; III.i.4–vii.18 (ed. H. Rackham).
- <sup>21</sup> *De Legibus* 3.18–38 (ed. C. W. Keyes).
- <sup>22</sup> *NH* 34.9.15–34.19.49 (ed. H. Rackham).
- <sup>23</sup> *NH* 36.4.15–36.5.44 (ed. H. Rackham).
- <sup>24</sup> *Epist.* 3.1.1–5.4 (ed. B. Radice).
- <sup>25</sup> *De Clementia* 1.1.1–1.5.6 (ed. J. W. Basore).
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- <sup>33</sup> 36.1.1–36.12.1 (ed. E. Cary).
- <sup>34</sup> 40.16.1–40.29.2 (ed. E. Cary).
- <sup>35</sup> 54.7.1–54.11.2 (ed. E. Cary).
- <sup>36</sup> 59.2.1–59.5.3 (ed. E. Cary).
- <sup>37</sup> 3.1.1–3.8.5 (ed. B. O. Foster).
- <sup>38</sup> 21.1.1–21.9.4 (ed. B. O. Foster).
- <sup>39</sup> *Agricola* 1.1–10.6 (ed. M. Hutton and R. M. Ogilvie).
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- <sup>41</sup> *Rom. Ant.* 2.1.1.–2.6.1 (ed. E. Cary).
- <sup>42</sup> *Hist.* 1.1.–1.13 (ed. A. D. Godley).
- <sup>43</sup> *Hist.* 2.1–2.14 (ed. A. D. Godley).
- <sup>44</sup> *Medit.* 3.1–3.10 (ed. A. S. L. Farquharson).
- <sup>45</sup> *Medit.* 8.1–8.41 (ed. A. S. L. Farquharson).
- <sup>46</sup> 1–3 (ed. C. E. Lutz).

- <sup>47</sup> 26.1–30.3 (ed. B. Perrin).  
<sup>48</sup> 1.1–6.2 (ed. B. Perrin).  
<sup>49</sup> 7.1–12.2 (ed. J. L. Moles).  
<sup>50</sup> *Convivium septem sapientium*, *Moralia* 158.15–162.19 (ed. F. C. Babbitt).  
<sup>51</sup> *Moralia* 263E–267A (ed. F. C. Babbitt).  
<sup>52</sup> 11.2–16.5 (ed. B. Perrin).  
<sup>53</sup> 1.1–7.2 (ed. B. Perrin).  
<sup>54</sup> 1.33.1–1.38.8 (ed. W. R. Paton).  
<sup>55</sup> 2.25.1–2.30.4 (ed. W. R. Paton).  
<sup>56</sup> 2.12–2.21 (ed. C. F. Smith).  
<sup>57</sup> 1.1–2.12 (ed. C. L. Brownson).  
<sup>58</sup> 1.1–7.2 (ed. B. Perrin).  
<sup>59</sup> 291E–294E (ed. F. C. Babbitt).  
<sup>60</sup> 5.1.1–5.10.3 (ed. C. F. Smith).  
<sup>61</sup> 7.1.1–7.11.4 (ed. C. F. Smith).

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## ARETHUSA

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### HORACE: 2000 YEARS

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**HORACE AND THE END OF  
RENAISSANCE HUMANISM IN ITALY:  
QUARRELS, RELIGIOUS CORRECTNESS,  
NATIONALISM, AND ACADEMIC PROTECTIONISM**

BERNARD FRISCHER

*—Per Paolo Pezzolo, Egregio Umanista*

Let me begin with some striking statistics and a story. In the good Renaissance year of 1451, the number of professors at the renowned University of Bologna, the alma mater of universities, was 44; the number of students is estimated to have been 10,000. They came from all over Europe, as did many of the professors. Two centuries later, in the academic year 1676–77, the number of professors had swollen to 161, but the student body had shrunk to some 60 souls! Even worse, of the 161 professors, only 12 actually offered courses, though the others, of course, continued to draw their salary.<sup>1</sup> Of the professors, over 90% were from Bologna and its environs; only three were non-Italians. A similar tale of woe could be told about Bologna's rival, the University of Padua.<sup>2</sup> How did things get so out of kilter? The story I mentioned will help us to approach this very complex question.

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<sup>1</sup> See Minelli 1987.16–19.

This study is an abridgement of a longer study about the Cologno–Riccoboni quarrel that I am presently finishing. Full documentation of points made in this article will be found in the longer study; here, because of space limitations, I have been able to give the reader just a few of the more important bibliographical indications.

<sup>2</sup> Cf. Rossetti 1983<sup>2</sup>.51.

First a bit of background. Antonio Riccoboni, a native of Rovigo who lived from 1541 to 1599, was the professor of Greek and Latin at the University of Padua. He was recognized as the dominant Italian humanist of the day and was on good terms with most of the leading lights of northern Italy in the last quarter of the sixteenth century. He was, for example, quite friendly with Galileo, and indeed was the first Padua professor to correspond with the young and virtually unknown mathematician when he was still living in Pisa in the late 1580s. Riccoboni helped recruit Galileo for Padua in 1592.

The story I want to tell happened the year before, in the summer of 1591. July and August should have been a time when the fifty-year-old Riccoboni relaxed at the end of a hard academic year that had ended with a major disappointment. He had been passed over for the vacant and more prestigious professorship of Moral Philosophy, a post he wanted to add to his chair in Classics, as his teacher and predecessor Francesco Robortello had done thirty years earlier. Instead of selecting Riccoboni, the regents of the university decided to hire an obscure Bergamasco priest and schoolmaster, Nicolò Cologno.

From mid-July to the end of August Padua is usually muggy and mosquito-ridden—not a place to be doing serious work, if you can avoid it. From his many surviving unpublished letters, we know that Riccoboni usually spent the dog days at his country house outside Rovigo. However, this summer Riccoboni had to remain in the city to defend his world against the human and natural forces that suddenly seemed on the verge of destroying it.

The Jesuits were causing trouble in Padua, threatening to open their so-called “Counter-University” with offerings in direct competition with Riccoboni’s own poorly-attended classes. Tempers were short, and the students were divided between supporters and opponents of the Jesuits’ scheme, which was motivated by their desire to remedy the University’s alleged tolerance of heresy.

In early July, some noble Venetian university students had run through the town covered only by sheets. They entered the Jesuit College, where, letting the sheets fall, they insulted all present. Riccoboni had to start organizing a defense of his discipline against the Jesuits, which was to bear fruit the next November when the University formally agreed to ask the Venetian Senate to prohibit the Jesuits from offering courses in Padua.

What was at stake for a professor like Riccoboni was nothing less than his position and livelihood. University appointments usually were for

four years, with a two-year extension at the option of the University. Tenure as we know it did not exist. Renewal of contracts depended upon a teacher’s satisfactory performance of his duties and sufficient student demand for his classes. The Jesuits planned to offer courses in grammar and rhetoric—Riccoboni’s field. If successful—and they almost always were, because unlike the public schools they did not charge fees—the Jesuits might well provoke the Venetian Senate into not renewing Riccoboni’s contract, or at least into reducing his salary, which at 650 florins was quite handsome for a humanist.

Just to make matters worse, an earthquake rocked northern Italy in mid-July. Everyday life was disrupted for days, as people moved outdoors until they were sure the worst had passed. Nerves already frayed by the rising heat and academic tensions in the city were set on edge.

Most on Riccoboni’s mind that July, however, was a more pressing and gnawing problem affecting his professional standing at Padua and elsewhere: how best to respond to the brutally sarcastic attack against his views on Horace’s *Ars Poetica* published in May or June by his new nemesis, the priest Cologno.

It is not surprising that Riccoboni and Cologno would project their many-faceted rivalry onto the seemingly unlikely text of the great Roman poet’s work on the art of poetry: the poem was a canonical text in the curricula of both religious and lay schools. That Cologno invested a great deal of emotion in his interpretation of the poem can be seen from this typical passage, dripping with vitriol, in which he attacks Riccoboni: “You, on the other hand, who think that Horace has written nothing here that is coherent and logical, but like a madman babbled things that are disconnected, scattered, and incoherent. . . . You, you, Riccoboni, are mad, not Horace!”<sup>3</sup> No wonder Riccoboni was spending the summer in Padua trying to frame an effective response so that he did not become a laughing-stock. He had an ulterior motive, too: by defeating Cologno in a very boisterous and public battle of the books, Riccoboni could not only discredit the man who had won the professorship he coveted, he could also embarrass him into resigning his position, thus giving Riccoboni a second shot at it.

The next academic year brought Riccoboni the victories he sought: the Senate prohibited the Jesuits from opening a university in Padua. Cologno suffered an embarrassing loss in his debate with Riccoboni about

<sup>3</sup> Cologno 1591a.27.

Horace, and things went downhill from there. The next disaster occurred at the very visible public ceremony of his inaugural lecture: he was shouted down by his students and was unable to finish.<sup>4</sup> After such an inauspicious beginning, it is hardly surprising that Cologno left town at the end of the '91-'92 academic year never to return. But Riccoboni's victories were illusory and costly. In the end, he did not get the appointment to the chair of Ethics—Cologno's post went to another priest, Giovanni Belloni, in 1594. Nor could Riccoboni keep the Jesuits out of Padua indefinitely: with the help of Padua's Bishop, Alvisè Cornaro, they finally succeeded in founding their school in 1596.<sup>5</sup>

But after his triumphal year 1591-92, Riccoboni's greatest disappointment was his first. On March 13 of 1593, the Rector of the university, Pietro Alzano, was fatally stabbed in the face in broad daylight on the streets of Padua. Alzano had been Riccoboni's chief ally in the fight against the Jesuits. Like all university rectors in this aristocratic age, Alzano was a student. Surviving police reports tell us that, not unexpectedly, the prime suspects were the Jesuits, whose Padua enterprise Alzano and Riccoboni had so effectively blocked. Political assassination was just the kind of thing people associated with the Jesuits in this period. The Babington Plot, in which English Catholics recruited and controlled by Jesuits tried to assassinate Queen Elizabeth, is perhaps the best known example. It was foiled by the great English spy master, Sir Francis Walsingham, just a few years earlier in 1586.<sup>6</sup> Besides the Jesuits, there were other suspects in the Alzano case who were of even greater interest to Riccoboni. First, there was the College of German students, which Riccoboni served as academic advisor. The Germans were angry with Alzano because he had violated the tradition which said that the rectorship should alternate between an Italian student one year and a Transalpine the next. Alzano had gotten himself elected to two successive terms, despite the Germans' official protest to the Doge. So, the Germans certainly had a motive every bit as strong as the Jesuits to murder Alzano. The last suspect was Alessandro d'Este, who just five years later was to be named a cardinal at the tender age of 29. In 1593, he was finishing his studies in Padua, in the course of which he had become Riccoboni's disciple and patron. Este's motive is not known but must have

<sup>4</sup> See Cologno 1591b. [i-ii].

<sup>5</sup> See Simeoni 1968.846.

<sup>6</sup> See Nicholl 1992.147-68.

been personal. Despite their best efforts, the police could prove nothing and—because (as the records tell us) all the suspects were considered too powerful to prosecute—the case was dropped. It remains a mystery to this day.<sup>7</sup>

The statistics I began with and this story about Antonio Riccoboni bring up all the themes I want to explore in this paper: quarreling by humanists and the threats to late humanism caused by the related phenomena of academic protectionism, nationalism, and what might be called "religious correctness." I will argue that, if it makes sense at all to speak of the end of Italian Renaissance humanism (and I think it does), then it is something that happened when humanism in Italy succumbed to these threats.

The "End of the Renaissance"—at first this might appear to be a rather depressing or even a rebarbative topic. Worse, it is controversial, presuming, as it does, that we know what we mean by the term "Renaissance"; that we know when the Renaissance began; that we think it worthwhile to take so seriously the periodization of history, which is after all just a convention or a convenience. Benedetto Croce indeed said the following about precisely this question of when the Renaissance ended: "[history] must know how to refrain from getting involved in fruitless questions."<sup>8</sup> Many historians follow his advice. Instead of addressing the issue of why and when the Renaissance ended in Italy, they speak positively of its "migration" to other countries, to quote a section title of a standard reference work on the subject.<sup>9</sup> However, why did the Renaissance have to migrate from Italy; why could it not simply stay happily at home, as so many brilliant Italians have preferred to do throughout the centuries? Do we really have a triumphant process of "migration," or a tragic one of what might better be termed "exile" or even "suicide"? And with the right methodology, can we not make this question fruitful instead of fruitless?

Inevitably, we need to define some terms. Kristeller's definitions are as good and unobjectionable as any I have seen. The Italian Renaissance, he tells us, is simply "the historical period that extends roughly from 1300 to 1600 A.D. . . . that has been conventionally designated by that name." *Humanism* means the pursuit of the "*studia humanitatis* . . . a

<sup>7</sup> See Rossetti 1979.

<sup>8</sup> Croce 1970.31.

<sup>9</sup> *Encyclopedia Britannica*, vol. 19 (1972) 126.

well-defined cycle of teaching subjects listed as grammar, rhetoric, poetry, history and moral philosophy, all of them to be based on the reading of the classical Greek and Latin authors."<sup>10</sup> Humanists come in two stripes, Kristeller goes on to tell us: first, there is the teacher variety, staffing positions in the schools and universities. Then there is the professional class of chancellors and secretaries, who could read and write and do so with some sense of style and decorum.<sup>11</sup> Of the two varieties, the professionals were more important in the early phases of the Renaissance, when a humanist like Coluccio Salutati, the Chancellor of Florence, was active. On the other hand, as humanism matured and the sheer number of published texts and commentaries required a specialist's full-time attention, university professors like the Bolognese humanist Carlo Sigonio came to enjoy star status, and so it is the humanist-teachers who most interest us when we consider the end of humanism in Italy. Indeed, as Grendler has shown, the term *umanista* came to apply only to the professors by the end of the sixteenth century.<sup>12</sup> The two professorships with the most prestige in northern Italy were undoubtedly those at the universities of Padua and Bologna. It is these on which we will focus in this paper.

By quoting Croce, I do not wish to give the impression that no one has tackled this question before. In fact, Jacob Burckhardt did so in his classic book, *The Civilization of the Renaissance in Italy*.<sup>13</sup> For Burckhardt, the humanists were themselves to blame for their decline and fall. They were a quarrelsome lot and, "not satisfied with refuting, they sought to annihilate an opponent." Their debates quickly degenerated into name-calling, and the public, at first fascinated, next grew to feel that each side was right about the sins of the other. Finally, they grew tiresome and, worst of all, boring. The end of humanism was at hand.<sup>14</sup>

Burckhardt's thesis is simple and colorful—especially as fleshed out by anecdotes such as Battista Mantovano's inclusion of the humanists among the seven mythical monsters, or his characterization of them as men

<sup>10</sup> Kristeller 1990.2–3.

<sup>11</sup> Kristeller 1990.5.

<sup>12</sup> Grendler 1981.

<sup>13</sup> For a brief survey of later work on the end of the Renaissance in Italy see Cochrane 1970.11–18, and add Schmitt 1982.313–17.

<sup>14</sup> Cf. Burckhardt 1944.139–45 (originally published in 1860); the quotation is from p. 139. For the reception of Burckhardt's monumental study, see Hay 1982.

who hunt for popularity like cranes rummaging for food.<sup>15</sup> Yet (perhaps because I am myself a quarrelsome humanist), I find the explanation too vague and idealistic. Burckhardt treats a socio-economic question of the rise and fall of the humanist class as if it were simply a matter of changing literary taste. Moreover, he has caught the wrong culprit: as the humanists themselves recognized, their quarrelsomeness was the cause, not of their fall, but of their vitality. As Antonio Riccoboni put it in 1591: "quarrels between scholars of literature generally disentangle knotty points in the writings of the ancients. They also shed light on obscure matters, unravel complications, and explain thorny issues. Finally, they open up concealed matters, bringing to light what would otherwise lie in the darkest gloom."<sup>16</sup>

A case in point is the very quarrel to which Riccoboni was referring—his debate against Nicolò Cologno ventilating the problem of whether Horace's *Ars Poetica* has a structure. In the four decades preceding the Cologno–Riccoboni debate, scholars had first explicitly addressed this problem of the poem's structure, which, all agreed, suffered by comparison with Aristotle's *Poetics*, a text whose structure was itself the subject of lively debate.<sup>17</sup> By the 1560s, two solutions had been proposed, neither demonstrated in any detail and neither very satisfactory: the *Ars Poetica* was neither a collection of unrelated precepts nor a technical treatise, but something in between: a loosely written letter, very informal in tone, content, and structure. The alternative solution was that the *Ars Poetica* was so confusedly written that it deserved neither its title nor much respect from modern students of poetics; rather it resembled the very monster that Horace condemns at the beginning of the poem. The first view is associated with scholars active in northern Italy, such as Francisco Robortello, Jason De Nores, Marc-Antoine Muret, Henri Estienne, and Denys Lambin. The second position was taken by Julius-Caesar Scaliger in his influential *Poetices libri septem*.<sup>18</sup>

The text that started the controversy of 1591, Cologno's *Methodus* of 1587, must be interpreted against this background. Explicitly responding to attacks on the claim of the *Ars Poetica* to be considered a technical treatise, Cologno thought that he had found the key to unlock the problem:

<sup>15</sup> Cf. Burckhardt 1944.141.

<sup>16</sup> Cf. Riccoboni 1591b.4.

<sup>17</sup> Here I am thinking of the debate between Robortello and Madius about how to divide the *Poetics* into sections and how to correctly label those sections; see Madius 1550.18–25.

<sup>18</sup> For details, see Frischer 1991.4–7, with Appendix I for the key texts.

plot, or *fabula*, called the “soul” of poetry by Aristotle in the *Poetics*.<sup>19</sup> According to Cologno, there are four kinds of plot—epic, tragedy, comedy, satyr drama—and, since these are all treated in the *Ars Poetica*, the poem has a plan in the sense that it exhaustively treats its topic, poetics. Thus, for Cologno, the earlier sixteenth-century solutions should be decisively rejected, since the *Ars Poetica* is neither a loosely written letter nor may its claims to being a technical treatise be lightly dismissed.

Four years after publishing the *Methodus*, Cologno accepted the post of professor of Moral Philosophy at Padua as successor of the recently deceased Jason De Nones, who died at the end of December, 1590.<sup>20</sup> Before the 1591–92 academic year began in November, Antonio Riccoboni published his first attack on the theory of his new colleague, the *Dissensio*. The points at issue in the quarrel were numerous, and I will discuss them in a separate study. We may briefly note here that, for Riccoboni, the main problems were that Cologno did not define what he meant by “plan”; that the number of genres in the poem and in ancient literature exceeded four; that Horace does not, in any case, treat the epic genre in a separate section, as he does tragedy, comedy, and satyr drama; and that the *Ars Poetica* is not a technical treatise on the model of Aristotle’s *Poetics* but simply a friendly letter that Horace sent to the Pisones. To clinch this last point, Riccoboni showed how the poem would have to be rewritten, if it were to have a “plan” in the technical sense of the word.

Though the Riccoboni–Cologno debate yielded at least as much smoke and heat as light, the disputants did sketch out three theoretical answers to the problem that have become perennial in *Ars Poetica* scholarship: (1) that the poem has no clear structure, but need not have one because it is not a formal treatise but merely an informal letter (Riccoboni’s position); (2) that the poem can be given a structure through massive transpositions of lines to restore an original order supposedly lost through scribal error (Cologno’s misunderstanding of Riccoboni’s position); and (3) that the *Ars Poetica*, for all its superficial confusion, has an implicit structural principle which, once revealed, lends the poem more coherence and unity than are apparent on a first reading (Cologno’s position).

Of these three positions, the most interesting for our purposes is the second, for it suggests how growing nationalist sentiments were starting

<sup>19</sup> *Poet.* 1450a39–50b1: “So plot is the origin and as it were the soul of tragedy, and the characters are secondary” (translated by R. Janko 1987).

<sup>20</sup> On De Nones see Budd 1927.

to cloud scholars’ minds. Riccoboni did not actually propose to heal a supposedly corrupt text through transposition; rather, he tried to reconstruct the technical treatise that served as Horace’s source. Cologno was not the only scholar to mischaracterize Riccoboni’s position: in fact, most of the handful of scholars who ever had occasion to summarize Riccoboni’s views have been equally inaccurate.<sup>21</sup> Later scholars undoubtedly went astray because of haste or carelessness, but in Cologno’s case the error was intentional. He tried to tar Riccoboni with the brush of a philological heresy particularly loathed in Italy—the kind of massive rearrangement of the lines of a *textus receptus* that late sixteenth-century scholars associated with Joseph Scaliger and his 1577 edition of Propertius, Tibullus, and Catullus.<sup>22</sup> How the conservative Italians felt about Scaliger’s work can be seen in the following remark by Riccoboni’s friend, Roberto Tizzi.<sup>23</sup> In his *Locorum controversorum libri decem* of 1583, Tizzi attacked Scaliger no fewer than twelve times. A typical instance occurs in Liber VII, cap. xvi (whose heading is, “A certain old reading of Tibullus, which was forced to change its position by Joseph Scaliger, restored to its original location”). There Tizzi wrote:

If I tried to protect those three famous poets from all the stain with which Joseph Scaliger has recently covered them . . . that would be the same as wishing to carry off the dung heap of Augeas. This labor would indeed be Herculean, for there are many things in their works which that man—inspired by what evil demon I do not know—has changed for the worse, boldly and blindly mixing heaven and earth.<sup>24</sup>

<sup>21</sup> Most influential has undoubtedly been Peerlkamp 1845.228–29, but see also Dorighello 1774.vol. 3, pp. 10–12; Antibon 1888.48–52.

<sup>22</sup> On which see Grafton 1983.177–79 and Gaisser 1993.178–92; neither Grafton nor Gaisser mentions Tizzi’s critique of Scaliger. On Scaliger (1540–1609) see also the short but perceptive treatment in Pfeiffer 1976.113–19.

<sup>23</sup> Pfeiffer 1976.119 says that “neither Italy nor France showed real understanding of Scaliger’s genius or much enthusiasm for its creations,” but provides no details. The bald statement is truer of Italy than of France, where Scaliger’s work was documentably well regarded by some leading scholars.

<sup>24</sup> Tizzi 1583.186. On Tizzi (1551–1609) see A. Fabronio, *Historiae Academiae Pisanae*, vol. 2 (Pisa 1792) 443–47; S. Mazzetti, *Repertorio di tutti professori antichi e moderni della famosa università . . . di Bologna* (Bologna 1847) 304 (nr. 2979).

Scaliger was not amused. In 1586, using the pseudonym Yvo Villiomarus (which did not fool Tizzi, who in his next publication called his adversary Villioscaliger),<sup>25</sup> Scaliger published his *In locos controversos Roberti Titii animadversorum liber* (Paris, Mamert Patisson, 1586). Scaliger's entire book constitutes a blistering personal attack against Tizzi. A sampling of Scaliger's chapter headings will give a fair taste of the tone he adopted: "Titii hallucinatio" (p. 8); "Titii calumnia" (p. 14); "Titii ἀγνομοσύνη et plagium" (p. 16); "Infelix iudicium Titii et hallucinatio" (p. 17); "Titii mira ἀλογιζία" (p. 18); "Error Titii et barbarismus" (p. 26); "Imperitia sermonis Graeci mira in Titio" (p. 31); "Locus Lucretii a Titio corruptus" (p. 35); etc. At pp. 145–46, Scaliger replies to Tizzi's attack on his transpositions in the 1577 edition of the love poets. This reply has a unique heading: "Incivilitas Titii." Scaliger's feelings have clearly been hurt, and his counterattack poses as a defense of the honor of "Transalpine" scholars against the clannish Italians, because "it pains you (scil., Italians) that Transalpine men teach you things you did not know. And what you do not know, you call 'error.'" As a result, Tizzi directed his rebuttal against "a certain Yvo Villiomarus, *Italici nominis calumniatorem*," as his title put it.<sup>26</sup> Scaliger's anti-Italian feelings were not simply the result of scholarly attacks. He apparently also thought that Venetian agents had once tried to assassinate him and his father at Paris.<sup>27</sup>

Thus, by misreading Riccoboni's work on the *Ars Poetica* as *Textkritik*, as opposed to *Quellenkritik*, Cologno was implicitly accusing his adversary of guilt by association with a Transalpine scholar held in low esteem in Italy. The irony is that one of Scaliger's greatest Italian foes was none other than Antonio Riccoboni, because Riccoboni had helped uncover documents showing that Scaliger's family was not noble but plebeian.<sup>28</sup> Scaliger in turn detested Riccoboni, calling him *porcus Riccobonus*.<sup>29</sup> Cologno's gambit must have been quite galling to his opponent.

Four centuries later, the problem debated by Riccoboni and Cologno has not yet been solved, but not for lack of trying. In fact, since 1591

<sup>25</sup> Tizzi 1589.224.

<sup>26</sup> Scaliger 1586.145: *Dolet vobis homines Transalpinos vos docere, quae nesciebatis. quicquid autem ignoratis, hoc a vobis error vocatur*. For the rebuttal, see Tizzi 1589.

<sup>27</sup> Cf. *Scaligeriana sive excerpta ex ore Josephi Scaligeri per F.P.P.P.* (Geneva 1666) 313.

<sup>28</sup> See Billanovich 1968.

<sup>29</sup> Cf. Scaliger's letter to Ioannis Caselius dated Leyden, August 18, 1607 in Scaliger 1627.573.

practically no decade has gone by without a major new attempt to find a way out of the labyrinthine maze of Horace's poem.<sup>30</sup> Like Fermat's Theorem in math, this is the kind of problem whose very difficulty keeps the humanities alive by posing a challenge that bright young minds find irresistible. To return to our topic of the end of the Renaissance, the important point to note is that the quarrel initiated by Riccoboni and Cologno has never again been hosted on Italian soil. Thus, it was not the presence of quarrelling in Italy that brought about the end of the Renaissance; rather its absence marked the shift of humanism to other venues.

To see what happened to humanism to Italy at the end of the period defined by Kristeller, I would suggest that we will make progress beyond Burckhardt by applying the method of the case-study recently used by Anthony Grafton and Lisa Jardine in their provocative book, *From Humanism to the Humanities*.<sup>31</sup> In doing so, we could hardly do better than look closely at the career of Antonio Riccoboni, whose death in 1599 so conveniently coincides with the end of this great era. And after laying Riccoboni to rest, we need to look at his succession. In particular, we will want to delve into why neither Padua in 1600 nor Bologna in 1596 succeeded in efforts to recruit to Italy the greatest living humanist, Justus Lipsius.

Born in Rovigo in 1541 to middle class parents, Antonio Riccoboni studied Greek and Latin in Padua and Venice with the leading Veneto humanists of the mid-sixteenth century.<sup>32</sup> Returning by 1558 to Rovigo, Riccoboni was enrolled in the College of Notaries. In 1562, he was hired to be a teacher in the local public school. Soon, his prestige was so high that he became a member of the town council of Rovigo and was given the task of revising the town's statutes.<sup>33</sup>

Riccoboni taught school in Rovigo for nine years, until 1571. During the early part of this period, he became a member of the *Accademia degli Addormentati*, an institution founded in 1553 that provided him with much-needed intellectual stimulation.<sup>34</sup> Far from being merely meeting places for antiquarian and scientific discussion and debate as such acade-

<sup>30</sup> For a survey of work on the poem's structure from 1957–1987, see Doblhofer 1992.129–31. I plan to publish a survey of structural work on the poem from the Renaissance to the 1990s.

<sup>31</sup> Grafton and Jardine 1986.

<sup>32</sup> Tomasinus 1644.109–12.

<sup>33</sup> For Riccoboni's revision of the town statutes, see Nicolio 1578.139.

<sup>34</sup> See Malavasi 1972c.47.

mies were to become in later centuries, the *accademie* of mid–sixteenth–century Italy were central (and, often, secret) cultural organizations promoting religious reform and in some cases even Protestantism.<sup>35</sup>

Such was the case with the Accademia degli Addormentati (which, by the way, means the Academy of Sleepyheads). It was closed in 1562 by order of the Venetian podestà, Giacomo Foscarini.<sup>36</sup> At the same time, its members were investigated by the Inquisition on charges of heresy.<sup>37</sup> These investigations dragged on for several years, uncovering evidence of Anabaptism and Calvinism in the Accademia as well as trafficking in prohibited books in several Veneto cities.<sup>38</sup> This is not unusual: the Veneto had, from the first, been a center of the diffusion of Protestant ideas in Italy.<sup>39</sup> In this instance, the result was not only the suppression of the academy but the disruption of the lives of its members, some of whom fled to the Protestant north or to more tolerant Padua.<sup>40</sup> At least one, Girolamo Biscaccia, was ultimately sentenced to death.<sup>41</sup> Riccoboni was himself arrested, and the records of his hearings with the chief inquisitor and the bishop of Rovigo survive in the archive of the town Curia. From these, we can see that Riccoboni was a Protestant, denying the validity of the Eucharist, the cult of the saints, and the authority of the pope.<sup>42</sup> In the end, Riccoboni agreed to abjure his heresies and return to the Church.

These sad events in out-of-the-way Rovigo were by no means isolated but symptomatic of a larger pattern of religious fanaticism and persecution in Italy and elsewhere associated with the reign of Pope Pius V.

<sup>35</sup> On the *accademie* in general, cf. Maylender 1926; Yates 1983; LaRusso 1983.44. For the *accademie* in Venice and the Veneto, see the literature cited by Malavasi 1972c.48 n. 6; Benzoni 1977 (cf. pp. 113–15 on heterodox academies, including the Accademia degli Addormentati at Rovigo).

<sup>36</sup> See Canton 1972–73.18–19.

<sup>37</sup> Malavasi 1972c.55.

<sup>38</sup> Malavasi 1972a.7; 1972c.50–53. Veneto Anabaptism generally was the subject of a study by Stella 1967. For Rovigo, in particular, see Malavasi 1972b.5–24.

<sup>39</sup> See Cochrane 1988.134–41; Stella 1967.

<sup>40</sup> Padua, though part of the Veneto, where the Inquisition found the civil authorities generally cooperative, had a strong economic incentive for a policy of religious tolerance: the presence of many German students (many of them Lutheran). It has been estimated that between 1550–1599 over 6,000 Germans studied at Padua, which became notorious as a city of heretics. See Simeoni 1968.809–54.

<sup>41</sup> Malavasi 1972c.54–56; Marchi 1969.168–218.

<sup>42</sup> Cf. Archivio della Curia of Rovigo, in the series *Cause Criminali, 1561–64: Abiurationes secretae facte de anno 1564: Antonii Riccoboni, Hyeronomi Biscaccii et Ioannis Baptistae Minadoii*.

In the Veneto alone, 82 heretics were sentenced to death by the Inquisition during the pontificate of Pius, which lasted from just 1566 to 1572.<sup>43</sup> It is understandable why this episode would have left a bitter, anti-clerical taste in Riccoboni's mouth.

While in Rovigo, Riccoboni published two scholarly works that showed impressive learning for a man in his twenties: the first, a solid introductory work on rhetoric based on a synthesis of ideas found in Cicero;<sup>44</sup> the second, a tome about the ancient historians, complete with a large collection of the fragments of the Roman historians.<sup>45</sup>

These achievements and the growing reputation they brought Riccoboni prepared the way for his unexpected move to Padua once the heresy trials had ended. Here he began in 1571 what was to be a brilliant university career. First, he quickly earned his degree in canon and civil law, which he received in February of 1571.<sup>46</sup> When the distinguished classicist Marc-Antoine Muret turned down Padua's offer of a professorship in Humanity (i.e., Greek and Roman literature), the position was offered to Riccoboni in May of 1571.<sup>47</sup> This rather surprising turn of events was due not only to his scholarly credentials but also, as he tells us himself, to the help of a friend, the Venetian Lorenzo Massa. Massa was well placed to work behind the scenes on Riccoboni's behalf: he was employed by the Riformatori (or, what we would call the regents) of the university.<sup>48</sup>

At Padua, Riccoboni taught courses on Greek and Roman rhetoric, poetics, and oratory. Riccoboni was quite prolific as a writer and has many books, tracts, and orations to his credit.<sup>49</sup> He is undoubtedly best remembered for offering (long before Umberto Eco!) the first reconstruction of the lost second book of Aristotle's *Poetics* and for his successful attack in 1583 on the authenticity of Cicero's *Consolatio*. A text of this hitherto lost work had just been published earlier that year. Riccoboni's old

<sup>43</sup> See Iserloh et al. 1975.601.

<sup>44</sup> Riccoboni 1567.

<sup>45</sup> Riccoboni 1568. Riccoboni's work was well enough known and respected to be reprinted in the second volume of Perna 1579.

<sup>46</sup> See Canton 1972–73.35.

<sup>47</sup> For the history of the chairs in *litterae humaniores* at Padua in the sixteenth century, see Tomasius 1644.340–43.

<sup>48</sup> See Riccoboni 1598.fol.53v. For Riccoboni's friendship with Massa cf. Canton 1972–73.35–38, and on Massa see Malavasi 1977.73 n. 30.

<sup>49</sup> An accurate and full bibliography is lacking; for a partial list of titles, see Canton 1972–73.50 n. 128.

teacher, Carlo Sigonio, rushed into print with the first commentary, which was based on the assumption that the text was ancient. Scholars all over Europe watched as Riccoboni and Sigonio fought to establish whether the work was really ancient or (as Riccoboni tried to prove) a modern forgery. Once again, Riccoboni's friendship with Lorenzo Massa was decisive: Massa was able to trace the anonymously edited text back to Sigonio, thus making it extremely likely that Sigonio had forged it.<sup>50</sup>

After the *Consolatio* affair had ended with total victory, Riccoboni shifted his attention to rhetoric and poetic theory, on which he was to concentrate for the remaining decade and a half of his life. His quarrel with Nicolò Cologno about the problem of the structure of Horace's *Ars Poetica* has already been mentioned and falls into the middle of this period. Although it concerned a different problem, the quarrel with Cologno was very much a reprise of the earlier debate with Sigonio, for Riccoboni once again played his characteristic role of critic against a dogmatic rival. In both debates, Riccoboni had the last word and emerged the victor.

In the last decades of his life, Riccoboni was held in high esteem by the regents and by the university and community at large, receiving many honors and privileges. He died after a brief illness on July 27, 1599, nearly sixty years old.

For the purposes of our topic, there are two questions that the career of Riccoboni raises that are of interest for our understanding of late Italian humanism. First, what was the impact of the Inquisition on Riccoboni's intellectual development? And, second, why did Riccoboni work so hard to oppose Cologno's appointment as professor of Ethics at Padua in 1591? As we will see, these two questions are closely related.

It would take a large and sensitive psychological study to do justice to the impact on someone like the young Riccoboni of a terrible ordeal like an Inquisition trial followed by humiliating public penance. Here I would just make three points.

First, after abjuring his heresy, Riccoboni never again got into trouble with the Inquisition. His behavior, then, always gave outward signs of conformity to Catholic orthodoxy. On the other hand, we do find equal—but—opposite indications that Riccoboni still felt himself to be a dissident. For example, in 1583 Riccoboni wrote a commentary on St. Paul's Letter to

<sup>50</sup> McCuaig 1989.291–344 gives an excellent account of the Riccoboni–Sigonio quarrel about the *Consolatio*.

the Romans, which he dedicated to his old friend, Lorenzo Massa. This letter is the touchstone of the religious controversies of the sixteenth century. It was in fact Luther's and Calvin's commentaries on *Romans* that marked the beginning of the Reformation.<sup>51</sup> In his book, Riccoboni explicitly followed Jacopo Sadoletto's commentary of 1535. Sadoletto was the Catholic bishop of Carpentras, but his commentary was severely criticized by the Dominican theologians of the Sorbonne when it appeared and was rejected as heterodox by the Council of Trent.<sup>52</sup> We have two manuscripts of Riccoboni's commentary (one in Venice, the other in Rovigo), but its author wisely never allowed it to be published: doing so would only have gotten him into more trouble with the Inquisition.<sup>53</sup> Likewise, Riccoboni was known to ignore the Index by buying banned Protestant books. His Venetian bookseller, Pietro Longo, was caught by the Holy Office and drowned in the lagoon in January of 1588.<sup>54</sup> Riccoboni was not himself punished: it was apparently one thing for a public bookseller to traffic in heretical works and quite another for a scholar to read them in the privacy of his study.

Probably the greatest impact of the Inquisition on Riccoboni was not that it forced him into the uncomfortable and rather hypocritical position of outwardly conforming to an orthodoxy that he secretly questioned. Rather, it was that it encouraged him to search for a space where he could give free play to his naturally creative and critical spirit. In the repressive culture of his day, this space could not perforce be found in the area of those juicy but forbidden dinner conversation topics—religion and politics. Instead, I would suggest, Riccoboni found an asylum in the safer, purely academic problems of rhetorical and poetic theory.<sup>55</sup> Neither Church nor

<sup>51</sup> See Pfeiffer 1976.90; Parker 1986.

<sup>52</sup> Cf. Douglas 1959.93.

<sup>53</sup> Cf. Rovigo, Accademia dei Concordi ms. *Antonii Riccoboni in Epistolam Di. Paulli ad Romanos Commentarius quo universa ars rhetorica ecclesiastica a Spiritu Sancto profecta in hac una Epistola ex doctrina Aristotelii explicatur . . . Ad Clarissimum Virum a Secretis Serenissimae Reipublicae Venetae Laurentium Massam* (Padua, no date); Biblioteca Marciana Mss. Latini. Cl. I, nr. 71, shelf-mark 2158. Riccoboni cites Sadoletto's commentary with approval at, e.g., foll. 51r, 62r, 101v of the (unnumbered) Rovigo ms.

<sup>54</sup> See Grendler 1989.186–89.

<sup>55</sup> For an analogous case, cf. Francesco Patrizi, who spent the last years of his life working in the safe area of military science after his great philosophical work, *Nova de universis philosophia* (Ferrara 1591) was placed on the Index; see Firpo 1970. Grendler 1977.286–93, downplaying the impact of the Inquisition on Italian intellectual life, correctly observes

State evidently very much cared what one thought about such matters, and so Riccoboni found these subjects congenial as he got older and wiser. Here, too, he found himself attracted to heretical ideas, but now it was no longer necessary to keep these ideas to himself. In his poetic thought, for example, Riccoboni was one of the few late sixteenth-century Italians to express admiration for the work of the heretic Ludovico Castelvetro, and he was unique in adopting Castelvetro's purely hedonistic view of poetry. Castelvetro's idea that poetry's goal is to give pleasure and not moral instruction was out of tune with the Counter-Reformation spirit of the age.<sup>56</sup> This was the time when the nudes of Michelangelo's *Last Judgment* had to be clothed by Daniele da Volterra in 1565; and when Veronese got into trouble with the Inquisition a few years later for painting jesters and buffoons in his *Last Supper* for the monastery of Ss. Giovanni e Paolo in Venice.<sup>57</sup> After the Council of Trent, Catholic art was supposed to be edifying, not merely enjoyable.<sup>58</sup>

This naturally takes us to the second question of why Riccoboni was so angered at being passed over for the chair of Ethics in favor of the priest, Cologno. First of all, there is the point that in this period we know that Ethics had much greater prestige than Humanity. To Riccoboni, however, more was at stake than mere prestige. Cologno's appointment must have represented the same kind of threat to academic freedom within the university that the Jesuits were mounting from without. I began this paper by alluding to the greatest controversy of 1591: the attempt by the Jesuits to open their anti-university in Padua to stamp out heresy at the public university. The regents seem to have responded to the Jesuit challenge in part by changing their appointment policy to pre-empt the Jesuits in the prestigious and sensitive field of Ethics. The deliberations of the regents do not survive, but the facts speak for themselves. The appointment of Cologno was unprecedented and almost inexplicable. Before Cologno, every holder of the chair of Ethics in the sixteenth century had been a layperson and a

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that "the censors found nothing objectionable in works of classical scholarship, history, law, literary criticism, logic, mathematics, medicine, philology, and rhetoric. Scholars carried on their study of these disciplines with little interference . . ." (288). However, I agree with Firpo in seeing the impact of the Inquisition reflected both in its ability to repel scholars like Riccoboni from subjects like Biblical exegesis and, at the same time, to attract them to the safer subjects listed by Grendler.

<sup>56</sup> Cf. Toffanin 1920.135–40; Budd 1927.425–27.

<sup>57</sup> See Chastel 1984.188–227.

<sup>58</sup> See, in general, Dejob 1884.

distinguished intellectual. Starting with Cologno in 1591, every holder of the chair for at least the next sixty years was a religious. Such a development is indeed compatible with the post-Tridentine trend for priests to assume university teaching positions in order to promote Counter-Reformation values.<sup>59</sup> Such a change of policy would also explain the otherwise puzzling fact that Riccoboni lost the appointment to Cologno. Cologno was completely obscure. He had published only one book before his appointment, and that was the book on Horace's poetics, not on Aristotle's ethics. And, as we have seen, it was not a very good book. Cologno had never taught at a university but had spent his career teaching twelve-year-olds catechism and the rudiments of Latin and Greek grammar. Moreover, he was about 70 years old in 1591 and so his dismal record to date could hardly be excused by his promise for bigger and better things. Besides his clerical status and his close links with the family of Padua's bishop (who also served as grand chancellor of the university), what else could the aged priest put forward in support of his candidacy?

Riccoboni, on the other hand, had a European reputation. As early as 1587 we know that Riccoboni was giving private lessons on book one of Aristotle's *Nicomachean Ethics*. The fruit of these private lessons was Riccoboni's huge commentary on the text, which was finished in 1596 and published in Germany after Riccoboni's death.<sup>60</sup> Unfortunately for Riccoboni, part of his reputation included suspicions of heresy, as word of his trial in Rovigo three decades earlier seeped out and spread as far north as Leyden (with some inevitable garbling along the way).<sup>61</sup> Could Padua afford to place a former heretic into—of all things—the professorship of Ethics, and could it do so just in the year in which the Jesuits were mounting their campaign against the university as a hotbed of heresy? It is not

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<sup>59</sup> For the holders of the chair of Ethics at Padua, see Tomasinus 1644.322–24. On the Church's keen interest in the universities generally in the period after the Council of Trent, see Willaert 1966.226–28.

<sup>60</sup> Riccoboni 1610.

<sup>61</sup> Cf. Scaliger's long, rambling letter about the Tizzi affair to Ianus Dousa, dated Leyden, May 19, 1594 in Scaliger 1627.53–57. Behind Tizzi, Scaliger saw the hand of those "who thought they could hurt my family and my reputation" (p. 53). Later in the letter Scaliger supplies more detail about who he is thinking of: "who will be pleased [scil. with Tizzi's attack on me] except the man who, writing to him from Venice, dictated to him the tale about the ladder-maker; who, when he will start to get hungry, will hire himself out to the Inquisition, so that he creates danger for the virtuous, and so that he may seek a living from informing." We know from his other writings that Scaliger thought that Riccoboni was that man.

surprising that the regents preferred to be “safe, not sorry” by appointing Cologno, whose credentials for orthodoxy were impeccable. However, it is clear that a university caving in to “religious correctness” by preferring a candidate like Cologno to one like Riccoboni was a university in deep trouble.

The situation only got worse after Riccoboni’s death in August of 1599. To replace him, we know that the regents first tried to hire the leading humanist at a northern European Catholic university, Justus Lipsius, but he did not accept their offer. Instead, the university had to settle for Paolo Beni, an ex-papal secretary who was actually a Jesuit living in Padua when the Jesuit battle against the university started to break out in 1590.<sup>62</sup> Because of misconduct, Beni was dismissed from the order in 1593, but he remained in the priesthood. He went to Rome where Clement VIII hired him to teach natural philosophy at the university.<sup>63</sup> In Rome his piety and eloquence were highly respected and earned him, for example, an invitation to preach a sermon to the pope and cardinals on Ash Wednesday of 1594.<sup>64</sup> In 1596, he published a treatise on Cardinal Cesare Baronio’s *Annales*, twelve volumes of Church history representing the Catholic response to the Lutheran *Magdeburg Centuries* (the thrust of which was to show that throughout history the papacy had been Satan’s tool). In his work, Beni reveals his views about the pagan authors, which is that they were worthwhile studying because the Church Fathers used them to combat heresy.<sup>65</sup> In Beni, then, we have a higher-powered version of Cologno: a Counter-Reformation priest, who did not think the Greeks and Romans were worth studying in their own right, as had been the case for Riccoboni and for humanists since the fourteenth century.<sup>66</sup> For Beni, the ancients were valuable simply as material to be Christianized, even when that meant attributing views to Plato and Aristotle that they never held. Not surprisingly, he vigorously opposed the hedonistic theory of poetry taught by his predecessor, Riccoboni, about whom he had only disparaging things to say.<sup>67</sup> For

<sup>62</sup> See Diffley 1988.

<sup>63</sup> Diffley 1988.40.

<sup>64</sup> Diffley 1988.49.

<sup>65</sup> Diffley 1988.50–51.

<sup>66</sup> See Garin 1965.14–15. For a fair assessment of Beni’s place in intellectual history see Diffley 1988.244–46.

<sup>67</sup> See Diffley 1988, passim, especially p. 233. In Beni 1613 we find frequent attacks on Riccoboni, e.g., at pp. 149 and 470.

all his enthusiastic orthodoxy, Beni was a failure as a teacher, attracting, we are told, as few as two or three students to his classes.<sup>68</sup> His appointment must have made Riccoboni spin in his grave.

The man who might have kept humanism vital in Padua was Justus Lipsius.<sup>69</sup> Born in 1547, he was not only a prolific and brilliant author of many volumes of classical scholarship, but also the best-selling writer of a book on how to succeed in politics. Why Lipsius turned down Padua in 1600 is not known. Four years earlier, he had rejected another offer from an Italian university, this time from Bologna. Enough documents survive about the Bologna episode to enable us to guess Lipsius’ reasons for avoiding Italy. Born a Catholic, educated by the Jesuits, Lipsius converted to Lutheranism in accepting an appointment in 1572 to the University of Jena. Just two years later he resigned his post, went to Cologne, came back to the Catholic fold and got married. In 1579, he accepted an offer to teach at the newly created Protestant university in Leyden. Not surprisingly, this move caused Lipsius to renounce Catholicism a second time, and he became a Calvinist. By 1591, he had changed his mind yet again, returning a second time to Catholicism and to the Jesuits in Louvain. An even odder fact about Lipsius’ career is that his changes of faith did not just affect his private life: wherever he went, he not only adopted the religion of the kingdom but actively polemicized on its behalf.<sup>70</sup>

For a long time Lipsius’ religious schizophrenia remained an inexplicable and bizarre facet of an otherwise rational and impressive intellect. New research has cleared up the mystery: Lipsius was a member of the Family of Love, a sect founded by the Dutchman Hendrik Niclaes in the mid-sixteenth century, which spread underground as far away as England and Spain. The essence of the Familist doctrine was that all existing religion represents the triumph of evil over good, the flesh over the spirit, and the Antichrist over Christ. Through enlightenment, a few chosen souls could begin a process of renewal and reunification of mankind under the spiritual leadership of Hendrik Niclaes, whose initials—H. N.—supposedly had a mystical significance, standing for *homo novus*, the “new man.” Familists were taught to practice outward conformity to the religion of their community while meeting secretly to read and interpret the Bible. Meanwhile, they

<sup>68</sup> Papadopoli 1726.350–51; Diffley 1988.94–95.

<sup>69</sup> On Justus Lipsius (1547–1606) see Pfeiffer 1976.124–26.

<sup>70</sup> See Nisard 1852.1–148; Grafton 1987.

were to work for religious tolerance within their community. Lipsius' strange religious record makes perfect sense in view of his membership in the Family of Love. His true feelings about religion were revealed in a letter to a friend in 1592: *religio, religio, quam multos inducis vano quodam fuco* ("Religion, oh religion! How many people do you seduce with your bogus deceit!").<sup>71</sup>

We do not know with certainty why Lipsius decided not to move to Padua in 1600, nor why he had turned down an earlier offer from Bologna in 1596. The official reason given to the authorities in Bologna was that Lipsius' application to his king for permission to leave Louvain was denied.<sup>72</sup> Another reason may well have been Lipsius' fear of serving at the Pope's university, where he would be under the close scrutiny of the Inquisition. This fear would not have been idle. Cardinal Ascanio Colonna wrote to Lipsius in 1596, urging him to accept the Bologna offer. The Cardinal pointed out that he had shown his good will toward Lipsius by intervening on his behalf with the Inquisition at Louvain and would continue to support him in Bologna. To a man with Lipsius' secret religious life, such words may well have sounded more threatening than reassuring.<sup>73</sup> Finally, nationalism may also have played a role. In 1609, the Bolognese aristocrat Ludovico Beccadelli, writing to Christopher Dupuy in Paris, explained Lipsius' decision as follows: "The city councilors, who oversee the university, tried some years ago to hire Lipsius, to whom they offered not only a good salary but also generous travel expenses; but after saying he would come, he changed his mind because of some indisposition, his age, or even the fact that his wife did not want to leave her homeland." Lipsius may well have put words into his wife's mouth that should more truthfully have come from his own, since we know that he felt that some Italian scholars were prejudiced against him.<sup>74</sup>

At any rate, the official reason Lipsius gave the Bolognesi was good enough. This brings me to my final point. The spread of Renaissance

<sup>71</sup> See Hamilton 1981.1–39 for the doctrines and history of Familism and pp. 96–102 for Lipsius' connection with the sect. For the quotation from Lipsius' letter (to Abraham Ortelius) see p. 101.

<sup>72</sup> See Costa 1907.57.

<sup>73</sup> For the letter see Costa 1907.56.

<sup>74</sup> Beccadelli's explanation is found in a letter he wrote to Christoforus Puteanus, dated Rome, 25 May 1609 (Bibliothèque Nationale, Paris, Collection Dupuy MS 705, foll. 163r–164r). On Lipsius' feelings about Italian scholars see Nisard 1852.134.

humanism was very much dependent on and facilitated by the free exchange of ideas and scholars, as Kristeller and Pfeiffer, among others, have noted.<sup>75</sup> The flow of ideas was staunch, as we have seen, by such religious protectionism as the Index and the Inquisition. The free exchange of students and scholars was no less affected by what might be called "academic protectionism." This is a phenomenon that has hardly been studied.<sup>76</sup> We know that by the end of the fifteenth century, Italian states such as the Kingdom of Sicily, the Grand Duchy of Tuscany, and the Venetian Republic forced their citizens to study at the public university. This they did by refusing to recognize degrees earned elsewhere. They also required their citizens to apply for permission to teach at a university outside the boundaries of the state. Such permission was often refused. Like all forms of protectionism, academic protectionism started out as a distinct economic advantage to the states practicing it: professorial salaries could be kept low, as foreign offers did not have to be countered; economies of scale could be achieved as the universities could count on the enrollment of a steady number of domestic students, no matter whether the instruction offered was at a high or a low level of quality. As time went on, however, spreading protectionism boomeranged against the public universities of Italy and became a major factor contributing to the dismal enrollment statistics at Bologna that I cited at the beginning of this paper. The situation of the Italian universities was made worse by competition from the new Protestant universities (like Leyden) in northern Europe and, in the Catholic countries, by the new Jesuit schools.<sup>77</sup> So, as more and more states forced their students to study at home and as the number of universities increased, the number of potential students recruitable by the proud old public universities of Italy dwindled.

The hindrances to the free flow of scholars did not help. The chair of Humanity at Bologna illustrates the problem. After Lipsius was denied permission to leave Louvain, the regents in Bologna offered the position to Roberto Tizzi. Tizzi was a Florentine who had earned a minor reputation as a textual critic through his quarrel with Scaliger in the 1580s. As we have seen, their debate soon degenerated into a mudslinging contest pitting Ital-

<sup>75</sup> Kristeller 1990.18; Pfeiffer 1976.61–66; cf. also, e.g., Schmitt 1982.299.

<sup>76</sup> See Marongiu 1962; Marrara 1981.

<sup>77</sup> The spread of religious (and especially Jesuit) education, and the corresponding decline of public schools, has been treated by Huppert 1984.104–29 for France and Grendler 1989.363–99 for Italy.

ian scholars against their Transalpine foes—a professorial version of the kind of pernicious nationalist conflict we glimpsed in the Alzano murder case. At any rate, once settled in Bologna, Tizzi turned out to be quite happy with his position at the Papal university, but his service there depended on the sufferance of his ruler, the Grand Duke of Tuscany. In 1606, the Collegio Romano in Rome succeeded in hiring Baldassare Ansidei, who, though a citizen of the Papal States, was teaching Humanity at Pisa. Grand Duke Ferdinand of Tuscany was not amused by the loss of Pisa's humanist, and he retaliated against the Pope by forcing Tizzi to abandon his professorship at Bologna so that he could replace Ansidei at Pisa. The Bolognesi immediately set to work to find a new humanist, once again hoping to attract a prestigious scholar from northern Europe. Lipsius was now dead. The other superstars of the time were both Protestants: Joseph Scaliger and the Huguenot pastor's son, Isaac Casaubon.<sup>78</sup> It was, of course, impossible to hire one of them for the Pope's university.

The sad part is that some Italians recognized what had happened to humanism and understood at least the superficial cause of the problem—their inability to recruit the best minds in the world for top university posts. Once again the letter written in 1609 by Ludovico Beccadelli to Christopher Dupuy is of interest. In the letter, Beccadelli asks Dupuy's help in finding a suitable candidate for the empty chair in Bologna:

For some time now the chair of Humanity in Bologna, my home town, has been vacant. This is owing to the lack of good candidates, since in Italy in this profession we have only very mediocre men. I would like to ask you that if you know of anyone who might be good for the post, and if he would be inclined to accept an offer, that you so inform me. The position is most prestigious and once was made famous by Beroaldi, Amasei, Robortelli, and Sigonio. However, for some time now there has not been a professor to compare with them. . . . So if by chance there is in Paris or some other city in France some student of Scaliger or Casaubon who would not turn down the post, I am certain that he would be well treated. Just

<sup>78</sup> On Casaubon (1559–1614), see Pfeiffer 1976.121–23.

make certain that he is better than average and capable of returning the chair to its earlier reputation . . .<sup>79</sup>

The idea was that, if Bologna could not hire a great humanist because he was Protestant, at least it could get one of his French (i.e., Catholic) students. Scaliger's leading students were all Dutch Protestants.<sup>80</sup> Although Casaubon was in Paris as *Lecteur du Roi* from 1599 to 1610, he never had a teaching position at the university or in the *College de France*.<sup>81</sup> So, for all the best will and lucrative offers in the world, no such ideal candidate could be found. After Tizzi's forced departure, the illustrious chair of Humanity at Bologna remained vacant for thirteen years.

If the decay of humanism was painfully apparent to the Italians themselves, then it was also plainly recognized by foreigners. At the height of sixteenth-century Italian humanism, Joannes Caselius (1533–1613) had come down to Italy from Germany to study with great scholars like Sigonio at Bologna and Vettori in Florence. When his friend, Valens Acidalius (1567–1595), visited Italy at the end of the century, he sent Caselius the following depressing account of the state of humanistic studies: “if you ask me now about Italy, I frankly answer that in the middle of Italy I do not see Italy. If you ask likewise about humanist studies, I state boldly that they are better and more properly pursued in any village of Germany than in this land which is the very temple of the Muses, nor can I learn more here than in the Transalpine air.”<sup>82</sup> With such reports getting back to Germany and other northern countries, it is hardly surprising that parents started doubting the wisdom of sending their sons to school at the distant and expensive Italian universities, especially now that there were plenty of new options closer to home. It is also probably not going too far to sniff nascent nationalist sentiments in Acidalius' Transalpine air: the proud Germans were only too happy to discover that their local *Schulmeister* was better qualified than a Padua professor! Thus a downward spiral had begun from which it took centuries to recover.

To recapitulate then: in 1610, at the end of Renaissance, a Counter-Reformation ideologue occupied the chair of Humanity in Padua, and, worse still, the chair at Bologna existed for some years only on paper.

<sup>79</sup> For the letter, cf. n. 74 above.

<sup>80</sup> For the students of Scaliger, see Von Wilamowitz 1982.67–69; Pfeiffer 1976.119.

<sup>81</sup> See Pfeiffer 1976.120.

<sup>82</sup> Cited by Costa 1907.63 n. 1.

Humanism at these northern Italian universities was killed off by a complex array of forces that could all be gathered together under the heading of "particularism." If the Renaissance and its impressive intellectual accomplishments were nourished by the universal values of reason, the dignity of humanity, and the study of human cultural history as an end in itself; then particularism represented the opposite: the erection of barriers between peoples, beliefs, and the present and a past no longer worthy of study for its own sake. Little wonder, then, that Horatian studies were neglected at Padua for centuries after Riccoboni's death. For the next major contribution, we have to await the publication of Francesco Dorighello's three-volume edition and commentary in 1774.<sup>83</sup> In the meantime, not just Horatian studies, but humanism itself petered out in seventeenth-century Italy with the rise of antiquarianism and the fall of textual and literary criticism.<sup>84</sup>

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<sup>83</sup> Dorighello 1774. On Dorighello (1731–1815) see *Nouvelle Biographie Générale* 14 (Paris 1855) cols. 623–24.

<sup>84</sup> For a sketch of classics in Seicento Padua see Nardo 1990.139–53; a corresponding history is, so far as I know, lacking for Bologna. It is interesting to note a similar decline of humanistic studies at the University of Alcalá; see Pellistrandi 1990.125: "One thing is definitely clear: after 1568 the university of Alcalá rapidly cut its ties with its humanist roots. . . . The students following courses of study in rhetoric . . . were only two in 1618 as opposed to 102 in 1568."

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MANUFACTURED IN GREAT BRITAIN

## Concordia Discors and Characterization in Euripides' *Hippolytos*

Bernard D. Frischer

### I

DESPITE the simplicity of the *opinio communis* on the problem, characterization remains a major difficulty facing a critic of the *Hippolytos*. According to most critics of the play, Phaidra and Hippolytos are simple polar opposites, and this polarity, or *discordia*, in the human frame is reflected and symbolically intensified in the divine frame by the corresponding opposition of Aphrodite and Artemis.<sup>1</sup> Recently, however, a few critics have argued that polarity, while certainly one factor at work in the characterization, is most important not within the two frames but between them.<sup>2</sup> Accordingly, these critics stress the similarity, or *concordia*, of the two human victims, and contrast this similarity to that of the two inhuman goddesses who either plot or permit human suffering. This interpretation has the advantage of introducing a more accurate complexity into the analysis of character—a complexity that is, after all, only to be expected from Euripides, who rarely created *dramatis personae* that more resembled personifications than persons. But, though these critics escape the danger of interpreting the play as if it were an allegory of personification (a danger many earlier critics failed to escape<sup>3</sup>), they nevertheless still give the play an inadequate and in-

<sup>1</sup> Cf. G. M. A. Grube, *The Drama of Euripides* (London 1941) 196; Max Pohlenz, *Die griechische Tragödie*<sup>2</sup> (Göttingen 1954) 266, 270f; H. D. F. Kitto, *Greek Tragedy* (Garden City [N.Y.] 1954) 212; H. J. Rose, *A Handbook of Greek Literature* (New York 1960) 182; William Arrowsmith, "Euripides' Theater of Ideas," in *Euripides, A Collection of Critical Essays*, ed. Erich Segal (Englewood Cliffs [N.J.] 1968) 20f. See H. Strohm's comments on characterization in his review of W. S. Barrett, ed. *Hippolytos* (Oxford 1964), in *Gnomon* 38 (1966) 750f.

<sup>2</sup> Bernard M. W. Knox, "The *Hippolytus* of Euripides," *YCS* 13 (1952) 3-31 (especially pp. 28-31); Charles P. Segal, "The Tragedy of the *Hippolytus*: The Waters of Ocean and the Untouched Meadow," *HSCP* 70 (1965) 154-59; H. Merklin, *Gott und Mensch im "Hippolytos" und den "Bakchen" des Euripides* (Diss. Freiburg 1964) *passim*.

<sup>3</sup> Arrowsmith, *loc. cit.* (*supra* n.1), best represents this tendency toward over-allegorization.

accurate reading by failing to observe in characterization between frames the same principle of *concordia* they have already observed within each frame. This error has serious consequences for their understanding of the play's meaning, for by seeing only *discordia* between the frames they overemphasize the opposition of man and god in the play, just as earlier critics have overstressed the polarity of the characters within the frames by seeing only their differences.<sup>4</sup>

Miss Matthaëi showed long ago that the characterization, at least in its ethical component, cannot be described well by any reading based wholly on *discordia*: the play is too complex to tolerate simple polarities.<sup>5</sup> In this paper I will reexamine the characterization of the *Hippolytos* with the intention of showing that the characterization is controlled not by *discordia* alone, but by what might better be called *concordia discors*. This principle has already been observed implicitly within each frame, and I hope to show that it is also operant between the frames. But, since the operation of the principle within each frame has not yet received explicit treatment, I must first discuss its operation there before going on to the more difficult analysis of its operation in unifying the human and divine characters.

A study of *concordia discors* in the characterization of a play should begin with a definition of what the principle would mean when applied to dramatic characterization and then of how the principle is realized in the play. The phrase implies, on one hand, that each character has certain peculiar qualities which set him apart from all other characters in the play, and which set him in especial opposition to at least one other character, his polar opposite. This constitutes the *discordia* of the characterization. Because this aspect of the characterization in the *Hippolytos* is already a critical commonplace, it need not be discussed again here. *Concordia discors* implies, on the other hand, that, while each character stands alone as a unique individual, he still shares in and mirrors qualities of his opposite. It is this side of the principle which requires further elaboration and which will be the central concern of this paper.

In the *Hippolytos* such *concordia* is realized by means of three devices: a character is regularly associated with the same images as his

<sup>4</sup> Thus Knox, *op.cit.* (*supra* n.2) 31, speaks of the meaning of the play as "an affirmation of purely human values in an inhuman universe"; cf. Segal, *loc.cit.* (*supra* n.2).

<sup>5</sup> L. E. Matthaëi, *Studies in Greek Tragedy* (Cambridge 1918) 76-117; on page 99 she warns against reading the play as if it were "a morality play."

polar opposite; a character consistently repeats the words and deeds of his opposite; and the values which generate his actions, the laws which regulate them, and the qualities which they reveal are remarkably similar to the qualities, laws and values observable in the behavior of other characters in the play. Each of these harmonizing devices functions differently in the play.

The first device, which unlike the other two operates only within the divine frame, might be called imagistic confluence. That it is the only device to operate in just one frame seems significant. One major function of imagery in the play is to keep the two goddesses present in the mind of the audience during the large part of the play falling between the two epiphany scenes.<sup>6</sup> It is almost as though this device were introduced to compensate for the relatively short period of time in which the goddesses are on stage, and hence for the considerably fewer opportunities the poet had to employ the other two devices, which unlike it depend entirely upon the actions and words that a character himself performs and not upon what is said about one character by another. The second device, which functions within but not between the frames, can be called reenactment, since it harmonizes characters by showing them doing and saying the same things.<sup>7</sup> The third device, for which there is no convenient name, is closely related to this device, since it, too, functions within both frames and involves the behavior of the characters. But it differs from reenactment in two important respects: it also functions between the frames, and it does not involve action itself but the psychology of action and the character traits exhibited by action. What remains is to show the operation of the three devices throughout the play.

## II

In the very first lines of the play Aphrodite speaks and defines the three realms in which she is "named" (1-4):<sup>8</sup>

<sup>6</sup> Segal, *op.cit.* (*supra* n.2) 117; D. J. Conacher, *Euripidean Drama: Myth, Theme and Structure* (Toronto 1967) 44.

<sup>7</sup> Segal, *op.cit.* (*supra* n.2) 152, briefly mentions the term reenactment, and observes that "Hippolytus' pitiful state at the end, his entrance among companions who bear his almost lifeless body, is vaguely parallel to Phaedra's entrance, in a state of collapse and near to death, at the beginning." I hope to show that there is a more than "vague" parallel between these two important scenes and that reenactment is employed in other scenes as well.

<sup>8</sup> I cite the text of W. S. Barrett throughout this paper, *Hippolytos* (Oxford 1964).

Πολλή μὲν ἐν βροτοῖσι κοῦκ ἀνώνυμος  
θεὰ κέκλημαι Κύπρις, οὐρανοῦ τ' εἶω·  
ὄσοι τε Πόντου τερμόνων τ' Ἀτλαντικῶν  
ναίουσιν εἶω, φῶς ὀρώντες ἡλίου. . .

These three realms, land, sea and air, function not only as settings for the action but also as suggestive sources for the play's imagery. Images drawn from the natural world fill the play, and it is almost always the two goddesses, Artemis and Aphrodite, who are associated with and, as a result, characterized by them. Because of this, it is particularly important that a comparative study of the two goddesses take the imagery into account.

As the range of these associations is studied, an unmistakable pattern emerges: both goddesses are time and again associated with the same image. Whenever two characters are associated with the same image (imagistic confluence) two interpretations are possible: either the confluent image functions ironically to heighten the difference between the characters, or it functions to suggest their similarity, at least with regard to the quality or qualities the image conveys. In the discussion which follows, and *mutatis mutandis* elsewhere in this paper, I have assumed that the basis for choosing between these two alternatives depends upon the particular pattern of imagery in the play. If the pattern is such that two characters are regularly associated with incompatible images, the tonality of a confluent image is always ambiguous: it may either reflect some single point of similarity against a background of nearly complete dissimilarity, or else, what is probably more frequently the case, it is to be understood ironically. On the other hand, if the pattern is such that confluent images are the rule and not the exception, then the tonality is unambiguous: no irony is to be felt; the characters involved should be viewed as similar in this respect as in other respects. If this assumption be granted, then it follows that the consistency of imagistic confluence in the *Hippolytos*, to be shown presently, is to be interpreted as unambiguously indicating the similarity of the two goddesses.

The richest cluster of land images centers about the "undefiled meadow" (73-77) from which Hippolytos wove his garland for Artemis. This meadow is perhaps more a mindscape than actual landscape, since "Aidōs tends it with his river waters" (78), and since only the *κόφρων* in nature may pluck garlands from it (79ff). But in lines

75-77 Euripides includes one element in this idyllic scene which later transforms it into something more ominous, for although in these lines Artemis is associated with the "busy bee," symbolic of the meadow's purity and the devotee's contented toil for his goddess, later in the epiphany scene, as an angry bee, she will "sting" brutally (1313f).

But the bee and the meadow are not consistently associated with Artemis. Aphrodite, too, is bee-like, and like Artemis she has her own meadow. It is this meadow, now *κομήτης* not *ἀκήρατος*, which attracts Phaidra in verses 208-11. Besides the sexual implications of the word *κομήτης*,<sup>9</sup> the shift in tone from the chaste meadow of Artemis is emphasized by Phaidra's wish to rest, not toil, in this luxuriant grove (211). But just as Artemis stings Theseus, so Aphrodite can sting men with the bittersweet sting of Eros. Thus Artemis tells Theseus that Phaidra was "stung with love's sting for your son" (1303), and the Chorus says of Aphrodite, "she pants upon all the living—with ruin, and flits about like a bee" (563f). It is thus only appropriate for the nurse to tell Phaidra, when Aphrodite's plan is half accomplished, that the "sting" has overcome her judgement (696), and for Artemis to use the word *οἰστρος* in characterizing Phaidra's actions (1300f), since *οἰστρος* literally means a sting.<sup>10</sup> The metaphor of the bee is appropriate, too, as the imagistic equivalent of the nurse's definition of love: "sweetest, but painful, too" (348),<sup>11</sup> but it may be used just as well to image the elusiveness of *σεμνή* Ἀρτεμις (713), who can be sweet—as in verses 165-69, where she relieves the pains of childbirth, or in verse 1392, where she momentarily heals the shattered body of Hippolytos—but viciously cruel, too.

The sky also has ambiguous associations in the play. Aphrodite rules all those who behold the light of the sun (4, cf. 1279), but so does Artemis, who in verses 59f and 166-68 is given the epithet *οὐρανία*. As "ouranian" powers their authority is represented by the weapons with which they strike their victims from the air. From the iconological tradition it is not surprising that Artemis is called "Mistress of the Bow" (168, 1422, 1451). But Aphrodite, too, "hurls" her anger at Hippolytos (1418), and, possessed by Aphrodite, Phaidra yearns "to

<sup>9</sup> See Knox, *op.cit.* (*supra* n.2) 6 n.8.

<sup>10</sup> Cf. Wilamowitz's comment on *Herakles* 20; *Euripides, Herakles* III (Darmstadt 1969) 12. See also Sim. (?), PMG 541.10 (Page)

<sup>11</sup> Cf. Wilamowitz, *Euripides, Hippolytos* (Berlin 1891), "Philologischer Anhang," p.210.

put (her) hands on a spear" (221f). Through the agency of Eros, again following tradition, though it is apparently a younger and still vital tradition, Aphrodite can hurl her fatal shafts (530-34).<sup>12</sup> The Chorus, which in these lines sings the praises of Eros, "whose shafts neither fire nor the stars surpass," will soon witness the truth of its words. After Hippolytos is banished, it laments his fate and calls him the "brightest star of Athens" (1122). But even the brightest star cannot escape the shafts of Aphrodite. In this, too, the goddesses resemble each other. For if Artemis has not displayed her destructive side in this play, it is only because she has not had the opportunity. Her βέλαιος will be used just as mercilessly in the future against one of Aphrodite's favorites (1420-22), and if a comparison is made of her words in 1340f and Aphrodite's in 5f, Artemis appears the harsher of the two, for unlike Aphrodite her vengeance is not only on the evil-doer but on his family as well.

The last group of images to be considered is that connected with water. The miracle wave (1213) and the bull which it throws onto the strand (1214) result from the collaboration of the two traditional sea deities, Poseidon and Aphrodite. Poseidon is called "of the sea" three times (44, 1168, 1318) and Aphrodite twice (415, 522). But in a striking departure from tradition, Artemis, too, is given a similar epithet (145ff, 228).<sup>13</sup> And, just as both goddesses are associated with the meadow, so, too, both are associated with the river that flows through the meadow. Artemis' meadow, we hear, "Αἰδώς tends with his river waters" (78), and it is these same nourishing waters that Phaidra longs to draw for herself from Aphrodite's spring (208f). But both goddesses can also be associated with destructive, violent rivers, like the "unbearable" river to which Aphrodite is compared in verse 443,<sup>14</sup> or the "surging"<sup>15</sup> river which Hippolytos hyperbolically claims he needs to purge his ear of the nurse's polluting words and which, because of its connection with purification and chastity, is to be associated with Artemis.

<sup>12</sup> Cf. Barrett, *op.cit.* (*supra* n.8) 260, for a discussion of the tradition in the fifth century.

<sup>13</sup> I accept Barrett's arguments concerning the text at line 228, but I disagree with his interpretation of lines 148-50. See C. W. Willink, "Some Problems of Text and Interpretation in the *Hippolytos*," *CQ* 18 (1968) 38.

<sup>14</sup> Segal, *op.cit.* (*supra* n.2) 127, associates ῥύη with the flowing of the sea. But the word is properly used of the flowing of rivers (cf. *LSJ* ῥέω 1.1.c and Barrett, *op.cit.* [*supra* n.8] *ad loc.*).

<sup>15</sup> See *LSJ* κλύζω 1 for the violent connotations of the word.

### III

Imagistic confluence thus functions to suggest the similarity of the two goddesses. The second device, reenactment, reemphasizes the *concordia* in the divine frame, and also harmonizes Phaidra and Hippolytos in the human frame. Since neither goddess acts in the play, reenactment in the divine frame is limited to word repetitions alone, and in both epiphany scenes we find numerous examples of the goddesses using the same words and phrases. These verbal echoes have been noted by several critics, and, because Bernard Knox has so thoroughly collected them all, only the problem of reenactment in the human frame need be explored here.<sup>16</sup>

Just as imagistic confluence stressed the similarity of the two goddesses' natures, expressed in such epithets as "Mistress of the Sea" or "Mistress of the Bow," so reenactment functions, first of all, to stress the similarity of the natures of both human characters. At two important points in the play each recalls his parentage (cf. 337 and 1082).<sup>17</sup> Both were born to mothers who engaged in illicit sexual relationships.<sup>18</sup> Hippolytos is the "son of the Amazon" (10, 351, 582) and a bastard (309, 962, 1083; cf. 1455).<sup>19</sup> Phaidra's mother is Pasiphae, and the importance of her heredity is stressed in verse 341, where she cries out, "I, the third, wretched, how I am destroyed!" Both are foreigners in Theseus' land. Phaidra is the παῖ Κρητῖα (372), and her Cretan origin is mentioned frequently (cf. 156, 719, 752, 759). Hippolytos is Phaidra's "foreign love" (32), and his rôle as intruder and potential usurper is something rarely forgotten (cf. 305ff, 1010ff, 1072f, 1080f). These qualities are reflected stylistically: Hippolytos' name is often suppressed until the end of a sentence or clause and placed in the stressed, first position of the line, so that when it finally is spoken, it is felt as a shock. Even if this is due primarily to *metrica causa*, it is undeniable that, especially in verses 310, 352 and 885, Euripides made necessity serve his dramatic and thematic ends.<sup>20</sup>

<sup>16</sup> See Knox, *op.cit.* (*supra* n.2) 28f. Cf. Grube, *op.cit.* (*supra* n.1) 182 n.2; S. M. Adams, "Two Plays of Euripides," *CR* 49 (1935) 118 n.5.

<sup>17</sup> Cf. R. P. Winnington-Ingram, "*Hippolytos*: A Study in Causation," in *Entretiens Hardt VI* (Vandœuvres-Genève 1960) 176.

<sup>18</sup> Cf. W. B. Stanford, "The *Hippolytos* of Euripides," *Hermathena* 63 (1944) 13; Conacher, *op.cit.* (*supra* n.6) 33.

<sup>19</sup> On the importance of the νόθος-theme in the play see Grube, *op.cit.* (*supra* n.2) 184.

<sup>20</sup> Hippolytos' name appears in the first position of the line in the following verses: 11, 22, 53, 310, 352, 583, 885, 900, 1162, 1177, 1436. There are just two exceptions: 32 and 1151. Nine times the name gets even more stress by enjambement: 11, 22, 53, 310, 352, 583, 900,

A second function of reenactment is to show the similarity of the two human characters through their own actions—words and deeds—in the play. Perhaps the most striking case is the two sickness scenes,<sup>21</sup> but reenactment is also at work elsewhere in the play. The appearance of each character at the beginning of the sickness scenes is heralded by a five-line choral speech (170–75<sup>22</sup>=1342–46). In both speeches the Chorus first observes that someone is approaching (170=1342); then, once the approaching character is recognized, it reveals its own knowledge of the circumstances of his sickness: ignorance in Phaidra's case and an all too clear knowledge in Hippolytos' (173=1343f). At the end of the second speech the Chorus explicitly comments on the parallel fates: "what a double catastrophe the gods have sent upon the house" (1345f).

Both characters are next carried on stage at the point of death (176ff=1347ff), and both soon cry out about the pain they suffer (198ff=1347–52). Both ask to be lifted up (198=1361, 1445), and both order their nurses—Theseus now acting as Hippolytos' nurse—to cover their faces (243=1458). Each wishes to die as quickly as possible (599=1374–77), so that he might escape his agonizing pain (725ff=1385), for both consider death to be the only possible cure for their affliction (248f, 400f, 723=1373). For Hippolytos death is a "savior" (1373); for Phaidra the "co-worker" she sought in verse 676. Both blame their troubles on some ancient crime (336–40=1379ff).

The nurse is a suppliant to both, in Phaidra's case to provoke the fatal words about her love for Hippolytos, in Hippolytos' to insure his fatal silence about that love. Both are advised by servants to be expedient and give way to Aphrodite (443ff=88–107). When they refuse, both are accused of haughtiness (444–59, 490=93ff, 947ff). Each is accused of lubricity (Phaidra by Hippolytos in verses 651ff; Hippolytos by Theseus in verses 967ff). Both are presented in scenes empha-

1177, 1436. Of these nine occurrences, five are what G. S. Kirk, in his analysis of Homeric verse ("Verse-Structure and Sentence-Structure in Homer," *YCS* 20 [1966] 108–10), called "violent enjambements": 310, 352, 900, 1177, 1436. For other such violent enjambements of proper nouns in tragedy see Dietmar Korzeniewski, *Griechische Metrik* (Darmstadt 1968) 17, who cites similar cases in Aischylos (*Pers.* 198f, 362, 473, 487, 512) and Sophokles (*El.* 2), but none from Euripides. On the *hyperbata* in vv.51–53 and 308–10 see F. Dornseiff, *Pindars Stil* (Berlin 1921) 107f.

<sup>21</sup> Cf. Grube, *op.cit.* (*supra* n.1) 193; Segal, *op.cit.* (*supra* n.2) 152; Willink, *op.cit.* (*supra* n.13) 43; Wolf Steidle, *Studien zum antiken Drama* (München 1968) 16.

<sup>22</sup> Deleting verse 172 with Murray, Solmsen (rev. of W. S. Barrett, ed. *Hippolytos* [Oxford 1964], in *AJP* 88 [1967] 91), and, most recently, Korzeniewski (*op.cit.* [*supra* n.20] 93).

sizing first their passionate nature (198–361=601–68)<sup>23</sup> and then their reasonability (373–524=902–1101).

But both scenes of passion have at least one moment of sanity amidst the madness (239f=654–60), and at the end of the scenes of self-control both yield to another's irrational will (516ff=1090ff).<sup>24</sup> Each claims to be *νώφρων* (399=995, 1013, 1100), and each feels he must teach the other to be *νώφρων* (728–31=667). The nobility or honor of each is nevertheless affirmed by others (47, 1034, 1300–05, 1404=1254, 1299f, 1402, 1454).<sup>25</sup> Both are destroyed by agents who will regret their actions (698f=1412). Both agents are told to die (682ff=1290–95).

Near death, both cry out in bitter recognition that it is Aphrodite who is responsible for their deaths (725–27=1401),<sup>26</sup> and both thus call upon Zeus to witness the injustice done to them (683=1363). Each is comforted by a promise of revenge just before his death: Phaidra will avenge herself on Hippolytos (719–21); Artemis will avenge Hippolytos by killing one of Aphrodite's favorites (1417–22). And so, by the end of the play, the nurse's wish, "to unite together one from two" (515), is realized, but the union is not one of *χάρις* but *νόκος* and death.<sup>27</sup>

#### IV

Even such perceptive critics of the play as Knox and Segal, who have observed the similarity of the characters within each frame, insist on one final *discordia* in the play, that between man and god.<sup>28</sup> But can we not say of the gods, "(sie) sind keine Menschen, und sie sind doch nur zu menschlich"?<sup>29</sup> And if so, may it not also be said of Phaidra

<sup>23</sup> That Hippolytos' state approaches madness here has been noted by Matthaëi, *op.cit.* (*supra* n.5) 94; G. Norwood, *Essays in Euripidean Drama* (Berkeley 1954) 76; Conacher, *op.cit.* (*supra* n.6) 41. Cf. Hippolytos' own assessment of his behavior in line 1034.

<sup>24</sup> Conacher, *op.cit.* (*supra* n.6) 33, first noted this pattern of scenes, but only in connection with Phaidra's shifting moods. Cf. A. Rivier, "L'élément démonique chez Euripide jusqu'en 428," in *Entretiens Harât VI* (Vandœuvres-Genève 1960) 69.

<sup>25</sup> Matthaëi, *op.cit.* (*supra* n.5) 115–16.

<sup>26</sup> Cf. the scholiast's comments on line 47 in E. Schwartz, *Scholia in Euripidem II*<sup>2</sup> (Berlin 1891).

<sup>27</sup> On the *νόκος*-theme see Segal, *op.cit.* (*supra* n.2) 138, and his latest article on the play, "Euripides, *Hippolytos* 108–112: Tragic Irony and Tragic Justice," *Hermes* 97 (1969) 304.

<sup>28</sup> Cf. n.4 above.

<sup>29</sup> U. von Wilamowitz, *Griechische Tragödien I* (Berlin 1903) "Zur Einführung" p.30; cf. Karl Reinhardt, "Die Sinneskrise bei Euripides," in *Tradition und Geist, Gesammelte Essays zur Dichtung* (Göttingen 1960) 234f.

and Hippolytos that, though human, they are tragic figures because they are "doch nur zu göttlich"? Throughout the play are present many of what Roloff<sup>30</sup> has identified as the traditional (that is, epic) forms of *δμοίωσις θεῶν*,<sup>31</sup> and there is at least one major innovation in the traditional conception, which must be taken as added evidence for the importance of the theme in the play.

One traditional form of *δμοίωσις θεῶν* is the desire to win recognition for one's accomplishments from mankind.<sup>32</sup> In the divine frame this value is expressed as reverence (Aphrodite 5–8; Artemis 1332f, 1402) and in the human frame as something exactly parallel, *εὐκλεία* (Phaidra 47, 423, 489, 687, 717; Hippolytos 1028, 1299). Reverence to the gods is shown through worship, "naming" the god (that is, acknowledging the existence and authority of the god; cf. lines 1–4), and this is why Hippolytos' offence is so serious to Aphrodite: his attempt to ignore her divinity throws the very validity of her claim to divinity into question. *εὐκλεία* also depends upon being named, and just as Aphrodite's motivation in the play may be traced to her desire for reverence, so, too, a fundamental motivation of Phaidra and Hippolytos is the desire to achieve *εὐκλεία*. Phaidra's words in verses 403–04 show that *εὐκλεία* is, at least in theory, one of her deepest values. Later, in verses 687–92 and 715–21, she shows herself willing in actual practice to act according to this value, even though that will mean she must die.

While it is true that Hippolytos highly values *σωφροσύνη*, this should not be considered his deepest value: it is only a means to an end, which is his desire for *εὐκλεία*. Thus when he swears to Theseus an oath which must convince in place of an actual witness, he asks to be destroyed *ἀνώνυμος* and *ἀκλεής* (1028) if he has done what he has been accused of doing. Here the two elements, *εὐκλεία* and being named, have come together to emphasize Hippolytos' seriousness and sincerity: the oath is an expression of Hippolytos' worst fear and, at the same time, of one of his deepest values. At the end of the play, when Phaidra and Hippolytos are apotheosized, the distinction between human *εὐκλεία* and divine reverence almost vanishes: both are to receive the fame they desired—they will be, like Aphrodite (1), *οὐκ ἀνώνυμος* (1429), and, like Phaethon (732–41), Hippolytos will be wor-

<sup>30</sup> D. Roloff, *Gottähnlichkeit, Vergöttlichung und Erhöhung zu seligem Leben: Untersuchungen zur Herkunft der platonischen Angleichung an Gott* (Berlin 1970).

<sup>31</sup> The phrase first appears in Pl. *Th.* 176b.

<sup>32</sup> Roloff, *op.cit.* (*supra* n.30) 64, and see (36) in the "Fundstellen."

shipped by mourning maidens (1425–28) and will receive the sacrifices (1426) which are the proper due of gods (cf. 535–44).

Just as reverence is intimately tied to the validity of a god's claim to divinity, so human striving after *εὐκλεία* is ultimately linked to the desire to become divine, the epic hero's "höchster, aber unerfüllbarer Wunsch."<sup>33</sup> It is this wish which most profoundly motivates the actions of both human characters throughout the play. The nurse accuses Phaidra of attempting to surpass a paradigm of behavior observed even on Olympos (451–9, 474f), for Phaidra does not want to give in to her illicit love, even if mythology is replete with examples of gods doing just that. The nurse's advice is cynically realistic. Phaidra will answer and reject it by appealing not to realities but to ideals, not by justifying her action on the basis of the patterns established by the "real" gods of mythology, but by a justification based on ideal patterns of how things ought to be (488–89). She must do this because her real struggle is not against an illicit love but towards honor, and an honor so demanding and pure from the exigencies of reality that it necessarily implies a still deeper value: the struggle against all that is basely human, towards all that is truly divine. Phaidra cannot be moved by the nurse's accusation: it is not these gods that she is attempting to imitate. Hippolytos, too, will be accused of this crime in verses 91ff, only now Hippolytos will be the one to inject into the argument the realities of the gods he is advised to imitate (106), and again these realities will be rejected and higher values affirmed. It is such values that motivate Hippolytos and Phaidra throughout the play, and such values that the nurse—after she, too, has rejected the "vain myths" which only deceive men (197)—sees embodied momentarily in Aphrodite: "then Kypris is no god, but something greater, whatever that might be" (359–60).

But just as the bee has a dangerous duality, so, too, these characters are dangerous for themselves and for others because of what they are willing to do to realize their values. For there is always an ironic disjunction between the values a character professes to have and the qualities derivable from his actual deeds: the values come from the world of "ought to be" and are perhaps harmless if not noble and beautiful when viewed in isolation; the qualities, however, arise from the practical demands of transferring ideals into realities. And these qualities would seem to be worthy of anything but honor, reverence,

<sup>33</sup> Roloff, *op.cit.* (*supra* n.30) 63f.

or divinity. Each character is called haughty (cf. 103, 61, 490, 1064, 1364), and each demonstrates through deed or word that he deserves this ambiguous epithet.

Aphrodite displays her haughtiness throughout the prologue, and it may perhaps be seen most clearly in lines 5–6, where she states the quintessence of her philosophy: “those who honor me I honor; those who act arrogantly against me I overthrow.” Hippolytos, in verses 79–85, displays the same kind of intolerance against those who do not conform to his conception of *αἰδώς*, and he goes so far as to claim that he alone of mortals may properly hold communion with Artemis (84–86). A moment later, in the dialogue with his servant, Hippolytos will in effect accuse himself of haughtiness by refusing to pay homage to Aphrodite (88ff). It is this same self-righteousness which is most detestable to Theseus (1064) and which leads to his banishment and death. Thus, it is at once ironic and fitting for Hippolytos to call himself *σεμνός* in lines 1364f: ironic, because it was this very quality which caused his downfall; fitting, because it is uttered just moments before he will take his place in the pantheon of the gods. Phaidra displays an intolerance similar to that which Hippolytos displayed in lines 79–84. In verses 413–18 she addresses Kypris—just as before Hippolytos has addressed Artemis—and she condemns those who are *εὐφρών* in word but not deed, just as Hippolytos had condemned those who are reverent through nurture and not nature. And just as in lines 88ff Hippolytos has unknowingly condemned himself, so Phaidra’s words about false *εὐφροσύνη* will be used to condemn her in lines 661–68.

Each character is also vindictive and has destructive qualities. Aphrodite’s destructiveness is the subject of the chorus in lines 530–64 (cf. 443). She openly flaunts her vindictiveness in lines 21–22, where she says, “I will take vengeance on Hippolytos this very day.” Hippolytos’ destructive side is emphasized by Aphrodite in lines 17–19 and metaphorically by Theseus in lines 956–57. His own reaction to the servant’s friendly advice in verses 88ff reveals the same quality, the hunter’s bestiality (cf. 108–12),<sup>34</sup> and his vindictiveness is implicit in the tirade against Phaidra, especially in the climactic lines 661–65. If his vindictiveness in this passage is primarily psychological, Phaidra’s will be much more physically violent: in lines 682–84 she calls upon Zeus to blot out the nurse with his thunderbolt, and in verse 721 she promises

<sup>34</sup> Cf. Segal, *op.cit.* (*supra* n.27) 300.

to bring about Hippolytos’ death, just as Artemis at the end of the play promises to reenact the wrath of Aphrodite by taking vengeance on some mortal whom Aphrodite loves (1420–22).

Thus far, Euripides has employed some of the traditional forms of *ὁμοίωσις θεῶν* to suggest that the motivations behind the actions of the human characters and the qualities arising from those actions compare closely with the motivations and qualities connected with the behavior of the gods in the play. There is, however, one other important aspect of behavior: the external restraints or laws which at least partially determine it. Traditionally, *ὁμοίωσις θεῶν* was never extended so completely as to encompass the *νόμοι*, to equate human with divine law, however natural such an extension might seem to us. As far as can be determined, it was Euripides who first conceived of this idea, probably not so much to innovate for the sake of innovation as to fulfill the technical task of suggesting the similarity of his human and divine characters in as thorough a way as possible.<sup>35</sup>

In line 98 Hippolytos answers his servant’s question with a conditional sentence: “yes, if the gods observe the same laws as men.” What is here the protasis of a condition may also be taken as a kind of propositional statement to a hypothesis: “if the gods observe the same laws as men, then . . .” The play might then be viewed as the consequence of this supposition. But before the consequences can be considered the hypothesis itself must be proved. Certainly in this instance—whether a haughty man is as detestable in the eyes of the gods as in the eyes of men—the hypothesis will be confirmed. Aphrodite has already promised as much in the prologue (5–8), and the truth will be vividly demonstrated by the “double misfortune” of the haughty Phaidra and Hippolytos.

There are two other important laws of behavior which will be offered as proof of the hypothesis. The first law governing the behavior of mortals and gods has two forms. In the human frame it might be called the law of oath-keeping (cf. 611, 1033; 710–14, 804–05), and in the divine frame the law of non-intervention (cf. 1328–34).<sup>36</sup> Since the nature and effects of both forms are the same, they may be

<sup>35</sup> Pind. fr.169.1f (Schroeder) is probably not an earlier example, since *νόμος* there seems to mean ‘custom’, not ‘law’: see W. J. Slater, *Lexicon to Pindar* (Berlin 1969) s.v. *νόμος* 2. The closest parallel in traditional thought is probably the subordination of men and gods to *ἀνάγκη* (cf. H. W. Smyth, *Greek Melic Poets* [New York 1963] 316; H. Schreckenberg, *Ananke* [Zetemata 36, 1964] 72–81).

<sup>36</sup> Barrett’s term, *op.cit.* (*supra* n.8) 401.

viewed as two manifestations of essentially the same law. In both frames the law binds a character to inaction. Hippolytos is sworn to an oath of secrecy before the nurse reveals to him the source of Phaidra's sickness, and Phaidra makes the Chorus swear a similar oath before she reveals her final plans. Both oaths will put the bound person or persons in the same position that Artemis is in during the course of the play: in possession of knowledge which, if revealed, could avert an otherwise inevitable disaster. So it is not surprising that in each case this law will be observed only with the greatest reluctance.<sup>37</sup> Hippolytos twice wavers (612, 1060–63), but each time he decides not to break the oath for the same reason that Artemis decides not to interfere: the consequences of breaking the law would cause more harm than good (cf. 656–58, 1062–63, 1331–34). This law has only disastrous results in the play, since it is a major cause of Theseus' blindness (cf. 1334ff).

The negative effects of the first law are counterbalanced by a second law, the law of reconciliation. Critics have pointed to the reconciliation of Hippolytos, Theseus and Phaidra near the end of the play, and have contrasted this with the seemingly unending, eternally unbreakable cycle of outrage and revenge that the gods appear to be caught up in.<sup>38</sup> It is important, however, to look closely at the way in which reconciliation is achieved in this scene, how Artemis maneuvers first Theseus and then Hippolytos to the point where their reconciliation is possible. Miss Matthaei thought that the method of reconciliation lay in a mutual recognition of the good of both conflicting parties.<sup>39</sup> But this, I think, is only a secondary cause. The first cause seems rather to lie in a mutual suffering of the same pain. This Artemis accomplishes in two dialogues, first with Theseus (1283–1341), where she "stings" him out of his painless blindness and makes him feel a mental anguish no less painful than Phaidra's or Hippolytos' physical suffering (cf. 1313, 1325, 1408, 1460), and then with Hippolytos (1389–1406),

<sup>37</sup> Because of the convention of choral oaths, the Chorus' oath is an exception and is kept without hesitation. See Barrett, *op.cit.* (*supra* n.8) 294.

<sup>38</sup> Cf. Knox, *op.cit.* (*supra* n.2) 29ff, "we become aware of [the gods] as impersonal forces which act in a repetitive pattern, an eternal ordered dance of action and reaction. . . . From the law which governs their advance and retreat there can be no deviation . . . forgiveness is in fact unthinkable in such a context; it is possible only for human beings." Cf. Segal, *op.cit.* (*supra* n.2) 154, "but the gods do not forgive, nor do they wish to be touched by human suffering . . . Artemis may provide the objective material out of which the humanity and forgiveness may grow, but in herself she is indifferent and remote . . ."

<sup>39</sup> Matthaei, *op.cit.* (*supra* n.5) 105.

where she makes him appreciate the pain both Phaidra and Theseus have suffered (cf. 1403, 1407). So it should not be surprising that Artemis cannot yet be reconciled with Aphrodite: at present she can only surrender. For Artemis the tragedy is only half over; she is, so to speak, at the same stage at which Phaidra was when she decided to commit suicide and leave behind the fatal letter. Only after Aphrodite suffers the painful loss of one dear to her—if the gods observe the same laws as men—can reconciliation be possible, or even thinkable, for the two goddesses. Indeed, if we imagine for a moment that the goddesses had forgiven each other at the end of this play, I think we might then more properly speak of their impersonality, of their aloofness and remoteness from human suffering. As it is, though, the gods have followed the human pattern of reconciliation as far as is possible within the context of this play. Another play will be necessary to complete the pattern—just what Artemis has promised.

It would be wrong, too, to claim that Euripides could not think the "unthinkable" and depict more explicitly what is admittedly only implied in this play. In the prologue to the *Trojan Women*, for example, Athene appears on stage and sues Poseidon, her arch-enemy, for peace (lines 48–50).<sup>40</sup> This unexpected reconciliation is possible for the same reason that the reconciliation of the human characters was possible in the *Hippolytos*, because Athene, like Poseidon, has suffered pain at the hands of the Greeks: οὐκ οἶσθ' ὑβριθεῖσάν με καὶ ναοὺς ἐμούς; (69).

I stated at the beginning of this paper that a proper understanding of the play's portraiture has important implications for an interpretation of the meaning of the play. The question now naturally arises as

<sup>40</sup> John R. Wilson, "An Interpolation in the Prologue of Euripides' *Troades*," *GRBS* 8 (1967) 205–23, believes that this part of the Prologue is an interpolation. Even if his technical arguments are sound, they do not imply that Euripides could not reverse his normal practice if the dramatic context would be better served. That the context is served better, or worse, by the scene is an interpretive problem which Wilson handles unconvincingly. E.-R. Schwinge, *Die Verwendung der Stichomythie in den Dramen des Euripides* (Heidelberg 1968) 112 n.97, is also unconvinced by Wilson's attack on the text. J. Fontenrose has contended Wilson's interpretation, and would keep the lines partly on the grounds that Poseidon and Athene were not enemies in the *Iliad* ("Poseidon in the *Troades*," *ΑΓΩΝ* 1 [1967] 135–41). They were, however, traditional enemies in mythology, if not in the *Iliad*, so that it is not unthinkable for external reasons, and almost certain from the text itself, that the two gods are portrayed as arch-enemies in the play. On the traditional enmity of Poseidon and Athene see H. J. Rose, *A Handbook of Greek Mythology* (New York 1959) 68–69. In a series of "replies" and "responses to replies" the argument between Fontenrose and Wilson continues: Wilson, "Reply to 'Poseidon in the *Troades*,'" *ΑΓΩΝ* 2 (1968) 66–68; Fontenrose, "A Response to Wilson's Reply on the *Troades*," *ΑΓΩΝ* 2 (1968) 69–71.

to what those implications are. A detailed discussion of all implications would be out of place here, and is reserved for the future.<sup>41</sup> At least this negative result can now be mentioned, that—if my interpretation of the characterization is correct—the meaning of the play is not to be found in an opposition of man and god.

The acceptance of my interpretation will depend in part on its plausibility, and so it is worthwhile to inquire briefly into the possible reason behind Euripides' employment of the principle of *concordia discors* in the *Hippolytos*. The principle has the advantage of solving two problems which Euripides faced in writing the play. The first problem, peculiar to the Hippolytos myth, was how to avoid an overly crude handling of the characters in the human frame, which would not only be distasteful to the audience but also preclude the possibility of real tragedy.<sup>42</sup> By using the principle of *concordia discors*, Euripides could paint his characters with a complexity approaching reality, balanced enough not to suggest the personifications of a morality play. Secondly, the principle solves the problem of myth and reality, a general problem Euripides faced as a poet who always had to reconcile his materials, the traditional myths, with his own view of reality.<sup>43</sup> A major difficulty facing a poet of a realistic Greek tragedy was how to weave the gods into the play without disturbing the comprehensibility of the action in purely human terms. Euripides' solution to this problem was to parallel the motivations and laws of divine behavior with those controlling human behavior. As a result, though the gods are still not completely human, nor the humans completely divine, the difference between god and man in the play is at least quantitative rather than qualitative.<sup>44</sup>

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<sup>41</sup> The most important implication is the relationship of *concordia discors* to Peter Szondi's theory of *das Tragische*. See *Versuch über das Tragische* (Frankfurt/M. 1961), especially pp. 60f ("Nur der Untergang ist tragisch, der aus der Einheit der Gegensätze, aus dem Umschlag des Einen in sein Gegenteil, aus der Selbstentzweiung erfolgt"). It was unfortunately impossible to develop the relationship in this paper, since that would have required a diachronic, not synchronic approach to the play.

<sup>42</sup> See Barrett's excellent discussion of the dramatic advantages of the second *Hippolytos* over the first, in which Euripides apparently did not avoid this hazard; *op.cit.* (*supra* n.8) 14f.

<sup>43</sup> For a detailed discussion of the rôle of myth and reality in Euripides see J. C. Kamerbeek, "Mythe et réalité dans l'œuvre d'Euripide," *Entretiens Hardt VI* (Vandœuvres-Genève 1960) 1-25.

<sup>44</sup> Roloff, *op.cit.* (*supra* n.30) 17, makes this important distinction.

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# INTRODUCTION

## FROM DIGITAL ILLUSTRATION TO DIGITAL HEURISTICS

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This book is timely. As the following articles show, 2D and 3D modeling of cultural heritage is no longer used just to illustrate the location and appearance (past or present) of archaeological sites, but also as a tool to discover and recover data from archaeological remains. We have better ways of predicting where this data might be found under the surface (see *Gerlach et al.*, *de Boer et al.*). When applied to the legacy excavation data of a cultural heritage site—as *Lieberwirth* does in a pioneering study in this volume<sup>1</sup>—or when used to record the progress of a new excavation,<sup>2</sup> 3D modeling has the potential to mitigate the irreversible and destructive nature of archaeological excavation, an unfortunate, ironic, and unavoidable central fact of archaeology as traditionally practiced.<sup>3</sup> Up to now we have had, perforce, to murder to dissect. With the widespread adoption of 3D technologies to record and reconstruct archaeological sites, we can virtually preserve the site through 3D data capture as we dig it up. And, once we model the 3D data gathered in the field, we can allow our colleagues to retrace our decisions and to test the validity of our conclusions with more precision and confidence.

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1. As predicted by Reilly 1991.

2. Cf. M. Bradley 2006; B. Bobowski 2007; W. Day, J. Cosmas, *et al.* 2007.

3. Cf., in general, Ananiadou *et al.* 2005; Borgman *et al.* 2005; Lord and Macdonald 2003. For the ‘unfortunate irony’ of archaeology, see Reilly 1989: 569.

This application of 2D and 3D digital tools in archaeology is not surprising. 2D and 3D models of cultural monuments permit us to visualize their use and evolution from inception through their latest phase. As neurobiologist Semir Zeki has emphasized, vision rarely involves mere sensation; it usually leads spontaneously to cognition as well. First we look, then we see and understand (Zeki 2003: 21, 24, 26, 93). A classic instance is Mendeleev’s table of elements, whose power ‘was not just that it functioned as a tool for arranging properties but that the gaps in the sequences predicted the discovery of yet *unknown* elements’.<sup>4</sup> A second famous case concerns John Snow’s solution of the cause of an outbreak of cholera in London in 1854. By displaying all the cases on a map marked with streets and public water pumps, Snow was able to establish the likelihood that the disease had spread through water contamination at a specific pump. Its handle was removed, and the epidemic promptly ended (Tufte 1997: 27-37).

According to information scientist Colin Ware, a visualization can promote understanding in the following five ways:

- It may facilitate the cognition of large amounts of data
- It can promote the perception of unanticipated emergent properties

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4. Kemp 2000: 69; for details, see Scerri 2006: 123-158.

- It sometimes highlights problems in data quality
- It makes clear the relationship of large-and small-scale features
- It helps us to formulate hypotheses (Ware 2004: 3)

The role of visualization in cognition has not yet become a major theme in discussions of 2D and 3D archaeological models. This is undoubtedly a normal case of theory-lag; since most uses of computer modeling have been for purposes of illustration, it is not surprising that theoreticians should have stressed this application. The field into which 2D and 3D modeling falls was aptly called ‘virtual archaeology’ by P. Reilly in 1990 (see Reilly 1991; Forte and Silotti 1995; Earl 2006). Reilly defined virtual archaeology’s mission as ‘enrich[ing] the perception of the material under study’ (Reilly 1989), and “offer[ing]...the most faithful re-presentation of the ancient world possible: highly realistic in information and with a high scientific content’ (Forte and Silotti 1997: 10). In support of this mission, theoreticians of the new field focused on such matters as what software should be used to create or view a 2D or 3D model;<sup>5</sup> viewshed analysis using standard GIS tools;<sup>6</sup> how uncertainty or degrees of probability should be represented;<sup>7</sup> and how 3D models could be used to improve interpretation in museums, in virtual museums, and in the classroom.<sup>8</sup>

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5. For two early examples, see Baribeau *et al.* 1996 on 3D data capture with the use of a laser scanner; and Bloomfield and Schofield 1996 on 3D hand modeling; for an early survey of the topic with extensive bibliography, see Barcelò 2000.

6. For a survey and critique of early work see Gillings and Goodrick 1996: parts 4-4a.

7. E.g., Scagliarini Corlàita *et al.* 2003: 246-247; Frischer and Stinson 2007; Corallini and Vecchietti 2007: 19; Stinson 2007: 74-76. Note that although the last three articles cited were published in 2007, the authors presented the ideas in papers presented at conferences held in 2002. For subsequent work in this area, see Zuk *et al.* 2005 and Kozan forthcoming.

8. E.g., M. E. Bonfigli and A. Guidazzoli 2000; Loscos *et al.*, 2004; S. Pescarin *et al.* 2005; Helling *et al.* forthcoming.

That they were right to do so emerges from a quick sketch of the history of computer modeling in our field. In 1973, J.D. Wilcock set forth a prophetic vision of computer applications to archaeology at the first meeting of Computer Applications and Quantitative Methods in Archaeology. This organization—often known by the shorter name, Computer Applications to Archaeology (or CAA)<sup>9</sup>—was destined to become the most important in the field.<sup>10</sup> Wilcock predicted four main uses of the computer in our field (Wilcock 1973: 18): data banks and information retrieval; statistical analyses; recording of fieldwork; and the production of diagrams. He also had a fifth, miscellaneous category, and it is into this *omnium gatherum* that we find him talking about computer reconstructions of temples and other monuments (Wilcock 1973: 20). One thing that Wilcock failed to predict was the application of Geographic Information System software (GIS) to archaeology and historical studies generally.

In the next twelve years, most of the work presented at CAA fell into Wilcock’s first three categories. Thus, E. Webb wrote in the preface of CAA 13: ‘Until recently, the bulk of the papers presented were mainly concerned with the application of multivariate statistical packages to large bodies of archaeological data...on a University mainframe.... In the last few years...there has been a shift in computer-based archaeological applications from numerical analysis towards on-site recording systems and...database management systems’ (Webb 1985: iii). In the same 1985 issue of CAA we find the first major article on 3D (Biek 1985). Biek wrote about the application of digital panoramic photography as a way of documenting an archaeological excavation. He was perhaps inspired by the first known large-scale digital capture of a contemporary city, the Aspen Project of 1978 (see Negroponte 1996: 65-67).<sup>11</sup> The

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9. See <http://caa.leidenuniv.nl/>.

10. CAA’s most recent meeting was held in Berlin in April, 2007 and attracted over 600 scholars who presented over 200 papers. See <http://www.caa2007.de/>.

11. For the final report, see [http://www.osti.gov/energycitations/product.biblio.jsp?osti\\_id=5385627](http://www.osti.gov/energycitations/product.biblio.jsp?osti_id=5385627). Negroponte describes

first example of 3D hand-modeling of an archaeological monument followed four years later (Arnold, Huggett, Reilly, and Springham 1989).

In the early 1990s, Wilcock's prediction that computers would be used for digital reconstruction of archaeological sites started to be realized. Two early papers were published in 1992 by Reilly and by Wood and Chapman. A collection of occasional papers published by the British Museum in 1996 included four studies utilizing 3D reconstruction.<sup>12</sup> A well-known overview of the scene was given in 1997 in Forte and Siliotti's *Virtual Archaeology*, which looks at several dozen computer reconstructions of sites around the world. We can see that early computer models served the purpose of illustration and resulting publications tended to focus on methods and technologies supporting the creation of such illustrations. In his foreword, C. Renfrew defined the purpose of virtual archaeology as harnessing 'the power of the computer in helping us to recreate and to visualize anew the sites that archaeologists have excavated and studied' (Forte and Silotti 1997: 7). It is noteworthy that almost all the computer models described in Forte and Silotti were built by private companies and that no authorship credit was given to a professional archaeologist. By the late 1990s the situation had changed, and with the drop in the costs of creating computer models, many archaeologists started their own 3D projects. Many of these were presented at CAA 1998 in Barcelona.<sup>13</sup>

Looking back at Ware's list, the work done in these years can be considered examples of the first and

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the project as creation of a network of nodes covering the city. Each node was three feet from the next and at each node, a panoramic photograph was taken. The photographs were placed on a videodisc. Users had random access to the photographs and could create the illusion of moving through the city, pausing to look in any direction desired.

12. Baribeau *et al.*; Hughes; Boland and Johnson; Bloomfield and Schofield.

13. See Juan A. Barcelo, Maurizio Forte and Donald H. Sanders, eds. *Virtual Reality in Archaeology*, B.A.R. International Series 843 (2000).

fourth use of visualization. A computer model can help us to understand, for example, how the hundreds or thousands of fragments of an archaeological monument can be fitted back together, as well as the relationship of a single fragment to the monument as a whole. The central theoretical assumption was perhaps best articulated by Goodrick and Gillings as an exploration of reconstructed landscapes that is both embedded and embodied (Goodrick and Gillings 2000: 52).

By the late 1990s, the focus shifted from simply making models to developing and encouraging best practices. This was understood to entail not only making a model but also providing proper scientific documentation, developing a visual language to enable users to quickly distinguish between definitely attested and hypothetical elements of a model, and creation of metadata standards. This period is well represented by Frischer *et al.* (2002) and by Fernie and Richards (2003). We can see this as exemplifying Ware's third use of visualization, highlighting problems in the quality of the data.

Progress in applying the 2D technology of GIS to archaeology and historical studies generally followed a comparable trajectory. Several early papers were presented at CAA 1991 (Castleford 1991; Gaffney and Stancic 1991; Kvamme 1991a, 1991b; Rooda and Wiemer 1991; Ruggles 1991). An important article on the potential of GIS for archaeology was published in 1992 by Lock and Harris. A colloquium devoted to GIS in archaeology was held in 1996 at the XIII<sup>th</sup> Congress of the Union Internationale des Sciences Pré-et Protohistoriques (Sept. 8-14, 1996, Forlì, Italy). In 1997, the Electronic Cultural Atlas Initiative (ECAI) was started at the University of California, Berkeley, with the mission of 'enhancing digital scholarship and cultural heritage preservation by using time and space for data sharing'.<sup>14</sup> In the early years of the organization's existence, ECAI members I. Johnson and A. Osmakov developed TimeMap, an important tool that adapted

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14. <http://h-net.msu.edu/cgi-bin/welcomeletter?list=h-ECAI>.

GIS to the needs of historians.<sup>15</sup> In North America, the Polis Center at Indiana University has been a leader in promoting ECAI.<sup>16</sup> At CAA, papers using GIS were common by 1996 (Wheatley 2000), and in the current decade they have become as frequent as those dedicated to 3D modeling. A strong impetus was given by the joint meeting of ECAI and CAA in 2003 in Vienna. In general, as van Hove and Rajala (2002) noted in an important editorial in *Internet Archaeology*, in the 1990s GIS was viewed mainly as a tool for assembling and viewing digitized information about terrain and its uses,<sup>17</sup> but in the early years of this decade, GIS started to be seen as supporting Ware's fifth function of visualization, analysis and hypothesis formation.<sup>18</sup>

This historical sketch brings us to the present day and allows us to take stock of not only of which of Ware's five applications of visualization archaeologists have clearly already embraced, but also to see those that still remain to be employed, at least on a large scale, in our field. Clearly, these are the second and fifth types: promoting the perception of emergent properties; and facilitating the formation of hypotheses. This type of work does more than illustrate an archaeological monument. It helps us to respond to the often tacit assumption that 2D and 3D modeling is primarily for teaching and has

little, if anything, to contribute to scholarship (cf. Kolb 1997; Earl 2006: 192-193). It also allows us to use the computer model as a research tool to generate new knowledge. The purpose of this book is to collect some of the pioneering efforts in this promising field.

In applying digital modeling, archaeologists have been recapitulating the history of physical modeling, which started no later than the fourteenth century. As noted by C. Piga, Filippo Brunelleschi (1377-1446) used physical modeling to show that his radical design for the cupola of the cathedral of Florence could function. Like the earlier architectural models of the fourteenth century, Brunelleschi's model simply operated as a means of persuasion (Piga 1996: 56, 60). But Leon Battista Alberti (1404-1472) saw the physical model as a tool to verify the correctness of an architectural design, both in terms of aesthetics and structure (Piga 1996: 68).<sup>19</sup> Following Alberti, the model quickly becomes a tool to

15. <http://www.timemap.net/>. The development of ECAI can be followed through the directors' reports, available at <http://ecai.org/about/directorsRpts.html>.

16. <http://www.homepages.indiana.edu/021105/text/technology.shtml>.

17. Hence F. Vermeulen (2002: 121) could write that 'GIS remains clearly the motor of the machine for the efficient study, rational management and attractive disclosure of the archaeological data and results'.

18. Cf. van Hove and Ryala 2002: 'In the past, there has been a tendency to use GIS solely as a tool... without any link to archaeological theory. We emphasise that although GIS are a useful tool for storage and visualisation of multiple forms of data, manipulation and analysis should take centre stage, emphasising theory driven research questions and the exploration of traditional archaeological interpretations with new research methods.... New theoretical concepts can also be tested using GIS, which might lead to the formulation of alternative theoretical perspectives to be examined further...'

19. Cf. L.B. Alberti, 1988. *On the Art of Building in Ten Books*, translated by Joseph Rykwert, Neil Leach, and Robert Tavernor (Cambridge, MA) 33-34, 313: '...I will always commend the time-honored custom, practiced by the best builders, of preparing not only drawings and sketches but also models of wood or any other material. These will enable us to weigh up repeated and examine, with the advice of experts, the work as a whole and the individual dimensions of all the parts, and, before continuing any farther, to estimate the likely trouble and expense. Having constructed these models, it will be possible to examine clearly and consider thoroughly the relationship between the site and the surrounding district, the shape of the area, the number and order of the parts of a building, the appearance of the walls, the strength of the covering, and in short the design and construction of all the elements discussed in the previous book. It will also allow one to increase or decrease the size of those elements freely, to exchange them, and to make new proposals and alterations until everything fits together well and meets with approval. Furthermore, it will provide a surer indication of the likely costs—which is not unimportant—by allowing one to calculate the width and the height of the individual elements, their thickness, number, extent, form, appearance, and quality, according to their importance and the workmanship they require....I must urge you again and again, before embarking on the work, to weigh up the whole matter on your own and discuss it with experienced advisors. Using scale models, reexamine every part of your proposal two, three, four, seven—up to ten times, taking breaks in between, until from the very roots to the uppermost tile there is nothing, concealed or open, large or small for which you have not thought out,

stimulate the architect's creativity (Piga 1996: 56). As Baldinucci wrote in 1681, the model 'is the first and principal undertaking of the entire work.... Through it, the Craftsman achieves the summit of Beauty and Perfection. It helps the Architect determine lengths, widths, heights, and thicknesses...and to identify the diverse skills that will be needed to build the structure and to find the funds that will be needed to finance it' (*Vocabolario toscano dell'arte del disegno*, cited *apud* Piga 1996: 57 [my translation]).<sup>20</sup> Meanwhile, physical models of fortified cities and the surrounding territory started to be made in the sixteenth century for analogous purposes: they were a visualization tool that helped commanders to plan the defense of or attack on a fortified town (Warmoes 1999: 13). Louis XIV was the acknowledged master commissioner of city models. Of the 144 models built during his reign, thirty survive (Warmoes 1999: 8).

We digital archaeologists have been catching up with our colleagues in the physical sciences who have been using digital models as tools of discovery since at least the mid 1990s when, for example, the VR application called 'Crumbs' was developed by the National Center for Supercomputing Applications at the University of Illinois. Crumbs has been described as 'an application used for visualizing, exploring, and measuring features within volumetric data sets. Crumbs is a...tool that makes use of a variety of display paradigms and data manipulation options, allowing a researcher to explore

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resolved, and determined, thoroughly and at length, the most handsome and effective position, order, and number'.

20. As Piga notes, Galileo contradicted the idea found in, e.g., Alberti and Baldinucci that architectural models can help to predict the static properties of a building since, as Galileo recognized, the static properties of a given form are not scalable but change with size (Piga 1996: 89-106). To be useful for structural engineering, physical models must have a mathematical basis, and this combination of the physical and mathematical in modeling occurred in the nineteenth and twentieth centuries (Piga 1996: 115, 141-144). One way of thinking of 3D digital models would see them as the logical climax in the merger of the physical and the mathematical approaches to representation (cf. Karasik: 118: '...3D scanners [and one might add, 3D hand-made models—*eds*] typically produce output in vector format, which is more amenable to mathematical manipulation'.

volumetric data in intuitive and powerful ways.... The motivation for developing Crumbs [was] that many biological structures are difficult to identify and measure with traditional image analysis techniques and two-dimensional visualization interfaces' (Sherman and Craig 2003: 484). Scientists such as T. Karr of the University of Chicago have used Crumbs to measure the length of sperm tails in *Drosophila*, a very difficult task which Crumbs made easy (Sherman and Craig 2003: 506). H.E. Buhse, Jr. of the University of Illinois at Chicago used Crumbs to localize an antibody (OF-1) to the feeding apparatus of *Vorticella convolvavia*. Using Crumbs, Buhse discovered that besides localizing to the feeding apparatus, the antibody localized to contractile fibers near the cell membrane (Sherman and Craig 2003: 509). This is a good example of 'promoting the perception of emergent properties that were not anticipated' (Ware 2004: 3).

By the late 1990s, such uses of visualization—whether 1D, 2D, 3D, or, indeed 4D--were common in the natural and social sciences. In a report on cyberinfrastructure commissioned by the National Science Foundation, among the major threads linking the traditional scientific disciplines today is the use of models, simulations, and visualization (Atkins *et al.* 2004: 91-11, 18, 21, 26). In 1999, Card, Mackinlay, and Shneiderman's *Information Visualization: Using Vision to Think* was published, providing a useful bibliography of more than 700 publications and an anthology of over forty classic articles.<sup>21</sup> In their conclusion, the editors wrote:

[P]owerful visual tools can support discovery; Galileo's telescope enabled him to discover the moons of Jupiter, and microscopes revealed the structure of cells. Now, information visualization tools are supporting drug discovery by pharmaceutical researchers and credit card fraud detection by financial analysts. Visual data mining complements the algorithmic approaches for exploring

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21. Stuart K. Card, Jock D. Mackinlay, Ben Shneiderman, eds. *Readings in Information Visualization. Using Vision to Think* (San Francisco 1999).

data warehouses. Surprising patterns that appear in data sets can sometimes be found by algorithms, but visual presentations can lead to deeper understanding and novel hypotheses. These in turn can be checked with algorithmic processes such as cluster analysis, factor analysis, hierarchical decomposition, or multidimensional scaling.... The breadth of applications for information visualization is large and growing.... (Card *et al.* 1999: 625-626)

In this volume, **Gooding** gives us the 30,000-foot overview of our subject, allowing us to place visualization in the historical sciences into the broader context of science per se. **Forte** issues a manifesto calling for nothing less than a new archaeology where the bottom-up process of data collection can properly merge with the top-down process of interpreting the data and building theories around them. **Hermon** agrees with Forte that visualization technologies have been underutilized in archaeology and surveys some of the principal ways in which they can be applied to research in archaeology. On the simplest level, there is the accessing, management, interpretation, and sharing of data. Then there is the conversion of alphanumeric data to a visual display. The conversion can stimulate new understanding but also raise new questions. Moreover, the 3D visualization can be enhanced through predictive models that allow us to define and evaluate possible scenarios implied by the raw data.

In archaeology, we have thus far seen examples of Ware's second and fifth applications in two realms that could be called experimental archaeology and experimental architectural and urban history. The remaining papers in this volume exemplify what has been done to date along these lines.

In a study using a 2D approach with admittedly crude representations of the data (cf. p. 50), **Premo** shows how an agent-based model of Lower Paleolithic landscapes called SHARE ('Simulated Hominin Altruism Research Environment') can throw into question the previous explanation of archaeological features of areas of East Africa, which had been formed on the basis of analogies

to modern hunter-gatherers. The agent-based approach does not necessarily result in a new explanation, but offers a tool for developing alternative explanations and testing that are more compatible with the results of fieldwork. Premo argues that when we have two or more explanations consistent with the empirical data, we should choose the simplest one, even if it is very different from the explanation derived from modern analogies.

In a second 2D study, **Indruszewski** and **Barton** use cost surface DEM modeling to reconstruct Wulfstan's late ninth-century voyage from Haidaby (Schleswig-Holstein, Germany) to Truso (near the Visula River mouth in Poland), as told in King Alfred the Great's *Orosius*. Here, interestingly enough, the goal was the opposite of what Premo had pursued: instead of questioning the validity of arguing from present analogies to lost past phenomena, Indruszewski and Barton used an actual physical reconstruction of a Viking boat and a recreation of much of Wulfstan's route to validate the itinerary suggested by application of some standard GIS least-cost analyses. Their point of departure was to dispute the correctness of an alternative reconstruction of the route by Crumlin-Pedersen (1983), which was based on depth sounding along a preselected bathymetric line. As they write, 'we can employ GIS-based simulation as a new way to develop precise and testable hypotheses about Wulfstan's sea route from the meager historical information. The simulation presented here does not operate on fictitious values, but is based on both historical information provided by Wulfstan's account and real-time data provided by experimental archaeology' (59).

**Gerlach, Herzog, and von Koblinski** report on work using 2D GIS and 3D terrain mapping to develop a method for distinguishing true archaeological sites from pseudo-sites in the Lower Rhine area as part of a project of the Rheinisches Amt für Bodendenkmalpflege in Bonn, Germany, to assess the amount of change in the natural landscape owing to modern construction work, pits, and other sources. The problem is very important: in the Lower Rhine area many pits were dug in the nineteenth and twentieth centuries in order to extract

material for making bricks. Most pits were then filled in with dumps of earth and artifacts from elsewhere. In fieldwalking, the filled-in pits are indistinguishable from the rest of the terrain and hence have given rise to the discovery of false archaeological sites. By creating a digital elevation model of the region and using relief shading, the Rheinisches Amt für Bodendenkmalpflege has been able to easily identify these pits on the surrounding landscape, thus enabling it to make a much more accurate census of the area's true archaeological sites.

In a similar vein, **Lechterbeck's** work comparing contour lines in 100-year-old historical maps of Preussische Neuaufnahme of the Rhineland against modern digital elevation models supports the use of digital GIS data when investigating archaeological sites. Changes in topography and in data collection methodology mean that the *Preussische Neuaufnahme* is not suitable for visualizing and quantifying mass movements and slope processes of the last 100 years for that region.

**De Boer et al.** show how LIDAR can provide archaeologists with 3D data needed to reconstruct historical landscapes and to trace sites. As in Gerlach *et al.*, the point of this study is to use a new approach to improve the calculation of an area's potential to contain archaeological sites, to identify specific sites, and to eliminate pseudo-sites.

As noted at the beginning of this introduction, Lieberwirth's contribution is *bahnbrechend*. She uses 3D GIS to reconstruct an archaeological site in Greece that was excavated stratigraphically more than thirty-five years ago. The model she creates of the site prior to its excavation permits her to interpret the stratigraphy independent of the explanation offered by the excavators. The result was very promising: while the excavators' interpretation was largely confirmed, important new information emerged. Much more important than the specific advances is the general point implicitly made by Lieberwirth's study that 3D software can permit us to reconstruct with great accuracy a site that has been excavated using the stratigraphic method. Much more

along these lines can, and one may safely predict, will be done.

Whereas the archaeologist who uses GIS software can take advantage of a large kit of sophisticated, built-in tools (cf. the study in this volume of Indruszewski and Barton), the virtual archaeologist who creates or uses 3D models generally finds that the only tool available by default is the simple navigation tool permitting either movement of the camera or of the 3D object. Thus Lieberwirth's tools are fairly limited: the software she uses is able to spatialize legacy archaeological data, to calculate volumes of stratigraphic units and to color code them. Her methodology is thus limited to volumetric analysis and visualization of spatial (stratigraphic) relationships (which does not in any way diminish her results). She would undoubtedly be among the first to welcome software with enhanced analytical functionality. It is the merit of **Ozmen** and **Balcisoy** to begin to provide these tools. The point of departure is recognition of the important distinction between the software used to create a 3D model and that used by the end-user to visualize and explore the model. Up to now, production software (e.g., 3D Studio Max, Maya, MultiGen Creator) has had tools that permit the modeler to determine the distance between two points on an object; but standard end-user navigation software has lacked such a basic tool. Unless end-users can learn to use production software, they have been unable to unlock much of the precise data that scientific 3D models contain. Ozmen and Balcisoy argue that the solution can be found in the development of end-user software for medical applications: the software designer should provide digital tools similar to the real-world tools with which end-users are already familiar. This they have started to do with the creation of CH ('Cultural Heritage') Toolbox. This allows a user to move through virtual space, to move 3D objects found in virtual space, and finally to apply tools to the object, once it has been located and positioned for study. The tools in the early version of CH Toolbox are simple but powerful for the archaeologist: a virtual caliper and a virtual tape measure. CH Toolbox was authored in C++ using the library of OpenSceneGraph, one of the most

popular open source scene graphs currently in use by virtual archaeologists.

If Ozmen and Balcişoy create two universally useful tools for archaeologists, **Johanson** and **Frischer** (who also use OpenSceneGraph) created a special virtual ephemeris tool to run a ‘virtual-empirical’ test of the Dearborn-Bauer thesis (Dearborn, Seddon, and Bauer 1998). This thesis entails an explanation of the positioning and alignment of two Inca towers at the north end of the sanctuary of the Sun, on the Island of the Sun in Lake Titicaca (Bolivia). According to Dearborn and Bauer, the towers in questions were not (as has sometimes been thought) tombs but markers of the position of the sun at sunset on the winter solstice. These markers functioned as a means for large-scale audience participation in the solstice ritual. The thesis was originally argued using 2D analyses on a limited subset of data. An *in situ* empirical test could only be performed at a limited time during the year (sunset on or near the June solstice), and only limited sampling of viewsheds could be examined. Furthermore, the empirical test could only be performed on partial data, since many of the critical architectural elements are only partially preserved.

The ‘virtual-empirical’ test undertaken by Johanson and Frischer eliminates the constraints of time and space. To conduct the test, a 3D computer model of the topography of the island and the sanctuary was built. Ephemeris data supplied by NASA’s Jet Propulsion Laboratory made it possible to reconstruct the apparent course of the sun at sunset on dates surrounding the winter solstice in the year 1500 CE, the approximate date for Inca ceremonies attested by the Spanish chroniclers. Thus, using more accurate tools, the hypothesis was able to be further validated and more easily communicated to a general audience.

**Karasik** tackles the problem of how 3D scanning of pottery can lead not only to more accurate illustrations of the profiles of ceramics but also to new discoveries. Profiling pottery is based upon the assumption that pots are perfectly axially symmetrical, so that one profile serves for all possible profiles that might be made. But in

the real world, as Karasik notes, no vessel shows perfect axial symmetry. 3D data reveals the deviations from perfection and these, in turn, can be used to determine intravessel and intervessel uniformity of pottery belonging to the same assemblage. Uniformity in this sense has never been taken into consideration in pottery studies, doubtless because without 3D vector data, it is extremely difficult to calculate. Why might uniformity be of interest to the archaeologist? As Karasik succinctly notes, ‘the former [intravessel uniformity] represent[s] the quality of the production of a single vessel, and the latter [intervessel uniformity] the reproducibility of the manufacturing process.’ At the end of his article, he sketches out a research program that could be based on this ability to calculate uniformity/deformation with high precision. It could lead to assessments of the motor skills of the individual potter, the ability to differentiate home-made from mass-produced pottery, the detection of individual potters’ signature characteristics within a type or tradition of ceramic production that otherwise looks to very homogeneous to the naked eye; and the ability to distinguish between a fast wheel and a tournette.

If Karasik’s contribution ends with a vision of possible new discoveries just around the corner as 3D scanning technologies are applied with greater frequency to the study of pottery, then **Koller** closes with some spectacular concrete results that could only have been achieved through 3D scanning. He was part of a group, led by Stanford Computer Scientist M. Levoy, that digitized and made 3D models of each of the 1200 surviving fragments of the Severan Marble Plan. This is an enormous and detailed map of Rome dating from the beginning of the third century CE. Koller played an important role on the team and wrote his dissertation on the project (Koller 2007). In his contribution in this volume, he describes the map, recounts the campaign to digitize and publish it to the Internet,<sup>22</sup> and reports on how he used various algorithms to find new joins

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22. See <http://formaurbis.stanford.edu/>.

among the fragments.<sup>23</sup> The ability to find such joins is remarkable and represents a major early triumph for virtual archaeology: the map was discovered in the sixteenth century and for centuries has been the subject of scholarly interest, including two major monographs in the decades immediately preceding Koller's work (Carettoni *et al.* 1960; Rodríguez-Almeida 1981).

For all its strengths, Koller's study does have one major weakness: the user interface he helped create for the project does not contain the tools that he developed to achieve his results. Like most 3D user interfaces, it simply allows the user to move the fragment around on the screen. To empower the end-user, the interface would need to be enhanced with tools reflecting the searching and matching algorithms developed or used by Koller to solve the puzzle of the Marble Plan (Koller: 135-139), and it would need to support the simultaneous viewing of two or more fragments at a time, each manipulated independently so that potential joins could be virtually tested. As Koller notes, to do this now the end-user needs to load the fragments of interest into a 3D modeling software program (Koller: 134). But not all end-users have such a program, and such programs often take a great deal of training to use effectively.

Let me conclude with several observations. First, I do not mean to imply that computer models of archaeological sites do not have other legitimate uses. Illustrations, documentation, education, site presentation, etc. have become standard applications of archaeological computer models, and I certainly see nothing wrong with that. To the contrary, I predict a rosy future for such models as cities and states around the world start to create virtual cultural heritage centers.

To make progress in going 'beyond illustration', we need more tools—tools that are in part replicas within the VR interface of existing tools, such as those found in several contributions in this volume; and, of course, brand new tools. In the first category, I would put the

tools created by Ozmen and Balçisoy and discussed in this volume. Into the second category, I would put tools that exploit the specific strengths of VR: for example, we need haptic tools, not just to move objects around in our illustrations, but to provide analytical data about those objects, such as their weight and other physical properties. We need tools that enable us to test lighting conditions in the virtual environments we create. A good example of the potential of this for scholarship is provided by Jabi & Potamianos. In two studies (Jabi & Potamianos 2006 and Potamianos & Jabi forthcoming), they use lighting tools to study how Anthemius of Tralles, the architect of Hagia Sophia in Istanbul, used geometrical principles to control the lighting of the apse and dome. We need sound tools, not only to populate our representations with localizable 3D sound but also to give analytical feedback about the acoustic properties of our virtual environments so that we can determine in a serious way whether, for example, the Roman Senate House with its marble floors and marble-clad walls functioned well or poorly as a place of deliberation and debate. To date, models have been used mainly to represent landscapes and built structures unenhanced by physical properties. We need to add physics engines to our 3D viewers. They will permit us to incorporate in the user interface a variety of structural engineering tools for studying the statics of our buildings, ventilation and circulation through them, and to simulate how they were subjected to damage and destruction through disasters such as fire, flood, earthquakes or by their own deficient design. Similarly, few (if any) archaeological models utilize artificial intelligence to represent the behavior of people, animals, and artifacts. The potential of doing so was recognized by the contributors to the session on 'Avatars and Virtual Humans' at VAST 2004 (cf. de Heras Ciechowski *et al.*, Gaitazes *et al.*, Ryder *et al.*) and signs of interest are scattered elsewhere throughout the scholarly literature.<sup>24</sup> Further progress in this direction is presented in this volume by Premo.

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23. In Koller 2007 he discusses over 20 new 'highly probable' joins.

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24. Balck and Keller 2004; Gutierrez *et al.* 2005; Gutierrez, Frischer *et al.* 2007; Andreoli *et al.* 2007.

Finally, we need tools that reflect the strength of digital technology generally to make links and connections. Foremost among these is the ability to link the reconstruction in the 3D scene to the underlying archaeological documentation and argumentation behind the scene. Such transparency has long been called for (see Forte 2000) and a good groundwork for how this might be done using the Resource Description Framework (RDF) encoded in the eXtensible Markup Language (XML) was laid by Ryan 2001. It should be possible for the end-user to click a key, open a window with documentation and metadata, and find out what the evidence is for each element of the 3D reconstruction in a virtual tour.

These are just some examples of the toolkit we ideally need to be creating to make our virtual environments more than pretty pictures but places where we can run experiments, collect new data, and empower the end-user to question or build on our work in a way that would simply not otherwise be possible.

Beyond tools, we need a standard user-interface that can both run the scientific cultural heritage models being made by scholars in increasing numbers and be enhanced by the new tools we need, which might be added as plug-ins. This might be a high-quality but inexpensive proprietary game engine such as Torque<sup>25</sup> or, perhaps, an Open Source scene graph such as OpenSceneGraph<sup>26</sup> or Open SG.<sup>27</sup> We also need an online, peer-reviewed scholarly journal in which scholars can publish their models and tool plug-ins. Up to the present, there have been very few examples in this field of fully interactive, real-time models that have been published to the Internet. Generally, scholars have only been able to publish articles about their modeling projects with, at most, several color 2D illustrations. This must change.<sup>28</sup>

It is not difficult to predict that 2D and especially 3D modeling of cultural heritage spaces and monuments will shortly gather momentum, especially as the tools we need and standards or best practices for creating and viewing models become available. Use of these technologies will spread through new sub-disciplines of archaeology and the humanities. In art history, for example, recent work by Dellepiane, Callieri, Fondersmith, *et al.* (2007) shows how 3D can be used in artistic attribution. The authors used 3D modeling technology to create a digital representation of a small bronze horse in the Florence Archaeological Museum. The statuette had been attributed to Benvenuto Cellini. One of the co-authors of this paper (Fondersmith) attributed the statuette to Leonardo da Vinci on the basis of a drawing of a similar horse in a Leonardo manuscript (Leonardo drawing 358, Windsor Royal Library). The drawing was digitized and then mapped to the model at the vantage points the artist could have used to draw the statuette. The digital versions of the drawing and statue could then be aligned, and the authors found that the alignments from two vantage points were very precise. Other Leonardo drawings of horses (though not of the horse depicted in the statuette) were tested, but no good alignments were found. A second horse, also in the Florence Archaeological Museum and also datable to Leonardo's lifetime (though not attributed to him) was also studied for possible alignment with the drawing. In this case, too, no good alignment was found. The authors conclude that their study may not prove that Leonardo sculpted the statuette but it does throw doubt on the attribution to Cellini.

In the field of archaeology, use of 3D has been most prevalent in Old World archaeology. But the New World is starting to show signs of interest. Thus the 2007 annual meeting of the Society for American Archaeology had a session entitled 'Beyond Illustration: 3D Reconstructions, Virtual Reality, and Archaeological Communications in the Early 21<sup>st</sup> century', organized by graduate students D. Hixson and B. Just. If the use of

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virginia.edu/save/. For a useful survey of the current scene in electronic publication in the field of archaeology see Richards 2006. On digital scholarship generally, see Borgman 2007.

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25. <http://www.garagegames.com/company/>.

26. <http://www.openscenegraph.org/projects/osg>.

27. <http://opensg.vrsourc.org/trac>.

28. The Institute for Advanced Technology is pursuing research on a proposed new journal to fill this gap; see <http://www.iath>.

3D is spreading in space, it is also being applied to ever earlier time periods. Thus 3D technologies have recently enabled Gaffney and Thompson to succeed in the heroic task of reconstructing the submerged Mesolithic terrain of the enormous basin that is larger than the entire United Kingdom. Known as Doggerland, this landscape is presently submerged beneath the North Sea (Gaffney and Thomson 2007: 1-9). Through the use of visualization as a cognitive tool, a large area of *terra* formerly *incognita* has become *cognita*.

Looking ahead to research streams not yet represented in this volume, one can repeat the prediction made in 2000 by Goodrick and Gillings that virtual archaeology and cultural studies will intersect.<sup>29</sup> As they note, fundamental to this project is Tilley 1994, which introduced the powerful concept of the social construction of landscape. Tilley was himself anticipated by Berger and Luckman 1967, who wrote:

The origins of a symbolic universe have their roots in the constitution of man. If man in society is a world-constructor, this is made possible by his constitutionally given world-openness, which already implies the conflict between order and chaos. Human existence is, *ab initio*,

29. Cf. Goodrick and Gillings 2000: 52: ‘...there is enormous potential to use VR techniques to provide a much needed practical dimension to the more phenomenological lines of enquiry being advocated within landscape research (e.g., Tilley 1994)’. Several years earlier, the same authors had written, along similar lines: ‘it is clear that if archaeologists are to utilise GIS-based approaches in their attempts to explore and articulate the archaeological record on the basis of more reflexive and experiential modes of enquiry, a more explicit discussion as to the conceptual status of the underlying space and time of the GIS is in order. The uncritically received dominance and adherence within archaeological-GIS of notions of geography and cartography as the abstract representation of the world as organised in measurable space, may have to be enriched by paying equal attention to notions of chorography, as a subject-centred sense of place.... In addition, discussions as to the role of temporality in GIS should give equal weight to more phenomenological notions of time, what Thomas refers to as “the time of the soul” (Thomas 1996: 33), as to the already prevalent Kantian notions of time as an abstracted container’ (Gillings and Goodrick 1996: part 2a).

an ongoing externalization. As man externalizes himself, he constructs the world *into* which he externalizes himself. In the process of externalization, he projects his own meanings into reality. Symbolic universes, which proclaim that *all* reality is humanly meaningful and call upon the *entire* cosmos to signify the validity of human existence, constitute the farthest reaches of this projection (Berger and Luckman: 104)

Berger and Luckman consciously downplayed space in favor of time in their analysis of the social construction of reality.<sup>30</sup> Tilley redresses this imbalance, taking as his point of departure the claim that ‘space is socially produced, and different societies, groups and individuals act out their lives in different spaces’ (Tilley 1994: 10). The field of archaeology did not need to undergo the famous ‘spatial turn’.<sup>31</sup> It was already, by definition, a spatially sensitive and organized discipline. But as other humanistic disciplines such as cultural studies have become spatialized, the possibility has arisen of new interdisciplinary interactions.

In a brief but striking way, Paliou and Wheatley (2007) met Goodrick’s and Gillings’ challenge to relate objective to subjective spatial data. They created a 3D model of two adjacent rooms in an impressive building (possibly used for public, ceremonial purposes) in Late Bronze Age Akrotiri on the island of Thera (3 and 3a of Xeste 3). Room 3a contains a long fresco known as the ‘Adorants’. It is accessed through a pier and door partition in room 3. The 3D model allowed Paliou and Wheatley to see how the artist designed the fresco in room 3a to take into account the occlusions caused by the partition. These blocked the view of the entire

30. Cf. Berger and Luckman: 26, ‘The world of everyday life is structured both spatially and temporally. The spatial structure is quite peripheral to our present considerations. Suffice it to point out that it, too, has a social dimension by virtue of the fact that my manipulatory zone intersects with that of others. More important for our present purpose is the temporal structure of everyday life’.

31. On the history of this term, see Kaufmann 2004: 3-4.

fresco for someone moving through room 3, but from most points of view in room 3 the fresco's central figure of a wounded girl could be seen. They note that this objective fact jibes well with the iconographic (and subjective) observation of art historian L. Morgan (2000) that the focal point of the painting is the central figure.

Early evidence of an even more profound confluence can be found in a collection of articles on ancient Rome edited by Larmour and Spencer (2007). Here one catches glimpses of how the gap between positivistic approach of virtual archaeologists and the phenomenological methodology of cultural studies, ultimately inspired by Berger and Luckman 1967 and Tilley 1994, might be bridged by approaches using psychogeography,<sup>32</sup> gaze theory,<sup>33</sup> Lacan's notion of *objet a*,<sup>34</sup> and Bakhtin's concept of the chronotope.<sup>35</sup> In Larmour and Spencer, the emphasis is on how ancient authors such as Livy, Horace, Ovid, Tacitus, Juvenal and Plutarch imagined and experienced the ancient city. At least one of the contributors uses some fairly rudimentary illustrations of the city to make her case (Spencer 2007: 98-99). Others use words to make their point, but the words almost cry out for dynamic illustration in real-time 3D imagery, as, for example, when Spencer writes:

Physically, one **looks down** from a building or a hill, **up from** a valley, **off into** the distance or **up to** high stories from street level. Such angles of gaze, and the perceptual and cognitive possibilities that they open up, inevitably generate and respond to key sites in an urban topography. The narratives that coalesce at these conjunctions of space, place, and point of view themselves draw together further associations between people and places, personal and collective stories and

myths, societal expectations and longings. Hence, at the heart of each individual's unique reading of urban topography lies a complex nexus of standpoints and angles of gaze—personal, psychological, aesthetic, mnemonic, imaginary, and experiential. Inside Augustan Rome, all of these cluster with particular urgency around the Fora, Capitoline, and Palatine.... Livy's conceptual map makes notably complex retrospective demands of his audience. It operates a space which requires that readers bring to bear a full set of urban sight/site lines even before the city proper is brought into narrative existence. (Spencer 2007: 62, 78)<sup>36</sup>

Equally graphic (but unillustrated) is Larmour's purely verbal analysis of the use of Roman space in the satires of Juvenal, where we would like to have not only an urban digital model but a simulation enlivened by people and their activities:

The specific locations in the Satires appear fleetingly, flashing before us very much in the manner that sites on a museum display of Ancient Rome might do. Having surveyed them, we can say that, in the Juvenalian corpus, these locations almost always appear in the following three ways:

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36. Similar passages can be cited in Tilley 1994, e.g., 'Looking at the two-dimensional plane of the modern topographic map with sites and monuments plotted on it, it is quite impossible to envisage the landscape in which these places are embedded. The representation fails, and cannot substitute for being there, being *in place*. Similarly, an unfamiliar landscape remains invisible. You do not know where, or how, to look. This process of observation requires time and a feeling for the place. After being there, after making many visits to the same locales, the intensity of the experience heightens. Monuments that were initially hidden from view on a first visit to a place can now be seen, and patterned relationships between sites and their settings become apparent' (75). Of course, Tilley is talking about actual field walking, but there is no reason why such exploration cannot occur in virtual space.

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32. Larmour and Spencer 2007: 9.

33. Vout 2007: 305.

34. Blevins 2007: 280.

35. Banta 2007: 239.

1. They are inherently repulsive, like the Subura or the Colosseum or the Circus Maximus, places—whether a jumbled conglomeration of small buildings like the Subura district or a massive architectural expression of the desire for solidity and containment like the Colosseum or Circus—characterized by overflowing, oozing, and pollution....

2. They are important public spaces, freighted with historical and cultural significance, where repellent behavior or individuals can all too easily be witnessed—like the Forum or the Campus Martius. These public spaces, including such well-known ones as the Temple of Concord, are viewed from a ‘liminal’ perspective, from the position of the marginal, alienated, and about-to-depart gaze....

3. They are previously ‘clean and proper’ places that have become repulsive because of their penetration or contamination by outside elements. The Grove of Egeria is the most detailed description of how public space has become objectionable in various ways, but other examples include the Gallery of Triumphatores in the Forum Augusti.... (Larmour 2007: 207-208)

At times, one also can see how the ‘chronotopian’ method cannot simply benefit from 3D illustration so that we can see with our own eyes what the scholar has seen in his mind’s eye, but how it can also offer depth and meaning to an ‘objective’ urban simulation that, for all its outward, physical accuracy, is lacking in cultural resonance and psychological depth. How much more meaningful from both our point of view and that of the ancient Romans to view the Capitoline Hill, dominated by the temple of Jupiter Optimus Maximus, with the following passage in mind:

...Tacitus offers us a richly layered narrative of the cataclysm surrounding the Capitoline Temple that exploded on

a single day (19 December 69 CE), but his presentation opens up much broader temporal and textual vistas which, when viewed closely, sharpen the moralism of his account and interrogate *Romanitas* at a disastrous moment, which ultimately might have been more comfortable for his readers to forget. This is indeed a bitter and painful form of memorializing through monuments. The collective sense of *Romanitas* has, by Tacitus’ own day, been progressively (if imperfectly) reconstructed, much as the Capitoline Temple itself has been restored, but a reading of *Histories* 3 shows how fragile the new ‘edifice’ of Roman identity remains; and even the restored temple burned down again in 80 CE.

We are left with a strong sense that although the physical fabric of the city and its focal point, the Capitoline Temple, could always be reinstated (again and again, if necessary), the broader emotional fault-lines were still there in the collective memory, rendering an unexpectedly open-ended narrative for Tacitus’ readers sensitive to the possibility of history repeating itself... (Ash 2007: 236-237)

Ash’s work suggests that the best examples for the merger of objective and subjective approaches under the sign of digital archaeology will come from societies like ancient Rome whose remains are both physical *and* literary. The social construction of space is almost always as peculiar and unpredictable as is Tacitus’ reaction to the Capitoline Temple.<sup>37</sup> In this regard we may note, for

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37. Cf. the Avatip on the Sepik river in northwest Papua New Guinea: ‘To the villagers all land and bodies of water are fertile because they contain the rotted bodies and body-fluids of totemic ancestors. Many parcels of land are criss-cross complexes of old levees left by shifts in the course of the river; people say these have human outlines, and still bear the shapes of the ancestors who “fell down” upon them in mythical times’ (Harrison 1988: 323 *apud* Tilley 1994: 58). It is noteworthy that Van Dyke and Alcock 2003 structure their anthology of phenomenological studies on world archaeology into two main

reasons observed long ago by Karl Mannheim,<sup>38</sup> that Tilley's analyses of contemporary small-scale societies are far more convincing than those he offers of Mesolithic and Neolithic landscapes in England and Wales, where, in discussing the original cultural significance of the physical remains, he is usually reduced to formulations such as 'I want to suggest...' (109), 'it is not hard to imagine...' (198), and 'it is not unlikely...' (200).

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parts, "Memory Studies with Access to Texts" and "Memory Studies in Prehistory." Reflecting on this division, the editors write, "This is not to claim that texts 'solve' all our problems—far from it—but they unquestionably grant some richness and nuance to the relevant analyses" (7).

38. Cf. Mannheim 1971 (originally published in German in 1921): 29-30: "That the spectator can grasp the intended expressive content of a picture is no less and no more of a miracle in principle than the general phenomenon that we can associate the sensual content of the work with any kind of meaning-function at all. Expressive meaning also is a "given"; and if interpretation of this type presents peculiar difficulties, it is only because, unlike objective meaning (such as, for example, the composition of a picture) which is self-contained and hence ascertainable from the picture alone, the expressive meaning embodied in aesthetic elements such as the subject matter, the sweep or foreshortening of a line, cannot be established without an analysis of the historic background... This difficulty, however, need not induce us to become sceptics on principle; all we have to conclude from it is that intended expressive meaning is only discoverable by factual historical research, i.e. that in investigating it we have to employ the same methods as are used in any factual historical inquiry. *That the intended expressive meaning will not remain inaccessible... is guaranteed to some extent for those periods and cultures which are in a continuity of history with ours.* The historical structure of consciousness itself is guarantee that some understanding of the intended meaning may be possible even in respect of works remote in time, the reason for this being that the range of emotions and experiences available to a given epoch is by no means unlimited and arbitrary. These forms of experience arise in, and are shaped for, a society which *either retains previously existing forms or else transforms them in a manner which the historian can observe.* Since historical consciousness can establish contact with works of the past in this fashion, the historian is able gradually to make himself at home in the "mental climate" of the work whose expressive intent he is seeking to understand; thus he secures the background against which the specific intent of the work, the unique contribution of the individual artist, will stand out in sharp detail' (my emphasis).

I conclude by expressing the hope that as virtual archaeologists are able to publish fully stocked analytical toolkits along with highly detailed 3D models of the spaces excavated by modern archaeologists or mentioned by ancient authors, cultural-studies scholars will be eager to use these resources to explore the *Schein und Sein* of 'topography..., in its broadest sense, as it (re)appears in time, space, and memory' (Larmour and Spencer 2007: ix). As this happens, chronotopians will infuse our urban simulations with historical memories and emotional associations that are every bit as indispensable to re-experiencing a lost world as are the virtual people, furnishings, and the 'bricks and mortar' themselves.

### *Acknowledgments*

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# INTERPRETING THE PAST

Heritage, New Technologies and Local Development

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Province of East-Flanders  
Ename Center for Public Archaeology and Heritage Presentation

2007 Brussels, Belgium

# THE IMPORTANCE OF SCIENTIFIC AUTHENTICATION AND A FORMAL VISUAL LANGUAGE IN VIRTUAL MODELS OF ARCHEOLOGICAL SITES: THE CASE OF THE HOUSE OF AUGUSTUS AND VILLA OF THE MYSTERIES

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## The Ename Charter and Virtual Reality

The UCLA Cultural Virtual Laboratory, with which the authors of this paper are associated, was founded in 1997 and has two missions: creating scientifically authenticated virtual reality models of cultural heritage sites (which we call “CVR” models, for short); and of exploring ways of utilizing CVR models in research and instruction. Thus far, the lab has created models of sites from Lake Titicaca in Peru to Ani in Turkey; and from the Iron Age in Israel to the colonial period in the Caribbean. Our largest and most recently completed project to date is a digital model of the Roman Forum, the civic center of ancient Rome.

In support of the second mission, the laboratory has been actively researching distribution media and applications for its models. Media range from high-resolution 2D prints to immersive and interactive urban simulations. Applications include education, research, and tourism. A key example of the latter is site presentation, and the laboratory produced an orientation video for the early Christian Basilica of Santa Maria Maggiore in Rome and has related projects in the planning phase. One such project will be discussed in this paper: the documentary about the House of Augustus that we intend to produce with our partners in the Department of Archaeology of the University of Bologna.

In this paper we will discuss, from the point of view of practitioners of CVR, the general problem of the application of virtual reality technology to the presentation of cultural heritage sites, with special reference to the articles of the draft Ename Charter that mention or relate to virtual reality. (For the original text of the Ename Charter and its subsequent versions see p. 227)

The pertinent articles, as distributed in a text at the Ghent Conference in September 2002, are the following:

*Article 9. In cases where the structural stability of a monument is not in danger, non-intrusive visual reconstructions (by means of artists' reconstructions, 3D computer modeling, Virtual Reality) should be preferred to physical reconstruction.*

*Article 18. The construction of 3D computer reconstructions and Virtual Reality environments should be based upon a detailed and systematic analysis of the remains, not only from archaeological and historical standpoints but also from close analysis of the building materials, structural engineering criteria and architectural aspects. Together with written sources and iconography, several hypotheses should be checked against the results and data, and 3D models 'iterated' towards the most probable reconstruction.*

*Article 20. Full scientific documentation of all elements in a presentation programme should be compiled and made available to visitors as well as researchers. This documentation should be in the form of an analytical and critical report, in which the archaeological or historical basis for every element of the work of presentation is included. This record of documentation should be placed in the archives of a public institution and should be published or posted on the Internet.*

We begin by stating that, as practitioners of the art, we welcome the recognition accorded to virtual reality in the draft Ename Charter. We recognize the fact that the text of the Charter is simply a first draft and that suggestions for improvements have been invited by the authors. Thus, if we are critical of the draft Charter, it is solely with the aim of helping to craft the best possible final version of the text. Below, we will first provide some commentary on the draft Charter and discussion of some theoretical matters; and then we will examine two projects of the Cultural Virtual Reality Laboratory that can serve as case studies of the general issues raised by the application of virtual reality technology to site presentation; and, finally, we will conclude with some thoughts about the implications of this study for the Ename Charter.

### **Critical Commentary on the Language of the First Draft of the Ename Charter**

To begin our critical commentary, we would note that, while the draft Charter

does define several key terms in Articles 2, 3, and 4, it does not define what it means by “3D computer modeling” (Article 9), “Virtual Reality” (Article 9), “3D computer reconstructions” (Article 18), “Virtual Reality environments” (Article 18) or, for that matter, “3D computer simulations” (Article 10). It is possible that this omission is excusable because these terms do not have the fundamental importance to the Charter that the terms defined in Articles 2, 3, and 4 clearly have (“archaeological or historical site,” “heritage presentation,” and “public interpretation”). Nevertheless, even if a new Article 5 defining “3D computer reconstructions and Virtual Reality environments” is not needed, it would be desirable for the Ename Charter to state what it means by these and related terms, possibly in Article 18. It would indeed be advisable not to use so many terms (something probably motivated simply by a perceived stylistic need for variation) but to limit the Charter to a single, well-defined concept such as “virtual reconstruction.” This term has the advantage of contrasting nicely with “physical reconstruction,” and it encompasses the various terms (which are by no means synonymous) that the draft Ename Charter utilizes.

The concepts of “model” or “simulation,” which are implied by the term “virtual reconstruction,” and that are used in the draft of the Ename Charter, need to be spelled out because they are by no means univocal. In the Cultural Virtual Reality Laboratory, we have found it useful to distinguish between four kinds of models: 1) original model; 2) state model; 3) restoration model; 4) reconstruction model. The Original Model shows just those bits of the ancient material that survive intact. The State Model shows the site just as it exists today, with the original surviving bits supplemented by later additions and any modern restorations. The Restoration Model is based on the Original Model and adds to it everything that has been destroyed over time. The Restoration Model may show any or all earlier phases in the history of the site. The exact phase or phases shown should always be specified. The Reconstruction Model is similar to the Restoration Model in that it entails fleshing out the actual remains to show an earlier phase in the history of the monument. The distinction is that we use the term Reconstruction Model when the surviving original bits are so few or exiguous as to require a great deal of hypothesizing to fill in the missing elements. For this reason, the Reconstruction Model is usually not built up from the Original Model, since so little remains that there is no point in creating an Original Model in the first place.

To a certain extent, the difference between the two terms, Restoration Model and Reconstruction Model, depends upon an intuitive judgment of the modeler, and it would be futile to quibble over whether, in a given case, one term

or the other would be more appropriate. In practice, the Cultural Virtual Reality Laboratory tends to use the term Restoration Model for CVR models of structures such as the early Christian Basilica of Santa Maria Maggiore in Rome or the Cathedral of Santiago de Compostela in Spain, where the monuments still survive fairly intact and the CVR model mainly entails the removal of later additions to restore the aspect of an earlier phase. It uses the term Reconstruction Model for an archaeological site such as the Second Temple in Jerusalem, where there are almost no physical remains on which a CVR model can be based. In the case of some complex sites, such as the Forum Romanum, the individual constituent components of the site can be subject to either Restoration (e.g., the Curia Julia or Arch of Septimius Severus) or Reconstruction Models (e.g., the Basilica Julia and Basilica Aemilia). In this case, the practice of the Cultural Virtual Reality Laboratory is to create a Reconstruction Model across the entire site in order to provide a consistency of treatment.

In general, we view our categories as Weberian “ideal types,” which are easy to distinguish in theory but hard to encounter in pure form in practice. For example, in the case of the House of Augustus model to be discussed below (see Section 4), for specific reasons to be mentioned we created a Restoration Model from a State Model, not an Original Model. Nevertheless, despite all the complexities of an actual modeling project, our taxonomy is useful because, like any Weberian typology, it forces us to define as clearly as possibly what, exactly, it is that we intend to model. Without such clarity, it could easily be possible, in making a virtual reconstruction, to commit the same kinds of fallacies (e.g., Cesare Brandi’s famous “falso storico”)<sup>2</sup> that have occurred in the history of physical restoration.

We now consider the three articles of the Ename Charter in which virtual reality technology is explicitly or implicitly mentioned.

In Article 9, it is not clear why the use of virtual reality, etc. should be preferred to physical reconstruction only in the cases when the monument is not in danger. Should this imply that virtual reality not be used in situations where the physical monument is endangered? We would argue that, as presently worded, there is a false antithesis between virtual (or, “visual”) reconstruction, on the one hand, and physical reconstruction, on the other. In fact, both forms of reconstruction often can and should be used on the same site. Unlike physical conservation, virtual reconstruction has nothing to do with consolidation and preservation of the physical remains: rather, virtual reconstruction (not unlike physical reconstruction in archaeology)<sup>3</sup> is a tool that can be used, by experts, to

generate new discoveries and insights and, by the general public, to understand a site more quickly and effectively. For their part, physical interventions have the primary goal of ensuring the survival of the monument and the secondary goal of displaying it to the public.<sup>4</sup> Thus, there is no reason why there cannot be a virtual reconstruction when there is also a physical reconstruction (assuming that budgetary limitations are not a factor). For example, a physical reconstruction typically restores the monument to a certain phase of its building history, whereas the related virtual reality reconstruction can depict all the building phases in the history of the site.

Indeed, the power of virtual reconstruction to illustrate the entire range of a monument's history provides an important tie-in of the proposed Ename Charter to the Venice Charter. Article 15 of the latter states that:

*All reconstruction work should however be ruled out a priori. Only anastylosis, that is to say, the reassembling of existing but dismembered parts can be permitted. The material used for integration should always be recognizable and its use should be the least that will ensure the conservation of a monument and the reinstatement of its form.*

If explicit reference were made in Article 9 of the Ename Charter to Article 15 of the Venice Charter, the preference for “visual” (or, as we would prefer, “virtual”) reconstruction would be anchored in an existing international charter. It could, indeed, present itself as reconciling a latent contradiction in the Venice Charter which, on the one hand, except for anastylosis,<sup>5</sup> rules out all reconstruction work (which could be useful to show earlier phases of a monument for which only traces remain) and, on the other hand, in Article 12 calls for the equal respect for all periods.<sup>6</sup> Thus, virtual reconstruction solves the conundrum of the Venice Charter which calls for the equality of all phases but which forbids the physical reconstruction of phases whose remains happen to be slight, nonexistent, or considered of lesser importance. This solution is all the more necessary now that, even among experts in conservation such as Alessandra Melucco Vaccaro, the solution of anastylosis has come under attack after the examples of the Stoa of Attalos in Athens, the Library of Celsus in Ephesus, etc.<sup>7</sup>

In this connection, we also note a contradiction that might well be eliminated between Article 15 of the Venice Charter and Article 7 of the draft Ename Charter. The latter reckons with the possibility of “modern recreations of missing elements or modern reconstructions of missing fabric”; the former

“rule[s] out” “all reconstruction work.”

Article 9 could also be profitably linked to Article 7 of the ICOMOS Charter on the Protection and Management of the Archaeological Heritage. This article states that:

*The presentation of the archaeological heritage to the general public is an essential method of promoting an understanding of the origins and development of modern societies. At the same time it is the most important means of promoting an understanding of the need for its protection.*

Article 9 of the Ename Charter might justify virtual reconstruction as one of the most effective known ways to implement Article 7 of the ICOMOS Charter on the Archaeological Heritage than the use of virtual reconstructions. This would also link Article 9 of the Ename Charter more closely to the fifth bulleted point in its “Background” section which implicitly criticizes the ICOMOS Charter on the Archaeological Heritage for “not further elaborat[ing] acceptable standards or methods” of public presentation of archaeological sites.

Article 18 concerns modelmaking methodology and is probably inspired by Article 9 of the Venice Charter.<sup>8</sup> Here we see two major problems. First, the recommendation that “3D models [should be] ‘iterated’ towards the most probable reconstruction,” gives off a quaint whiff of positivism. Presumably, the idea derives from the part of Article 9 of the Venice Charter which states:

*“[Restoration] must stop at the point where conjecture begins, and in this case moreover any extra work which is indispensable must be distinct from the architectural composition and must bear a contemporary stamp.”*

But one of the strengths of virtual reality and computer graphics is the ability to represent alternative hypotheses in a way that, obviously, cannot be done at all on a physical monument and which can be done even in a traditional print publication only with some difficulty. Through the use of software switches, individual elements of a structure (the ceiling, floor, doorways, etc.) can — and should — be easily changed in accordance with the different theories of qualified experts.

Secondly, in Article 18 the fundamental issue of authorship and authority is not addressed: who is supposed to make the “detailed and systematic analysis of the remains” on the basis of which the computer model is constructed? Whose alternative hypotheses are to be weighed and illustrated? Often in the history of

CVR, the analysis and authorship has been entrusted to the hands of computer experts, not of art historians, archaeologists, etc.<sup>9</sup> The Ename Charter presents an opportunity to reduce the likelihood that this will happen in the future. The inclusion of apposite language would be consistent with the Athens Charter, the Florence Charter, and other relevant charters,<sup>10</sup> which mandate a key role for experts in any restoration or conservation projects. In the case study of the House of Augustus below, we will discuss a project of our laboratory in which the team of experts included an archaeologist, an architect with profound archaeological experience, and a restorer. This is the kind of interdisciplinary expertise that ought to be called for in the Ename Charter.

Article 20, undoubtedly inspired by Article 16 of the Venice Charter,<sup>11</sup> concerns the transparency of site presentation, including, presumably, virtual reality models: the documentation utilized to create all elements of a site presentation should be made available to the public. But in specifying how this might be done, the draft Ename Charter does not make reference to virtual reality. But it is clear that a CVR model must be as transparent, with respect to its documentation, as any other part of the site presentation program. Moreover, CVR documentation has unique requirements and offers special advantages as compared to some of the other forms. To begin with the latter, it is possible to include the documentation within the CVR file and to make it viewable upon request by a user at the same time that the model is being inspected. Finally, the documentation of a CVR model is one part of its metadata,<sup>12</sup> and there are emerging metadata standards for CVR models that the Ename Charter might well take note of and support.

### **The Relationship of Scientific Authentication to Modelmaking**

Driving our friendly critique of the first draft of the Ename Charter in section 2 is a key value that we strive to embody in the work of the Cultural Virtual Reality Laboratory: scientific authentication. This entails the transparency of metadata (Article 20), and the role of qualified experts (Article 18). In Section 4 below, we will use two case studies to exemplify what we mean by scientific authentication of CVR models. In this section, we set the stage for the case studies by discussion of some theoretical and practical aspects of scientific authentication.

Whereas conservation aims to ensure the survival of the physical fabric of the monument, virtual reconstruction is a representation of knowledge. The first point to note is that these two activities are complementary, not competitive or

mutually exclusive. We must both conserve the physical remains and reconstruct them virtually. Indeed, the relationship between conservation and virtual reconstruction is not merely complementary, it is also fruitfully dialectical. Traditionally, conservators have debated which of Riegl's monumental values (*Alterswert, historischer Wert, gewollter Erinnerungswert; Gegenwartswerte; Gebrauchswert, Kunstwert, relativer Kunstwert*)<sup>13</sup> and which of his methods (radical, art-historical, conservative)<sup>14</sup> should guide the work of restoration. Should a monument be restored to show its state when new, the moment when it reached its historical or artistic peak of development, etc.? These difficult issues will never be definitively resolved (though impressive efforts have been made, e.g., by Cesare Brandi, to do so),<sup>15</sup> but virtual reconstruction at least reduces what is at stake. Previously, the decision facing conservators about which phase to privilege was "all-or-nothing": a physical intervention cannot be ambiguous. In the age of digital technology, the decision about which phase to highlight does not disappear in physical terms, but, whatever the decision, the public no longer has to be deprived of a chance to view the monument (or, to be more precise, a representation of it) at any place and in all other phases which are not physically restored.

Scientific authentication of virtual reconstruction is accordingly important, not only for the sake of science, but also for the sake of conservation. If virtual reconstructions are to become an integral part of the work of conservators and other cultural authorities responsible for site presentation, then there is a duty to ensure that the virtual reconstructions are as meticulously executed and documented by qualified experts as are the physical interventions themselves. Just because a reconstruction is virtual does not mean that it can be done shoddily, quickly, or unprofessionally. Once a public institution puts its imprimatur on a virtual reconstruction, it will have an enormous impact on the public understanding of the monument. It will also inevitably (given the hypothetical nature of almost all reconstructions, virtual or physical) give rise to debate and controversy, which, predictably, will require the sponsoring cultural agency to explain and, at times, defend itself. Scientific authentication thus becomes an essential responsibility of a cultural agency, both in fulfillment of its mission to educate the public it serves and of its need to maintain the same high professional standards it observes in the other spheres of its activity.

A full discussion of what is meant by *scientific authentication* would transcend our space limits. Here we emphasize just the main points, which are, as noted: authorship by qualified experts; transparency of metadata; and a clear

understanding of the typology of virtual reconstructions.

Virtual reconstructions are knowledge representations that are expressed digitally. As such, they are analogous to other knowledge representations created in other media. They are not in themselves scientific or nonscientific, just as a knowledge representation published in a printed book is not, in itself, scientific or nonscientific. The Cultural Virtual Reality Laboratory sees itself as a digital publisher of knowledge representations that are analogous to those produced in print by a university press. A university press's books are scientific in that they have qualified authors, are vetted by recognized authorities, and are produced in conformity with the norms of good scholarship.

Even though digital knowledge representations are relatively new, they do not present entirely new issues of scientificness in this sense. They, too, must have qualified authors; must be evaluated by reputable scholars; and should reflect the norms of good scholarship. They should contain explicit reflections about method, sources, and their own place in the history of their subject.

Since the sites modeled by the Cultural Virtual Reality Laboratory are frequently extensive in terms of space, time, and structural types, authorship of a CVR model more frequently involves an interdisciplinary team—which we call the Scientific Committee—than a single individual, as often happens in the case of a print publication. For example, the Cultural Virtual Reality Laboratory's Scientific Committee on the Basilica of Santa Maria Maggiore included a scholar who participated in the excavations under the church; and the scholar who wrote the most recent technical monograph reconstructing the early building history of the basilica.<sup>16</sup> Moreover, since the information on which a CVR model is based is not always published but sometimes must be found in the archives of the agency superintending the monument, and at other times must be gathered afresh from the site itself, we have found it useful to ask a representative of the superintendency to serve on the Scientific Committee. The representative (who may herself be a highly qualified expert on the site) can facilitate access to, or collection of, unpublished data. The representative can also ensure that the model and related digital product are used for site presentation. In some cases, as happened with the laboratory's Santa Maria Maggiore project, the representative of the superintendency even took the lead in writing the script used for the documentary created for the museum on the site.

The fact that a model is authored by a highly qualified interdisciplinary team should not give rise to the false expectation that the modeling process will be speedy or without risks. In the laboratory's experience, the modeling process

is never a simple translation of the authors' mental image—even when that image has been worked out in detail in scaled drawings—into pixels on the computer display. When scholars are given the opportunity to experience the two-dimensional representation of a site that they developed in the months, years, or even decades before the modeling process begins, they inevitably discover that they made errors of commission or omission. In the case of the Santa Maria Maggiore project, for example, questions arose about whether the interior of the church was surfaced with stucco or left as bare brick; whether the ceiling was coffered or exposed; and about the materials and design of the floor. The model went through four major revisions over eighteen months before being declared finished by the committee.

Throughout the modeling process, a record must be kept of such debates and the ensuing decisions taken. This record constitutes an important element of the model's metadata. Metadata can be published in a separate document, as is foreseen in the draft of the Ename Charter, or it can be incorporated into the digital product itself. As an example of the latter, we would cite the laboratory's recently completed model of the Roman Forum (shown in the year A.D. 400), seen in figure 1.

In figure 2, the model is seen as projected onto the screen of the UCLA Academic Technology Services Visualization Portal. On the right, a metadata window has been opened to provide instant information about a variety of topics.

Our metadata falls into three categories: (1) catalogue metadata, which serves as a finding aid (including fields such as: name of the model; name of the modeler[s]; name[s] of the member[s] of the Scientific Committee; software used to create the model; version of the software; holder of the copyright; etc.); (2) commentary metadata, which helps provide background information to users about the nature of the evidence used to create the model as well as about any disagreements on the Scientific Committee or between the model and previous reconstructions; and (3) bibliography.

## Two Case Studies: The House of Augustus and Villa of the Mysteries Project

The purpose of presenting these cases studies here is to provide to examples of recent CVRLab work regarding aesthetic and technical standards or conventions for virtual models of heritage sites.<sup>17</sup> The House of Augustus and the Villa of the Mysteries are sites of high artistic and historical significance, but we believe it should be possible to establish a methodology whose fundamental



Figure 1: Detail of the UCLA Cultural Virtual Reality model of the Roman Forum, 10:00 a.m., June 21, 400 A.D. Photograph shot in the UCLA Academic Technology Visualization Portal, February 10, 2003 (model by D. Abernathy, et al.; photograph by J. Suo)

principles can be applied to a variety of heritage sites from individual monuments or buildings to site topography, towns, cities and regions. One main problem is addressed here. We find it disconcerting that archaeological evidence is typically not distinguished from restored or reconstructed areas in virtual reality models. It can be very helpful, however, to distinguish between what is extant and what is



Figure 2: Detail of the UCLA Cultural Virtual Reality model of the Roman Forum, with the Metadata Window open, as seen in the UCLA Academic Technology Services Visualization Portal.

hypothetical in a conjectural reconstruction of any kind, whether in a digital model or a traditional drawing. Therefore, these case studies present ideas about how to represent archaeological evidence in a virtual reality model when significant evidence exists, and secondly, how to represent restored or reconstructed features in a model when significant evidence exists.

The excavations on the Palatine Hill in the 1960s undertaken by Carettoni exposed the remains of a complex series of residential rooms between the temples of Victory and Apollo.<sup>18</sup> The siting and certain architectural and artistic features fit the ancient literary sources that explain how Octavian in 36 BC bought an existing property from the orator Hortensius with the intention of renovating and expanding it for his own residence. But lightning struck, an omen meaning that the site must be used for religious purposes. The Temple of Apollo was built and dedicated around 28 BC. If Suetonius is correct, Octavian began the renovations of this residence in 29 BC, not long after his defeat of Marc Antony and Cleopatra at the Battle of Actium in 31 BC. Excavations uncovered several lavishly decorated rooms in late Second Style wall-paintings or frescos, the most famous being a small room, a cubiculum, on the upper east side of the peristyle court, that may correspond to the small study described by Suetonius where Augustus (as Octavian was called after 27 B.C.) made important decisions.

This room is the main subject of this study on establishing standards and conventions in virtual reconstructions. The room is just 3.5 meters square, but its four walls were completely covered--floor to ceiling, corner to corner--in elegant wall-paintings, the style of which is known to art historians as the late Second Style due to their integration of architectural imagery with figural and mythological scenes centered on each wall. The ceiling was a shallow barrel vault, and it was entirely covered with highly detailed geometric and figural designs of stucco incrustations and paint. Carettoni found the room in fragments only, however, and it took over a decade of painstaking conservation and restoration by Gianna Musatti to reintegrate the thousands of small fresco fragments into the physical reconstruction in an environmentally controlled and protected space on the original site. Although the Palatine Hill is one of the largest and most significant archaeological parks in the world, the room has never been open to the public.

We modeled another cubiculum decorated in wall-paintings of the Second Style, cubiculum 16 in the Villa of the Mysteries at Pompeii.<sup>19</sup> Maiuri excavated this villa in the late 1920s, and cubiculum 16 lies on the northwest side of it just off of the large atrium. *Cubiculum* 16 is only slightly larger than the studiolo, but

unlike it, cubiculum 16 is comprised of an antechamber, two vaulted alcoves and a closet in the corner. The function of the room is debated, but it likely served as a bedroom or perhaps a small dining room.<sup>20</sup> The room is much better preserved than the *studiolo* in the House of Augustus. Its walls stand full-height, and one of the vaulted ceilings is well preserved. The room and the central portion of the villa are partially protected by a modern roof. Today the room is not open to the public, but visitors can look into it from a gated door.

### **Making the Original and State Models**

Our study began by making models of the physical remains of each room. In the case of the *studiolo* in the House of Augustus, we refer to this model as a State Model, because the room today exists in a physically restored state, shown in figure 3.

Cubiculum 16 in the Villa of the Mysteries, on the other hand, has undergone only minor restorations since it was excavated, and therefore according to the terminology set out at the beginning of this paper we built an Original Model of it, shown in figure 4.

The subject matter of these sites consists primarily of wall-paintings or frescos, but the modeling methodology utilized here is adaptable to sites comprised of other materials such as architectural structures or topography. The methods described below can be repeated by others as well, although some trial and error is to be expected. The photographic equipment, hardware and software used are readily available and not expensive.

Making each model begins by recording the basic dimensions of the rooms and their wall-paintings as sketches in a field book, much like a traditional archaeological documentation. Particularly, the documentation included the horizontal and vertical articulation of each wall-painting, particularly the column heights and the centerline distances between them. These dimensions become invaluable later when the various photographs of each wall-painting are assembled to make a composite image.

Virtual reality models make extensive use of digital photographs, which are applied to the surfaces of wire frame computer models in a process known as texture mapping. The four walls of the *studiolo* were documented by dividing up each wall surface into 6 overlapping digital photographs. Two different digital cameras were used, a Nikon Coolpix and an Olympus Camedia. Both cameras seemed equivalent at first, but we eventually decided to use only the Olympus camera, because its lense caused less distortion. The size of each photograph

was 2274 x 1704 pixels. We desired to obtain a resolution of one pixel to one millimeter, or better, in the final composite images.<sup>21</sup>

As in a traditional photographic documentation project, lens distortion and lighting conditions are the two greatest obstacles to overcome. Lens distortion must be minimized, because it cannot be easily corrected. The small size of these spaces, and in the case of cubiculum 16 the delicacy of the original floor mosaics still in situ, prohibited the use of scaffolding and even tripods. With practice it was possible to hold the camera the same distance away from the wall, horizontal to the floor plane and with the optical axis perpendicular to the wall. Small variations in the sizes of the images to be mosaiced together are easily corrected in image editing software such as Photoshop or GraphicConvertor. Errors in the horizontal rotation of the images as well as minor parallax distortion can also be corrected with standard Photoshop tools. Even though digital photography is more forgiving than traditional film cameras and chemical development, severe parallax distortion is impossible to correct, and even Photoshop cannot sharpen a completely blurred, out of focus image. Digital photography in larger spaces or of the exterior of a tall standing structure would require scaffolding or other mechanisms to properly



Figure 3: Room 15, the *studiolo* in the House of Augustus (30-20 BC), virtual reality model of the physical remains, referred to here as the “State Model” (by P. Stinson).

position and stabilize the camera.<sup>22</sup>

It is important that each digital photograph overlap the edges of the surrounding ones by at least ten percent, so that the common features would match in the composite mosaic image. We downloaded the photographs at the site onto a laptop computer to check for obvious problems and to make sure that they overlapped one another as they were being taken. Occasionally, the cameras malfunctioned as well.

Lighting conditions are another major problem, because they influence the representation of color in the photographs. Fortunately, the *studiolo* today is evenly illuminated by fluorescent tubes, and no flash was required. If flash had been necessary, it would have been best to take the photographs in as dark conditions as possible, rather than using additional lights, because the camera's flash source is more easily controllable than other light sources and can be quantified scientifically. The photographic documentation of *cubiculum* 16 in the Villa of the Mysteries was more of a challenge. Natural light comes into the room from several locations causing unwanted shadows and reflections on the wall surfaces, and photography at night was not permitted. Consequently, some



Figure 4: *Cubiculum* 16 in the Villa of the Mysteries, Pompeii (60-50 BC), virtual reality model of the physical remains, referred to here as the "Original Model" (by P. Stinson).

walls were photographed in the morning, and others at different times. This was less than ideal, with the risk being that the variation in lighting conditions would not be possible to neutralize. The flash was employed on every wall surface (even when not advised by the camera's light meter) in order to even out the lighting conditions as much as possible. This technique worked reasonably well, except for the "hotspots" that sometimes occurred. Hotspots can sometimes be avoided by taking the photograph at a slightly oblique angle to the wall surface, but this adds more distortion to the image that is not always easily rectified.

Once the photographs are taken at the site, the documentation phase ends and the processing of the photographs in the lab begins. The photographs of each surface must be incorporated properly into composite mosaiced images. In our experience, off-the-shelf software such as Photoshop is actually preferable to photogrammetric rectification software that typically does not allow for the full range of adjustments that need to be made, including scaling, rotations, skewing, color saturation, brightness and contrast, etc. Another problem with rectification software is that it often makes these adjustments "automatically," whereas Photoshop allows one to work more methodically. The process begins by correcting any minor parallax distortion in the individual photographs that are eventually mosaiced together to form one composite image. Proportional adjustments, if necessary, are made based on the dimensions of each wall-painting recorded in the field book. For instance, each image was rotated in order to establish the correct horizontal and vertical limiting lines. Once this was done for all the images for a particular wall, they were integrated into one Photoshop file as separate layers. The overlapping edges of each photograph provided guides to the assembly of the final composite image. Matching all the edges usually required some adjustment in scale, rotation, and color saturation and hue. It is important to archive the original raw data files and the adjusted image files for future reference.

The neutral wall and ceiling surfaces that served as the background for the physical reconstruction of the wall-paintings were erased using the selection tools of the Photoshop and filled with a neutral color and a granulated texture (Figure. 3). The added texture serves two purposes, to distinguish the background from the preserved fragments of fresco, and to help prevent the background in the eventual computer model from appearing too smooth--like the surface of plastic--which is a common aesthetic problem in virtual reality models. The final composite image of each wall-painting reached a resolution of approximately one pixel to one millimeter, which is enough to distinguish small cracks, the finest details and subtle variations in color and surface preservation.

Making the model itself is a process known as texture-mapping. The digital photographs are attached to a skeletal frame representing the three-dimensional geometry of the object being modeled. Virtual reality models are polygonal, meaning the surfaces of three-dimensional forms in the simulation are constructed of individual polygons, altogether known as wireframe geometry. Texture maps can be attached to single polygons or, more typically, to groups of polygons. Texture mapping is sometimes analogous to applying decorative wall paper to the walls of the room, although this is an oversimplification of the process.

We hope that the State Model of the *studiolo* and the Original Model of *cubiculum* 16 will serve as archives in the future. Models made solely for the purposes of recording the excavated physical remains are typically not made of cultural sites or excavated archaeological material, even though the value is obvious and indisputable. Virtual models solely of the physical remains, Original Models, or that record the state of the remains today including physical restorations and reconstructions, State Models, should not replace other forms of documentation such as photographs and two-dimensional drawings. We believe, however, that photographs and traditional drawings can only go so far in conveying the extent of preservation, and with virtual models, the palpability of scale and space become important use values as well.<sup>23</sup>

### **Making the Restored or Reconstruction Models**

In addition, the *studiolo* and *cubiculum* 16 are both suitable for showcasing the strengths of virtual reality as a reconstruction tool. As mentioned earlier, the *studiolo* exists today in a physically restored state. The brilliant restorer Gianna Musatti painstakingly carried out the work over the course of a decade. Approximately 50% of the room's wall-paintings and stucco ceiling incrustations are preserved. The restorations fill in small to medium-sized losses in areas where significant original material remains. The fills, however, do not add a significant percentage of new surface area. The *studiolo*, therefore, is the ideal monument to continue restoration through digital means where Musatti prudently stopped. As stated earlier, these case study projects aim to assist scholars in the development of a set of standards and conventions for making virtual reality models when significant archaeological evidence exists, with the focus here being wall decorations rather than structural features. Secondly, we planned to carry out several restoration tests on the large portions of the north, south and west walls of the *studiolo* that are not fully preserved. These experiments were carried out solely on the *studiolo*. We had a different idea in mind for *cubiculum* 16 of the Villa of the Mysteries, which

will be discussed later.

The methodology developed by Musatti for the restorations provided the basis for the digital restorative method. Her method integrates replacements for missing fragments harmoniously within the whole, while making them distinguishable from the original, so that the restoration does not falsify the artistic or historic evidence. This method is consistent with current conservation and restoration theory regarding historical sites, as prescribed in the Venice Charter of 1964 and subsequent charters. Specifically, monochromatic pigments fill in selected losses. The intervening new colors are less saturated than the originals, but the new colors retain a similar color temperature. The new colors are also given a subtle surface texture in order to further distinguish them from the original material. Fine details and chiaroscuro shading are intentionally not restored. Our approach for the digital restoration follows along the same lines. In order to minimize confusion with the preserved evidence, the digital restorations fill in lost areas in the wall-paintings with schematic forms and lighter colors than the originals. We assume simplicity of appearance to be an aesthetic value that conveys the sense of uncertainty or conjecture in interpretation.<sup>25</sup>

To do this efficiently and in an organized manner, each restoration color was assigned its own separate layer in the Photoshop file, organized accordingly to the lower, middle and upper registers of the composition. Therefore, changes can be made to individual elements of the restoration without having an affect on others or on the layer holding the preserved fragments of wall-painting. The colors chosen for the restoration layers vary from wall to wall, since the level of preservation varies greatly. For instance the famous red cinnabar is preserved at inconsistent levels throughout the room.<sup>26</sup> The colors of the digital restorations do not exceed the color intensity of actual preservation in any general area, or in any detail. The final colors chosen are finally recorded in a database, to be easily accessible in the future if necessary.

As in the actual restorations carried out by Musatti, determining an appropriate level of digital color restoration is somewhat of a subjective matter. To our knowledge, there are no scientific or agreed upon standards either among professional painting restorers or archaeologists and historians doing either traditional reconstructions on paper or virtual models for making these kinds of decisions, other than the general rules of thumb discussed above. The notion of restoration itself is today a highly controversial topic. In our experience archaeologists today are more cautious about interpretation and reconstruction than architectural historians and art historians who may consider it in some form

or another as one of their professional duties. We hope that virtual means for restoration and reconstruction will be accepted among these varied disciplines that have cultural heritage in common.

Determining the aesthetic level of any digitally restored color begins by sampling the original color using Photoshop tools. The properties of this sample can then be easily modified to reach an appropriate hue for use in areas where it needs to be restored. The addition of a Photoshop granulation filter can provide a useful additional texture that removes aesthetic suggestions of plasticity from the digital fills. Four options of increasing color saturation or intensity are presented here for one portion of the south wall, shown in figure 5.

It is useful to study several options side by side one another. Generally, we arrived at colors somewhere in the range of 70-75% of the original intensity of the sampled colors. Below are rules of thumb for adjusting sampled colors. These guidelines, however, may not necessarily work for all reconstructions and all types of materials being simulated in a virtual model. Individual preferences may produce variations from these values, but we believe that the principle of 70-75% should be applicable in many cases.

Brightness and Contrast:

Brightness +20

Contrast -10

Grain Filter:

Intensity:10

Contrast: 50

For elements in digital reconstructions that are completely hypothetical--where no direct archaeological evidence exists--slightly different methods may be considered. For instance, no evidence for the floor paving of the studiolo exists. The floor paving design shown in the reconstruction is based on similar floors found in other rooms of the residence. Consequently, the floor reconstruction is represented only in grey tones. This method is comparable to the sketchy or loosely drawn lines that are sometimes used in traditional hand drawn reconstructions to convey a high level of speculation or hypothesis.

Of course, one could go much further and add more details to the restored areas where there is significant evidence. We plan to experiment with additional restoration, but arguably it is methodologically sound to concentrate on the

overall impression and to restore in a conservative manner. Besides, no physical or digital restoration could ever match or recreate the complex aesthetic values of the *studiolo*'s wall-paintings. The intent in the realization is to model the form of the paintings in a simulation of their ancient context, not to attempt a replication, as shown in figure 6.

For instance, simply copying and pasting preserved features into areas of significant loss would not be an appropriate method. It gives the false impression of complete preservation, and risks error. Moreover, the wall-paintings of the *studiolo* appear to be symmetrical, but closer inspection reveals many asymmetrical details and surprises.

These methods are adaptable to structural or architectural subject matter where significant physical evidence exists, as in the case of the CVRLab's Reconstruction Model of the ancient senate house of Rome, the Curia. The senate house survives today for the most part as a naked shell almost completely stripped of its original marble and stucco revetment.<sup>27</sup> Therefore it is appropriate to somehow

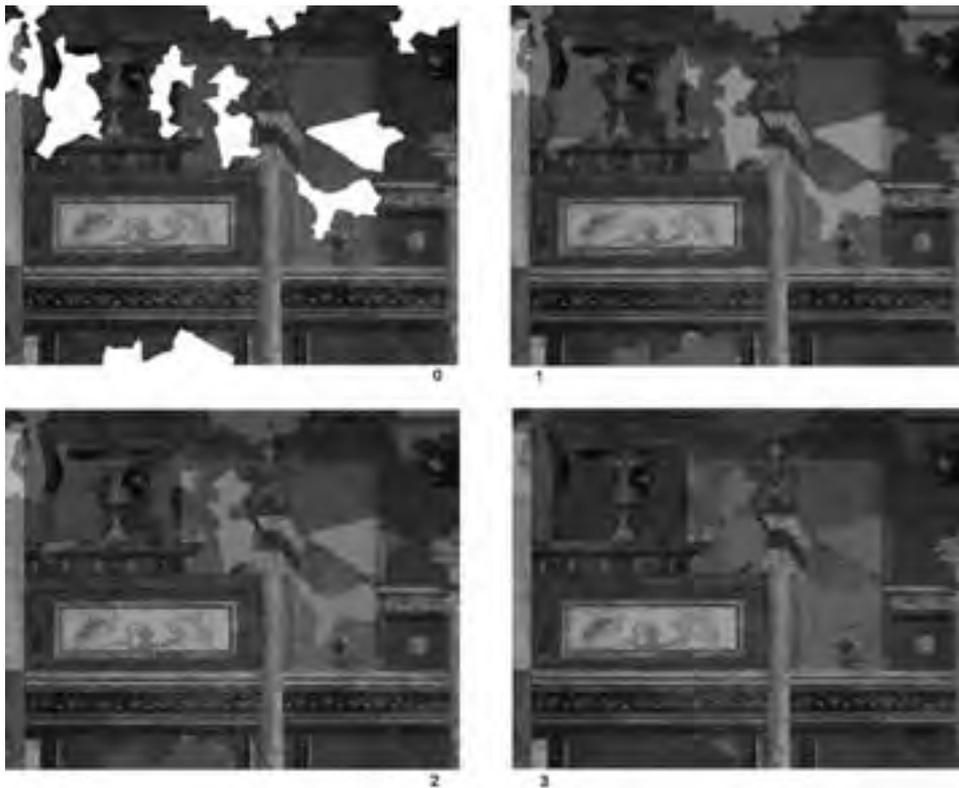


Figure 5: Room 15, the *studiolo* in the House of Augustus (30-20 BC), alternative "Restoration Models" showing four levels of color intensity in digital restoration of the south wall, top left corner (by P. Stinson).

indicate the presence of the surviving brick-faced walls as a monochromatic shade of red that can be turned on and off in the model. Most of the CVRLab's architectural models are Reconstruction models, because the physical evidence that does exist in situ or in loose fragments is usually too weathered, broken or battered as to be useful as texture maps in a virtual reality model. However, it is important to indicate which elements are still standing, or that can be positioned confidently near or exactly in their original positions, even if their surfaces and details have been restored or reconstructed.

## Conclusion

In conclusion let us consider these projects in the wider context of computer visualization, archaeology and site presentation of cultural heritage sites. Proponents of virtual reality often tout it as the ideal tool for the reconstruction of ancient sites.<sup>28</sup> On the other hand, others have expressed reservations that virtual reality threatens to distance the archaeologist from objective archaeological data.<sup>29</sup> After nearly two decades of experimentation, one general perception remains that computer reconstructions of archaeological sites are expensive and sufficiently driven by scientific values.

Virtual reality does not have to distance the archaeologist from original scientific data, but this perception persists for real reasons. Virtual reality software is used today mostly by makers of flight simulators and video games, an association with commercialism that some archeologists and historians find disquieting at the very least. Also, what we refer to as the "Gee-Whiz!" factor holds too much influence on the content of many computerized reconstructions of heritage sites. It is clearly the time to propagate clear aims and purposes in our computer models instead of simply reifying our penchant for immersive and technical virtuosity.

This is why we propose here to establish a standard typology of virtual reality models that places a high priority on scientific authentication and the inclusion of the archaeological evidence as graphical representations in the models themselves. The main problem with computer reconstructions of archaeological sites (including virtual reality models and other types of computer models) remains that the language of visual and graphical communication in computer visualizations is not agreed upon. If virtual reality is to become a useful tool, we must place a priority on the development of a formal visual language that is relevant to the current aims in archaeology and cultural heritage.<sup>30</sup> Archaeological evidence, or scientific data in general, are not typically given an aesthetic value

by the makers of reconstructions. Why this has happened is not easy to explain, but it seems that archaeologists have not taken enough responsibility to ensure that their data are respected during the modelmaking process. Archaeologists who once hired draftsmen to draw their pictorial reconstructions now hire graphic design students or young architects who may not be as interested as they are in historical or scientific accountability. Contributing factors must be that making a model of the physical remains before any restoration or reconstruction requires a commitment to a more thorough level of photographic documentation than is usually required, as well as additional funds and time.

It was true several years ago VR models often consisted of low-resolution, low-polygon count features, and at the same time they required the use of expensive supercomputers to number crunch their real-time experiences. This is no longer true. Low polygon count models still run faster in real time, of course, and real-time shadows are still not possible due to hardware constraints. The Cultural Virtual Reality Laboratory has worked very hard in recent years, however, to overcome these problems and others. For instance, our master models contain all



Figure 6: Room 15, the *studiolo* in the House of Augustus (30-20 BC), virtual reality model of the physical remains with losses restored, referred to here as a “Restoration Model” (by P. Stinson).

basic dimensions. Very detailed features such as Corinthian capitals are simplified considerably, for the time being, but in all other respects we have the capability of putting as much detail into the models as required by the scientific data at our disposal.<sup>31</sup> For that matter, it would be nearly impossible to “perfectly” model a Corinthian capital using traditional CAD tools and its interface. The “accuracy” of a model or a graphic representation on a computer screen is entirely idiosyncratic. There are many possible “accuracies.”<sup>32</sup>

Virtual methods are not easily produced either; this is also a myth. Often it is said that one of the great advantages of computerized reconstructions is that they can be changed easily to accommodate alternative ideas and so forth. This is true in principle, but computer models, especially virtual reality models, are becoming so complex that making even relatively minor changes sometimes requires fundamental alterations to the underlying database structure of the model. Virtual reality models are much more complicated than standard CAD models. For instance, due to hardware limitations, VR models need to include multiple levels of detail or LODs (which may not be required in five years, however). A Roman Corinthian style column, for instance, should be modeled in at least three levels of detail. The user sees the low-resolution model from a great distance. The higher levels of resolution replace the lower ones in sequence as the user approaches nearer to the column, shown in figure 7.

For this reason and others, the term “database” is more appropriate to describe the vast network of integrated elements in virtual models. For instance, the *studiolo* and *cubiculum* 16 models are small, but their high-resolution texture maps require over 60 megabytes of memory each. Some of the technological problems of creating virtual reality models suitable for applications in archaeology are rapidly disappearing, though. Making these models on relatively low cost PCs is commonplace today, but was impossible just five to seven years ago. Virtual reality models were once constrained to using low-resolution texture maps because of hardware limitations as well. This is no longer the case, and within a few years LODs will probably be a thing of the past as processing power increases.

Few would dispute today, however, that the potential benefits of virtual reality applications in archaeology and the cultural heritage industry are wide-ranging, both as a communication tool and as an aid to archaeological and historical interpretation. In the future scholars and students of ancient art around the world might view and study models like the *studiolo* in libraries of digital information equipped with virtual reality theaters.<sup>33</sup> The Cultural Virtual Reality Laboratory has experimented with practical applications in several ways, from

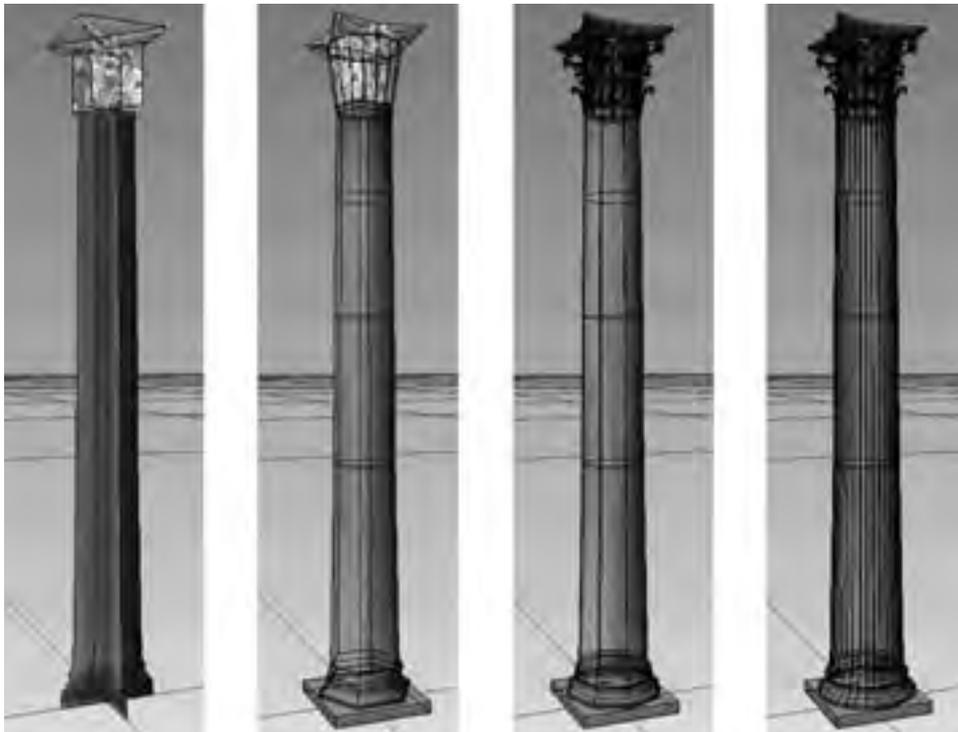


Figure 7: Levels of Detail (LODs) for a Roman Corinthian column.

its website to classroom environments to museum installations. On its website ([www.cvrlab.org](http://www.cvrlab.org)) is an interactive virtual environment that combines a dynamic time-line of the ancient Forum Romanum in Rome which changes dynamically with a mouse-driven time line slider, Quicktime reconstructions of monuments (including alternatives), and archaeological and historical metadata, shown in figure 8.

Recently, the lab in collaboration with UCLA's Academic Technology Services (ATS) created a similar interface in ATS's on-campus virtual theater, shown in figures 1 and 2.

These two solutions approach the problem of digital information dissemination on two important platforms, the web and the virtual theater classroom, or macro and micro scales, respectively. As mentioned, the laboratory has also produced one documentary for use in site presentation. Many other examples of the use of virtual reality and computer graphics can be cited. At Segedunum at Wall's End, UK, visitors ascend a tower, from which they look down on the Roman ruins. As they watch, reconstructions of the various phases of the site are projected on a screen located in front of them, so that they can contrast



Figure 8: UCLA CVRlab website showing interactive Forum Romanum project ([www.cvrlab.org](http://www.cvrlab.org)).

“then” and “now.” A similar system was created at the medieval archaeological site of Enneme, Belgium, though using a kiosk on the ground rather than a theater in a tower. At the museum at the Foce del Sele near Paestum, Italy an elaborate multimedia display allows visitors to experience the excavations of the site, step by step. The ARCHEOGUIDE Project has taken the further step of bringing the virtual reconstruction from the museum or classroom to the site itself. Using Augmented Reality technology, it allows visitors to see both the real world of the archaeological site of Olympia, Greece along with reconstructions and scenes of ancient life.<sup>34</sup>

Visualization techniques of all kinds, whether two-dimensional plans, models of digital terrain data useful in GIS simulations, or virtual reality models of the like described here, have completely permeated archaeological publications of all periods and fields.<sup>35</sup> Daniela Scagliarini of the University of Bologna trains



Figure 9: Room 15, the “studiolo” in the House of Augustus (30-20 BC), State Model showing tondo in ceiling, view looking straight up from floor level (by P. Stinson).

her students of classical archaeology in similar documentation techniques we used for the *studiolo* and *cubiculum* 16. She and her students have built a virtual model of the excavated remains of a whole house at Pompeii.<sup>36</sup>

Archaeological research aims and interpretation can also be improved by virtual modeling techniques. In fact, digital modes of representation and interpretation call attention to difficult archaeological problems and to the methodologies used to decipher them. The full three-dimensional context must be considered. With traditional methods of orthogonal or perspective drawing, one is naturally inclined to focus on areas where the evidence is better preserved, or ignore areas where evidence is lacking. Often different or new interpretations are advanced or research aims are facilitated through the process of making the model or through the interactive viewing of a completed model. One example of this arose during the construction of the State Model of the *studiolo* that deserves mention here. Modeling the low vaulted ceiling of the *studiolo* was a challenge, especially the tondo in the center. For instance, a digital photo taken of the circular motif from below cannot be simply applied as a texture map to the wire frame model of the vault, because it would be distorted by the curved geometry of the



Figure 10: Cubiculum 16 in the Villa of the Mysteries (60-50 BC), virtual reality model of the physical remains, with hypothetical reconstructions of beds in the alcoves and lighting simulation, referred to here as a “Reconstruction Model” (by P. Stinson).

model and appear as an oval. In fact, the circle in the ceiling is actually an oval, but when viewed from below it appears as a circle, a simple form of cylindrical anamorphosis. Therefore, the texture map for the tondo was constructed almost as conceived of by the ancient artists--as an oval--so when it was applied to the curved wireframe model, the sides of the oval would be foreshortened; consequently the illusion of the circle is simulated in the virtual reality model, as shown in figure 9.

This example illustrates how virtual reality has the potential to further research aims. It is not that this realization about the tondo was not possible previously by studying photographs, plans, elevations, etc. Interacting with it in an immersive environment simulates what it would be like if one could be in the actual room as it exists today. Virtual interaction with the model, however, heightens the probability for the furthering of research aims. In this case, the process of making the model was crucial to making this discovery, but it is not difficult to imagine how further interaction with the finished model--panning around the room, zooming into particular details--increases the probability for more cognitive gains. In the case of the *studiolo*, the model could also provide exposure to its significant artistic works for many scholars and students who

would have difficulty otherwise, because the room has never been open to the public; its wall-paintings are not published widely, and the published photographs are not comprehensive and are small.<sup>37</sup>

Another model of cubiculum 16 in the Villa of the Mysteries reconstructs lighting and a hypothetical furniture layout, shown in figure 10.<sup>38</sup>

Rooms in Roman houses rarely had windows that let in direct sunlight. Artificial lighting from oil lamps would have been necessary in most rooms beginning in the late afternoon. This model attempts to simulate an evening setting with the small room being artificially lit by two oil lamps.<sup>39</sup> The beds in each alcove illustrate the notion that the room was probably used primarily as a bedroom.<sup>40</sup> The model is not definitive, but it illustrates the vast potential for analyses of lighting and social settings. Several observations are now possible to make that would have been far more speculative if not for this model. For instance, the simulation of the lighting clearly indicates that several more lamps than shown here would have been required to completely illuminate the room at night. Also it might be interesting to art historians and archaeologists that the lamps illuminated mainly the upper parts of the walls and their elaborate architectural depictions in



Figure 11: Restored sculpture from the pediment of the Older Parthenon of the Athenian Acropolis (photograph by P. Stinson).

the wall-paintings, leaving the lower parts in the shadows. The lower parts of the alcove walls were also hidden behind the furniture. Also, the fall-off of light across the walls highlighted some aspects of the paintings more than others. What does this say about the composition of the paintings? In ways that traditional drawings could never function, simulations such as this one could potentially elevate the traditional methods of interpreting Roman wall-painting and the functions of rooms like this one in Roman houses of the mid-1st c. BC.

As mentioned earlier, for the *studiolo* and *cubiculum* 16 projects, we have studied carefully those successful physical reconstructions that clearly define the original materials from the restored interventions, that at the same time communicate an overall sense of unity and completeness, exemplified in figure 11.

We have also reevaluated many examples of the most extreme form of reconstruction of archaeological sites, anastylosis, or the rebuilding of an ancient monument using the original materials, as exemplified by the famous facade of the Library of Celsus at Ephesus, shown in figure 12.<sup>41</sup>

Although controversial, the methodology of anastylosis was executed consistently and clearly, following closely the principles set forth in the Venice Charter.<sup>42</sup>



Figure 12: Reconstructed Facade of Library of Celsus, Ephesus, ca. 114 A.D., reconstruction completed in 1978 (photograph by P. Stinson).

Virtual reality, however, provides an alternative solution to several problems currently plaguing site presentation. Mass tourist attractions like the Library of Celsus facade at Ephesus arguably jeopardize the quality of the each visitor's experience because of the resulting deterioration of archaeological sites, and the rising costs of site maintenance.<sup>43</sup> Anyone who has visited Ephesus on any given day during the height of the tourist season will understand immediately the real problems that monumental physical reconstructions create for themselves.

This raises a final issue: the relationship of article 15 of the Venice Charter and the article 9 of the Ename Charter. Should anastylosis still be exempted from the Venice Charter's prohibition on all reconstruction work on the actual physical remains? Based on the developments in the fields of both physical and virtual reconstruction recounted in this paper, we think that it should not.

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## Endnotes

1 Bernard Frischer conceived the paper and invited P.T. Stinson to co-author it with him. Frischer wrote sections 1, 2, and 3; Stinson wrote section 4; both authors contributed to section 5.

2 Cf. C. Brandi 1963, 36.

3 Cf. the ICOMOS Charter for the Protection and Management of the Archaeological Heritage, Article 7: "Reconstructions serve two important functions: experimental research and interpretation."

4 Cf., e.g., B. M. Feilden 1982, 3: "Conservation is the action taken to prevent decay. It embraces all acts that prolong the life of our cultural and natural heritage, the object being to present to those who use and look at historic buildings with wonder the artistic and human messages that such buildings possess."

5 Anastylis was earlier approved in Article VI of the Athens Charter: "In the case of ruins, scrupulous conservation is necessary, and steps should be taken to reinstate any original fragments that may be recovered (anastylis), whenever this is possible; the new materials used for this purpose should in all cases be recognisable."

6 Cf. Venice Charter, Article 11: "The valid contributions of all periods to the building of a monument must be respected, since unity of style is not the aim of a restoration. When a building includes the superimposed work of different periods, the revealing of the underlying state can only be justified in exceptional circumstances and when what is removed is of little interest and the material which is brought to light is of great historical, archaeological or aesthetic value, and its state of preservation good enough to justify the action. Evaluation of the importance of the elements involved and the decision as to what may be destroyed cannot rest solely on the individual in charge of the work."

7 Cf. A. M. Vaccaro 2000, 231-232.

8 Cf. Venice Charter, Article 9: "The process of restoration is a highly specialized operation. Its aim is to preserve and reveal the aesthetic and historic value of the monument and

is based on respect for original material and authentic documents. It must stop at the point where conjecture begins, and in this case moreover any extra work which is indispensable must be distinct from the architectural composition and must bear a contemporary stamp. The restoration in any case must be preceded and followed by an archaeological and historical study of the monument.”

9 On this problem, see B. Frischer, F. Niccolucci, et al. 2002, 10-13.

10 Cf. Athens Charter, Resolution 2: “Proposed Restoration projects are to be subjected to knowledgeable criticism to prevent mistakes which will cause loss of character and historical values to the structures.” Florence Charter, Article 15: “Art. 15. No restoration work and, above all, no reconstruction work on an historic garden shall be undertaken without thorough prior research to ensure that such work is scientifically executed and which will involve everything from excavation to the assembling of records relating to the garden in question and to similar gardens. Before any practical work starts, a project must be prepared on the basis of said research and must be submitted to a group of experts for joint examination and approval.” ICOMOS Charter for the Protection and Management of the Archaeological Heritage, Article 8: “High academic standards in many different disciplines are essential in the management of the archaeological heritage. The training of an adequate number of qualified professionals in the relevant fields of expertise should therefore be an important objective for the educational policies in every country. The need to develop expertise in certain highly specialized fields calls for international cooperation. Standards of professional training and professional conduct should be established and maintained.” See also endnote 44.

11 Cf. Venice Charter, Article 16: “In all works of preservation, restoration or excavation, there should always be precise documentation in the form of analytical and critical reports, illustrated with drawings and photographs. Every stage of the work of clearing, consolidation, rearrangement and integration, as well as technical and formal features identified during the course of the work, should be included. This record should be placed in the archives of a public institution and made available to research workers. It is recommended that the report should be published.”

12 On the concept of metadata and the Dublin Core, see C. Borgman 2000, 69-71.

13 Cf. A. Riegl 1903.

14 A. Riegl in: Jokilehto 1999, 218. Other taxonomies could easily be cited, e.g., Gustavo Giovannoni’s four types (consolidation; recomposition [=anastylosis]; liberation; completion or renovation); Giulio Carlo Argan’s two types (conservative; artistic). See J. Jokilehto 1999, 222, 224.

15 Cf. C. Brandi 1963, 36: “il restauro deve mirare al ristabilimento della unità potenziale dell’opera d’arte, purchè cio sia possibile senza commettere un falso artistico o un falso storico, e senza cancellare ogni traccia del passaggio dell’opera d’arte nel tempo.”

16 See Frischer et al. 2000.

17 This project results from collaboration between the UCLA Cultural VR Lab and the Department of Archaeology at the University of Bologna with assistance from the computing staff and resources at Cineca. Special thanks go out to Prof. Scagliarini of the University of Bologna, Gianna Musatti, the paintings’ restorer of the *studiolo* in

the House of Augustus, the Archaeological Superintendency of the Forum and Palatine, and the Archaeological Superintendency of Pompeii. *Cubiculum* 16 model was the subject of Philip Stinson's MA Thesis at UCLA 2000 under the supervision of Prof. Diane Favro.

18 Carettoni 1983; Ling 1991, 37-41.

19 Maiuri 1931, 188-91; Ling 1991, 25-27.

20 For different theories regarding the function of *cubiculum* 16, traditionally known as *cubiculum* 16, see Maiuri 1931, 60-1; Richardson 1988, 175.

21 Cf. Lange 1996, 3.

22 Cf. Lange 1996

23 See the useful comments and ideas of Sanders 2000.

24 International Charter for the Conservation and Restoration of Monuments and Sites (The Venice Charter), 1964, 1965; for a comprehensive discussion of conservation and restoration theory, see Vaccaro, 2000, esp. 189-259.

25 Ryan 1996, 95-6.

26 According to Musatti, significant color variation in the red cinnabar must have existed even in the original wall-paintings.

27 For information about this model, visit [www.cvrlab.org](http://www.cvrlab.org). Click on Roman Forum Project. Currently, this part of the website only functions if you are using a PC.

28 Forte and Siliotti 1997.

29 Miller and Richards 1995; Eiteljorg 2001; Cf. Ryan 1996.

30 See the forthcoming Frischer 2002.

31 Multigen relies on a vertice-based input system similar to CAD programs. Dimensions can be inputted precisely, and dimensions of features can be measured vertice to vertice just like CAD.

32 We are reminded of the famous paper given by Mandelbrot about the essence of a coastline. He argued that the length of any coastline is essentially infinitely long, but any answer to the question depends on the length of your ruler. See Gleick 2000, 94-96. In turn, the accuracy of any model is dependent on the effect of observing it at different distances and scales on the computer screen, which is completely idiosyncratic.

33 See Frischer forthcoming.

34 See R. Carlucci 2002.

35 See the useful observations on virtual reality models and archaeological publications in Sanders 2000.

36 Scagliarini, et al. 2001.

37 Carettoni 1983.

38 Lucet 2000.

39 The wireframe model was created and texture mapped in Multigen Creator, and exported into Lightscape using NuGraf Polytrans software. The radiosity solution and ray traced images were created in Lightscape. For more information about illuminating digital models, see Lucet 2000.

40 For different theories regarding the function of cubiculum 16, traditionally known as cubiculum 16, see Maiuri 1931, 60-1; Richardson 1988, 175.

41 Hueber and Strocka 1975, 3 ff.

42 Schmidt 1997, 46-7.

43 Demas, 1997, 146; Sivan 1997, 51.

44 The texts of the Athens Charter (1931), Venice Charter (1964), Florence Charter (1982), etc. are cited from the versions posted on the ICOMOS Internet site at: <http://www.international.icomos.org/charters.htm>

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# INTERPRETING THE PAST

Heritage, New Technologies and Local Development

Proceedings of the Conference on Authenticity, Intellectual Integrity and Sustainable Development of the Public Presentation of Archaeological and Historical Sites and Landscapes

Ghent, East-Flanders  
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Ename Center for Public Archaeology and Heritage Presentation

2007 Brussels, Belgium

# THE IMPORTANCE OF SCIENTIFIC AUTHENTICATION AND A FORMAL VISUAL LANGUAGE IN VIRTUAL MODELS OF ARCHEOLOGICAL SITES: THE CASE OF THE HOUSE OF AUGUSTUS AND VILLA OF THE MYSTERIES

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## The Ename Charter and Virtual Reality

The UCLA Cultural Virtual Laboratory, with which the authors of this paper are associated, was founded in 1997 and has two missions: creating scientifically authenticated virtual reality models of cultural heritage sites (which we call “CVR” models, for short); and of exploring ways of utilizing CVR models in research and instruction. Thus far, the lab has created models of sites from Lake Titicaca in Peru to Ani in Turkey; and from the Iron Age in Israel to the colonial period in the Caribbean. Our largest and most recently completed project to date is a digital model of the Roman Forum, the civic center of ancient Rome.

In support of the second mission, the laboratory has been actively researching distribution media and applications for its models. Media range from high-resolution 2D prints to immersive and interactive urban simulations. Applications include education, research, and tourism. A key example of the latter is site presentation, and the laboratory produced an orientation video for the early Christian Basilica of Santa Maria Maggiore in Rome and has related projects in the planning phase. One such project will be discussed in this paper: the documentary about the House of Augustus that we intend to produce with our partners in the Department of Archaeology of the University of Bologna.

In this paper we will discuss, from the point of view of practitioners of CVR, the general problem of the application of virtual reality technology to the presentation of cultural heritage sites, with special reference to the articles of the draft Ename Charter that mention or relate to virtual reality. (For the original text of the Ename Charter and its subsequent versions see p. 227)

The pertinent articles, as distributed in a text at the Ghent Conference in September 2002, are the following:

*Article 9. In cases where the structural stability of a monument is not in danger, non-intrusive visual reconstructions (by means of artists' reconstructions, 3D computer modeling, Virtual Reality) should be preferred to physical reconstruction.*

*Article 18. The construction of 3D computer reconstructions and Virtual Reality environments should be based upon a detailed and systematic analysis of the remains, not only from archaeological and historical standpoints but also from close analysis of the building materials, structural engineering criteria and architectural aspects. Together with written sources and iconography, several hypotheses should be checked against the results and data, and 3D models 'iterated' towards the most probable reconstruction.*

*Article 20. Full scientific documentation of all elements in a presentation programme should be compiled and made available to visitors as well as researchers. This documentation should be in the form of an analytical and critical report, in which the archaeological or historical basis for every element of the work of presentation is included. This record of documentation should be placed in the archives of a public institution and should be published or posted on the Internet.*

We begin by stating that, as practitioners of the art, we welcome the recognition accorded to virtual reality in the draft Ename Charter. We recognize the fact that the text of the Charter is simply a first draft and that suggestions for improvements have been invited by the authors. Thus, if we are critical of the draft Charter, it is solely with the aim of helping to craft the best possible final version of the text. Below, we will first provide some commentary on the draft Charter and discussion of some theoretical matters; and then we will examine two projects of the Cultural Virtual Reality Laboratory that can serve as case studies of the general issues raised by the application of virtual reality technology to site presentation; and, finally, we will conclude with some thoughts about the implications of this study for the Ename Charter.

### **Critical Commentary on the Language of the First Draft of the Ename Charter**

To begin our critical commentary, we would note that, while the draft Charter

does define several key terms in Articles 2, 3, and 4, it does not define what it means by “3D computer modeling” (Article 9), “Virtual Reality” (Article 9), “3D computer reconstructions” (Article 18), “Virtual Reality environments” (Article 18) or, for that matter, “3D computer simulations” (Article 10). It is possible that this omission is excusable because these terms do not have the fundamental importance to the Charter that the terms defined in Articles 2, 3, and 4 clearly have (“archaeological or historical site,” “heritage presentation,” and “public interpretation”). Nevertheless, even if a new Article 5 defining “3D computer reconstructions and Virtual Reality environments” is not needed, it would be desirable for the Ename Charter to state what it means by these and related terms, possibly in Article 18. It would indeed be advisable not to use so many terms (something probably motivated simply by a perceived stylistic need for variation) but to limit the Charter to a single, well-defined concept such as “virtual reconstruction.” This term has the advantage of contrasting nicely with “physical reconstruction,” and it encompasses the various terms (which are by no means synonymous) that the draft Ename Charter utilizes.

The concepts of “model” or “simulation,” which are implied by the term “virtual reconstruction,” and that are used in the draft of the Ename Charter, need to be spelled out because they are by no means univocal. In the Cultural Virtual Reality Laboratory, we have found it useful to distinguish between four kinds of models: 1) original model; 2) state model; 3) restoration model; 4) reconstruction model. The Original Model shows just those bits of the ancient material that survive intact. The State Model shows the site just as it exists today, with the original surviving bits supplemented by later additions and any modern restorations. The Restoration Model is based on the Original Model and adds to it everything that has been destroyed over time. The Restoration Model may show any or all earlier phases in the history of the site. The exact phase or phases shown should always be specified. The Reconstruction Model is similar to the Restoration Model in that it entails fleshing out the actual remains to show an earlier phase in the history of the monument. The distinction is that we use the term Reconstruction Model when the surviving original bits are so few or exiguous as to require a great deal of hypothesizing to fill in the missing elements. For this reason, the Reconstruction Model is usually not built up from the Original Model, since so little remains that there is no point in creating an Original Model in the first place.

To a certain extent, the difference between the two terms, Restoration Model and Reconstruction Model, depends upon an intuitive judgment of the modeler, and it would be futile to quibble over whether, in a given case, one term

or the other would be more appropriate. In practice, the Cultural Virtual Reality Laboratory tends to use the term Restoration Model for CVR models of structures such as the early Christian Basilica of Santa Maria Maggiore in Rome or the Cathedral of Santiago de Compostela in Spain, where the monuments still survive fairly intact and the CVR model mainly entails the removal of later additions to restore the aspect of an earlier phase. It uses the term Reconstruction Model for an archaeological site such as the Second Temple in Jerusalem, where there are almost no physical remains on which a CVR model can be based. In the case of some complex sites, such as the Forum Romanum, the individual constituent components of the site can be subject to either Restoration (e.g., the Curia Julia or Arch of Septimius Severus) or Reconstruction Models (e.g., the Basilica Julia and Basilica Aemilia). In this case, the practice of the Cultural Virtual Reality Laboratory is to create a Reconstruction Model across the entire site in order to provide a consistency of treatment.

In general, we view our categories as Weberian “ideal types,” which are easy to distinguish in theory but hard to encounter in pure form in practice. For example, in the case of the House of Augustus model to be discussed below (see Section 4), for specific reasons to be mentioned we created a Restoration Model from a State Model, not an Original Model. Nevertheless, despite all the complexities of an actual modeling project, our taxonomy is useful because, like any Weberian typology, it forces us to define as clearly as possibly what, exactly, it is that we intend to model. Without such clarity, it could easily be possible, in making a virtual reconstruction, to commit the same kinds of fallacies (e.g., Cesare Brandi’s famous “falso storico”)<sup>2</sup> that have occurred in the history of physical restoration.

We now consider the three articles of the Ename Charter in which virtual reality technology is explicitly or implicitly mentioned.

In Article 9, it is not clear why the use of virtual reality, etc. should be preferred to physical reconstruction only in the cases when the monument is not in danger. Should this imply that virtual reality not be used in situations where the physical monument is endangered? We would argue that, as presently worded, there is a false antithesis between virtual (or, “visual”) reconstruction, on the one hand, and physical reconstruction, on the other. In fact, both forms of reconstruction often can and should be used on the same site. Unlike physical conservation, virtual reconstruction has nothing to do with consolidation and preservation of the physical remains: rather, virtual reconstruction (not unlike physical reconstruction in archaeology)<sup>3</sup> is a tool that can be used, by experts, to

generate new discoveries and insights and, by the general public, to understand a site more quickly and effectively. For their part, physical interventions have the primary goal of ensuring the survival of the monument and the secondary goal of displaying it to the public.<sup>4</sup> Thus, there is no reason why there cannot be a virtual reconstruction when there is also a physical reconstruction (assuming that budgetary limitations are not a factor). For example, a physical reconstruction typically restores the monument to a certain phase of its building history, whereas the related virtual reality reconstruction can depict all the building phases in the history of the site.

Indeed, the power of virtual reconstruction to illustrate the entire range of a monument's history provides an important tie-in of the proposed Ename Charter to the Venice Charter. Article 15 of the latter states that:

*All reconstruction work should however be ruled out a priori. Only anastylosis, that is to say, the reassembling of existing but dismembered parts can be permitted. The material used for integration should always be recognizable and its use should be the least that will ensure the conservation of a monument and the reinstatement of its form.*

If explicit reference were made in Article 9 of the Ename Charter to Article 15 of the Venice Charter, the preference for “visual” (or, as we would prefer, “virtual”) reconstruction would be anchored in an existing international charter. It could, indeed, present itself as reconciling a latent contradiction in the Venice Charter which, on the one hand, except for anastylosis,<sup>5</sup> rules out all reconstruction work (which could be useful to show earlier phases of a monument for which only traces remain) and, on the other hand, in Article 12 calls for the equal respect for all periods.<sup>6</sup> Thus, virtual reconstruction solves the conundrum of the Venice Charter which calls for the equality of all phases but which forbids the physical reconstruction of phases whose remains happen to be slight, nonexistent, or considered of lesser importance. This solution is all the more necessary now that, even among experts in conservation such as Alessandra Melucco Vaccaro, the solution of anastylosis has come under attack after the examples of the Stoa of Attalos in Athens, the Library of Celsus in Ephesus, etc.<sup>7</sup>

In this connection, we also note a contradiction that might well be eliminated between Article 15 of the Venice Charter and Article 7 of the draft Ename Charter. The latter reckons with the possibility of “modern recreations of missing elements or modern reconstructions of missing fabric”; the former

“rule[s] out” “all reconstruction work.”

Article 9 could also be profitably linked to Article 7 of the ICOMOS Charter on the Protection and Management of the Archaeological Heritage. This article states that:

*The presentation of the archaeological heritage to the general public is an essential method of promoting an understanding of the origins and development of modern societies. At the same time it is the most important means of promoting an understanding of the need for its protection.*

Article 9 of the Ename Charter might justify virtual reconstruction as one of the most effective known ways to implement Article 7 of the ICOMOS Charter on the Archaeological Heritage than the use of virtual reconstructions. This would also link Article 9 of the Ename Charter more closely to the fifth bulleted point in its “Background” section which implicitly criticizes the ICOMOS Charter on the Archaeological Heritage for “not further elaborat[ing] acceptable standards or methods” of public presentation of archaeological sites.

Article 18 concerns modelmaking methodology and is probably inspired by Article 9 of the Venice Charter.<sup>8</sup> Here we see two major problems. First, the recommendation that “3D models [should be] ‘iterated’ towards the most probable reconstruction,” gives off a quaint whiff of positivism. Presumably, the idea derives from the part of Article 9 of the Venice Charter which states:

*“[Restoration] must stop at the point where conjecture begins, and in this case moreover any extra work which is indispensable must be distinct from the architectural composition and must bear a contemporary stamp.”*

But one of the strengths of virtual reality and computer graphics is the ability to represent alternative hypotheses in a way that, obviously, cannot be done at all on a physical monument and which can be done even in a traditional print publication only with some difficulty. Through the use of software switches, individual elements of a structure (the ceiling, floor, doorways, etc.) can — and should — be easily changed in accordance with the different theories of qualified experts.

Secondly, in Article 18 the fundamental issue of authorship and authority is not addressed: who is supposed to make the “detailed and systematic analysis of the remains” on the basis of which the computer model is constructed? Whose alternative hypotheses are to be weighed and illustrated? Often in the history of

CVR, the analysis and authorship has been entrusted to the hands of computer experts, not of art historians, archaeologists, etc.<sup>9</sup> The Ename Charter presents an opportunity to reduce the likelihood that this will happen in the future. The inclusion of apposite language would be consistent with the Athens Charter, the Florence Charter, and other relevant charters,<sup>10</sup> which mandate a key role for experts in any restoration or conservation projects. In the case study of the House of Augustus below, we will discuss a project of our laboratory in which the team of experts included an archaeologist, an architect with profound archaeological experience, and a restorer. This is the kind of interdisciplinary expertise that ought to be called for in the Ename Charter.

Article 20, undoubtedly inspired by Article 16 of the Venice Charter,<sup>11</sup> concerns the transparency of site presentation, including, presumably, virtual reality models: the documentation utilized to create all elements of a site presentation should be made available to the public. But in specifying how this might be done, the draft Ename Charter does not make reference to virtual reality. But it is clear that a CVR model must be as transparent, with respect to its documentation, as any other part of the site presentation program. Moreover, CVR documentation has unique requirements and offers special advantages as compared to some of the other forms. To begin with the latter, it is possible to include the documentation within the CVR file and to make it viewable upon request by a user at the same time that the model is being inspected. Finally, the documentation of a CVR model is one part of its metadata,<sup>12</sup> and there are emerging metadata standards for CVR models that the Ename Charter might well take note of and support.

### **The Relationship of Scientific Authentication to Modelmaking**

Driving our friendly critique of the first draft of the Ename Charter in section 2 is a key value that we strive to embody in the work of the Cultural Virtual Reality Laboratory: scientific authentication. This entails the transparency of metadata (Article 20), and the role of qualified experts (Article 18). In Section 4 below, we will use two case studies to exemplify what we mean by scientific authentication of CVR models. In this section, we set the stage for the case studies by discussion of some theoretical and practical aspects of scientific authentication.

Whereas conservation aims to ensure the survival of the physical fabric of the monument, virtual reconstruction is a representation of knowledge. The first point to note is that these two activities are complementary, not competitive or

mutually exclusive. We must both conserve the physical remains and reconstruct them virtually. Indeed, the relationship between conservation and virtual reconstruction is not merely complementary, it is also fruitfully dialectical. Traditionally, conservators have debated which of Riegl's monumental values (*Alterswert, historischer Wert, gewollter Erinnerungswert; Gegenwartswerte; Gebrauchswert, Kunstwert, relativer Kunstwert*)<sup>13</sup> and which of his methods (radical, art-historical, conservative)<sup>14</sup> should guide the work of restoration. Should a monument be restored to show its state when new, the moment when it reached its historical or artistic peak of development, etc.? These difficult issues will never be definitively resolved (though impressive efforts have been made, e.g., by Cesare Brandi, to do so),<sup>15</sup> but virtual reconstruction at least reduces what is at stake. Previously, the decision facing conservators about which phase to privilege was "all-or-nothing": a physical intervention cannot be ambiguous. In the age of digital technology, the decision about which phase to highlight does not disappear in physical terms, but, whatever the decision, the public no longer has to be deprived of a chance to view the monument (or, to be more precise, a representation of it) at any place and in all other phases which are not physically restored.

Scientific authentication of virtual reconstruction is accordingly important, not only for the sake of science, but also for the sake of conservation. If virtual reconstructions are to become an integral part of the work of conservators and other cultural authorities responsible for site presentation, then there is a duty to ensure that the virtual reconstructions are as meticulously executed and documented by qualified experts as are the physical interventions themselves. Just because a reconstruction is virtual does not mean that it can be done shoddily, quickly, or unprofessionally. Once a public institution puts its imprimatur on a virtual reconstruction, it will have an enormous impact on the public understanding of the monument. It will also inevitably (given the hypothetical nature of almost all reconstructions, virtual or physical) give rise to debate and controversy, which, predictably, will require the sponsoring cultural agency to explain and, at times, defend itself. Scientific authentication thus becomes an essential responsibility of a cultural agency, both in fulfillment of its mission to educate the public it serves and of its need to maintain the same high professional standards it observes in the other spheres of its activity.

A full discussion of what is meant by *scientific authentication* would transcend our space limits. Here we emphasize just the main points, which are, as noted: authorship by qualified experts; transparency of metadata; and a clear

understanding of the typology of virtual reconstructions.

Virtual reconstructions are knowledge representations that are expressed digitally. As such, they are analogous to other knowledge representations created in other media. They are not in themselves scientific or nonscientific, just as a knowledge representation published in a printed book is not, in itself, scientific or nonscientific. The Cultural Virtual Reality Laboratory sees itself as a digital publisher of knowledge representations that are analogous to those produced in print by a university press. A university press's books are scientific in that they have qualified authors, are vetted by recognized authorities, and are produced in conformity with the norms of good scholarship.

Even though digital knowledge representations are relatively new, they do not present entirely new issues of scientificness in this sense. They, too, must have qualified authors; must be evaluated by reputable scholars; and should reflect the norms of good scholarship. They should contain explicit reflections about method, sources, and their own place in the history of their subject.

Since the sites modeled by the Cultural Virtual Reality Laboratory are frequently extensive in terms of space, time, and structural types, authorship of a CVR model more frequently involves an interdisciplinary team—which we call the Scientific Committee—than a single individual, as often happens in the case of a print publication. For example, the Cultural Virtual Reality Laboratory's Scientific Committee on the Basilica of Santa Maria Maggiore included a scholar who participated in the excavations under the church; and the scholar who wrote the most recent technical monograph reconstructing the early building history of the basilica.<sup>16</sup> Moreover, since the information on which a CVR model is based is not always published but sometimes must be found in the archives of the agency superintending the monument, and at other times must be gathered afresh from the site itself, we have found it useful to ask a representative of the superintendency to serve on the Scientific Committee. The representative (who may herself be a highly qualified expert on the site) can facilitate access to, or collection of, unpublished data. The representative can also ensure that the model and related digital product are used for site presentation. In some cases, as happened with the laboratory's Santa Maria Maggiore project, the representative of the superintendency even took the lead in writing the script used for the documentary created for the museum on the site.

The fact that a model is authored by a highly qualified interdisciplinary team should not give rise to the false expectation that the modeling process will be speedy or without risks. In the laboratory's experience, the modeling process

is never a simple translation of the authors' mental image—even when that image has been worked out in detail in scaled drawings—into pixels on the computer display. When scholars are given the opportunity to experience the two-dimensional representation of a site that they developed in the months, years, or even decades before the modeling process begins, they inevitably discover that they made errors of commission or omission. In the case of the Santa Maria Maggiore project, for example, questions arose about whether the interior of the church was surfaced with stucco or left as bare brick; whether the ceiling was coffered or exposed; and about the materials and design of the floor. The model went through four major revisions over eighteen months before being declared finished by the committee.

Throughout the modeling process, a record must be kept of such debates and the ensuing decisions taken. This record constitutes an important element of the model's metadata. Metadata can be published in a separate document, as is foreseen in the draft of the Ename Charter, or it can be incorporated into the digital product itself. As an example of the latter, we would cite the laboratory's recently completed model of the Roman Forum (shown in the year A.D. 400), seen in figure 1.

In figure 2, the model is seen as projected onto the screen of the UCLA Academic Technology Services Visualization Portal. On the right, a metadata window has been opened to provide instant information about a variety of topics.

Our metadata falls into three categories: (1) catalogue metadata, which serves as a finding aid (including fields such as: name of the model; name of the modeler[s]; name[s] of the member[s] of the Scientific Committee; software used to create the model; version of the software; holder of the copyright; etc.); (2) commentary metadata, which helps provide background information to users about the nature of the evidence used to create the model as well as about any disagreements on the Scientific Committee or between the model and previous reconstructions; and (3) bibliography.

## Two Case Studies: The House of Augustus and Villa of the Mysteries Project

The purpose of presenting these cases studies here is to provide to examples of recent CVRLab work regarding aesthetic and technical standards or conventions for virtual models of heritage sites.<sup>17</sup> The House of Augustus and the Villa of the Mysteries are sites of high artistic and historical significance, but we believe it should be possible to establish a methodology whose fundamental



Figure 1: Detail of the UCLA Cultural Virtual Reality model of the Roman Forum, 10:00 a.m., June 21, 400 A.D. Photograph shot in the UCLA Academic Technology Visualization Portal, February 10, 2003 (model by D. Abernathy, et al.; photograph by J. Suo)

principles can be applied to a variety of heritage sites from individual monuments or buildings to site topography, towns, cities and regions. One main problem is addressed here. We find it disconcerting that archaeological evidence is typically not distinguished from restored or reconstructed areas in virtual reality models. It can be very helpful, however, to distinguish between what is extant and what is



Figure 2: Detail of the UCLA Cultural Virtual Reality model of the Roman Forum, with the Metadata Window open, as seen in the UCLA Academic Technology Services Visualization Portal.

hypothetical in a conjectural reconstruction of any kind, whether in a digital model or a traditional drawing. Therefore, these case studies present ideas about how to represent archaeological evidence in a virtual reality model when significant evidence exists, and secondly, how to represent restored or reconstructed features in a model when significant evidence exists.

The excavations on the Palatine Hill in the 1960s undertaken by Carettoni exposed the remains of a complex series of residential rooms between the temples of Victory and Apollo.<sup>18</sup> The siting and certain architectural and artistic features fit the ancient literary sources that explain how Octavian in 36 BC bought an existing property from the orator Hortensius with the intention of renovating and expanding it for his own residence. But lightning struck, an omen meaning that the site must be used for religious purposes. The Temple of Apollo was built and dedicated around 28 BC. If Suetonius is correct, Octavian began the renovations of this residence in 29 BC, not long after his defeat of Marc Antony and Cleopatra at the Battle of Actium in 31 BC. Excavations uncovered several lavishly decorated rooms in late Second Style wall-paintings or frescos, the most famous being a small room, a cubiculum, on the upper east side of the peristyle court, that may correspond to the small study described by Suetonius where Augustus (as Octavian was called after 27 B.C.) made important decisions.

This room is the main subject of this study on establishing standards and conventions in virtual reconstructions. The room is just 3.5 meters square, but its four walls were completely covered--floor to ceiling, corner to corner--in elegant wall-paintings, the style of which is known to art historians as the late Second Style due to their integration of architectural imagery with figural and mythological scenes centered on each wall. The ceiling was a shallow barrel vault, and it was entirely covered with highly detailed geometric and figural designs of stucco incrustations and paint. Carettoni found the room in fragments only, however, and it took over a decade of painstaking conservation and restoration by Gianna Musatti to reintegrate the thousands of small fresco fragments into the physical reconstruction in an environmentally controlled and protected space on the original site. Although the Palatine Hill is one of the largest and most significant archaeological parks in the world, the room has never been open to the public.

We modeled another cubiculum decorated in wall-paintings of the Second Style, cubiculum 16 in the Villa of the Mysteries at Pompeii.<sup>19</sup> Maiuri excavated this villa in the late 1920s, and cubiculum 16 lies on the northwest side of it just off of the large atrium. *Cubiculum* 16 is only slightly larger than the studiolo, but

unlike it, *cubiculum* 16 is comprised of an antechamber, two vaulted alcoves and a closet in the corner. The function of the room is debated, but it likely served as a bedroom or perhaps a small dining room.<sup>20</sup> The room is much better preserved than the *studiolo* in the House of Augustus. Its walls stand full-height, and one of the vaulted ceilings is well preserved. The room and the central portion of the villa are partially protected by a modern roof. Today the room is not open to the public, but visitors can look into it from a gated door.

### **Making the Original and State Models**

Our study began by making models of the physical remains of each room. In the case of the *studiolo* in the House of Augustus, we refer to this model as a State Model, because the room today exists in a physically restored state, shown in figure 3.

*Cubiculum* 16 in the Villa of the Mysteries, on the other hand, has undergone only minor restorations since it was excavated, and therefore according to the terminology set out at the beginning of this paper we built an Original Model of it, shown in figure 4.

The subject matter of these sites consists primarily of wall-paintings or frescos, but the modeling methodology utilized here is adaptable to sites comprised of other materials such as architectural structures or topography. The methods described below can be repeated by others as well, although some trial and error is to be expected. The photographic equipment, hardware and software used are readily available and not expensive.

Making each model begins by recording the basic dimensions of the rooms and their wall-paintings as sketches in a field book, much like a traditional archaeological documentation. Particularly, the documentation included the horizontal and vertical articulation of each wall-painting, particularly the column heights and the centerline distances between them. These dimensions become invaluable later when the various photographs of each wall-painting are assembled to make a composite image.

Virtual reality models make extensive use of digital photographs, which are applied to the surfaces of wire frame computer models in a process known as texture mapping. The four walls of the *studiolo* were documented by dividing up each wall surface into 6 overlapping digital photographs. Two different digital cameras were used, a Nikon Coolpix and an Olympus Camedia. Both cameras seemed equivalent at first, but we eventually decided to use only the Olympus camera, because its lense caused less distortion. The size of each photograph

was 2274 x 1704 pixels. We desired to obtain a resolution of one pixel to one millimeter, or better, in the final composite images.<sup>21</sup>

As in a traditional photographic documentation project, lens distortion and lighting conditions are the two greatest obstacles to overcome. Lens distortion must be minimized, because it cannot be easily corrected. The small size of these spaces, and in the case of cubiculum 16 the delicacy of the original floor mosaics still in situ, prohibited the use of scaffolding and even tripods. With practice it was possible to hold the camera the same distance away from the wall, horizontal to the floor plane and with the optical axis perpendicular to the wall. Small variations in the sizes of the images to be mosaiced together are easily corrected in image editing software such as Photoshop or GraphicConvertor. Errors in the horizontal rotation of the images as well as minor parallax distortion can also be corrected with standard Photoshop tools. Even though digital photography is more forgiving than traditional film cameras and chemical development, severe parallax distortion is impossible to correct, and even Photoshop cannot sharpen a completely blurred, out of focus image. Digital photography in larger spaces or of the exterior of a tall standing structure would require scaffolding or other mechanisms to properly



Figure 3: Room 15, the *studiolo* in the House of Augustus (30-20 BC), virtual reality model of the physical remains, referred to here as the “State Model” (by P. Stinson).

position and stabilize the camera.<sup>22</sup>

It is important that each digital photograph overlap the edges of the surrounding ones by at least ten percent, so that the common features would match in the composite mosaic image. We downloaded the photographs at the site onto a laptop computer to check for obvious problems and to make sure that they overlapped one another as they were being taken. Occasionally, the cameras malfunctioned as well.

Lighting conditions are another major problem, because they influence the representation of color in the photographs. Fortunately, the *studiolo* today is evenly illuminated by fluorescent tubes, and no flash was required. If flash had been necessary, it would have been best to take the photographs in as dark conditions as possible, rather than using additional lights, because the camera's flash source is more easily controllable than other light sources and can be quantified scientifically. The photographic documentation of *cubiculum* 16 in the Villa of the Mysteries was more of a challenge. Natural light comes into the room from several locations causing unwanted shadows and reflections on the wall surfaces, and photography at night was not permitted. Consequently, some



Figure 4: *Cubiculum* 16 in the Villa of the Mysteries, Pompeii (60-50 BC), virtual reality model of the physical remains, referred to here as the "Original Model" (by P. Stinson).

walls were photographed in the morning, and others at different times. This was less than ideal, with the risk being that the variation in lighting conditions would not be possible to neutralize. The flash was employed on every wall surface (even when not advised by the camera's light meter) in order to even out the lighting conditions as much as possible. This technique worked reasonably well, except for the "hotspots" that sometimes occurred. Hotspots can sometimes be avoided by taking the photograph at a slightly oblique angle to the wall surface, but this adds more distortion to the image that is not always easily rectified.

Once the photographs are taken at the site, the documentation phase ends and the processing of the photographs in the lab begins. The photographs of each surface must be incorporated properly into composite mosaiced images. In our experience, off-the-shelf software such as Photoshop is actually preferable to photogrammetric rectification software that typically does not allow for the full range of adjustments that need to be made, including scaling, rotations, skewing, color saturation, brightness and contrast, etc. Another problem with rectification software is that it often makes these adjustments "automatically," whereas Photoshop allows one to work more methodically. The process begins by correcting any minor parallax distortion in the individual photographs that are eventually mosaiced together to form one composite image. Proportional adjustments, if necessary, are made based on the dimensions of each wall-painting recorded in the field book. For instance, each image was rotated in order to establish the correct horizontal and vertical limiting lines. Once this was done for all the images for a particular wall, they were integrated into one Photoshop file as separate layers. The overlapping edges of each photograph provided guides to the assembly of the final composite image. Matching all the edges usually required some adjustment in scale, rotation, and color saturation and hue. It is important to archive the original raw data files and the adjusted image files for future reference.

The neutral wall and ceiling surfaces that served as the background for the physical reconstruction of the wall-paintings were erased using the selection tools of the Photoshop and filled with a neutral color and a granulated texture (Figure. 3). The added texture serves two purposes, to distinguish the background from the preserved fragments of fresco, and to help prevent the background in the eventual computer model from appearing too smooth--like the surface of plastic--which is a common aesthetic problem in virtual reality models. The final composite image of each wall-painting reached a resolution of approximately one pixel to one millimeter, which is enough to distinguish small cracks, the finest details and subtle variations in color and surface preservation.

Making the model itself is a process known as texture-mapping. The digital photographs are attached to a skeletal frame representing the three-dimensional geometry of the object being modeled. Virtual reality models are polygonal, meaning the surfaces of three-dimensional forms in the simulation are constructed of individual polygons, altogether known as wireframe geometry. Texture maps can be attached to single polygons or, more typically, to groups of polygons. Texture mapping is sometimes analogous to applying decorative wall paper to the walls of the room, although this is an oversimplification of the process.

We hope that the State Model of the *studiolo* and the Original Model of *cubiculum* 16 will serve as archives in the future. Models made solely for the purposes of recording the excavated physical remains are typically not made of cultural sites or excavated archaeological material, even though the value is obvious and indisputable. Virtual models solely of the physical remains, Original Models, or that record the state of the remains today including physical restorations and reconstructions, State Models, should not replace other forms of documentation such as photographs and two-dimensional drawings. We believe, however, that photographs and traditional drawings can only go so far in conveying the extent of preservation, and with virtual models, the palpability of scale and space become important use values as well.<sup>23</sup>

### **Making the Restored or Reconstruction Models**

In addition, the *studiolo* and *cubiculum* 16 are both suitable for showcasing the strengths of virtual reality as a reconstruction tool. As mentioned earlier, the *studiolo* exists today in a physically restored state. The brilliant restorer Gianna Musatti painstakingly carried out the work over the course of a decade. Approximately 50% of the room's wall-paintings and stucco ceiling incrustations are preserved. The restorations fill in small to medium-sized losses in areas where significant original material remains. The fills, however, do not add a significant percentage of new surface area. The *studiolo*, therefore, is the ideal monument to continue restoration through digital means where Musatti prudently stopped. As stated earlier, these case study projects aim to assist scholars in the development of a set of standards and conventions for making virtual reality models when significant archaeological evidence exists, with the focus here being wall decorations rather than structural features. Secondly, we planned to carry out several restoration tests on the large portions of the north, south and west walls of the *studiolo* that are not fully preserved. These experiments were carried out solely on the *studiolo*. We had a different idea in mind for *cubiculum* 16 of the Villa of the Mysteries, which

will be discussed later.

The methodology developed by Musatti for the restorations provided the basis for the digital restorative method. Her method integrates replacements for missing fragments harmoniously within the whole, while making them distinguishable from the original, so that the restoration does not falsify the artistic or historic evidence. This method is consistent with current conservation and restoration theory regarding historical sites, as prescribed in the Venice Charter of 1964 and subsequent charters. Specifically, monochromatic pigments fill in selected losses. The intervening new colors are less saturated than the originals, but the new colors retain a similar color temperature. The new colors are also given a subtle surface texture in order to further distinguish them from the original material. Fine details and chiaroscuro shading are intentionally not restored. Our approach for the digital restoration follows along the same lines. In order to minimize confusion with the preserved evidence, the digital restorations fill in lost areas in the wall-paintings with schematic forms and lighter colors than the originals. We assume simplicity of appearance to be an aesthetic value that conveys the sense of uncertainty or conjecture in interpretation.<sup>25</sup>

To do this efficiently and in an organized manner, each restoration color was assigned its own separate layer in the Photoshop file, organized accordingly to the lower, middle and upper registers of the composition. Therefore, changes can be made to individual elements of the restoration without having an affect on others or on the layer holding the preserved fragments of wall-painting. The colors chosen for the restoration layers vary from wall to wall, since the level of preservation varies greatly. For instance the famous red cinnabar is preserved at inconsistent levels throughout the room.<sup>26</sup> The colors of the digital restorations do not exceed the color intensity of actual preservation in any general area, or in any detail. The final colors chosen are finally recorded in a database, to be easily accessible in the future if necessary.

As in the actual restorations carried out by Musatti, determining an appropriate level of digital color restoration is somewhat of a subjective matter. To our knowledge, there are no scientific or agreed upon standards either among professional painting restorers or archaeologists and historians doing either traditional reconstructions on paper or virtual models for making these kinds of decisions, other than the general rules of thumb discussed above. The notion of restoration itself is today a highly controversial topic. In our experience archaeologists today are more cautious about interpretation and reconstruction than architectural historians and art historians who may consider it in some form

or another as one of their professional duties. We hope that virtual means for restoration and reconstruction will be accepted among these varied disciplines that have cultural heritage in common.

Determining the aesthetic level of any digitally restored color begins by sampling the original color using Photoshop tools. The properties of this sample can then be easily modified to reach an appropriate hue for use in areas where it needs to be restored. The addition of a Photoshop granulation filter can provide a useful additional texture that removes aesthetic suggestions of plasticity from the digital fills. Four options of increasing color saturation or intensity are presented here for one portion of the south wall, shown in figure 5.

It is useful to study several options side by side one another. Generally, we arrived at colors somewhere in the range of 70-75% of the original intensity of the sampled colors. Below are rules of thumb for adjusting sampled colors. These guidelines, however, may not necessarily work for all reconstructions and all types of materials being simulated in a virtual model. Individual preferences may produce variations from these values, but we believe that the principle of 70-75% should be applicable in many cases.

Brightness and Contrast:

Brightness +20

Contrast -10

Grain Filter:

Intensity:10

Contrast: 50

For elements in digital reconstructions that are completely hypothetical--where no direct archaeological evidence exists--slightly different methods may be considered. For instance, no evidence for the floor paving of the studiolo exists. The floor paving design shown in the reconstruction is based on similar floors found in other rooms of the residence. Consequently, the floor reconstruction is represented only in grey tones. This method is comparable to the sketchy or loosely drawn lines that are sometimes used in traditional hand drawn reconstructions to convey a high level of speculation or hypothesis.

Of course, one could go much further and add more details to the restored areas where there is significant evidence. We plan to experiment with additional restoration, but arguably it is methodologically sound to concentrate on the

overall impression and to restore in a conservative manner. Besides, no physical or digital restoration could ever match or recreate the complex aesthetic values of the *studiolo*'s wall-paintings. The intent in the realization is to model the form of the paintings in a simulation of their ancient context, not to attempt a replication, as shown in figure 6.

For instance, simply copying and pasting preserved features into areas of significant loss would not be an appropriate method. It gives the false impression of complete preservation, and risks error. Moreover, the wall-paintings of the *studiolo* appear to be symmetrical, but closer inspection reveals many asymmetrical details and surprises.

These methods are adaptable to structural or architectural subject matter where significant physical evidence exists, as in the case of the CVRLab's Reconstruction Model of the ancient senate house of Rome, the Curia. The senate house survives today for the most part as a naked shell almost completely stripped of its original marble and stucco revetment.<sup>27</sup> Therefore it is appropriate to somehow

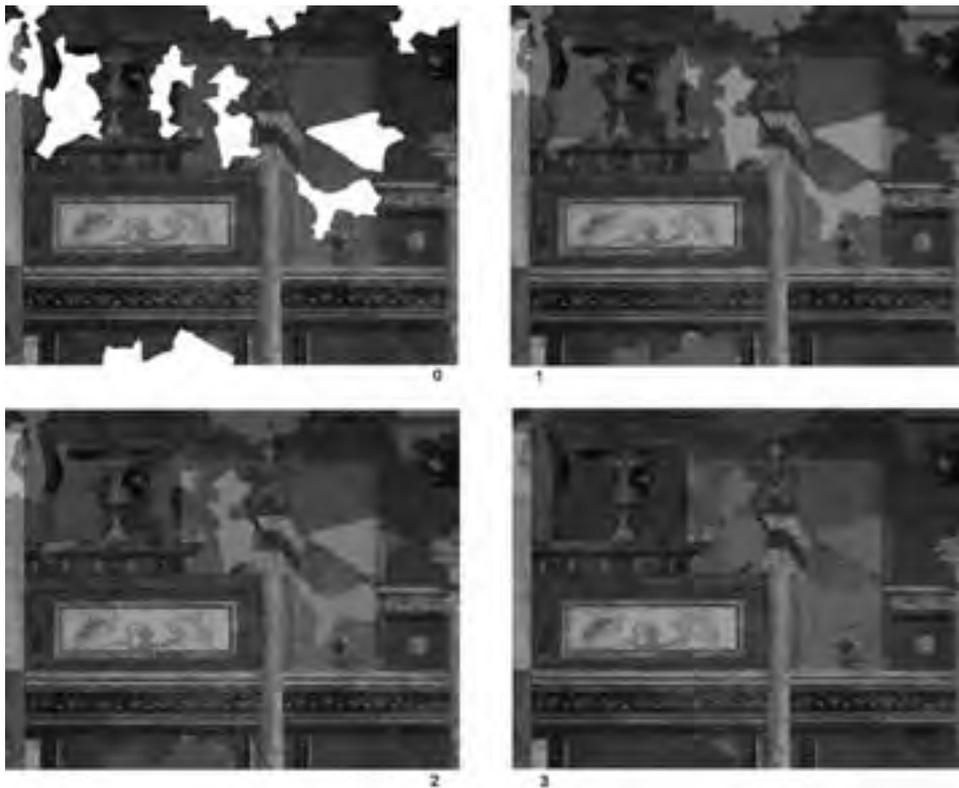


Figure 5: Room 15, the *studiolo* in the House of Augustus (30-20 BC), alternative "Restoration Models" showing four levels of color intensity in digital restoration of the south wall, top left corner (by P. Stinson).

indicate the presence of the surviving brick-faced walls as a monochromatic shade of red that can be turned on and off in the model. Most of the CVRLab's architectural models are Reconstruction models, because the physical evidence that does exist in situ or in loose fragments is usually too weathered, broken or battered as to be useful as texture maps in a virtual reality model. However, it is important to indicate which elements are still standing, or that can be positioned confidently near or exactly in their original positions, even if their surfaces and details have been restored or reconstructed.

## Conclusion

In conclusion let us consider these projects in the wider context of computer visualization, archaeology and site presentation of cultural heritage sites. Proponents of virtual reality often tout it as the ideal tool for the reconstruction of ancient sites.<sup>28</sup> On the other hand, others have expressed reservations that virtual reality threatens to distance the archaeologist from objective archaeological data.<sup>29</sup> After nearly two decades of experimentation, one general perception remains that computer reconstructions of archaeological sites are expensive and sufficiently driven by scientific values.

Virtual reality does not have to distance the archaeologist from original scientific data, but this perception persists for real reasons. Virtual reality software is used today mostly by makers of flight simulators and video games, an association with commercialism that some archeologists and historians find disquieting at the very least. Also, what we refer to as the "Gee-Whiz!" factor holds too much influence on the content of many computerized reconstructions of heritage sites. It is clearly the time to propagate clear aims and purposes in our computer models instead of simply reifying our penchant for immersive and technical virtuosity.

This is why we propose here to establish a standard typology of virtual reality models that places a high priority on scientific authentication and the inclusion of the archaeological evidence as graphical representations in the models themselves. The main problem with computer reconstructions of archaeological sites (including virtual reality models and other types of computer models) remains that the language of visual and graphical communication in computer visualizations is not agreed upon. If virtual reality is to become a useful tool, we must place a priority on the development of a formal visual language that is relevant to the current aims in archaeology and cultural heritage.<sup>30</sup> Archaeological evidence, or scientific data in general, are not typically given an aesthetic value

by the makers of reconstructions. Why this has happened is not easy to explain, but it seems that archaeologists have not taken enough responsibility to ensure that their data are respected during the modelmaking process. Archaeologists who once hired draftsmen to draw their pictorial reconstructions now hire graphic design students or young architects who may not be as interested as they are in historical or scientific accountability. Contributing factors must be that making a model of the physical remains before any restoration or reconstruction requires a commitment to a more thorough level of photographic documentation than is usually required, as well as additional funds and time.

It was true several years ago VR models often consisted of low-resolution, low-polygon count features, and at the same time they required the use of expensive supercomputers to number crunch their real-time experiences. This is no longer true. Low polygon count models still run faster in real time, of course, and real-time shadows are still not possible due to hardware constraints. The Cultural Virtual Reality Laboratory has worked very hard in recent years, however, to overcome these problems and others. For instance, our master models contain all



Figure 6: Room 15, the *studiolo* in the House of Augustus (30-20 BC), virtual reality model of the physical remains with losses restored, referred to here as a “Restoration Model” (by P. Stinson).

basic dimensions. Very detailed features such as Corinthian capitals are simplified considerably, for the time being, but in all other respects we have the capability of putting as much detail into the models as required by the scientific data at our disposal.<sup>31</sup> For that matter, it would be nearly impossible to “perfectly” model a Corinthian capital using traditional CAD tools and its interface. The “accuracy” of a model or a graphic representation on a computer screen is entirely idiosyncratic. There are many possible “accuracies.”<sup>32</sup>

Virtual methods are not easily produced either; this is also a myth. Often it is said that one of the great advantages of computerized reconstructions is that they can be changed easily to accommodate alternative ideas and so forth. This is true in principle, but computer models, especially virtual reality models, are becoming so complex that making even relatively minor changes sometimes requires fundamental alterations to the underlying database structure of the model. Virtual reality models are much more complicated than standard CAD models. For instance, due to hardware limitations, VR models need to include multiple levels of detail or LODs (which may not be required in five years, however). A Roman Corinthian style column, for instance, should be modeled in at least three levels of detail. The user sees the low-resolution model from a great distance. The higher levels of resolution replace the lower ones in sequence as the user approaches nearer to the column, shown in figure 7.

For this reason and others, the term “database” is more appropriate to describe the vast network of integrated elements in virtual models. For instance, the *studiolo* and *cubiculum* 16 models are small, but their high-resolution texture maps require over 60 megabytes of memory each. Some of the technological problems of creating virtual reality models suitable for applications in archaeology are rapidly disappearing, though. Making these models on relatively low cost PCs is commonplace today, but was impossible just five to seven years ago. Virtual reality models were once constrained to using low-resolution texture maps because of hardware limitations as well. This is no longer the case, and within a few years LODs will probably be a thing of the past as processing power increases.

Few would dispute today, however, that the potential benefits of virtual reality applications in archaeology and the cultural heritage industry are wide-ranging, both as a communication tool and as an aid to archaeological and historical interpretation. In the future scholars and students of ancient art around the world might view and study models like the *studiolo* in libraries of digital information equipped with virtual reality theaters.<sup>33</sup> The Cultural Virtual Reality Laboratory has experimented with practical applications in several ways, from

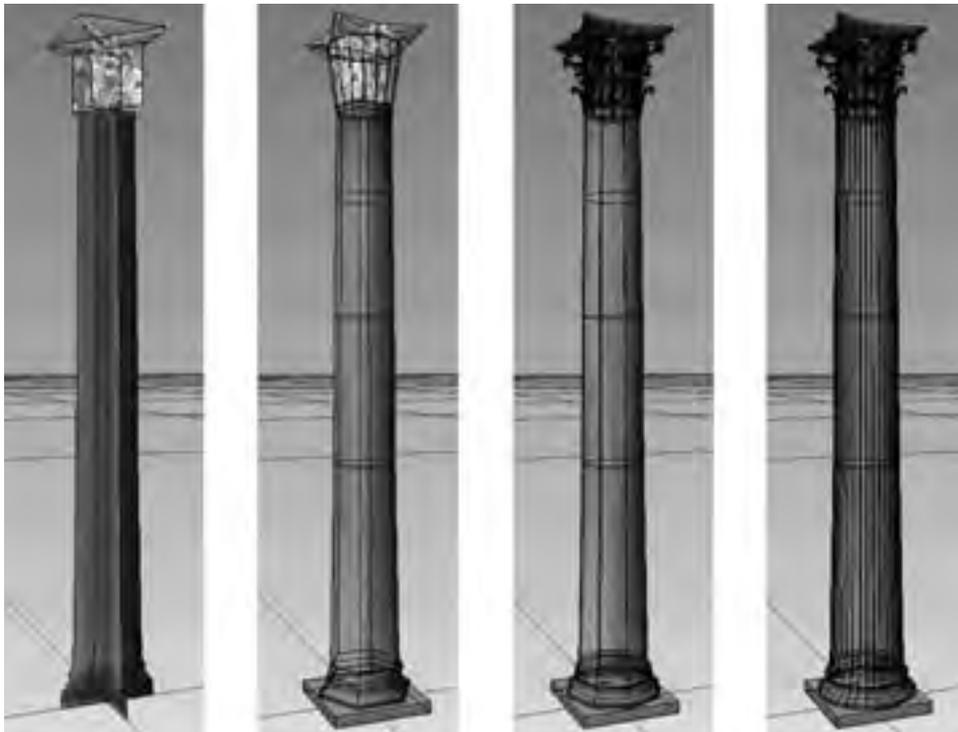


Figure 7: Levels of Detail (LODs) for a Roman Corinthian column.

its website to classroom environments to museum installations. On its website ([www.cvrlab.org](http://www.cvrlab.org)) is an interactive virtual environment that combines a dynamic time-line of the ancient Forum Romanum in Rome which changes dynamically with a mouse-driven time line slider, Quicktime reconstructions of monuments (including alternatives), and archaeological and historical metadata, shown in figure 8.

Recently, the lab in collaboration with UCLA's Academic Technology Services (ATS) created a similar interface in ATS's on-campus virtual theater, shown in figures 1 and 2.

These two solutions approach the problem of digital information dissemination on two important platforms, the web and the virtual theater classroom, or macro and micro scales, respectively. As mentioned, the laboratory has also produced one documentary for use in site presentation. Many other examples of the use of virtual reality and computer graphics can be cited. At Segedunum at Wall's End, UK, visitors ascend a tower, from which they look down on the Roman ruins. As they watch, reconstructions of the various phases of the site are projected on a screen located in front of them, so that they can contrast



Figure 8: UCLA CVRLab website showing interactive Forum Romanum project ([www.cvrlab.org](http://www.cvrlab.org)).

“then” and “now.” A similar system was created at the medieval archaeological site of Enneme, Belgium, though using a kiosk on the ground rather than a theater in a tower. At the museum at the Foce del Sele near Paestum, Italy an elaborate multimedia display allows visitors to experience the excavations of the site, step by step. The ARCHEOGUIDE Project has taken the further step of bringing the virtual reconstruction from the museum or classroom to the site itself. Using Augmented Reality technology, it allows visitors to see both the real world of the archaeological site of Olympia, Greece along with reconstructions and scenes of ancient life.<sup>34</sup>

Visualization techniques of all kinds, whether two-dimensional plans, models of digital terrain data useful in GIS simulations, or virtual reality models of the like described here, have completely permeated archaeological publications of all periods and fields.<sup>35</sup> Daniela Scagliarini of the University of Bologna trains



Figure 9: Room 15, the “studiolo” in the House of Augustus (30-20 BC), State Model showing tondo in ceiling, view looking straight up from floor level (by P. Stinson).

her students of classical archaeology in similar documentation techniques we used for the *studiolo* and *cubiculum* 16. She and her students have built a virtual model of the excavated remains of a whole house at Pompeii.<sup>36</sup>

Archaeological research aims and interpretation can also be improved by virtual modeling techniques. In fact, digital modes of representation and interpretation call attention to difficult archaeological problems and to the methodologies used to decipher them. The full three-dimensional context must be considered. With traditional methods of orthogonal or perspective drawing, one is naturally inclined to focus on areas where the evidence is better preserved, or ignore areas where evidence is lacking. Often different or new interpretations are advanced or research aims are facilitated through the process of making the model or through the interactive viewing of a completed model. One example of this arose during the construction of the State Model of the *studiolo* that deserves mention here. Modeling the low vaulted ceiling of the *studiolo* was a challenge, especially the tondo in the center. For instance, a digital photo taken of the circular motif from below cannot be simply applied as a texture map to the wire frame model of the vault, because it would be distorted by the curved geometry of the



Figure 10: Cubiculum 16 in the Villa of the Mysteries (60-50 BC), virtual reality model of the physical remains, with hypothetical reconstructions of beds in the alcoves and lighting simulation, referred to here as a “Reconstruction Model” (by P. Stinson).

model and appear as an oval. In fact, the circle in the ceiling is actually an oval, but when viewed from below it appears as a circle, a simple form of cylindrical anamorphosis. Therefore, the texture map for the tondo was constructed almost as conceived of by the ancient artists--as an oval--so when it was applied to the curved wireframe model, the sides of the oval would be foreshortened; consequently the illusion of the circle is simulated in the virtual reality model, as shown in figure 9.

This example illustrates how virtual reality has the potential to further research aims. It is not that this realization about the tondo was not possible previously by studying photographs, plans, elevations, etc. Interacting with it in an immersive environment simulates what it would be like if one could be in the actual room as it exists today. Virtual interaction with the model, however, heightens the probability for the furthering of research aims. In this case, the process of making the model was crucial to making this discovery, but it is not difficult to imagine how further interaction with the finished model--panning around the room, zooming into particular details--increases the probability for more cognitive gains. In the case of the *studiolo*, the model could also provide exposure to its significant artistic works for many scholars and students who

would have difficulty otherwise, because the room has never been open to the public; its wall-paintings are not published widely, and the published photographs are not comprehensive and are small.<sup>37</sup>

Another model of cubiculum 16 in the Villa of the Mysteries reconstructs lighting and a hypothetical furniture layout, shown in figure 10.<sup>38</sup>

Rooms in Roman houses rarely had windows that let in direct sunlight. Artificial lighting from oil lamps would have been necessary in most rooms beginning in the late afternoon. This model attempts to simulate an evening setting with the small room being artificially lit by two oil lamps.<sup>39</sup> The beds in each alcove illustrate the notion that the room was probably used primarily as a bedroom.<sup>40</sup> The model is not definitive, but it illustrates the vast potential for analyses of lighting and social settings. Several observations are now possible to make that would have been far more speculative if not for this model. For instance, the simulation of the lighting clearly indicates that several more lamps than shown here would have been required to completely illuminate the room at night. Also it might be interesting to art historians and archaeologists that the lamps illuminated mainly the upper parts of the walls and their elaborate architectural depictions in



Figure 11: Restored sculpture from the pediment of the Older Parthenon of the Athenian Acropolis (photograph by P. Stinson).

the wall-paintings, leaving the lower parts in the shadows. The lower parts of the alcove walls were also hidden behind the furniture. Also, the fall-off of light across the walls highlighted some aspects of the paintings more than others. What does this say about the composition of the paintings? In ways that traditional drawings could never function, simulations such as this one could potentially elevate the traditional methods of interpreting Roman wall-painting and the functions of rooms like this one in Roman houses of the mid-1st c. BC.

As mentioned earlier, for the *studiolo* and *cubiculum* 16 projects, we have studied carefully those successful physical reconstructions that clearly define the original materials from the restored interventions, that at the same time communicate an overall sense of unity and completeness, exemplified in figure 11.

We have also reevaluated many examples of the most extreme form of reconstruction of archaeological sites, anastylosis, or the rebuilding of an ancient monument using the original materials, as exemplified by the famous facade of the Library of Celsus at Ephesus, shown in figure 12.<sup>41</sup>

Although controversial, the methodology of anastylosis was executed consistently and clearly, following closely the principles set forth in the Venice Charter.<sup>42</sup>



Figure 12: Reconstructed Facade of Library of Celsus, Ephesus, ca. 114 A.D., reconstruction completed in 1978 (photograph by P. Stinson).

Virtual reality, however, provides an alternative solution to several problems currently plaguing site presentation. Mass tourist attractions like the Library of Celsus facade at Ephesus arguably jeopardize the quality of the each visitor's experience because of the resulting deterioration of archaeological sites, and the rising costs of site maintenance.<sup>43</sup> Anyone who has visited Ephesus on any given day during the height of the tourist season will understand immediately the real problems that monumental physical reconstructions create for themselves.

This raises a final issue: the relationship of article 15 of the Venice Charter and the article 9 of the Ename Charter. Should anastylosis still be exempted from the Venice Charter's prohibition on all reconstruction work on the actual physical remains? Based on the developments in the fields of both physical and virtual reconstruction recounted in this paper, we think that it should not.

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## Endnotes

1 Bernard Frischer conceived the paper and invited P.T. Stinson to co-author it with him. Frischer wrote sections 1, 2, and 3; Stinson wrote section 4; both authors contributed to section 5.

2 Cf. C. Brandi 1963, 36.

3 Cf. the ICOMOS Charter for the Protection and Management of the Archaeological Heritage, Article 7: "Reconstructions serve two important functions: experimental research and interpretation."

4 Cf., e.g., B. M. Feilden 1982, 3: "Conservation is the action taken to prevent decay. It embraces all acts that prolong the life of our cultural and natural heritage, the object being to present to those who use and look at historic buildings with wonder the artistic and human messages that such buildings possess."

5 Anastylis was earlier approved in Article VI of the Athens Charter: "In the case of ruins, scrupulous conservation is necessary, and steps should be taken to reinstate any original fragments that may be recovered (anastylis), whenever this is possible; the new materials used for this purpose should in all cases be recognisable."

6 Cf. Venice Charter, Article 11: "The valid contributions of all periods to the building of a monument must be respected, since unity of style is not the aim of a restoration. When a building includes the superimposed work of different periods, the revealing of the underlying state can only be justified in exceptional circumstances and when what is removed is of little interest and the material which is brought to light is of great historical, archaeological or aesthetic value, and its state of preservation good enough to justify the action. Evaluation of the importance of the elements involved and the decision as to what may be destroyed cannot rest solely on the individual in charge of the work."

7 Cf. A. M. Vaccaro 2000, 231-232.

8 Cf. Venice Charter, Article 9: "The process of restoration is a highly specialized operation. Its aim is to preserve and reveal the aesthetic and historic value of the monument and

is based on respect for original material and authentic documents. It must stop at the point where conjecture begins, and in this case moreover any extra work which is indispensable must be distinct from the architectural composition and must bear a contemporary stamp. The restoration in any case must be preceded and followed by an archaeological and historical study of the monument.”

9 On this problem, see B. Frischer, F. Niccolucci, et al. 2002, 10-13.

10 Cf. Athens Charter, Resolution 2: “Proposed Restoration projects are to be subjected to knowledgeable criticism to prevent mistakes which will cause loss of character and historical values to the structures.” Florence Charter, Article 15: “Art. 15. No restoration work and, above all, no reconstruction work on an historic garden shall be undertaken without thorough prior research to ensure that such work is scientifically executed and which will involve everything from excavation to the assembling of records relating to the garden in question and to similar gardens. Before any practical work starts, a project must be prepared on the basis of said research and must be submitted to a group of experts for joint examination and approval.” ICOMOS Charter for the Protection and Management of the Archaeological Heritage, Article 8: “High academic standards in many different disciplines are essential in the management of the archaeological heritage. The training of an adequate number of qualified professionals in the relevant fields of expertise should therefore be an important objective for the educational policies in every country. The need to develop expertise in certain highly specialized fields calls for international cooperation. Standards of professional training and professional conduct should be established and maintained.” See also endnote 44.

11 Cf. Venice Charter, Article 16: “In all works of preservation, restoration or excavation, there should always be precise documentation in the form of analytical and critical reports, illustrated with drawings and photographs. Every stage of the work of clearing, consolidation, rearrangement and integration, as well as technical and formal features identified during the course of the work, should be included. This record should be placed in the archives of a public institution and made available to research workers. It is recommended that the report should be published.”

12 On the concept of metadata and the Dublin Core, see C. Borgman 2000, 69-71.

13 Cf. A. Riegl 1903.

14 A. Riegl in: Jokilehto 1999, 218. Other taxonomies could easily be cited, e.g., Gustavo Giovannoni’s four types (consolidation; recomposition [=anastylosis]; liberation; completion or renovation); Giulio Carlo Argan’s two types (conservative; artistic). See J. Jokilehto 1999, 222, 224.

15 Cf. C. Brandi 1963, 36: “il restauro deve mirare al ristabilimento della unità potenziale dell’opera d’arte, purchè cio sia possibile senza commettere un falso artistico o un falso storico, e senza cancellare ogni traccia del passaggio dell’opera d’arte nel tempo.”

16 See Frischer et al. 2000.

17 This project results from collaboration between the UCLA Cultural VR Lab and the Department of Archaeology at the University of Bologna with assistance from the computing staff and resources at Cineca. Special thanks go out to Prof. Scagliarini of the University of Bologna, Gianna Musatti, the paintings’ restorer of the *studiolo* in

the House of Augustus, the Archaeological Superintendency of the Forum and Palatine, and the Archaeological Superintendency of Pompeii. *Cubiculum* 16 model was the subject of Philip Stinson's MA Thesis at UCLA 2000 under the supervision of Prof. Diane Favro.

18 Carettoni 1983; Ling 1991, 37-41.

19 Maiuri 1931, 188-91; Ling 1991, 25-27.

20 For different theories regarding the function of *cubiculum* 16, traditionally known as *cubiculum* 16, see Maiuri 1931, 60-1; Richardson 1988, 175.

21 Cf. Lange 1996, 3.

22 Cf. Lange 1996

23 See the useful comments and ideas of Sanders 2000.

24 International Charter for the Conservation and Restoration of Monuments and Sites (The Venice Charter), 1964, 1965; for a comprehensive discussion of conservation and restoration theory, see Vaccaro, 2000, esp. 189-259.

25 Ryan 1996, 95-6.

26 According to Musatti, significant color variation in the red cinnabar must have existed even in the original wall-paintings.

27 For information about this model, visit [www.cvrlab.org](http://www.cvrlab.org). Click on Roman Forum Project. Currently, this part of the website only functions if you are using a PC.

28 Forte and Siliotti 1997.

29 Miller and Richards 1995; Eiteljorg 2001; Cf. Ryan 1996.

30 See the forthcoming Frischer 2002.

31 Multigen relies on a vertice-based input system similar to CAD programs. Dimensions can be inputted precisely, and dimensions of features can be measured vertice to vertice just like CAD.

32 We are reminded of the famous paper given by Mandelbrot about the essence of a coastline. He argued that the length of any coastline is essentially infinitely long, but any answer to the question depends on the length of your ruler. See Gleick 2000, 94-96. In turn, the accuracy of any model is dependent on the effect of observing it at different distances and scales on the computer screen, which is completely idiosyncratic.

33 See Frischer forthcoming.

34 See R. Carlucci 2002.

35 See the useful observations on virtual reality models and archaeological publications in Sanders 2000.

36 Scagliarini, et al. 2001.

37 Carettoni 1983.

38 Lucet 2000.

39 The wireframe model was created and texture mapped in Multigen Creator, and exported into Lightscape using NuGraf Polytrans software. The radiosity solution and ray traced images were created in Lightscape. For more information about illuminating digital models, see Lucet 2000.

40 For different theories regarding the function of cubiculum 16, traditionally known as cubiculum 16, see Maiuri 1931, 60-1; Richardson 1988, 175.

41 Hueber and Strocka 1975, 3 ff.

42 Schmidt 1997, 46-7.

43 Demas, 1997, 146; Sivan 1997, 51.

44 The texts of the Athens Charter (1931), Venice Charter (1964), Florence Charter (1982), etc. are cited from the versions posted on the ICOMOS Internet site at: <http://www.international.icomos.org/charters.htm>

## THE DIGITAL ROMAN FORUM PROJECT OF THE UCLA CULTURAL VIRTUAL REALITY LABORATORY

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### ABSTRACT:

From 1997 to 2002 the UCLA Cultural Virtual Reality Laboratory created a digital model of the Roman Forum. The model contains the 22 major elements of the Forum. In this paper the project is described, its rationale is given, and the modelling methodology and technology are explained.

## 1. BACKGROUND

### 1.1 The Laboratory and Its Mission

The UCLA Cultural Virtual Laboratory was founded in 1997 with the dual mission of creating scientifically authenticated 3D computer models of cultural heritage sites; and of exploring ways of utilizing these models in research and instruction. Thus far, the lab has created models of sites from Lake Titicaca in Peru to Ani in Turkey; and from the Iron Age in Israel to the colonial period in the Caribbean. Our largest project to date is a digital model of the Roman Forum, the civic center of ancient Rome. In this paper we will present a preliminary report on the project, which can serve as an example for the technologies and methodology typically used by the lab in its various projects around the world.

### 1.2 The Roman Forum



Fig. 1. View of the Roman Forum today (from west to east). Ruins of the Basilica Julia are to the right.

The Forum stood at the literal and metaphorical center of ancient Rome, which at the peak of its development had a population estimated to have been between 1 million and 2 million inhabitants. In the Forum were located from early times some of the major cult centers of the state religion as well as the places where important organs of government, such as the Senate, had their headquarters. The open plaza of the Forum was used at various times for games and spectacles; and it was also the place where a number of important monuments and memorials were erected.

Today, the Forum is largely in ruins (see fig. 1). Thus, very little remains of the two large basilicas, or law courts, flanking its north and south sides. The best preserved structures are the Senate House and the Arch of Septimius Severus, but even these monuments have been greatly damaged with the passage of time. Of the great temples surrounding the plaza of the Forum, only a few columns of the front or side porch survive.

Thus, it is not surprising that many scholars through the ages have tried to reconstruct the Forum and have used two-dimensional views printed in books and engravings or small-scale three-dimensional models made of materials like wood and plaster-of-Paris to do so.

### 1.3 Rationale for the Digital Forum Model

The UCLA Cultural Virtual Reality Laboratory undertook its model because of the great cultural importance of the site and the equally great limitations of previous modelling attempts in various media. For example, a plaster-of-Paris model is

\* Corresponding author. B. Frischer had the idea for this article, put the team of scholars together, and wrote the drafts. The other co-authors collaborated in the Roman Forum modelling project, which is the subject of this paper, and provided helpful comments and suggestions about the paper's content and structure.

not only made at a small scale, it also must of course leave out the interior spaces of the buildings it represents. Engravings are limited by their two-dimensionality, fixed viewpoint, lack of color and photorealism, as well as by their small scale.

A digital model, on the other hand, can be derived from highly accurate archaeological data. It can depict in color and with accurate lighting the interiors as well as the exteriors of buildings. It can be explored at will in the three dimensions of space and even in the fourth dimension of time. For all these reasons, the UCLA laboratory considered it worthwhile to create a new model of the Forum.

There is a third and final reason that the laboratory began with the Forum: the digital Forum is a subproject of its Rome Reborn project (see Frischer et al., 2000). Rome Reborn's goal is to create a digital model of the entire ancient city within the late-antique walls. Rome Reborn is thus an urban simulation, the purpose of which is less to reconstruct the individual building than to recreate the look and feel of the urban fabric. As the larger model of Rome develops gradually over the years through inclusion of a series of small models, the laboratory's policy is thus to ensure that, to the greatest extent possible, all new models are adjacent to existing models. Thus it was logical for the Rome Reborn model to be initiated with the Roman Forum and to be built up through the addition of new spaces and structures in ever larger concentric circles around the city center.

#### 1.4 Information Provided by the Model



Fig. 2. Detail of UCLA digital model of the Roman Forum. View from east to west. The Basilica Julia is on the left.

In terms of time, the model (see fig. 2) depicts the Forum as it might have appeared at 10:00 a.m. on June 21 of the year 400 A.D. This moment was selected because it comes more or less at the peak of the urban development of the ancient city and represents the period for which the archaeological record is the richest, thus permitting reconstructions that can be based on strong evidence or at least highly probable hypotheses. The time and date were chosen in order to maximize the play of light and shadows across the Forum.

What, exactly, does the digital Forum model represent? Included in the digital Forum model are all architectural features known, or strongly suspected, to have survived as late as 400 A.D. Securely attested plant materials have also been included. When, as is generally the case, evidence is completely lacking, the following features have been omitted from the model: interiors of buildings; furniture; statues; wall paintings; small honorary monuments; inscriptions posted on buildings or on the pavement of the Forum plaza; polychromy of buildings; decorative sculpture on buildings. It goes without saying that the human beings, animals,

movable objects, etc. present in the Forum at the time modeled have also been omitted owing to a complete lack of evidence.

The policy guiding the project has accordingly been the presentation of the main spatial features of the Roman Forum that are known with certainty or with a high degree of probability; and the avoidance of pure speculation as much as possible. The model thus can be used as a point of departure for a wide range of urban-historical and architectural-historical studies that rely on solid data. That could include, for example, experiential studies involving the alignments of monuments and their impact on the observer, or analytical studies of the statics, acoustics, ventilation, circulation of a building. Since the model is a knowledge representation, it can alternatively be used as the springboard to more speculative studies intended to fill in the enormous gaps that plague the physical record.

The digital Forum includes not only an urban simulation of the city center of Rome; it also includes two user aids that make understanding the Forum easier and more scientific. The first aid is the Navigator, which shows the user his exact location in the Forum by means of a red dot placed onto a plan of the Forum that includes 22 numbered features. The numbered features are linked to a second user aid: the Metadata Window. This window provides basic information about each feature in the digital Forum model. But it also provides information about the scholars responsible for scientific oversight of the model; the elements of the model that are certain versus those that are hypothetical; the reasons for the hypotheses; bibliography; etc. (on the concept of metadata in information science see Borgman 2000, pp. 67-71).

In including metadata, the goal has been to offer transparency to the user in a way analogous to notes, commentary, and bibliography in a traditional academic print publication (on the importance of including metadata, see Niccolucci and D'Andrea 2001; Frischer et al., 2002). The laboratory's philosophy about modelling a cultural heritage site like the Roman Forum is that it is impossible to claim that you have achieved 100% accuracy with respect to the ancient monument's original appearance. But what can and should, on the other hand, be offered is 100% transparency about the modelling data and decision-making process. It is because of such transparency that the laboratory designates its models as scientifically produced and authenticated. The laboratory is currently sponsoring research by a Masters student in Library Science to study ways its approach to metadata can be brought into conformity with the Dublin Core Metadata Initiative (cf. <http://dublincore.org/> [accessed Feb. 8, 2003]).

## 2. METHODOLOGY AND TECHNOLOGIES

### 2.1 The Scientific Committee

The first step in the production of the digital Forum was the creation of a Scientific Committee of experts whose main task was to supply the archaeological data and to review the progress of the work. The Committee included Prof. Cairolì Giuliani, an expert on Roman building technique at the University of Rome and someone with decades of experience

with the Roman Forum and some key publications to his credit about it. A second committee member was Professor Russell Scott of Bryn Mawr College. Scott is the only American to have directed excavations in the Forum, and he is currently publishing two volumes on the Regia and the nearby precinct of Vesta. The committee also includes Cultural Virtual Reality Laboratory members Bernard Frischer, Diane Favro, and Dean Abernathy.

**2.2 Creating the Individual Models**

The second step was to make individual digital models of the 22 structures and monuments in the Forum. This entailed recreating the geometry of each element with the greatest possible precision; and then texturing the geometry with a digital sample of the appropriate material. For both operations, we use MultiGen Creator, a 3D modelling package that produces files in the proprietary “OpenFlight” format (for further information, see [http://www.multigen.com/support/dc\\_files/CA\\_creator\\_.pdf](http://www.multigen.com/support/dc_files/CA_creator_.pdf) [accessed Feb. 8, 2003]). Creator has been described as an “extensible, multi-purpose, polygon-based authoring system is designed to generate optimized object models, high-fidelity terrain and realistic synthetic environments and other non-visual nodes required by real-time rendering software” (ibid. p. 2). OpenFlight is compliant with Open GL and is optimized to run under Performer on the SGI UNIX platform, and since, as you will see in a moment, we have a SGI reality theater at UCLA, this is the platform for which the Cultural Virtual Reality Laboratory typically authors its models in the first instance.

Once models of individual sites have been vetted and approved by the Scientific Committee, they are rendered with a radiosity solution using the program Lightscape (something MultiGen does not have the functionality to do itself). Equally important, Lightscape also permits our models to be lit in a very precise way according to time of day, day of year, and GPS coordinates of the site.

Once we make a Lightscape version of a model, we reimport it into MultiGen and use the renderings as new textures for the MultiGen model. This is a painstaking process that must, today, be done by hand. Each original MultiGen texture has to be replaced, one by one.

**2.3 Individual Model and the Master File**

The final step in the modelling process is that the model of each individual structure in the Forum now becomes an “external reference” in a master digital Forum file. The master file is itself quite small. But keeping most of the geometrical and texture data outside a single file, the computer is able to operate more efficiently in generating the frame rate required by true virtual reality.

**3. DELIVERING THE MODEL TO THE END-USER**

**3.1 Delivery Solutions**

As mentioned, the Cultural Virtual Laboratory has the two-fold mission of creating scientifically authenticated models

but also of studying ways of using these models in real-life applications.

In Table 1 are listed the various delivery media used by the Cultural Virtual Reality Laboratory, ranging from the noninteractive 2D rendering up to the highly immersive and interactive 3D reality theater. Each of these delivery media has its strengths and weaknesses. Still images can have high resolution but offer no interactivity. They are appropriate solutions for, e.g., print publications or signs in a museum or on an archaeological site. Urban simulations (by which we mean a series of two or more architectural structures in a city that are adjacent in space and contemporaneous in time and are linked in a single master file) typically have far lower resolution but offer high interactivity and, potentially, high immersivity. When presented in a reality theater. Video fly-throughs can be rendered in formats up to and including high-definition television. The only interactivity they support is the possibility to pause, reverse, or fast-forward through the recording. They are appropriate delivery vehicles for television programs, streaming video on the Internet, or multimedia presentations on CD-ROM. Video panoramas place the virtual camera at a fixed spot, around which a 360<sup>0</sup> photograph of the virtual environment is created. A panorama provides a great deal of visual information about the scene, but lacks all geometrical information. Interactivity consists in mobility of the viewing frustum; zoom-in; and zoom-out. Panoramas are appropriate solutions for the media of the Internet and the personal computer. Real-time models can be run on personal computers or served on the Internet in a variety of proprietary and non-proprietary formats (including, e.g., VRML).

| Products          | Media |    |     |    |      | Degrees of Interactivity |
|-------------------|-------|----|-----|----|------|--------------------------|
|                   | Pr    | TV | Int | PC | ReTh |                          |
| Still images      | +     | +  | +   | +  | +    | none                     |
| Video fly-through |       | +  | +   | +  | +    | low                      |
| Video panorama    |       |    | +   | +  | +    | medium                   |
| Real-time model   |       |    |     | +  | +    | high                     |
| Urban simulation  |       |    |     |    | +    | high                     |

Table 1. Delivery of VR models to end-user. Products, Media, level of interactivity.

(Abbreviations: Pr=Print; TV=Television; Int=Internet; PC=Personal Computer; ReTh=Reality Theater).

**3.2 The UCLA Visualization Portal**

The laboratory’s preferred solution at its home base at UCLA is a SGI reality theater (called, locally, “The Academic Technology Service Visualization Portal;” see [www.ats.ucla.edu](http://www.ats.ucla.edu)), powered by an Onyx 3400 three-pipe supercomputer with 1 gigabyte of texture memory and 2 gigabytes of RAM (for further information about reality theaters, see <http://www.sgi.com/visualization/onyx/3000/ir3/overview.html> (seen Feb. 8, 2003)]. Data is outputted from the Onyx via three 3-gun Trimension projectors to display images on a 160 x 40-degree spherical screen. The screen is 7.5 meters in diameter by 2.5 meters high. Up to three images can be displayed at the same time - for example, the laboratory’s Roman Forum model and the Navigator and

Metadata windows. Alternatively, a single image can be displayed across all three screens at 3840 x 1024 resolution, by blending the edges of the overlapping beams of the projectors. The system also supports stereographics, three-dimensional localized sound, and interactive object manipulation. To navigate models, the laboratory uses VR Juggler, an open-source 3D engine developed by Carolina Cruz-Neira at Iowa State University.

The UCLA Visualization Portal seats 40 people, making it an ideal setting for a lecture, scientific meeting, or a demonstration to potential sponsors. UCLA was the first American university to have such a facility; now several other universities have joined the list. Other universities have related CAVE solutions, where the laboratory's models can run equally well.

#### 4. NEXT STEPS FOR ROME REBORN

The Cultural Virtual Reality Lab has recently received a three-year grant from the Andrew W. Mellon Foundation to enlarge its Rome model by ten-fold. The new areas to be modelled include the continuation of the Via Sacra to the Arch of Titus; the area including the Baths of Trajan and of Titus, the Temple of Venus and Rome, and the Colosseum; the Caelian Hill; and the Circus Maximus. Also funded is the creation of a digital version of the great plaster-of-Paris model of ancient Rome housed in the Museum of Roman Civilization at EUR/Rome. The laboratory's intention is to use this digital model of the entire city as the backbone for its Rome Reborn digital model, which may well take several decades to complete. In the meantime, the digital version of the plaster-of-Paris model will serve as a gigantic placeholder for what is to come. As the laboratory completes new digital models such as the digital Roman Forum, they will be used to replace the equivalent parts of the digitized plaster-of-Paris city model.

The project to digitize the plaster-of-Paris model is being undertaken in partnership with Prof. Armin Gruen and his team at the Institute of Geodesy and Photogrammetry at the Swiss Federal Institute of Technology in Zurich. This group will produce a digital version using photogrammetry. At the same time SDS3D of Vancouver, Canada will create a digital scan of the plaster-of-Paris model using the Cyrax-Leica environmental scanner. The Cultural Virtual Reality Laboratory will test both digital representations to determine which better suits its needs, and to test the possibility of creating a hybrid version combining the strengths of the two approaches.

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## **The Port Royal Project. A Case Study in the Use of VR Technology for the Recontextualization of Archaeological Artifacts and Building Remains in a Museum Setting**

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### **1. Abstract**

This paper presents an account of a project jointly undertaken from 2001 to 2003 by UCLA and the Ocean Institute (Dana Point, California) to create an interactive virtual reality exhibit about archaeological objects found at Port Royal, Jamaica. The intended users of the exhibit were schoolchildren and other visitors to the Ocean Institute. The goal of the project was to facilitate learning through arousal of curiosity about Port Royal, the major English colony in the Caribbean during the seventeenth century.

### **2. Background**

The Port Royal Project resulted from the collaboration of the UCLA Cultural Virtual Reality Laboratory (hereafter: CVRLab; [www.cvrlab.org](http://www.cvrlab.org)) and the Ocean Institute in Dana Point, California (hereafter: OI; [www.ocean-institute.org/](http://www.ocean-institute.org/)). The work was initially sponsored and conceived by Charlie Steinmetz, a supporter of the lab and one of its project managers. Additional support was received from Spiegel TV. The chief modeler and researcher for the project was Natalie Tirrell. Training and supervising her was CVRLab Associate Director Dean Abernathy. Information about Port Royal was kindly provided by Laurel Breece (Long Beach City College), an archaeologist who has worked at Port Royal; and by Donny Hamilton, the Director of the Texas A&M Port Royal Project (<http://nautarch.tamu.edu/portroyal/>).

Port Royal was the principal English colony in Jamaica in the seventeenth century. The original settlement was begun as a naval base for British operations against the Spanish during the wars that continued for many decades in the 1600s in the Caribbean and elsewhere. Almost immediately, a small settlement of traders clustered around the fort, whose name was changed from Cromwell to Charles after news of the Restoration reached Jamaica in 1660. In that year, we also get our first census, which records 690 freemen and 50 slaves. In the next two decades, Port Royal became a crucial British

naval base against the Spanish Main. Since the British Admiralty could not afford to send an adequate number of warships to Jamaica, the governors of Port Royal were forced to rely on the assistance of pirates like Henry Morgan in their prosecution of the war against Spain. Such pirates were called privateers, and with the peace treaty of 1680, the naval forces at Port Royal turned on their erstwhile allies, rid the area of pirates, and secured the Caribbean for commercial trading ships. Not surprisingly, the volume of trade and the size of the town mushroomed. By 1670, the census counted 2,181 inhabitants; twenty-two years later that number had grown to an estimated 6,500. Much of this growth reflected the increasing number of slaves brought from Africa. The slaves were needed both at Port Royal and on the interior plantations of Jamaica. The port served the interior plantations by exporting their rum and sugar while importing nearly everything else including silver, pewter, luxury clothing from Europe as well as timber from North America and even silk and ceramics from faraway China. After the earthquake, the site was abandoned and was used only as a naval station. The town of Kingston was founded on the mainland and quickly grew to take Port Royal's place (on the history of Port Royal see Pawson and Buisseret 2000:7-108).

A great deal of documentation survives that can be brought to bear on a model of the seventeenth-century town: maps, views, property records, wills, and archaeological finds. In fact, it

is possible to reconstruct not only the street grid but even to identify many of the structures by owner, function, chronology, and architectural style (see Pawson and Buisseret 2000: 109-164). Long after 1692, substantial remains of the town could be seen below the water in Kingston Bay. The first sightings are recorded in the nineteenth century, but the first serious survey of the remains was not undertaken until 1959. In the 1960s further studies were undertaken by Norman Scott and Robert Marx. In the late 1960s, Philip Mayes surveyed the remains on land and worked out a sequence of scaled maps showing the development of the dockyards of Port Royal, which he then excavated in 1970. His work was continued by Anthony Priddy (for the history of archaeological investigations, see Pawson and Buisseret 2000: 203-210). From 1981 to 1990 Donny Hamilton and a team of underwater archaeologists from Texas A&M came to Port Royal to initiate new underwater studies. They focused on a small cluster of

### 3. Sponsor's Goal for the Project

As project sponsor and manager Charlie Steinmetz notes, there has been much discussion about using VR in museums but very few concrete projects involving true VR (as opposed to computer animations; on the distinction see, e.g., Vince 1998: 3-6). This lack is doubtless in large part the result of the high cost of VR systems, at least until Desktop VR became a reality in the last few years (cf., e.g., Pimentel and Teixeira 1995). But another factor is the very conception of the museum, its mission in educating the public, and its understanding of how this role might best be accomplished (see, most recently Antinucci 2003, where strong arguments in favor of the use of VR are presented).

Steinmetz came to the Port Royal Project through three overlapping interests in the educational work of the OI, in archaeological education, and in the promotion of literacy. Knowing that the Ocean Institute was keenly aware of its responsibility to educate the public, and that its approach to learning could be ultimately traced to the constructivist theories of Jerome Bruner and others (see, e.g., [carbon.cudenver.edu/~mryder/itc\\_data/constructivism.html](http://carbon.cudenver.edu/~mryder/itc_data/constructivism.html)), Steinmetz thought that it would be the most appropriate venue in Southern California for an experiment to see if VR could live up to its promise in a museum setting. His

buildings at the intersection of Queen Street and Lime Street just to the north of the area explored by Marx. The excavations brought to light many buildings and articles of everyday life (see the excellent project Web site at: <http://nautarch.tamu.edu/portroyal/>).

As Pawson and Buisseret note, "the history of Port Royal is better documented than that of most English towns of comparable size for that period" (Pawson and Buisseret 2000: xiii). Study of the town's history can thus shed a great deal of light on the everyday life and customs of the first British settlements in the New World. Since Texas A&M generously lent a number of its typical small finds to the Ocean Institute, it was natural that the Institute would take a special interest in this history and in ways of presenting it to its primary audience of schoolchildren from all over the Southern California area.

hunch was that because of its immersivity, interactivity, and ability to provide a compelling simulation of the lost world such as seventeenth-century Port Royal, VR could be a useful tool for arousing students' curiosity about the Port Royal underwater excavations some of whose small finds are on display at the Ocean Institute. He also thought that curiosity arousal might be a stimulus to improved reading skills, on the assumption that once a student was exposed in an effective way to new information about Port Royal, their appetite would be whetted, and they would pursue this new interest in the topic through reading. Steinmetz notes that there is very little research on the relationship between curiosity arousal and literacy (for an analogous project which uses real objects instead of VR models to arouse curiosity and hence reading, see Lewis and Fisher 1999), and so a secondary goal of the Port Royal Project was to see, on the anecdotal level, if such a research program was potentially useful.

### 4. The UCLA CVRLab

The UCLA CVRLab ([www.cvrlab.org](http://www.cvrlab.org)) was founded in 1997 with the mission of creating scientifically authenticated real-time 3D computer models of cultural heritage sites around the world. Such models have been found to have useful applications in education, research, and commerce. Thus far the lab's models have ranged in time from the Iron Age in

Europe and the Near East to the colonial period in the New World; and, in terms of space, from Peru to Israel. The Port Royal Project relates to the lab's longstanding interest in the use of visualization to promote learning through curiosity arousal (cf. Frischer 1982: 272-282; and note that CVRLab Associate Director D. Favro supervised Snyder 2003 and Abernathy 2004 on the use of VR technology in architectural education). Given the time and budgetary constraints on the project, the CVRLab could not utilize its normal modeling methodology, which is heavily reliant on the active participation of world-recognized authorities (see Frischer forthcoming). Instead, the roles of model-maker and expert had to be played by Natalie Tirrell, a student in Art History at UCLA. Some expert information was provided by a number of sources, including staff at the OI, Laurel Breece (an archaeologist with field experience at Port Royal), and Donny Hamilton (Director of the Port Royal Project).

## 5. The Ocean Institute

The non-profit Ocean Institute is located in Dana Point, California, USA at the base of the Dana Point Headlands and the entrance to the Dana Point Marine Life Refuge. The OI annually hosts over 90,000 kindergarten through college-age students in innovative learning experiences that increase competencies in science, technology, engineering and math. The center serves as a field trip destination site and a laboratory for developing, testing and disseminating new educational programs that help teachers and students meet state and national content standards. Programs range in length from two hours to five days and take place in the Institute's facilities including the 130' tallship *Pilgrim*, tallship *Spirit of Dana Point*, 70' research and education vessel *R/V Sea Explorer*, Ocean in Motion traveling classroom van, Chaparral to Ocean residential science camp and the new 33,000 sq. ft. Ocean Education Center (opened in 2002). With the opening of the new Ocean Education Center, the Ocean Institute has been able host over 50,000 general public visitors per year through a range of weekend exhibits, programs and informal learning experiences.

## 6. Sea Floor Science: Context for the Port Royal Exhibit

In 2003, the OI was successful in attaining National Science Foundation support for a three-year project called Sea Floor Science, which develops more effective tools for translating current science to public audiences. The informal science education community consisting of museums, science centers and nature centers has been challenged with a number of perennial problems: exhibits that hold visitor's attention for only a short time (often less than 1 minute); exhibit and program materials that do not reflect current science; and exhibition spaces that cannot be updated. Sea Floor Science responds to that challenge by developing exhibits that have the capacity to be converted from introductory presentations for general audiences to in-depth teaching stations for an 18-hour, inquiry-based middle school program. In addition, Sea Floor Science develops and tests new processes to help researchers effectively translate science concepts for informal learning environments. Finally, Sea Floor Science explores new ways to add updatability to museum settings. Sea Floor Science opened with three collaborators: Texas A&M/ Institute of Nautical Archaeology (INA), Jet Propulsion Lab in Pasadena, California, and Scripps Institution of Oceanography in La Jolla, California.

The work with Texas A&M was focused on translating the archaeological research from INA and, in particular, on the sunken city of Port Royal, Jamaica, where Dr. Donny Hamilton of INA had conducted underwater excavations. This was a compelling choice because middle school students in California are tested on their understanding of plate tectonics. Port Royal, a wonderfully colorful city whose short history is filled with pirates and merchants, was destroyed in 1692 when a sea floor earthquake liquefied the sand, and a significant portion of the town slid into shallow water. Researchers at INA assisted with the development of convertible exhibit solutions, checked texts for accuracy and authenticity, facilitated the acquisition of artifacts, maps and resources for exhibit and program designers, and contributed to teacher workshops and staff training. The resultant exhibit focused on a replicated 1-meter quadrant from the underwater excavation that afforded students the opportunity to learn under-water survey, mapping and recovery techniques. Students take data on underwater dive slates,

build and test their own magnetometers and imitate diver protocols employed by INA. A conservation lab was set up where students build electrolysis tanks, make plaster casts and interpret and label artifacts.

## 7. The Introduction of the Port Royal Model by UCLA's CVRLab



Figure 1: Port Royal display case at the Ocean Institute (visitor, left; docent, right)

In the Fall of 2003, a new collaboration between UCLA's CVRLab, MIT's DeepArch Lab, Texas A&M/Institute of Nautical Archaeology and the OI was born to further explore tools and techniques in underwater archaeology in a 4-month public presentation called Explorations! UCLA's CVRLab had the task of developing an exhibit update in the form of an interactive computer model for Port Royal that depicted the town (just before the earthquake) as well as the

underwater excavation site. The new computer model met the overall Sea Floor Science goals by having the capability of being converted from a public exhibit to an in-depth teaching station for middle school students. In addition, the computer model allowed students and visitors access to current research on how complex data sets are assembled and turned into interactive archaeological research tools. What emerged was an elegant solution that housed computer equipment, Port Royal artifacts, texts and monitors in a large 3'x 3'x 7' furniture-quality crate (see figure 1). The front section of the crate attractively displays Port Royal artifacts and contains electronic equipment and a computer cabinet. Mounted on the top of the crate is a 43" plasma screen monitor that crisply depicts movement within the model to larger audiences.

To be truly convertible, and serve a broad audience, the computer model needed to meet a range of scalable visitor challenges. Public visitors needed the opportunity to virtually walk along the various streets, to examine the architecture, to enter some of the structures, and to find various locations. Middle school students needed all these experiences and they needed the opportunity to "swim" within the underwater archaeological site in search of the real artifacts that were on display. They were challenged to find the artifacts, discuss their location and the possible context of their use. Students began to develop spatial relationships that were difficult to grasp with 2-D maps and to use the computer model in the same way as UCLA CVRLab scholars.

## 8. Reaction of OI Staff and Visitors to the Port Royal Model

The UCLA CVRLab model made a strong and successful contribution to both the weekend public and middle school overnight programs. Evaluations showed that the model helped translate current science by allowing visitors to understand how today's archaeologists employ technology to describe and understand sites. The interactivity of the model and the ability for visitors to explore houses and shops helped make the Port Royal story relevant to visitors and, therefore, lengthened stay-times and facilitated inquiry-based investigation and discussion. The Port Royal computer model was also successful in the Overnight Program as evidenced each morning with students able to accurately explain

the role of computer models in describing and understanding spatial relationships at archaeological sites.

One of the interesting findings is the strong appeal this particular format has for teenage students. Because the technology is so very suitable for this age group, it is not a surprise that our high school interns, serving as exhibit facilitators for weekend public exhibits, were interested, motivated and easy to train. The technology, in fact, serves as an excellent bridge for all of our teen audiences. It is common to find teens teaching teens, teens challenging each other with what they can find and teens coming up with new ways to use the model. The comfort level with this technology for our young audiences makes this a particularly attractive vehicle for communicating science in informal environments.

## 9. Port Royal Model Installation

The model is run using an SGI Open GL Performer on a Dell Dimension 8300 series computer (Intel Pentium IV, 2.60 GHz, 512MB RAM, 128MB ATI Radeon 9800 graphics card, 80 GB hard drive) and displayed on a 43" Pioneer DPD-433CMX plasma screen. The interface is achieved using a Gyration Ultra GT cordless optical mouse. The Gyration mouse allows the operator to stand at any distance up to 30' from the CPU and navigate the model with simple hand movements, eliminating the need for a tabletop or other surface to operate the mouse. The Ultra GT can also be operated as a standard optical mouse, allowing visitors, students, and those otherwise unfamiliar with the Gyration technology to navigate the model with a more familiar mouse interface. Occasional keystrokes are achieved using a standard wireless keyboard.

As for software, the Port Royal model was created by the CVRLab using MultiGen Creator (<http://www.multigen.com/products/database/creator/index.shtml>). The Creator OpenFlight file format is then explored by the user by means of UCLA's vrNav scene navigation program (<http://www.ats.ucla.edu/at/vrNav1/default.htm>). Normally, CVRLab models are georeferenced by on-site survey and given a radiosity solution with Autodesk's Lightscape before they are considered complete and ready for release; but, in the case of the Port Royal Project, constraints

of time and budget forced us to eliminate these elements of the model-making process.

The physical requirements of a successful public exhibit are often different from those of a successful student-centered teaching station. Meeting the needs of one while not compromising the other presented some of the greatest challenges. Our student programs require the use of reading materials, Internet access, digital media, equipment storage and reduced or eliminated signage. The public presentation, however, must provide a more "user-friendly" interface that can function effectively with no staff or volunteer mediation. In this mode, visitors will approach and interact with the exhibit entirely on their own. This requires some form of instructional and interpretive signage, an easily understandable interface, and reduced or eliminated access to stored equipment and other program-related functions. The exhibits must also be able to function effectively with varying degrees of staff or volunteer mediation and in this way be a fully scalable experience. The approach of the OI to meeting this challenge was to consider the student-centered teaching station as the highest level of the scalable experience and to create a continuum of degrees of interactivity and instructional mediation that ranged from entirely visitor-operated, through varying degrees of staff or volunteer mediation, and finally to a teaching station capable of serving an 18-hour overnight program. The model's installation reflects this approach.



Figure 2: Artifact on shelf of display case

The system is installed into a 3' x 3' x 7' wooden case modeled after a shipping crate with the face removed. Built into the crate are two

primary components: an acrylic artifact display case (fig. 2), and an electronic equipment rack with a darkened acrylic door (fig. 3). The case stands directly over network and internet access ports and a false front below the artifact case allows easy access to these ports. Artifact lighting is provided from within the crate, mounted above the acrylic case. A 43" plasma monitor is mounted on top of the crate with an articulated swivel arm to allow for adjustments as necessary.



Figure 3: Computer hardware in the display case with darkened acrylic door open. Note shelves with artifacts on left

The equipment rack houses the model's computer, a second computer for program use, a second monitor, and program materials. The darkened acrylic front allows the second monitor to be viewed by the public when desired but effectively hides other equipment and materials. This case is opened for educational programs and remains closed during public visitation. Signage intended for public visitors is mounted on the door and is effectively hidden when the door is opened for educational programs.

The artifacts on display were recovered during an excavation of Port Royal and are on loan from

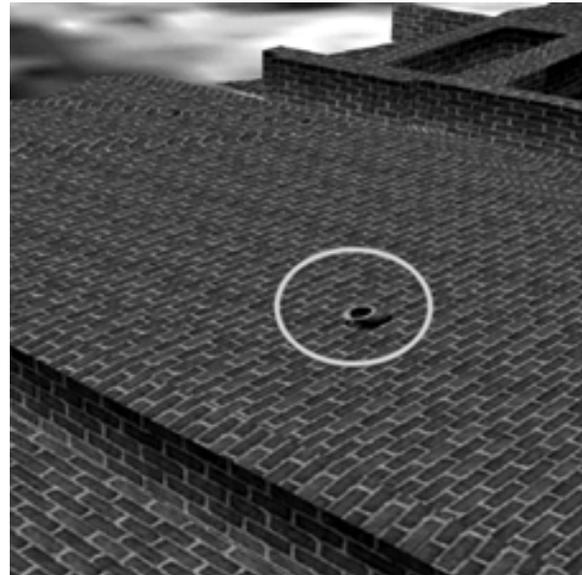


Figure 4: Screen shot of the CVRLab model showing 20<sup>th</sup>-century find spot of the chamber pot from Port Royal

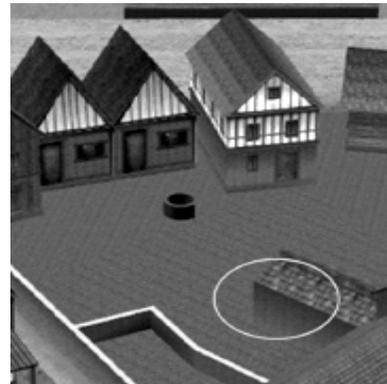


Figure 5: Screen shot of the same spot in the CVRLab model of 17th-century Port Royal

Texas A&M and the Jamaican National Trust. These include an onion bottle, chamber pot, Chinese porcelain bowl, cannon balls, locks, and a few epoxy molds of keys and an iron. These artifacts can be found in the excavation model (fig. 4), allowing students to conduct archaeological investigations based on the context in which the items were found and a study of the artifacts themselves. The context itself is easily scaled in terms of time and space. The CVRLab model permits the artifact to be seen in the immediate surroundings of the site as it appeared

during the modern underwater excavations or at the same spot in the reconstructed reconstructed seventeenth-century city (fig. 5). The historical spot can itself be contextualized within the larger urban fabric of streets, buildings, docks, etc. (fig. 6).



Figure 6: Screen shot of the same spot as seen in figure 5 in its wider urban context

## 10. Future Improvements and Follow-up Research

Currently, public visitors can navigate the Port Royal model only with assistance from OI staff or volunteers. OI high school interns show visitors how to operate the mouse to travel through the city, or the interns act as navigators under visitors' direction. The goal of the OI is to provide a public interface that allows visitors to navigate the model with no direct assistance. This will require an intuitive "public-proof" interface and a certain degree of self-correcting behavior within the model so that visitors cannot find themselves inadvertently below ground or lost near the outer edges of the model. The OI is

currently testing joystick and other gaming-type interfaces.

At UCLA, D. Favro will be undertaking new research on the effectiveness of the model as a learning tool for visitors to the OI. Given the fact that the model of Port Royal was not created according to the methodology developed by the CVRLab in terms of lighting, georeferencing, and scholarly oversight, we end by expressing the hope that the model is not considered finished but will be continued to be enhanced in the coming years as a 3D database containing information needed to illuminate the history a site that has sometimes justly been called "the Pompeii of the New World."<sup>1</sup>

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<sup>1</sup> Bernard Frischer, founder and Director Emeritus of the UCLA CVRLab, had the idea for this article and for the related talk, which he and Charlie Steinmetz presented at CAA 2004 in Prato, Italy. Frischer recruited the team of authors and edited their contributions. He is the primary author of sections 1, 2, and 4. Charlie Steinmetz was the primary contributor to section 3. Harry Helling and Eric Solomon are responsible for sections 5-9. All the authors contributed something to section 10.

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## Color Versions of Figures



Figure 1: Port Royal display case at the Ocean Institute (visitor, left; docent, right)



Figure 2: Artifact on shelf of display case



Figure 3: Computer hardware in the display case with darkened acrylic door open. Note shelves with artifacts on left



Figure 4: Screen shot of the CVRLab model showing 20<sup>th</sup>-century find spot of the chamber pot from Port Royal

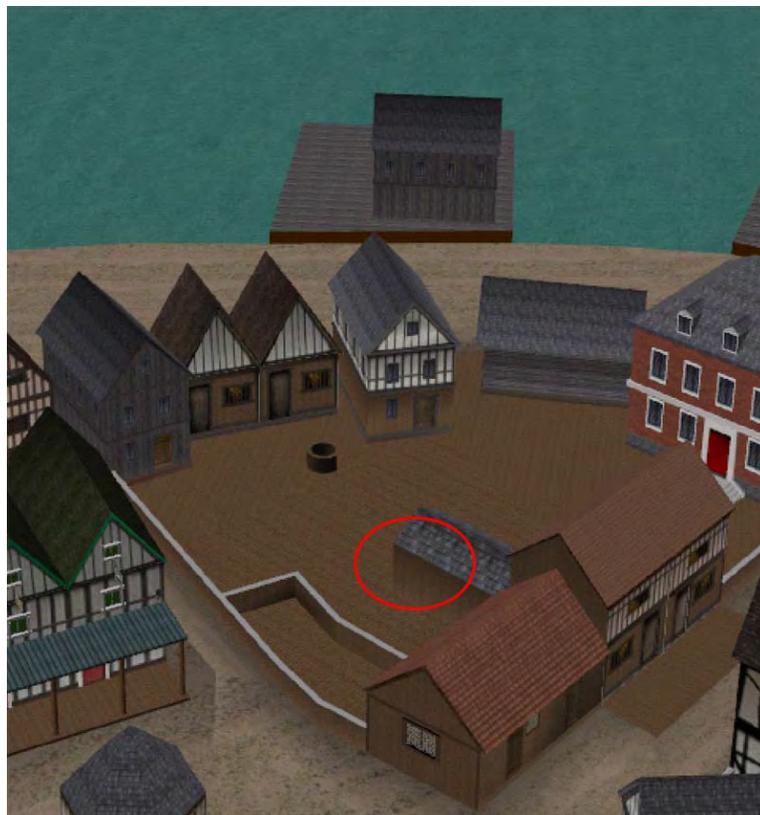


Figure 5: Screen shot of the same spot in the CVRLab model of 17th-century Port Royal



Figure 6: Screen shot of the same spot as seen in figure 5 in its wider urban context



# Mission and Recent Projects of the UCLA Cultural Virtual Reality Laboratory

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**Abstract :** The UCLA Cultural Virtual Reality Laboratory (CVRLab; [www.cvrllab.org](http://www.cvrllab.org)) was founded in 1997 with the mission of creating scientifically authenticated 3D computer models of cultural heritage sites around the world. This paper will present an overview of the lab's projects, methodology, and the applications of the lab's products to research and instruction.

**Key words :** Virtual reality, cultural heritage, digital archaeology.

## 1- Mission and structure of the CVRLab

### 1.1 – Mission

The Cultural Virtual Reality Laboratory was founded in 1997 at UCLA by Classics Professor Bernard Frischer in collaboration with Architecture Professor Diane Favro (for papers written by lab staff, see <http://www.cvrllab.org/research/research.html>). The mission of the lab is three-fold: the creation of scientifically authenticated 3D computer models of cultural heritage sites; the development of applications of the models to instruction, research, and commerce; and training students in the application of virtual reality technology to cultural heritage.

### 1.2 – Virtual reality focus

The lab specializes in the creation of models that are designed to be compatible with virtual reality hardware systems such as the CAVE, HMD, augmented reality, virtual set technology, desktop VR, etc. At UCLA, models produced by the lab are typically shown in the Visualization Portal, a SGI reality center maintained by Academic Technology Services as a campuswide resource ([www.ats.ucla.edu/portal/default.htm](http://www.ats.ucla.edu/portal/default.htm)).

### 1.3 – Organizational affiliations

At UCLA, the CVRLab has developed a number of other important relationships, including affiliations with the Center for Digital Humanities, the Center for Digital Innovation, the Center for Medieval and Renaissance Studies, the Cotsen Institute of Archaeology, the Department of Architecture, the Department of Information Studies, the Institute of Social Science Research, and the Office of Instructional Development. These relationships help the lab to tap existing research and instructional resources at UCLA such as space allocation, contract and grant administration, and network support. They also facilitate our interaction with the various organized research units specializing in areas of interest to the lab (archaeology, art history, etc.). One obvious area of weakness in our UCLA relationships is in the area of computing. A goal for the near future is to identify a colleague in Computer Science who shares our interest in virtual reality technology.

The lab has also actively sought out external partners, and these now include the Department of Archaeology at the University of Bologna, the Ingeborg Rennert Center for Jerusalem Studies at the Bar-Ilan University, the MRSH at the Université de Caen, the Vis.It CINECA Visualization Group, and the Institute for the Application of Technology to Cultural Heritage at Italy's National Research Council. The CVRLab undertakes specific collaborative projects with its partners, and it works with its partners on matters of general interest such as the development of technical and metadata standards for 3D computer models of cultural heritage sites.

In the next stage of our evolution, we hope to encourage faculty and students whose career takes them away from UCLA to found branches of the lab at their new institutions. The first such branch should open in January, 2004 at the University of Kuwait.

### 1.4 – Funding

The lab is self-sustaining, receiving its funding from external gifts, grants, and contracts. Major sponsors and granting agencies to date have included: the Andrew W. Mellon Foundation, Intel, the National Science Foundation, the Creative Kids Education Foundation, Johanna and Daniel Rose, and Mr. Kirk Mathews. The lab hopes to increase its sustainability by building a permanent endowment and by eventually spawning a related academic program.

### 1.5 – Staff

The lab's director is Bernard Frischer, a Classicist with a long-standing interest in topography and the director of an archaeological excavation in Italy. There are two associate directors: Diane Favro, an architectural historian who has served as president of the Society of Architectural Historians and who has been a pioneer in the use of 3D modeling in teaching architectural history; and Dean Abernathy, a registered architect with experience as a site architect of an archaeological excavation. Frischer and Favro serve on all of our scientific advisory committees. Abernathy oversees the actual production of digital models. Most modelers working for the lab are advanced students of architecture at UCLA, though several come from other programs such as Classics and Archaeology, and others are freelancers in Los Angeles and elsewhere.

## 2- Methodology of the CVRLab

As might be expected, the lab's methodology is closely related to its mission. The creation of scientifically authenticated 3D computer models involves three interrelated but logically distinct activities: using appropriate software tools to construct models; offering scientific oversight to the modeling process; and publishing the model in such a way that the user can understand the nature and quality of the evidence and conjectures used to create it.

### 2.1 –The modeling process

In terms of technology, the CVRLab is committed to the principle of using commercially available software and hardware whenever possible, thereby reducing development time and costs. Creating real-time computer models with highly accurate dimensions and photorealistic textures requires a combination of software since, at present, no single package contains all the functionality we ideally need. Most real-time systems support OpenFlight file format, an industry standard for real-time 3D. Typically, our models are built using MultiGen Creator on the Wintel platform (see [www.multigen.com/products/database/creator/index.shtml](http://www.multigen.com/products/database/creator/index.shtml)). MultiGen Creator's output is the optimized OpenFlight format, and it is a tool that permits the construction of highly accurate geometry. It also supports many essential features of virtual reality applications including level of detail (LOD) control, culling, priority ordering, and logical switching. On the other hand, Creator is weak in creating photorealistic textures. These we therefore make in Autodesk's Lightscape, a program

designed to provide lighting studies with radiosity and global illumination. To convert files from MultiGen to Lightscape format, we use Polytrans, software designed for 3d model/NURBS/CAD/animation translation, optimization and viewing (see [www.okino.com/conv/conv.htm](http://www.okino.com/conv/conv.htm)).

### 2.2 – Scientific oversight

The CVRLab can be likened to a university press in the sense that its products are scientific publications. As such, they must conform to basic norms of scholarship, just as would be expected of a traditional print publication. Models must have a qualified author; the author must cite his sources and note any conflicting evidence and opinion; fact must be rigorously separated from hypothesis; and a bibliography must be given.

While the author of a CVRLab model could conceivably be an individual scholar, in practice the authorship role has so far always been played by a small committee of experts. We call these experts the *Scientific Committee*, and typically the experts are recruited with a view to providing the following: 1) a working relationship with the cultural agency responsible for the monument; 2) archaeological and/or architectural-historical knowledge about the construction techniques, design, and building phases of the monument; and 3) general cultural-historical information about the monument.

The Scientific Committee works closely with the CVRLab's modeling staff to ensure that the data modeled are reliable and up to date. Typically, this process is iterative and collaborative—the modelers in the lab not only passively accept guidance from the committee but, as experienced archaeologists and architects, propose creative contributions for consideration by the committee. The members of the committee often find that after taking a virtual tour of a monument, their conception of how it originally looked changes. At the end of the modeling process—which typically goes through several phases as errors are corrected and new ideas are proposed, tested, and (if considered valid), incorporated—the members of the committee are asked to sign a form releasing the model for publication.

### 2.3 –Metadata

The 3D computer model is the end product of lab's activities, but it is important to note that the lab's digital productions include not only the bare 3D model but also the associated scholarly apparatus that would be incorporated into a traditional print publication. In the case of the latter, this includes the title page, with the name of the author or authors; the notes, including acknowledgement of sources and citation of disagreements among authorities; and a bibliography. In the case of our models, this information is provided as part of the 3D database constituting our product: if the model is made of "primary data" (geometry, textures, etc.), then the scholarly apparatus offering reflections on the primary data can be called the "metadata."

We typically provide three categories of metadata within our products: catalogue metadata, commentary metadata, and bibliographical metadata.

*Catalogue metadata* include the Dublin Core elements (see <http://dublincore.org/documents/dces/>): title, creator, subject, publisher, etc. These are useful as finding and citation aides for our users (or potential users). *Commentary metadata* include information about the evidence for the various elements of the reconstruction, from the foundations to the roof. It alerts the user to the fact that evidence may be poor or entirely lacking, in which case it explains the basis for the hypothesis used to make the reconstruction. Alternative views in the scientific literature are noted, and the reason for rejecting them are given. *Bibliographical metadata* include all the sources—published and unpublished—used in making a model.

In our first attempt to offer metadata to the user, we simply created a PDF file to accompany the MultiGen file of a particular model. We are now working on a more elegant solution in which the metadata is included within the MultiGen file or as part of a unified information system. We look forward to the day in the not too distant future when a user can simply click on the feature of a reconstruction and immediately open a record with all pertinent metadata.

#### 2.4 – Typology of Models

Of crucial importance in the whole modeling process is an initial decision about exactly what is to be represented. The lab has therefore developed a taxonomy of model types in order to clarify the various possibilities and issues, something experience has shown to be useful both for the modeler and his client. The taxonomy currently has six dimensions: (1) sensory dimension; (2) model-temporal dimension; (3) historical-temporal dimension; (4) dimension of equipment; (5) dimension of interactivity; and (6) dimension of reconstructedness.

The *sensory* dimension relates to the kinds of sense data offered in a model: visual data is most common, but auditory data is increasingly used as it has become possible to incorporate 3D localizable sound sources into our models. To date, we have not experimented with touch, smell, or taste.

By *model time*, we mean—not the building phase depicted in a model (something handled by the third dimension)—but the role of temporality within the time-space world of the model itself. Hence some models may be *static*, i.e., frozen at a given moment in time; others are *dynamic*, i.e., capable of showing the unfolding of time at a given site. The time increment may be very small—seconds, minutes, or hours—or very long, measured in terms of years, decades, or centuries.

The dimension of *historical time* refers to the date of each building phase shown in a model. Often it is assumed that a model shows a cultural heritage site as it appeared when new, but there is no reason why the model cannot show other phases, ranging from a site's prebuilt condition to its current state today.

The *dimension of equipment* takes account of the various degrees of furnishing with animate and inanimate objects that can be included in a model. People might or might not be included; furniture and textiles, food, everyday tools, etc. may or may not be shown in a model.

By the *dimension of interactivity*, we indicate the ways that users can directly manipulate the model. Manipulation can encompass something as simple as the apparent motion through the model (including speed, direction, and spatial attitude as well as the blocking of apparent movement through collision control); but it can also relate to more complex user interventions such as moving objects within the virtual world or even changing features of the user interface.

The sixth, and final, *dimension of reconstructedness* is based on the degree of hypothesis permitted in a model. For example, is the model limited to showing simply what survives from a certain building phase or human activity with absolute certainty, or does it reflect a looser standard of what can be incorporated in the model that goes beyond the evidence? In showing reconstructions or restorations, the model should observe the conventions of the Venice Charter for the Conservation and Restoration of Monuments and Sites ([http://www.icomos.org/venice\\_charter.html](http://www.icomos.org/venice_charter.html)).

The interaction of all six of these dimensions gives a model its unique characteristics, and all six should be well pondered before the actual modeling begins in order to ensure that the final product will meet the client's needs and expectations.

### 3- Major projects of the CVRLab

The lab has created models of cultural heritage sites ranging in space from Peru to Israel and in time from the late Bronze Age in the Old World to the Colonial Age in the New World.

No conscious plan has dictated the projects undertaken by the lab: the number of models potentially needed to cover all cultural heritage sites in all six dimensions of modeling is practically infinite. No single lab—however well financed and however well-conceived its modeling program—could ever hope to create computer models of *everything*. Particularly because the lab has up to now been self-financing, our approach has accordingly been opportunistic, not utopian: we have accepted clients' commissions as long as they fall within the broad limits of our mission.

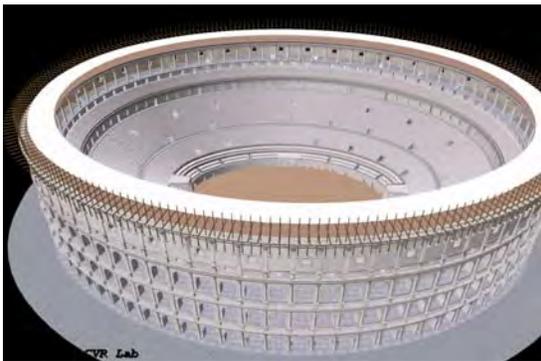
#### 3.1 – Rome Reborn

Whenever we have had the chance to utilize resources as we wished, we have invested them in the Rome Reborn project, mainly because ancient Rome is the academic speciality of the lab's directors. *Rome Reborn* has the goal of creating a computer model of the entire ancient city of Rome from the Iron Age (ca. 900 B.C.) to the Gothic Wars (535-553 A.D.). We are acutely aware of how enormous this task is and fully expect it to take many decades. In fact, we view Rome Reborn as more analogous to an ongoing scholarly journal than as a single book.

Our approach to modeling Rome is, to the extent practically possible, to start from the city center and to work out from it



**Fig. 1** : The Roman Forum, ca. 400 A.D. Copyright 2003 by The Regents of the University of California; created by the UCLA Cultural Virtual Reality Laboratory



**Fig. 2** : The Colosseum, ca. 400 A.D. Copyright 2003 by The Regents of the University of California; created by the UCLA Cultural Virtual Reality Laboratory.



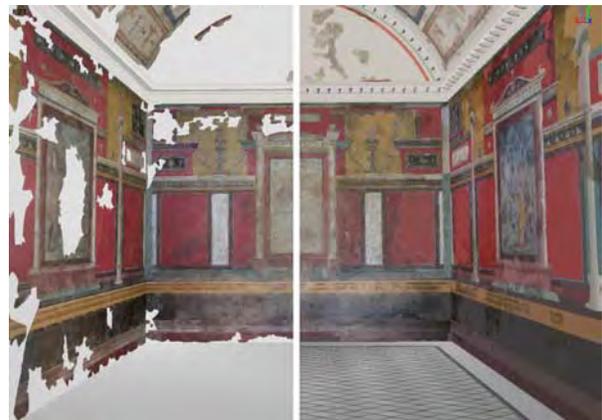
**Fig. 3** : The Basilica of Santa Maria Maggiore, ca. 435 A.D. View from the left aisle to the nave. Copyright 2003 by The Regents of the University of California; created by the UCLA Cultural Virtual Reality Laboratory.

antique phase back toward the earlier phases. Thus far, major elements of the late-antique city have been recreated, including the Roman Forum (fig. 1), the Colosseum (fig. 2), and the Basilica of Santa Maria Maggiore (fig. 3), (foot of the page, on the right). Most of the component parts of these models were created by Dean Abernathy with contributions by Alessio Mauri, Philip Stinson, Mayra Valenciano, and Rebeka Vital.

All of these models have been used in classes in Architecture, Art History, and Classics at UCLA. The Santa Maria Maggiore model was also used as the major asset for a video documentary about the history of the church shown at *Aurea Roma*, an exhibition held during the Jubilee Year in Rome in 2000. The Colosseum model was featured in a recent program shown on The Discovery Channel.

The Scientific Committee for the Roman Forum included Cairol Giuliani (University of Rome “La Sapienza”; cf. [1]) and Russell Scott (Bryn Mawr College; cf. [2]). Serving on our committee for Santa Maria Maggiore were Sible De Blaauw (University of Leiden; cf. [3]), Paolo Liverani (Vatican Museums; cf. [4]), and Arnold Nesselrath (Vatican Museums). The Scientific Committee for the Colosseum was comprised of Heinz Beste (German Archaeological Institute, Rome; cf. [5]), Mark Wilson Jones (University of Bath; cf. [6]), and Lynn Lancaster (Ohio University; cf. [7]).

In partnership with Daniela Scagliarini of the University of Bologna’s Department of Archaeology (cf. 8), we have also modeled the first century B.C. House of Augustus on the Palatine Hill, an exceptional project because it falls outside our initial time period. The purpose of this subproject is to develop standards for representing physical and digital restorations (see fig. 4).



**Fig. 4** : The “studiolo” of Augustus, House of Augustus, Palatine, Rome, ca. 20 B.C. The image on the left shows the state of the room today; the image on the right shows a digital restoration of elements of the floor and wall painting that can be reconstructed with high probability. Copyright 2003 by The Regents of the University of California; created by the UCLA Cultural Virtual Reality Laboratory

in ever larger concentric circles. We also work from the late-

Thanks to the generous support of the Andrew W. Mellon Foundation, the lab is enlarging its model of ancient Rome to include: the Tabularium on the eastern slope of the Capitoline Hill; the Forum of Julius Caesar, which is adjacent to the Roman Forum (see Amici [9]); the Sacred Way, with related buildings (the Basilica of Maxentius, Arch of Titus, and Temple of Venus and Rome), running from the Regia to the area of the Colosseum; the Baths of Trajan on the Oppian Hill overlooking the Colosseum; and the Circus Maximus. These enhancements to our Rome model should be complete by the end of 2005. Serving on our Scientific Committee are Clotilde D'Amato, Fulvio Cairoli Giuliani, Paolo Liverani, Russell Scott, and Fikret Yegul (cf. [10]).

Two major problems with Rome Reborn are the inordinately long time it will take to model the entire city—even just in one phase—building by building. Secondly, even those sites and buildings that are completed stand isolated in what we not very fondly refer to as “the Gobi Desert,” i.e., they have no urban context but emerge from a flat, brown landscape. This is not what the real city of Rome ever looked like, and no one wants to wait for decades to see the individual buildings coalesce to form the urban fabric.

To address these two problems, the lab decided to digitize the greatest pre-digital model of the ancient city: the *Plastico di Roma Antica* (fig. 5; cf. Liberati [11]) in the Museum of Roman Civilization (EUR/Rome). Working in collaboration with the museum, Leica of Italy, SDS3D of Vancouver, Canada, the Department of Electronics and Telecommunications of the University of Florence, and the Institute of Information Technology Applied to Cultural Heritage of Italy's National Research Council, the lab has recently been digitizing this plaster-of-Paris urban model, constructed over three decades by Italo Gismondi, using two different approaches: laser scanning and photogrammetry. It remains to be seen which approach is better, or whether a hybrid method combining both approaches might give the best results.



**Fig. 5** : Detail of the *Plastico di Roma Antica*, showing Rome's city center in ca. 320 A.D. Photo copyright 2003 by Bernard Frischer, used with permission of the Museo della Civiltà Romana.

At any rate, once the digital *Plastico* (d-*Plastico*) has been created, our goal is to insert our new born-digital models into the d-*Plastico*, which will immediately give our buildings a semblance of urban context, including roads, vegetation, and even geology. Of course, this is simply a temporary solution since the *Plastico*—for all its excellence—is lacking in some important respects: whereas our new models are conceived on a 1:1 scale, the *Plastico*'s scale is only 1:250; whereas many of our models have interiors (we only forebear to create the interior when there is a complete absence of data), none of the *Plastico*'s buildings do; and our surface textures are digital samples of the actual building materials used by the Romans, whereas the *Plastico*'s surfaces are covered with a simple coat of paint, which (after thirty years or more) is very faded paint.

### 3.2 – Other major projects

#### 3.2.1 – *Island of the Sun, Lake Titicaca (Bolivia)*

The *Island of the Sun* project has the goal of reconstructing the sacred Inca precinct and solar markers on the *Island of the Sun* in Lake Titicaca, Bolivia. The sacred rock at the center of the precinct was the mythical birthplace of the sun and attracted pilgrims from throughout the Inca empire. The simulation is intended to facilitate tests of the solar alignments of buildings, monuments and features of the precinct throughout the solar cycle. These alignments were proposed by B. Bauer and D. Dearborn (see [12]), whose work was accepted by project collaborator, C. Stanish, in the book he co-authored with B. Bauer (see [13: 207]). Changes in the earth-sun alignment owing to factors such as eccentricity, obliquity, etc., have made it impossible to test the validity of the Bauer-Dearborn thesis today by observation. A digital model was therefore needed that combined geographical, archaeological, and solar data, recreating the situation of ca. 1500 A.D. when the precinct of the Sun was constructed. The model was built by Dean Abernathy; azimuthal data was programmed in by Chris Johanson. Kent Volkmer of NASA's Jet Propulsion Laboratory provided helpful advice.

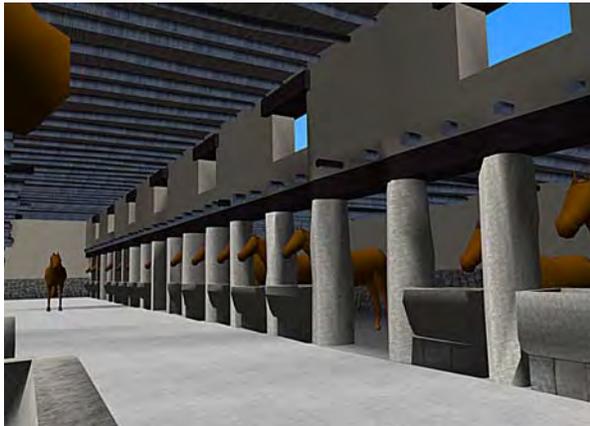
#### 3.2.2 – *Second Temple (Herodian Phase), Jerusalem (Israel)*

This modeling project presents the famous Jewish sanctuary rebuilt by Herod the Great and destroyed by the Romans in 70 A.D. Our model, created by Rebecka Vital, shows the Temple at its final stage of development before the Jewish Revolt started in 66 A.D. The *Second Temple Project* is the first step of the larger *Jerusalem Reborn Project* founded by Prof. Joshua Schwartz and undertaken jointly by Bar-Ilan University, the Ingeborg Rennert Center for Jerusalem Studies, and UCLA. The purpose of the *Second Temple*

modeling project is to recreate a digital model of the building in order to test the accuracy and feasibility of Josephus' famous description of it in the *Jewish Antiquities* (15.3.-7).

### 3.2.3 –Northern stables, Megiddo (Israel)

On the northern end of the important Biblical site of Megiddo a ninth-century B.C. structure was unearthed whose original function is unclear (fig. 6). The purpose of this project is to reconstruct the structure and to test the hypothesis that it was used as a stable for horses. The project was undertaken in conjunction with Tel Aviv University and the Pennsylvania State University. Chair of the Scientific committee is Megiddo excavator Israel Finkelstein, whose recent book (see [14]), deals extensively with the site. Also serving on the committee is Anne Killebrew (Pennsylvania State University).



**Fig. 6:** The northern stables at Megiddo, ca. 825 B.C. Copyright 2003 by The Regents of the University of California; created by the UCLA Cultural Virtual Reality Laboratory.

### 3.2.4 –Villa of the Mysteries, Pompeii (Italy)

Substantial ruins of the Villa of the Mysteries, including many famous second and third style wall paintings, survive just outside the urban area of Roman Pompeii, which was destroyed by the eruption of nearby Mt. Vesuvius in August of 79 A.D. The residential rooms of the villa were oriented toward the sea, whereas the working areas stood toward the rear of the property facing the town. Originally built in the second century B.C., villa was remodeled in ca. 60 B.C. and again in the mid first century A.D. The Villa of the Mysteries Project is jointly sponsored by UCLA and the University of Bologna. The chief modeler is Philip Stinson; chair of the

Scientific Committee is Daniela Scagliarini. The goal of the project is to create a virtual restoration of this important example of villa architecture on the Bay of Naples. Once created, the model will be used in courses at UCLA and Bologna on Roman architecture and archaeology; it will also be used for studies of the lighting in rooms around the villa, including the bedrooms (fig. 7) and the famous triclinium painted with the cycle of frescoes illustrating the Dionysiac mysteries.

### 3.2.5 –Port Royal (Jamaica)

Port Royal, the famous pirate colony, was one of England's largest foundations in the New World when it was destroyed by earthquake on June 7th, 1692. Most of the city sunk below sea level owing to soil liquefaction. The project entails a complete restoration of the buildings explored by underwater archaeologists at Texas A&M in the 1980s as well as a reconstruction of the street plan and urban fabric of the entire city (fig. 8). The unexcavated parts of the town were speculatively rebuilt by lab modeler, Natalie Tirrell, who based her work on the surviving evidence of maps, views, and property records; and who was able to benefit from the advice of Port Royal excavators Donny Hamilton (Texas A&M; see <http://nautarch.tamu.edu/portroyal/>) and Laurel Breece (Long Beach City College). The model was designed to be used as a compelling resource at the Ocean Institute (Dana Point, California), where it can help visitors to visualize the original context of the artifacts found by Texas A&M and currently on display in a gallery of the Institute. A fly-through of the model was shown on German television in a program about pirates.



**Fig. 7 :** Cubiculum 16 in the Villa of the Mysteries, Pompeii. Study of nighttime illumination with typical Roman oil-burning lamps. Copyright 2003 by The Regents of the University of California; created by the UCLA Cultural Virtual Reality Laboratory.



**Fig. 8** : Port Royal, Jamaica. Detail of the town just before its destruction on June 7, 1692. Copyright 2003 by The Regents of the University of California; created by the UCLA Cultural Virtual Reality Laboratory.

### 3.2.6 –Santiago de Compostela (Spain)

Santiago de Compostela is one of the great pilgrimage basilicas of Europe. Our restoration project shows the building and surrounding town as they appeared on April 3, 1211 A.D. when the newly enlarged cathedral was dedicated by Bishop Pedro Muñoz (fig. 9). In addition to restoring the architecture of the cathedral and placing it within an urban simulation of the town, the model also incorporates the songs and sounds typically heard in the building and town in the thirteenth century. The project was primarily undertaken to support classes at UCLA by project director, Prof. John Dagenais, a medievalist whose many interests include the culture associated with the pilgrimage route to Santiago in the Middle Ages. Project consultants include John Williams (University of Pittsburgh; cf. [15]), Jose Suarez Otero (Archaeologist and Curator, Cathedral of Santiago de Compostela; cf. [16]), and James D’Emilio (University of South Florida, Tampa; cf. [17]). Modelers include Dean Abernathy, Renee Calkins, and Rebeka Vital. David Beaudry designed the localized 3D sound system (see [http://www.ats.ucla.edu/at/vrNav/docs/HowToUse\\_vrNav2\\_withThe\\_dbMaxSoundsServer.html](http://www.ats.ucla.edu/at/vrNav/docs/HowToUse_vrNav2_withThe_dbMaxSoundsServer.html)).



**Fig. 9** : The west facade of the cathedral of Santiago de Compostela, ca. 1211 A.D. Copyright 2003 by The Regents of the University of California; created by the UCLA Cultural Virtual Reality Laboratory.

## 4- Distribution of models

Models are not, of course, created for their own sake but with a specific use in mind (see section 5 below). A key part of any modeling project is thus a plan to move the model from the Cultural Virtual Reality Laboratory where it is created to some technological platform on which it can be delivered to the end-user.

As the lab's name implies, its preferred platform is one involving *virtual reality*. This term is often used imprecisely as synonymous with 3D computer graphics, but we hold to a strict definition of the term as entailing a computer system that offers the user real-time navigation through a virtual environment that simulates key features of the actual place; interactivity with elements in the environment; and a high degree of immersion in the virtual world. Standard delivery platforms to virtual reality include head-mounted displays, CAVEs, SGI reality centers (<http://www.sgi.com/realitycenter/>), and augmented reality.

### 4.1–Virtual reality in a theater setting at UCLA

Up to the summer of 2003, the lab's models were primarily made to be shown in the Visualization Portal, a campuswide facility at UCLA created and maintained by Academic Technology Services (<http://www.ats.ucla.edu/portal/default.htm>). The Portal, which is an SGI reality center, seats up to forty people, has a semi-spherical screen ca. 25' x 8' in size, three triple-gun RGB projectors displaying a single image at 3520 x 1020 resolution, and is powered by an SGI Onyx 3400 supercomputer with InfiniteReality3 graphics. The user interface is vrNav, a 3D scene navigation program that was developed by Academic Technology Services (see <http://www.ats.ucla.edu/at/vrNav/default.htm>). The Portal permits us to use models in a way that might be called "social VR," i.e., in an environment that offers real-time navigation through the virtual world and which is immersive, interactive, and social. Needless to say, this is an ideal combination of features for most instructional and research applications.

### 4.2 – Models on the personal computer

Facilities like the Visualization Portal are expensive to create and maintain, and this doubtless explains why they are so rare. In recognition of this fact, the lab has studied ways of re-purposing models through other media and platforms. Of these, the most promising are so-called "desktop VR" and "laptop VR." Owing to recent developments in software (the porting of SGI's Performer and of ATS' vrNav to Windows) and hardware (the dramatic fall in price of videocards in the 256-512 megabyte range), it is now possible to run even complex models like the Roman Forum on the Wintel platform. While performance in terms of frame rate and anti-aliasing does not quite compare to what the Portal can offer,

desktop VR and laptop VR have several practical advantages, including dramatically lower cost, portability, and widespread availability. The terms "desktop VR" and "laptop VR" are, of course, misnomers, since models on these platforms are not generally immersive, since the display of a PC or laptop is small and flat. Nevertheless these platforms do offer one key ingredient of true virtual reality: the ability to move through a model in real time. And they can be connected to HMDs or projection systems that support true virtual reality.

### 4.3– Other ways to deliver content

Thus, the Portal, desktop VR, and laptop VR all offer, or have the potential to offer, real-time virtual reality. Experience has shown, however, that not all end-users require a virtual reality platform for delivery of our models. The lab has experience in delivering the content of its models in less immersive and interactive media such as print, video, and the Internet. Images of our models, rendered in high resolution with radiosity lighting solutions, have appeared in newspapers, magazines, and scholarly books. We have licensed fly-throughs to television; and our models have also been used as backdrops in virtual set shoots for TV, most recently, by The Discovery Channel in its production earlier this year of a program on the Colosseum. On the Internet, our content can appear in any of these forms, and we also use such programs as VRML and Macromedia Director to rescale and deliver our real-time models on the Web.

Finally, from time to time, the lab creates Web sites dedicated to the presentation of a site for which it has made a computer model. The purpose is to create a scholarly reference tool about the site for students and scholars; and also to offer documentation (e.g., metadata) about our model of the site. Such a site is currently being created for the Roman Forum with three years of support from the National Science Foundation. A prototype is available at <http://cvrlab.org/forum/index.html>.

## 5-Applications of models

### 5.1–Instructional applications

Our models have been used in courses at UCLA and elsewhere in Archaeology, Architecture, Art History, Classics, History, Jewish Studies, and Spanish. The main educational advantage of computer models of cultural heritage sites is that they offer the vicarious experience of data that is inherently sensory (buildings, works of art, music and other sounds, etc.). Models enable the instructor to overcome limitations of time and space, taking students to see something that either no longer exists or, if it exists, is located too far away to be visited during an academic

term. Since the models can be navigated in real-time and are interactive, they also empower students to control the visit, asking for a closer or longer view of objects. Another advantage to models is that they are rich information systems that enable the user to quickly peer beneath the surface to confront the graphic and textual documentation behind individual elements in the virtual environment. Through the use of switches, alternative reconstructions can quickly be shown when an element is hypothetical; and various phases on a site can be seen. A map window can be opened to show the user's current position on a plan of the site.

### 5.2 – Research applications

Modelling is often thought of as a form of knowledge representation, which it certainly is. But, in our experience, making a model can also bring forth new knowledge, as well as simply encode the knowledge we already had when we began a modelling project. Moreover, models can permit tests of structures and environments that have disappeared or been greatly altered over time.

Research applications thus fall into two categories: those during the model-making phase; and those after. While a model is being constructed, the need to construct data in 3D that typically has been recorded in 2D (plans, sections, elevations, etc.) often forces a researcher to confront the fact that he has not thought about features of the original building that are unattested by the surviving remains. These features might, for example, be the placement of doors and windows throughout the vanished superstructure; the color of paint on faded or missing surfaces; the placement of works of art within a space from which they are known to have come but for which the exact location is not known. This is not to imply that when data is completely lacking, we must force a researcher to resort to wild hypothesis. To the contrary, gaps in our knowledge can be left as such and indicated through a graphical convention. When hypotheses are proposed, they can be marked as such, e.g., by using simple color without texturing or by using a gray scale.

Once a model has been built, it can be used to test the functionality of a building or site, making possible a kind of “experimental” architectural history. We can, for example, gauge the carrying capacity of a structure such as the Colosseum, study the circulation of people through the Roman Forum, analyze the statics of a building like the Basilica of Santa Maria Maggiore, whose original apse was replaced for unknown reasons centuries after it was built. We can study the ability of a structure to withstand seismic shock, flooding, fire, or wind. Lighting, acoustics, and ventilation can be measured, giving us a sense of how well a building served the purposes for which it was constructed. Finally, we can study the alignment of a building with other built or natural features in its environment.

Other forms of research undertaken by the Cultural Virtual Reality Laboratory involve what could be called *meta-modelling* issues. For example, *standards* for cultural heritage models, if widely observed, could allow users to “mix and match” models of the same site from different time periods or from different areas at the same time. The study of *best practice* in the use of models in education can enable teachers to get the most out of using models in the classroom. *Empirical study* of users operating models can determine how to improve the user interface of a 3D engine as well as suggesting what new user tools for data collection and analysis might be created to enhance the user's experience.

### 5.3 – Commercial applications

The lab exists because of our ability to raise the funds necessary to keep it afloat from gifts, grants, contracts, and licensing agreements. The latter two sources of income bring us into the commercial realm, where we have found that our models can be useful to for-profit companies in a variety of ways. First, magazine and book publishers have licensed still shots of our models to be used as illustrations of archaeological, art historical, and historical publications. Documentary TV producers have licensed videotaped fly-throughs of models in order to create a sense of time travel back to an earlier phase of a cultural heritage site. An even greater sense of time travel can be obtained from using our models as backdrops in virtual set systems such as those made by Vizrt ([www.vizrt.com/](http://www.vizrt.com/)) and Orad Hi-Tech (<http://www.orad.co.il/>; on virtual sets generally, see Orad's useful paper, available online at: [www.broadcastpapers.com/anim\\_fx/virtual01.htm](http://www.broadcastpapers.com/anim_fx/virtual01.htm)). The lab can itself produce video documentaries and has done so for several museums and exhibitions. Finally, models can be used as virtual environments for games, and the lab is currently in discussions with one game publisher about licensing its models for a projected series of history-based games.

Thus far, no commercial applications involving true virtual reality can be reported, but discussions are ongoing with a number of companies about possible projects around the world.

## 6- Future directions

The future of 3D computer technology applied to cultural heritage looks very bright indeed. Only a small percentage of all cultural heritage sites around the world have been the subject of scientific modeling; and of those sites, only a small percentage of all possible phases of interest have been modelled. So much remains to be done just in terms of covering the globe and offering students and scholars a *virtual time machine* for the study of the evolution of human settlements and societies.

Much work, too, remains to be done in enhancing the

user's *experience* of the virtual environments that we have been creating: up to now, vision has been privileged over the other four senses, yet a truly accurate environmental simulation would include all five senses.

Beyond the purely experiential side of virtual reality, we also need to enhance the *analytical tools* available to users to facilitate understanding of what they are experiencing in a virtual world. Some basic tools already exist—navigators, maps, databases of metadata, measuring devices, etc. But these represent merely first efforts in supporting users in gathering, processing, and interpreting the data they encounter in their virtual fieldwork. In the near future, it should be possible to offer users the opportunity to read off their current location from a virtual GPS device, to set the time of day and see a corresponding change in lighting conditions; to define weather conditions; and, at night, to see the main astronomical features visible to the naked eye. Tools for the instant analysis of functionality of buildings in terms of circulation, illumination, ventilation, statics, etc. should also be

readily available.

Finally, a key issue to be confronted is *sustainability* of virtual reality technology as applied to cultural heritage. There are three key aspects of sustainability that need to be addressed in ensuring that our first, painful efforts pay off in the long run. The first is *technological*: to spur the spread of VR applied to cultural heritage and to hasten the day when the virtual time machine has been constructed, we need to develop standards for file format and modelmaking methodology. The second is *educational*. In fields such as Archaeology, Architecture, Art History, Conservation Science, and New Media Studies, we need to create graduate programs that offer training in and theoretical studies of the use of virtual reality and other digital technologies in the study and presentation of cultural heritage. Finally, we need to provide for our own legacy by creating a *digital archive* for preserving our own work so that it becomes part of the very cultural heritage we are working so hard to hand down to future generations.

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**The “Grand Compromise”:  
A Hybrid Approach to Solving the Problem of Looted Art**

**Presented at the 11<sup>th</sup> International Congress on “Cultural Heritage and New Technologies” under  
the Patronage of UNESCO, Vienna, Austria, Oct. 20, 2006**

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Let me begin by thanking Friedrich Schipper for organizing this important meeting and for inviting me here to speak, especially since my topic today—proposing a new, hybrid solution to the problem of looted art--does not exactly fall under the call for papers. In the call, Prof. Schipper said that “the purpose of this session is to ascertain the international status quo [*scil.*, regarding the UNESCO convention of 1970 on the means of prohibiting and preventing the illicit import, export, and transfer of ownership of cultural property]... The focus will... be put on the legal situation in Austria, Germany, and Switzerland. In addition, inside reports from the USA and Turkey will widen the view.” As you will see, although I firmly believe in the need for more countries to ratify the UNESCO convention, I do not think that this will, in itself, bring us any closer to a solution of the problem of making the black market in illicit art shrink to the vanishing point. It is the thesis of this paper that a more complex attack on the problem is needed.

But let me begin by making one thing clear: my own personal view is that, along with the Hague Conventions of 1907 and 1954, the Roerich Pact of 1935, and the UNIDROIT Convention of 1995, the UNESCO Convention of 1970 represents a landmark in international legal thought about the status of cultural property.<sup>1</sup> Through these agreements, the problem of looted art was addressed first in time of war, then during periods of peace. They expanded the protection of international law from works of art owned by governments to those owned by private parties. These were all critical steps forward from the principle of *vae victis* that had dominated the world scene for millennia.

Equally important is the advance of ethical thought in this area as typified, in the USA, by the “Four Statements for Archaeology” issued by the Society of American Archaeology in 1960,<sup>2</sup> the Philadelphia Declaration of the curators of the Museum of the University of Pennsylvania of 1970,<sup>3</sup> and by the Codes of Ethics adopted by the Society of Professional Archeologists in 1976<sup>4</sup> and by the Archaeological Institute of America in 1990.<sup>5</sup> As a member of the latter organization, I would like to quote the following important principle in the Code:

Members...should...refuse to participate in the trade in undocumented antiquities and refrain from activities that enhance the commercial value of such objects. Undocumented antiquities are those which are not documented as belonging to a public or private collection before December 30, 1970, when the ...Archaeological Institute of America endorsed the UNESCO Convention on Cultural Property....

Finally, I also applaud two important organizations that have recently come into existence to confront the problem of looted art: Saving Antiquities for Everyone (SAFE), about which Samuel Paley will speak at this session; and the Illicit Antiquities Research Centre of the McDonald Institute at Cambridge University. The distinguished archaeologist, Colin Renfrew, was instrumental in creation of the IARC and he has fought the good fight against looted art through publications such as *Loot, Legitimacy and Ownership*, a book published in 2001,<sup>6</sup> and through legislation in the British House of Lords, most notably a proposed law that would have restored the Elgin Marbles to Greece in time for the 2004 Olympic Games. Unfortunately, Lord Renfrew’s proposal was not adopted into law and the marbles remain in London.

But much as I appreciate these efforts and achievements, I speak to you today because I do not think they are adequate to meeting the problem of looted art. After working for over 30 years in several universities in the USA and in Europe, I have observed that in academic politics there are just two political parties: the normatists and the pragmatists.

The normatists--as the name implies--are great believers in norms and in explicit codes of conduct, standards of achievement, and the like. Their favorite verbs are “should” and “ought.” Rather than compromise on their beliefs, they would rather wring their hands and lament the hypocrisy of mankind in failing to live up to its beliefs. Pragmatists, on the other hand, care more about results than principles. They would rather get the job done than lament the sins and foibles of their fellow man. Personally, I like to think that the best approach to solving any problem combines the best of both approaches: the high ethical principles of the normatists applied to the case at hand in an effective, which is to say pragmatic, way.

I think that the matter of illegal excavation of archaeological sites and the massive looting of ancient cultural and religious monuments also lends itself to this kind of hybrid solution, even though it is hardly a harmless issue of university politics but a global scandal of apparently growing dimensions. I say “apparently growing” because, of course, no one knows the exact size of the black market in art looted from source countries in the Mediterranean, South America, Africa, and the Middle East, but a recent estimate puts the annual trade at between \$2 billion and \$6 billion.<sup>7</sup> My claim is that, up to now, the world’s approach to this problem has been entirely normative. This is as it should be: we first need the vision to define our ethical standards and to convert those standards into law. In taking this first, normative step toward solving the problem of looted art, humanity is well along the road to the highly desirable goal of achieving a worldwide legal regime governing cultural property. Let us hope that, partly as a result of this session, Austria and Germany soon join the USA and many other countries in signing the UNESCO convention of 1970.

But let us not deceive ourselves: the normative approach alone has not been working and will not work. As Neil Brodie and David Gill of Cambridge’s IARC recently wrote: “codes of practice for auction houses and dealers in antiquities do not seem to work... The problem of legislation in what is now an international issue... requires a change of approach.” This assessment is shared by Julie Hollowell-Zimmer, who recently wrote,

“most people agree that, in spite of new laws, treaties, and enforcement strategies, the overall situation is worse today than it ever was.”<sup>8</sup>

But Brodie, Gill, and Hollowell-Zimmer are classic normatists, as is Lord Renfrew. Although they perceive the need for a change of approach, they fail to offer anything other than declarations, such as the Cambridge Resolution of 1999, which, however well-intentioned has done nothing to stop the traffic in illicit antiquities.<sup>9</sup>

If we ask why the problem is getting worse, not better, then I would suggest that it is less a result of an absence of laws and codes of ethics, still less about a lack of awareness of the problem and resultant need for more public education.<sup>10</sup> The key point is that we lack a pragmatic solution that can complement the normative approach that has been dominant thus far. The ethical codes and laws developed by the world community are an essential part of the solution; strict enforcement of these norms is another; raising public consciousness about the problem and about the relevant principles and laws is yet another. But there is still something else that is missing before we can begin to shrink the black market in looted art: we must not only make it a violation of the law to traffic in looted art, *we must make it unnecessary and uneconomical to do so*, at least for the overwhelming majority of institutions and individuals who wish to collect archaeological artifacts. How might this be done?

There are four key principles on which a pragmatic approach might be based. These are:

*First*, that cultural property should be widely shared among peoples and nations;

*Second*, that we must make *borrowing* of cultural property an alternative to *ownership*;

*Third*, that curiosity about the past is natural and desirable; it cannot be suppressed;

*Fourth*, that open markets are more efficient than black markets.

The first principle of *sharing* is to be found at the beginning of the UNESCO convention of 1970, which states: "...the *interchange* of cultural property among nations for scientific, cultural and educational purposes increases the knowledge of the civilization of Man, enriches the cultural life of all peoples and inspires mutual respect and appreciation among nations." We should not forget this principle of the 1970 charter as we try to achieve its goal of ending the market in looted art. Indeed, as you will see, I think that we need to focus more attention on how "the interchange of cultural property" might be facilitated precisely because a freer interchange will help to dry up the illicit traffic in art.

The second principle of *borrowing* as an alternative to ownership is embodied in the solutions successfully applied this year by the Italian Ministry of Culture in resolving the cases of looted art in American collections such as the Metropolitan Museum and the Boston Museum of Fine Arts. In settling these cases, the US museums agreed to return some 34 disputed works of art in return for being able to borrow an equal number of works of similar quality for long-term exhibition at some time in the future.<sup>11</sup> Thus, the issue of ownership was resolved in favor of the source country—in this case, Italy—but the foreign museums were compensated for their previous investments by in effect becoming the borrowers rather than owners of other works of art from the source country.

The second principle is important but will, at best, help to settle the many outstanding ownership disputes that have accumulated in the past century since the passage of what has aptly been called "retentive" national laws on cultural property by source countries such as Greece, Italy, and Turkey.<sup>12</sup> But the principle of borrowing rather than ownership does not tell an individual or institution how to *increase* the size of an art collection. Here we encounter the third principle of *curiosity*, a constituent element of what it means to be human and, as Albert Einstein once remarked, something to be cherished and encouraged, not suppressed.<sup>13</sup> The earliest collectors in modern times were motivated by this drive to form their curiosity cabinets for reasons explained by Leibnitz in a famous letter to Czar Peter the Great.<sup>14</sup> Today, a pragmatic approach to the problem of looted antiquities must start from the assumption that human curiosity about the past cannot, and

should not, be stopped. We must rather try to channel the energy and resources that flow from this perfectly normal desire to discover and collect antiquities into responsible exploration by professional archaeologists and legitimate collection building by ethically aware individuals and institutions.

At the present time, this is not the case: instead of having a great deal of responsible archaeological exploration and legitimate collection building with just a small amount of illegal digging and trafficking, we have the reverse. From an economic point of view, this is hardly surprising. In the liberal nineteenth century, it was possible for a museum like the Louvre or British Museum to send an archaeological expedition to a source country like Italy, Greece, or Turkey and bring back spectacular finds; and it was possible for an individual collector to buy, for example, an Etruscan funerary urn in a store in the middle of Chiusi in Tuscany. By the early twentieth century, countries from Turkey to Guatemala had replaced such liberalism with “retentive” laws and claimed ownership of all cultural property within their borders. Besides making it illegal for their citizens to sell antiquities found on their land, these laws removed the incentive that foreign collectors had had in the nineteenth century to sponsor new excavations. As the economist Jeremy Bertomeu has recently written:

When price regulations or capacity constraints distort free markets, illegal resales naturally arise in an attempt to reap the benefits of the supply gap. Bootleggers trade off between the benefits of [breaking the law] and the risk of legal liability. As a direct consequence, high and persistent distortions to the market necessarily induce an active underground economy.<sup>15</sup>

This brings me to the fourth principle of *economics*: open markets are more efficient than black markets. Ironically, this is as true for the black marketeers themselves as for the collector. As Watson and Todeschini recently showed in *The Medici Conspiracy*, the *tombarolo*, Giuseppe Evangelisti, earned on average just \$88 for the objects such as Greek vases or Etruscan and Roman statues which he illegally excavated near his home north of Rome. But similar objects sold at auction in London for an average of \$830,

about ten times as much; and some of them sold at the shop of a high-end London dealer such as Robin Symes for \$5,000, or 60 times as much.<sup>16</sup>

For collectors, the inefficiency is, of course, much, much worse, although the public rarely is privy to the details of how much a museum has paid for a dubious acquisition. One exception is the bronze statue of a youth, attributed to Lysippus, in the collection of the J. Paul Getty Museum (fig. 1). It was the subject of intense legal scrutiny in Italy in the 1970s, and so some hard figures are on record. We know, for example, that the 18 fisherman who found the statue while fishing in the Adriatic Sea off the coast of Fano in 1964 were each paid \$220 for their valuable “catch.” We are informed that the Getty paid \$3.9 million for the statue in November 1977. The “markup” caused solely by the black market was hence almost exactly a thousandfold.<sup>17</sup>

Of course, the true disadvantage to the collector caused by the black market goes beyond the price of the objects he purchases. Even worse, he usually does not know the exact provenance of the object in his collection, thus depriving him of the information that would be needed to date and interpret it;<sup>18</sup> and, worst of all, he cannot even be certain that the object is authentic and not a fake. So the “retentive” legal regime that dominated the source countries in the twentieth century has guaranteed the worst of all worlds: the source countries themselves have been plagued by the black market, causing criminality and lack of respect for the law among their citizenry; and individual and institutional collectors have been forced to pay ridiculously inflated prices for works of unknown context, some of which have even turned out to be fakes, or suspected to be so. For an example of the latter, we may once again cite the J. Paul Getty Museum, which has admitted that a piece in its collection—the Getty Kouros (fig. 2)—might or might not be an authentic work of the archaic period of Greek art.<sup>19</sup> As former Getty curator Marion True wrote, “the problem of the authenticity of the Getty kouros is an issue for our entire discipline. Do we include this statue in the corpus of known ancient *kouroi*, or do we relegate it to the growing class of masterful forgeries, created intentionally to deceive?”<sup>20</sup> This is a strange question for a museum curator to have to ask after reportedly paying \$10 million for the work in question!

How might the four principles be applied?

If only *ownership* could be separated from *possession*, then museums in countries like Austria or the USA might be able to make a deal with source countries like Greece and Italy such that, in return for sponsoring excavations, the museum would be able to borrow and exhibit a certain percentage of the finds, leaving the rest in the country of origin. Over time, all the finds from a site could be exchanged on rotating basis between the country of origin and the museum, with all expenses borne by the sponsoring museum (see fig. 3). The country of origin would *own* all the finds, as is the case today. This arrangement could continue indefinitely, as long as the sponsoring museum continued to bear all the expenses.

Of course, there is no guarantee when a site is excavated that works of art will be found, let alone objects that are of museum quality. My proposal foresees a solution to the problem that no foreign museum would willingly agree to invest several millions of dollars in an excavation in the hope of finding new great works of art: the sponsoring museum should make a partnership with a source-country museum, which I call the “host museum.” There are two reasons for suggesting such a partnership. First, the host museum would be the place where any new works of art found by the excavation would be displayed in the source country when not on display in the sponsoring museum. Secondly, if, by the end of the excavation, a sufficient number of new works of art had not been found to justify the foreign museum’s investment, the host museum would compensate the sponsoring museum by lending it pieces in its own collection for short-term exhibitions in the foreign museum. This latter feature serves as a kind of insurance policy for the sponsoring museum.

Of course, individuals as well as institutions collect art, and so a full, pragmatic solution to the problem of drastically shrinking the black market for looted art must find a role for the private collector to play. I would suggest that the private collector can enter into the equation as a partner of the sponsoring museum. To be sure, not all sponsoring museums

would need or welcome such partners. For example, with its \$5 billion endowment, the J. Paul Getty Museum, hardly needs partners to be able to finance new excavations of the kind I am proposing today. But there are many museums that do need such partners—indeed, I daresay that the majority of museums fall into this category. One need think only of our great university museums to confirm this claim. The private partner-collector would share in the rotating possession of the new finds on the same basis as the sponsoring museum. The sponsoring museum would have the responsibility of monitoring the partner-collector's behavior as a borrower and steward of any work of art lent to him. The museum would also determine how the works on loan are to be parceled out between itself and its various private partners. But all these are details that need not concern us here today. One detail worth mentioning is the new role that the much-maligned auction house could play: instead of the place where antiquities (usually unprovenanced, often looted) are auctioned off, it can be the place where shares are sold or traded in partnerships for new excavations organized by museums.<sup>21</sup>

The beneficiaries of the grand compromise I am proposing would be not only source countries like Italy or Mexico which have long been at the mercy of the black market in antiquities, or museums like the Getty that have had to pay outrageously high prices for works torn from their context and not infrequently of doubtful authenticity. The general public, students, and scholars would benefit even more. Excavation is the lifeblood of archaeology, and despite almost two centuries of scientific archaeology around the world, much more remains to be discovered than has already been found. Yet source countries typically spend most of the funds earmarked for archaeology on conservation, not exploration. The constant flow of new finds that would inevitably result if my proposal is adopted would delight the public and keep scholars busy for decades to come. It would revitalize the field of archaeology and, more importantly, as the 1970 UNESCO convention foresees, it would “enrich...the cultural life of all peoples and inspire... mutual respect and appreciation among nations.” As everyone who has read a newspaper recently can attest, in today's world, we can't have too much of that! Thank you very much....



Fig. 1: Bronze statue, fourth century B.C., J. Paul Getty Museum. Photo: Bernard Frischer.



Fig. 2: Kouros, J. Paul Getty Museum. Photo: Bernard Frischer.

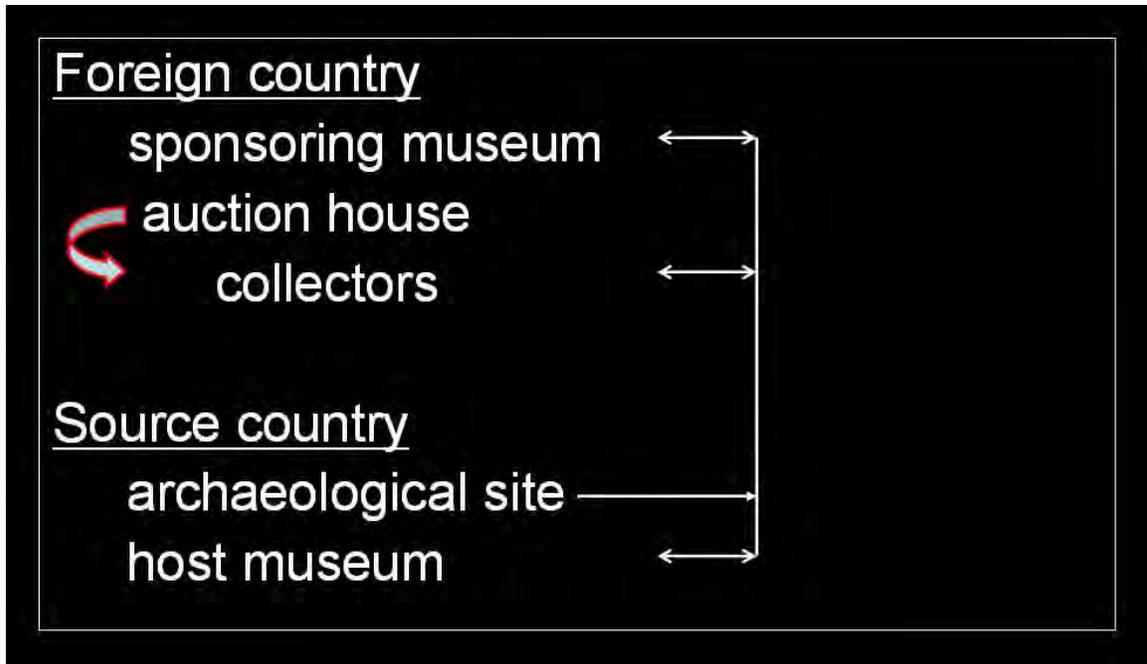


Fig. 3: Flow chart showing workings of the “grand compromise.”

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## NOTES

<sup>1</sup> See Sherry Hutt, Caroline Meredith Blanco, Walter E. Stern, Stan N. Harris, *Cultural Property Law. A Practitioner’s Guide to the Management, Protection, and Preservation of Heritage Resources* (American Bar Association, Chicago, 2004) 190-197.

<sup>2</sup> The Third Statement prohibits the buying and selling of artifacts by SAA members; see Mark Lynott, “The Development of Ethics in Archaeology,” in *Ethical Issues in Archaeology*, edited by Larry J. Zimmerman, Karen D. Vitelli, Julie Hollowell-Zimmer (New York, Oxford 2003) 17-27, at p. 20.

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<sup>3</sup> For the text, see Colin Renfrew, *Loot, Legitimacy, and Ownership* (Duckworth, London 2001) 118-19.

<sup>4</sup> *Ibid.*, p. 21.

<sup>5</sup> [http://www.archaeological.org/pdfs/AIA\\_Code\\_of\\_EthicsA5S.pdf](http://www.archaeological.org/pdfs/AIA_Code_of_EthicsA5S.pdf) (as emended in 1997).

<sup>6</sup> Colin Renfrew, *Loot, Legitimacy and Ownership. The Ethical Crisis in Archaeology* (Duckworth, London 2001).

<sup>7</sup> See Maura Singleton, "Plunder. The Theft of the Morgantina Silver," *The University of Virginia Magazine*, Spring 2006, 38-41, at p. 41. The best global assessment of the scale and value of the illicit trade in antiquities is *Trade in Illicit Antiquities: The Destruction of the World's Archaeological Heritage*, edited by Neil Brodie, Jennifer Doole and Colin Renfrew, MacDonald Institute Monographs (Cambridge 2001).

<sup>8</sup> Julie Hollowell-Zimmer, "Digging in the Dirt—Ethics and 'Low-End Looting,'" in *Ethical Issues in Archaeology*, edited by Larry J. Zimmerman, Karen D. Vitelli, and Julie Hollowell-Zimmer (New York, Oxford 2003) 45-56, at p. 47, where she cites in support of her view Ricardo J. Elia, "Looting, Collecting and the Destruction of Archaeological Resources," *Nonrenewable Resources* 6(2) (1997) 85-98; and Karen D. Vitelli, "'Looting' and Theft of Cultural Property: Are We Making Progress?" *Conservation, The Getty Conservation Institute Newsletter* 15(1) (2000) 21-24.

<sup>9</sup> For the text of the Cambridge Resolution, see Neil Brodie, Jennifer Doole, Colin Renfrew, editors. *Trade in Illicit Antiquities: The Destruction of the World's Archaeological Heritage*, "McDonald Institute Monographs (Cambridge 2001) 175-76. Cf. Colin Renfrew, *Loot, Legitimacy, and Ownership* (Duckworth, London 2001) 74: "When one asks what may be done to curb the looting and the traffic in illicit antiquities, there is no single, simple answer. As noted earlier, much more could and should be done in the source countries to encourage the provision of a good and effective antiquities service, and above all to ensure that the economic benefits (often through tourism) of a rich cultural heritage are adequately shared at the local level. But ultimately it is *we* the academic community and *we* the informed public, who must bear the main responsibility....In this particular sense, it should become widely understood and agreed among academics, which is not the case at present, that it is unethical and immoral to aid and abet the sale of illicit antiquities by offering authentication and expertise...."

<sup>10</sup> Thus, Neil Brodie and Jennifer Doole, "Illicit Antiquities," in Neil Brodie, Jennifer Doole, Colin Renfrew, editors. *Trade in Illicit Antiquities: The Destruction of the World's Archaeological Heritage*, "McDonald Institute Monographs (Cambridge 2001) 4, urge the need for more public education: "it will be difficult to stem looting until people understand the importance of context, and that their heritage is worth more in

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every sense than the usually paltry sums it can generate in the short-term when sold to middlemen.”

<sup>11</sup> See Ariel David, “U.S. Museum Returns 13 Italian Artifacts,” Associated Press , September 28, 2006; seen on October 14, 2006 at: <http://www.forbes.com/business/feeds/ap/2006/09/28/ap3053048.html>.

<sup>12</sup> On the term “retentive” to describe such laws, see William G. Pearlstein, “Cultural Property, Congress, the Courts, and Customs: The Decline and Fall of the Antiquities Market?” in *Who Owns the Past? Cultural Policy, Cultural Property, and the Law*, edited by Kate Fitz Gibbon (Rutgers University Press, New Brunswick, New Jersey and London 2005) 9-32 at p. 12.

<sup>13</sup> Einstein, wrote, “Never lose a holy curiosity.” He also wrote of himself: “I have no special talents. I am only passionately curious.”

<sup>14</sup> On the letter (written in 1708), see Roland Schaer, *Il museo. Tempio della memoria*, translated by Silvia Marzocchi (Universale Electa Trieste 1996) 35.

<sup>15</sup> Jeremy Bertomeu, “The Economics of Black Markets,” December 24, 2004; available online at: <http://www.andrew.cmu.edu/user/jbertome/docs/blackmarket26.pdf> (seen October 14, 2006), p. 2. At p. 4, Bertomeu reviews the small literature on the economics of black markets.

<sup>16</sup> Peter Watson and Cecilia Todeschini, *The Medici Conspiracy. The Illicit Journey of Looted Antiquities from Italy’s Tomb Raiders to the World’s Greatest Museums* (Public Affairs, New York 2006) 268.

<sup>17</sup> See Bryan Rostron, “Smuggled!” *Saturday Review*, March 31, 1979, pp. 25-30. On the winners and losers in the current black market in looted art, see, in general, Kate Fitz Gibbon, “Alternatives to Embargo,” in *Who Owns the Past? Cultural Policy, Cultural Property, and the Law*, edited by Kate Fitz Gibbon (Rutgers University Press, New Brunswick and London, 2005) 291-303, at p. 291: “the primary beneficiaries of the present system are corrupt source-country officials at all levels of government, and middlemen, most of whom are source-country nationals who exploit the working digger. The main losers are source-country cultural institutions, legitimate government interests, and dealers, scholars, collectors, museums, and even archaeologists throughout the world.”

<sup>18</sup> On the compromise of intellectual value of unprovenanced art, see especially Colin Renfrew, *Loot, Legitimacy, and Ownership* (Duckworth, London 2001) 19-22.

<sup>19</sup> See *The Getty Kouros Colloquium, Athens, 25-27 May 1992* (Nicholas P. Goulandris Foundation Museum of Cycladic Art and The J. Paul Getty Museum, Athens, 1993).

<sup>20</sup> *Ibid.*, p. 11.

<sup>21</sup> On the role of auction houses in the antiquities trade, see Arielle Kozloff, “The Antiquities Market. When, What, Where, Who, Why...and How Much?” in *Who Owns the Past? Cultural Policy, Cultural Property, and the Law*, edited by Kate Fitz Gibbon (Rutgers University Press, New Brunswick and London 2005) 183-189, at pp. 184-85.

# Virtualizing Ancient Rome: 3D acquisition and modeling of a large plaster-of-Paris model of imperial Rome

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## ABSTRACT

Computer modeling through digital range images has been used for many applications, including 3D modeling of objects belonging to our cultural heritage. The scales involved range from small objects (e.g. pottery), to middle-sized works of art (statues, architectural decorations), up to very large structures (architectural and archaeological monuments). For any of these applications, suitable sensors and methodologies have been explored by different authors. The object to be modeled within this project is the “Plastico di Roma antica,” a large plaster-of-Paris model of imperial Rome (16x17 meters) created in the last century. Its overall size therefore demands an acquisition approach typical of large structures, but it also is characterized extremely tiny details typical of small objects (houses are a few centimeters high; their doors, windows, etc. are smaller than 1 centimeter). This paper gives an account of the procedures followed for solving this “contradiction” and describes how a huge 3D model was acquired and generated by using a special metrology Laser Radar. The procedures for reorienting in a single reference system the huge point clouds obtained after each acquisition phase, thanks to the measurement of fixed redundant references, are described. The data set was split in smaller sub-areas 2 x 2 meters each for purposes of mesh editing. This subdivision was necessary owing to the huge number of points in each individual scan (50-60 millions). The final merge of the edited parts made it possible to create a single mesh. All these processes were made with software specifically designed for this project since no commercial package could be found that was suitable for managing such a large number of points. Preliminary models are presented. Finally, the significance of the project is discussed in terms of the overall project known as “Rome Reborn,” of which the present acquisition is an important component.

**Keywords:** Laser Radar, digitalization of physical models, 3D laser scan, Range map alignment, Meshing, Accuracy, Precision, Virtual Archaeology, Rome Reborn

## 1. INTRODUCTION

The project discussed in this paper forms an important part of the Rome Reborn Project, an international effort to create a real-time digital model of ancient Rome. The spatial limits of the Rome Reborn model will be the area enclosed by the late-antique Aurelian Wall; its temporal limits will be the Iron Age (10th century B.C.), when the city began to be settled, and the Gothic Wars (6th century A.D.), when the city suffered severe physical damage and significant depopulation. For a variety of practical reasons, work on the model commenced in 1997 with modeling of the late-antique phase (ca. 400 A.D.), which represents the climax of the development of the ancient city in terms of its urban fabric and population. The approach to modeling has been to work out from the city center in the Roman Forum, a multi-purpose space dedicated to political, economic, religious, and entertainment activities.

This phase of the city’s urban history is well documented and studied. There is even a highly-regarded plaster-of-Paris model - the so-called “Plastico di Roma antica,” housed in the Museum of Roman Civilization (Rome/EUR) - that, with the permission of the Museum (which was graciously given), could be used as the basis for the new digital model. The

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model, created at a scale of 1:250, represents a three-decade collaboration of model-makers and topographers in Rome. It was completed in the 1970s and has not been changed since.

For the Rome Reborn Project the advantages of using the *Plastico* are that it could: (1) provide an almost instant computer model of the project's first, late-antique phase; (2) repurpose the *Plastico* and keep it constantly updated and therefore useful to students and scholars in the twenty-first century; and (3) offer a total urban context for the new digital models of individual sites and monuments created by the Rome Reborn Project. These new "born-digital" models - such as the Roman Forum, Colosseum, Circus Maximus, and other key public buildings and monuments - were worth creating despite the availability of the digital *Plastico* because they could be made at a scale of 1:1, could be textured photorealistically, could reflect discoveries made since the 1970s, and could (when archaeological data sufficed) include the interior spaces as well as the exteriors. As a physical model created at a small scale and intended to be viewed from a high balcony, these were features that the *Plastico di Roma antica* could not offer and, indeed, did not need to offer. The present project thus entailed creating a hybrid model of late-antique Rome that would be based on the digitized *Plastico* and the new "born-digital" models of specific sites and monuments in the historic city center.

The purpose of this paper is to describe the procedures for acquiring and generating a huge 3D model that presents several difficulties.

In general three-dimensional acquisition techniques are somewhat focused on a particular range of volumes. Most 3D scanners based on the triangulation principle are suitable for small objects and may generally work at distances ranging from one-half meter to few meters. Their measurement accuracy over the whole range image stays below one-tenth of one millimeter, and the uncertainty lies between 50 and 200 microns. On the other hand, laser scanners based on Time of Flight (TOF), used for architectural elements and large structures (bridges, dams, etc.), allow much larger distances to be covered (up to few kilometers). Although accuracy remains high, the major drawback to TOF scanners is the loss of precision since the measurement uncertainty goes down to several millimeters. This absolute value is not a problem for measurements involving large structures because the relative precision remains high, but if the structure is large and if small features must be captured, this kind of system is not usable.

The "*Plastico di Roma antica*" lies unfortunately in the latter category, being a wide object (16 x 17.4 meters) with houses and temples only a few centimeters tall. Therefore in this case, the use of conventional techniques was not feasible. The solution was found in a system created for advanced metrology applications. At first glance, the approach taken resembles TOF laser scanning, but its main improvement is in the procedure employed for detecting the laser time-of-flight. Instead of conventional pulsed techniques, the method used for the *Plastico* uses a principle well known in CW radars, based on transmission and reception of a coherent frequency modulated wave. For this reason the system is indicated as Laser Radar (LR). The actual 3D sensor (LR200) used in this project is manufactured by Leica Geosystems AG, Switzerland in cooperation with Metric Vision Inc., VA, U.S.A. The use of such an advanced laser processing method, together with the capability of precisely re-focusing the laser beam in order to minimize its spot size, allows resolutions to be reached below 1 mm. Uncertainties of the same order can be obtained as those offered by triangulation 3D scanners (from 0.1 to 0.3 mm, depending on distance), with the possibility of covering distances up to 24 meters. In order to minimize the acquisition time, a specific piece of software was designed for managing the instrument at low level. It is capable of focusing the laser at the beginning of each scan-line and maintains a constant surface-to-laser distance during the acquisition.

Another difficulty was data processing. Two separate sessions were planned: the first massive scan for covering most of the surface was performed from three acquisition points forming an equilateral triangle. The second campaign occurred twenty days later after the study of a "pre-model" generated after the first session. The huge point clouds obtained after each phase were reoriented into a single reference system thanks to the measurement of fixed redundant references, and each was divided into smaller sub-areas, 2 x 2 m each. This subdivision was necessary owing to the huge number of points in each individual scan (50-60 million). All these processes were made with software specifically designed for this project since no commercial package suitable for managing such a large number of points could be found.

## **2. HARDWARE EQUIPMENT**

Working with 3D scanning in a museum is often more complicated than doing the same task in a laboratory: for example, it is likely that no value samples can be moved without risk to a significant example of the world's Cultural Heritage. Additional constraints complicate what in normal conditions could have been done much more easily. Acquiring of the plaster-of-Paris model of ancient Rome was already a job complicated enough, but the addition of further constraints made it almost impossible. For example, the administration of the museum understandably prohibited placement of any measurement machine directly over the "*Plastico*" in order to eliminate the possibility that the

machine, or one of its parts or accessories, might accidentally fall onto the monument and damage it. The initial idea of using a common laser blade scanning device mounted on a rail for covering the whole surface in parts was therefore not applicable, and the sensor was chosen in order to satisfy this primary requirement. The solution was found in a very high-quality (and high-cost) Laser Radar. It is capable of giving the same performance as a relatively low-cost and short-range laser blade triangulation scanner. But the Laser Radar utilized gives reliable results up to 24 meters from the measured surface. Since the only drawback of this extremely powerful system is its slow speed, a simpler triangulation-based laser sensor was also used for capturing the areas close to the border of the “Plastico.”

## 2.1 Laser Radar

The most commonly used systems for creating a digitized 3D image of an object within a limited range (about one meter) are based on optical triangulation. A laser forms a light stripe scanning the object by means of a rotating mirror or a cylindrical lens, and a CCD camera collects the image of the illuminated area. The range information is retrieved on the basis of the system geometry. An alternative triangulation technique is based on the projection of patterns of structured light, i.e. a light pattern coded as spots or stripes. Both techniques generate a cloud of points that, after suitable processing, allows the creation of a three-dimensional model of the object. The systems based on optical triangulation are the most accurate, allowing measurement uncertainty lower than one tenth of a millimeter. As uncertainty depends directly on the square of the distance between the camera and the object, a high precision is achieved by appropriately limiting this distance and thus the illuminated area. The acquisition of relatively large objects, such as a statue of human size, requires therefore a large number of partial views, or “range maps,” taken all around the object. These are then integrated in order to represent the whole surface.

3D triangulation-based techniques have been directed toward digital modeling of relatively small objects. The acquisition of works of architectural (e.g. a cathedral, a tower, a palace, etc.) is practically impossible using high resolution triangulation-based scanners, because of the great dimensions involved and of the distance of the scanner to object. Architectural monuments are usually acquired by laser scanners based on Time of Flight (TOF) measurement of light pulses, since they operate from distances from ten meters to thousands of meters, and they can acquire millions of points in a relatively short time. Both features of TOF measurement make it practical to digitize large surfaces. Laser radars work by pulsing a high power laser source and gating a counter that measures the transit time to and from the target. Although this is a simple concept, its demands on support electronics are severe, since light covers about 30 cm every nanosecond. Measurement of a few meters with a sub-millimeter resolution would require temporal resolution in the detection and processing of the backscattered signal better than 0.1 picoseconds. Commercial TOF systems have been available since the early 1990s and offer range measuring uncertainty from 0.5 cm to 2.0 cm. Scanning of the laser impinging over the inspected surface is basically implemented by a precise angular positioning device moved by a step-motor. By measuring the TOF needed by a laser pulse for going from the range camera to the surface and back again to the instrument, an evaluation of the camera-to-surface distance is performed. These data, together with the angles determining the laser orientation, permit evaluation of the three spatial coordinates of any scanned point. In order for TOF laser scanners to scan the whole surface of the structure to be digitized, a number of acquisitions taken from different points of view are needed, and their alignments require sophisticated processing techniques.

The new 3D sensor used in this paper for Cultural Heritage modeling makes it possible to overcome all the above-mentioned limitations. It is a laser radar referred to as model LR200, which is manufactured by Metric Vision Inc., VA, U.S.A. and is distributed by Leica Geosystems AG, Switzerland.

The equipment is a TOF range camera, operating on a principle completely different from pulse propagation. Originally developed for microwave radars, the principle is known as *Coherent Frequency Modulated Continuous-wave Radar* (FM CW). The heart of the laser radar is a broadband frequency modulated infrared laser (100GHz modulation), which provides a robust and eye-safe signal. The up-sweep and down-sweep comparison provide simultaneous range and velocity data for measurements. The single wide-aperture optical path maximizes signal strength and stability. Extensive signal processing extracts interference frequencies which are directly proportional to distance.

A critical point is the focusing volume depth which in any triangulation-based system ranges from 10-20 cm for fringe projection systems based on white incoherent light and to about one meter for laser blade systems. In general TOF based system do not take into account the laser spot size variations at distances very different from the focusing range because for uses on buildings and large structures it is supposed that ultra-high resolutions are unnecessary. Therefore in a standard TOF system the correlation between two adjacent measurements tend to increase when the related laser spots are partially superimposed, reducing the maximum resolution attainable from the system (generally larger than 10 mm). In contrast, the Leica Laser Radar is built for applications such as industrial metrology where the possible resolution can

be much higher (e.g., far below 1mm), so that the laser spot size is taken under control through a dynamic focusing optical system. The drawback of this sophisticated focusing is represented by the time needed for getting each measured point. In the most precise modality, indicated as “advanced metrology”, only 2 points per second are measured. A peculiar aspect of this laser scanner is the method it uses for re-orienting the data into the same reference system during the acquisition stage, thus eliminating the need of range map alignment, which is typically required in any modeling project. A redundant set of references, represented by steel spherical targets, actually implemented with low cost “tooling balls,” are placed on the scene and fixed in place with a custom metallic ring that holds the ball in a specific position. The ring can be glued to some convenient spots of the scene without touching any delicate or old part of the work of art to be digitized. At the first camera location the position of each tooling ball is determined by measuring the direction of maximum laser reflectivity on the ball. Adding the distance information and the “a priori” knowledge of the ball diameter, a very accurate estimate of the 3D coordinates of each reference target is obtained. For the following camera locations the same targets are measured again to determine the roto-translation transformation with respect to the first one. Once the new camera location is set up, each point is measured and automatically reoriented in the main reference system through a procedure developed for previous projects<sup>1,2</sup>, implementing the “Unit Quaternions” method<sup>3</sup>. This eliminated the need of a time-consuming iterative reorientation and of the related data redundancy (30-40% of range maps superposition would be usually needed). This feature significantly speeded up the 3D model generation.

## 2.2 Laser blade triangulation scanner

A VIVID 910 (produced by Konica Minolta, Japan), mounted on a tripod as shown in figure 1b, was the portable laser system used for integrating part of the 3D acquisition of the model of ancient Rome. It has three interchangeable lenses with different focal lengths (tele, middle, wide). The maximum measuring distance is about 2 m with the middle lens. An approximate resolution of 0.5 mm was obtained at that distance. The corresponding measurement uncertainty, evaluated by acquiring a planar reference, was estimated on the order of 0.3 mm. This setting permitted the acquisition of range maps characterized by a suitable resolution and uncertainty with respect to the other data acquired with the laser radar. The two sets of data could be therefore conveniently merged.



Figure 1: Equipment employed for the model of ancient Rome (“Plastico di Roma antica”): a) Laser Radar LR2000 by Leica MetricVision for long range; b) Vivid 910 by Konica-Minolta, a triangulation-based laser scanner, for close-ups

## 2.3 Software packages

The Laser Radar LR200 gives a simple unstructured cloud of points in the form of an ASCII file containing a long list of triplets, representing the (x,y,z) coordinates of each measured point. In order to triangulate them the software package RapidForm was used (INUS Technology Inc., Korea). It has an effective tool for creating a mesh from an unstructured cloud of points generated with a spherical symmetry, such as those produced by the LR200 scanner.

For the other steps involving mesh editing, both the module IMEdit of the Polyworks modeler (Innovmetric, Quebec, Canada) and the editing module of the RapidForm package were used, depending on the kind of mesh correction to be applied.

All the additional software was written at the Technology for Cultural Heritage Lab (University of Florence), utilizing two platforms: Matlab (The MathWorks, Inc., USA) and Visual C++ (Microsoft Corp. USA).

### 3. PLANNING

#### 3.1 Preliminary study

The “Plastico” has an irregular shape and is installed in a special area, 16 x 17.4 meters, surmounted by a balcony, the floor of which is elevated about 2.7 meters respect to the level of the city model. The internal perimeter of the balcony is covered by a balustrade 1.2 m high.

In order to respect the limitations imposed by the museum, the equipment had to be raised higher than the balustrade by mounting the scanning equipment over a stand 1 meter high. The set-up is illustrated in figure 2.

Since the laser beam turns out to be very inclined with respect to the main plane of the “Plastico”, the sensor-to-surface distance covered a wide range, going from 7 to 24 meters.

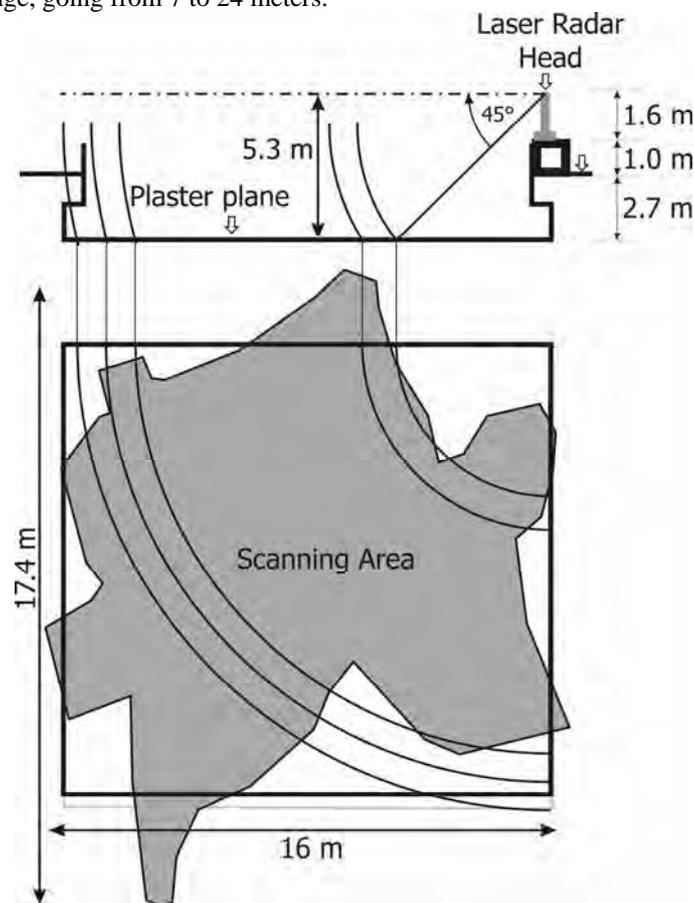


Figure 2: Schematic diagram of the scanning area in vertical (top) and horizontal (bottom) section. The laser radar was set up for covering circular paths in order to limit the need for re-focusing when the scan-line was changed. The thick square represents the balcony from which the museum visitors can view the plaster-of-Paris model of ancient Rome

The critical point of measurements having large depth variations is the Depth of Field (DOF) of the measurement device. DOF is influenced by the laser beam divergence that makes the spot size too large out of the focal zone, making

a suitable resolution impossible to obtain. The LR200 solves this problem by dynamically re-focusing the laser beam in order to minimize the spot size over the measured surface.

This re-focusing is implemented in the measurement modalities called “Metrology” and “Advanced Metrology”. With these approaches the operator simply has to define a perimeter over the surface to be acquired. The perimeter can include points at ranges very different each other thanks to the re-focusing of the laser beam for each new position. The acquisition may therefore progress without any human control, even if it lasts for a long time (e.g., overnight). The “price” for such a flexibility is a slow acquisition process, capable of giving, at best, only 10 points/second. With this digitizing speed, the time needed for a single scan of the “Plastico” area would be on the order of several months (nights included). This was obviously not acceptable because of the costs involved and since it would have entailed reducing the access of museum visitors to the monument.

In contrast, with an alternative measurement approach, known as “Pseudo Vision”, the LR200 is capable of acquiring hundreds of points per second. Even if not so fast, this operating mode could be fast enough to complete the job in a reasonable time and was therefore explored as a good candidate for measuring the model of Ancient Rome. In this work modality, each measurement can be additionally averaged over several repeated measurements to lower the electronic noise responsible for generating measurement uncertainty. The number of measurement to be averaged is indicated by the instrument as “stacking level”. By increasing the number of averaged points the time needed obviously increases. Preliminarily to the proper set-up definition the “speed vs. stacking level” relationship was experimentally evaluated by measuring the certified planar surface of a metrology test object (Johnson block).

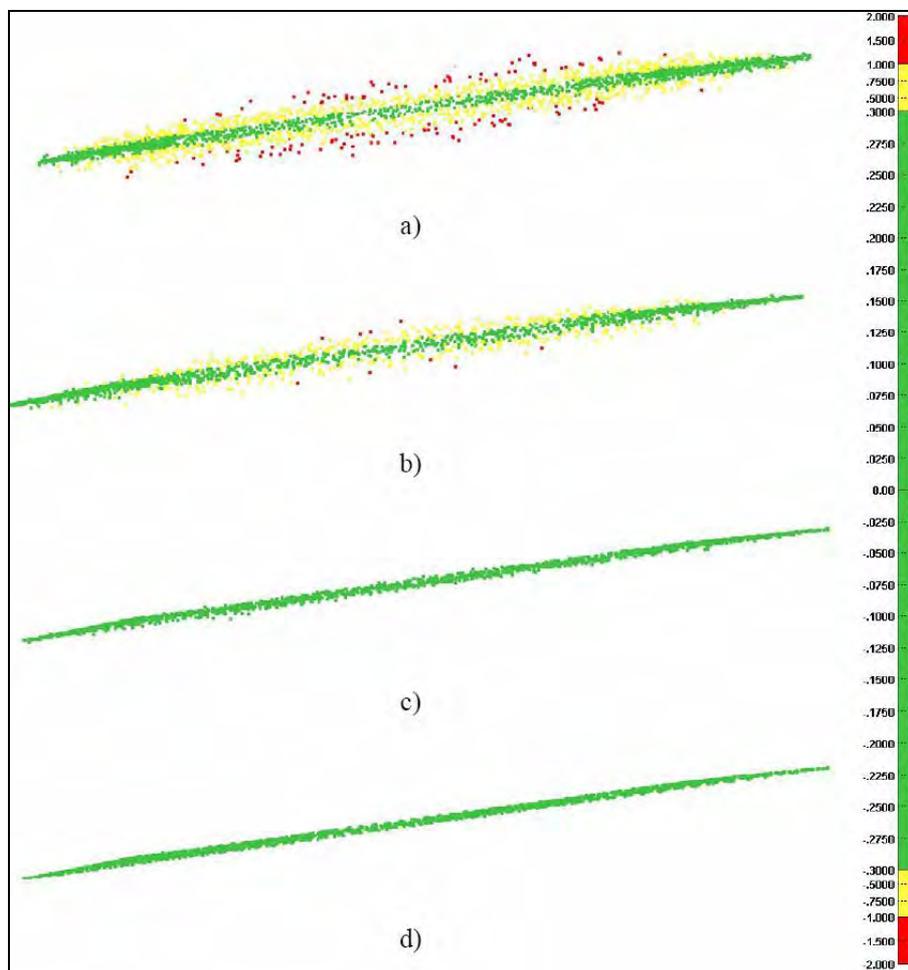


Figure 3: Effects of averaging on laser radar measurements performed in “Pseudo-Vision” mode, over the planar surface of a Johnson block: a) stacking=1 (no averaging); b) stacking=2; c) stacking=5; stacking=10. The scale on the right is graduated in millimetres

The point clouds measured on such an area are reported in figure 3 in vertical section, in order to make clear the level of randomization associated with each measured point. The measurement uncertainty, calculated on the data set as the root mean squared distance from the plane best fitting the noisy 3D points, gave the following results:

| Stacking | $\sigma$ ( $\mu\text{m}$ ) | Speed (pt/s) |
|----------|----------------------------|--------------|
| 1        | 315                        | 231          |
| 2        | 218                        | 129          |
| 5        | 49                         | 52           |
| 10       | 19                         | 37           |

A last parameter must also be considered: the “decimation factor.” It takes into account the fact that the measurement process is longer for far points than for close ones. The measurements reported above were acquired with the slower set-up (measurements at long range).

The superior performance with respect to the “metrology” modes is obtained basically by inhibiting the real-time laser refocusing so that the process works well only on surfaces where variations in range are limited. Unfortunately this condition does not hold for the Ancient Rome model, hence a certain degree of customization of the equipment was needed.

### 3.2 Equipment customization

The main idea for enhancing system performance was to permit laser refocusing only at the beginning of each scan-line, maintaining the sensor-to-surface constant for the following scan. This approach was calculated to give a scanning performance comparable to that of the “metrology” mode, allowing in the mean time overnight measurement to be performed, indispensable to completing a full scan of the monument in a reasonable period of time. In such conditions the predicted scan time was 3-4 days for each point of view, and this was considered acceptable by the museum.

Unfortunately the system did not have (at least in the system release 3.21, used for this project), the functionality for performing spherical scanning, hence a special piece of software, capable of driving the beam along circular trajectories, was specifically developed. It relies on a software library used by the system manufacturers for developing their measurement software, and Metric Vision kindly provided the library so that we could solve our measurement problem. The software we developed was designed as a stand-alone program, capable of moving the beam along circular trajectories computed in advance, and of appending the coordinates associated with each scan line to an ASCII file. Such incremental saving of data was introduced in order to minimize any possible data loss in case of blackouts during the long scanning sessions. In this way, a data acquisition speed of 170 points/second was obtained, using “Pseudo-Vision” mode with stacking=2, and refocusing at the beginning of each scan-line.

### 3.3 Acquisition project

The scanner position was chosen on the basis of some geometrical considerations. Let  $r$  be the distance between the scanning head and the measured point over the plaster surface. The focused area is a spherical shell including the two spheres with radius  $r-dr/2$  and  $r+dr/2$ , with  $dr$  on the order of 20 cm for the closer ranges, which represent the “thickness” of the shell. By positioning the instrument at a corner of the city model, as shown in the lower part of figure 2, the intersection between any spherical shell and the model’s main plane is a ring section covering a quarter of a circle, the size of which gets smaller as the scanner frames areas farther away (see, again, fig. 2).

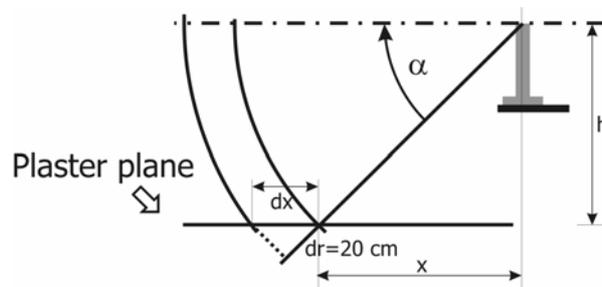


Figure 4: Detail of the focused area

With reference to figure 4, it is possible to see that the angle  $\alpha$ , between the laser direction and the horizontal plane, is given by:

$$\alpha = \arctan\left(\frac{h}{x}\right)$$

Since the maximum horizontal angle allowed by the Laser Radar is  $\alpha=45^\circ$ , the “blind” area from each station will be a circular sector whose radius is equal to the height  $h$ . Therefore, depending on the shooting height, the “blind” area will vary consequently. With height equal to 5.3 m, the “blind” area with the instrument located in a corner is a quarter of a circle:

$$\text{BlindArea}(\text{mm}^2) = \frac{\pi \cdot 5300^2}{4} = 22\,000\,000$$

One must take into account the fact that the irregular shape of the city model, as shown in figure 2, covers only a fraction of the whole rectangular surface, corresponding approximately to 86%. The  $16 \times 17.4 \text{ m}^2$  area will therefore not have to be entirely scanned.

Assuming the acquisition of one point each 2 mm, the total number of points to be acquired will be given by:

$$N_{\text{points}} = [\text{TotalArea}(\text{mm}^2) - \text{BlindArea}(\text{mm}^2)] \cdot \text{PointsPerMillimeter}^2(\text{mm}^{-2}) \cdot \text{coverage}(\%)$$

Given an area  $270 \text{ m}^2$  wide, this gives approximately:

$$N_{\text{points}} = (270\,000\,000 \text{ mm}^2 - 22\,000\,000 \text{ mm}^2) \cdot \left(\frac{1 \text{ point}}{2 \text{ mm}}\right)^2 \cdot 0.87 = 54\,000\,000$$

The acquisition time predicted for each point of view is therefore:

$$t(\text{s}) = \frac{N_{\text{points}}}{170 \text{ pts/s}} + N_{\text{scan-line}} \cdot t_{\text{initialization}}$$

where the focusing time term is added to the scanning time.

The number of scan-lines needed to cover the whole plaster area is given by:

$$N_{\text{scan-line}} = [\text{FarDistance}(\text{mm}) - \text{NearDistance}(\text{mm})] \cdot \text{PointsPerMillimeter}(\text{mm}^{-1})$$

With the data of the problem, the maximum distance ranges from 20 to 24 meters. Using a value of 21.3m to simplify the numbers, we obtain

$$N_{\text{scan-line}} = [21300 - 5300] \cdot 0.5 = 8000$$

Therefore, considering that each scan-line initialization requires about 3 seconds, a suitable prediction for the scanning time needed for a single view is:

$$t(\text{h}) = \frac{t(\text{s})}{3600} = \frac{\left[ \frac{54 \cdot 10^6 \text{ points}}{170 \text{ pts/s}} + 8000 \cdot 3 \right]}{3600} = 95 \text{ hours}$$

Two additional hours were calculated for moving the Laser Radar from one position to a new one, giving a global time of 97 hours per scan (4 days).

## 4 PRIMARY DATA ACQUISITION

### 4.1 Point clouds pre-processing

Three scans were arranged for the first massive acquisition. They were taken from three points of view located approximately at the vertices of an equilateral triangle. In figure 5 the station positions and the related blind areas are shown.

According to the planning already described, the operations made for each new position were:

- measurement of a few fixed reference points from the new position, made for properly reorienting all the data sets into a single coordinate system;
- measurement of the border of the city model from the new position, in the local instrument coordinate system;
- evaluation of intersections between the border of the model and circular trajectories (scan-lines at fixed focusing) spaced 2 mm apart;
- loading of intersections in the custom scanning software, interpreted as beginning and ending trajectory points;
- scanning start.

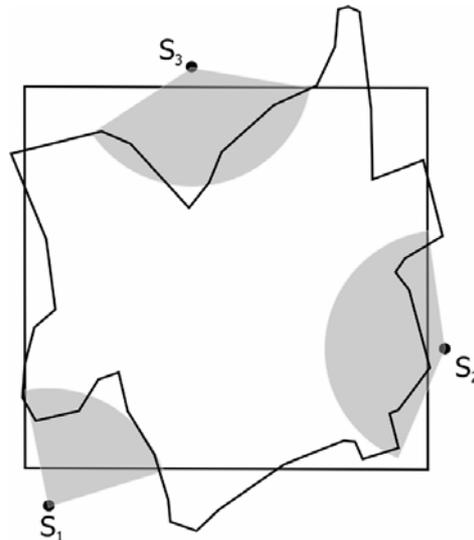


Figure 5: Positions of the first three scans. The blind areas are highlighted in gray

In the event, the time predicted agreed closely with the actual measurements, totalling, with small fluctuations, around four full days. To give an idea of the number of details to be captured a picture of the city model taken approximately from the  $S_2$  position is shown in figure 6.

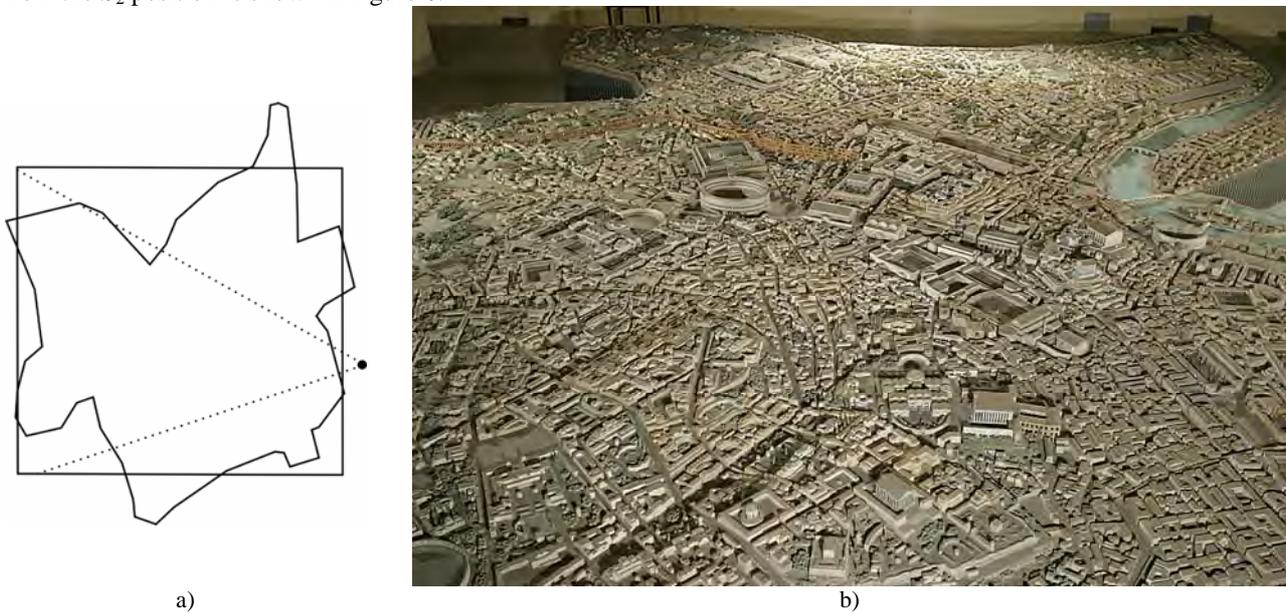


Figure 6: Portion of the city model seen by the laser radar from position  $S_2$ : a) schematic orientation of the photo camera; b) picture taken from  $S_2$

#### 4.2 Point clouds subdivision

The amount of data originating from the first 3D scanning campaign was so heavy as to be not manageable with current 3D software. Therefore the entire city model was subdivided into several sub-areas, dimensionally compliant with the post processing packages used for the project.

An approximate estimate of the number of points, calculated in section 3.3, is that there were approximately 50 million points (MPts) per point of view. Considering that the object had been framed by three different points of views, a rough estimate of 150 MPts had to be treated at the end of the primary data acquisition.

In order to separate all the acquired data into sub-areas, a 3D grid was constructed, obtained with a set of planes orthogonal to the main plane of the city model, as shown in horizontal section in figure 6. The approximately square zone containing the city model has been divided into a 9 x 9 grid. Since the area is 16 x 17.4 m<sup>2</sup>, we can consider 81 blocks, 2 m x 2 m each, covering a 18 m x 18 m area, large enough to cover all the irregular extensions of the city model.

|    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|
| I0 | I1 | I2 | I3 | I4 | I5 | I6 | I7 | I8 |
| H0 | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 |
| G0 | G1 | G2 | G3 | G4 | G5 | G6 | G7 | G8 |
| F0 | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 |
| E0 | E1 | E2 | E3 | E4 | E5 | E6 | E7 | E8 |
| D0 | D1 | D2 | D3 | D4 | D5 | D6 | D7 | D8 |
| C0 | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 |
| B0 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B8 |
| A0 | A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 |

Figure 7: Subdivision of the area of the city model into sub-areas for reaching a data set size compliant with current 3D software packages

Each block is made by  $1000 \times 1000 = 1,000,000$  points per take, or 3 MPts once the acquisition was completed from the three points of view.

Since the city model does not cover the whole fractioned area, some blocks turn out to be empty or partially occupied by 3D data. In order to have the same subdivision for any of the three views, each cloud of points was properly processed. Firstly the cloud was oriented in the global coordinate system, defined as the one associated with the first scan ( $S_1$ ). This point is necessary in order to define the same blocks for all the data sets. The cloud was then subdivided in blocks according to the subdivision defined by figure 7. At the end of this step the raw data had to be transformed in a piece of mesh, generating a set of triangles by properly connecting points close each other. This specific process, that is

generally performed with the Delaunay algorithm, can be much more efficient if the data set is in the original coordinate system, thanks to its spherical symmetry. For this reason the next step was to reorient each single block into its original coordinate system.

### 4.3 Point processing and mesh generation

Once the single point cloud associated with a block is extracted from the whole data pile, it is then cleaned in order to reduce the amount of data to the minimum necessary for meshing. Three steps were always performed:

- moderate filtering for noise reduction;
- cloud thinning, for reducing the number of points in the planar zones;
- regularization of the cloud of points for eliminating points closer to each other than 0.5 mm—the distance that typically creates topological anomalies at the meshing stage. These kinds of points were generated by the scanner corresponding to the beginning and end of any scan-line, owing to the fixed signal sampling corresponding to accelerations and decelerations of the deflection mirror.

The following phase was the mesh generation from the pre-processed points, for each of the blocks. This process, may be performed in different ways depending on the acquisition set-up.

In this case a specific module of the software package RapidForm was employed. It is delivered by the producers (INUS Technology Inc., Korea) as a separate dll that performs the 3D point cloud triangulation in spherical coordinates. This procedure is based on the Delaunay triangulation algorithm that typically projects the data set onto a plane for finding the most probable connections between close vertices and re-locates in space the connected vertices at the end creating a triangular mesh<sup>4,5,6</sup>. Of course the system works well if the data set is 2.5D rather than fully 3D. Thus, properly orienting the projection plane may dramatically change the final results. Some systems leave to the user the responsibility of orienting the plane, while others allow the user to choose the 3D sensor optical axis as the normal to the most convenient projection plane. The spherical triangulation tool of RapidForm permits the automatic definition of the projection center as the center of the coordinate system, and, more importantly, projects the nodes onto a sphere rather than onto a plane. As a result, nice and uniform meshes are obtained from data sets created from sensors with spherical symmetry such as, for example, the LR200. Once the mesh is generated, it has to be relocated into the global coordinate system, using, again, the rototranslation matrix used at the beginning. While the first step makes use of a custom software capable of rotating 50 MPts clouds, in this case the module IMInspector of the Polyworks Modeller package was used, which is capable of performing mesh rototranslations according to a matrix given in homogeneous coordinates (4 x 4). When the three meshes produced by the different points of view are generated and rototranslated into the same coordinate system, these are merged through the editing tool of RapidForm.

## 5 SUPPLEMENTARY DATA ACQUISITION

### 5.1 Definition of optimal points of view for data integration

In order to optimize the surface coverage of integrative scans, a Matlab procedure for evaluating a set of candidate 3D sensor positions was developed. It relies on the possibility, offered by the Polyworks-IMInspector module, to move and orient the viewport framing the model, according to a specific rototranslation matrix. This script, developed by Matlab, generated a set of matrices defining possible scanner positions along the extension of the museum balcony, making it possible to view the global mesh as seen from the scanner head. The visual evaluation of the mesh in the different cases permitted calculation of the best positions for closing as many gaps in the mesh as possible. It was evident that for examining the city model on a PC, it would be indispensable to reduce the model through a very strong polygonal simplification, involving the loss of several details, but, on the other hand, making clear what was missing from the mesh of the city model.

### 5.2 Data acquisition

This stage was intended to actually measure the missing sections according to the positions determined at the previous step. In contrast with the first massive acquisition, this campaign was marked by a large number of small views. As shown in figure 8, ten different acquisition points were used. In the figure,  $S_1$  to  $S_3$  indicate the first massive scans, while  $S_4$  to  $S_{10}$  are the seven integrative ones. In position  $S_4$  the scanner was still positioned on the balcony (the black dot on the right side of figure 8a), the following locations were located on the lower floor where the city model is situated (white dots in figure 8a). In this way, all those surfaces could be captured which were in the “blind” zones in the scans from the balcony.

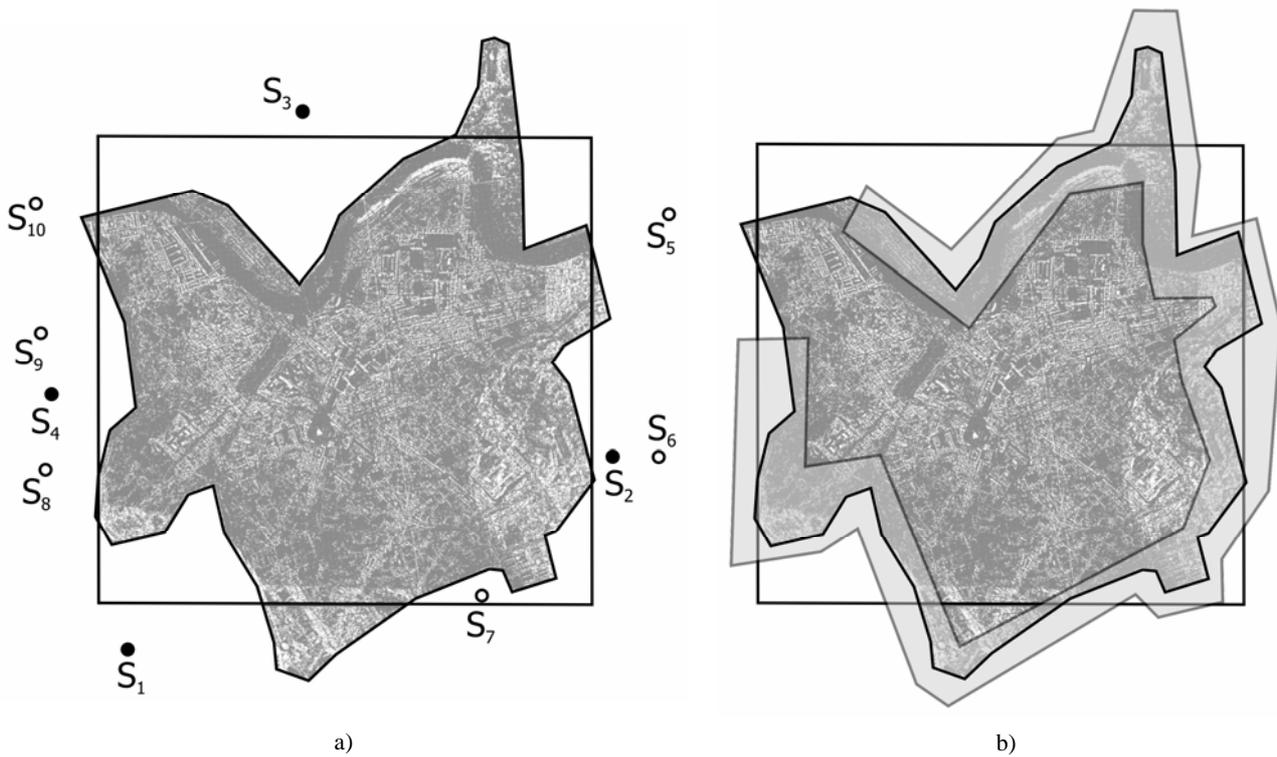


Figure 8: Data integrations generated with the two scanners used in the project: a) LR200 positions. The black dots represent acquisition points on the balcony level; the white dots indicate the digitizing points on the lower level; b) border area and city walls acquired with the Minolta Vivid 910 system.

The main problem for this instrument configuration is the angle between the laser beam and the city model. As a matter of fact, owing to the low height of the laser head, the beam direction is almost tangent to the main plane of the “Plastico.” For example, when the laser impinges on a building’s vertical wall, the points on that surface are in the focused range and are properly acquired. On the other hand, if the new distance is out of the focal zone, the points correspondingly acquired are not to be considered valid (see fig. 9).

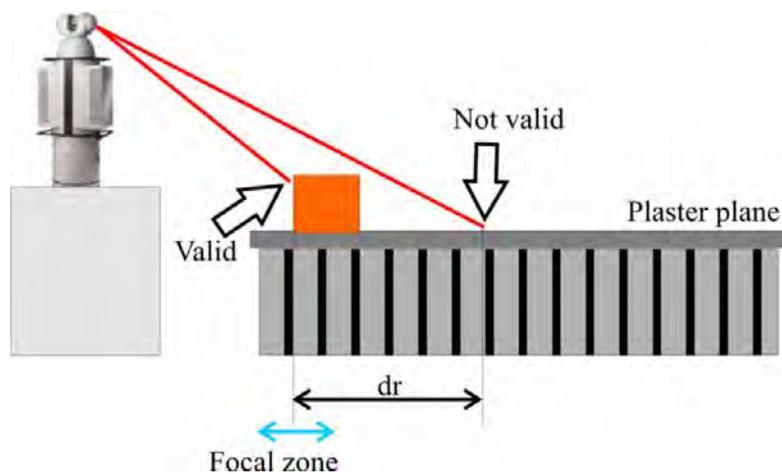


Figure 9: The points acquired when the laser impinges on a building’s vertical wall are properly acquired. If the new distance is out of the focal zone beyond the border of the wall, the points acquired are not to be considered valid and have to be deleted at the post-processing stage

For this reason the point clouds acquired at this step were characterized by a mix of properly measured points, characterized by a low level of noise, with a few extremely noisy measurements, superimposed on the “good” point cloud. A specific software was designed to confront the problem of separating the valid from the invalid clouds (see section 5.3). Since the laser radar has a minimal range of 2 m, the city model areas very close to the border (such as the city walls or the aqueducts) were acquired with two Minolta Vivid 910 scanners, as shown in figure 8b. In this way the integrative acquisition stage, intrinsically very slow because the Laser Radar had to be moved several times, were considerably speeded up by simultaneously working with three laser devices.

### 5.3 Integrative point clouds processing

At this stage the point clouds coming from the LR200 needed to be purged of the noisy points described above, and the Vivid 910 acquisitions had to be aligned to the main LR200 coordinate system. An interesting feature offered by the LR200 was employed in order to solve the problem of disentangling the noisy measurements from the good ones: the possibility of saving data with a “quality” factor represented by a score associated with each measurement based on the estimated Signal to Noise Ratio (SNR) when receiving the backscattered optical signal. Of course when the equipment works out of focus, the laser beam divergence produces a spreading in the light energy, and the amount of backscattered light falls below the suitable threshold. If the score is low, its value can be used to cut away the (bad) points measured out of the focal zone. But this value may not always be the same, so a tool for dynamically defining which points should be cut from the whole cloud was developed. It is software, written in Visual C++ and based on the OpenGL libraries, that shows the point cloud in 3D and simultaneously makes it possible to cut out points based on the quality factor. The user can therefore decide what is the acceptable noise level looking in real time at the “cleaned” 3D point cloud.

Triangulation and merging of the LR200 points were based on the same procedure described for the first acquisition stage. The range maps captured with the Minolta device were then aligned on the main set of data with the Iterative Closest Point (ICP) algorithm, implemented with the IMInspect module of the Polyworks software package. The data from the Vivid 910 and the LR200 were merged and simplified with RapidForm tools, in a way similar to the process executed at the first acquisition stage.

A mesh subdivision according to the 3D grid initially defined at the first stage was arranged for obtaining a set of about 60 blocks of mesh corresponding to the un-empty areas of figure 7.

## 6 MODELING

In order to complete model, suitable to be the platform into which could be inserted synthetically generated models such as the Roman Forum, Colosseum or the Circus Maximus, it is necessary to fill up as much as possible the (inevitably) missing areas through careful editing of the mesh. Each block has been processed separately by first purging all topological errors, followed by the smoothing of the building facades in order to lower the measurement noise. The missing areas have been supplemented with semi-automatic procedures implemented by editing tools of RapidForm and Polyworks, based on the analysis of the borders or in the fitting of polynomials surfaces over the mesh below. The editing work is still in progress. A preliminary merge of the data acquired up to now has been generated and simplified in order to create the pictures in figure 10, where synthetically shaded images of the model, taken from the three primary points of view ( $S_1$ ,  $S_2$  and  $S_3$ ), are shown.

## 7 CONCLUSIONS

As noted in the Introduction, the project discussed in this paper forms an important part of the Rome Reborn Project. The success of the project, in its initial phase, is indeed dependent on digitizing the impressive work of topographical representation and reconstruction accomplished by the twentieth-century archaeologists and physical modelmakers responsible for the “Plastico di Roma antica.”

Digitization of the monument makes it possible to launch the new digital model to be produced in the coming decades by the Rome Reborn project by inheriting the most accurate and detailed physical model developed in the previous century. Digitization of the Plastico gives an instant urban context to the new, “born-digital” models of individual sites and monuments being produced by the Rome Reborn project. Moreover, once the Plastico has been scanned, it can be updated as new discoveries come to light; its errors can be corrected; and, with additional work, it can be improved with

respect to its scale and the photorealism of its surfaces. Meanwhile, a highly accurate digital scan of the Plastico offers essential documentation of a fragile monument that has come to have great historical value in its own right.

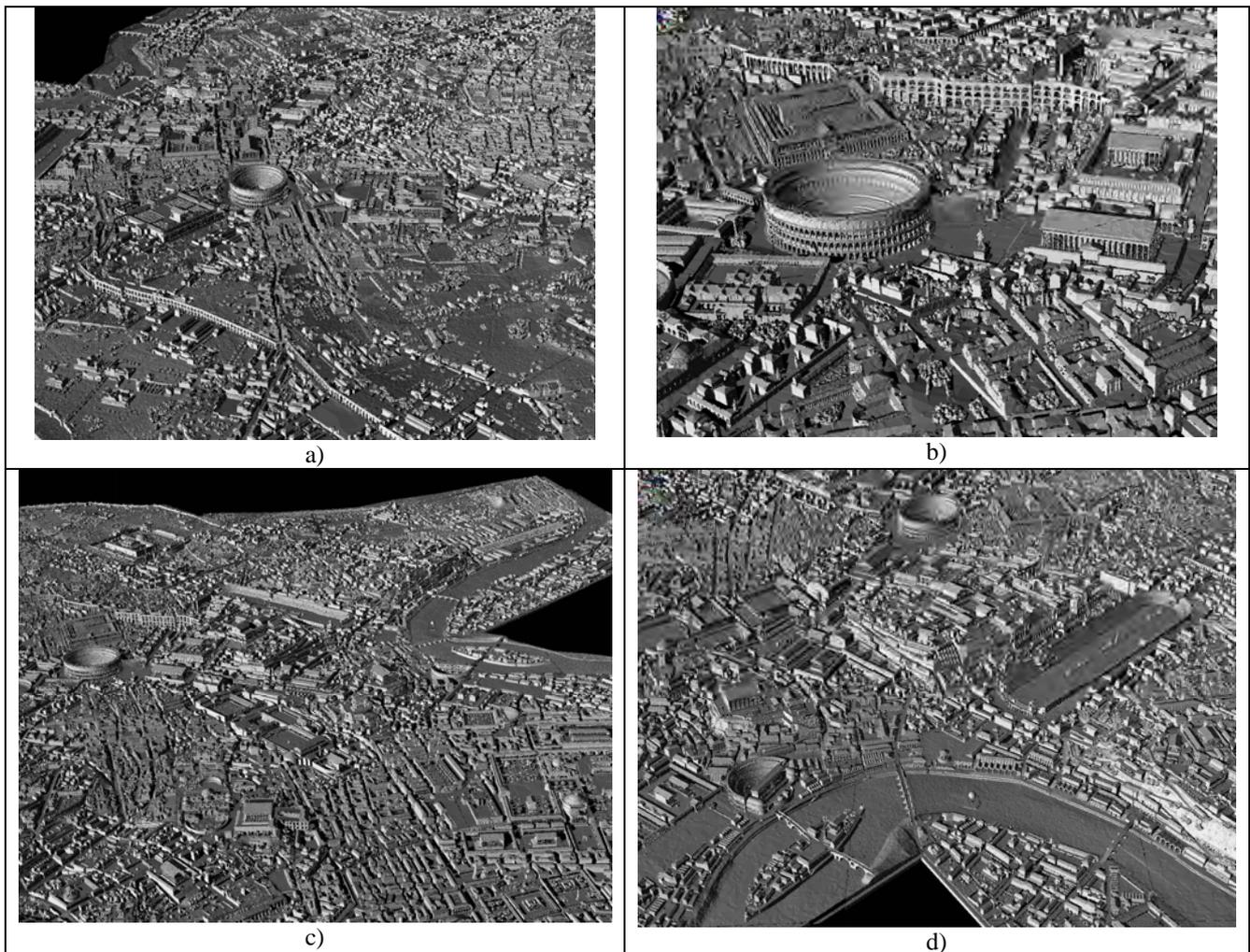


Figure 10: Preliminary models, oriented as seen by: a) position  $S_1$ ; b and c) position  $S_2$ ; d) position  $S_3$ . Some of the most famous Roman monuments, such as the Colisseum (a,b,c, and d) and the Circus Maximus (a, c, and d), are clearly seen.

The challenge of digitizing the Plastico lies in the very excellence of the model, which is large in size but tiny in detail. Digitization projects normally work with objects at one end or the other of the physical scale. This paper has shown the instruments, algorithms, and procedures used to sublimate these contradictory characteristics of the Plastico and to translate them, with minimal loss, into a new digital format. Since the Plastico is but one example of many physical models of cities that have been made since the Renaissance, the methodology developed for digitally capturing the authoritative model of ancient Rome should find useful application elsewhere<sup>7</sup>.

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## **Virtual Reality and Ancient Rome:**

### **The UCLA Cultural VR Lab's**

### **Santa Maria Maggiore Project**

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## **(1) Introduction**

Since the fall of 1995, professors of Classics, Architecture, Education, and Information Science at UCLA, in conjunction with colleagues in the United States, Britain, and Italy, have been developing virtual reality (VR) models of buildings and monuments in ancient Rome (cf. fig. 1). This collaborative research effort is called the Rome Reborn Project in honor of the first systematic study of Roman topography, Flavio Biondo's mid-fifteenth century *Roma Instaurata* (de Grummond 1996: 160-61). Since January, 1998 the project has been housed in the UCLA Cultural VR Lab, which was created with support from Intel, the Creative Kids Education Foundation, Mr. Kirk Mathews, the UCLA Division of Humanities, the UCLA Humanities Computing Facility, the UCLA Center for Digital Innovation,

the UCLA Graduate Division, the UCLA Office of the Vice Chancellor for Research, and the UCLA College of Letters and Science.

The Lab's mission is to provide technology support for projects like Rome Reborn that strive to recreate authenticated three-dimensional computer models of sites of great historic and cultural interest around the world. The Lab was founded on the assumption that in the next few years it will be as usual for archaeologists to commission highly accurate 3D computer models of their sites as it is for them to order radiocarbon dating of their organic finds or other tests. Just as there are several laboratories commonly used for radiocarbon dating, it is logical to expect that there will be a handful of 3D modeling facilities known for providing this new kind of archaeological service. The UCLA Cultural VR Lab hopes to be one such service provider.



Fig. 1. A view of the interior of the model of the Roman Senate House in the Roman Forum produced by the UCLA Cultural VR Lab for the Rome Reborn Project

Research and planning to date strongly suggest that the vision of Rome Reborn which a few short years ago would have been a utopian dream is practicable today. The 1990s have seen a fortuitous convergence of scholarly and technical advances that make a high-fidelity VR model of Rome feasible and affordable. For example, several comprehensive reference works on the building and topography of ancient Rome have been recently published (see

Richardson 1992; Steinby 1993--99). Those responsible have become collaborators on the project, and their success in synthesizing previously published material has greatly simplified for us the task of data collection. New technologies available today are especially well-suited for a study and recreation of lost worlds like ancient Rome. For example, realtime VR--which even three years ago was possible only on a supercomputer costing hundreds of thousands of dollars--is now available on a personal computer. Thus, today the challenge is not so much to gather the data needed for a virtual reality model or to create exotic new technology to run the model, as to integrate the information and computer resources already available in a scientifically accurate and coherent way.

Rome Reborn is producing its model of the ancient city in reverse chronological order, starting with Late Antiquity; and in concentric circles starting from two centers: the old civic center in the Roman Forum, and the new Christian quarter of the city in the southeast sector of the city, between S. Giovanni in Laterano and Santa Maria Maggiore (see Krautheimer 1980: 54-58). The project's short-term goal is to connect the individual sites modeled and to recreate an itinerary from the pagan civic center to the Christian religious center. In 1998-2000, the Basilica of Santa Maria Maggiore and buildings in the Roman Forum are being modeled. As with all models produced by the Cultural VR Lab, the basilica has been created in MultiGen a software package that supports highly detailed 3D modeling run in realtime.

In the long-term, the Lab's goal is to work with other interested parties in developing open standards for cultural VR so that a chronologically and geographically full model of ancient Rome (or, indeed, of any other archaeological site) can be created by hundreds of individual scholars or scholarly teams publishing their work in a compatible digital, scientific, and aesthetic format through dozens of electronic publishers. That is to say, UCLA researchers are acutely aware of the fact that a single team or laboratory is unlikely to have the manpower and resources to complete the entire model of ancient Rome from its beginnings in the Iron Age until Late Antiquity. Moreover, in a certain sense the task of modeling the ancient city will never be complete. As long as the field of Roman Topography is kept alive by new discoveries and new scholarly interpretations and controversies, it will be necessary and indeed desirable to update old models and to create new ones. Furthermore, it is important for scholars and

modelers to maximize the value of their efforts by utilizing compatible technologies to allow for the exchange of building models.

In this article, the project to model the Early Christian Basilica of Santa Maria Maggiore is discussed. This model has been chosen because it exemplifies the values and methodologies of the entire Rome Reborn project. These include close cooperation with cultural authorities responsible for management of the site; collaboration between the 3D modelers, on one hand, and the archaeologists and architectural historians, on the other; the use of VR to help illustrate, detect, and resolve archaeological controversies; and the use of VR to facilitate visualization of the past by students and the public.

## **(2) Introduction to the Site and Early History of Santa Maria Maggiore**

Among the Early Christian basilicas of Rome, S. Maria Maggiore is the one which best preserves its structure and an essential part of its original decoration. As a manifesto of the rebirth of Classicism expressed in a new Christian idiom, the building looks backwards toward the monumental civic architecture of the high Roman empire and forwards toward the religious architecture of the Christian Middle Ages (cf. Krautheimer 1980: 49). Despite its historical importance and good state of preservation, many points remain to be clarified about the oldest phases of the church.

Several recent publications on Santa Maria Maggiore have explored the building's history, early use, and decorative program. Nevertheless, a three-dimensional understanding of its original architectural form has remained somewhat illusive. A reconstruction drawing of Santa Maria Maggiore's early Christian form by Spencer Corbett was published in the third volume of Richard Krautheimer's corpus of Christian basilicas in Rome and again, somewhat revised, in Krautheimer 1980 (p. 48, fig. 41). Updated reconstructions appeared in later publications, yet these tended to be small in scale, and to focus on specific aspects of the building (De Blaauw 1994). Since no comprehensive 3D reconstruction of the basilica has incorporated all the new findings and interpretations postdating the efforts of Corbett and De Blaauw, the Basilica of S. Maria Maggiore is an ideal subject for VR modeling. In particular, the model created by the Cultural VR Lab is heavily dependent on the concepts of De Blaauw, who, as a member of the Scientific Committee, has further developed the ideas he published several years ago.

The main problem of the reconstruction of the fifth century basilica by Krautheimer and Corbett was that it contradicted a ninth century text in the *Liber Pontificalis*. This description of the liturgy in Santa Maria Maggiore under Pope Paschal I (817–824) suggests strongly that the apse had openings to a space lying behind it, where women were standing during the mass. According to the text, the women annoyed the pope, who was sitting on the cathedra in the apex of the apse. Krautheimer could not accept an open apse with a deambulatory because it did not correspond to the conventional typology of urban basilicas. Nevertheless, Geertman had already established in 1976 that the layout of the thirteenth century apse and transept was fully coherent with the modular system of the original design of the church. At the same time, liturgical sources did not allow the presumption of the papal cathedra of Santa Maria Maggiore standing in any position other than the traditional one: in the apex of the apsidal hemicycle. These considerations, taken together, already tended toward a correction of the reconstruction by Krautheimer and Corbett. But the suspicion of a deambulatory behind the original apse was entirely confirmed by the discovery of a fifth-century foundation wall by De Blaauw in 1986. It exhibits the same building technique as the other foundation walls of the basilica; is concentric with the original apse and an integral part of the original modular system; and it was partially reused as a foundation of the thirteenth-century rebuilding of the apse.

New important pieces of evidence also emerged from the excavation conducted at the beginning of the 1970s. These excavations under the side aisles of the basilica were undertaken in order to eliminate the source of humidity that was damaging the fabric of the building. On that occasion there came to light remains of an impressive Roman house which occupied the northwest half of the area on which the church stands (Magi 1972; Liverani 1988), as well as ample stretches of the foundations of the fifth-century basilica (fig. 2). The house was built around the middle of the first century A.D. and was transformed and redecorated many times in the four centuries of its existence. Its richness and its position in one of the best quarters of the ancient city indicate that its owners were part of the Roman elite who occupied this high point of the city. Part of the house's large peristyle was excavated, as were several rooms on the northwest (the side of the basilica's apse); but the principal part of the house still remains buried to the northeast of the basilica where there are also traces of a small bath complex. In the last quarter of the second century A.D., the peristyle of the

house was painted with the fresco of a calendar illustrating country scenes. Each month had a painting showing the work appropriate to the season of the year. It is probable that this decoration alluded to the rural properties of the owner. According to a recent hypothesis (De Spirito 1995) the last occupant of the house may have been Flavius Anicius Auchenius Bassus, the consul of 431, whose family was known to have owned property in this part of Rome. New observations made during research which is still in progress make this hypothesis appear less likely; instead it seems that there was a period in which the house was abandoned between the end of the fourth century A.D. and the time when the new basilica was built. A conflicting theory, however, associates the initiation of the project with Pope Celestine (422-432). Other remains found during the excavations include the foundations of the nave and side aisles and of the original apse. In the 1290s, under Pope Nicolaus IV, the fifth-century apse was demolished and rebuilt in a new position behind the old one.



Fig. 2. Cutaway view of the Basilica of Santa Maria Maggiore showing Roman domus at lower level

Construction of the Early Christian basilica required the partial destruction of the earlier Roman house. The southwest wall of the house was pushed into service as both a retaining wall and the foundation for the church. The remainder of the house was buried under six meters of earth to create a level platform atop which the new church could be built. The new ground level conformed to the high point of the hill, where the facade of the basilica was built. Extending 86 meters in length and 35 meters in width, the new basilica subsumed several properties atop the Cispan Hill. New information that came to light in the excavations have solved an old problem. According to the biography of Sixtus III, this Pope supposedly built the Basilica of S. Maria Maggiore "which the ancients called the Basilica of Liberius" (Lib. Pont., I, 46 c.3). If correct, Sixtus' basilica will have been the rebuilding of a basilica originally constructed a century earlier by Pope Liberius (352-356). This notice in the biography has caused numerous difficulties, and it has been suggested that it grew out of an erroneous identification made by the redactor of the sixth-century biography (Krautheimer, Corbett, Frankl 1967: 56-57). Recently, an attempt has been made to defend the notice in the Liber Pontificalis by proposing to limit the building of Liberius to the area of the nave of the Basilica of Sixtus III (Cecchelli 1988). Such a solution is, however, not convincing. The excavations have shown that there is no evidence of a basilica older than the fifth century; furthermore, the foundations brought to light by the excavations are all part of a single project which is coherent both with regard to its building technique and its architectonic modules (Geertman 1986-87: 286-287; De Blaauw 1994: 346). We must therefore search for the Basilica of Pope Liberius in another area nearby.

### **(3) The Santa Maria Maggiore Scientific Committee: Procedures and Issues**

The Scientific Committee for the Basilica of Santa Maria Maggiore Project was composed of distinguished international scholars in the area of ancient and early Christian art, architectural history, and archaeology. Prof. Diane Favro of the UCLA Department of Architecture and Urban Design served as chair. Other Committee members were: Dr. Paolo Liverani, Curator of Classical Antiquities of the Vatican Museums; Prof. Sible de Blaauw, Art

Historian, Istituto Olandese; and Prof. Arnold Nesselrath, Curator of Byzantine, Medieval and Modern Art of the Vatican Museums. The Principal Investigator of the project, Prof. Bernard Frischer of the UCLA Department of Classics, charged the Scientific Committee with ensuring the highest possible scientific and historic accuracy for the reconstructed VR model by carefully evaluating the data used, identifying specific issues for examination, and periodically reviewing the model during construction. The complex technical, architectural, and historical issues involved in researching, modeling, and archiving require modelers with special expertise. The Scientific Committee worked closely with the modeling team headed by Dean Abernathy, a registered architect with a great deal of archaeological experience as well as a professional 3D computer modeler. Helping Mr. Abernathy were advanced graduate students at UCLA with training in architecture, architectural history, and archaeology. Altogether the model went through three major revisions before being given final approval by the Scientific Committee in December, 1999 after twenty months of work.

### **Identification and evaluation of sources**

At the initial meeting of the Scientific Committee, the members first discussed and agreed upon a date for the building reconstruction of approximately A.D. 440, just after the full mosaic program was installed in the basilica. The creation of 3D computer models requires almost the same range and type of information needed to actually build a structure, including accurate topographical plans, and complete "working drawings" (reconstruction elevations; floor, ceiling, and roof plans; sections; details; structural analyses; and identification of materials). To start, the Committee used the modeling subject questionnaire developed for the Rome Reborn project. This questionnaire asks for both information sources, including scholarly publications, archaeological archives, photographic resources, secondary representations (e.g. paintings showing the early basilica), and for the names of individuals with specific expertise relating to the building (e.g. archaeologists, archivists, historians, photographers). The Committee discussed the merits of each source and debated various reconstructions and interpretations, selecting those to be used for the VR model. Since no one reconstruction satisfied the Committee, the group analyzed various components and compiled a variety of sources to create the model. For building parts lacking documentation, the Scientific Committee identified extant buildings of approximately the same date to provide analogues. For

example, reconstructions of the fifth-century atrium at the nearby church of S. Prassede were used to create a hypothetical plan for an atrium at S. Maria Maggiore (fig. 3); the pavement inside the basilica was derived from the contemporary floor of S. Giovanni in Laterano. As a further aid for the model-makers, the Scientific Committee also identified general information on the architecture of the era, such as surface treatment of materials, favored proportional systems, and construction techniques. In addition to an initial meeting regarding research sources, the Scientific Committee along with the primary modeler, Dean Abernathy, made several site visits to examine the extant building and the preserved archaeological remains. Such hands-on examination was vital for a comprehensive understanding of the building's form, materials, and construction.

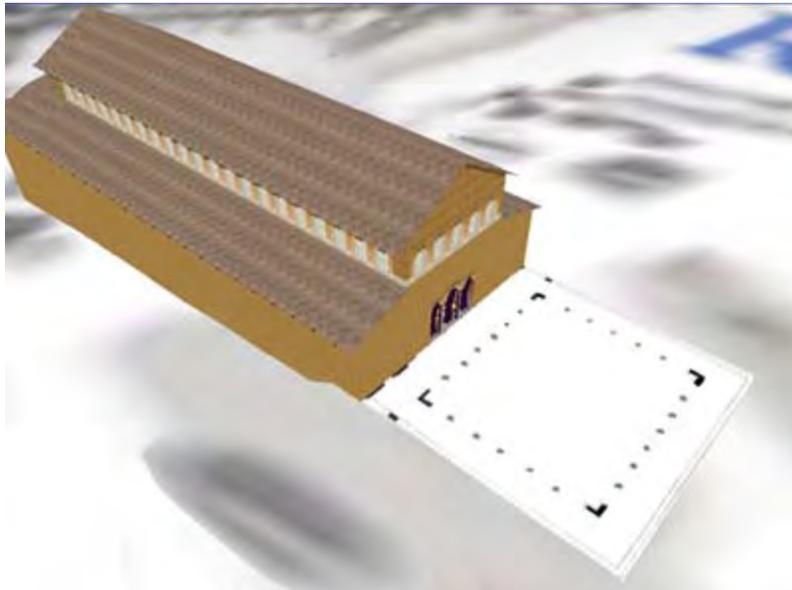


Fig. 3. Bird's-eye view of the Basilica of Santa Maria Maggiore with hypothetical plan of atrium.

## Data Collection

Thanks to the cooperation of the cultural authorities responsible for the Basilica, the Committee was able to provide the modeling team with highly accurate data. These included the latest state plan, elevation, and section of the building as well as a selection of color transparencies showing the recently restored nave mosaics. For the final version of the model, the modeling team was able to include digital versions of even more detailed

large-format transparencies of the mosaics (18 x 24 cm.), which were licensed for the project. On his several visits to the Basilica, Dean Abernathy was able to take high-resolution digital photographs of such surface materials and architectonic elements as columns, brickwork, trusswork, and marbles. Thus, the model achieves a high degree of photorealism as well as architectural accuracy.

### **Identification of historical and archaeological research issues**

VR models have many uses from educational applications, to didactic aids for heritage diffusion. Equally important, they help scholars to address research issues. The experts on the Scientific Committee carefully discussed various ways in which the VR model of the Basilica of S. Maria Maggiore in the early fifth century could be used to further research agendas. They identified several specific topics of scholarly concern, including the interrelationship between the pre-existing Roman building on the site and the new Christian basilica, the existence of an atrium, the topographical impact of the fifth-century structure, the interior lighting, the ceiling configuration, and the treatment of the original apse, especially as it related to early Christian ritual. By specifically highlighting these topics at the beginning of the modeling process, all concerned (from the data-gatherer to the modeler) were able to give them special attention. The Scientific Committee also discussed various ways to maximize the model's usefulness, evaluating the scholarly value of creating alternative reconstructions and of conducting various analyses using diverse computer programs, e.g. a lighting study using Form Z.

As the modeling progressed, the data-gatherers, primary modeler, and head of the Scientific Committee conferred on a regular basis, with periodic consultation with the rest of the Committee members and the Principal Investigator in person, and via e-mail. Ways were explored to allow the Committee to view the models interactively on a video and on a website. At periodic milestones during the development, the experts on the Committee were all shown the same version of the model in the UCLA Cultural VR Lab, or as a fly-through on video or as printed images. In addition to the Scientific Committee, outside consultants were asked to give advice regarding specific questions. For example, Professor Philip Jacks of George Washington University reviewed the open truss system of the ceiling used in an early version of the model and evaluated the proposed scheme for

coffering, which was used in the final version. Professor Fikret Yegül of UC Santa Barbara assessed the construction techniques. Notably, the type of media presentation had a significant impact on the issues addressed by the experts. When the interactive, kinetic model was viewed, they focused on broad questions of form, structure, and experiential impact; with 2D prints they gave greater emphasis to materials, textures, colors, and individual details. The ideal interaction was between the modeler, scientific expert, and head of the Scientific Committee examining the model on the computer together.

Traditionally, reconstructions of historic buildings have been executed as 2D drawings of selected views or as simplified three-dimensional models. Both are static forms which can be altered only with great difficulty. With VR technology, the recreated building is constructed in 3D but is also 4-dimensional, since it can be experienced temporally. Viewers can move through the structure in real time, or see a modeled building evolve over time. A VR model is not static, allowing for several simultaneous versions and repeated updates. This flexibility allowed the Rome Reborn team to model new or conflicting interpretations, layer different building phases and test various hypotheses. For example, since scholars do not agree about the treatment of the entry into the nave, the team modeled the building entry with both a trabeated door and an arcuated, curtained opening (fig. 4).



Fig. 4. Alternative reconstructions of the front entrance of the Basilica of Santa Maria Maggiore  
(left: curtained openings of final version. Right: doors in an earlier version).

To demonstrate the close connection between the earlier Roman house and the Early Christian building, the team modeled the Roman archaeological layer beneath the basilica (fig. 2). VR models also allow the restoration process to be more transparent. In traditional models, the evolutionary phases passed through during construction of the physical model or of the drawn reconstruction are generally lost, along with an understanding of how and why reconstruction decisions were made. With VR models, various iterations can be preserved through archiving, thereby documenting the creation process and simultaneously preserving progressive versions for reuse. In addition to documenting phases of the model, the Rome Reborn team also archived modeled and scanned data on individual building components and materials. These digital libraries are supported by written files recording the research sources, analogues, and experts consulted for each modeling decision, and for each visual and material source. Since the VR reconstruction model can be continuously updated in response to new discoveries and interpretations, it is never "completed." However, once a version satisfies the criteria of the Scientific Committee it is described as "certified." future updates are possible, though always in consultation with the Committee.

### **Technical Aspects of Modeling**

The goal of the modeling process is to create a high-fidelity, multiple dimension database integrating the research and expertise of the Scientific Committee. Initial modeling efforts focus on the physical data and descriptions of the early basilica. Scaled plans and sections were drawn prior to modeling to assist in making the 3D reconstruction. The sources for the model varied in quality and quantity, requiring a synthesis of information vetted by the Scientific Committee. The reconstruction then progressed from the general building form, commonly known as a massing model, to the specific details. This transition required an initial survey of all the building components. The component types were built, then customized and inserted into the model. The reconstruction thus tends to proceed in an uneven manner, with large improvements during the development of the massing model and almost imperceptible changes after the model components have been customized since the early changes are executed globally through undifferentiated building components, while later changes must be repeated on each custom component. The modeling process lingers in the

undifferentiated stage as long as possible, so that changes and improvements can be enacted over all the components of the same type before they are differentiated. As the model matures all components are refined, updated and archived, resulting in the "certified" database in the final version of the model.

The VR database is created by combining two types of information. First is the geometric model created using 3D modeling software like Form Z, Autocad, 3D Studio Max and MultiGen, the primary choice of the UCLA Cultural VR Lab because of its support of many realtime applications. The graphics, or surface textures form the second component. These are manipulated in software like Photoshop, or any other similarly suited software package. The integration and management of the geometry and the textures is a difficult task. More sophisticated modeling softwares like MultiGen or 3D Studio Max facilitate the process with specific tools. MultiGen, because of its development as a virtual reality world-building software, also provides a scene graph view of the data. This allows the simulation designer to program interactivity into the model and to optimize the data for real time simulations like virtual set technology. The MultiGen flight file format can also be translated into other formats allowing the database to be used with other to test lighting, structures, or materials.

### **Model creation**

The four-dimensional form of VR models compels a holistic approach to historic architectural reconstruction which, in turn, shaped the ideas of the Scientific Committee. First and most obvious was the visual impact of decisions regarding materials, architectural decoration, and art. Reconstructions of components which seemed logical when seen in isolation or in black and white frequently had a decidedly different visual impact when viewed in the full context of the entire building. For example, the original brickwork of the basilica was photographed and digitized for the reconstruction of the structure's entire exterior surface. When faced with the huge scale of the reconstructed brick walls the Scientific Committee immediately requested this rough surface be plastered. Similarly, the uniform interior columns in an initial phase seemed too regular when seen within the great expanse of the basilica's interior; they were subsequently made more irregular in form and alignment following the example of other Early Christian buildings with *spolia*. Building elements which seemed minor or inconsequential during abstract discussions took on greater

importance when seen in the 3D context of the model. Thus, at first the Scientific Committee was not overly concerned with the interior pavement, yet the powerful visual impact of the floor on the perception of the entire basilica soon demonstrated the significance of this feature (fig. 5). Several different pavements were tested and the impact of the colors, textures, and pattern size on the overall visual experience carefully evaluated. The final choice was based on a roughly contemporary floor pattern from the Basilica of San Giovanni in Laterano (see fig. 6). In a few instances, visual intensity became an issue.



Fig. 5. View of the interior of the Basilica, with the first version of floor and the extant thirteenth century mosaic in the semidome

Viewing the interior of the model the Scientific Committee felt the aediculae surrounding the mosaics above the side aisles lacked sufficient visual impact and asked the modelers to enhance their form and shadows. Similarly, the initial color scheme for the interior plaster walls appeared too dominant when seen in context and was subsequently muted. The appearance of the model also called to question some aspects of the building structure. In particular, the visual weight of the apse semidome compelled consultants to question whether there was adequate structural support.

Viewers can examine the VR model from any angle. Such multiple viewpoints immediately compelled an interest in the building's overall urban setting and topography. The Scientific Committee believed the form of the building could not be understood without recreating the surroundings. Unfortunately, information about the topography of Rome in the fifth century is limited. Drawing upon nineteenth-century excavation data, the team located spot points and analyzed the current state of the hill to recreate a topographic map of the area in late antiquity (see fig. 7). The model of the Cispan Hill's northwest slope, along with the appearance of the basilica model, compelled the Scientific Committee members to rethink the reconstruction of the apse end of the building; in response, they recommended removing the buttresses originally modeled around the exterior of the deambulatory of the apse in emulation of the church of S. Agnese in Rome.

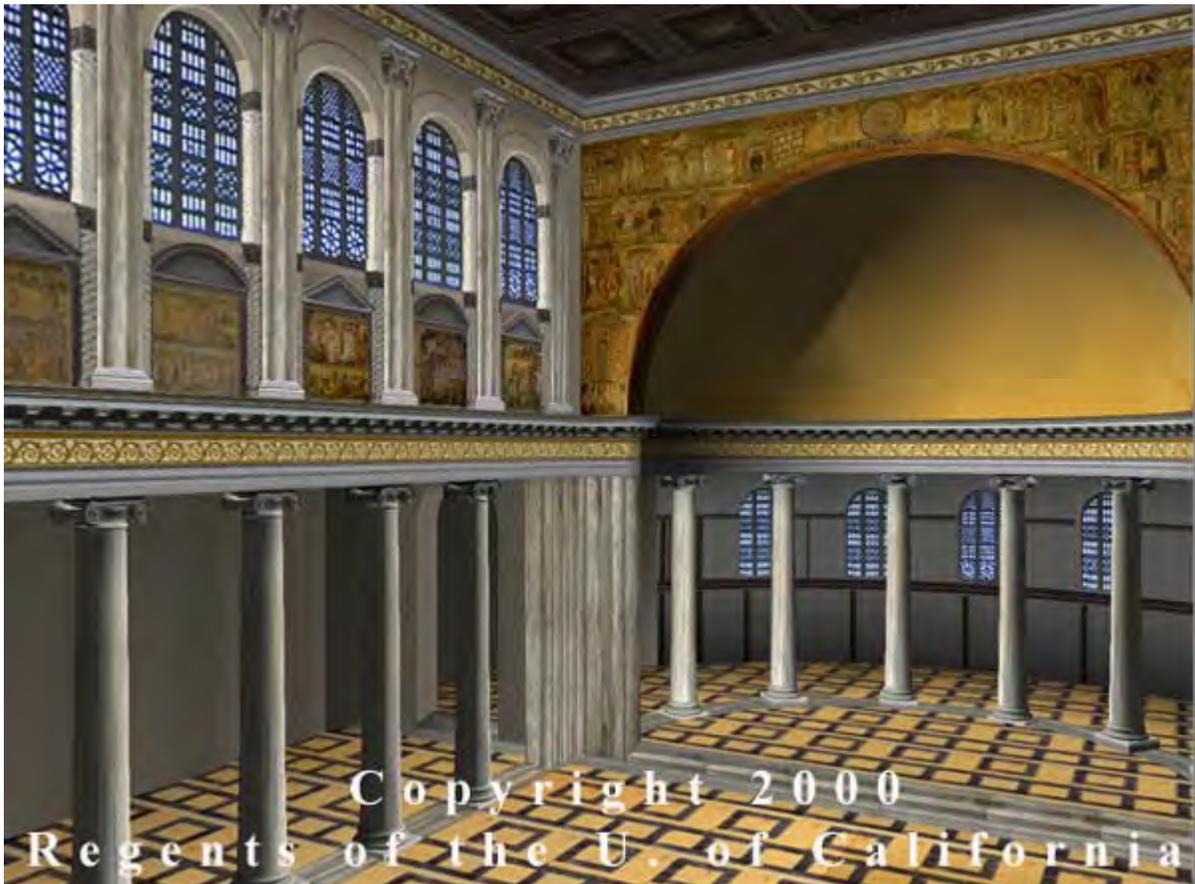


Fig. 6. View of the final version of the semidome of the apse and of the floor.

Especially troublesome were building components for which documentation was limited. While most scholars agree the Basilica of S. Maria Maggiore

would have had an atrium court in front, no archaeological, pictorial, or written evidence exists. The team experimented with various versions of an atrium based on contemporary analogues. When seen in the context of the entire model, however, these speculative reconstructions garnered too much attention. As a result, the team decided to show the atrium in plan, in contrast to the three-dimensional representation of the basilica itself (fig. 3). This representational convention is an effective compromise, allowing viewers to understand the placement and form of the atrium, without being distracted by a hypothetical structure. Another convention was developed for the apse decoration on the interior. Scholars believe decorations embellished the original semidome of the apse, though no specifics have been preserved regarding their appearance. Rather than show the eye-catching mosaic currently in place which dates to a later period (cf. fig. 5), the modelers decided to mute the shapes and colors to evoke the existence of a decorative program without emphasizing the specifics (fig. 6).

## **Insights**

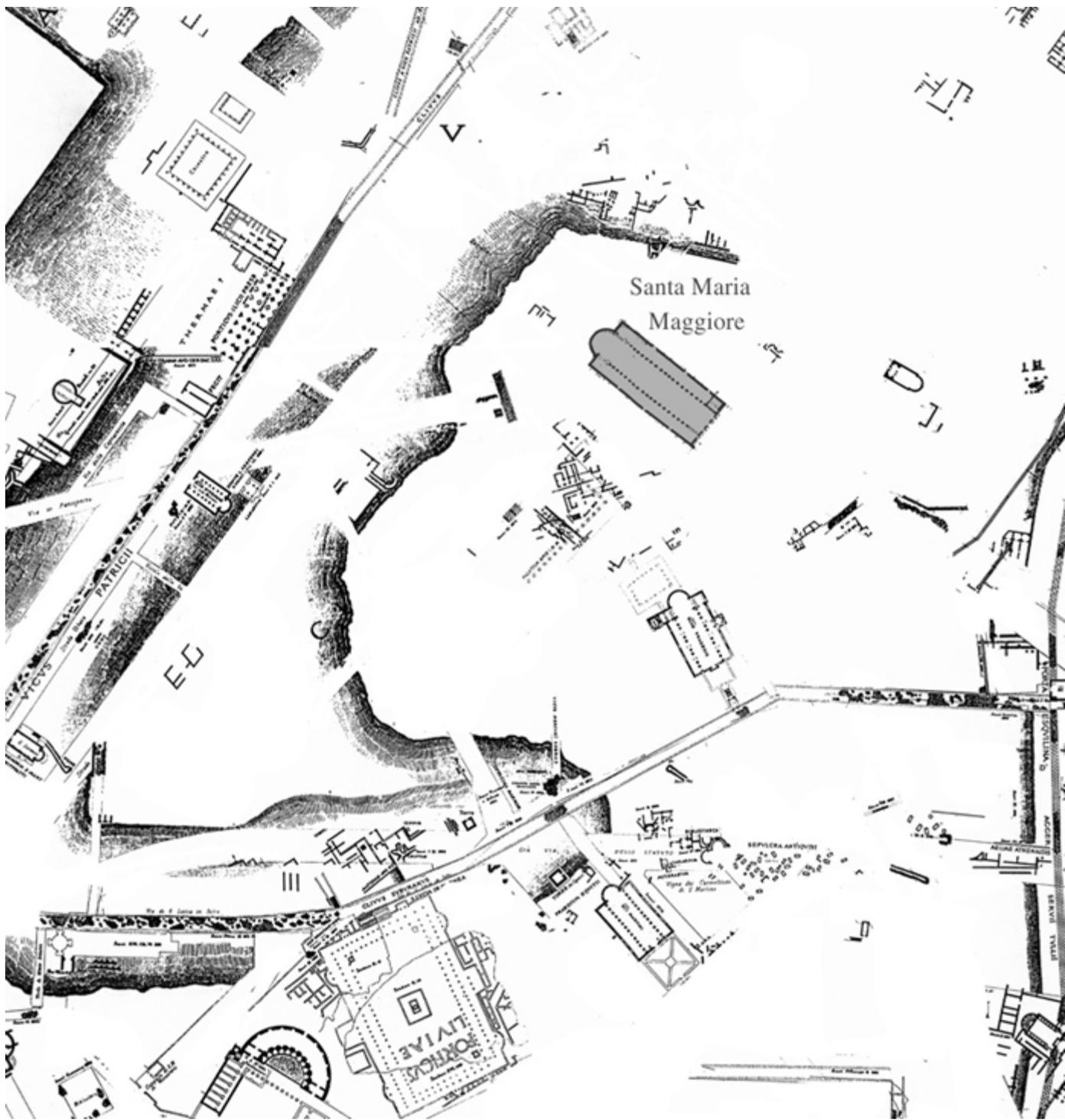


Fig. 7. The topographic context of the Basilica of Santa Maria Maggiore.

Every new tool has an impact on research. In the case of VR modeling, the unique requirements for creating a model compelled the acquisition and integration of complex construction data very different from that required for other types of research or reconstructions. The 4D capabilities of the

modeling system also impact our understanding of past buildings. Four significant new insights resulted from the creation of the S. Maria Maggiore model. First, the temporal layering of the basilica over the earlier Roman building underscored the close integration of the two projects and the significant topographic alterations to the site. Second, the reconstructed interior with the original fenestration in place revealed that the upper section of the interior was originally bathed in a golden light which enhanced the impact of the mosaics; conversely, the dark semidome of the apse floated above windows at a lower level. Third, the reconstruction of the apse based on liturgical sources raised significant structural concerns. Fourth, and perhaps most dramatic, were the findings regarding the urban impact of the building. Resituated in the topography of late antique Rome (fig. 7), the basilica was seen to have been oriented for maximum visibility along major thoroughfares and from other hills in the city, following ancient theories of view-planning. The creation of the model also highlighted areas for further research. These include questions about the translucency of the windows, the types and placement of furniture and embellishments; the exterior wall treatments; and the junctions between building parts, especially between the atrium and the facade, and between the apse, the ambulatory, and the side aisles. At the current stage, the model has greatly expanded our understanding of the construction and visual impact of the basilica's form. The next step is to investigate the building's original use through the integration of ritual furniture and live actors or avatars reenacting the ceremonial use of this magnificent structure.

### **Dissemination and Uses of the Santa Maria Maggiore Model**

Models can be used for a variety of purposes, including architectural walk-throughs and urban simulations; historical reconstruction; architectural analysis; nondestructive conservation and restoration; recontextualization of works of art that have been moved from their original location; and virtual sets in documentaries or in works of fiction.

Models are computer files consisting of 3D geometry and textures applied to the surfaces of the geometry. They may be viewed on the computer either in realtime or in prerendered, pre-encoded video clips. Models may also be used as assets in educational videos for delivery on videocassettes or over broadcast and cable television.

The advantage of realtime is flexibility: the user can explore the model along an infinite number of paths chosen spontaneously by the user himself. Since persistence of vision in realtime ideally requires the computer to render at least 30 frames per second, the price the user pays for this flexibility is a loss of detail: geometry and textures may have to be simplified to permit the computer to generate frames at a fast enough speed. Effects such as reflections, translucency, shadows, or perspective correction may have to be sacrificed. The advantage of prerendered video is that it supports a high level of visual detail and effects. The disadvantage is that, as the term prerendered implies, the user is limited to precisely those paths through the model that have been selected in advance.

Both realtime and video applications can be enhanced with animations and hot spots linked to other files or World Wide Web sites. Through animations and hot spots models can be linked to information that can help the user to understand the history, cultural significance, and archaeological evidence of a model. Interactivity in varying degrees and through differing tools thus characterizes the use of a model on the computer.

Contrasted to this, a model utilized as an asset on an educational video is linear. Fly-throughs of a model can be outputted to a video recorder. Files of models can be used in a virtual set system to create the illusion that live actors (e.g., an archaeologist or architectural historian) have been transported into the virtual world. When combined in postproduction, fly-throughs and virtual set shots can enable the archaeologist or other expert to give a tour of the site as reconstructed on the computer. Since the medium is video, the same high degree of realism is possible (lighting effects, shadows, translucency, etc.) that characterizes prerendered video delivered on the computer. And since video cassette recorders are commonplace in homes and schools, and since streaming video can now be delivered over the World Wide Web, the educational video offers a combination of low cost and high visual quality that more than compensates for its lack of interactivity.

Each of these delivery modes has its appropriate use. For example, a scholar might use a realtime model during a lecture in order to present his own analysis of a site. It could also be used in a VR theater with a screen wrapping around the audience or in a CAVE environment installed in a museum or on the archaeological site. A CAVE (literally, a "computer-assisted virtual environment") is an immersive virtual environment, typically 3 x 3 meters in size or larger, in which the computer model is projected onto

the walls, floor, and ceiling while viewers stand in the middle of the space. CAVEs are thus typically more immersive than are VR theaters (which typically contain projections on just three walls), but VR theaters have the advantage of more readily accommodating a large number of viewers, who, moreover, can be seated during the VR experience. In a CAVE or VR theater, a guide can take visitors on a live, interactive tour of the 3D computer model, answering questions and giving views of the site that even the ancient visitor could not see or see so well. A teacher whose expertise pertains more to the use or history of the site than to its construction might use a videotape with a virtual tour of a site given by an archaeologist or architectural historian. The same videotape can be used in the auditorium of a museum or archaeological site to provide an orientation for visitors.

The UCLA Cultural VR Lab has been actively experimenting with ways of combining the strengths of all the approaches just mentioned into an integrated archaeological information system that is scalable to the needs and interests of users ranging from high school students to advanced scholars. Thus, on the Rome Reborn Web site ([www.cvrlab.org](http://www.cvrlab.org)) can be found pre-rendered video models, realtime models as well as videoclips of fly-throughs and virtual set shots. Users can simultaneously watch a videoclip while reading the script in a text window. Technical terms in the script are themselves linked to a glossary window. Although the videoclip is linear with respect to the world it depicts, it is presented in a viewing window that permits interactivity in the form of starting, stopping, and reversing the clip itself. Thus the user is empowered to learn at his own pace.

The Office of Academic Computing, the central computing facility on the UCLA campus, is building a virtual theater, which is scheduled to open in January, 2000. The theater, which will be known as the Visualization Portal ([www.ats.ucla.edu](http://www.ats.ucla.edu)) is a unique facility at an American university. It will provide seating for over twenty viewers to sit in a space surrounded by an 8 meter x 3 meter highly luminous screen, onto which models and related information can be projected in realtime. The facility will be available to the researchers of the Cultural VR Lab as well as to students in the classes they teach. When it opens, a new era in the Lab's history will begin as it changes its emphasis from model creation to the use of 3D models in teaching and research. It will be a splendid resource to use for immersive viewing of the Basilica.

## **ACKNOWLEDGEMENTS**

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For further information about the Rome Reborn Project ([www.humnet.ucla.edu/rome-reborn](http://www.humnet.ucla.edu/rome-reborn)) or about access to the model of the Basilica of Santa Maria Maggiore, please contact Prof. Bernard Frischer ([frischer@ucla.edu](mailto:frischer@ucla.edu)).

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# Unravelling the Purple Thread: Function Word Variability and the *Scriptores Historiae Augustae*

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## Abstract

Recent work by Meissner, and Tse and Frischer examines the variability of function words within the *Scriptores Historiae Augustae* (*SHA*) and other texts by Latin authors. In this paper, we correct the methodological flaws, both statistical and textual, of these works. We examine the variability of function words using van Valen's test for equality of variances of several samples and find no evidence for the presence of a 'purple thread' of single authorship through the texts of the *SHA*.

## 1. Introduction

The problem of the *Scriptores Historiae Augustae* (*SHA*) has been the subject of much debate for many decades. This biographical collection of Roman emperors covers the period AD 117–285 and is attributed in the manuscripts to six different authors. Dedications of thirteen of the lives to Diocletian and Constantine suggest a date of composition in the period circa 290–325. In 1889 and 1892, however, Dessau, having studied the nomenclature and style of the works in the *SHA*, proposed the theory that it was written only by one author. He also suggested that this single author wrote during the fourth century. Magie (1922) describes one early reaction to Dessau's hypothesis as 'a somewhat fanciful attempt to trace through many of the biographies the purple thread of an otherwise unknown historian of prime importance (p. xxxii)'. While this historian is no longer believed to be of great importance, the consensus of scholarly opinion today favours the theory of single authorship and thus seeks to find a 'purple thread' running through all of the texts that make up the *SHA* (see Gurney and Gurney, this issue).

Almost a century later, Marriott (1979) offered support for Dessau's theory through stylometry. The first study in his article compared the average number of words per 'sentence' of the *SHA* with those of other fourth century texts such as the legal code *Codex Theodosianus* and the technical treatise *De Rebus Bellicis*. His second study made a similar comparison based on the choice of word type (i.e. part of speech as noun, verb, preposition, etc.) at the beginning and end

of sentences that were randomly selected. To avoid the problem of differences in punctuation among various modern editions, 'sentence' here has been regarded as any series of words separated by a period, colon, or semi-colon. Both Marriott's studies showed similarities among the biographies of the *SHA* but differences from the control texts. Based on these findings, he concluded that the collection was authored by one person, as Dessau had proposed.

Frischer published critiques of Marriott's works by extending the study to include control texts which fall into the same genres as the *SHA*, namely biography and history. Frischer (1996) finds that with regard to the average number of words per 'sentence', the *SHA* and the control texts have average values that range from 14.06 to 17.33. Marriott's averages, which included generically unrelated control texts, had a broader range from 16.06 to 36.00 words per 'sentence'. Frischer *et al.* (1996) go on to examine the second part of Marriott's study: tests by word type also showed stylistic similarities between the *SHA* and such authors as Livy, Tacitus, and Suetonius. On the other hand, the authors of texts chosen by Marriott as controls in his second study, Aurelius Victor and Ammianus Marcellinus, turned out to be eccentric (Frischer *et al.*, 1996, p. 116).

These results question the validity of Dessau's theory of single authorship as well as Marriott's methods for stylometric investigation. Frischer's studies support, on the other hand, an ongoing tradition in Latin prose that favoured a fairly specific sentence length and word order, particularly in the genres of history and biography.<sup>1</sup> There is no doubt that many rhetors have lectured on which stylistic features were considered proper and aesthetic. For instance, Demetrius would go so far as to prescribe that narratives should begin with nouns in the nominative or accusative case (Schenkeveld, 1964, pp. 199–201). In fact, the study on word type at 'sentence' beginning and end showed that Nepos and Aurelius Victor differed from the *SHA* and the other control texts. This is no surprise since modern scholars have long considered the styles of the two writers abnormal and deviant from what was generally accepted.<sup>2</sup>

Thus, to make further progress in assessing Dessau's thesis, a test is needed which is sensitive enough to detect stylistic features specific to the author and not

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merely the tradition in which he and his colleagues wrote. Yet tradition is not the only problem which the *SHA* brings to the modern practitioner of stylometry. The majority of problems concerning authorship deal with a single text or small group of texts which must be assigned to one of a closed group of authors. Thus, control texts from each of these authors can be collected and compared with the text of unknown origin. With the *SHA*, however, the specific authorship of the texts is not of concern, rather it is the number of authors that is the question of interest. There are no control texts, other than surviving works by authors writing in similar genres. While in other situations, it is the value of measures of style (e.g. measures of vocabulary richness, most common words, function words) which are important, in the case of the *SHA* it is the variability found in these measures which is important.

With this in mind, we shall proceed as follows. In Section 2 we shall review the research by Meissner and by Tse and Frischer which apply the study of the variability of function word usage to this problem of authorship attribution. The methodology to be used will be introduced in the following section. In Section 4, we compare the variability of function word usage in the *SHA* with that found in texts known to be written by a single author. We shall follow up the single-author material in Section 5, considering the homogeneity of various subgroups within the *SHA*. In the subsequent section, we turn to the variability found in a corpus purposely constructed to mimic the authorial structure of the *SHA*, as suggested by its manuscript tradition. Finally, a discussion of the results and our conclusions are presented in Section 7.

## 2. Previous Work

In this section, we outline the previous work carried out on the variability of measures within the *SHA*. For a review of other papers dealing with the authorship of the *SHA*, see Frischer *et al.* (1996) and Gurney and Gurney (this issue).

We take our motivation from the work of Meissner (1992, 1993). Meissner considered the use of function words in the texts of the *SHA* and *De Vita Caesarum* (*DVC*), a similar collection of emperors' lives by the Roman biographer Suetonius (circa AD 70–160). Function words are context-free, such as prepositions and conjunctions which include *and*, *in*, and *but* in English. The use of function words in the study of authorship has a long history; perhaps the best-known and definitive study of authorship attribution, Mosteller and Wallace's (1964) examination of the *Federalist Papers*, uses function words. The *Federalist Papers* are a collection of eighty-five essays written to persuade the citizens of New York to ratify the Constitution of the United States. They were published originally under the name *Publius*, but the essays are known to have been written by Alexander Hamilton, James Madison, and John Jay. With the exception of three texts, each essay was written by a single author, and the attribution of all but twelve is known. Mosteller and Wallace show that all twelve disputed texts are very likely to have been written by Madison.

Their study is often used as a benchmark for testing novel methods of authorship attribution (Holmes and Forsyth, 1995; Martindale and McKenzie, 1995; Tweedie *et al.*, 1996).<sup>3</sup>

Perhaps the most difficult part of using function words is determining which words to examine. Meissner obtained his function words by dividing the texts into blocks of 4,000 words and using the words which appear most frequently in the texts as well as at a minimum of ten times per 4,000 words. These criteria resulted in seven function words: *ad*, *cum*, *est*, *et*, *in*, *non*, and *ut*.

Meissner began by examining the behaviour of these words in the *DVC* and the *SHA*. Subjectively, the usage of the seven words appeared to be much more variable in the *SHA*, and Meissner turned to  $\chi^2$  tests to formalize this impression.

The number of times that each word occurs in a text was compared with the average number of times it occurs across all the texts. However, the number of occurrences of each word and the number of times that it does not occur were treated erroneously as independent values, and the usual  $\chi^2$  goodness-of-fit test was carried out. The number of significantly different occurrences of words in the *SHA* was much higher than the number of significantly different occurrences of words in the *DVC*, and Meissner used this to conclude that the *SHA* is indeed more variable than the *DVC* with respect to these seven function words.

Tse and Frischer (1996) realized that Meissner's use of the  $\chi^2$  test is flawed—its use in this way is highly inappropriate—and they attempted to correct it by treating the occurrences of the function words as elements in a contingency table. They then used the  $\chi^2$  statistic to test for independence between the texts and the occurrences of the words. However, the sample sizes were such (e.g. 108,363 words in the *SHA*, 70,522 words in the *DVC*) that it would be most unlikely for the  $\chi^2$  test to yield a non-significant value. The significant results obtained from this stage of their work should, therefore, be regarded with some scepticism.

In the second part of his paper, Meissner went on to use *F* tests to compare the variability of his seven function words in the *SHA* and the *DVC*. He found that the usage of all of the words, with the exception of *in*, is significantly more variable in the *SHA* than in the *DVC*. Meissner concluded from this that the *SHA* was not written by a single author.

Having established the heterogeneity of the *SHA* based on these statistical tests, Meissner proceeded to conduct tests on the homogeneity of subgroups within the *SHA* corpus. He also included some works of Nepos (circa 100–25 BC), another Roman biographer, as an additional basis for comparison. Meissner found varying degrees of homogeneity: books 22–30 of the *SHA* appeared the most homogeneous. On the other hand, the books attributed to Lampridius and the major lives of the *SHA* seemed the most heterogeneous. The books of Spartianus and Capitolinus and the secondary lives all fell somewhere in between. These disparities, e.g. among the biographers (Lampridius, Spartianus, and Capitolinus) and between the

major and secondary lives, once more supported the heterogeneity of the *SHA*.

Meissner's use of function word analysis seems sensitive and subtle enough to detect differences between the *SHA* and Suetonius' *DVC*, and all the statistics appear to point to a multiply authored *SHA*. However, the methodology is flawed in two areas: the statistical tests used and the texts used for comparison. We detail our response to these problems in the next section.

### 3. Method

As mentioned above, the work of Meissner has two points on which the methodology is flawed. Firstly, the statistics used bear reconsideration; the uses of  $\chi^2$  and *F* tests here are not appropriate. In addition, the seven function words are each considered separately, rather than with a multivariate test that would examine the evidence from all seven words simultaneously. Secondly, the study is not sufficiently empirical since it used only Suetonius as a basis for comparison. Some additional data were gathered on texts by Nepos, but they were not used until the end of the study. We address both of these issues here.

#### 3.1 Statistical methodology

We described in the above section the reasons for the inappropriateness of using the  $\chi^2$  goodness-of-fit test in this case. We turned therefore, to the problems that may be presented by the other tests used by Meissner and by Tse and Frischer.

The *F* test used by Meissner to compare the variability of the function words in the *SHA* and the *DVC* is known to be sensitive to the assumption of Normality, i.e. it assumes that the data follow a Normal distribution whose values are symmetrical about the mean (Manly, 1994, p. 44). The use of a non-parametric test avoids the reliance on this assumption and will ensure that the distribution of the function words in the texts will not affect the results. In addition, both Meissner and Tse and Frischer (1996) consider each of the function words separately. A multivariate test which allows us to compare all seven results at once would be more appropriate. A test which combines these two features was proposed by van Valen (1978). See also Manly (1994, pp. 45 and 51).

Van Valen's test involves calculating the values

$$d_{ij} = \sqrt{\left\{ \sum_{k=1}^p (x_{ijk} - M_{jk})^2 \right\}},$$

for each text, where  $x_{ijk}$  is the rate of occurrence of word  $k$ , where  $k = ad, cum, est, et, in, non, ut$ , in text  $i$  from group  $j$ , and  $M_{jk}$  is the median for word  $k$  in group  $j$ . The  $d_{ij}$  values can be considered as a measure of how variable a text is based on the usage of all seven function words. The mean values for groups of texts ( $\bar{d}_j = \sum_{i=1}^{n_j} d_{ij}$  where  $n_j$  is the number of texts in group  $j$ ), such as the texts written by a certain author, can then be compared using standard two-sample *t* tests. If there are more than two groups of texts, the analysis would be carried out with ANOVA techniques and a

subsequent multiple comparisons procedure. If the  $\bar{d}_j$  value for texts written by Livy, for example, is significantly higher than the value for Suetonius, we would conclude that the variability of function words in texts by Livy is significantly greater than the variability of function words found in the works of Suetonius.

We use van Valen's test in this paper to compare the variability of the usage of function words between authors and between corpora.

#### 3.2 Texts

Tse and Frischer (1996) note that Meissner only compares the variability of the *SHA* with Suetonius' *DVC* on which the former was modelled. They extend this study to include works by Livy (59 BC–AD 17) and Tacitus (circa AD 56–120),<sup>4</sup> reputed to be great Roman historians of their time. Livy and Tacitus were chosen as controls because they wrote histories, a genre with which biographies overlap. In particular, Tse and Frischer made selections from the extant books of Livy's *Ab Urbe Condita*, which is a history of Rome from its origins to the early imperial period. Similarly, samples of works by Tacitus were collected, namely *Agricola*, *Annals*, *Dialogus de Oratoribus*, *Germania*, and *Histories*.

These works fall into several genres, including history (*Annals*, *Histories*), biography (*Agricola*), and ethnography (*Germania*). In order to provide a more solid basis for comparison, we will introduce additional texts here, by Caesar (104–44 BC), Nepos, and Sallust (86–35 BC). As mentioned towards the end of Section 2, Nepos was a Roman biographer like Suetonius and the author(s) of the *SHA*. Rather than focusing on emperors, Nepos chose famous men as the subject of his work, and selections have been taken from his *De Viris Illustribus*. Caesar and Sallust were contemporaries who both served in public office, the former is perhaps the most celebrated general in history. Portions of war treatises by both men have been collected, which are also generically related to history.<sup>5</sup> The data for all of these texts, with the exception of those by Nepos and Sallust, can be found in Appendix A. The texts by Nepos and Sallust, which were not introduced until the latter half of the study, can be referred to in Appendix C.

### 4. Single-author Corpora

#### 4.1 Confirming Meissner

In order to re-examine Meissner's hypotheses, we began by verifying his initial results. Meissner found that all but one of his function words were significantly more variable in the *SHA* than in the *DVC*. We re-considered this data with the multivariate test.

The raw counts of occurrences of the seven function words obtained from the texts were converted into rates per hundred words. In order to ensure that the variability in no one word has an undue influence on the results, the data for each word were standardized to have the same variation by dividing each value by the standard deviation of that word in all the texts. The median values for each word and each author were

found, the deviations from these medians were added, and the square root taken to form the  $d_{ij}$  values.

As we have two samples, the *SHA* and the *DVC*, the average  $d_{ij}$  values can be compared using a two-sample *t* test; a significant result would indicate that one text is significantly more variable than the other.

The  $\bar{d}_j$  average values for the *SHA* and *DVC* were obtained and, when compared, resulted in a *p*-value < 0.00005.<sup>6</sup> This extremely significant value, along with examination of the  $\bar{d}_j$  scores, indicates that the *SHA* is significantly more variable in the use of these seven function words than Suetonius' *DVC*.

This result supports Meissner's conclusions and may indicate the presence of more than one author in the *SHA*, but additional control texts of known authorship are required before this can be confirmed.

#### 4.2 Adding more controls

In order to investigate how typical this result is, we compared the variability found in the *SHA* and in groups of texts known to be written by a single author (we refer to them as *single author corpora* or SACs). Initially, we examined the variability found in the SACs alone. We have data from texts by Livy, Tacitus, and Caesar in addition to Suetonius. The  $d_{ij}$  values are found for these texts and average values for each author are compared using an ANOVA as we now have texts from four different sources. The ANOVA produces a *p*-value of 0.746,<sup>7</sup> and hence we can conclude that there are no significant differences between the variability in usage of the seven function words in the four SACs.

Next, the data from the *SHA* was included in the test and the ANOVA re-performed. The *p*-value resulting from this ANOVA is < 0.0005,<sup>8</sup> indicating that the variability in the use of our function words is not the same in each group. A Bonferroni multiple comparisons procedure was then carried out to identify which groups differ from which other groups. The results of

**Table 1** Results from multiple comparisons between the SACs and the *SHA*

| Group       | Suetonius | Tacitus | Caesar | Livy   | <i>SHA</i> |
|-------------|-----------|---------|--------|--------|------------|
| $\bar{d}_j$ | 1.1136    | 1.2657  | 1.3364 | 1.3437 | 2.4764     |

this procedure are shown in Table 1. Here the groups are ordered by increasing  $\bar{d}_j$ . Lines underneath the groups join those which are not significantly different from each other. Table 1 shows that the *SHA* has significantly more variation than all of the SACs, none of which are significantly different from each other.

We can conclude from this that the variability in the use of the seven function words in the *SHA* is significantly higher than the variability found in any of our SACs. This suggests that the *SHA* may be of multiple authorship.

### 5. Homogeneity of Groupings Within the *Scriptores Historiae Augustae*

We have shown in the previous section that the *SHA* appears to be made up of texts from more than one author. In fact, the manuscript lists six different authors who are each responsible for between one and nine texts. In addition, under the hypothesis of single authorship, Syme (1971) proposed a classification based on the order of writing which divides the texts into Primary, Secondary, Intermediate, and Final lives. The texts and their classifications are given in Appendix B.<sup>9</sup> In the paragraphs below, we consider the classifications in turn to examine the homogeneity of these groupings within the *SHA*.

In order to investigate the homogeneity of the manuscript authors, we calculated the  $d_{ij}$  values within each authorial group, with the exception of Vulcacius Gallicanus who has written only one text. The average  $\bar{d}_j$  values were compared using an ANOVA which yields a *p*-value of < 0.0005.<sup>10</sup> The results of the subsequent Bonferroni multiple comparisons procedure are shown in Table 2. The table illustrates that texts by individual *SHA* authors are more variable than SACs; however, we find that only Aelius Spartianus (AS) is significantly more variable than the SACs in the use of our seven function words.

Meissner believed the works of Aelius Lampridius (AL) to be the most heterogeneous. However, when we examined the  $\bar{d}_j$  values for the different authors, we found that Aelius Spartianus (AS) appears to be the most variable, taking into account all the different function words. The texts by Flavius Vopiscus (FV), on

**Table 2** Results from multiple comparisons between the SACs and the authors of the *SHA*

| Single author corpora |        |        |        | <i>Scriptores Historiae Augustae</i> authors |        |        |        |        |
|-----------------------|--------|--------|--------|----------------------------------------------|--------|--------|--------|--------|
| Suet                  | Tac    | Caes   | Livy   | FV                                           | IC     | AL     | TP     | AS     |
| 1.1136                | 1.2657 | 1.3364 | 1.3437 | 1.8754                                       | 1.9887 | 2.2474 | 2.2992 | 2.4679 |

**Table 3** Results from multiple comparisons between the SACs and Syme's classification of the *SHA*

| Single author corpora |        |        |        | Syme's classification of the <i>SHA</i> |         |        |           |
|-----------------------|--------|--------|--------|-----------------------------------------|---------|--------|-----------|
| Suet                  | Tac    | Caes   | Livy   | Intermediate                            | Primary | Final  | Secondary |
| 1.1136                | 1.2657 | 1.3364 | 1.3437 | 1.9262                                  | 2.0092  | 2.1020 | 2.7038    |

**Table 4** The structure of the *SHA* and the pseudo-MAC

| <i>SHA</i>           | No. of texts | Text length | Pseudo-MAC | No. of texts | Text length |
|----------------------|--------------|-------------|------------|--------------|-------------|
| Author               |              |             | Author     |              |             |
| Aelius Spartianus    | 7            | 17,917      | Nepos      | 7            | 13,269      |
| Iulius Capitolinus   | 9            | 31,769      | Suetonius  | 9            | 37,584      |
| Vulcacius Gallicanus | 1            | 2,627       | Sallust    | 1            | 3,951       |
| Aelius Lampridius    | 4            | 21,668      | Caesar     | 4            | 18,699      |
| Trebellius Pollio    | 4            | 14,266      | Livy       | 4            | 16,077      |
| Flavius Vopiscus     | 5            | 20,116      | Tacitus    | 5            | 20,089      |
| TOTAL                | 30           | 108,363     | TOTAL      | 30           | 109,669     |

the other hand, appear to be the most homogeneous.

We repeated the above procedure for the texts grouped according to Syme's classification. The resulting ANOVA has a  $p$ -value  $< 0.0005$ ,<sup>11</sup> and the results of the multiple comparisons procedure are shown in Table 3. The table shows that the variability in Suetonius' *DVC* is significantly lower than the variability in the Primary, Final, and Secondary lives, indicated by the line joining 'Suet' to 'Intermediate'. In addition, the variability in the Secondary lives is significantly higher than all of the SACs, i.e. the line under 'Secondary' does not link to any of the SACs.

In his conclusions, Meissner noted that the Primary lives seem most heterogeneous, while the Final lives are the most homogeneous. When we considered all of the words in a multivariate statistic, we found rather that the Secondary lives are the most variable, and it is the Intermediate lives which are the least variable. The Primary lives, however, are not far behind ( $\bar{d}_p = 2.0092$ , as compared with  $\bar{d}_i = 1.9262$ ).

While there are few significant differences between the variability in either of the *SHA* groupings and the SACs, it should be borne in mind that our test is a conservative one and that the *SHA* groupings are all more variable than the SACs. For this reason, we would recommend further investigation, perhaps using permutation test methodology, in order to ascertain the most homogeneous grouping of the texts that make up the *SHA*.

## 6. Multiple Author Corpora

The results presented above indicate that the use of function words within the *SHA* is more variable than within the SACs, hence we believe that the *SHA* may be the product of more than one writer. There is no situationally analogous body of work to compare with the *SHA* which would allow us to gauge the variability induced by its complex authorial structure. To determine if the variability present in the *SHA* could be produced by a corpus which follows a similar organization, we constructed a pseudo-multiple author corpus, or pseudo-MAC, using selections from the SACs above. The structure of the *SHA* and our pseudo-MAC is shown in Table 4. The exact text samples used to form the pseudo-MAC and the data obtained from them are given in Appendix C.<sup>12</sup>

Van Valen's test was carried out on the two groups of texts, the *SHA* and the pseudo-MAC. The  $p$ -value from the two-sample  $t$  test is 0.33,<sup>13</sup> indicating that there is no evidence of a difference in variation in use of the seven function words between the *SHA* and our

**Table 5** Results from multiple comparisons between the SACs and the pseudo-MAC

| Suetonius | Livy  | Tacitus | Caesar | Pseudo-MAC |
|-----------|-------|---------|--------|------------|
| 1.223     | 1.439 | 1.470   | 1.490  | 2.860      |

constructed MAC. In addition, the pseudo-MAC was compared with each of the SACs used in the above sections. This comparison yielded a  $p$ -value  $< 0.0005$ ,<sup>14</sup> and multiple comparisons procedures, the results of which are shown in Table 5, indicate that the constructed MAC is significantly more variable than any of the SACs, none of which are significantly different from each other.

It is thus apparent that the variability present in the *SHA* could indeed be produced by an authorial complexity such as the one that underlies the *SHA* according to the manuscript tradition.

## 7. Discussion and Conclusions

The problem presented to the modern-day quantitative linguist by the *SHA* is an unusual one. Rather than considering whether a set of texts is written by author A or author B, we have the position where we are not really interested in particular authors, but whether the texts are written by a single author, or if the corpus has a more complex authorial structure. Here, it is not measures of central tendency, such as the mean or median of measures obtained from set of texts, that are of interest, but rather measures of spread, such as the variance.

The work by Meissner is one of the few to consider the variability of a measure as an indicator of single or multiple authorship. We have described his work and its shortcomings above, along with the work by Tse and Frischer. Tse and Frischer (1996) address many of the textual problems by introducing more control texts, but some problems remain with the statistical methodology. Here we have introduced van Valen's test to overcome these problems. We believe that the improvements made in both these areas of methodology have led to firmer conclusions than those obtained by Meissner in 1993 and Tse and Frischer in 1996.

We have shown here that with respect to the occurrences of the seven function words: *ad*, *cum*, *est*, *et*, *in*, *non*, and *ut*, the *SHA* is significantly more variable than any of the groups of texts known to be by a single author. In addition, we have shown that the *SHA* is not more variable than a corpus constructed to mimic the authorial structure as outlined in the manuscript

tradition of the *SHA*. We conclude, therefore, that the variability of usage of function words may be used as a measure of multiple authorship and that, based on the use of these function words, the *SHA* appears to be of multiple authorship. The 'purple thread' of single authorship can be unravelled into several authorial filaments.

The paper by Marriott in 1979 is the only stylistic work of which we are aware that supports Dessau's thesis of single authorship of the *SHA*. This work has been attacked on both statistical and philological grounds (Sansone, 1990; Frischer, 1996; Frischer *et al.*, 1996). Our work joins the growing body of quantitative evidence against the hypothesis of single authorship. We must hope that the mounting evidence for multiple authorship will not be ignored by the Classics community.

In the analysis of the texts which make up the *SHA*, Gurney and Gurney (this issue) are correctly insistent that texts be disambiguated properly, so that the presence of homonyms does not interfere with conclusions drawn. Certain of our function words may be considered to be ambiguous, e.g. *cum* can act as both a preposition and a conjunction. Detailed pre-processing may improve the precision of our conclusions. However, we believe that it is more important that analyses be carried out with appropriate control texts—we have used 572,830 words of control texts and the 108,363 words of the *SHA*. In addition, we have considered the variation between both single author corpora and multiple author corpora before comparing the two. We are confident that, with this careful methodology, our conclusions are valid.

Turning to the statistical methodology, it would be possible in the future to consider the use of permutation test techniques to investigate the internal structure of the *SHA*. Using this type of method, the groupings with the least variability could then be ascertained. In addition, the use of Hotelling's  $T^2$  test to examine the variability of a number of function words or other measures of style, rather than univariate  $t$  tests or ANOVA, may tease out more information from the variation found within and between authors.

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### Notes

1. See also Panhuis (1984) on the emergence of verb finals as a literary convention, especially in historical, legal, military, and religious texts. On word order in Latin and Greek see Frischer *et al.* (1998).
2. On the styles of Nepos and Aurelius Victor, see the introductions of Horsfall (1989) and Bird (1994) respectively.
3. Other examples of the use of function words can be found in the examination of the anonymous Middle English Cotton Nero MS by McColly and Weier (1983) as well as work by Damerou (1975) and Phelan (1976).
4. The texts by Livy and Tacitus were obtained from the Hewlett Packard Humanities PHI disc.

5. The texts by Nepos, Sallust, and Caesar were obtained from the Latin Library at <http://patriot.net/~lillard/chp/latib>. As no similar biographies from the same time period as the *SHA* have survived, control texts were chosen on the basis of similarity in genre, i.e. history and biography, as well as availability in electronic form.
6. Mean value for *DVC*:  $\bar{d}_1 = 1.225$ , mean value for *SHA*:  $\bar{d}_2 = 2.643$ . Two-sided  $t$  test, not assuming equal variances,  $t = -7.22$ , 38 degrees of freedom,  $p < 0.00005$ .
7. Mean values for the authors are

| Author    | $\bar{d}_i$ |
|-----------|-------------|
| Caesar    | 1.8334      |
| Livy      | 1.7203      |
| Suetonius | 1.5495      |
| Tacitus   | 1.8906      |

One-way ANOVA,  $F = 0.41$ ; 3 and 51 degrees of freedom,  $p = 0.746$ .

8. Mean values for the authors are

| Author     | $\bar{d}_i$ |
|------------|-------------|
| Caesar     | 1.3364      |
| Livy       | 1.3437      |
| Suetonius  | 1.1136      |
| Tacitus    | 1.2657      |
| <i>SHA</i> | 2.4764      |

One-way ANOVA,  $F = 16.58$ ; 4 and 80 degrees of freedom,  $p < 0.0005$ .

9. The information on which this table is based has been provided by Gurney and Gurney at their presentation at the 1996 ALLC-ACH conference held in Bergen.
10. Mean values for the texts are as follows:

| <i>SHA</i> author  | $\bar{d}_i$ | Other authors | $\bar{d}_i$ |
|--------------------|-------------|---------------|-------------|
| Aelius Spartianus  | 2.4679      | Caesar        | 1.3364      |
| Iulius Capitolinus | 1.9887      | Livy          | 1.3437      |
| Aelius Lampridius  | 2.2474      | Suetonius     | 1.1136      |
| Trebellius Pollio  | 2.2992      | Tacitus       | 1.2657      |
| Flavius Vopiscus   | 1.8754      |               |             |

One-way ANOVA,  $F = 5.03$ ; 8 and 75 degrees of freedom,  $p < 0.0005$ .

11. Mean values for the texts are as follows:

| <i>SHA</i> classification | $\bar{d}_i$ | Other authors | $\bar{d}_i$ |
|---------------------------|-------------|---------------|-------------|
| Primary                   | 2.0092      | Caesar        | 1.3364      |
| Secondary                 | 2.7038      | Livy          | 1.3437      |
| Intermediate              | 1.9262      | Suetonius     | 1.1136      |
| Final                     | 2.1020      | Tacitus       | 1.2657      |

One-way ANOVA,  $F = 6.13$ ; 7 and 77 degrees of freedom,  $p < 0.0005$ .

12. The texts by Nepos, Suetonius, and Caesar that are used to construct the pseudo-MAC are complete texts. For the other authors (Sallust, Livy, and Tacitus), samples of around 4,000 words were taken from the start of each text, and the number of occurrences of the function words found for each new sample. This was done to ensure that the sample size of the pseudo-MAC was as similar to the *SHA* as possible. In addition, the text of Tacitus' *Annales* Book 11, which was not included in the earlier analysis, was obtained from the Latin library (URL given in note 5).
13. Mean value for pseudo-MAC:  $\bar{d}_1 = 2.41$ , mean value for *SHA*:  $\bar{d}_2 = 2.163$ . Two-sided  $t$  test, not assuming equal variances,  $t = 0.98$ , 50 degrees of freedom,  $p = 0.33$ .

| Author     | $\bar{d}_j$ |
|------------|-------------|
| Caesar     | 1.490       |
| Livy       | 1.439       |
| Suetonius  | 1.223       |
| Tacitus    | 1.470       |
| Pseudo-MAC | 2.860       |

One-way ANOVA,  $F = 9.84$ ; 4 and 80 degrees of freedom,  $p < 0.0005$ .

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## Appendix A: Texts and Their Data

### *Scriptores Historiae Augustae*

| Life | Function words |            |            |           |           |            |           | Text length |
|------|----------------|------------|------------|-----------|-----------|------------|-----------|-------------|
|      | <i>ad</i>      | <i>cum</i> | <i>est</i> | <i>et</i> | <i>in</i> | <i>non</i> | <i>ut</i> |             |
| 1    | 54             | 59         | 49         | 192       | 123       | 35         | 67        | 5,130       |
| 2    | 6              | 17         | 24         | 29        | 25        | 23         | 20        | 1,433       |
| 3    | 25             | 37         | 37         | 105       | 46        | 9          | 18        | 2,245       |
| 4    | 44             | 75         | 57         | 243       | 117       | 30         | 82        | 5,503       |
| 5    | 18             | 33         | 36         | 90        | 61        | 15         | 25        | 2,063       |
| 6    | 22             | 21         | 19         | 114       | 50        | 38         | 37        | 2,627       |
| 7    | 30             | 48         | 48         | 126       | 93        | 24         | 43        | 3,466       |
| 8    | 35             | 37         | 56         | 90        | 60        | 17         | 18        | 2,594       |
| 9    | 24             | 27         | 33         | 60        | 30        | 5          | 14        | 1,595       |
| 10   | 44             | 67         | 49         | 126       | 90        | 21         | 37        | 4,215       |
| 11   | 33             | 30         | 19         | 61        | 43        | 18         | 36        | 2,277       |
| 12   | 45             | 38         | 32         | 109       | 40        | 19         | 39        | 2,716       |
| 13   | 20             | 27         | 35         | 71        | 42        | 21         | 23        | 2,032       |
| 14   | 10             | 15         | 20         | 38        | 23        | 7          | 22        | 1,235       |
| 15   | 22             | 38         | 32         | 95        | 44        | 25         | 26        | 2,498       |
| 16   | 14             | 15         | 18         | 55        | 31        | 23         | 18        | 1,678       |
| 17   | 75             | 88         | 51         | 334       | 148       | 25         | 99        | 5,799       |
| 18   | 100            | 137        | 105        | 485       | 207       | 120        | 148       | 10,725      |
| 19   | 55             | 79         | 71         | 209       | 108       | 34         | 71        | 5,430       |
| 20   | 41             | 63         | 91         | 242       | 87        | 48         | 96        | 5,567       |
| 21   | 33             | 53         | 52         | 130       | 65        | 21         | 45        | 3,153       |
| 22   | 7              | 5          | 13         | 35        | 18        | 11         | 8         | 1,002       |
| 23   | 45             | 80         | 50         | 110       | 51        | 31         | 38        | 3,645       |
| 24   | 52             | 103        | 105        | 187       | 158       | 78         | 78        | 6,640       |
| 25   | 27             | 17         | 40         | 81        | 40        | 30         | 32        | 2,979       |
| 26   | 74             | 74         | 98         | 209       | 147       | 68         | 103       | 7,805       |
| 27   | 33             | 14         | 57         | 75        | 62        | 37         | 39        | 3,093       |
| 28   | 44             | 40         | 50         | 116       | 64        | 54         | 36        | 4,137       |
| 29   | 24             | 33         | 14         | 91        | 29        | 34         | 24        | 2,332       |
| 30   | 30             | 31         | 40         | 78        | 37        | 26         | 40        | 2,749       |

For title and author information on each life, see Appendix B.

Suetonius—*De Vita Caesarum*

| Life              | Function words |            |            |           |           |            |           | Text length |
|-------------------|----------------|------------|------------|-----------|-----------|------------|-----------|-------------|
|                   | <i>ad</i>      | <i>cum</i> | <i>est</i> | <i>et</i> | <i>in</i> | <i>non</i> | <i>ut</i> |             |
| Divus Iulius      | 108            | 84         | 74         | 290       | 234       | 62         | 94        | 9,756       |
| Divus Augustus    | 121            | 113        | 95         | 535       | 289       | 94         | 142       | 13,871      |
| Tiberius          | 73             | 76         | 71         | 347       | 190       | 77         | 111       | 9,311       |
| Caligula          | 72             | 56         | 48         | 288       | 137       | 47         | 83        | 7,766       |
| Divus Claudius    | 56             | 72         | 55         | 227       | 136       | 55         | 60        | 6,566       |
| Nero              | 79             | 50         | 53         | 240       | 157       | 51         | 96        | 7,944       |
| Galba             | 30             | 17         | 26         | 88        | 60        | 19         | 35        | 2,870       |
| Otho              | 20             | 10         | 14         | 61        | 25        | 10         | 20        | 1,671       |
| Vitellius         | 18             | 24         | 18         | 81        | 52        | 15         | 20        | 2,403       |
| Divus Vespasianus | 34             | 20         | 21         | 98        | 70        | 23         | 34        | 3,290       |
| Titus             | 17             | 12         | 11         | 48        | 37        | 16         | 17        | 1,490       |
| Domitianus        | 30             | 27         | 25         | 107       | 68        | 28         | 37        | 3,584       |

Livy—*Ab Urbe Condita*

| Book | Function words |            |            |           |           |            |           | Text length |
|------|----------------|------------|------------|-----------|-----------|------------|-----------|-------------|
|      | <i>ad</i>      | <i>cum</i> | <i>est</i> | <i>et</i> | <i>in</i> | <i>non</i> | <i>ut</i> |             |
| 1    | 211            | 208        | 112        | 279       | 352       | 87         | 185       | 17,460      |
| 2    | 207            | 184        | 108        | 311       | 412       | 140        | 185       | 17,824      |
| 3    | 238            | 205        | 127        | 356       | 518       | 175        | 179       | 20,203      |
| 4    | 199            | 193        | 107        | 277       | 345       | 140        | 127       | 16,793      |
| 5    | 173            | 157        | 129        | 269       | 358       | 152        | 128       | 16,060      |
| 21   | 234            | 228        | 127        | 352       | 342       | 84         | 114       | 15,529      |
| 22   | 248            | 225        | 87         | 374       | 390       | 96         | 144       | 17,169      |
| 23   | 242            | 209        | 83         | 287       | 346       | 73         | 139       | 14,689      |
| 24   | 269            | 202        | 91         | 274       | 305       | 76         | 137       | 14,113      |
| 25   | 226            | 206        | 103        | 371       | 336       | 81         | 145       | 14,471      |
| 31   | 185            | 203        | 70         | 320       | 305       | 68         | 116       | 12,463      |
| 32   | 128            | 155        | 74         | 279       | 274       | 77         | 93        | 10,693      |
| 33   | 175            | 165        | 78         | 392       | 296       | 78         | 98        | 11,524      |
| 34   | 188            | 189        | 100        | 491       | 378       | 118        | 126       | 14,991      |
| 35   | 186            | 169        | 91         | 452       | 312       | 91         | 107       | 12,635      |
| 41   | 80             | 96         | 50         | 237       | 228       | 48         | 59        | 7,615       |
| 42   | 241            | 237        | 82         | 461       | 434       | 118        | 173       | 16,862      |
| 43   | 73             | 75         | 29         | 158       | 172       | 30         | 52        | 5,737       |
| 44   | 215            | 184        | 77         | 362       | 304       | 70         | 99        | 12,738      |
| 45   | 162            | 166        | 109        | 402       | 321       | 115        | 101       | 13,261      |

## Tacitus

| Text              | Function words |            |            |           |           |            |           | Text length |
|-------------------|----------------|------------|------------|-----------|-----------|------------|-----------|-------------|
|                   | <i>ad</i>      | <i>cum</i> | <i>est</i> | <i>et</i> | <i>in</i> | <i>non</i> | <i>ut</i> |             |
| <i>Agricola</i>   | 43             | 28         | 51         | 278       | 157       | 47         | 52        | 6,933       |
| <i>Annales 1</i>  | 91             | 47         | 25         | 344       | 218       | 64         | 87        | 11,070      |
| <i>Annales 2</i>  | 75             | 63         | 38         | 351       | 218       | 68         | 88        | 10,586      |
| <i>Annales 3</i>  | 69             | 52         | 39         | 305       | 162       | 60         | 82        | 9,551       |
| <i>Annales 4</i>  | 68             | 64         | 26         | 313       | 210       | 77         | 93        | 10,266      |
| <i>Annales 6</i>  | 53             | 36         | 26         | 225       | 139       | 51         | 47        | 7,615       |
| <i>Dialogus</i>   | 65             | 68         | 80         | 569       | 204       | 110        | 95        | 9,574       |
| <i>Germania</i>   | 23             | 18         | 43         | 213       | 123       | 60         | 53        | 5,625       |
| <i>Historia 1</i> | 96             | 56         | 50         | 500       | 286       | 76         | 115       | 12,335      |
| <i>Historia 2</i> | 94             | 68         | 38         | 445       | 234       | 78         | 96        | 12,857      |
| <i>Historia 3</i> | 106            | 64         | 28         | 368       | 216       | 61         | 96        | 11,727      |
| <i>Historia 4</i> | 92             | 63         | 27         | 397       | 253       | 58         | 103       | 13,371      |
| <i>Historia 5</i> | 22             | 15         | 5          | 116       | 69        | 10         | 21        | 3,591       |

## Caesar

| Text                     | Function words |            |            |           |           |            |           | Text length |
|--------------------------|----------------|------------|------------|-----------|-----------|------------|-----------|-------------|
|                          | <i>ad</i>      | <i>cum</i> | <i>est</i> | <i>et</i> | <i>in</i> | <i>non</i> | <i>ut</i> |             |
| <i>Bellum Civile 1</i>   | 170            | 105        | 23         | 203       | 246       | 58         | 104       | 10,904      |
| <i>Bellum Civile 2</i>   | 106            | 54         | 29         | 123       | 129       | 33         | 62        | 6,395       |
| <i>Bellum Civile 3</i>   | 246            | 158        | 72         | 342       | 286       | 79         | 157       | 15,035      |
| <i>Bellum Gallicum 1</i> | 111            | 88         | 44         | 195       | 181       | 91         | 74        | 8,174       |
| <i>Bellum Gallicum 2</i> | 74             | 57         | 20         | 88        | 117       | 29         | 39        | 4,149       |
| <i>Bellum Gallicum 3</i> | 51             | 46         | 19         | 75        | 90        | 23         | 26        | 3,587       |
| <i>Bellum Gallicum 4</i> | 81             | 53         | 24         | 121       | 120       | 27         | 32        | 4,568       |
| <i>Bellum Gallicum 5</i> | 137            | 99         | 36         | 135       | 184       | 42         | 63        | 7,386       |
| <i>Bellum Gallicum 6</i> | 80             | 64         | 39         | 89        | 155       | 41         | 50        | 5,469       |
| <i>Bellum Gallicum 7</i> | 178            | 100        | 33         | 211       | 233       | 72         | 97        | 11,490      |

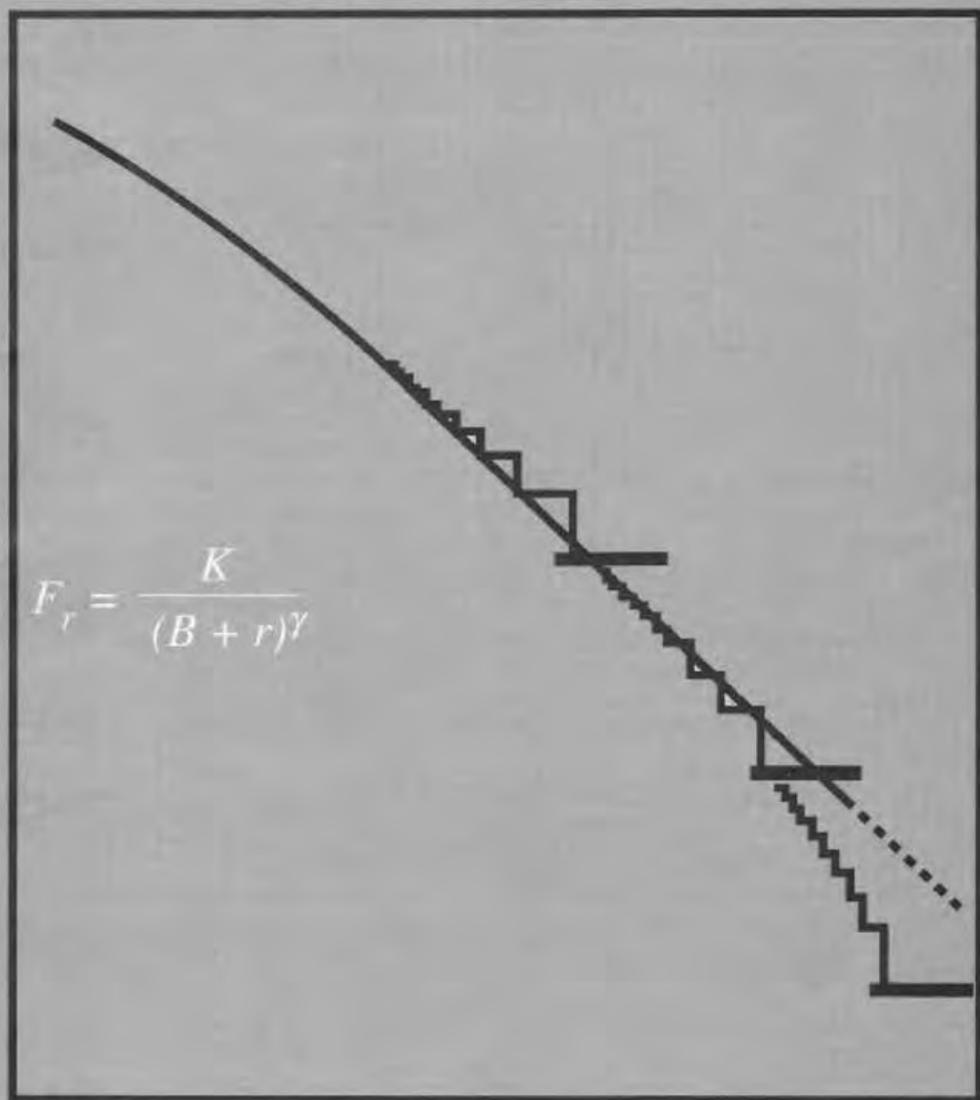
## Appendix B. The classification of the texts of the *SHA*

| Number | Title                            | Author (MS tradition) | Syme's classification |
|--------|----------------------------------|-----------------------|-----------------------|
| 1      | <i>Hadrian</i>                   | Aelius Spartianus     | Primary               |
| 2      | <i>Aelius</i>                    | Aelius Spartianus     | Secondary             |
| 3      | <i>Antonius Pius</i>             | Iulius Capitolinus    | Primary               |
| 4      | <i>Marcus Aurelius Antoninus</i> | Iulius Capitolinus    | Primary               |
| 5      | <i>Lucius Verus</i>              | Iulius Capitolinus    | Primary               |
| 6      | <i>Avidius Cassius</i>           | Vulcacius Gallicanus  | Secondary             |
| 7      | <i>Commodus</i>                  | Aelius Lampridius     | Primary               |
| 8      | <i>Pertinax</i>                  | Iulius Capitolinus    | Primary               |
| 9      | <i>Didius Julianus</i>           | Aelius Spartianus     | Primary               |
| 10     | <i>Septimus Severus</i>          | Aelius Spartianus     | Primary               |
| 11     | <i>Pescennius Niger</i>          | Aelius Spartianus     | Secondary             |
| 12     | <i>Clodius Albinus</i>           | Iulius Capitolinus    | Secondary             |
| 13     | <i>Caracalla</i>                 | Aelius Spartianus     | Primary               |
| 14     | <i>Geta</i>                      | Aelius Spartianus     | Secondary             |
| 15     | <i>Opellius Macrinus</i>         | Iulius Capitolinus    | Intermediate          |
| 16     | <i>Diadumenianus</i>             | Aelius Lampridius     | Intermediate          |
| 17     | <i>Elgabalus</i>                 | Aelius Lampridius     | Intermediate          |
| 18     | <i>Severus Alexander</i>         | Aelius Lampridius     | Intermediate          |
| 19     | <i>Maximini Duo</i>              | Iulius Capitolinus    | Intermediate          |
| 20     | <i>Gordiani Tres</i>             | Iulius Capitolinus    | Intermediate          |
| 21     | <i>Maximus and Balbinus</i>      | Iulius Capitolinus    | Intermediate          |
| 22     | <i>Valeriani Duo</i>             | Trebellius Pollio     | Final                 |
| 23     | <i>Gallieni Duo</i>              | Trebellius Pollio     | Final                 |
| 24     | <i>Tyranni Triginta</i>          | Trebellius Pollio     | Final                 |
| 25     | <i>Divus Claudius</i>            | Trebellius Pollio     | Final                 |
| 26     | <i>Divus Aurelianus</i>          | Flavius Vopiscus      | Final                 |
| 27     | <i>Tacitus</i>                   | Flavius Vopiscus      | Final                 |
| 28     | <i>Probus</i>                    | Flavius Vopiscus      | Final                 |
| 29     | <i>Quadrige Tyrannorum</i>       | Flavius Vopiscus      | Final                 |
| 30     | <i>Carus, Carinus, Numerian</i>  | Flavius Vopiscus      | Final                 |

## Appendix C. Texts and their data used in the MAC

| Author    | Text                      | Function words |            |            |           |           |            |           | Text length |
|-----------|---------------------------|----------------|------------|------------|-----------|-----------|------------|-----------|-------------|
|           |                           | <i>ad</i>      | <i>cum</i> | <i>est</i> | <i>et</i> | <i>in</i> | <i>non</i> | <i>ut</i> |             |
| Nepos     | <i>Agesilaus</i>          | 6              | 32         | 17         | 24        | 31        | 15         | 22        | 1,392       |
| Nepos     | <i>Dion</i>               | 15             | 20         | 18         | 20        | 27        | 18         | 19        | 1,482       |
| Nepos     | <i>Epaminondas</i>        | 17             | 27         | 20         | 25        | 37        | 17         | 24        | 1,642       |
| Nepos     | <i>Hannibal</i>           | 18             | 41         | 16         | 15        | 63        | 18         | 22        | 2,077       |
| Nepos     | <i>Miltiades</i>          | 8              | 25         | 16         | 21        | 28        | 20         | 21        | 1,351       |
| Nepos     | <i>Themistocles</i>       | 17             | 34         | 25         | 27        | 35        | 16         | 26        | 1,714       |
| Nepos     | <i>Atticus</i>            | 22             | 52         | 47         | 51        | 78        | 66         | 71        | 3,611       |
| Suetonius | <i>Caligula</i>           | 72             | 56         | 48         | 288       | 137       | 47         | 83        | 7,766       |
| Suetonius | <i>Divus Claudius</i>     | 56             | 72         | 55         | 227       | 136       | 55         | 60        | 6,566       |
| Suetonius | <i>Nero</i>               | 79             | 50         | 53         | 240       | 157       | 51         | 96        | 7,944       |
| Suetonius | <i>Galba</i>              | 30             | 17         | 26         | 88        | 60        | 19         | 35        | 2,870       |
| Suetonius | <i>Otho</i>               | 20             | 10         | 14         | 61        | 25        | 10         | 20        | 1,671       |
| Suetonius | <i>Vitellius</i>          | 18             | 24         | 18         | 81        | 52        | 15         | 20        | 2,403       |
| Suetonius | <i>Divus Vespasianus</i>  | 34             | 20         | 21         | 98        | 70        | 23         | 34        | 3,290       |
| Suetonius | <i>Titus</i>              | 17             | 12         | 11         | 48        | 37        | 16         | 17        | 1,490       |
| Suetonius | <i>Domitianus</i>         | 30             | 27         | 25         | 107       | 68        | 28         | 37        | 3,584       |
| Sallust   | <i>Bellum Iugurthinum</i> | 25             | 25         | 35         | 97        | 72        | 10         | 13        | 3,951       |
| Caesar    | <i>Bellum Civile 2</i>    | 106            | 54         | 29         | 123       | 129       | 33         | 62        | 6,395       |
| Caesar    | <i>Bellum Gallicum 2</i>  | 74             | 57         | 20         | 88        | 117       | 29         | 39        | 4,149       |
| Caesar    | <i>Bellum Gallicum 3</i>  | 51             | 46         | 19         | 75        | 90        | 23         | 26        | 3,587       |
| Caesar    | <i>Bellum Gallicum 4</i>  | 81             | 53         | 24         | 121       | 120       | 27         | 32        | 4,568       |
| Livy      | 1                         | 53             | 49         | 21         | 60        | 73        | 11         | 30        | 4,021       |
| Livy      | 8                         | 51             | 45         | 20         | 93        | 81        | 14         | 35        | 4,007       |
| Livy      | 22                        | 45             | 35         | 16         | 122       | 120       | 21         | 44        | 4,107       |
| Livy      | 43                        | 44             | 47         | 36         | 52        | 73        | 27         | 37        | 3,942       |
| Tacitus   | <i>Annales 1</i>          | 33             | 20         | 9          | 131       | 70        | 23         | 34        | 3,991       |
| Tacitus   | <i>Annales 4</i>          | 28             | 18         | 13         | 121       | 81        | 22         | 27        | 3,942       |
| Tacitus   | <i>Annales 11</i>         | 21             | 24         | 12         | 121       | 83        | 25         | 39        | 4,017       |
| Tacitus   | <i>Historia 1</i>         | 19             | 21         | 20         | 158       | 81        | 34         | 41        | 4,068       |
| Tacitus   | <i>Historia 2</i>         | 23             | 25         | 8          | 153       | 74        | 17         | 29        | 4,071       |

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## Analysis of Classical Greek and Latin Compositional Word-Order Data\*

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### ABSTRACT

A recent paper by Frischer et al. (forthcoming) examines the position of the direct object and its governing verb in works in Classical Greek and Latin. The paper confirms the SOV ordering expected in texts in Latin, and the S(O)V(O) ordering expected in texts written in Greek. Texts written in Greek by Cassius Dio were found to have a Latinate word-order. However, subsequent research on the statistical analysis used in that paper has resulted in a refinement that will be presented in the present paper. For each of the sixty texts examined, one hundred direct objects were categorised. The knowledge of the total number of direct objects examined constrains the data; it is described as being compositional. In this paper we re-examine the data using techniques developed for compositional data analysis. The conclusions of Frischer et al. are confirmed and new insights into texts by Marcus Aurelius and Plutarch are obtained.

### INTRODUCTION

A recent paper by Frischer et al. (forthcoming) examines the position of the direct object and its governing verb in works in Classical Greek and Latin. Through statistical analysis of a great number of sentences, one long suspected difference between Latin and Greek word-order was confirmed, and the ramifications of this observation were explored for some possible cases of word-order transference between Latin and Greek. The difference between the languages concerns the positioning of the accusative direct object with respect to the verb governing it. That there is a difference in the Greek and Latin distributions is no surprise: Classical linguists have long observed that Latin has a greater tendency to place the verb at the end of the clause than does Greek. From this fact alone one might predict that the direct object in Latin is more likely

to precede than to follow the verb on which it depends than is the case in Greek. This prediction was tested empirically by tabulating the direct object distributions in sixty passages written by fifteen Latin and ten Greek prose authors. Each passage was randomly selected in the text of an author. Analysis was based on the first one hundred direct objects in the accusative case that were encountered in a passage, and a tabulation was done of those that occurred before and those after the governing verbs. With remarkable consistency, the texts in our sample clumped into a Latin and a Greek cluster, offering strong empirical and statistically significant proof that the position of the direct object with respect to its governing verb differed in Greek and Latin prose.

Five Greek texts by two authors writing in Greek turned out to be anomalous, fitting firmly into the Latin group. Four of the texts were writ-

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ten by Cassius Dio; the fifth is the Greek translation of the Emperor Augustus' *Res Gestae*, a bilingual version of which survives, and whose original is known to have been written in Latin.

In considering the results, including the anomalous texts, the study showed that native language did not necessarily have an effect on a writer's placement of the direct object; nor did the language of an important literary or historical source. Native Greek authors writing in Latin respected Latin word order; Romans writing in Greek generally conformed to Greek practice.

The study suggested that some but not all explanations for the data are linguistic. On the linguistic level, it was the greater consistency of Latin SOV word-order that helped the Latin pattern to prevail over the more flexible Greek positioning of the verb and direct object. This was true not only for Roman authors writing Latin with a Greek source before them (like Aulus Gellius or Cicero) but also for a Greek author like Ammianus Marcellinus writing in Latin. It was evidently normally easy for both Greeks and Romans to recognize and to respect the tendency of Latin to place the verb at the end of the clause. On the other hand, in the interesting case of the Greek translation of the *Res Gestae* and other official documents, where the Roman chancellery's habit of translating Latin into Greek through quasi-relexification was seen, the study proposed an explanation based either on Roman scrupulosity in legal matters or on a sociological factor of linguistic hegemony. Finally, in the case of Cassius Dio there was seen the operation of a psycholinguistic or sociolinguistic cause for word-order transference: Dio's conscious or unconscious presentation of himself as a Roman.

The data sets used by Frischer et al. are enumerated in the Appendix. They list for each text sampled the number of direct objects that occur *before* the governing verb in main clauses (MCB) and other clauses (OB) as well as the number of direct objects that occur *after* the governing verb in main clauses (MCA) and other clauses (OA). In most cases the total number of direct objects is 100. There are a few samples

where only 99 sentences were examined, the data have been rescaled to have a total of 100. Frischer et al. (forthcoming) treat the number of clauses in each of the categories as separate, independent random variables. Quantitative linguists and stylometricians may not be aware of a well-known problem that affects the "standard" statistical analysis of compositional data, that is, when dealing with data that adds up to a known total. This paper aims to explain the problem, present one approach that succeeds in solving it; and apply this approach to such statistical techniques such as principal components analysis, cluster analysis and discriminant analysis. The conclusions of Frischer et al. (forthcoming) will be re-examined.

#### IT ALL ADDS UP TO 1 – CONSTRAINTS ON THE COVARIANCE MATRIX

The statistical analysis detailed in the previous section produces easily interpretable results; separate clusters of Latin and Greek authors. However, the authors ignore a constraint on the data, that the number of clauses examined is always one hundred. Rather than having four independent random variables, then, only three are ever of interest, the fourth is simply one hundred minus the sum of the other three. Turning to mathematical notation, we define  $x_{ijk}$  as the proportion of a particular position of the direct object in language  $i$ ,  $i = G, L$ , text number  $j$ ,  $j = 1, \dots, N_j$ , where  $N_j$  is the number of texts sampled from language  $i$ . The third subscript,  $k = 1, \dots, D$ , where  $D = 4$ , categorises where the direct object occurs in relation to its governing verb; before it (MCB and OB) or after it (MCA and OA). The value of the fourth random variable can be calculated as:

$$x_{ijD} = 1 - \sum_{k=1}^{D-1} x_{ijk} \quad (1)$$

This constraint has far-reaching implications, in particular with respect to the covariance structure of the data.

### Covariance Structure

Define  $\text{var}(x_k)$ ,  $\text{cov}(x_k, x_{k'})$  and  $\text{corr}(x_k, x_{k'})$  to be the variance of  $x_k$ , the covariance of  $x_k$  and  $x_{k'}$  and the correlation between  $x_k$  and  $x_{k'}$  respectively. Then it can be shown that

$$\text{var}(x_k) = \text{cov}(x_k, x_k) \quad (2)$$

for  $k = 1, \dots, D$ , and

$$\text{corr}(x_k, x_{k'}) = \frac{\text{cov}(x_k, x_{k'})}{\sqrt{\text{var}(x_k) \text{var}(x_{k'})}} \quad (3)$$

for  $k, k' = 1 \dots D$ .

We can now define the *crude covariance structure* of a composition  $x$  to be the set of all

$$\kappa_{kk'} = \text{cov}(x_k, x_{k'}) \quad (4)$$

for  $k, k' = 1 \dots D$  with the  $D \times D$  *crude covariance matrix*

$$K = [\kappa_{kk'} : k, k' = 1 \dots D], \quad (5)$$

and *crude correlations*

$$\rho_{kk'} = \frac{\kappa_{kk'}}{\sqrt{\kappa_{kk} \kappa_{k'k'}}} \quad (6)$$

Investigation of the crude covariance structure generally concentrates on properties of the crude covariance matrix  $K$ . The patterns of variability for our Greek data can be estimated as

$$\widehat{\kappa_{Gkk'}} = \frac{1}{N_G - 1} \sum_{j=1}^{N_G} (x_{Gjk} - \bar{x}_{Gk}) (x_{Gjk'} - \bar{x}_{Gk'}) \quad (7)$$

for  $k, k' = 1 \dots D$  and where

$$\bar{x}_{Gk} = \frac{1}{N_G} \sum_{j=1}^{N_G} x_{Gjk} \quad (8)$$

Values of  $\widehat{\kappa_{Lkk'}}$  and  $\bar{x}_{Lk}$  for the Latin data are defined in a similar way.

Given a composition  $x_{ij}$  which is subject to the constraint:

$$x_{j1} + \dots + x_{jD} = 1, \quad (9)$$

the problems with interpreting the crude covariance matrix are discussed by Aitchison (1986), section 3.3, and are detailed in the following paragraphs.

### Negative Bias Difficulty

Since

$$\text{cov}(x_1, x_1 + \dots + x_D) = 0, \quad (10)$$

we have that

$$\text{cov}(x_1, x_2) + \dots + \text{cov}(x_1, x_D) = -\text{var}(x_1). \quad (11)$$

The right hand side of this equation is negative, except for the trivial case where  $x_1$  is constant. Thus at least one of the components of the left hand side must be negative, or equivalently one of the elements in the first row of  $K$  must be negative. This holds for all  $D$  rows, thus there must be at least  $D$  negative elements in  $K$ . Correlations which are free to range over  $[-1, 1]$  with unrestricted data, are constrained. In particular, if  $D = 2$  then  $\rho_{12} = -1$ .

This negative bias that is present in the crude covariance matrix forces the interpretation of covariances to be rather different from the standard interpretation of covariances between components of an unrestricted vector.

### Subcomposition difficulty

In some cases we might be interested in a *subcomposition*, where only certain elements of the data are of interest, such as looking only at main clauses. If the full composition is known then the subcomposition can be calculated, but there is no simple relationship between the crude covariance matrix of the subcomposition and that of the full composition. Indeed, the covariance between elements of the composition can change erratically as different subcompositions are examined.

### Null correlation difficulty

As shown above, elements in a crude correlation matrix have a negative bias. However, the standard interpretation of covariances and correla-

tions is that zero indicates no association or independence. This interpretation is rather suspect under the negative bias property. Some researchers (for example Chayes & Kruskal, 1966) have proposed techniques that result in *null* correlations, values of the correlation coefficient that indicate a lack of association, that are not necessarily zero. Aitchison (1986, p. 57), lists a number of objections to the method.

### Conclusions

It is clear that interpretation of the crude covariance matrix of data with a constrained sum is fraught with problems. Thus any analysis of the data which involves the covariance matrix is also suspect. This includes principal components analysis, discriminant analysis and certain versions of cluster analysis.

## COMPOSITIONAL DATA ANALYSIS

Aitchison (1983) notes that various researchers have tried to deal with the problems raised in the previous section by considering alternative covariance matrices.

The first is the use of the covariance matrix of the data, omitting one of the components, say component  $k$ , and written as  $\text{cov}(x_{-k})$ . Aitchison writes that this

involves a common, though naïve, approach to the analysis of compositional data through the omission of one of the proportions, presumably in the mistaken belief that the remaining proportions are relatively unrestricted. The effect on the interpretation of correlations persists through the inequality  $\sum_{k' \neq k} x_{ijk} < 1$  (pp. 59–60).

The second covariance matrix is simply  $K$ , the crude covariance matrix.  $K$  is singular and of order  $D$  and thus has a zero eigenvalue. It has been suggested (Le Maitre, 1968) that the other  $D - 1$  eigenvectors could be used to form principal components. These principal components are linear combinations of the raw data and are still subject to the sum constraint and correlation problems as outlined above.

The final technique listed by Aitchison is the covariance matrix of the variables  $(x_{-k}/x_k)$ . While this is better than the two attempts above, principal components derived from it are linear, and dependent on the choice of  $k$ .

Aitchison (1983) proposes an alternative to these transformations, the *logratio covariance matrix*:

$$\Sigma_k = \text{cov}\{\log(x_{-k}/x_k)\}. \quad (12)$$

The use of the logarithmic function allows for the non-linearity often found in compositional data. However, this may still be dependent on the choice of  $k$ . Aitchison (1986, section 5.5), shows that for most mathematical operations, the analysis is invariant to the choice of  $k$ .

### Principal Components Analysis

Aitchison (1983) shows that principal components derived from  $\Sigma_k$  have the form

$$\sum_{l \neq k} \alpha_l \log(x_{ijl}/x_{ijk}) \quad (13)$$

which, as  $\sum_{l=1}^D \alpha_l = 0$ , can be expressed as

$$\sum_{l=1}^D \alpha_l \log(x_{ijl}) \quad (14)$$

i.e., the principal components can be expressed as log linear contrasts of the crude data. However, these are still subject to the sum constraint. This can be dealt with by noting that, with  $\sum_{l=1}^D \alpha_l = 0$ ,

$$\sum_{l=1}^D \alpha_l \log(x_{ijl}) = \sum_{l=1}^D \alpha_l \log(x_{ijl}/\bar{x}_{ij}), \quad (15)$$

where  $\bar{x}_{ij}$  is the geometric mean,  $\bar{x}_{ij} = (x_{ij1} \dots x_{ijD})^{1/D}$ . Thus logcontrast principal components analysis is carried out on the logratio transformed data,  $\log(x_{ijk}/\bar{x}_{ij})$ , using the *centred logratio covariance matrix*,

$$\Gamma = [\gamma_{kk'}] = [\text{cov}\{\log(x_k/\bar{x}), \log(x_{k'}/\bar{x})\}], \quad (16)$$

for  $k, k' = 1, \dots, D$ , thus removing the need to choose a denominator for  $\Sigma_k$ . Aitchison (1986,

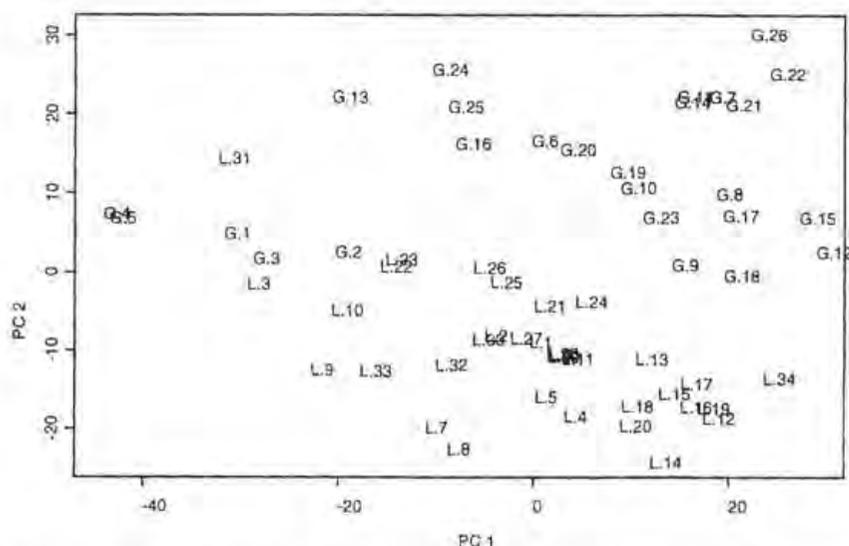


Fig. 1. Text samples displayed in the area spanned by the first two principal components.

section 8.3), demonstrates the equivalence of the properties of this logcontrast principal components analysis with the standard principal components analysis for unconstrained data.

We shall proceed to analyse the word-order data in this way. It should be noted, meanwhile, that two of the texts (Caesar's *Bellum Gallicum* Book 3 (L.8), and Cassius Dio's Book 40 (G.3)) have no occurrences of a direct object after a verb in a non-main clause. Thus it would be impossible to carry out a log-transform of these texts. We have dealt with this by changing the zero values to 0.5 and by re-scaling each affected row.<sup>1</sup>

#### *Principal components analysis of the crude data*

Figure 1 shows the text samples in the space defined by the first two principal components of

the crude data. These components describe 90.36% of the variation in the data. It can be seen that the texts by Latin authors are positioned in the lower half of the graph, and texts by Greek authors are in general in the upper right quadrant of the graph. The first principal component is almost entirely negatively associated with direct objects occurring before the verb in main clauses (MCB, the correlation coefficient between this and the first principal component is  $-0.99$ ), and positively associated with direct objects occurring after the verb in other clauses (OA, the correlation coefficient is  $0.71$ ). The second principal component is negatively associated with direct objects occurring before the verb in other clauses (OB and correlation coefficient  $0.89$ ), and positively associated with direct objects occurring after the verb in main and other clauses (MCA and OA, correlation coefficients  $0.69$  and  $0.58$  respectively).

It can be seen from Figure 1 then, that the Greek texts in general have a high rate of direct objects appearing after the verb in both main and other clauses. Exceptions to this are the Greek texts at the centre-left of the graph, and the Latin text in the high left. The Greek texts in the centre left are those by Cassius Dio, already noted by Frischer et al. (forthcoming) as being unusual in their word-ordering. The translation

1. Other constants, 0.10, 0.25, 0.75 and 1 were examined. All of the results in this paper are robust with respect to these changes in the constant. The value of 0.5 was chosen as it did not result in the texts with zero points being either too extreme or too close to the other data in the principal components and cluster analyses. Other techniques for dealing with zeroes in the data include the amalgamation of categories, omission of records with a zero category and the use of the Box-Cox family of transforms rather than the log-transform used here. More details can be found in Aitchison (1986) chapters 11 and 13.

into Greek of Augustus' *Res Gestae* (G.1) is also in this area, close to the Latin original (L.3). Frischer et al. note that the word-order in the Greek translation "almost exactly mirrors that of the Latin original" (11). The Latin text that appears in the high left of the graph is Tacitus' *Agricola* (L.31). This text has the second highest number of direct objects occurring after the verb in other clauses in Latin texts, as well as a high number of direct objects occurring after verbs in main clauses (OA).

While there appears to be a clear division between Latin and Greek authors, there is also some curvature present in the graph; there are no texts with low values of the second principal component at the extremes of the first principal component, and there appear to be few texts with high values of the second principal component and values around zero on the first. This curvature is symptomatic of the sum constraint on the data.

#### Logcontrast principal components analysis

Figure 2 shows the text samples in the space defined by the first two logcontrast principal components. These components describe 89.67% of the variation in the data. It can be seen that the texts by Greek authors are general-

ly on the right of the graph, while the Latin texts are in the lower left area. The first principal component is strongly positively correlated with high values of direct objects occurring after the verb in non-main clauses (OA and a correlation coefficient of 0.90), and negatively associated with direct objects occurring before the verb in main clauses (MCB and correlation coefficient of  $-0.75$ ). The second principal component is positively associated with of direct objects occurring after the verb in main clauses (MCA and 0.82) and negatively associated with direct objects occurring before the verb in non-main clauses (OB and  $-0.78$ ). It is thus clear that the Greek authors use direct objects after verbs, in both main and other clauses (MCA and OA), more frequently than Latin authors.

There are some exceptions to the left-right, Latin-Greek divide found in Figure 2. The Greek texts in the centre-left (G.2, G.3, G.4 and G.5) are again those of Cassius Dio, and the Greek translation of the *Res Gestae* (G.1) remains close to its Latin original (L.3). Tacitus' *Agricola* is the Latin text (L.31) that occurs closest to the top right corner. Surprisingly, the other Tacitus texts in this study, the *Annales* (L.32) and *Historiae* (L.33) are to be found in the low centre and far left of the graph, with 89% and 93% of direct

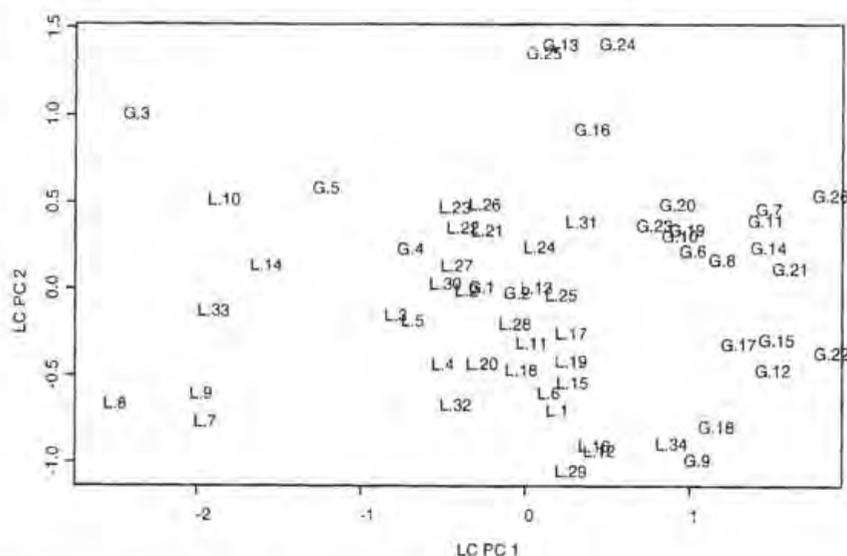


Fig. 2. Text samples displayed in the area spanned by the first two logcontrast principal components.

objects occurring before the verb (MCB and OB) respectively, in comparison with 78.58% for the *Agricola*. One possible solution for this may be the genres in which Tacitus was writing: the *Agricola* is a biography, whereas the other two texts are histories. Another interesting point that was not observed in the crude analysis is the positioning of Varro's *Res Rusticae* (L.34). This is the Latin text that can be found in the lower right of the figure, next to two Greek texts.

These results broadly confirm the results from the crude analysis and add refinements; the perhaps Graecian nature of Varro's word-ordering and the highlighting of genre differences with Tacitus appear to merit further investigation.

### Cluster Analysis

The standard form of cluster analysis for unconstrained data requires a measure of distance between two points. The clustering is then performed by an algorithm applied to these distances, for example, by single, average or complete linkage, where the distance between groups is defined as the shortest, average or longest distance between points in the two groups, respectively.

In most cases the squared Euclidean metric,

$$d^2_{(i,j)} = \sum_{k=1}^D (x_{ijk} - x_{ij'k})^2, \quad (17)$$

is used to measure distance between points  $x_{ij}$  and  $x_{ij'}$ , although others such as the Mahalanobis distance can be used.

For compositional data, however, we need to transform the Euclidean metric. Aitchison (1983, p. 64) proposes the following:

$$d^2_{(i,j)} = \sum_{k=1}^D [\log(x_{ijk}/\bar{x}_{ij}) - \log(x_{ij'k}/\bar{x}_{ij'})]^2 \quad (18)$$

and we shall analyse the word-order data using this distance metric.

Figure 3 shows the dendrogram resulting from a cluster analysis on the crude data. It is clear that the data divides into four main clusters; from left to right, a Greek cluster (G.13, G.16, G.24 and G.25) a Latin cluster that includes three texts by Cassius Dio (G.3, G.4, and G.5), Tacitus' *Agricola* (L.31), as well as both versions of the *Res Gestae* (L.3, and G.1). Next follows another cluster of Greek texts, and another one of Latin texts. The texts found in the smaller Latin cluster can be described as having

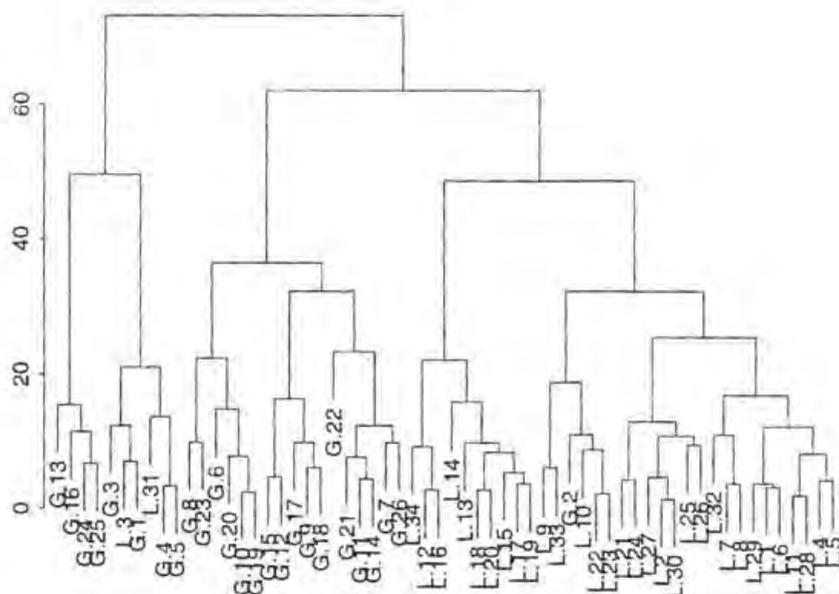


Fig. 3. Dendrogram resulting from cluster analysis of the crude word-order data.

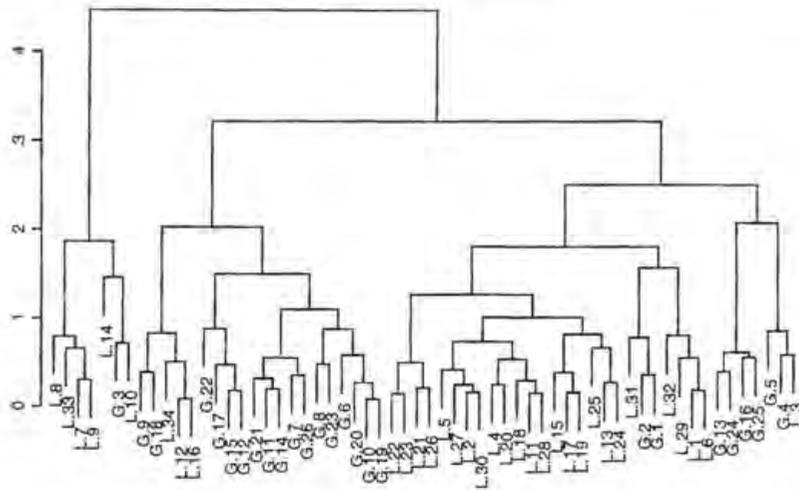


Fig. 4. The dendrogram resulting from revised cluster analysis of the word-order data.

more than double the number of direct objects occurring before the verb in main clauses (MCB), as opposed to other syntactic structures. The Greek text present in the second, larger, Latin cluster (G.2) is Cassius Dio's Book 36, already noted as appearing to have a Latinate word-order.

Figure 4 shows the dendrogram resulting from a cluster analysis using the revised distance metric. Again it can be seen that the texts split into clusters roughly by language, as follows:

1. Latin: L.8, L.33, L.7 and L.9.
2. Latin: L.14, G.3 and L.10; G.3 is Cassius Dio's Book 40, already found to have a Latinate word order.
3. Mixed: G.9, G.18, L.34, L.12 and L.16.
4. Greek: G.22 – G.19.
5. Latin: L.22 – L.6, including G.2, Cassius Dio's Book 36 and G.1, the Greek translation of Augustus' *Res Gestae*.
6. Greek: G.13, G.24, G.16 and G.25.
7. Latin: G.5, G.4 and L.3; G.5 and G.4 are Cassius Dio's Books 59 and 54 respectively, while L.3 is the original version of Augustus' *Res Gestae*.

The first two Latin clusters are the least similar to the remaining texts. They are made up of

texts with either a single example or no examples of a direct object occurring after its governing verb in a non-main clause (OA). The nature of the log-transform accentuates this difference, thus texts with this kind of data structure will appear more similar to each other than to any other text.

With the exception of cluster 3, the other clusters clump texts seen together before. Not so those in cluster 3. The original article had in vain sought evidence that source texts in one language could exert a stylistic influence on target texts in the other language; or that native language might affect writing in a second language. Here the corrected metric may at last provide some examples, which would not be at all surprising in view of the previous applied linguistic research on other languages (cf. Odlin, 1990, pp. 98–104; Selinker, 1969).

Cluster 3 includes two Greek texts, Book 3 of the *Meditations* of Marcus Aurelius and Plutarch's *Life of Sertorius*, as well as three Latin texts, Varro's *Res Rusticae*, Cicero's *Brutus*, and Cicero's *De Officiis* Book 1b. Common to the Greek texts is a relatively high sum of MCB and OB; indeed, the sums are the highest among the texts studied by their authors. Marcus Aurelius was a native speaker of Latin who wrote the *Meditations* in Greek, in which he was clearly highly proficient. It has been noted that even

advanced students of a second language may persist in borrowing features from their native language that are not present (or, in our case, we should say that are not as frequent) as they are in their mother tongue (cf. Corder, 1983, p. 95; Kellerman, 1983, p. 114). Although Book 8 of the *Meditations* conforms to good Greek style with respect to the positioning of direct objects, Book 3 appears to betray a more Latinate Sprachgefühl. Book 3 is one of four books that are much shorter than the rest (cf. Brunt, 1974, p. 18) and was probably written in the field at Carnuntum (as is stated in an entry preceding the beginning of the book in ms. P; on the date of composition of Book 3 see Brunt, 1974, pp. 18–19). Whether owing to hasty composition, the absence of Hellenophones at military headquarters on the frontier, or a lack of opportunity to revise and polish (of which there are other signs in the *Meditations*; see Brunt, 1974, p. 5, Aurelius' style in Book 3 may well reflect transference of a feature from his native to his acquired language.

Plutarch raises a different matter. Norden noted that Plutarch's style often varies with his source (Norden, 1958, p. 395), and we may note in this regard that Plutarch's texts fall into more clusters (three) than do those of any other author in our study. It has been suggested that Plutarch composed his biographies by using one source per section (see Pelling, 1988, p. 31), and our data may add plausibility to this theory. Plutarch's sources for the life of Sertorius were Roman (on Plutarch's sources in the *Lives* generally, see Christ, 1905, pp. 679–680). If Plutarch's style sometimes does shift to reflect that of his source,<sup>2</sup> then we might occasionally expect a text like that on Sertorius to shift toward a more Latinate placement of the direct object – a feature that Odlin called “borrowing transfer” (Odlin, 1990, p. 96) and which has been documented by applied linguists in unrelated languages (see Fortescue, 1993; Odlin, 1990, pp. 98–99, 104–07).

2. It is important to note that our data demonstrates that this was not always the case: Plutarch's *Roman Questions* and *Life of Camillus* and *Life of Cicero*, which certainly had Roman sources, conform to Greek usage.

This logcontrast cluster analysis has confirmed the conclusions reached from the cluster analysis of the crude data and has indeed added to them. We now can see that some Greek texts of Plutarch and Marcus Aurelius appear more Latinate than had been previously noticed. We shall consider these texts as special cases in the following section which will attempt to decide objectively which language groups texts belong to.

### Discriminant Analysis

In order to decide whether the subjective conclusions obtained from the above analyses are valid, we shall now carry out a discriminant analysis. Standard linear discriminant analysis uses linear contrasts of the data and in a similar complement to logcontrast principal components analysis, we can use logcontrasts of the data in logcontrast discriminant analysis. We shall assume that the prior probabilities of a text being in the Greek or Latin groups are the same for each group, and that the misclassification costs are equal.

Discriminant analysis also assumes that the covariance matrices of the data sets are equal. In order to test this we shall use Box's *M* statistic (Box, 1949; see also Krzanowski & Marriott, 1994, p. 230). However, this test is said to be sensitive to departures from Normality in the data. Tests for marginal Normality in our data are rejected,<sup>3</sup> so we shall use a permutation-based version of the test.

The permutation version of the bias-corrected Box's *M* test gives  $p = 0.302$  with a 99% confidence interval of (0.260, 0.347). There is thus no evidence to reject the hypothesis of equality of the covariance matrices, so we can proceed to the discriminant analysis.

Aitchison (1986), page 177, shows that a composition should be allocated to, in this case the Latin group, if

3. Using the Watson test statistic (see Aitchison (1986), page 144), the hypothesis of Normality of  $x_{G1}$  is rejected at the 2.5% level while similar hypotheses for  $x_{L1}$  and  $x_{L2}$  are rejected at the 1% level. The other variables do not give rise to significant deviances from Normality.

$$(\widehat{\underline{\mu}}_L - \widehat{\underline{\mu}}_G)' \widehat{\Sigma}_4^{-1} y - \frac{1}{2} \widehat{\underline{\mu}}_L' \widehat{\Sigma}_4^{-1} \widehat{\underline{\mu}}_L + \frac{1}{2} \widehat{\underline{\mu}}_G' \widehat{\Sigma}_4^{-1} \widehat{\underline{\mu}}_G > 0, \quad (19)$$

where

$$y_{ijk} = \log(x_{ijk} / x_{ij4}), \quad (20)$$

$k = 1, \dots, 3$ ,  $\widehat{\Sigma}_4$  is as defined in (12) and  $\widehat{\underline{\mu}}_L$  and  $\widehat{\underline{\mu}}_G$  are the mean vectors for the Latin and Greek data respectively, defined as:

$$\widehat{\underline{\mu}}_{Lk} = N_L^{-1} \sum_{j=1}^{N_L} y_{Ljk} \quad (21)$$

where  $k = 1, \dots, 3$  and  $\widehat{\underline{\mu}}_G$  is defined similarly. The first term of (19) can be expressed as a log-contrast of the composition  $x$ . Standardised log-contrast discriminant scores can be obtained by dividing (19) by an estimate of its standard error,

$$s = \{(\widehat{\underline{\mu}}_L - \widehat{\underline{\mu}}_G)' \widehat{\Sigma}_4^{-1} (\widehat{\underline{\mu}}_L - \widehat{\underline{\mu}}_G)\}^{1/2}, \quad (22)$$

Some texts have been identified as having unusual word-orderings for their language. We shall hold these texts out of the discriminant analysis and use them as test data after the discriminant scores have been established. The remaining data will be used to establish these scores.

In order to establish how our discriminant analysis might perform on new data, rather than just the data in our study, we shall carry out  $m$ -fold cross-validation (see for example Breiman, 1984), with the data being split into  $m$  groups, one of which is held out each time. With  $m = 3$ ,

one Latin text and two Greek texts are misclassified, representing a success rate of 94.1% and with  $m = 5$ , only two Latin texts are misclassified, a success rate of 96.1%. It appears that this discriminant function will work well on unseen data.

For our data then, the standard deviation is  $s = 3.118$  and the discriminant score,  $D_{ij}$  may be computed as:

$$D_{ij} = 0.550 \log x_{ij1} + 5.281 \log x_{ij2} - 2.978 \log x_{ij3} - 2.852 \log x_{ij4} - 5.937. \quad (23)$$

We can now proceed to examine the results when the discriminant function (23) is applied to our held-out texts. The log-contrast principal components analysis above highlighted the texts of Cassius Dio and the Greek translation of *Res Gestae* as appearing to have a Latinate word order. The discriminant analysis produces positive scores for all of these texts, indicating that they have a Latinate word order. In the same analysis, Varro's *Res Rusticae* and Tacitus' *Agricola* appeared more Graecian. It can be seen from Table I that Varro's text is confirmed by the analysis as having a Latinate word order, while Tacitus' *Agricola* is assigned a Greek ordering.

The section on cluster analysis above also highlighted the Latinate nature of Plutarch's *Life of Sertorius* and Marcus Aurelius' *Meditations* Book 3. These texts are also assigned to the Latin word-order group by the discriminant analysis.

Table I. Held-out Texts in Increasing Order of their Discriminant Scores.

| Author          | Text                      | Key   | Score  | Conclusion |
|-----------------|---------------------------|-------|--------|------------|
| Tacitus         | <i>Agricola</i>           | L. 31 | -1.197 | Greek      |
| Plutarch        | <i>Life of Sertorius</i>  | G. 18 | 0.145  | Latin      |
| Cassius Dio     | Book 36                   | G. 2  | 0.276  | Latin      |
| Augustus        | <i>Res Gestae</i>         | G. 1  | -0.350 | Latin      |
| Marcus Aurelius | <i>Meditations</i> Book 3 | G. 9  | 0.379  | Latin      |
| Cassius Dio     | Book 54                   | G. 4  | 0.470  | Latin      |
| Cassius Dio     | Book 59                   | G. 5  | 0.816  | Latin      |
| Varro           | <i>Res Rusticae</i>       | L. 34 | 0.849  | Latin      |
| Cassius Dio     | Book 40                   | G. 3  | 2.318  | Latin      |

## CONCLUSIONS

We have shown that compositional data analysis is a better tool for analysing this kind of word-order data. The crude cluster analysis carried out by Frischer et al (forthcoming) picked out the texts of Cassius Dio and the translation of Augustus' *Res Gestae* as having Latinate word-order, despite being written in Greek.

Our new analysis confirms and extends these previous conclusions. With a more suitable method, we have also shown that Tacitus' *Agri-cola* has a Graecian word-order, possibly a reflection of its genre as the other texts by Tacitus in our sample are histories, while this is a biography. In addition, Book 3 of Marcus Aurelius' *Meditations* and Plutarch's *Life of Sertorius* appear to have Latinate word-orders despite being written in Greek. We noted in the section on cluster analysis that Marcus Aurelius was a native speaker of Latin and that Book 3 is known to be less revised and polished than the other books of the *Meditations*. Plutarch's sources for the *Life of Sertorius* were exclusively Latin and the text may reflect this.

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## APPENDIX

## Latin Data Set

| Author                      | Text                                    | Key  | Direct Object position |       |       |       |
|-----------------------------|-----------------------------------------|------|------------------------|-------|-------|-------|
|                             |                                         |      | MCB                    | OB    | MCA   | OA    |
| Ammianus Marcellinus        | Book 18                                 | L.1  | 39.00                  | 43.00 | 6.00  | 12.00 |
| Ammianus Marcellinus        | Book 22                                 | L.2  | 41.00                  | 41.00 | 12.00 | 6.00  |
| Augustus                    | <i>Res Gestae</i>                       | L.3  | 63.00                  | 27.00 | 6.00  | 4.00  |
| Aulus Gellius               | <i>Noctes Atticae</i><br>(Greek source) | L.4  | 35.00                  | 52.00 | 8.00  | 5.00  |
| Aulus Gellius               | <i>Noctes Atticae</i><br>(Latin source) | L.5  | 37.00                  | 49.00 | 10.00 | 4.00  |
| Aulus Hirtius               | <i>Bellum Gallicum</i>                  | L.6  | 37.00                  | 45.00 | 7.00  | 11.00 |
| Caesar                      | <i>Bellum Gallicum</i> , Book 1         | L.7  | 48.00                  | 48.00 | 3.00  | 1.00  |
| Caesar                      | <i>Bellum Gallicum</i> , Book 3         | L.8  | 46.00                  | 51.00 | 3.00  | 0.00  |
| Cato                        | <i>De Agricultura</i>                   | L.9  | 58.00                  | 38.00 | 3.00  | 1.00  |
| Celsus                      | <i>De Medicina</i> , Book 2             | L.10 | 54.00                  | 33.00 | 12.00 | 1.00  |
| Cicero                      | <i>Ad Atticum</i>                       | L.11 | 35.00                  | 46.00 | 10.00 | 9.00  |
| Cicero                      | <i>Brutus</i>                           | L.12 | 24.00                  | 57.00 | 6.00  | 13.00 |
| Cicero                      | <i>De Legibus</i>                       | L.13 | 27.00                  | 49.00 | 16.00 | 8.00  |
| Cicero                      | <i>De Natura Deorum</i>                 | L.14 | 26.00                  | 60.00 | 13.00 | 1.00  |
| Cicero                      | <i>De Officiis</i> , Book 1a            | L.15 | 27.00                  | 53.00 | 9.00  | 11.00 |
| Cicero                      | <i>De Officiis</i> , Book 1b            | L.16 | 26.00                  | 55.00 | 6.00  | 13.00 |
| Cicero                      | <i>De Officiis</i> , Book 2a            | L.17 | 24.00                  | 53.00 | 13.00 | 10.00 |
| Cicero                      | <i>De Officiis</i> , Book 2b            | L.18 | 30.00                  | 53.00 | 9.00  | 8.00  |
| Cicero                      | <i>De Officiis</i> , Book 3a            | L.19 | 23.00                  | 56.00 | 11.00 | 10.00 |
| Cicero                      | <i>De Officiis</i> , Book 3b            | L.20 | 30.00                  | 55.00 | 9.00  | 6.00  |
| Cicero                      | <i>In Catilinam</i>                     | L.21 | 35.00                  | 40.00 | 19.00 | 6.00  |
| Livy                        | <i>Historiae</i> , Book 3               | L.22 | 49.44                  | 30.34 | 14.61 | 5.62  |
| Livy                        | <i>Historiae</i> , Book 21              | L.23 | 48.45                  | 29.90 | 16.50 | 5.16  |
| Pliny                       | <i>Naturalis Historia</i> , Book 34     | L.24 | 31.58                  | 41.05 | 18.95 | 8.42  |
| Pliny                       | <i>Naturalis Historia</i> , Book 36     | L.25 | 40.82                  | 35.71 | 12.25 | 11.22 |
| Pliny (Junior)              | <i>Epistulae</i>                        | L.26 | 40.00                  | 34.00 | 20.00 | 6.00  |
| Seneca                      | <i>De Clementia</i>                     | L.27 | 38.14                  | 42.27 | 14.43 | 5.16  |
| Seneca                      | <i>Epistulae</i>                        | L.28 | 36.00                  | 45.00 | 11.00 | 8.00  |
| Scriptores Historia Augusta | <i>Life of Hadrian</i>                  | L.29 | 38.00                  | 45.00 | 4.00  | 13.00 |
| Scriptores Historia Augusta | <i>Life of Marcus Aurelius</i>          | L.30 | 42.00                  | 41.00 | 12.00 | 5.00  |
| Tacitus                     | <i>Agricola</i>                         | L.31 | 65.31                  | 13.27 | 9.18  | 12.25 |
| Tacitus                     | <i>Annales</i>                          | L.32 | 47.00                  | 42.00 | 5.00  | 6.00  |
| Tacitus                     | <i>Historiae</i>                        | L.33 | 53.00                  | 40.00 | 6.00  | 1.00  |
| Varro                       | <i>Res Rusticae</i>                     | L.34 | 19.00                  | 55.00 | 7.00  | 19.00 |

*Note.* For the passages and editions used see Frischer et al. (Forthcoming).

## Greek Data Set

| Author                     | Text                               | Key  | Direct Object position |       |       |       |
|----------------------------|------------------------------------|------|------------------------|-------|-------|-------|
|                            |                                    |      | MCB                    | OB    | MCA   | OA    |
| Augustus                   | <i>Res Gestae</i>                  | G.1  | 65.00                  | 21.00 | 7.00  | 7.00  |
| Cassius Dio                | Book 36                            | G.2  | 55.00                  | 27.00 | 9.00  | 9.00  |
| Cassius Dio                | Book 40                            | G.3  | 60.00                  | 25.00 | 15.00 | 0.00  |
| Cassius Dio                | Book 54                            | G.4  | 75.49                  | 14.71 | 5.88  | 3.92  |
| Cassius Dio                | Book 59                            | G.5  | 74.23                  | 15.46 | 8.25  | 2.06  |
| Dionysius Of Halicarnassus | <i>Roman Antiquities</i> , Book 2  | G.6  | 37.62                  | 22.77 | 14.85 | 24.75 |
| Herodotus                  | Book 1                             | G.7  | 20.00                  | 25.00 | 25.00 | 30.00 |
| Herodotus                  | Book 2                             | G.8  | 20.00                  | 35.00 | 21.00 | 24.00 |
| Marcus Aurelius            | Book 3                             | G.9  | 28.00                  | 40.00 | 5.00  | 27.00 |
| Marcus Aurelius            | Book 8                             | G.10 | 28.00                  | 31.00 | 21.00 | 20.00 |
| Musonius Rufus             | <i>Discourses</i> , 1, 2           | G.11 | 23.71                  | 23.71 | 21.65 | 30.93 |
| Plutarch                   | <i>Dinner</i>                      | G.12 | 14.00                  | 44.00 | 12.00 | 30.00 |
| Plutarch                   | <i>Greek Questions</i>             | G.13 | 50.00                  | 12.00 | 30.00 | 8.00  |
| Plutarch                   | <i>Life Of Alcibiades</i>          | G.14 | 25.00                  | 24.00 | 18.00 | 33.00 |
| Plutarch                   | <i>Life Of Alexander The Great</i> | G.15 | 15.00                  | 40.00 | 14.00 | 31.00 |
| Plutarch                   | <i>Life Of Camillus</i>            | G.16 | 40.00                  | 21.00 | 28.00 | 11.00 |
| Plutarch                   | <i>Life Of Cicero</i>              | G.17 | 22.00                  | 37.00 | 12.00 | 29.00 |
| Plutarch                   | <i>Life Of Sertorius</i>           | G.18 | 23.00                  | 43.00 | 7.00  | 27.00 |
| Plutarch                   | <i>Life Of Themistocles</i>        | G.19 | 29.00                  | 29.00 | 21.00 | 21.00 |
| Plutarch                   | <i>Roman Questions</i>             | G.20 | 33.00                  | 25.00 | 22.00 | 20.00 |
| Polybius                   | Book 1                             | G.21 | 21.00                  | 26.00 | 17.00 | 36.00 |
| Polybius                   | Book 2                             | G.22 | 20.00                  | 24.00 | 9.00  | 47.00 |
| Thucydides                 | Book 2                             | G.23 | 25.00                  | 35.00 | 24.00 | 16.00 |
| Thucydides                 | Book 5                             | G.24 | 40.00                  | 13.00 | 36.00 | 11.00 |
| Thucydides                 | Book 7                             | G.25 | 37.86                  | 17.48 | 37.86 | 6.80  |
| Xenophon                   | <i>Anabasis</i>                    | G.26 | 17.00                  | 20.00 | 25.00 | 38.00 |

Note. For the passages and editions used see Frischer et al. (Forthcoming).

# New Directions for Cultural Virtual Reality: A Global Strategy for Archiving, Serving, and Exhibiting 3D Computer Models of Cultural Heritage Sites

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**Abstract:** In the past decade, the application of 3D computer technology to cultural heritage has been widely accepted by archaeologists, architectural historians, and cultural authorities. This paper argues that the field of virtual heritage now faces two challenges: *campanilismo*, or the privileging of local heritage over global heritage; and the lack of preservation. A solution is proposed for both problems: creation of a world virtual heritage center and network with the missions of collecting, maintaining, and distributing computer models of cultural heritage sites; and of organizing exhibitions of virtual heritage on global themes.

**Key words:** Virtual heritage; digital preservation; *campanilismo*; World Virtual Heritage Center; Immaginare Roma World Expo; Archéovision, SAVE.

## 1- The last ten years of 3D computer technology applied to cultural heritage

As we look back on ten years of activity in applying the new technology of 3D computer modeling to archaeology and architectural history, we can observe great progress on many fronts. The costs of creating and demonstrating 3D models have fallen dramatically, and today standard PCs can run models, even real-time models. Computer modeling has become a widespread, well-understood technique. Scholars comprehend the need of publishing not only their 3D data but also the related metadata and documentation. Practitioners have formed international scholarly societies and are holding regular meetings. Notable among these are the Archäologie

und Computer ([www.stadtarchaeologie.at/](http://www.stadtarchaeologie.at/)), Computer Applications and Quantitative Methods in Archaeology ([www.caa2006.org/](http://www.caa2006.org/)), International Society for Virtual Systems ([www.vsmm.org](http://www.vsmm.org)), VAST ([veg.isti.cnr.it/vast05/index.php](http://veg.isti.cnr.it/vast05/index.php)), and, last but not least, Virtual Retrospect ([www.virtualretrospect.estia.fr/en/2005\\_prog.htm](http://www.virtualretrospect.estia.fr/en/2005_prog.htm)).

As the quantity of archaeological models has increased, so, too, has the quality. Today we can create our own movies of the virtual worlds we create, populated with human beings and objects. We can even output our movies in high-definition stereo video. All this was impossible a decade ago, except for movie studios such as DreamWorks or special effects companies such as Industrial Light and Magic. For their part, real-time models are no longer just visual but can include 3D localizable sound and even touch.

Perhaps the most important positive development of recent years is that, beyond the narrow circle of digital archaeologists, cultural authorities, too, have finally "gotten it" and now understand the importance and utility of 3D models for documenting a site and presenting it to the public. A number of exhibitions and museums have used 3D models, and some local virtual heritage centers have even started to be created. A proposed ICOMOS treaty on the interpretation of cultural heritage sites recommends the use of computer models in place of physical restoration or anastylosis to the greatest extent possible ([http://www.enamecenter.org/pages/public\\_progr\\_charter.html](http://www.enamecenter.org/pages/public_progr_charter.html)).

## 2- New dangers we face: *campanilismo* and “the death of the digit”

While these developments are to be applauded, there are two dangers that I wish to discuss in this paper: first, in our enthusiasm to embrace 3D computer technology and to apply it to cultural heritage, we run the risk of falling into the trap of a cultural heritage “arms race,” in which particular cultures compete with each other to celebrate their own historical monuments and to ignore those of the rest of humanity. Second, in our rush to recreate the cultures of the past, we are ironically not taking care to preserve the new virtual culture that we are creating in the present.

I will argue that these two problems, although quite different, can have the same solution: establishment of a World Virtual Heritage Center (WVHC). Obviously, just by creating a WVHC, we cannot completely eliminate the two problems, but we can at least mitigate their worst effects and create a powerful alternative to what is rapidly becoming “business as usual.” But before I propose the solution, let me talk more about the problems in order to make the case in detail that they are real and worthy of our attention.

The first question we must ask is why are we making 3D computer models of cultural heritage sites. Of course, there are many answers that have been given to this question: we do it because they are powerful means of communicating our knowledge about a site; they offer the best tool for documenting the state of a monument; and they permit us to study problems that could not otherwise be investigated. Here I am thinking about such issues as how well a no-longer intact building originally functioned or how it was aligned with other built or natural features in its environment.<sup>1</sup>

But the question I am posing is prior to those answers because the standard replies to my question all presume that studying and teaching our cultural heritage are obviously worthwhile things to do in the first place. But I would suggest that they are anything but that. Cultural heritage is a branch of history, and, as such, it has become as problematic as has history itself. To justify this claim, I will cite the work of two leading thinkers—the American political scientist, Samuel Huntington; and the German philosopher, Juergen Habermas. In citing these two thinkers, I do not mean to embrace their views, which, in any case, are incompatible. Indeed, the very incompatibility of Habermas and Huntington—who, as far as I can tell, seldom if ever refer to one another—is a source of strength: it allows us, so to speak, to “triangulate” in on the status of history today. Whether or not we agree or disagree with the thought of Huntington and Habermas, we can use their work to highlight how problematic the topic of history has become in today’s world. And I would suggest that the more problematic history is, the more problematic is the activity of creating virtual cultural heritage, at least in the ways we have seen to date.

<sup>1</sup> For twelve basic motivations in creating a virtual model of a cultural monument, see Veltman 2001 : 271-72.

In his influential book, *The Clash of Civilizations and the Remaking of World Order*, Samuel Huntington reminds us that, “...history is alive, well, and terrifying.”<sup>2</sup> Around the world, Huntington observes, conflicts between peoples persist not because of a battle for control of territory or resources but simply over cultural traditions that are seen as irreconcilable as they are immutable. As Huntington puts it, “wars between clans, tribes, ethnic groups, religious communities, and nations have been prevalent in every era...because they are rooted in the identities of people. These conflicts tend to be particularistic, in that they do not involve broader ideological or political issues...They also tend to be vicious and bloody, since fundamental issues of identity are at stake.”<sup>3</sup> In a similar vein, Liah Greenfield, in her much-praised study of the history of nationalism, stresses how persistent is national identity and how resistant it is to change.<sup>4</sup>

For his part, Juergen Habermas sees history as the mainstay of the nation-state, which is now obsolete in the global age. Moreover, Habermas never held the nation-state in much esteem in the first place. Like many analysts of nationalism since Renan, Habermas saw it as something that “was more or less concocted from the invented traditions and the fictional history of a single community with a common ancestry, language, and culture.”<sup>5</sup> Like Huntington, Habermas sees this “fiction” of community as powerful precisely because it helps give individuals their sense of identity.<sup>6</sup> The fact that a national identity is “concocted” does not make it any less persistent or pernicious. If Huntington sees the danger in raw historical events, whose memory can keep the vicious cycle of outrage and revenge alive in peoples, then Habermas places the emphasis more on the dangers of historians who keep telling the same incendiary tales: “the Cold War is carried on today by historiographic means.”<sup>7</sup>

Huntington and Habermas have diametrically opposed solutions to the problem of national identity. The pessimistic Huntington would preserve the nation state but impose new rules of behavior on it to ensure that cultural diversity is a cause of celebration, not conflict among nations. He would

<sup>2</sup> Huntington 1996 : 259.

<sup>3</sup> Huntington 1996: 252.

<sup>4</sup> Greenfeld 1995.

<sup>5</sup> Finlayson 2005 : 123. For an example in Habermas, see Habermas 2001 : 51-57. For Renan’s view of nationalism, see Renan 1996 : 41-55.

<sup>6</sup> Cf. Finlayson: 2005, 123: “the ideas of the nation and national consciousness began to work hand in hand with the political structures of the state to imbue its citizens with a sense of belonging to a single political community, and with a sense of their collective cultural and political identity.”

<sup>7</sup> Habermas 2001: 43. At pp. 29-31 of the same book, Habermas discusses the historian’s responsibility to keep his approach and perspective uncontaminated by that of his readers precisely so that the writing of history does not simply keep confirming old prejudices and keeping alive old national grievances.

also have mankind create a more peaceful and cooperative world by stressing the things that unite, not divide, us.<sup>8</sup> In contrast, for the optimistic Habermas, the nation state's days are numbered and what will replace it are, first, transnational organizations like the European Union and ultimately a United Nations with real power.<sup>9</sup>

But despite their different visions of how a peaceful world can someday be brought about, Huntington and Habermas clearly agree that much of our current woe derives from the nation state and its citizens' sense of national identity. But how is national identity invented and transmitted? This brings us back to cultural heritage, for it is precisely through educating people about their distinguishing cultural monuments—physical and linguistic—that their sense of self-identity is forged. This commonplace was clearly expressed by Koichiro Matsuura, the Director General of UNESCO in a recent statement: “cultural heritage [is] a constituent part of national identity,”<sup>10</sup> which was echoed by the American historian, Peter Stearns, who justified the study of history today because “it helps provide identity, and this is unquestionably one of the reasons all modern nations encourage its teaching in some form.”<sup>11</sup>

It might therefore follow that if we want to reduce tension and conflict in the world, we ought not to be keeping national identity alive through the protection and indeed promotion of cultural heritage. We might instead welcome the “march of progress” and rejoice more than protest when heritage sites are destroyed by development. Of course, no one here believes that

<sup>8</sup> Huntington 1996: 316-321.

<sup>9</sup> Habermas 2001: 55-57. Finlayson 2005: 134-135: “Habermas concedes that, from a global perspective, European politics is really just an extension, not a transformation, of the politics of national self-interest...If lasting and effective political solutions to global problems are to be found, they must be sought ultimately at the level of a cosmopolitan world politics...The ultimate aim is for the creation of a political united nations with the power not just to make resolutions, but to implement them..” It is interesting to note that Renan, too, predicted that the system of nation states in Europe would evolve someday into a confederation: “The nations are not something eternal. They had their beginnings and they will end. A European confederation will very probably replace them,” in Renan 1996: 54.

<sup>10</sup> See the statement dated 27-06-2003 on “Iraqi Cultural Heritage: second UNESCO mission at [portal.unesco.org/en/ev.phpURL\\_ID=13199&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/en/ev.phpURL_ID=13199&URL_DO=DO_TOPIC&URL_SECTION=201.html) (seen October 7, 2005). This is, of course, a commonplace; cf. “Australia's national heritage comprises exceptional natural and cultural places which help give Australia its national identity,” quoted at the head of an online article on “National Heritage” posted by the Department of the Environment and Heritage of the Australian Government ([www.deh.gov.au/heritage/national/](http://www.deh.gov.au/heritage/national/) [seen October 7, 2005]). Cf. The Assistant Director General for Culture, Mounir Bouchenaki, recently noted that cultural properties “are more and more connected to questions of identity,” in Bouchenaki, 2001: 1.

<sup>11</sup> Stearns, 1998.

this is the right course of action or we wouldn't be attending this conference. And I hasten to add that I completely agree with you that encouraging the destruction of our cultural heritage would no less an act of madness than the suppression of the study of history in our schools.

From this point of view, it is interesting to revisit the 1972 UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage.<sup>12</sup> The Preamble of the Convention is the place to go to find its rationale and motivation. That turns out to be fairly simple and uncontroversial: great sites and monuments around the world are at risk of damage or destruction, and their loss would be irreparable and thus should be avoided. So far, so good. But things get more complicated when the authors of the Preamble briefly discuss the criteria for a place's inclusion among the great natural or human sites around the world. They write that “the deterioration or disappearance of any item of the cultural or natural heritage constitutes a harmful impoverishment of the heritage of all the nations of the world” (Preamble), and various articles stress the “universal value” of any given heritage site.<sup>13</sup> Indeed, the key for a site's selection as a World Heritage Site is precisely that it must be “of outstanding universal value” and meet at least one of ten additional selection criteria. But when we look at those criteria, we are surprised to see that among the qualities that can be present in a place worthy of classification as a World Heritage Site is that it be an “exceptional” or even “unique.” But how can something be universal and at the same time exceptional or unique?

To be sure, there is a reason for this seemingly strange logic. It is that, as the Nara Document on Authenticity (1994) puts it: “a fundamental principle of UNESCO [is]... that the cultural heritage of each is the cultural heritage of all.”<sup>14</sup> Thus, all cultural heritage sites and monuments are universal, in the sense that they belong to humanity as a whole. So, in the parlance of UNESCO “universality” operates not on the level of intrinsic artistic value (despite the phrase “outstanding universal value” in the 1972 Charter) but on the level of ownership. Loss of a cultural heritage site constitutes “impoverishment” in the sense of economic loss: we need the 1972 Charter to protect our collective property, not our collective identity. Clearly, then, a site can be both universal—the common property of mankind—and unique. But in the last sentence, and in the 1972 Charter, the word “unique” pertains to a qualitative judgment. Since the number of cultural heritage sites on the planet is for all practical purposes infinite—especially when we add the new category of “intangible” cultural heritage<sup>15</sup>—then, as good

<sup>12</sup> For the text, see [whc.unesco.org/world\\_he.htm](http://whc.unesco.org/world_he.htm) (seen October 8, 2005).

<sup>13</sup> Cf. Articles 1, 2, 8, 11, 12, 15, 19.

<sup>14</sup> Nara Document on Authenticity, article 8; for the text see <http://www.international.icomos.org/charters/charters.pdf> (seen October 7, 2005).

<sup>15</sup> Cf. the Convention for the Safeguarding of the Intangible Cultural Heritage (adopted by UNESCO on October 17,

stewards of our collective wealth, we must prioritize. And it is at that point that a value judgment about what to protect and what not becomes inevitable.

Lurking behind the text of the 1972 Charter is an intuitive grasp of the necessary dialectical relationship between the universal and the exceptional: what is exceptionally or uniquely valuable can only be so judged from a universal point of view; and what is truly universal (i.e., in this context “unexceptional” or commonplace) can only be determined by taking into account all exceptions and unique cases. The universal and the non-universal thus require each other for contrast, definition, and validation. Precisely because, as collective property, humanity’s cultural heritage is unlimited, we must decide to protect a specific piece of our collective tangible or intangible heritage not so much because it is universal as because it is in some way special. This insight tells us something potentially useful about virtual cultural heritage and what I see as a dangerous trend that is developing in our approach to it.

The insight of the 1972 Charter Concerning the Protection of the World Cultural and Natural Heritage is that we must always set the exceptional and unique in the context of the universal in order to appreciate its special status. The danger I see in virtual heritage is that instead of setting the special into the larger context of the universal, we are typically—if unconsciously—falling into the trap of what the Italians call *campanilismo*. This word has been aptly defined as an “absolute love and allegiance to one’s own ‘campanile’ (bell tower), to...one’s own city, one’s own region.”<sup>16</sup> In so far as it increases a citizen’s identification with his homeland and therefore encourages investment in and preservation of its cultural heritage, past and present, *campanilismo* can be a good thing.<sup>17</sup> But, when taken to an extreme, as it often is, it has a bad side, too, which the distinguished British historian Peter Burke equated to Freud’s concept of the “narcissism of minor differences.”<sup>18</sup>

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2003); for the text see: [unesdoc.unesco.org/images/0013/001325/132540e.pdf](http://unesdoc.unesco.org/images/0013/001325/132540e.pdf).

<sup>16</sup> Stortoni-Hager 2004.

<sup>17</sup> Thus, in American urban planning, the economic and social benefits of urban preservation are well known; cf. Morse 2004: 147-179.

<sup>18</sup> Burke 2004.. Cf. the following passage: “The phenomena described above form part of a reaction to globalization rather than an autonomous movement, but we cannot afford to neglect them. They illustrate a widespread anxiety over the weakening of traditional identities at a time when new ones are not fully formed. Sigmund Freud coined a vivid phrase to describe what we see happening around us: the ‘narcissism of minor differences’, what the Italians call *campanilismo*. The Dutch anthropologist Anton Blok has extended Freud’s point to argue that it is the threat of the loss of traditional identities that triggers the narcissism. The consequence is an increasing concern with cultural purity, which may take an extreme form

Is such narcissism relevant to virtual heritage today? Unfortunately, I would have to answer “yes,” for the simple reason that almost all our computer models made to date have been produced for specific purposes and have been shown to the public as support for exhibitions on limited topics. A good case in point is perhaps the most impressive show ever to center on virtual heritage: the show “Immaginare Roma World Expo” that is running this fall in Rome.<sup>19</sup> This show is installed in the Markets of Trajan in the heart of the city. Since the lab I am associated with has four different products on display, and I was myself on the Scientific Advisory Committee, if my remarks appear to be critical, this is a case of self-criticism as much as anything else.

The exhibition is sponsored by the City of Rome and is set in one of the city’s prime archaeological sites, the Markets of Trajan. A *Call for Applications* was widely distributed this summer. It encouraged applications from “research institutes, private companies, freelance professionals, public or private authorities and professional studios that have developed projects in virtual reality, computer graphics, multimedia and virtual storytelling, linked to any of the Expo’s itinerary sections.” The sections include the Ancient City of Rome; the Roman Empire; Rome Online; Research and Experimentation. The two main criteria for selection were archaeological quality and technical innovation. In the event, over forty submissions were chosen for exhibition. The Expo has received extensive and favorable coverage in the media, and thousands of people have already seen it.

So far, I don’t have any strong objection to raise because it is clear that often shows on specific themes like this have been and doubtless will continue to be held, whether or not they use information technology. But it is important to realize that Expo is seen not as an end in itself but as the first step toward creation of a permanent Virtual Heritage Center for the City of Rome. As the promoters put it, the proposed center will present “the rich cultural heritage of ancient Rome, which even nowadays is present throughout the world and continues to amaze and inspire us.”

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Rome is not the only city with such a planned center. Before it reaches the implementation stage, it is worthwhile pausing to consider the basic concept. Why, for example, should Rome’s virtual heritage center limit itself to ancient Rome? Even if we grant that a center in Rome, sponsored by the city

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in movements of ethnic cleansing, or a mild form, like the French government’s campaign against *franglais*.”

For the concept in Freud, cf. Freud 1961: 101: “Closely related races keep another at arm’s length: the South German cannot endure the North German, the Englishman casts every kind of aspersion upon the Scot, the Spaniard despises the Portuguese.”

Shaw 1998, goes so far as to see narcissism as the root cause of genocide in the twentieth century.

<sup>19</sup> See <http://www.buildingvirtualrome.org/>.

government, must inevitably emphasize the city's cultural heritage, why limit the coverage to antiquity and ignore other periods for which virtual reconstruction could be just as validly and fruitfully applied, for example the long and rich urban history of medieval Rome, many of whose prime monuments—such as Old St. Peter's—have long since vanished? Why not also use the center as a place to show Rome of the future by requiring major new building projects to submit 3D computer models of the proposed project and the surrounding context, as has been done, for example, in Los Angeles for new buildings and in Sweden for new highways.<sup>20</sup> This could allow the citizens of Rome to visualize and therefore take a more active interest in the future of their own city. Finally—and most important of all—why limit the activity of the Rome Virtual Heritage Center to Rome? Why not use the center as a virtual gateway to the rest of Italy, and why not indeed use the center as a way of setting Roman culture—ancient, medieval, or modern—into a broader global context?

Of course, you have to start somewhere, and it may be that the promoters of the Rome center set forth their project description in a very focused way in order to give the proposed center a definite identity, and to take advantage of the fact that ancient Rome is still fascinating and has therefore inspired many more VR models than any other civilization of the past. They perhaps also did not wish to scare off potential political and economic support by appearing to start something too open-ended and utopian. In fact, if these were the motivations, then they were very intelligently chosen since they in effect repeat a winning strategy already seen in twentieth-century Rome with physical urban models. I refer here to the famous Mostra Augustea della Romanità of 1937-38<sup>21</sup> which led directly to the creation of the Museo della Civiltà Romana in 1955.<sup>22</sup> Both the show and the museum were based on amassing an impressive array of physical models of ancient Rome and its Empire; and they were inevitably products of the hyper-nationalist ideology of Mussolini's regime.

It would be unfair to suggest that the backers of the proposed Rome Virtual Heritage Center have similar motivations. They clearly do not. Indeed, we need not invoke the bugbear of Mussolini to see the retrograde limitations of the proposed Rome center. At a minimum, it can be understood as a translation into the digital medium of the great national and urban-historical museums that sprouted up all over Europe during the nineteenth century in the heyday of the nation states.<sup>23</sup>

### 3- Possible solutions

Before it is too late, I hope that the other such centers in the planning stage can see the need for new institutions

implementing the ideas about cultural heritage incorporated in the various UNESCO and ICOMOS charters to which I have already referred. These make it clear that the old nationalistic model of cultural heritage will not do, especially in the age of globalization when, as Huntington and Habermas remind us, understanding among peoples is more necessary than ever.

For Huntington, one of the best ways of promoting understanding is through cultural initiatives to stress what he calls the “commonalities” of the great civilizations: “...the third rule for peace in a multicivilizational world is the *commonalities rule*: peoples in all civilizations should search for and attempt to expand the values, institutions, and practices they have in common with peoples of other civilizations.”<sup>24</sup> In Habermas' thought, there is a noticeable absence of attention to what has been aptly called the “soft power” of culture.<sup>25</sup> He would instead create a cosmopolitan mentality based on our common embrace of human rights, which he sees as transnational—and not merely Eurocentric—in nature.<sup>26</sup>

Without getting into this debate, which concerns more the realm of political science than the cultural politics we are considering here, we can at least urge a broadening of Habermas' grounding of the new cosmopolitan mentality in a cultural as well as legal argument. If the nation-state formed its citizens by an education steeped in the linguistic, artistic, and architectural monuments of a certain people, then the transnational, globalized world system of today must form its world citizens' sense of collective identity through appropriation of the entire cultural heritage of mankind. The way has already been paved by the UNESCO Convention of 1972 Concerning the Protection of the World Cultural and Natural Heritage. Now thanks to new media such as virtual reality, the opportunity has arisen to give real, concrete meaning on the level of the individual world citizen to the convention's claim that humanity's cultural heritage is our common possession and has “universal value.” Through digital media, the world's cultural monuments can be represented or, if need be, reconstructed in a non-material form so that they can be readily transmitted from one corner of the globe to another and become the raw material from which educators, moral and political leaders can construct a new cosmopolitan identity.<sup>27</sup>

<sup>24</sup> Huntington 1996: 320.

<sup>25</sup> See Nye, Jr. 2004.

<sup>26</sup> See Habermas 2001: 113-129, especially p. 119.

<sup>27</sup> I understand cosmopolitan identity in the sense of Vertovic and Cohen 2002: 4: “Cosmopolitanism suggests something that simultaneously: (a) transcends the seemingly exhausted nation-state model; (b) is able to mediate actions and ideals oriented both to the universal and the particular, the global and the local; (c) is culturally anti-essentialist; and (d) is capable of representing variously complex repertoires of allegiance, identity and interest. In these ways, cosmopolitanism seems to offer a mode of managing cultural and political multiplicities.”

<sup>20</sup> Cf. Chan, et al. 1998; I. Heldal et al 2005.

<sup>21</sup> See the excellent study by Scriba, 1995.

<sup>22</sup> See Liberati Silverio 1988 : 6.

<sup>23</sup> See Schaer 1996 : 75-85.

This digital conversion is also all the more possible and appropriate because of another feature of the contemporary world famously overlooked by Habermas: the effect of the Internet and interactive new media generally on the public sphere.<sup>28</sup> Habermas is famous for giving a “linguistic turn” to the political science of the Frankfurt School. More recently, post-Habermasian writers such as James Bohman, have given Habermas’ thought what might be called a “new media twist.” Thus, Habermas’ tragic story of a public sphere that started as an open and democratic space in the eighteenth century only to be hijacked by the commercial interests of mass media in the nineteenth and especially twentieth centuries, has a happy ending with the arrival of the Internet, the World Wide Web, blogs, etc. Certainly, we can see a “neo-Enlightenment” public space in action in the purely political realm of the cyberworld. One need only think of how the famous “Downing Street Memo” made its way via the Internet from the UK into public debate in the USA in the Spring of 2005.<sup>29</sup> What is happening with politics can also happen with the cultural content of the cyberworld and, indeed, it is already happening on the level of contemporary cultural production (film, TV, etc.). But we need to pay more attention to the possibilities afforded by the new digitized public sphere for the transmission of the cultural products of the past.

Thus, in founding new virtual heritage centers around the world, it would be a shame to miss the opportunity afforded by digital technology to “move bits not atoms.” The old nationalistic museums were justifiable on several grounds, not the least of which was practical: when you collect unique physical artifacts, you cannot expect them to be in more than one place at a time. If you want to put a museum in the middle of a country, it is more practical to give it the mission of collecting the works of art near to hand and within its jurisdiction. But if virtual heritage centers could be internationally networked,<sup>30</sup> ideally through an organization such as UNESCO, then they could easily share computer models of the heritage sites they possess. It costs nothing to FTP a computer model from one place to another. There is no limit on how many copies of a model can be in use in the world. So instead of shows on “Rome and its Empire” we could instead get comparative shows about imperialism at different periods in human history; or shows about the world in a certain period such as the fifth century B.C. or the second century A.D. Then what is locally exceptional or unique could be set into a universal context, the better to be appreciated for its distinguishing characteristics and the less to be exploited for purposes of *campanilismo*.

There are two pieces of good news that can be reported, both dating to September of this year. They make me hopeful my argument that heritage institutions should have a global vision

<sup>28</sup> On Habermas’ concept of the public sphere, see Habermas 1989 and the reactions in Calhoun 1992 and Crossley and Roberts 2004.

<sup>29</sup> For the story, see Smith 2005; for the document itself, see [www.timesonline.co.uk/downingstreetmemo](http://www.timesonline.co.uk/downingstreetmemo).

<sup>30</sup> On the (not very encouraging) history of museum networks, see Veltman 2001 : 264-65.

and reach will ultimately be accepted. First, there is at least one such virtual reality center that sees its mission in this way: Archéovision at the University of Bordeaux.<sup>31</sup> Archéovision opened its doors on September 9, 2005 and since then has hosted over one thousand visitors.<sup>32</sup> Housed in a new building near the Department of Archaeology of the university, Archéovision consists of modeling labs, an exhibition space, and a visualization theater. The theater currently shows Archéovision’s computer models of sites ranging from ancient Egypt to Renaissance France, thus attesting to the center’s ambitions to cover the globe. It has begun to create strategic alliances with similar labs elsewhere, and I am happy to say that my institution is one of Archéovision’s first partners. And my institution will be opening a virtual reality theater with a similar mission early next year. So the idea is starting to take hold and spread, at least at universities. What we need next is for a public museum to take up the idea.

The second piece of good news is that my institute’s proposal to the National Science Foundation to institute the project we call SAVE™ was approved for funding in September. SAVE™ stands for “Serving and Archiving Virtual Environments.”

The purpose of SAVE™ is to provide the framework for creating, archiving, and distributing online such real-time, scientific 3D cultural heritage models. I like to imagine the user interface of SAVE™ as an adaptation of Google Earth or of NASA’s World Wind model of the planet textured by satellite photographs. SAVE™ would add a time-bar to the representation of the earth so that instead of simply flying down onto a particular spot of the planet, as you can do today, the user could choose a certain date and see reds dots scattered around the earth indicating places where there are 3D reconstructions available for that place and time.

What services will SAVE™ offer to end-users of virtual environments? Most important of all is *access*: as computer models multiply, an Internet-based finding aid becomes more and more necessary. Equally desirable are *interoperability*, *data exchange*, and *portability*. Users need to be able to find and, ideally, to download and combine models from different sources and in different file formats.

SAVE™ will thus offer all users a convenient place to come for virtual time travel, and it will offer some users various premium services. For example, companies will be able automatically download and license a model for commercial use in derivative products. Schools and universities can obtain site licenses for the use of multiple copies of a model. Curators at virtual heritage centers can easily find just the models they need to create the kinds of comparative, globalized exhibitions that I called for earlier in this paper.

<sup>31</sup> See [http://archeovision.cnrs.fr/en/index\\_e.htm](http://archeovision.cnrs.fr/en/index_e.htm) (seen October 8, 2005).

<sup>32</sup> See [http://archeovision.cnrs.fr/en/actua\\_e.htm](http://archeovision.cnrs.fr/en/actua_e.htm).

But SAVE™ will service not only the needs of end-users to find in one place all the scientifically validated models of our cultural history. It will also serve the requirements of creators of such models. For them SAVE™ will be a clearinghouse for technical and scientific standards and best practices. It will be a digital repository when models meeting SAVE™'s standards could be deposited. It will offer creators some premium services. For example, like a scholarly journal, it can offer peer review of models so that the production of a model and associated scholarly metadata and documentation can count as a born-digital publication. It can offer file format translation, long-term maintenance as the underlying software used to create or run a model evolves. And it can offer creators a chance to correct, change, or otherwise update their models as new insights and discoveries dictate.

Beyond these services to users and creators, SAVE™ would respond to an even more pressing need: that of *archiving* models in order to ensure their survivability (Frischer 2002). It is ironic that we who work so hard to preserve the culture of the past very often take little heed about protecting our own work. Perhaps the reason is that whereas the sites and monuments we model are physical objects, our models are ultimately just computer code. But as has been increasingly realized in Europe and elsewhere, by neglecting to take measures to preserve our work, we risk becoming bad examples of the more general problem that has been memorably called “the death of the digit.”<sup>33</sup>

To get ourselves to focus on this problem, we can once again learn from recent work done by UNESCO and ICOMOS. At a conference held at Victoria Falls in 2003, Michael Petzet, the President of ICOMOS, stated:

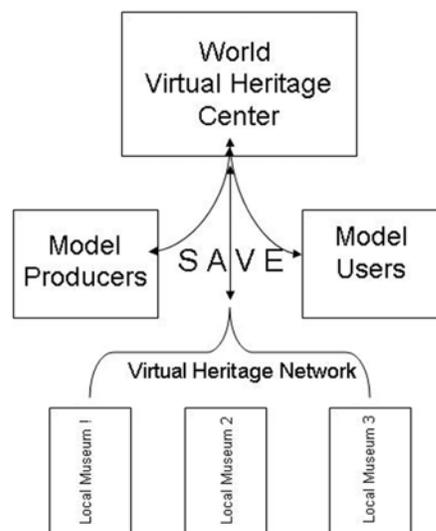
The material from which the monument as an object of remembrance is made can thus be just as variable as the degree of “materialisation“ of the spiritual message that the monument represents - from the traces of a prehistoric settlement detectable now only in the dark-coloured negative form of potholes, to the immense stone blocks of an “immortal“ pyramid created as it were for eternity. As an idea that took on shape, the monument is in any case more than a tangible ‘object’ consisting of a certain material. There are even monuments whose materials are so ephemeral that they are in need of renewal again and again; indeed even the mere replica of a monument that no longer exists materially could still ‘evoke remembrance of something.’

I would suggest that our 3D computer models—though not mentioned by Petzet—are an excellent case in point. They are quite immaterial, and they, if not carefully protected, are equally ephemeral. Luckily, they are easily replicated and that gives us a first line of defense against their disappearance. But for their long-term survival, much more needs to be done.

<sup>33</sup> This useful phrase was attributed (wrongly, as far as I can tell) in a DigiCult document ([www.digicult.info/downloads/html/6/6-212.html](http://www.digicult.info/downloads/html/6/6-212.html)), to Feeny 1999.

The purpose of SAVE™ is to ensure that our virtual heritage digits not only do not die, but that they continue to be fruitful and multiply. Needless to say, it would make sense, for logical and practical reasons, to house SAVE™ in the proposed World Virtual Heritage Center. The WVHC could also be the administrative home of the proposed global network linking the various local, regional, and national virtual heritage museums that are starting to be created around the world (fig. 1).

The WVHC will be a place where standards and best practices are tracked and promoted; where models of individual sites are deposited, maintained, and distributed via the Internet to users all over the world; and where changing exhibitions present work going on in this field all over the world. Moreover, the WVHC could be a network as well as a “bricks and mortar” building: through partnerships with local, regional, and national virtual heritage centers, it could help work done in one corner of the world to be known and used all over the globe. This is important because, if virtual heritage is not international in scope, it runs the risk of becoming less a tool to promote peace and understanding among peoples than just another weapon to glamorize one culture at the expense of all the others.



**Fig. 1:** Interrelationships between the proposed World Virtual Heritage Center and Network, SAVE™, local virtual heritage museums, scientific model creators, and end-users of scientific models.

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