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Water and Benefaction as an Expression of Julio-Claudian Power

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To Jeremy, Francis and mom

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Water and Benefaction as an Expression of Julio-Claudian Power

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In the arid Mediterranean world the careful management of water was essential for survival. Control of this resource was akin to political power. Rome and its environs were no different: water was an important status symbol and granting public access to it was considered a particularly generous gesture. During the principate a successful emperor was expected to demonstrate concern for the needs of the populace and one of the most effective ways for him to do this was by providing abundant quantities of water. As a political tool, water proved to be invaluable in its versatility. Imperial gifts could manifest in the form of access to drinking water, leisure spaces such as public gardens and baths, or even spectacular games and shows given on purpose-built artificial lakes. Additionally, massive engineering works such as aqueducts, harbors, and drainage projects, aimed at improving the water and food supply, were carefully designed to showcase the resources and generosity of the imperial patron.

This study traces the origins of these forms of largesse, following their development from the Republican period to the end of the Julio-Claudian dynasty. By examining the water-related monuments and spectacles of each individual Julio-Claudian emperor in the context of their time, this dissertation aims to reconstruct the structures themselves, their intended

audiences, and the water policies and patterns of influence created by each Julio-Claudian emperor. The first *principes* of Rome were still shaping their role and exploring ways in which they could balance their exercise of power with their expected responsibilities to the different strata of Roman society. The early *principes* began to experiment with water related munificence, and created many new forms of buildings and displays for the public that would eventually become canonical components of Imperial largesse and legitimization.

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Chapter 1: Introduction and Republican Rome

The link between the control of water and political power is an ancient one and extends as far back as the earliest human civilizations, when water was first harnessed for irrigation. The relatively arid climate of the Mediterranean world has long fostered a connection between the provision of a clean water supply and the legitimization of rulership. Without water there was no life and what little water was available had to be carefully managed to ensure survival. Whoever controlled the water, controlled a vital resource as well as the productivity of the surrounding land, and thus the people who inhabited that land.¹ Water was therefore a particularly strong political asset that was tied profoundly to Mediterranean perspectives of power and prosperity. Sharing and even giving away water under one's control was an immensely generous gesture. Providing for and having access to a clean and abundant supply of water was a social and political status symbol, and some of the most spectacular, unique, and ingenious architecture in Roman history was related to the supply and display of water. The poor needed water to survive, and an aqueduct in particular was a tremendous act of munificence. Aqueducts became synonymous with Roman rule, and elaborate hydraulic projects came to be regarded as a powerful and effective political strategy.² Frontinus and Pliny the Elder identified Rome's skill in engineering and utilitarian architecture as her greatest contribution to architecture and expressed great pride in the advances that Roman engineers had achieved in the field. Pliny in *Natural History* (36.123) proclaims:

¹ Neuerburg 1965, 19-25, Koloski – Ostrow 2001, 1-9, Hodge 2002, 19-24.

² Dion. Hal. 3.67.5, Strab. 3.5.7 and 5.3.8.

If anyone were to give due and close attention to the abundance of waters for public use (in baths, pools, canals, households, parks, suburban estates), the distance from which the water is brought, the lofty arches, the tunnels through mountains, the bridges across valleys, he would confess that there is no sight more marvelous in the entire world.³

Frontinus repeats this sentiment at 1.16. of *De Aquaeductu Urbis Romae* :

With these grand structures, so numerous and indispensable, carrying so many waters, who indeed would compare the idle Pyramids or other useless, although renowned, works of the Greeks?⁴

Rome and its rulers had a long history of using and displaying water as a status symbol; many of the water-related designs and concepts that the Romans would eventually master and use extensively had roots in the Hellenistic world, but their role as pioneers and innovators must not be overlooked.⁵ For Roman rulers water became one of the ultimate symbols of largesse and luxury, and a successful emperor was expected to maintain and provide abundant quantities of water for the general population. Water mattered to both the rich and the poor, but there was a clear divide in the way that water benefitted the wealthy and the urban masses. Since the lower strata of society needed it to survive, a generous gift of water could improve their living conditions and help combat disease. The elite needed it for conspicuous consumption, but they

³ Translation from Rodgers, 2004.

⁴ Translation from Rodgers, 2004.

⁵ Neuerburg 1965, 19-25, Koloski – Ostrow 2001, 1-9, Hodge 2002, 19-24, Schmölder-Veit 2009, 20-29.

also drew a direct benefit on a highly practical level: many industries required large quantities of water; business owners could therefore actually grow more prosperous if they had access to a generous water supply. A private water concession was a sought after and coveted prize. For Roman rulers, therefore, water was both an ideological signifier of social unity, and a means for creating it. They could use it to bind the Roman people of different strata to themselves.

GEOGRAPHICAL AND CHRONOLOGICAL SCOPE

I have chosen to focus primarily on Rome and a few massive engineering projects in the vicinity of the capital, although in some cases I venture further afield, as in the case of the Fucine Lake and some of Nero's projects in the Bay of Naples area. Even if geographically located outside of the capital, these ventures were conceptually linked to Rome and meant to directly profit the city. As the capital Rome had a special meaning, it was the *caput mundi* and also where the emperor resided. It was therefore most critical that he consolidate opinions there first, before he could hope to win over the rest of the empire. If he could not live in peace with the people in the capital, he could not hope to survive elsewhere. One of his duties was to explain the meaning of empire to the inhabitants of Rome, and the control of water was a key component of this ideology. This is why Rome became the location for such important hydraulic engineering works and water features. They displayed her superiority and reminded anyone of her remarkable access to resources and skill; they also helped forge a patriotic pride in Rome's

achievements. Aqueducts became synonymous with Roman rule, and elaborate hydraulic projects came to be regarded as a powerful and effective political strategy.⁶

The display and use of water for imperial legitimization could take many forms: Roman emperors could show off and utilize water in lavish, monumental public fountains; they could provide generous quantities of water to a neighborhood, a spectacular new bath building, or both; or they could use enormous quantities of water to put on innovative games and spectacles, such as *naumachiae* and other elaborate forms of water pageantry. Aqueducts were particularly prestigious projects, and rulers were aware of how heavily loaded with symbolism the arcades marching across the landscape could be. The very design of aqueducts is often loaded with subtle meaning, and where the arcades entered the city their builders erected grand monumental gates that commemorated their feats of engineering.⁷ Feats of engineering, and particularly the process of building challenging or large structures, were a source of interest to many ancient writers. Janet DeLaine perfectly sums up the Roman attitude towards engineering marvels: “[...] exceptional feats of construction were viewed in the Roman world [...] as a source of wonder, and as a symbol of civilization.”⁸ Both of these aspects could be harnessed for political effect; emperors could present themselves as miracle workers as well as guarantors of civilized life.

I limit myself chronologically to the Julio-Claudians, Rome’s first imperial dynasty. The individual rulers were still finding their way and experimenting with the language of power. In

⁶ Dion. Hal. 3.67.5, Strab. 3.5.7 and 5.3.8

⁷ Koloski – Ostrow 2001, 1-9.

⁸ DeLaine 2002, 205.

addition, the political use of water did not develop out of a vacuum. Many of the building types and spectacles that we take for granted as “imperial” developed gradually out of Republican predecessors, or were formed over the course of many years during the reigns of individual emperors. The Julio-Claudians explored not just the importance of controlling water, but also the significance of the act of giving it away. Excessive control would have meant that they came too close to the divine and were monopolizing a vital resource. By means of munificence and spectacular displays, they were sharing their precious resources and finding a balance between actual control and presenting an image of munificence. They developed much of the vocabulary of power and munificence related to water that later rulers would repeatedly fall back on, but also explored some avenues that did not prove to be popular. In order to reconstruct the water policy of each Julio-Claudian emperor and to explore recurrent patterns as well as changes over the course of the dynasty, I have compiled an in-depth study of each water-related monument and spectacle commissioned over the reign of an individual emperor. By examining the architectural remains and ancient accounts of these buildings and events, we can draw conclusions on how an emperor was employing water, and who the target audience was. Water was an effective and versatile tool, and engineering works were among the most important ways in which it could be both displayed and lavishly given away to the populace. Baths, public fountains and aqueducts are the most obvious examples, but *naumachiae*, both the venue and the spectacles, artificial lakes, canals and gardens all made water widely accessible and enjoyable. Water could be tamed by means of harbors, drainage tunnels and canals to help improve the food supply of Rome and improve the plight of the urban poor.

The role of the Julio-Claudians in forging these effective means of legitimization is usually overlooked; in fact, scholarly works on the importance of water as a form of benefaction are usually chronologically and geographically limited. Arjan Zuiderhoek's study of munificence in the cities of Asia Minor is one notable exception.⁹ For the city of Rome this powerful ideology is usually only touched on in passing. Most of the buildings that I discuss in my dissertation are treated peripherally in general overviews or are simply used as early examples of more "mature" types. This treatment misses how influential and novel these buildings were in their day. The baths, *naumachiae*, aqueduct arches and fountains of the Julio-Claudians were all exploring new forms and solutions.

RESEARCH QUESTIONS

My dissertation offers a new angle and a new way of thinking about these monuments by placing them in their larger context and exploring them not just from an architectural angle, but an ideological one. Some of the most important questions that I tried to answer are why were they built and who were they for. This reveals why they were so important and why some forms of building were more successful than others. I also show the importance of engineering works and infrastructure as propaganda. These were more than just functional works built to meet a need; instead they were a powerful political tool and their design and execution underline this fact. Practical engineering works, such as the intake structures of the Fucine Emissary or the arcades of the Aqua Claudia, were intentionally monumentalized and highly visible. Most studies that address water as a political tool focus either on decoration and display, or on engineering. I

⁹ Zuiderhoek 2009

looked at both types of monuments together, treating them as parts of a more inclusive and comprehensive water policy and ideological strategy promoted by an individual ruler.

Although some of the monuments I discuss have been studied in some detail, they have not been placed within the framework of an individual ruler's water policy, or that of the entire Julio-Claudian dynasty. The innovation and experimentation that goes on within this segment of architecture is exciting and sometimes unexpected, and deserves more attention. It cannot be studied only in the context of typology, because many of the examples are unique or in their own time were without precedent. Before Pompey and Caesar, water related architecture was an important form of conspicuous consumption in a private context. The public water supply and fountains were addressed as needed, but the architecture was simple. Sharing elaborate forms of water display with the general public and allowing them access to abundant clean water became a grand gesture of benefaction, and Pompey the Great and Julius Caesar played a key role in transferring these forms of aquatic display from the private to the public sphere. Pompey's Portico and Gardens were particularly important in this respect. Julius Caesar, in an attempt to keep pace with Pompey and his lasting reputation, essentially invented the public water spectacle and gave Rome's first naumachia.

The imperial system did not simply appear fully formed and the Julio-Claudians, as Rome's first dynasty, were still actively shaping the role of emperor and forging a new ideology to justify their rule. They explored not just the importance of controlling water, but also the significance of the act of giving it away. They had to work carefully in order to not appear to be

monopolizing a vital resource. Most types of display that we consider canonically “imperial” developed gradually over the reigns of the individual emperors of this dynasty.

For each Julio-Claudian ruler I compiled all public, water-related monuments, both decorative and utilitarian, that they commissioned in and around Rome. I also put together a list of all spectacles that featured water prominently. This helped me determine whether all Julio-Claudian emperors used water in the same way (they did not) and what the trends in water policy were. Some types of building and spectacle were clearly more successful than others, and I carefully looked for patterns how each emperor’s projects and policies may have influenced their successors. During this process, it became clear that Claudius stood out as unique in many respects.

The Julio-Claudians were a pivotal point in the political use of water, but they certainly were not its origin. The first chapter explores the origins of the connections between water and power, and looks at Greek precedents and early Roman examples of the decorative use of water. Well-preserved early examples from the city of Rome are scarce, often because they were continually updated and modified; this erased most earlier traces. The villas of the aristocracy played an important role in the diversification and growth in importance of water features. Many of the public water displays later found in the city of Rome had their roots in the lavish estates of the elite. We will therefore explore a few examples outside the city and briefly look at villas in general before returning to the city proper.

The second chapter focuses on Augustus and Agrippa. Augustus, who was always very careful not to present himself as a monarch and gradually changed his role over many decades,

pioneered the use of water as a tool for imperial legitimization. Water was a keystone of his power and he and Agrippa used it in novel and unique ways to garner favor and consolidate their influence. They gained control of Rome's water supply very early in their rise to power, even before the battle of Actium. This indicates the political and ideological significance of water. Their contribution to making water an expression of imperial power is significant and they pioneered many different types of water use to help legitimize Augustus's rule. They focused on improving access to drinking water and providing leisure grounds (which were heavily dependent on water for irrigation and decoration). They also used water for entertainment, both in the form of bath buildings and novel gardens, as well as magnificent spectacles, culminating in Augustus' purpose built Naumachia.

Augustus was the first to present himself as 'Master of water' and to showcase his power over this vital element. Water was ideologically so significant because the poor associated it with survival, but both elite and non-elite saw it as the means to a pleasant life. This is well illustrated by Agrippa's bath complex in the Campus Martius; it emphasized the generosity and social responsibility of Augustus' rule and functioned as an official acknowledgement of the urban poor. Agrippa and Augustus' building projects included many examples of architecture that advertised the water supply and its multiple beneficial uses. They focused on artificial lakes, canals and gardens, in short, on forms of architecture that displayed the water itself, often conspicuously and in large quantities. They also used inscriptions and aqueduct arcades to underline their attention to the water supply. They recognized the importance of water as a resource, and its power in propaganda; they set the precedent for the use of water as an imperial statement. They created a formal management and regulation of the

water system that continued in use with only minor alterations and ensured that the ultimate control over this precious resource was firmly in the hands of the emperor. Agrippa's innovative changes to the administration of Rome's water supply addressed the problems that arose from the more *ad hoc* Republican system.

They also promoted a regular system of public fountains throughout the city, thus improving the water supply, embellishing the cityscape and announcing to every single neighborhood in Rome that they were responsible for the improvement. The fountains were also connected to the city's compitalia shrines and reached out to Rome's neighborhood organizations and tied their loyalty to Augustus. Augustus and Agrippa showed just how powerful a political tool water could be and developed prototypes, both physical and conceptual, for its use. Many future emperors would continue to build upon the foundations set by them.

Chapter 3 opens with Tiberius and Gaius and focuses on Claudius' projects within Rome. Too little detailed evidence survives to make more than just a general statement on Tiberius' and Gaius' water policies, but the archaeological evidence suggests that they placed a high priority on aqueduct maintenance. Gaius, in spite of his short reign, was also very influential on water spectacles. He pioneered some forms of display that were further developed by future rulers. From the start Claudius always stood out as different from the other examples I was looking at. He followed the example of Agrippa and Augustus conceptually and also presented himself as a master of water, but the way in which he chose to do so differs significantly. Unlike Augustus and Agrippa, he did not display the water itself to the people; instead he

monumentalized and embellished the infrastructure that carried it. Claudius focused on highlighting the process involved in bringing the water to Rome. To this end, he erected such distinct monuments as the Porta Maggiore and new Aqua Virgo arcades, and promoted a very distinct style of rusticated masonry. This was a key issue I had to address, and I concluded that Claudius' rustication is not simply a decorative style but a device to convey a complex ideology and series of associations. It is a propaganda device. The exaggeratedly rough and massive masonry style emphasizes the distant mountain origin of the precious water, and reminds the viewer of the tunneling, digging, quarrying and countless other physical efforts necessary to build an aqueduct. It calls to mind the raw power of nature and the efforts and ingenuity needed to tame the elements. The stone blocks look roughly worked and unfinished, but the overall design of the monument is very precise and of a high quality. The surface effects create the illusion of increased massiveness and solidity, yet at the same time, the broken up surface suggests movement and the flow of water through the aqueduct. The style is unmistakable and was used by Claudius in Rome, Portus and the Fucine Lake. It signaled to the viewer that each was his commission and part of a larger network of infrastructure. Each piece is in itself impressive, but seen all together they promote Claudius' skill as an organizer and administrator. They also, however, draw attention to the talented engineers, architects and workers that he had at his disposal and mobilized for the benefit of the Roman populace.

Claudius' choice of projects is also significant. All of his major commissions are utilitarian, and related to the water and food supply of Rome. In the past, this has led many scholars to not pay much attention to his architectural contributions. There is still a lingering attitude that his projects were flawed and not particularly valuable. Augustus and Agrippa

reminded the population of Rome of their efforts on their behalf by presenting them with hundreds of new fountains. Claudius did the same by building new, visually impressive aqueduct arcades and infrastructure. Each of these projects was ambitious and extremely expensive, but because they were utilitarian and intended for the public, what otherwise could have been interpreted as overspending or excessive ambition, was translated into generosity instead. This allowed Claudius to create an impressive and lasting legacy for himself, while avoiding criticism for overspending on self-aggrandizing projects. Claudius was emphatically giving the water he brought into Rome away as a gift. He was balancing his control and presenting the image of munificence through spectacular displays and public access to water. Claudius was therefore styling himself as the master of water, but also as the leader of a large crew of talented Romans with impressive skills. By doing this, he managed to underline his role as a benefactor, but also foster pride in the populace, because his monuments showcased Roman engineering and knowhow in a very accessible way. The inhabitants of Rome could feel vested in Claudius' engineering triumphs because he presented them as their own.

Claudius seems to have considered the Fucine emissary one of his crowning achievements because he decided to celebrate it with the biggest spectacle ever to take place in a single day. Chapter 4 looks at the Fucine emissary, as well as the great new harbor at Portus, Claudius' engineering works outside the city of Rome. Both the Fucine tunnel and the naumachia are often misunderstood and misrepresented as unsuccessful, but in fact, they represented one of the most effective displays of power over water and land found in the ancient world. The Fucine emissary represents the binary benefit of water in that it benefited both the urban masses and the elite. On the one hand, the increase in arable land and irrigation

could be used to improve the food supply; on the other, those with disposable cash could invest it. This investment scheme ended up being unsuccessful, but together with the enormous naumachia organized on the Fucine Lake, Claudius' emissary was politically and culturally a success.

The Fucine spectacles used a device pioneered by Gaius: turning water into dry land and vice-versa. Until the inaugural ceremonies of the Colosseum, it remained the spectacle to top. One difference is that Claudius did actually permanently transform part of the lake in to dry land; it was more than an impressive and well-choreographed trick. I found that Claudius used a novel approach to using water as a form of benefaction and legitimization. Nero, as it turns out, has a close connection to Claudius' policies. Since he rejected his stepfather early in his reign and allowed Seneca to lampoon him, I expected to find that Nero would differ significantly from Claudius, but he too showed enthusiasm for engineering works and there is a stronger continuity than is usually identified.

Claudius' harbor and the Fucine tunnel were ambitious and risky undertakings that paid off by earning him a lasting positive reputation. Nero attempted a number of endeavors that were even more challenging. The ancient sources ridiculed Nero's Avernus and Isthmus canal schemes, and interpreted them as expressions of Nero's ego; but both projects actually had sound economic foundations and would have been beneficial to the food supply of Rome. Their completion would have required decades and enormous resources, but so did Portus and the Fucine lake, and they were successfully carried out.

One facet that sets Nero apart from the other Julio-Claudian emperors is the way in which he chose not to reach out to all strata of society. As I discuss in chapter 5, he rejected the elite in favor of indulging the plebs and many of his commissions were geared towards them. In many ways, he followed the example of his great-grandfather, Agrippa. Agrippa had been tasked by Augustus to create new building types that would appease and profit the urban masses and he responded by erecting his grand public baths and marvelous gardens, lake and canal in the Campus Martius. Nero built a new set of baths in the campus Martius, more than twice the size of those of Agrippa. In doing this, he could connect himself ideologically to his ancestor, but was also outdoing him in every way. Although Nero incurred the displeasure of the elite, he was well loved by the general populace and many of his works, such as his Baths, lake and engineering projects actually follow closely in the tradition of Agrippa and Claudius.

The Domus Aurea was controversial in antiquity, but a careful reading of the ancient sources reveals that it was mostly criticized for the size of its grounds. They contained many features that were appropriate, even typical, for country villas. However, for many members of the elite these were not fitting for the heart of Rome. Another factor is accessibility: Nero seems to have been willing, even eager to invite the populace, both rich and poor together, on to his property and make it available to everyone, much in the same way that the Campus Martius was a public park. Both were equipped with extensive gardens, both contained an artificial lake, and an increasing number of scholars suggest that the Baths of Titus may have had a Neronian predecessor that was never completed. Whatever the plans for the grounds were, they were never fully carried out.

By encouraging the orders to mix, Nero may simply have been promoting Augustus' construct of the *populus Romanus*, as Claudius had also done. But on some occasions, he did show a predilection for forcing the elite into roles they felt beneath them. The Campus Martius had always been associated with the common people; this is where they had met to vote. But the center of Rome did not have this traditional connection and to the elite at least, Nero's gesture seemed less generous because of how he had acquired the land. As a consequence of the great fire in 64 CE Nero embarked on a massive reconstruction effort which also included changes to the water system. He added a new source to the Aqua Claudia and added a significant new branch to it, the Arcus Caelimontani. It was tall and slender and designed to make an impact and it also showcased brick and concrete. In style it was very different from Claudius' massive solidity.

The Arcus Caelimontani helped improve water distribution and ended on the Caelian Hill where it supplied water to Nero's massive new Nymphaeum that occupied the entire eastern side of the Caelian. It acted as retaining wall and stretched for almost 170 meters. I suggest that the fountain was intended to showcase the wealth of Rome and display the water of the Aqua Claudia, something Claudius had chosen not to do. Nero thus revived Augustus' tradition of decorative public fountains, but on an enormous scale. This massive feature and the natatio in his baths share an aediculated design decorated with columns, reminiscent of the backdrop of a theatre. Nero may have started to adopt this device in order to identify and visually tie together his commissions, much as Claudius had with his distinct rustication.

Nero was equally inventive when it came to his water spectacles. He gave multiple floating banquets, inviting the entire populace and enjoyed giving performances that involved flooding and draining the venue, picking up on the examples set by Gaius and Claudius. When it came to his water policies, Nero was a perceptive and thoughtful builder who knew how to draw on the successes of his predecessors. Nero and the Julio-Claudians experimented with and perfected the use of water as a political tool and showed their successors how to use, display, and above all, generously give away water to ensure the loyalty of their subjects.

SOURCES AND HISTORIOGRAPHY

Many of the monuments that I address are still standing today and exceptionally well preserved; these include the Porta Maggiore, Arcus Claudii and the arcades of many of the aqueducts.

Whenever possible I visited these in person and studied and photographed them in some detail.

Others, such as the Fucine Emissary, the Baths of Agrippa and the gardens of the Domus Aurea, are no longer visible or have been destroyed, but are at least partially known from excavations.

In these cases, I relied on original excavation reports, photographs and drawings to gain as much first hand information as possible. Some monuments have also been studied in some detail in

their own right and I consulted detailed studies of individual structures, such as, for example,

Coates-Stephens work on the Porta Maggiore, Taylor's work on the Naumachia Augusti and the

two volumes on Portus edited by Millet and Keay. A good understanding of these better-known

examples allowed me to attempt a reconstruction of less well-explored buildings of similar

design, such as the Stagnum of Agrippa or Claudius' British Victory Arch. In some cases, this

approach revealed that some buildings that appear to be well known, such as the Baths of Nero,

are in fact only very imperfectly understood. In this particular case, we do not know for certain what the original appearance of the baths was, we only know what their appearance was in the third century. Many of the case studies used in this dissertation were used and re-used and were therefore changed and rebuilt many times. It is important to keep in mind that a monument as we know and understand it today can be very different from the form it originally took in the Julio-Claudian period.

Sometimes a comparison is possible between a surviving monument and its ancient description. When a monument is only known from a written description often no conclusions beyond a rough idea of shape and size could be drawn. In cases where the ancient texts gave differing information, I discuss both versions and weigh their reliability. Ancient authors frequently influence how we interpret an individual ruler's contributions; in cases where the key ancient sources are hostile to a ruler, this attitude can still flavor much secondary literature. This was particularly an issue with Claudius and Nero. Nero has received a thorough reevaluation in recent decades, but a similar treatment of Claudius has lagged behind, particularly in the case of his large building projects. I aimed to be as objective as possible when working with ancient texts and to keep in mind the biases and agenda of the author. Occasionally I was fortunate enough to be able to work with both inscriptions commissioned by the builder and an account written by an ancient author.

Ancient authors are problematic: they wrote for their own purpose, with their own agenda and biases; they are neither objective, nor necessarily experts on what they are describing. They were not always interested in detailing accurate facts: instead, they focused on

constructing a narrative, transmitting moral messages or exploring specific themes. Frequently their works had strong philosophical and rhetorical undertones. Except in a few cases, the accounts were also written long after the occurrence of the events under discussion.¹⁰ Without exception, all surviving accounts I utilized were written by elite males and therefore transmit their attitudes and biases. The texts allowed me to do two things, one was to attempt to reconstruct buildings and events, and the other was to gain a sense of how the elite responded to the emperors' building commissions and shows. Occasionally they also allow a hint of how the lower classes responded, but these instances are few and not necessarily accurate.

My main ancient sources are the *Res Gestae* of Augustus, Suetonius' biographies of Augustus, Tiberius, Gaius, Claudius and Nero, Tacitus' *Annals* and *Histories*, Cassius Dio, Pliny the Elder, Vitruvius and Frontinus. To a lesser degree I also consulted Plutarch, Seneca, Pliny the Younger and Livy. Occasionally I also looked at the works of poets and satirists, especially when they offered the only description of a monument or provided a particularly interesting insight from the view of a contemporary. Other primary texts that I worked with were inscriptions on the buildings themselves.

Frontinus is one of my most important sources on the aqueduct systems of Rome. Published around 98 CE *De Aquaeductu* is full of information, ranging from technical details on the individual aqueduct lines (books 64-86), to summaries of their history (books 4-16) and a discussion of their administration (books 94-130), complete with quotations of republican and

¹⁰ Sorek 2012, 3-66.

early imperial laws pertaining to the water supply.¹¹ Frontinus knew and saw the aqueduct lines himself and presents himself as an expert. To this extent he is a contemporary witness (although he is not always aware of the original appearance of Rome's oldest aqueducts), but of course his work has its own agenda. He means to glorify Rome and the emperor Nerva, and by extension himself.¹² *De Aquaeductu* has elements of the technical treatise, and Frontinus represents it as such, noting that it is a handbook for himself, and hopefully his successors.¹³ It does, however, also have many other elements in it; it is also something of a history and an annal.¹⁴ Besides the useful summary of data that he supplies, Frontinus also gives us insight into the attitudes of an elite Roman male of the first century, and how the hydraulic works of the Julio-Claudians may have been received by the senatorial class. Pliny the Elder, who actually witnessed some of Claudius' large scale works being built, offers a similar perspective. Both he and Frontinus were interested in and admired ambitious engineering. He too was close to those in power, but preferred to write on a wide range of subjects, and his *Historia Naturalis* is a massive work. Pliny's tone tends to be patriotic in that it celebrates Roman achievements, but he does not seem to pass judgment on individual rulers.¹⁵

Vitruvius is another ancient source offering insight into the technical side of Roman construction. His treatise on architecture is a combination of practical and theoretical handbook, comparable to Frontinus, but it also extensively explores more philosophical

¹¹ Front. Aq., Evans 1994, 13-64, Rodgers 2004, 8-31.

¹² For an extensive discussion on Frontinus and his agenda see Evans 1994, DeLaine 1995, Blackman and Hodge 2001, Rodgers 2004.

¹³ Front. Aq. 1.

¹⁴ Evans 1994, 13-64, DeLaine 1995, 117-145, Rodgers 2004, 8-20.

¹⁵ Rodgers 2004, 12-14, Sorek 2012, 196-198.

avenues. Some chapters of Vitruvius reveal a great deal of first hand practical and theoretical knowledge, others, such as his section on hydraulics, suggest a lack of expertise. Vitruvius is a valuable source on construction techniques and attitudes towards building design during the reign of Augustus. In his introduction Vitruvius also outlines the perceived connection between a ruler and his building commissions, and the expectations that his subjects had concerning new public buildings.¹⁶

The *Res Gestae* of Augustus provide Augustus' own voice on his commissions and are valuable in the sense that they tell us what he wanted to be remembered for; he presents his ideology in his own words. Water was clearly a high priority and he mentions his work on Rome's water supply multiple times. He also gives a longer account of his *naumachia*, providing both dimensions and the number of participation vessels and combatants.¹⁷

Tacitus (56/7 – c.117 CE) claims to be neutral (*Ann.* 1.1) but clearly is not. He felt that imperial patronage and sycophants in general hampered contemporary historians; his characterizations of those in power and those close to them are generally cynical. Large pieces of his *Annals* and *Histories* are missing, including much of the reigns of Claudius' and Nero. He was a witness to some of the episodes he describes, but would still have been a child at the death of Nero. His detailed accounts of events during the reigns of the Julio-Claudians are

¹⁶ Vitr. De Architectura, preface 2, Smith 1976, 43-71, Zanker 1990, 135, Hodge 2002, 14-16.

¹⁷ RG 20, Appendix 2,3,4, Sorek 2012, 113-116.

therefore not firsthand.¹⁸ Since he was chronologically and dynastically removed from the Julio-Claudians he could afford to be critical.

Suetonius (c. 70-c.140 CE) was primarily a biographer, not a historian. He was not a contemporary of any of the Julio-Claudian rulers, but he had ready access to imperial archives during his career; he made ready use of them it seems and quotes directly from Augustus' letters. His imperial biographies are not arranged chronologically, but rather, thematically, highlighting the character traits of each individual he writes about. Although he presents both the positive and negative aspects of their character, the negative tends to be more memorable. He likes to humanize his subjects with little personal details and also includes many salacious and scandalous anecdotes, which he acknowledges as gossip.¹⁹ Sometimes Suetonius and Tacitus discuss the same events and monuments; the differences in their accounts can often reveal much about the personal agenda of the respective authors.

Cassius Dio (c. 163/4 to c235 CE) served under the Severans, and is thus chronologically the farthest removed of the sources I utilized. He extensively read and researched his work, at least according to his own account (1.1). He remarks on the difficulty accessing some materials and hints at something like censorship. He notes: "And in pretty well every instance the report which is spread abroad does not correspond with what actually happened."²⁰ Dio tends to be vague and often skips exact dates and locations, yet sometimes he provides details that neither Tacitus nor Suetonius mention. Vagueness aside, his accounts tend to line up well with theirs.

¹⁸ Sorek 2012, 123-132.

¹⁹ Sorek 2012, 167-180.

²⁰ Dio 70.19.

Since I needed to assemble monuments of many different types, as well as descriptions of ancient spectacles, I had to consult a large variety of secondary sources. I not only carefully compiled information on individual monuments, but also studied works that provided me with a historical background and put the physical buildings into their political context. It was crucial to understand the general policies and situation of each Julio-Claudian and to test how their water policy fit into this broader framework. By identifying specific concerns of their respective reigns, determine some of the motivations for their construction choices. Influential surveys on the connections between water, power and ideology include Rinne's work on the political significance of water in early modern Rome and Longfellow's detailed study on fountains as a form of imperial patronage. Lusnia provided a model on how to observe trends in imperial water policy with her important article on the Septizodium and how it fit into the broader picture of Severan legitimization.²¹ Each of these works is either limited chronologically, or focuses on just one specific type of monument.

Ashby and VanDeman's seminal surveys of Rome's aqueducts are rich sources of primary information on the construction and course of the city's aqueducts, but they do not place them within their wider political and historical framework. Bruun, Hodge and Evans look at the aqueducts from an engineering and administrative angle, and focus on such issues as distribution. Questions of target audience and political significance of hydraulic installations are

²¹ Lusnia 2004, Rinne 2010, Longfellow 2012. For similar approaches focusing on specific types of monuments and timeframes see also Berg 1994, Robinson 2011, DeLaine 1997, and Taylor 2000.

sometimes touched on, but they do not include any detail monuments other than aqueducts; they remain within their narrower field of specialization.²²

General works on Roman architecture and surveys of specific building types provided plans, maps and basic reconstructions, as well as some comparanda. The LTUR provided basic background information and context, as did Gros' volumes on Roman architecture. For extensive catalogues of fountains, I turned to Neuerburg and Schmölder-Veit. The catalogues of Roman bath buildings by Yegül and Nielsen offer a brief diachronic overview of this type of monument, but they treat early examples such as the Baths of Agrippa simply as a prototype for later developments, rather than a revolutionary and unique building in its own right. DeLaine's work on the Baths of Caracalla offered a model on how to look comprehensively at each of my chosen monuments, and what questions to ask in connection with them. Her monograph does not just offer a detailed survey, but places the baths within the context of Caracalla's reign and focuses on such questions as target audience, political motivation and public reception. In order to place the monuments I was studying within their correct physical context I also consulted detailed diachronic studies of specific areas of Rome, such as Coarelli's book on the Campus Martius.²³

Water spectacles have received more attention in recent years. Coleman wrote an important article detailing the basic premises and types of water spectacle, and Berlan-Bajard follows with a monograph discussing the major types of Roman aquatic spectacle, as well as detailing the events that took place under each successive emperor. Her survey relies heavily on

²² VanDeman 1934, Ashby 1935, Bruun 1991, Evans 1994, Hodge 2002.

²³ Neuerburg 1963, Coarelli 1977a and 1996, Nielsen 1990, Yegül 1992 and 2010, Gros 1996, DeLaine 1997, Schmölder-Veit 2009.

primary texts. Cariou complements her research by supplying the archaeological context, focusing extensively on the known physical remains of *naumachiae* and related structures. Taylor focuses on one specific venue, the *naumachia* of Augustus and its contingent aqueduct, and explores its form, function and role within the policies of Augustus.²⁴ With the exception of Taylor, who is more limited chronologically, none of these studies insert they *naumachiae* and spectacles celebrated in them into the broader network of commissions of an individual ruler.

Who was the target audience of a specific commission and why was the emperor in question reaching out to this particular group? To answer these questions I turned to scholars who dealt with questions of public reception and strategies of legitimization in the Imperial period. DeLaine's article on the Temple of Hadrian at Cyzicus outlines the significance that the Romans accorded to large-scale engineering works and examines why they were such powerful expressions of imperial legitimization. The monographs by Zanker and Boatwright on Augustus' and Hadrian's building programs in Rome are influential models, and Davies' study of imperial funerary monuments provided the foundation on how to read building commissions and how to determine the messages that they were intended to convey. Clarke's works investigate how the lower classes may have responded to imperial building commissions, and lays out how their reading of an imperial monument may have differed from that of a member of an elite; the same structure could send very different messages to different viewers.²⁵

I rounded out my secondary sources by reading scholarly biographies of each of the emperors featured in my dissertation. In many cases these focused primarily on historical and

²⁴ Coleman 1993, Taylor 2000, Berlan-Bajard 2006, Cariou 2009.

²⁵ Boatwright 1987, Zanker 1990, DeLaine 2002, Davies 2004, Clarke 2003 and 2007.

political events and dedicated little space to architecture, this was particularly true in the case of Claudius. In order to answer all the questions and to create the context, both physical, historical and political of my case studies I had to combine aspects from all these types of works and compile the information into something more cohesive that investigated many different angles that are only rarely combined, and then only for a very limited timeframe.²⁶

GREEK PRECURSORS?

Possible predecessors for Roman hydraulic strategies exist in the water management systems of the Etruscans and Greeks (Archaic, Classical and Hellenistic), as well as, if less directly, the ancient Near East and North Africa.²⁷ Scholars often cite the water-related architecture of the Peisistratids in Athens and the Kypselids in Corinth as ideological precursors to the Romans.

These tyrants famously reorganized, expanded, and monumentalized the public water supply of their respective cities. They embarked on these grand public projects in order to underline their right to rule and prove their munificence and civic responsibility to the people, but also to help forge and strengthen civic identity and advertise the power of their home city. Springs of particular local significance, such as the Peirene in Corinth or the Enneakrounos in Athens, were provided with efficient catchment basins and given a decorative setting that was more than just functional. These springs were not just convenient sources of fresh water but had important ritual and mythological associations that were closely tied to local notions of civic identity.²⁸

Large, decorative fountain houses were erected in many Archaic Greek cities; they improved

²⁶ For example Elsner 1994, Levick 2001, Champlin 2003, Osgood 2011.

²⁷ Hodge 2002, 19-24.

²⁸ Crouch 1993, *passim*, Berg 1994, 39-47, Hodge 2002, 23-24, also note 27, Viollet 2007, 95-127, Robinson 2011, *passim*, Longfellow, 2011, 9-11.

access to water, but also became important landmarks and meeting places.²⁹ They could be complex, both architecturally and technically. Cisterns, reservoirs, settling tanks and large catchment basins often formed part of the design, and the fountain houses also served as the starting points for terracotta conduits or rock-cut channels that redistributed the water to subsidiary outlets within the city.

Aqueducts in the true sense of the word are rare in pre-Roman Greece. Hodge points out the important distinction between a water conduit that distributes water from a local source, such as the terracotta conduits and cut channels found in Athens, Megara and Corinth, and an aqueduct in the true sense, which transports large quantities of water from a distant source.³⁰ One notable exception is the Tunnel of Eupalinos on Samos, built in the mid sixth century BCE during the reign of the tyrant Polycrates. It was cut through the bedrock deep beneath Mount Kastro and required complex surveying and tunneling techniques to complete. It is over a kilometer in length and has a cross-section measuring approximately 1.8m x 1.8m. In contrast to a typical Roman aqueduct, the water ran not along the bottom of the tunnel itself, but in a terracotta pipeline installed along one side. Other such tunnels exist in Greece, but they are difficult to date and it is unclear if they are Archaic, Classical or Hellenistic. It is only due to a passage in Herodotus, who discusses it as one of three wonders, that the Samos example can be so clearly dated.³¹ Approaches to water management in the Classical period show no great change, either ideological or technical, from the Archaic, and the same trends and techniques

²⁹ Longfellow, 2011, 9-11; Robinson 2011, *passim*, Hodge 2002, 23-24, also note 27, Crouch 1993, *passim*, Letzner, 1990, *passim*.

³⁰ Hodge 2002, 24-31.

³¹ Herod. *Hist.* 3.60. Kienast 1995, *passim*, Hodge 2002, 27-28,

largely persist.³² Although scholars have often viewed examples such as the Eupalinos tunnel as models for the Roman period, the question must be raised to what degree, if any, the Romans were aware of or influenced by Greek hydraulic engineering in the Archaic and Classical periods. As we shall see below, Italy had its own, very ancient, hydraulic traditions. The underlying geology and hydraulic situation of Rome was also quite different from Corinth or Athens.³³

HELLENISTIC DEVELOPMENTS IN WATER

The Hellenistic period saw a boom in ambitious construction projects sponsored by Hellenistic monarchs eager to astonish their subjects and rivals. Many of these works, such as the Pharos of Alexandria, the aqueduct system of Pergamon and the Arsinoeon in Samothrace, pushed the limits of known construction techniques with their size and elaboration.³⁴ They also highlighted the semi-divine status of their royal patrons because they not only displayed the wealth and resources at their disposal, but more importantly, they suggested that the kings and queens who commissioned them could challenge and reshape Nature and impose order and civilization at their whim.³⁵ Magnificent palace gardens and public parks, *paradeisoi*, became a matter of pride. Great resources were expended on importing exotic plants and animals and creating astonishing artificial landscapes, often including pools and lakes.³⁶ The royal courts sponsored prestigious libraries and competed eagerly for skilled artists, inventors and scholars, culminating

³² Hodge 2002, 30-31, Berg 1994, 55, Crouch 1993.

³³ For example Crouch 1993, Berg 1994. Hodge 2002 looks at the more complex issues.

³⁴ DeLaine 2002, 206-209. For Hellenistic science and engineering in general see Shipley 2000, 310-341, Deming 2010, 122-169. For hydraulic projects see for example: Viollet 2007, 95-127, Hodge 2002, 5-6, 31-45, Radt 1999, 147-158.

³⁵ DeLaine 2002, 210-213.

³⁶ Wallace-Hadrill 1998, 1-12, Champlin 1998, 335, Winter 2006, 207-218.

in the Library of Alexandria. Having a large staff of skilled engineers, architects and builders was a sign of social distinction; the likes of Archimedes were courted with lavish offers and encouraged to create ingenious displays that did not necessarily have any practical application other than to impress.³⁷

This period is a true watershed in terms of hydrological advances. Hellenistic rulers showed a growing interest in water systems and they increasingly used water as a form of dynastic display, searching constantly for more elaborate and complex expressions of ingenuity. Under their patronage engineers and architects not only created more complex and sophisticated distribution networks, but transformed strictly utilitarian installations into a form of artistic display celebrating the beauty of water. The many new cities founded by the ruling dynasties were perfect testing grounds for new types of water-related architecture and elaborate water systems and displays could be exploited for political prestige.³⁸ Many of the water-related projects built by Hellenistic monarchs were meant to be contemplated and admired; they became increasingly technically complex and imposing. They were intended to impress subjects and potential rivals alike, showing off the power and resources at the ruler's disposal. They also suggested, often not too subtly, that the powers of their sponsors approached the divine.³⁹

Possibly the most famous Hellenistic hydraulic achievement is the aqueduct of Pergamon, which supplied the top of the citadel with fresh, running water and was considered a

³⁷ Shipley 2000, 310-341, Deming 2010, 122-169.

³⁸ Berg 1994, 55-73, Viollet 2007, 95-127.

³⁹ Shipley 2000, 310-341, Viollet 2007, 95-127.

marvel of engineering for centuries afterward (fig. 1.1).⁴⁰ The city was initially supplied by cisterns, but Eumenes II expanded the city infrastructure considerably and added one or more ambitious water lines. To celebrate and display this engineering success fountains were added at important intersections and at the Gymnasium (fig. 1.2). Probably the most impressive feature of the Pergamon aqueduct were the ingenious siphons that brought water all the way to the top of the citadel and made it appear as if the water was defying gravity.⁴¹

Inspired by royal examples, the use of decorative fountains in domestic and public settings increased in popularity during the Hellenistic period and the forms and types of fountain and water installations diversify considerably. Extant examples of fountain sculptures are mostly of nymphs and other minor nature deities; sometimes they were exhibited on their own and sometimes surrounded by “natural” rocks. The combination of these rustic elements suggested an idyllic, bucolic setting, which was particularly striking within a heavily developed urban area. Houses inhabited by Roman merchants on Delos contained many examples of such fountains.⁴²

Public buildings like gymnasia and stoas were outfitted with decorative fountains, made of fine marble and sometimes embellished with sculptures.⁴³ A good example is the gymnasium at Sikyon: the complex was built on two levels and provided with two prominent, roofed fountains recessed into the central retaining wall. They flanked the central stairs that linked the

⁴⁰ Berg 1994, 55-92, Radt 1999, 147-158, Hodge 2002, 5-6, 31-45, Viollet 2007, 95-127, Longfellow, 2011, 11-12.

⁴¹ Radt 1999, 79-81, 113-158.

⁴² Neuerburg 1965, *passim*, Berg 1994, 55-92, 102-104, Longfellow 2011, 11-13; for a general catalogue of extant fountain figure see Kapossy, 1969.

⁴³ Berg 1994, 55-92, 102-104.

two levels and visually relieved the monotony of the massive terrace wall. The architecture that contained it, rather than the water itself, was the primary display. The fountains were screened by Doric columns and possibly also displayed sculptures; fragments of bronze and stucco ornaments were also discovered. The prominent location of the fountains was both functional and an advertisement for the sophisticated water system of the newly founded city of Sikyon.⁴⁴ The gymnasium at Pergamon was also outfitted with fountains to celebrate the new aqueduct, but they were of a more basic design than those at Sikyon.⁴⁵ Small fountains, often in the shape of decorative columns or sculptures, were very popular and could be found in many public and private contexts throughout Hellenistic Greek cities. Several were erected in the Athenian Agora, for example, and they were also common in sanctuaries.⁴⁶

Rome was a growing power during the Hellenistic period, gradually becoming a major player on the stage of Mediterranean politics. She was also in lively contact with the various Hellenistic courts, both in a diplomatic capacity and through trade. Ties with Pergamon were particularly close and Hellenistic ideas and innovations were easily accessible. New ideas and advances in hydraulic engineering could therefore easily make their way to Italy.⁴⁷

⁴⁴ Orlandos 1934, 153-57, Glaser 1983, 49-54, Berg 1994, 56-59.

⁴⁵ Radt 1999, 79-81, 113-158.

⁴⁶ Berg 1994, 60-72, Kapossy, 1969, *passim*.

⁴⁷ Shipley 2000, 310-341, Hodge 2002, 5-6, 31-45, Viollet 2007, 95-127, Deming 2010, 122-169. Rome's first two aqueducts, the Aqua Appia and Anio Vetus (dating to 312 BCE and 272 BCE respectively) are simple from an engineering standpoint, but the system of the Aqua Marcia, started in 144 BCE is considerably more complex and includes long stretches of arcades.

APPROACHES TO WATER DISPLAY IN REPUBLICAN ROME

The Etruscans were capable hydraulic engineers and used complex systems of cisterns, wells and drainage tunnels, usually referred to as *cuniculi*, to manage water resources. They were experts in drainage in particular and their *cuniculi* mostly took the form of underground tunnels cut in to the bedrock.⁴⁸ Their primary function was to gain arable land by draining water from valley bottoms. Therefore, unlike Roman aqueducts, which bring clean water into the city, Etruscan *cuniculi* were planned and executed to remove excess water.⁴⁹ Since wells and cisterns were more frequently used, fountains do not appear to be in common usage in Italy until the fourth century BCE. In Italy the earliest evidence for public fountains suggests that they were fairly plain and of an almost purely utilitarian nature. Most are plain square basins capturing a natural spring, protecting it and improving access to the water. Longfellow, drawing on previous research, suggests that these early Roman Republican fountains are based on Greek prototypes, but they are so basic in form that they could easily have been created independently, rather than as a specific cultural reference.⁵⁰ Even important sacred sites such as the Lacus Iuturnae in the Forum Romanum were originally fairly modest affairs consisting simply of a masonry pool.⁵¹

Longfellow observes that scholars have long underestimated the early role that the Romans played in the development and diversification of water display. Decorative water displays, both public and private, start to appear in Italy almost simultaneously with the earliest

⁴⁸ *Cuniculus* literally means tunnel, but it is often used in connection to Etruscan engineering to specifically denote a tunnel with a drainage function. These are often part of a larger network. See e.g. Judson and Kahane 1963.

⁴⁹ Judson and Kahane 1963, *passim*, Hodge 2002, 46-47, Faletti 2010, 179.

⁵⁰ Neuberger 1965, 41-44, Bergamini 1991, Berg 1994, 107-112, Longfellow 2005, 24ff. and esp. n.23.

⁵¹ LTUR 1995 III 168-171 s.v. Lacus Iuturnae (Steinby), Longfellow 2005, 24.

known examples in the Hellenistic East. She also stresses that in Italy they are important parts of the general cityscape.⁵² Neuerburg states that the placement of public fountains in pre-Roman Greece is not so much governed by aesthetic considerations, but is instead based almost entirely on convenience, and of course the location of springs. He emphasizes that although these factors naturally played an important role in Italy too, already in the Hellenistic period Romans show a much more pronounced interest in placing fountains so as to achieve a visual and aesthetic effect. The Hellenistic fountains mentioned above, although in public spaces, are often tucked out of the way: they are additions to the whole, rather than focal points.⁵³ Longfellow also notes that Roman fountains, from a very early date, “[...] incorporate modifications that exploit the display potential of water.”⁵⁴

Dina Berg remarks that water “[...] had a strong visual role in upper-class Republican houses, much more so than it did in the Greek house.”⁵⁵ The *impluvium* was the focal point of the *atrium* and delineated the main visual axis of the house; it helped draw in the eye of even a casual passerby and advertised the elevated status of the dwelling.⁵⁶ *Impluvia* traditionally collected rainwater, thus their presence signaled that the house owners had their own private store of water at their disposal. A full *impluvium* also helped brighten the atrium by reflecting light from the opening in the roof into the interior and elite house owners enhanced their *impluvia* with sculptures, coloured marble, or mosaic to augment and take advantage of these

⁵² Longfellow 2005, 24.

⁵³ Neuerburg 1965, 41-44, 82-83, Berg 1991, 55-92, 108-112, Longfellow, 2011, 13ff.

⁵⁴ Longfellow 2011, 13.

⁵⁵ Berg 1991, 55.

⁵⁶ Drerup 1957, 145-174, Clarke 1991, 1-5.

decorative light effects.⁵⁷ Romans quickly learned to use the synaesthetic effects of water to create interesting experiences, and the multi-sensory appeal of water became a guiding principle of design. They conceived water features that show off the natural beauty of water as liquid architecture, but they also played with the reflective qualities, the sound and cooling effect that running water produces. Roman architects did not design fountains to simply contain water, instead they aimed to display it as effectively as possible and enhance its aesthetic properties.⁵⁸

CREATING AN EXPERIENCE: THE MULTI-SENSORY POWER OF WATER AT THE SANCTUARY OF FORTUNA IN PALESTRINA

Evidence for republican fountains in Rome itself is very scarce, but Palestrina, located 35 kilometers away, boasts a series of well-preserved fountains incorporated into the Sanctuary of Fortuna (fig. 1.3). They are a prime early example of the synaesthetic approach that Roman architects had to decorating with water.⁵⁹ The fountains probably date to the late second or early first century BCE and their architectural form is simple. Their significance lies in their placement: they are strategically located, in pairs, at key points throughout the sanctuary.⁶⁰ The exact source of their water is unknown, but their location on a steep hillside indicates that the

⁵⁷ Clarke 1991, 1-5, Berg 1994, 142-145, Higginbotham 1997, 55-64.

⁵⁸ Longfellow, 2011, 1ff.

⁵⁹ The re-dating of the Porticus Aemilia significantly affects the dating of the Sanctuary of Fortuna. Lancaster briefly examines the issue and concludes that a late second century BCE date is likely; the Sanctuary of Fortuna is therefore still a good early example of the decorative use of fountains. Mogetta 2013, 12-13. See also Lancaster 2005, 3-5,9-11. For the Sanctuary in detail see Fasolo and Gullini 1953 and Berg 1994, 117-128.

⁶⁰ Fasolo and Gullini 1953, 69-70, 110-112, 118, 172-173 and plates IV, V, XII and XVII, Neuerburg 1965, 42, 82-83 and Cat. numbers 97-103, Coarelli 1982, 144-5, Berg 1994, 117-128.

fountains were fed by local springs and runoff from rain. A sacred spring may antedate the sanctuary and have been an important factor in its establishment on this site.⁶¹

The first two fountains were located by the entrance of the sanctuary, flanking the gate (fig.1.3 a). They are too poorly preserved to reconstruct with any certainty, but Fasolo and Gullini noted numerous conduits still visible in the wall and concluded that “[...] tutto questo insieme, così vivacemente articolato doveva essere arricchito di giochi d’acqua.”⁶² On the second intermediate terrace of the sanctuary three vaulted, apsidal niches are preserved; since one is placed right on the central axis, it seems likely that there were a total of five symmetrically arranged niches along the rear wall (fig. 1.3 b). They were made out of roughed tufa blocks, presumably to evoke a natural grotto. The water fell from near the top of each niche into a basin formed by the three sides of the niche and a low wall that closed it off.⁶³

Another matching pair of fountains was each located inside a tetrastyle recess at the base of the ramps leading to the top of the sanctuary (fig. 1.3 c). Again, details of their exact form cannot be determined, but they were fed via conduits that connected to the next pair of fountains located less than half way up the ramps. Berg concludes that because of the difference in floor level between the sloping access ramp and the slightly elevated fountains, visitors could probably not actually access the water. Their primary function must have been for

⁶¹ Papalexandrou and Taylor, personal communication April 2014. There is no surviving evidence for an aqueduct or system of reservoirs and cisterns. The water presumably fed local fountains in the town after it left the sanctuary, but there is no evidence to support this. In early modern times the fountains in the chambers flanking the sanctuary entrance were transformed into a combination washhouse and cattle trough. Fasolo and Gullini, 1953, 21-22, 112-114, Fig. 26.

⁶² Fasolo and Gullini, 1953, 21-22, 112-114, Fig. 26, Neuerburg 1965, 42, 82-83 and Cat. numbers 97-103, Berg 1994, 117-120, Mogetta 2013, 12-13.

⁶³ Berg 1994, 117-128 (see esp. note 36), Neuerburg 1965, 173-174 and Cat. Number 99.

decoration and atmosphere, created by the interplay of light and sound.⁶⁴ The pair of fountains located on the ramps was large and consisted of vaulted niches with a rectangular floor plan, closed off by a parapet wall (fig. 1.3 d and 1.4). Their curved recesses were visible from afar, rising above the ramp, but their exact purpose could only be understood upon approaching them. The water fell high from an opening with a sloping bottom. Visitors could hear and sense the water long before they reached the actual fountains, enhancing the effect of mystery and surprise that the entire complex is designed to promote. The sound would escort visitors as they proceeded up the ramp. These two fountains were also inaccessible due to differences in floor level, but since the ramp was partially covered and closed off, the sounds these fountains created were amplified considerably. The echoing roar of water likely created a sense of anticipation as it grew louder. The gushing water also must have had a strong cooling effect on the air of the enclosed ramp, creating a downward draft of cold air that would issue at the bottom of the ramp, adding to the mystery of the surroundings. The water probably also created interesting reflections and shadows within the shaded area of the ramp, which finally emerged on a third terrace, from which a central stairway led to the upper Sanctuary.

Recessed into the sides of these stairs was another pair of fountains, small but ornate and fully accessible to the visitor (fig.1.3 e). Perhaps they were intended for ceremonial use as well as refreshment after the long climb. They fed the fountains on the lower levels. The last pair of fountains was located on the upper terrace within the recessed rooms on either side of the theatre area, but like the fountains by the gateway, their exact layout is poorly understood.

⁶⁴ Berg 1994, 121-122, Coarelli 1982, Fig p.140, 139-148, Neuerburg 1965, 174 cat. 100, Fasolo and Gullini 1953, 112,114.

The main proof for their existence consists of the mineral deposits and incrustations visible on the walls and the waterproof cement that covers the floors (fig. 1.3 f).⁶⁵ Water was also used in the two hemicycles of the lower level of the sanctuary to heighten the effect of the mosaic floors. The most famous of these, the Nile mosaic, was the floor of a shallow basin (fig. 1.3 g and h).⁶⁶

The water-related architecture is just a small part of the whole complex, but its contribution to the overall experience is significant and foreshadows the increasing prominence water is to have in Roman decorative schemes. The sight and sound of water guided and accompanied the visitor all the way through the different layers of the sanctuary, enlivening the surroundings and adding to the atmosphere of anticipation. The Sanctuary of Fortuna was oracular and in *De divinatione* 2.41. 85-87 Cicero offers us a critical account of its history and primary function. In a strange dream a man by the name of Numerius Suffustius was told to split a certain rock; inside it he found a cache of mysterious oak lots. These became a fundamental part of a visit to the sanctuary: if Fortuna gave a sign of assent, a child drew one of the lots at random, which would then be read to those seeking advice.⁶⁷ In light of the mysterious and ancient tradition of the sanctuary, which incorporated many strange and significant objects such as the stone where the lots were found, the water served to help build up anticipation and add a supernatural element to the experience of consulting the oracle. The climb up the sanctuary was a preparatory ritual, and the water helped the visitor during that climb by refreshing them

⁶⁵ Berg 1994, 117-128, Coarelli 1982, 144-5, Gullini and Fasolo 1953, 69-70, 110-112, 118, 172-173 and plates IV, V, XII and XVII, Neuerburg 1965, 42, 82-83 and Cat. numbers 97-103.

⁶⁶ Berg 1994, 124-127, Gullini 1956a, 6-14, 20ff.

⁶⁷ Cic. *De Div.* 2.41. 85-87.

physically, but also by drawing them on and enhancing the sense that they were approaching a special and sacred place.⁶⁸

POLITICS, POWER AND WATER: THE *ROSTRA*, THE FORNIX SCIPIONIS AND THE LACUS IUTURNAE

THE *ROSTRA*

The *rostra* did not include a display of actual water, but the bronze ship's prows mounted on it, from which it derived its name, would have reminded the viewer of the importance of naval control. According to Livy and Pliny the Elder, the prows were first added to the speaker's platform in the middle of the forum in 338 BCE when the Romans captured and burnt a number of ships belonging to the rival city of Antium.⁶⁹ More captured *rostrae* were added to the speaker's platform that formed part of the comitia during the Punic War (fig. 1.5).⁷⁰ Since Carthage had considered itself a naval power, Rome's successes on the seas were a source of particular pride. The *rostra* was a focal point of Roman political life and often this is where orators stood during *contiones*. Because it was one of the most conspicuous and most viewed spots in the Forum, the *rostra* was also where honorary statues to particularly notable individuals were erected.⁷¹ It was from the *rostra* that members of Rome's aristocratic families would give funeral oration for deceased relatives.⁷² The speaker's platform formed a stage for many important events in public life and the fact that it was decorated with captured ships

⁶⁸ Clarke, personal communication.

⁶⁹ Liv. 8.14.12, Pliny HN 34.20, Richardson 1992, 334-335, LTUR IV 1995 p.212-214 s.v. *rostra* (Coarelli), Pina Polo 2005, 141-155.

⁷⁰ Richardson 1992, 334-335.

⁷¹ Pliny HN 34.23-25, Richardson 1992, 334-335, Pina Polo 2005, 141-155, LTUR 1995 IV p.212-214 s.v. *rostra* (Coarelli).

⁷² Pina Polo 2005, 152-155.

prows suggests that Republican Romans, at least in the fourth and third centuries, attached great importance to naval victories and the control of the sea. By dominating shipping lanes and building up a victorious fleet, the city of Rome could gain increasing control over the Mediterranean region. The prows taken as trophies from defeated ships served as a constant reminder of the strategic importance of the seas and Rome's growing power and expansion. Dominating water was a key political strategy.

THE FORNIX SCIPIONIS

The Fornix Scipionis was erected in 190 BCE and possibly predates one of the earliest known examples of a decorative public water display, the monumentalization of the Lacus Iuturnae, by a good twenty years. We have to rely entirely on a brief description by Livy (37.3.1-3):

P. Cornelius Scipio Africanus, priusquam proficisceretur, fornicem in Capitolio aduersus uiam, qua in Capitolium escenditur, cum signis septem auratis et equis duobus et marmorea duo labra ante fornicem posuit.

Publius Cornelius Scipio Africanus, before leaving Rome, built an arch on the Capitol, across the road leading up the hill, with seven golden statues and two horses, and with two marble *labra* in front.⁷³

Haimson Lushkov remarks that it is possible that the monument no longer existed by Augustan times and that Livy would not have had first-hand knowledge of it, hence the fairly vague

⁷³ Livy 37.1-3. Translation by Haimson Lushkov, I changed "fountains" back to *labra*.

description.⁷⁴ If the date Livy states is correct, then this arch is the fourth honorary arch to have been erected in Rome. The key point of interest here are the two marble basins, the *labra*, that Livy mentions Scipio Africanus erected with his arch. *Labrum* usually refers to a vat or basin; if those included on the *fofnix* actually contained water and were not reutilized *spolia*, then they are one of the earliest attested instances of a decorative water feature being included in a public monument in Italy.⁷⁵ We do not know where exactly the arch stood; it either formed a monumental entrance to the Forum at the base of the *clivus capitolinus*, or as is more often suggested, stood on the Capitoline.⁷⁶ The question of location is vital in this case: if it stood on the Capitoline, the basins could not have been ornamental fountains because there was no aqueduct access to that hill until the Aqua Marcia was completed in 140 BCE. If, however, it stood at the entrance to the Forum, it could have been fed by the Aqua Anio Vetus. Ridley argues that access to an aqueduct was not necessary and that the basins could have been fed by rain run-off and cisterns. While this type of water supply for fountains is known from a private context, where they were frequently shut off and only turned on for special occasions, this is not a practical solution for public basins that were expected to run continuously.⁷⁷

G. Spano argues, based only on the fact that the monument included seven sculptures and water, that the arch of Scipio Africanus was an early forerunner to the septizodium, an elaborate nymphaeum dedicated to the planetary gods. This interpretation rests mostly on extrapolations from monuments dating to several centuries later, and does not fit the known

⁷⁴Livy 37.1-3, Haimson Lushkov forthcoming, 37-47, LTUR 1995 II 266-267 s.v. Fornix Scipionis (Coarelli).

⁷⁵ Oxford Latin Dictionary s.v. *labrum*.

⁷⁶ Livy 37.1-3, Haimson Lushkov forthcoming, 37-47, Ridley 2014, 11-25.

⁷⁷ Ridley 2014, 11-25. For a more detail discussion on the effects that aqueduct access had on water management in a domestic setting in Pompeii see Appendix I.

evidence for water-related architecture in the early second century BCE. All public fountains that we know of in this period are quite basic. Monumental arches with water features do exist, for example two well preserved examples near the forum in Pompeii, but both date to the first century CE, a good two centuries after Scipio's arch.⁷⁸ We cannot simply assume that these much later examples in any way reflect on earlier types. A simple basin fits best with what we know of Roman public fountain architecture of the second century BCE, which was architecturally very plain. The use of a precious material such as marble for the Fornix Scipionis 'fountains' is an interesting and new departure that will become standard practice and was again employed in the Lacus Iuturnae.

What was the purpose of Scipio Africanus' arch and why might it have included water features? Livy presents the structure as having been built *before* Africanus left for a new campaign, long after his most famous victories. Haimson Lushkov notes the location of the description in Livy's text: it follows a catalogue of religious prodigies connected to the preparations of the senate for the upcoming military expeditions against Antioch.⁷⁹ The textual context "[...] suggests first that the meaning of the arch was bound up with the departure for war, and second that this meaning interacted in some way with the religious context of Livy's report."⁸⁰

⁷⁸ Spano 1951, 173-177, 200ff. The so-called arch of Tiberius contained two niches that probably held spouting figures. The arch of Caligula, as it is known, had a simple rectangular fountain basin at the base of each of its piers. Although it matches Livy's description of the arch of Scipio well, it is much too late to allow any kind of extrapolation.

⁷⁹ Haimson Lushkov forthcoming, 37-48.

⁸⁰ Haimson Lushkov forthcoming, 44.

Since Livy was writing long after the events he describes and likely never saw the arch himself, it is difficult to draw any specific conclusions on its appearance and purpose. If the arch did indeed stand at the foot rather than the crest of the Capitoline, and Livy's use of the term *labrum* does imply fountain basins with water, then the use of water to embellish the arch is noteworthy and adds some facets of meaning to the structure. The novelty of the idea and the precious marble certainly drew the viewer's attention. Scipio Africanus was providing a pleasant and practical convenience for the public and the water itself was presumably from the Anio Vetus, which, I shall be argued below some detail below, held complex associations with military victory. By displaying that water, even in a simple form, Scipio Africanus reminded the viewer of his own and Rome's achievements.

THE LACUS IUTURNAEE

The Lacus Iuturnae, located in the heart of Rome, is a key early example of the changing approach to fountains and water displays (fig 1.6). Originally a natural spring in the Forum and probably already used by the very first inhabitants of the area, it had purported healing properties as well as a cultic connection to the Dioscuri. According to tradition, the divine twins had paused to water their horses at the spring and proclaimed the Romans victorious at the Battle of Lake Regillus.⁸¹ The spring was outfitted with a simple square basin fairly early in the Republican period and was then renovated and monumentalized at least twice during the course of the second century BCE (fig. 1.7).⁸² These modifications changed both the appearance

⁸¹ Liv.2.19-22, 2.42.5, Dion.Hal.6.13.2-3, Plut. *Aem. Paul.* 25.2

⁸² Longfellow 2011, 13-15, LTUR 1995 III 168-171 s.v. Lacus Iuturnae (Steinby), Berg 1994, 112-117, Aronen 1989, 60-63, Sihvola 1989, 76-91, Harri 1989, 177-232.

and significance of the spring and demonstrate the Roman shift in attitude towards water display. When the neighboring Temple of Castor and Pollux was renovated in ca.117 BCE, the basin was reworked and optically aligned with the temple.⁸³ Another modification took place sometime before the Sullan repaving of the Forum.⁸⁴ Sculpture fragments of the Dioscuroi and their horses were found in the basin; a sculpture base was eventually constructed in the pool, but it probably dates to the Augustan period. The sculptures could pre-date the platform. In this case, they originally stood near, rather than in the pool, which acted as a backdrop for them.⁸⁵ The three elements of the Lacus Iuturnae (pool, water and sculptures) were thus united and complemented each other. The reflective qualities and movement of the water would have given an illusion of life to the sculptures of the divine twins and their horses, eternally commemorating, and at the same time reenacting, their miraculous appearance at the site.⁸⁶

Various scholars have put forth the theory that L. Aemilius Paullus was the patron who erected the sculptures, but the revised chronology of the site makes this highly unlikely.⁸⁷

Mogetta suggests that the influential Postumii, a family who were involved with the dedication of the original Temple of Castor and Pollux, may be responsible for the erection of the sculpture

⁸³ LTUR 1995 III 168-171 (Steinby), Harri 1989, 177-232.

⁸⁴ Mogetta 2013, 154-161.

⁸⁵ Steinby 1985, 83 note 36. Coarelli (1976, 27-30) originally advocated that the sculpture base dated to the early to mid second century CE.

⁸⁶ Longfellow 2011, 13-15, LTUR 1995 III 168-171 s.v. Lacus Iuturnae (Steinby).

⁸⁷ Mogetta 2013, 154-161, LTUR 1995 III 168-171 s.v. Lacus Iuturnae (Steinby), Harri 1989, 177-232. In 168 BCE L. Aemilius Paullus defeated the Macedonian forces at Pydna; he attributed his victory to the intervention of the Dioscuri. Pausanias (Paus. 7.22.5.) relates that Aemilius Paullus took sculptures of the Dioscuri and their horses away to Rome. The sculpture group found in the Lacus Iuturnae is in the archaic style and it has been suggested in the past that the fragments recovered in the Lacus Iuturnae are these very sculptures. The sculptures are in the Severe Style, but probably date to a much later period and could have been Augustan replacements, or even date to the second century.

group and the embellishment of the pool. A. Albinus minted a series of coins in 96 BCE that depict the Dioscuri and a wellhead. The imagery and date of the coin align well with Mogetta's new dating of the Lacus Iuturnae and suggests a possible patron for its embellishment.⁸⁸

The Lacus Iuturnae had an ancient and important religious significance which the repeated renovations and additions paid homage to, but the sculptures and modified basin also sent a lasting political message: they reminded the public of the divine support afforded the Roman Republic and the special relationship the Postumii enjoyed with the Dioscuri (if they were indeed the patrons). The focus thus shifted from the sacred water to the achievements of Rome, reminding the viewer of the successful battles at Lake Regillus and Pydna.⁸⁹ The Lacus Iuturnae is an excellent early example of Roman water-related architecture, which rather than just being decorative or purely utilitarian, typically combines a number of meanings by transmitting political and religious messages, while simultaneously fulfilling a social function.⁹⁰

WATER, VILLAS AND CONSPICUOUS CONSUMPTION IN THE REPUBLICAN PERIOD

Over the course of the late second and early first centuries BCE, public water displays were still rare, but in a private context, wealthy Romans lavishly outfitted their country villas with increasingly ingenious hydraulic installations.⁹¹ Water and luxury were quickly equated with each other and became an enduring political association: an abundance of clean water meant prosperity, and an ample water supply meant higher status and political influence for anyone

⁸⁸ Mogetta 2013, 154-161.

⁸⁹ Harri 1989, 177-98, Sihvola 1989, 86-88, Longfellow, 2011, 13-15, Longfellow 2005, 24ff.

⁹⁰ Longfellow 2005, 25.

⁹¹ Neuerburg 1965, 86-91, Berg 1994, 145-156, Longfellow 2011, 15, Longfellow 2005, 25-26, Marzano 2007, MacDonald and Pinto 1995, 3-6 and 176-178, Mielsch 1987, 16-35, 104-106, 121-134.

who could provide it.⁹² During this period, water truly became a design element in its own right. Lavish architecture and elaborate systems are used to show it off and celebrate it as a form of liquid architecture. Aristocratic competition encouraged new ideas and experimentation and a large variety of distinctly new and uniquely Roman forms of fountain and water display flourished.⁹³ Water was easier to come by on country estates, and it is possible that an increasing desire of the elite to enjoy similar displays in their urban residences played an important part in the development and construction of aqueducts in Italy.

In Republican Roman villas, some water installations have a utilitarian origin, but they too are linked to conspicuous consumption and display. Large cisterns were part of many early villas and these were not used only for agricultural purposes, but also to supply baths and other amenities not essential to the running of a farm.⁹⁴ Varro (116- 27 BCE) discusses many aspects of villa agriculture, notably the raising of such luxury animals as songbirds, fish and snails for consumption and sale.⁹⁵ He describes in some detail what kinds of facilities are required to successfully keep each of these animals on a commercial scale. He notes in particular that for songbirds and snails to thrive they need a constant supply of fresh, running water. He discusses small enclosures for the breeding and raising of snails: high moisture content is vital for these creatures:

⁹²Schmölder-Veidt 2009,15-29, Koloski-Ostrow 2001,1-15, MacDonald and Pinto 1995, 3-6, Evans 1994, 65-67, Berg 1994,139-141 .

⁹³ Longfellow, 2011, 15, Schmölder-Veit 2009,33-35, Longfellow 2005, 26-27, Berg 1994, 139-145.

⁹⁴ For example, the villa of Scipio Africanus, dating to after the second Punic war. Seneca describes it in 50CE with the goal of favorably comparing its austerity with the perceived excesses of his own day. We learn that it had large cisterns and a bath building, although modest in scale. Seneca, *Ep.*86,4. See also Mielsch 1987, 37-49 and Neuerburg 1965, 85-91.

⁹⁵ Varro, 3.2.14-16, 3.4.1-3, 3.5.1-5, 3 5.8-17, 3.14.1-3.

You must take a place fitted for snails, in the open, and enclose it entirely with water; for if you do not, when you put them to breed it will not be their young, which you have to search for, but the old snails. They have to be shut in, I repeat, with water, so that you need not get a runaway-catcher. The best place is one which the sun does not parch, and where the dew falls. If there is no such natural place — and there usually is not in sunny ground — and you have no place where you can build one in the shade, as at the foot of a cliff or a mountain with a pool or stream at the bottom, you should make an artificially dewy one. This can be done if you will run a pipe and attach to it small teats to squirt out the water in such a way that it will strike a stone and be scattered widely in a mist.⁹⁶

The technical skill required for a snail habitat is the same as that needed for a small ornamental fountain jet. Clearly, Roman hydraulic engineers were fully aware of the effects of water on the immediate environment and knew how to utilize water features for the comfort of both man and snail.

Varro includes in his general discussion a detailed description of his famous aviary, which combines enclosures for the keeping of birds with an elegant architectural setting for entertaining, and water features that combine the decorative and utilitarian. The refreshing pools of water in the center are pleasing to the eye and ear, but are also populated by Varro's

⁹⁶ Varro, 3. 14.1-3, Loeb translation.

ducks. Water is the unifying design element: it creates movement, cools the air, creates pleasing sounds and a habitat for the birds and fish that are themselves pleasant to look at. This marriage between the beautiful and the utilitarian is frequently a key feature of Roman hydraulic installations.⁹⁷

To create a functioning fishpond required a high level of hydraulic skill and considerable investment of resources. To ensure the health of the fish the builder had to create an artificial environment in which temperature, oxygen level, water flow, and water quality all needed to be controlled or the animals would not survive and thrive. Ownership of such an artificial habitat sent a powerful message: the patron had the resources and knowledge to control nature and manipulate it for his profit. Roman fishponds could be a viable source of income, and the technical know-how to build and maintain them may have originated in this way, but frequently they were purely a novel form of conspicuous consumption, as is shown in the many examples furnished by Varro and Columella in which fishponds serve to illustrate the excesses of late Republican aristocrats such as Lucullus, Hortensius and Hirrus.⁹⁸ Fish itself was in high demand as a food source, but transportation of fresh fish is difficult and it does not keep. Therefore, it was often expensive and difficult to obtain. Just owning a pond with expensive fish could be prestigious and they had great value as luxury gifts; the living animals also enlivened and embellished the ponds and basins they lived in.⁹⁹

⁹⁷ Varro, 3.4.1-3, 3.5.1-5, 3.5.8-17. Berg 1994, 141-164.

⁹⁸ Varro III.17.

⁹⁹ Higginbotham 1997, 4-17, 56-67.

THE FOUNTAIN DISPLAYS OF POMPEY AND CAESAR: THE PUBLIC GIFT OF PRIVATE LUXURY

Water therefore became closely associated with luxury and wealth, but there are few public Republican examples of monumentalized or ornamental fountains; instead most remained simple, utilitarian basins. In addition to the marble basins of the Fornix Scipionis, a rare example of a more elaborate public Republican fountain is known from Formia, where a large, walled basin with ornamental spouts in the form of masks stood next to the Via Appia (fig.1.8).¹⁰⁰

Ornamental water features began to make their way into public contexts during the late Republic when in 55 BCE Pompey the Great inaugurated his theatre in Rome and added a large, lavishly planted and decorated portico to it (fig. 1.9).¹⁰¹ It was a brand new concept for Rome and constituted the city's first public gardens. In the dusty, hot city, green spaces were a rarity, and those that did exist were the prerogative of the very rich.¹⁰² The portico allowed theatre spectators to take a pleasant walk during intermissions and included art exhibits and rooms set aside for senate meetings. The portico included plantings and a rich program of sculptures illustrating Pompey's travels.¹⁰³ Among the decoration was also at least one elaborate display fountain, but nothing remains of it today, except possibly a waterproofed channel and some associated platforms that were excavated in the area in the 60s.¹⁰⁴ It is known to us today only

¹⁰⁰ Longfellow, 2011, 15-16, Neuerburg 1965, 159-60,162-3.

¹⁰¹ Longfellow 2011, 16-17, Berg 1994, 128-136, Grimal 1969, 173-178.

¹⁰² Longfellow 2011, 16-17, Rehak 2006,9-22,Kuttner 1999, 343-373, Gros 1996, vol II 237-233, Berg 1994, 128-136, Gleason 1990, 9-13, LTUR 1995 IV 148-150 s.v. Porticus Pompei (Gros, Sabbatini Tumolesi), Grimal 1969, 173-178.

¹⁰³ Kuttner 1999, 343-373, Gleason 1990, 9-13, LTUR 1995 IV p.148-150 s.v. Porticus Pompei (Gros, Sabbatini Tumolesi), Sauron 1987, 457-473, Grimal 1969, 173-178, Coarelli 1971-72, 99-122.

¹⁰⁴ Propertius 2.32.11-16, Longfellow 2011, 16-17, Berg 1994, 128-136, Grimal 1969, 173-178, Gianfrotta, Marzrucato, and Polia 1968-9, 34.

from a slightly enigmatic description by Propertius. After a few lines on the beauty of the gardens in the portico, he adds the following on the fountain:

[...] the streams which issue out of the slumbering Maron,
or the sound of the water which splashes all around the basin,
when the Triton suddenly pours forth a fountain from his lips.¹⁰⁵

The description is brief, but it does tell us that the fountain included figures of the satyr Maron, asleep, and at least one Triton (fig. 1.10). Propertius emphasizes the pleasant effects of sight and sound created by the running water: the fountain is pleasing not just to the eye, but also to the ears. Satyrs, often drunk, and Tritons were popular fountain figures in the Hellenistic world; how exactly these were arranged on Pompey's fountain and if it included more figures is now impossible to reconstruct. The last line suggests that perhaps the Triton was a clever mechanical device that spewed water at timed intervals. Hellenistic monarchs delighted in such technical marvels, so it is possible that Pompey's fountain had clever mechanical features.¹⁰⁶ Hero of Alexandria, although he probably lived in the first century (c. 10 to 70 CE ?), was still working very much within the Hellenistic tradition and describes numerous ornamental water mechanisms that use air pressure and the weight of the water to create movement and unexpected actions. These include a satyr that squirts wine from a wine skin by means of

¹⁰⁵ Propertius 2.32.11-16, translation by Butler and Barber.

¹⁰⁶ Berg 1994, 133-4, Longfellow 2011, 16-17.

compressed air, various sculptures that created the illusion that they are drinking, and a fountain driven by the heat of the sun.¹⁰⁷

In his theatre complex Pompey drew heavily on the vocabulary of power used by Hellenistic monarchs to legitimize his own claims to power. The gardens and water features underlined his ability to control resources and even shape nature according to his will, suggesting that he possessed superhuman skills.¹⁰⁸ This concept would become a fundamental cornerstone of Roman imperial self-promotion. Pompey is therefore an important forerunner to how Roman rulers, starting with Augustus, would eventually use hydraulic installations for imperial legitimization.

Pompey was the first to open up his gardens to the public. Caesar did not follow suit until he left his *horti* to the public after his death, but he too experimented with monumental public water features. The Appiades fountain, named for the sculpture group that decorated it, was located in the Forum of Julius Caesar and is another important prototype for the imperial use of water. Ovid mentions it twice in the *Ars amatoria* but he does not describe the architectural appearance of the fountain itself. Instead he focuses on the pleasant effects of light, sound and temperature that it produces.¹⁰⁹ Ulrich believes that the Ovid passages link the Appiades Nymphs to the cult of Venus Genetrix, but there is too little evidence to establish the nature of their relationship. The nymphs themselves are poorly understood, but based on their name, they may have an association with the Aqua Appia aqueduct. Pliny mentions a group of

¹⁰⁷ Hero, *pneum*, 28-38, 47, 54.

¹⁰⁸ Grimal 1969, 173-178, Sauron 1987, 457-473, Gleason 1990, 9-13, LTUR 1995 IV 148-150 s.v. Porticus Pompei (Gros, Sabbatini Tumolesi), Gros 1996, vol II 237-233, Kuttner 1999, 343-373.

¹⁰⁹ Ovid, *ars am.* 1.81, 3.451-2, Pliny *Nat.* 36.4.33.

sculptures of Appian nymphs owned by a wealthy collector that could have been copies of the ones in the Forum Julium fountain, but it is unclear how many sculptures the group contained or what distinguished them.

The extant excavated remains can be dated to 123 CE or later and belong to a renovation, but Ulrich believes that they differ little from the original plan of the monument and that the fountain dates to the original phase of construction.¹¹⁰ The Appiades fountain was located on the central axis of the Forum of Julius Caesar, extending along the tribunal of the temple of Venus Genetrix. It is hard to say how much of a focal point Pompey's fountain was, since so little physical evidence survives. The Appiades fountain, however, was meant to be a central display (fig. 1.11).¹¹¹ The architecture of the fountain itself was probably subsidiary to the sculptures, and like the Lacus Iuturnae the water served mostly as a setting to show off fine works of art.¹¹² The fragments of the fountain are not substantial, but they allow a tentative reconstruction (fig. 1.12). It consisted of three low basins, almost at pavement level; a larger, central basin was complemented by two smaller ones located at the east and west ends of the temple podium. Between each lateral basin and the central basin ran a low wall that contained some of the pipes for the water. A marble fountain with a jet was located in each of the shallow end basins that caught the overflow.¹¹³ The central basin is in a poor state of preservation, but it appears that it was larger than the side basins and jutted further into the plaza in front of the

¹¹⁰ Ulrich 1986, 406-411, 419-421, Longfellow 2011, 18-19. The Forum of Julius Caesar was completed by Augustus, but Ulrich concludes that the fountain was always part of the original Julian plan because of its central location and because the hydraulic installations of the fountain run right through the podium of the temple; they could not easily have been added later.

¹¹¹ Ovid *Ars. Am.* 3.451-2 and 1.81, Pliny, *HN*, 36.4.33, Ulrich 1986, 406-411, 415, 420-422,

¹¹² Ulrich 1986, 420-423.

¹¹³ Ulrich 1986, 411.

temple. All three basins were made of high-quality marble and framed with carefully cut decorative moldings. Ulrich also observed cuttings and corroded remnants of bronze that he interprets as part of a railing that surrounded them.¹¹⁴ The placement of the Appiades fountain is unique since Roman temples usually have a frontal staircase leading up to the cella. With the Temple of Venus Genetrix this is not the case, since the podium doubled as a speaker's platform, or *rostra*; instead the podium was accessed from staircases located on either side. The water feature draws the attention that the monumental stairs of a temple usually would and relieves the monotonous view that a blank podium wall would present. According to Ulrich the fountains on pavement level framed the speaker and also provided a secure barrier to separate him from the audience.¹¹⁵

Caesar added a similar safety feature to the Circus Maximus around 46 BCE in the form of a massive channel that ran around the perimeter and separated spectators from the arena. By all accounts it was 3 meters wide and 3 meters deep. It may have served another practical function in that it aided with drainage, but it also served as an impressive demonstration of Rome's water resources.¹¹⁶ Caesar considered a number of ambitious, even impossibly large, hydraulic enterprises. These included a venture to re-route part of the Tiber around Trastevere, a major new harbor at Portus, and a canal linking the Tiber to Puteoli.¹¹⁷ His visions were long lived: the harbor was eventually realized by Claudius and the canal attempted, unsuccessfully, by Nero.

¹¹⁴ Ulrich 1986, 416.

¹¹⁵ Ulrich 1986, 410-411.

¹¹⁶ Humphries 1985, 74, 76, Suet. *Caes.*39, Plin. *NH* 8.21.

¹¹⁷ Suet. *Caes.*39.

The water features in the forum of Julius Caesar and Pompey's complex were a key innovation: they introduced into a public context a form of lavish hydraulic display that previously had been rare outside the elite private sphere, allowing the masses to enjoy and experience something that had previously been the prerogative of the highest elite. The fountains underscored the power and wealth of these two men and were also grand demonstrations of their generosity. The message was clear: the two politicians were casting themselves in the role of friends of the people, broadcasting their willingness to share their immense wealth. Pompey and Caesar were the first to exploit fully a strategy that Roman emperors would use successfully for at least two more centuries. Hydraulic displays appeal universally, regardless of a person's age, education or social status. They have the additional advantage of appealing to many senses and have a practical, as well as an aesthetic function. This practical aspect, the provision of fresh drinking water, and a cool, soothing space, adds to their value as a conveyor of meaning because no matter how lavish, a public water feature always carries a connotation of munificence. The donor has not just endeavored to capture and display water, but is also giving it away to the public.

AQUEDUCTS, ENGINEERING AND POLITICS IN THE ROMAN REPUBLIC

The Hellenistic East could boast a number of aqueducts, many of them technically refined, but it was the Romans who developed and utilized aqueducts on an unprecedented and innovative scale.¹¹⁸ Most Roman aqueducts were simple channels, either below or at ground level, but it is the iconic arcaded aqueduct that immediately springs to mind. These massive water lines

¹¹⁸ Hodge 2002, 5-6, 32.

completely transformed the hydraulic and physical landscape of Rome and made possible within the city the types of lavish water display that became such an important part of Imperial propaganda. Aqueducts eventually completely changed how Romans used and thought about water. It was no longer simply a vital necessity for survival, but as seen above, the Roman mind closely linked water with ideas about quality of life and luxury. The more water was available, the more people seemed to need, and the citizens of Rome were quick to demand more access to water.¹¹⁹ Rina Faletti aptly summarizes the effects of Rome's early aqueducts: "Aqueducts and the continuous water supply they delivered made an increasingly pronounced statement of Roman identity that communicated wealth, prestige, technological advancement, military power and territorial dominion."¹²⁰ Aqueducts also became a potential expression of power and prestige like few other building projects. They could shift the political climate and give the magistrate presiding over their construction lasting fame and glory. The massive new quantities of water that they brought into the city could be used not only to provide for the basic needs of the population, but also for lavish displays, games and spectacles that awed the people. A person who could control water could control nature; and this ability suggested divinity. Because of its powerful associations with life, wealth and prestige, water was a particularly generous gift.

Large-scale engineering works were highly regarded by the Romans; they were both prestigious and representative of civilization. As DeLaine notes, the Romans already in the Republican period had "a passion for building individual monuments as markers in the

¹¹⁹ Bruun, personal communication, Hodge 2002, 93, Schmölder-Veit 2009, 20-29.

¹²⁰ Faletti 2010, 150.

landscape [...], transforming the landscape more generally [...].”¹²¹ The aqueducts competed with natural rivers and springs and succeeded in capturing and rerouting them, carrying their precious waters to the city of Rome for the benefit of the population. Nature was captured and tamed for the general good of man. Those aqueducts that were built up on arcades introduced into the landscape a highly visible, completely straight line unlike anything that existed in nature. If a structure was big enough it could take on an aura of permanence akin to a large natural feature such a mountain, it gained a sort of immortality by virtue of its size and the resourcefulness that was required to create it.¹²² By extension the individuals that made these marvels of construction possible gained considerably in status because they were in many ways miracle workers. The person who controlled these experts and had their talents at their disposal in turn gained even more in prestige. Someone who commissioned and brought to completion an aqueduct, harbor or other large-scale engineering work, carried out a feat on par with mythological figures such as Hercules, or revered historical figures like Alexander the Great. The patron of an aqueduct thus found themselves in very illustrious company.¹²³ Dionysus of Halicarnassos saw the ingenuity and might of Rome’s massive engineering projects as symbols representative of her power and potential in general. To him the might of the aqueducts reflected the might of Rome’s growing empire.¹²⁴ Another positive aspect of large-scale construction works was the fact that they provide employment for a large cross-section of the population. This not only ensured that the inhabitants could earn a living, but also contributed

¹²¹ DeLaine 2002, 210.

¹²² DeLaine 2002, 205-212.

¹²³ DeLaine 2002, 215-218.

¹²⁴ Dion Hal. *Ant Rom.* 3.67.5. DeLaine 2002, 211.

to a sense of local pride since an individual could look at the finished work and gain a sense that they had played a role in the creation of a marvel.¹²⁵

The construction of an aqueduct was an enormous, vastly expensive undertaking and happened comparatively rarely in the history of Rome, even in the Principate. During the Republic, due to the nature of the political system, construction of an aqueduct was particularly difficult: officials only served limited terms and a project of such enormous scale took many years to plan and construct. Sometimes special measures had to be taken to extend the duration of an individual magistrate's time in office. This was the case for Appius Claudius and Q. Marcius Rex and both occasions were not without controversy.¹²⁶ Political rivalry was high and self-promotion and political advancement were fundamental motivations for many Republican officials, but they could presumably only commission a building with the approval of the senate, who released the funds.¹²⁷ A triumphant general who had vowed a monument in battle could use part of his spoils to construct a highly visible monument in the heart of Rome that would bring lasting fame to him and his *gens*. Temples and smaller public buildings were especially popular: they glorified both the patron and the state and they had the added advantage that they were not disastrously expensive to maintain. A well chosen and -placed building or monument could still garner favor and votes for the original builder's descendants many generations after its completion.¹²⁸ Patrons were aware how their contemporaries

¹²⁵ DeLaine 2002, 222-223.

¹²⁶ Front. 7.1-5, Plin. *HN*. 36. 24.121, Ashby 1935, 49-54, 88-89, Evans 1994, 83-84, Hodge 2002, 5, 41-51, Rodgers 2004, 159,.

¹²⁷ Gros 1978, 12-21, 36-41, 57-41, Steinby 2012, *passim*.

¹²⁸ Gros 1978, 12-21, 36-41, 57-41, Favro 1996, 8-10, 43-44, 53-56, Geissler 1998, 37-54, Patterson 2006, 345-59.

experienced their surroundings and took this into account when planning a new building. Romans were well versed in the history and traditions of their local environment, and certain locations were particularly prestigious because they had favorable associations, divine or historical, that could be transmitted to the new building or monument, and by extension, the patron. Monuments were often conceived to emphasize the traditional meaning of a location.¹²⁹

ROME'S FIRST AQUEDUCT: THE AQUA APPIA

It is important to keep in mind that the earliest Republican aqueducts, the Aqua Appia and the Aqua Anio (later renamed Anio Vetus), were of a different design and nature from what we have come to think of as the typical arcaded aqueduct of the Imperial age. Even Frontinus overlooks this fact when he talks about Rome's earliest aqueducts, which had been reworked and overhauled several times by the late first century. They originally ran completely underground and owe a certain debt to Etruscan *cuniculi* in their form.¹³⁰

The earliest aqueduct of Rome, the Aqua Appia, was built by the censor Appius Claudius Caecus using public funds and started in 312 BCE. It entered the city below ground at the site later known as *Spes Vetus*, which was the highest point on the eastern side of the city and marked by the junction of the Via Praenestina and the Via Labicana. In Imperial times this area became an important intersection of multiple aqueducts. The exact route it followed within the city is still poorly understood, but the Aqua Appia terminated in the Forum Boarium area.

Before its completion, the city drew its supply of water from the Tiber, local springs and wells,

¹²⁹ Gros 1978, 12-21, 36-41, 57-41, Favro 1996, 8-10, 43-44, 53-56, Patterson 2006, 345-59.

¹³⁰ Front. 5.1-3, 7.1, Liv. 9.29, Pliny, HN, 36.121, Ashby 1935, 49-54, Hodge 2002, 46-47, 93-125, Faletti 2010, 153-155, 160-166, 179.

and it continued to do so even long afterwards.¹³¹ Scholars offer several explanations for why the censor Appius Claudius initiated the construction of Rome's first aqueduct. One theory suggests that the Aqua Appia was built because there was a genuine need for basic access to clean water. Another possibility is that a growth in industry and commerce necessitated a larger water supply. Lastly, the elite may have required greater amounts of water for the decoration and maintenance of their intraurban gardens and city houses.

The commercial use of water is an important factor that needs to be considered. The Aqua Appia may have been built to supply the populace with drinking water, but it is more likely that it was built for commercial and industrial use, since it terminated in the Forum Boarium, Rome's commercial heart, rather than a more residential part of the city.¹³² The Forum Boarium was located outside the city walls on the low ground between the Capitoline, Palatine and Aventine Hills. We do not know what exactly happened to the water once it reached this area. The cattle market required large quantities of water for animals and cleanup, and in all likelihood there were salt and clay works nearby that required an abundant supply of water. The Aqua Appia also improved access to water for the Aventine hill, which may have been a stronghold of plebeian power. Therefore it gained votes and political support from that quarter for Appius Claudius. The Via Appia, built at the same time, had a strong economic as well as a military function. It ran through territories in which, traditionally, the Claudii had had many clients; it could gain them new ones, especially in the merchant classes.¹³³ Faletti suggests that the two projects formed a conceptual unit and that a combination of all these factors led to the

¹³¹ Ashby 1935, 49-54, Evans 1994, Hodge 2002, 5, 41-51.

¹³² MacBain 1980, 361-362, Evans 1994, 65-6, Faletti 2010, 160-166.

¹³³ MacBain 1980, 361-362, Evans 1994, 65-6, Humm 2005, 484-5, 662-663, Faletti 2010, 160-166.

construction of the Aqua Appia and Via Appia. Appius Claudius was motivated by a wish to expand his own voting base and to ensure his name was preserved for posterity, but he also aimed to strengthen Rome's economy and aid Roman expansion into Italy. Although the Aqua Appia was not visible above ground, the symbolic act of drawing resources, in this case water, out of the surrounding territory would have been understood by Rome's foes and allies alike.¹³⁴ The more visible Via Appia sent much the same message: it tied the territories along its line to Rome, physically and symbolically. The enormous costs and difficulties involved in the construction of an aqueduct and road sent an additional powerful message about the financial and technological resources at Rome's disposal.¹³⁵

Faletti suggests that the military message projected by the road and aqueduct was further amplified by their contact with certain key geographical sites within the city. The Via Appia entered Rome at the Porta Capena, a point which the ancient Via Triumphalis touched as it passed the Circus Maximus and turned towards the Forum. At this same location the aqueduct, still below ground, intersected the road on its way to the Forum Boarium. The two monuments therefore lay along the route taken by victorious generals. It was along this route that victors would traditionally erect monuments in commemoration of their achievements, and by association Appius Claudius' road and aqueduct took on a triumphal meaning themselves.¹³⁶ The water brought into the city by the aqueduct became spoils of war taken from conquered territories. In later times this was visually even more apparent because a short arcade was added to the Aqua Appia in this vicinity. Frontinus believed this arcade was built by Appius

¹³⁴ Faletti 2010, 149-174.

¹³⁵ Hodge 2002, 6, Faletti 2010, 150-166.

¹³⁶ Faletti 2010, 166-162.

Claudius as part of his self-commemoration, but the construction date is not certain. A number of recent scholars have convincingly argued that this form of arcade was not yet in use in 312 BCE and that it was therefore the result of refurbishment at a later date and not part of Appius' original concept.¹³⁷

The political potential of an aqueduct was already abundantly clear even at this early date, and Appius Claudius' colleagues were aware of the prestige and potential political clout that the building of the aqueduct gave him. The family fortunes of the Claudii had been waning, but thanks to his building projects the family reputation received a boost that would last for generations. Cicero would later quip that certain of Appius' descendants, were still basing their prestige entirely on his accomplishments.¹³⁸ The aqueduct became known as the Aqua Appia, not the Aqua Claudia; the choice of name tied the aqueduct not just to the *gens* of the Claudii in general, but to Appius Claudius personally.¹³⁹ In doing this he was following the precedents of Hellenistic potentates such as Philip II and Alexander the Great.¹⁴⁰ He used the office of censor in new and possibly unforeseen ways. In order to finish the aqueduct he extended his term beyond the usual 18 months of the censorship; Frontinus remarks that Appius Claudius used numerous ways to prolong his time in office and finish the aqueduct and road that became known as the Via Appia. His colleague Gaius Plautius had also been involved in the project; according to Frontinus he was responsible for finding the sources for the water, but he left

¹³⁷ Ashby 1935, 49-54, Evans 1994, 15, 66-67, Taylor 2000, 30, Hodge 2002, 47, Faletti 2010, 152-158.

¹³⁸ Cicero *Ad.Fam.* 3.7.5, Faletti 2010, 170-174.

¹³⁹ MacBain 1980, 360-36, Humm 2005, 484-5, Faletti 2010, 170-173.

¹⁴⁰ Davies 2012, 444.

office at the appointed time, expecting, according to Frontinus, that Appius Claudius would also step down. Instead he found ways to stay on and reaped all the glory on his own.¹⁴¹

Appius Claudius looms large in Roman history as the first non-royal instigator of a major engineering work. Although he did not pay for the aqueduct, the impetus was his and he could style himself as its patron since he must have played a role in organizing the project and would have been responsible for letting the contracts that hired the workers. As we have seen above, an individual who commissioned and completed an impressive engineering project was considered a benefactor because of the employment opportunities created. They could also be styled as almost divine or a new Alexander because they dared to tackle and transform Nature for the greater good. Thus Appius Claudius could reap the benefits and profit from the prestige that the successful completion of the aqueduct promised. This is one of the reasons why Appius Claudius is an interestingly ambiguous character in the historical tradition. On the one hand he had an extremely distinguished career and held every important office at least once. On the other hand, later authors such as Diodorus Siculus, Cicero and Livy present him as something of a demagogue without scruples. It is likely that they are projecting contemporary issues into the past, but it is clear that he was an innovative and shrewd politician who did not hesitate to occasionally bend the rules for his political advantage.¹⁴² Diodorus Siculus even implies financial irregularities in the construction of the aqueduct and road, notably that Appius Claudius did not get the proper consent for the public treasury funds he used.¹⁴³ He certainly used the censorship in an unprecedented way, but it is important to remember that he took office during a

¹⁴¹ Frontinus, 5.1-9, Evans 1994, 65-70.

¹⁴² MacBain 1980, 356ff; Evans 1994, 70, Humm 2005, 484-5.

¹⁴³ Diod. 20.36.1-2; MacBain 1980, 363.

transitional period, before the office of censor was clearly defined. Appius Claudius could therefore mould his magistracy to suit his own needs without clearly contravening any laws.

The Aqua Appia now seems a fairly modest achievement compared to the later aqueducts of Rome, it was in its time very impressive. Unlike legislation and other more ephemeral political achievements that could be repealed or altered, the road and aqueduct, stone structures, could not be overlooked or ignored. It must have been difficult for his political enemies to criticize them, because they were of such a high public benefit.¹⁴⁴ Roman politicians were aware of the potential popularity and political clout an aqueduct (or similar large-scale engineering work) could bring the magistrate who built it. After all, it had enabled Appius Claudius to circumnavigate restrictions on terms of office and stay in power for considerably longer than his appointed time, a potentially dangerous precedent. M. Licinius Crassus successfully foiled his political rivals, the consuls M. Aemilius Lepidus and M. Fulvius Nobilior, when he managed to prevent the construction of an aqueduct in 179 BCE. He did not allow access to his land and the project had to be abandoned.¹⁴⁵ The construction of the first aqueduct raised the question which officials were constitutionally responsible for their construction and maintenance. The length of construction time required the extension of terms in office, which had to be worked out in a way that did not contravene the constitution. These issues were not fully resolved until the Agrippan water reforms in the late first century BCE; therefore each Republican aqueduct was built under somewhat different circumstances.¹⁴⁶

¹⁴⁴ MacBain 1980, 361, Humm 2005, 484-5, Faletti 2010, 160-174.

¹⁴⁵ Livy, 40.51.7; Evans 1994, 83; Taylor 2000, 54 and 105.

¹⁴⁶ Geissler 1998, 37-54.

THE ANIO VETUS: A “TRIUMPHAL” AQUEDUCT?

Rome’s second aqueduct, the Aqua Anio, was started in 272 BCE and was far more ambitious than its predecessor. It was considerably longer (50km as compared to the Appia’s roughly 15km) and because it tapped the Anio River in the vicinity of Subiaco it also had a higher yield and elevation. It too ran mostly underground, although according to Frontinus it had a few short sections on arcades. Ashby surveyed a number of small arches and bridges carrying the conduit over river cuttings, but later renovations make it difficult to be precise about their original date. It reached Rome in the *Spes Vetus* area, like the Aqua Appia. Evans suggests that the Anio Vetus was needed to supply water to the higher areas of the city, above all the Esquiline area, which had experienced an increase in population. He argues that the aqueduct was carefully conceived to supply those areas that the low-level Aqua Appia could not reach and increased water access where it was most needed. Unfortunately the quality of water varied due to silt accumulations in the river source. The water was often turbid and after heavy rains it could carry large amounts of silt and run muddy; Frontinus notes that in his time the water from this source was used mostly for commerce and industry, and it is possible that this, rather than the supply of drinking water, was the original purpose of this second aqueduct.¹⁴⁷

The new aqueduct took more than two years to complete the project, although the exact duration of construction is uncertain. The Anio Vetus was the result of an important event in Roman history: Rome’s defeat of Pyrrhus of Epirus in 275 BCE. The resulting spoils, paraded through the city in the most lavish triumph it had known up to that date, were used to finance this grand new undertaking. The procedures used were somewhat different from those used for

¹⁴⁷ Ashby 1935, 54-89, Evans 1994, 75-78, 80-82, Hodge 2002, 19-49, Faletti 2010, 178-180,.

the Aqua Appia. The general who had defeated Pyrrhus, the censor Manius Curius Dentatus, was made aqueduct commissioner and put in charge of construction together with his colleague in office, Papirius Praetextatus. Frontinus names a Lucius Papirius Cursor as Dentatus' colleague, but Ashby and Rodgers note that this must be a mistake because at the date in question this man was consul, not censor.¹⁴⁸ Two years later the project was still unfinished and a praetor (whose name is lost) brought the issue before the senate. It decided to reappoint Dentatus and made him and Flavius Flaccus *duumviri aquae perducendae*. Rodgers notes: "The decision to choose special magistrates, [...] is strikingly different from the circumstances which obtained the introduction of the Appia [...]." ¹⁴⁹ Flaccus finished the commission alone, since the general died after less than a week in office.¹⁵⁰ The senate was therefore more involved in the construction process of the Aqua Anio; Dentatus and Flaccus did not have the marked independence displayed by Appius Claudius, possibly because the senate intentionally wanted to curtail their influence. The new aqueduct was named for its source, the Anio River, rather than the magistrates in charge of its construction. Dentatus' premature death could be a factor in the naming of the aqueduct; but it was probably a conscious move by the senate to reduce the prestige of the magistrates in charge. The resulting political influence for the individuals and their families would have been considerable if their names had been attached to it.

The Anio Vetus set an important new precedent: it is one of the earliest known instances in which the spoils of war were used to finance a large-scale public project. This

¹⁴⁸ Frontinus, 6. 1-6, Ashby 1935, 54-5, n.7, Evans 1994, 75-77, Rodgers 2004, 153.

¹⁴⁹ Rodgers 2004, 153.

¹⁵⁰ Frontinus, 6. 1-6, Ashby 1935, 54-5, n.7, Morgan 1978, 44, Evans 1994, 75-77, Geissler 1998, 51, Rodgers 2004, 153, Faletti 2010, 178-180, n.36.

eventually became standard practice and the general populace expected that income from war would be used to increase infrastructure or beautify the city.¹⁵¹ Faletti suggests that because the aqueduct was the direct result of spoils of war, by association, it too became a symbol of victory. The entire project became one enormous commemoration of the victory over Pyrrhus and this gave the water it delivered something of a trophy status; the ready supply of water became symbolically linked to state power and might.¹⁵²

AQUA MARCIA: THE ICONIC ARCADE

For well over a hundred years no new aqueduct was built in Rome, although several references in Livy attest that attempts were made, like the example noted above in which M. Licinius Crassus managed to prevent the construction of an aqueduct in 179BCE and successfully foiled his political rivals. Rome's population grew steadily over that period and several surviving decrees suggest that more water was needed to meet increasing demand.¹⁵³ After 146 BCE a large influx of returning veterans may have boosted numbers still further. By 144 BCE there was potentially a genuine need for an increase in the water supply; this is further underlined by the fact that the two existing aqueducts were overhauled and renovated at the same time that the Aqua Marcia was built. Rome was ready for a new aqueduct and after the sack of Carthage and Corinth in 146 BCE, state coffers had ample resources to undertake such a large project. Frontinus puts the cost of the Aqua Marcia at 180 million sesterces, or four years' worth of

¹⁵¹ Frontinus, 6.1-6.6, Ashby 1935, 40-41, Evans 1994, 75-77, Faletti 2010, 175-178.

¹⁵² Faletti 2010, 175-179.

¹⁵³ Livy, 39.44, 40.51.7; Plut., *Cato Ma.*, 19, Front., 7.

revenue.¹⁵⁴ The Marcia was decreed by a *senatus consultum*, and Quintus Marcius Rex, an urban praetor rather than a censor, was put in charge; the aqueduct took its name from him and is the only one ever built by a praetor. For such a large undertaking the aqueduct was completed comparatively quickly, but the senate still had to extend Rex's term in office. Like Appius Claudius before him, Marcius Rex and his family gained lasting fame and influence: around 87 BCE, 57 years after the aqueduct was begun, C. Marcius Censorinus, a descendent of Marcius Rex, issued a coin showing what are probably two arches of the aqueduct; another descendant, L. Marcius Philippus, issued another coin showing five arches with the word *aquam*.¹⁵⁵

All Republican aqueducts except the Aqua Marcia were built by censors and the water supply also fell in their general domain. The censors also let out the contracts for the maintenance and construction of public works. Because their jurisdiction extended beyond the limits of the city itself, they were in an ideal position for aqueduct construction, which extended over such long distances outside the city itself. At eighteen months, the term in office of the censors was longer than that of other magistrates, but still not long enough to complete such a massive undertaking as an aqueduct. There was no ideal solution for extending terms of office, and in the case of Appius Claudius the protractions were clearly controversial. The extensions had to be dealt with on a case-by-case basis; there are a number of examples for construction projects that were not completed by the censors who began them. Since there were not always censors serving in office, many of their duties would have devolved to the consuls. In turn, the

¹⁵⁴ Ashby 1935, 10-11, Evans 1994, 83-84, note 6; Taylor 2000, 134-135.

¹⁵⁵ Ashby 1935, 88-89 (see notes 4 and 5 for cat. Info on coins), Evans 1994, 83-84.

praetor urbanus would take over some of the consuls' duties when they were absent, which due to warfare was frequent. Therefore some of the censorial duties could fall to him as well.¹⁵⁶

Q. Marcius Rex was originally charged by the senate with renovating the Aqua Appia and Anio Vetus, which were apparently in a poor state of repair. The objective of the senate's order was for him to increase the general water supply; a new aqueduct was not initially part of the plan. Rodgers notes that the senate's institution of a general water plan was a new development. The next censorial elections were only two years away, but apparently the senate was not willing to wait, hence the unusual procedure of the senate giving the task to the *praetor urbanus*. Both consuls were most likely in Rome, but the task still fell to Q. Marcius Rex. The events of 146 may still have occupied all the attention of the consuls, but Morgan suggests that the senate avoided involving them because the two men did not get along and would have blocked each other, causing unnecessary delay to a situation that needed immediate action.¹⁵⁷ After carrying out repairs to the old aqueducts and exploring new springs to augment their supply, Marcius Rex's solution to the problem was to initiate the construction of a new aqueduct, the most ambitious that the city had seen to this date. His term was extended by means of a *prorogatio*, which was uncommon for a *praetor urbanus*.

He finally completed the Capitoline branch of the Marcia around 140 BCE, a project that was not without controversy and may have raised the hackles of his political rivals. In 143 BCE a consultation of the Sibylline books raised objections to bringing water to the Capitoline;

¹⁵⁶ Polyb.6.11ff., Geissler 1998, 37-48. (For buildings unfinished after censors left office see Geissler 1998, 40-45, note 24 esp.)

¹⁵⁷ Front. 7.1-5, Plin. *HN*. 36.24.121, Morgan 1978, 26-33, 35, Rodgers 2004, 159.

apparently there were some religious misgivings about allowing the “Anio” to reach the hill, and the senate debated the issue twice, once in 143 BCE and once in 140 BCE. The controversy was ostensibly centered on the question whether the Aqua Marcia would be allowable since it was not strictly speaking the Anio River. Coarelli suggests that the issue was revisited a second time because a plague in 142 BCE was seen by some as having been caused by Marcus Rex’s attempted sacrilege, but it is highly likely that the debate also questioned who was in charge, what exactly Q. Marcus Rex’s assignment entailed, and how long his term should be.¹⁵⁸ As an urban praetor his jurisdiction did not extend beyond the city itself; he must therefore have been given some sort of special authority by the senate, which may have been controversial. According to Plutarch, Q. Marcus Rex and a relative, P. Marcus Rex, finally successfully brought the aqueduct to the Capitoline. Morgan suggests that by this point the two had been appointed *duumviri aquae perducendae* to finish up the work.¹⁵⁹

Religion and political intrigue were certainly factors in this controversy, but according to Morgan other motivations influenced the opposition. He argues that there were concerns that with a ready water supply the public land on the Capitoline could be taken over by illegal squatters, or developed by unscrupulous politicians to their own advantage. There is insufficient evidence that a political intrigue directly targeted Q. Marcus Rex and tried to prevent the completion of the aqueduct. In any case he prevailed and his engineering achievement was widely celebrated. As noted above, his relatives, like those of Appius Claudius, continued to

¹⁵⁸ Coarelli 1997, 316-322.

¹⁵⁹ Front. 7.4-5, Plut. *Coriol.* 1.1, Morgan 1978, 47-51, 54, Taylor 2000, 134-136, Rodgers 2004, 164-166.

exploit and commemorate his building of the aqueduct. A military diploma of 64 CE even mentions a statue erected in his honor on the Capitoline.¹⁶⁰

The Aqua Marcia was the first of Rome's aqueducts to run on arcades; it is the prototype of the iconic aqueduct still associated with Rome today (fig.1.13). Its grand progression across the landscape as it approaches Rome is visually dramatic and rich in implied meaning (fig. 1.14). According to Frontinus, Rome's first two aqueducts ran almost exclusively underground to protect them from military threats. Scholars traditionally accept his interpretation, noting that it was only when Rome safely controlled the Italian peninsula and the risk of war-related damage was significantly reduced, that her engineers started building arcaded aqueducts, advertising the fact that she was now in complete control and no longer feared incursions.¹⁶¹

Advances in building techniques and a shift in hydraulic techniques are also at work: over the course of the late third and second century Roman builders became increasingly skilled and confident in the use of the arch; concrete gained significantly in importance and became widely used in many different settings. It is during this period that many of the principal types of monumental architecture that are to become standard features of Roman cities begin to develop. Livy mentions arches in connection with the aborted aqueduct of 179 BCE; Roman

¹⁶⁰ Front. 7.4-5, Plut. *Coriol.* 1.1, Morgan 1978, 47-51, 54, LTUR 1995 I 67-69 s.v. Aqua Marcia (Cattalini), Taylor 2000, 134-136, Rodgers 2004, 164-166.

¹⁶¹ Front. 7.1-5, Evans 1994, 83-84, Rodgers 2004, 159.

engineers had therefore already considered an aboveground, arcaded aqueduct 35 years before the Aqua Marcia was finally built.¹⁶²

Over the course of the second century BCE Rome expanded beyond the borders of Italy and became an increasingly important player in the Hellenistic world. Increased contact with Greece, both military and economic, brought a flood of ideas, people and wealth to Italy, and victorious generals such as L. Mummius and Q. Caecilius Metellus set up monuments in Rome following Hellenistic ideas of grandeur. In general patrons moved towards beautifying Rome in order to make her physically reflect her status as the capital of a growing world power. There were of course critics of this foreign influence, but the trend was clear and the experimentation with new styles and materials that had begun earlier was accelerated.

It is within this context of growing wealth and confidence, and a genuine wish to monumentalize the city of Rome and improve her infrastructure to reflect her new status, that we must place the construction of the Aqua Marcia. On the surface, it was a utilitarian project meant to increase the supply of water to the city, but it also boldly announced the fact that Rome had arrived on the world stage. The aqueduct was a monument to Rome's growing military and economic might; thus it had to be visibly grand to impress the viewer and advertise Rome's capabilities and resources. The fact that it was built using income garnered from the sack of Carthage and Corinth, two mighty cities completely razed by the Romans, lends the Aqua Marcia the triumphal quality of a victory monument. The Aqua Appia and Aqua Anio Vetus send many of the same messages; although themselves physically mostly invisible, the water they

¹⁶² Butler 1901, 175ff, Ashby 1935, 11, Gros 1978, 5-33, Evans 1994, 83-84, Lancaster 2005, 3-5, Faletti 2010, 178-180.

delivered was a constant reminder of their existence and meaning. The Aqua Marcia followed this precedent and impressed with its bold and impressive row of arches crossing the landscape in a highly visible way.¹⁶³

The aqueduct was therefore meant to be a showpiece, and this is reflected in the style of the monument itself. Although the Aqua Marcia was repeatedly overhauled in antiquity and heavily reworked in early modern times when it was incorporated into the Aqua Felice, parts of the arcade survive in good shape (figs. 1.13 and 1.14). The aboveground portions of the aqueduct are built in *opus quadratum* of massive blocks of carefully cut tufa, travertine and *peperino*. The piers are laid without mortar, but cement joints were used for the walls of the *specus* (the water channel proper), which was lined with *opus signinum*. The blocks are all of approximately the same size, averaging 0.6m x 0.6m x 1.24m. The visual impression is immediately one of solidity and strength; in addition, simple architectural elements were utilized to prevent visual monotony and to embellish the aqueduct. The span and height of the arches is partially dictated by the need to keep the gradient of the *specus*, but there seems to have been a conscious effort to create a rhythmic balance and symmetry in the arcade as a whole, increasing its impressiveness. Higher piers are generally coupled with wider arches, but the architects seem to have gone to some lengths to keep the appearance of the arcade as uniform and symmetrical as possible, varying the span of the arches as little as possible.¹⁶⁴

¹⁶³ Livy, 40.5.7, Gros, 1976, 11-56, Patterson 2006, 359, Torelli 2006, 94-99, Lancaster 2005, 3-5, Faletti 2010, 178-180.

¹⁶⁴ Butler 1901, 175ff, Van Deman 1934, 67-139, Ashby 1935, 11, 88-158, Evans 1994, 83-84, Hodge 2002.

Different types of tufa, and sometimes travertine, were used for different purposes, and possibly for decorative effect. More inexpensive, lighter coloured stone was used for the core and harder, darker tufa formed the outer layer. This strategic use of stone can be found throughout the structure: the piers and arches are made of the more durable material and the foundations and upper courses are made of a softer, grey-yellow tufa. The superstructure of the aqueduct is rendered visually more interesting through the inclusion of travertine or *peperino* stringcourses that project from the sides (about 0.2m). They form a simple cornice, and are complemented by the roof of the *specus*, which consists of large slabs of *peperino* that also jut out from the bulk of the structure. The travertine slabs are simply left as a flat shelf, but the *peperino* courses are sometimes carved to angle downwards slightly. The two projecting courses form the top and bottom of the water channel and therefore both physically and optically define the location of the *specus* emphasizing the function of the structure. The carefully and precisely crafted travertine voussoirs create further optical interest by contrasting with the reddish and yellowish tufa. Sometimes the keystones are further differentiated, enhancing the overall decorative effect. Ashby identified traces of plaster on one pier, but could not date it and noted that he had found no other trace of it elsewhere; it seems likely that different types of stone were used in the Aqua Marcia for both practical and aesthetic reasons.¹⁶⁵

THE AQUA TEPULA: LAST REPUBLICAN AQUEDUCT

The Aqua Tepula was built in 125BCE, only 19 years after the Aqua Marcia and was by comparison a relatively minor undertaking. It was heavily reworked under Agrippa and it in

¹⁶⁵ Butler 1901, 175, Evans 1994, 83-84. Ashby offers the most detailed description of the arcades: Ashby 1935, 11, 88-158, esp.135-139.

essence ceased to be an independent line; little is known about its original plan and form. It was short and had only a limited capacity, therefore it was probably always intended to be a supplemental line for the Aqua Marcia (later for the Aqua Julia), rather than a fully independent aqueduct. The *specus* of the Tepula was built on top of that of the Marcia, and therefore saved the builders having to build a whole new arcade. Fewer funds may have been available and a completely separate line was not practicable for that reason. As the name suggests, the waters of the Tepula were lukewarm; Ashby notes that a spring suspected to be the source of the Tepula has a temperature of 16-17 degrees even in winter. The water was known to be rather unpleasant to drink and may have been intended for commercial use. It was the last Republican aqueduct to be built and almost ninety years passed until Rome received new aqueducts under Agrippa and Augustus. Evans suspects that it was the growing political instability of the first century BCE that prevented the construction of any more aqueducts; it is possible that they bestowed too much influence and power on the individuals responsible for their construction.¹⁶⁶

AQUEDUCT ADMINISTRATION UNDER THE REPUBLIC

According to Frontinus, during the Republic individual aqueducts were maintained or renovated as needed, but there was no regular system in place that oversaw the entire water supply.¹⁶⁷ He notes that it was sometimes the domain of the censors and sometimes of the aediles (although usually the censors had priority).¹⁶⁸ In one exceptional case a quaestor was in charge and Q. Marcius Rex was urban praetor when he took on the construction of the Aqua Marcia in the

¹⁶⁶ Front. 8, Ashby 1935, 160-161, Evans 1991, 95-99. Of course it is also possible that the funds were required elsewhere.

¹⁶⁷ Front. 96-97, Favro 1996, 44, 100-102, 128, 132, 134-135, Geissler 1998, 36-54, Rodgers 2004, 260-61.

¹⁶⁸ Front. 95-96, Geissler 1998, 36-54.

140s BCE.¹⁶⁹ Upkeep was carried out by contract as needed and each contractor was required to have a certain number of “artisan slaves” that were registered in the public records. Separate crews were hired for projects within and without the city limits and specific numbers of men were required for each.¹⁷⁰ Contracts were for a set time frame and final payment was dependent on an inspection, the *probatio*, usually carried out by the magistrates who let the original contract, but regulations existed in order to deal with cases where the work extended beyond the magistracy of the person who had let the original contract.¹⁷¹ Frontinus stresses that water for public use was always considered a priority over “private pleasures.” In the Republic illegal tapping of aqueducts (and other public water sources) by private individuals was clearly a concern. Heavy fines and even confiscation of illegally irrigated land could be the consequence of using public water without a permit, although no actual cases of confiscation are known. Similarly strict laws applied to anyone who intentionally contaminated the water supply.¹⁷² Frontinus (97.8) states that “[...] for this reason [to safeguard the public water supply] the curule aediles used to be ordered to appoint two men from those who lived in an individual ward or had property there, under whose judgment water might flow for public use.”¹⁷³

WATER SPECTACLES IN THE REPUBLIC: THE *NAUMACHIA* OF JULIUS CAESAR

In 46 BCE Julius Caesar celebrated a massive triumph over no fewer than four opponents as well as the inauguration of his new temple to Venus Genetrix. Of course the

¹⁶⁹Front. 95-96, Geissler 1998, 36-54.

¹⁷⁰ Front. 96, Rodgers 2004, 260-261.

¹⁷¹ Front. 96, Rodgers 2004, 260-261.

¹⁷² Front. 96-97, Rodgers 2004, 262.

¹⁷³ Front. 97.8, Transl. Evans 1994.

celebrations were on an unprecedented scale and included many unique events. As the highlight Caesar staged a new kind of spectacle the likes of which had never been seen before: a ship battle that took place on a specially constructed artificial lake.¹⁷⁴ Usually both the battle and the venue used for them are simply known by the Greek term *naumachia*. Contests involving boats were known long before Caesar's *naumachia*, but they seem to have been bloodless displays of technical skill, mock skirmishes and regattas. The combination of nautical skill and blood sport seems to have been a new development under Caesar.¹⁷⁵

The exact site of Caesar's *naumachia* is not known because the relevant passage in Suetonius is corrupt and two different interpretations exist; either the basin was dug in the shape of a shell, or, more likely, it was located in a part of Rome known as the *minor Codeta*, which may have been either in Trastevere or the Campus Martius.¹⁷⁶ Although it may have been intended to be temporary, the basin continued to exist for a few years after the event. It was eventually filled in by order of the senate because of concerns that it had become a health hazard.¹⁷⁷ From this we can conclude that Caesar's *naumachia* did not have a direct water supply and was not drained properly. Due to lack of circulation the water stagnated and became a breeding ground for algae, mosquitoes and other unwanted and unwholesome life forms. Caesar's *naumachia* may just have been a hole excavated into the ground with a clay or sand bottom rather than an actual masonry basin. No evidence for the spectator stands survives, but

¹⁷⁴ Coleman 1993, 49-50, 67-68, Berlan-Bajard 2006, 24-27.

¹⁷⁵ Taylor, Forthcoming "Aquacades".

¹⁷⁶ Suet., *Jul.* 39. 4, Dio 43. 23, 45. 17, Coleman 1993, 50-51, Berlan-Bajard 2006, 160-162.

¹⁷⁷ Dio, 45.17.8, Berlan-Bajard 2006, 160-162.

they were either temporary structures made of wood, like most theatres in Rome at the time, or embankments were built up around the lake to viewing space.¹⁷⁸

The spectacle that Caesar organized was grand, original and unprecedented. It was the perfect venue for him to display his immense wealth and talent for organization. His “fleets” included triremes, biremes and even quadriremes and represented the Egyptians on the one hand, and the Tyrians on the other. The number of participants has been estimated at around 6000, about 2000 combatants and 4000 rowers, and they were almost certainly all condemned prisoners of war. Whether any of them could expect clemency for putting up a good fight is not known, but the chance of a pardon would certainly have been a powerful motivator.¹⁷⁹

Although Pompey had been killed in 48 BCE, his memory was still alive. He had freed Rome from the Mediterranean pirate menace, and had styled himself as the conqueror and ruler of the seas. Although Caesar had some maritime engagements during his campaigns in Gaul, his waterborne ventures did not match those of Pompey in prestige, although later authors celebrated his crossing of the English Channel as a remarkable feat.¹⁸⁰ By constructing an artificial venue and staging a ship battle Caesar was not only creating a brand new and

¹⁷⁸ Suet., *Jul.* 39. 4, Dio 43. 23, 45. 17, Coleman 1993, 50, Garello, 2004, 115-117, Berlan-Bajard 2006, 13-33, 37-39, 160-162, Taylor, forthcoming “Aquacades.”

¹⁷⁹ Suet., *Jul.* 39. 4, Dio 43. 23, 45. 17, Coleman 1993, 50, Garello, 2004, Berlan-Bajard 2006, 13-33, 37-39, 115-117, Taylor, forthcoming “Aquacades.”

¹⁸⁰ Plut. *Pomp.* 24-29, Dio, 36, 20-37, Caes. *Gall. Bell.* 3.12-16, 4.23-26, Flor. 1.45.16-19, Suet. *Caes.* 25, Plut. *Caes.* 23.2-4, Berlan-Bajard 2006, 326-330.

spectacular form of entertainment, he was also extending his power over the element of water and indicating that he, like Pompey, was master of the seas.¹⁸¹

The sheer scale, cost and organization required to stage such naval spectacles placed them well out of the reach of a regular magistrate. Only one other *naumachia* is attested for the Republican period; it was given in 40 BCE by Sextus Pompey, who carefully cultivated the memory of his father's naval victories and styled himself the "Son of Neptune" to celebrate his naval victory over Salvidienus Rufus. Unlike Caesar's spectacle, this one was held on the actual sea, well outside of Rome and not in a specially constructed venue. It too involved war captives, but instead of staging a historical distant battle, it parodied recent events, mocking Sextus' opponents and underlining his own naval power. The captives were Romans and the vessels he placed them in were small, made of leather and wood. Sextus Pompey was thus mocking his opponent's naval prowess and celebrating his own status as self-proclaimed master of the seas.¹⁸²

Water spectacles were uncommon during the Republic and only appear very late.¹⁸³ *Venationes* and public displays involving aquatic animals were an important feature during the empire, and we do have some evidence for such an event during the Republic. Pliny the Elder and Ammianus Marcellinus inform us that in 58 BCE, while curule aedile, M. Aemilius Scaurus

¹⁸¹ Berlan-Bajard 2006, 326-330.

¹⁸² Dio 48.18.1-4, 19. 1-2, Coleman 1993, 55-56, Berlan-Bajard 2006, 330-333.

¹⁸³ Bloodless entertainments usually termed *hydromimes* became extremely popular under the empire, but there is no evidence for them in Republican Rome. They consisted of costumed plays and dances staged with the aid of basins and often had a water themed plot involving Nereids, Tritons and other marine denizens. Sources are rather vague on *hydromimes*, but they were clearly extremely popular and showed a lot of variation in the exact forms they took.

exhibited a hippopotamus and five crocodiles to an astonished Roman public, who had never seen these creatures before. They were kept in a '*temporario euripo*', some sort of temporary basin or habitat.¹⁸⁴ Whether they were eventually killed in a show is not reported.¹⁸⁵

Caesar's water spectacles proved to be immensely popular and successful and he astonished the populace of Rome with the size and elaborateness of his shows. His extravaganzas set the bar very high and initiated the trends that allowed Augustus to make spectacles the personal prerogative of the *princeps* and his family. *Naumachiae* remained extremely rare events even during the high empire and all in all only nine or ten are known to ever have taken place, but they were generational highlights that were carefully recorded by ancient historians. Water-themed *venationes* built on the republican prototype by exhibiting exotic creatures in ever more elaborate habitats. Quick changes of scene, draining and flooding a venue in quick succession, and the introduction of aquatic mammals were eventually the result and helped Caesar's successors build on the persona of master of the elements that he had courted.

Although some hydraulic knowhow and the inspiration for certain fountain designs may have originate in the Hellenistic East, Rome and Italy had their own long tradition of water management. The use of water as a decorative focal point and an experience in its own right has its roots in Italy and over the course of the first three centuries BCE the Romans found increasingly original and ambitious ways to utilize water for decoration and entertainment. The

¹⁸⁴ Plin. *Nat.8*, 95-96.

¹⁸⁵ Plin. *Nat.8*, 95-96, Amm. Marc. 22, 15, 21, 24, Berlan-Bajard 1996, 61-78, 99-148, Taylor, forthcoming "Aquacades."

sound and reflective qualities of water were used to enliven statuary, the interior of houses, and the design of gardens in ever more elaborate and ingenious ways. By the late Republic Romans considered access to an abundant water supply as not just a necessity for life, but also a mainstay of civilization and luxury.

Caesar and Pompey were the republican culmination of public hydraulic patronage, but Appius Claudius Caecus had started the trend centuries earlier when he mobilized the resources of Rome to build the Aqua Appia (and perhaps the Aqua Anio Vetus) and demonstrated not just the general usefulness of aqueducts, but also the great political potential of large-scale engineering works. He was the patron of Rome's first aqueduct, which exposed Romans to the amenities of a large water supply. After the Aqua Appia's completion there was no going back: both the elite and the populace began to develop a taste for having access to large quantities of fresh water and the elite found ever more elaborate and ambitious ways to utilize it. Pompey and Caesar brought this approach into a public context, and they found clever and surprising ways to use water for display and the entertainment of the people of Rome. The *populus romanus* received water displays and spectacles with enthusiasm, and Octavian realized early on that if he wanted to consolidate his power, the control and distribution of water had to be a high priority. It had great political value not just because it was a vital necessity, but also because of its tremendous potential for display and entertainment.

Chapter 2: Becoming emperor: the role of benefaction and water in Augustus' consolidation of power

Augustus' reign was a transitional period; neither he nor his contemporaries considered him an emperor. He played a pivotal role in defining what would come to be considered the ideal traits and behavior of a Roman emperor, but that position and role did not yet exist while Augustus was consolidating his power. He was careful to always move within the legal framework of the Republic and had to walk a fine line between his actual power and how to represent it. Caesar's assassination had taught him a valuable lesson; he was careful about which honors he accepted, and more importantly, which he turned down.¹

Augustus gradually implemented many changes that cemented his power while ostensibly preserving the institutions of the Republic. During this process he tied more and more traditional sources of influence directly to himself.² Ostentatious display and benefaction had played an important part in the power struggles of the Late Republic.³ Augustus therefore carefully took control of large-scale building commissions, spectacles and triumphs; over time these became his exclusive right. He tried to funnel the energy and resources previously expended by the elite on highly competitive election campaigns into administrating and maintaining the state instead.⁴ He used his extensive public building programs to promote civic unity and his claim to power.⁵ He also used benefaction, most notably his personal patronage, to

¹ Eder 2005, 13-32, Gruen 2005, 33-50.

² Eck 2003, 1-5, 22-30, 41-66, Eder 2005, 13-32, Gruen 2005, 33-50.

³ Millar 1998, 56-61, Eder 2005, 13-32, Gruen 2005, 33-258.

⁴ Favro 1996, 4, 9-11, 53-56, Norena 2001, 152-53, Eck 2003, 75-76.

⁵ Favro 1996, 4, Eder 2005, 13-32.

extend his influence over the senate. He did this mostly by covering the debts of individual senators, or by restoring ancestral buildings ancient families no longer had the resources to maintain. This obliged these senators to support him politically. He also nominated many new senators to fill vacancies and made a point to fill those seats with men from Northern Italy, Gaul and Spain, or wealthy individuals who had previously been excluded from power.⁶ Through Agrippa he created new types of public leisure spaces and expanded the infrastructure of Rome, especially the food and water supply, in order to reach the bulk of Rome's population and ensure their loyalty. Augustus and Agrippa worked together towards winning over both the elite and the general populace, convincing them that Augustus' new regime was a golden age and the best possible solution for all of Rome.

As *princeps* Augustus officially presented himself as a magistrate, even if a special one. Gradually he acquired special powers, such as *tribunicia potestas*, that no longer required him to be an elected official, and he drew the duties of other magistracies to himself, particularly those of the censors. He either carried these powers out personally or delegated them to close senatorial associates, whom he designated as *curatores*.⁷ Augustus altered not only the political roles of the elite, but also that of the Roman populace by changing the significance of the elections that were held in Rome. Officially the Roman *populus* could pass laws, elect officials, determine punishments and honors, declare war and ratify treaties.⁸ In the Late Republic the assembly had a vote on Roman foreign policy, and the election of the consuls could affect

⁶ Manning 1985, 81, Norena 2001, 152, 160-161, Eck 2003, 67-76, Gruen 2005, 36.

⁷ Bruun 1991, 140-142, Favro 1996, 133-140, Geissler 1998, 58-59, Eck 2003, 67-76, Eder 2005, 13-32, Gruen 2005, 33-50.

⁸ Millar 1998, 24, 209.

foreign and domestic policy, depending on the stance of the candidates.⁹ As Augustus drew more and more of these functions to himself, the Roman assembly lost many of its prerogatives, most notably the right to elect the consuls, which were now appointed by Augustus. After 23 BCE he also held tribunician power and its important veto power. This further removed a traditional influence of the people, who through the Tribunes of the Plebs and their veto power previously had recourse to stopping unpopular laws.¹⁰

The question arises to what degree the average plebeian cared about their right to vote. Fergus Millar suggests that the Roman assembly was a mixed and fairly democratic body with a sound grasp of the political issues that they voted on and that participation in elections was often (but not always) good.¹¹ On the surface the Roman electorate were an extremely heterogeneous group that included a mix of social classes, both urban and rural, but Mouritsen points out that the assembly, rather than consisting of the unruly unemployed rabble Cicero often describes, must have been made up of fairly wealthy individuals who actually had the time to attend debates in the forum and then spend several hours in the voting proceedings.¹² He notes that the urban poor, far from being idlers fed by the grain dole, were working long hours earning their often extremely precarious subsistence. Even relatively well-off artisans and shopkeepers would have found it difficult to take several hours off work to attend *contiones* and elections.¹³ Living in squalid, unhealthy conditions, they were too busy surviving to devote much

⁹ Millar 1998, 24, 61-62, 124-125, 209.

¹⁰ Eck 2003, 71-72, Eder 2005, 23-28.

¹¹ Millar 1998, 207-223, Mouritsen 2001, 14-15, 45, 88-89

¹² Mouritsen 2001, 4-17, 36-40. e.g. Cic. *Agr.*2.70-1. *Att.* 1.16.11, 1.19.4, *De or.* 1.118.

¹³ Mouritsen 2001, 4-17, 23, 36-37, 130, 195.

time to worrying about the changing nature of Roman politics.¹⁴ In addition, the *comitia centuriata*, which was often called in place of the *comitia tributa*, was heavily geared towards giving more influence to the wealthy. The most influential voters were what Cicero refers to as the *boni*, the propertied upper classes, a small group of a few thousand, whose interests often overlapped with those of the senatorial elite.¹⁵ It is this group of prosperous citizens that were most affected by the changes to the assembly. Because they were wealthy, politically savvy and an untapped source of resources, it was in Augustus' interests to find a way to appeal to this segment of the population.¹⁶

He created new positions and magistracies to deal with administrative shortfalls.¹⁷ The water supply was just one public asset he reorganized and centralized in this manner; the grain supply and care of public roads were two others. The water and food supply became carefully state-controlled because they were politically too significant to be administered by anyone not closely allied to Augustus. The urban poor were often threatened by food shortages; a steady and reliable supply of food at affordable prices was of immense political value. A clean water supply helped stave off disease and improved public health.¹⁸ The *curatores*, charged with the administration of these and other matters, were carefully chosen by Augustus from among his close allies; he was ultimately in control of any major decisions pertaining to Rome's

¹⁴ Scobie 1986, 399-433.

¹⁵ Cic. *Att.* 2.18.1, 2.21.4, *Q. Fr.* 2.3.4. Mouritsen 2001, 44-45, 128-131.

¹⁶ Eder 2005, 31-32.

¹⁷ Bruun 1991, 140-142, Favro 1996, 133-140, Geissler 1998, 58-59, Eder 2005 13-32.

¹⁸ Bruun 1991, 140-142, Mouritsen 2001, 4, Eder 2005, 21-22, Knapp 2011, 36-45.

infrastructure and food supply. He encouraged his appointees to take pride in their office and to develop real expertise and professionalism, just as his right-hand man Agrippa had done.¹⁹

Through Agrippa's lead Augustus tried to increase interest in public works as well as promote knowledge of management and engineering among elite magistrates. Together with Agrippa he promoted the concept that it was the duty of the elite to contribute to Rome's infrastructure, which had been left in tatters after years of civil war and neglect. The notion of the Roman *patria*, a construct that captured the loyalty of both elite and poor Romans, further encouraged such behavior because it was considered patriotic to take an interest in how the empire was administered.²⁰ Frontinus' treatise, written under Nerva, can be seen as a direct result of this policy; interest in the water and food supply became something of a badge of honor.²¹

Vitruvius, in his dedication to Augustus, sums up the political importance of paying for public works and expresses the expectations that would later become the signature of a good emperor: "But I observed that you cared not only about the common life of all men, and the constitution of the state, but also about the provision of suitable public buildings; so that the state was not only made greater through you by its new provinces, but the majesty of the empire was also expressed through the eminent dignity of its public buildings..."²² A public building was perceived as not only adding to the prestige of the state; it could, if well chosen and planned, also improve the quality of life for a cross-section of the populace and enabled the

¹⁹ Bruun 1991, 140-142, Geissler 1998, 58-59.

²⁰ Bruun 1991, 140-142, Favro 1996, 133-140, Eder 2005, 13-32.

²¹ Bruun 1991, 140-142, Favro 1996, 133-140, Geissler 1998, 58-59.

²² Vitr. *De architectura*, preface 2, translated in Zanker 1990, 135.

donor to showcase his care for the welfare of the public.²³ Winning over the *plebs urbana* was important because its show of disapproval, say at a theatre performance or in the forum, would undermine the authority of the *princeps* and leave him vulnerable to attacks from opponents. If he could not win over the city of Rome, he could hardly hope to secure the loyalty of the rest of the empire.²⁴

Augustus, over the course of his reign, helped forge the idea that a constant show of concern for the wellbeing of the populace was a vital aspect of being in charge; acts of generosity showcased his paternal responsibility and sense of duty. Augustus was fully aware of the political importance of public largesse and went to great lengths to tie all traditional forms of benefaction to himself in order to strengthen his position of power.²⁵ In the appendix to the *Res Gestae* (which was probably not written by Augustus himself) there is a compendium of twenty-one large-scale projects that the first emperor planned and completed; it also includes a long list of the shows and spectacles he gave, enumerating among many other things the *naumachia* that he gave.²⁶ Kathleen Coleman concludes that “[...] the profile of euergetism in the *Res Gestae* conforms exactly to the standard pattern, in which the construction of buildings and the provision of entertainment are key elements.”²⁷ It is important to note here that the standard pattern that she refers to was in fact pioneered by Caesar and consolidated by Augustus, and did not exist before.

²³ Zanker 1990, 135-143, Favro 1996, 53-56.

²⁴ Yavetz 1969, 130-140.

²⁵ Favro 1996, 4, 9-11, 53-56, Norena 2001, 152-53, Eder 2005, 28-31.

²⁶ Coleman 2003, 61-69, Grand games had already been given by Caesar, Pompey and others, and impressive building programs such as Pompey’s theatre complex and Caesar’s new forum were the predecessors and models for many grand imperial buildings.

²⁷ Coleman 2003, 62

Water was a particularly valuable political tool because it is so versatile: it can at the same time be useful, entertaining and beautiful. It was a basic, vital necessity, but it could also provide an impressive demonstration of resources, especially in the engineering and know-how required to provide, tame and display it. Frontinus' treatise on the aqueducts of Rome, along with Pliny the Elder's enthusiastic remarks on the complexity of Rome's aqueducts and the sophistication, luxury and variety they brought to everyday life, illustrate that Romans were conscious of their engineering skills and took great pride in their hydraulic expertise. They saw it as a particularly Roman talent worthy of celebration.²⁸

The symbolic significance of water was another important factor, and Augustus' successors were quick to follow his example. Fountains, aqueducts, large-scale hydraulic projects and spectacles are all a demonstrative bending of a wild natural element to human will; the patron gained mythical, almost superhuman qualities through his hydraulic works, but through the act of giving and sharing this vital resource he also underlined his munificence. Water is also decorative and showy; in hot, filthy, overcrowded Rome it provided pleasant, popular recreation areas. Gardens and parks had once been the private privilege of the super-rich, but Pompey had created a public garden in his portico and opened his *horti* to the public, and in his will Caesar had followed suit, allowing access to all. Agrippa also left his gardens to the public and Augustus continued to create and open garden spaces that the public could utilize, such as the *Nemus Caesarum* and the gardens around his tomb.²⁹ Water, especially in

²⁸ Front. *Aq. passim*, especially 1.16, Pliny, *HN*, 36.123, These sections are quoted in chapter 1.

²⁹ Strabo 5.3.8, Shipley 1933, 37-47, Grimal 1969, 173-178, Roddaz 1984, 244-276, Zanker 1990, 139-143, Berg 1994, 128-136, LTUR 1995 I p.220-224 s.v. *Campus Martius*, Gros 1996, vol II 237-233, Longfellow 2011, 16-17.

connection with public fountain basins, baths and latrines, ensured health and hygiene and aided with disease control. Low-status women, who had to carry most of the water to their homes, would have felt the benefit of more accessible and reliable public water sources.³⁰ It also provided entertainment on a grand scale through elaborate and original public spectacles. Water, in short, could raise the standard of living of all. It benefited the poorest slum dweller, who now had access to a regular supply of clean drinking water, or a shrewd ruler could use it to reward a loyal Senator with a private water concession.³¹ These water grants were highly sought after; not only did they allow elite individuals to show case their own wealth and influence by using their water allotment for conspicuous consumption, they could also be used for commercial purposes, and as such had a financial benefit too.³²

Agrippa and Augustus could amaze all levels of society with the beauty of water or entertain everyone with an immense spectacle on an artificial lake. Paul Veyne notes that a ruler had to be careful not to appear selfish or unpredictable; he “had to justify to his subjects every one of his actions”, both public and private.³³ It was harder to accuse a man of selfishness or misrule if he chose to provide such a public benefit. Benefactions using water were almost guaranteed to be crowd pleasers because they could positively impact so many different levels of society while simultaneously advertising the might and ingenuity of the Roman Empire.³⁴

³⁰ Knapp 2011, 83-87, 114.

³¹ Scobie 1986, 399-433, Bruun 1991, 66-70, 77-96, 110-115.

³² Bruun 1991, 66-70, 77-96, 110-115 and personal communication January 2009.

³³ Veyne 1990, 301

³⁴ Even Claudius’ great Naumachia on the Fucine Lake, which was hampered by a number of embarrassing incidents, seems to have been generally a success with the majority of the population (see chapter 3). Domitian’s catastrophic Naumachia during which spectators were forced to remain seated in inclement weather and froze to death, is a shocking exception.

Augustus and Agrippa recognized this potential and created many of the basic tools and patterns of use that later emperors would follow.

Water was a high priority from the outset, as is shown by the fact that in 33 BCE, even before the Battle of Actium, Agrippa launched himself into an inspection, restoration, and reform of the water supply that had no precedent (compare fig.2.1 and 2.2).³⁵ After the neglect of the civil wars the system was probably in dire need of an overhaul, and there had never been one unified body overseeing the water supply in general. Agrippa addressed these issues directly, and as a consequence arranged for the control and supervision of all water coming into Rome to be shared and distributed as he and Octavian saw fit. From the beginning water was a crucial tool for Augustus' consolidation of power.³⁶ As we shall see in this chapter Augustus took it upon himself to win over and control the senate, whereas Agrippa was entrusted with popular programs that would convince the general populace of the benefits of Augustan rule.³⁷

AGRIPPA AND AUGUSTUS: THE FOUNDATION OF THE IMPERIAL WATER SYSTEM

Augustus and Agrippa used water in many novel and unique ways. Sometimes they drew on examples set by their predecessors, such as Caesar's *naumachia*, or let themselves be inspired by the gardens of Pompey and urban planning of Hellenistic monarchs; but many of the ways that they employed water, and the buildings and structures they created to utilize and display it, were new. They demonstrated the effectiveness of benefaction involving water and set a

³⁵ Pliny HN. 121, Front. *Aq.*9.9, Dio 49.42, Evans 1994, 99, Taylor 2000, 136-148. Q. Marcius Rex had been tasked by the senate to restore the aqueducts improve the water supply, but his efforts, though impressive, were not on as large scale as those of Agrippa. He also did not reorganize how the water supply was managed.

³⁶ Front. *Aq.*9.9, Evans 1982, 403, Favro 1996, 44, 100-102, 128, 132, 134-135.

³⁷ Shipley 1933, 12, Taylor 2000, 136-154, esp.152.

lasting precedent for their successors to follow; some of their new ideas, such as public baths and gardens, became almost canonical forms of imperial largesse. Others, such as large artificial lakes, did not have as lasting an impact and went out of fashion after the death of Nero. The impressive above ground architecture of aqueducts and the inscriptions placed on them became effective political tools that emperors continued to use. One of the most lasting legacies of Rome's first emperor and his adjutant was the way in which they reorganized the administration of Rome's water supply and placed it securely within the control of the emperor.

Agrippa is a pivotal figure in the history of the Roman water supply and the public use of water-related architecture. He built more aqueducts than any other single patron; he oversaw the construction of two completely new lines, the Aqua Julia and the Aqua Virgo, and almost completely overhauled the entire supply system. He renovated and extended the Aqua Appia, Anio Vetus and Aqua Marcia and added numerous *castella* and public fountains to improve intraurban distribution and embellished many of them with sculptures.³⁸ Agrippa was also the patron of Rome's first large-scale baths, willed to the public at his death with perpetual free admission. The complex included a lavish public park containing an artificial lake and an artificial river, the Euripus.³⁹

He completely reorganized how water was administered in the capital: though the *cura aquarum* was not set up until a year after his death in 12 BCE, he created its foundation and established the administrative system the essence of which remained in place for centuries,

³⁸ Pliny HN 36.121, Front. Aq.9.9, Dio 49.42, Evans 1994, 96-109, Taylor 2000, 136-148.

³⁹ Huelsen 1910, 9ff., 29-34, Shipley 1933, 47-55, Roddaz 1984, 249-252, 278-291, Yegül 1992, 133-137, Evans 1994, 106-107, Coarelli 1996, 17-19.

with some additions and reworking under Claudius, Nerva, Trajan, and Septimius Severus.⁴⁰ His building activity was not limited to aqueducts and sewers, and the water supply continued to be his personal domain until his death. Agrippa was a prolific and versatile builder who used water as an important and commonly recurring element in his building projects.⁴¹ His massive efforts were lauded by many, notably Frontinus, Dio and Pliny the Elder, and he tried to promote the role model of the generous and selfless public benefactor.⁴² Anyone could enjoy Agrippa's projects; they were gifts to the public and benefitted the entire population, not just select groups.

AGRIPPA'S AND AUGUSTUS' ADMINISTRATIVE REFORMS TO THE WATER SUPPLY

In books 94-97 Frontinus discusses old Republican legislation on aqueducts and water distribution and contrasts it with the system of his own time.⁴³ He preserves and sometimes quotes verbatim a selection of Republican legislation concerning water. Rodgers notes that the "discussion of obsolete practices is perhaps partly due to F[rontinus]' personal antiquarianism and his interest in legal matters, but Republican austerity highlights his recurrent emphasis on the justice and generosity that a *princeps* displays towards his subjects."⁴⁴ As we have seen in chapter 1, before Agrippa, general water distribution and allotment of private grants were not clearly regulated. Frontinus notes that it was sometimes the domain of the censors, and

⁴⁰ Front.98-99, Bruun 1991, 140-142, 149, Evans 1994, 99, Rodgers 2004, 264-270.

⁴¹ Huelsen 1910, 9ff., 29-34, Shipley 1933, 20-34, Evans 1982, 401f., Roddaz 1984, 231-298, Zanker 1990, 137-143, Yegül 1992, 133-137, Geissler 1998, 54-57.

⁴² Pliny HN 36.121, Front. Aq.9.9, Dio 53.23, 49.42, Manning 1985, 73-74.

⁴³ Front. De aqu. 94-97.

⁴⁴ Rodgers 2004, 257-58.

sometimes of the aediles (although usually the censors had priority).⁴⁵ Maintenance was let out by contract on a case-by-case basis and problems were dealt with as they arose, but by the late first century BCE this system simply could no longer meet the needs of a city that was approaching a million inhabitants (fig. 2.1).⁴⁶ Agrippa was the first to introduce workers and slaves specially trained and permanently employed for the purpose of looking after the water supply; he introduced an element of continuity that ensured proper maintenance regardless of a regime change.⁴⁷

In 33 BCE Agrippa took the unusual step of becoming aedile after he had already filled the more senior offices of praetor and consul.⁴⁸ He created a position, filled by him personally, that specifically oversaw the water supply as a whole and instituted a workforce of specialist slaves. These were his own property, and their sole purpose was to maintain the hydraulic infrastructure of the city.⁴⁹ Agrippa's projects showed a great deal of foresight and systematic planning; they carefully considered distribution routes and they ensured that each region of the city was supplied by more than one aqueduct.⁵⁰ The new network took into consideration the needs and wants of both the elite and the masses.

The position that Agrippa filled was at this point still unofficial and based solely on his personal authority, but when he died in 12 BCE he left his specialist workforce of 250 slaves to Augustus, who signed it over to the state and created an official position based on Agrippa's

⁴⁵ Front.95-96, Geissler 1998, 36-54.

⁴⁶ Front. 9.1-3, 96, 98-99, Bruun 1991, 140-142, Evans 1994, 99, Favro 1996, 44, 100-102, 128, 132, 134-135, Geissler 1998, 26-29, Rodgers 2004, 170-173, 264-270.

⁴⁷ Front.98-99, Bruun 1991, 140-142, Rodgers 2004, 264-270.

⁴⁸ Dio 49.42-43

⁴⁹ Front. 9-10, 98-99, Shipley 1933, 19Bruun 1991, 140-142, Evans 1994, 99, Rodgers 2004, 174-175, 264-270.

⁵⁰ Front.9, 10, 98, Bruun 1991, 140-142, 190ff, Evans 1994, 99, Rodgers 2004, 174-175.

example. Messalla Corvinus, once a supporter of Antony who then became an important ally of Augustus and a close personal friend of Agrippa, was the first *curator aquarum* and was appointed two assistants to help him with the task. Messalla was also the owner of the Horti Luculliani and his appointment as Agrippa's successor further cemented his alliance with Augustus.⁵¹ Messalla is an excellent example illustrating how Augustus managed to win over his former political enemies and turn them into staunch allies. In this case access to water probably played an important role in cementing the relationship.

The aqueducts continued to be regularly maintained, renovated and expanded. Even after Agrippa's death Augustus continued to carefully maintain the aqueducts and added a whole new one, the Aqua Alsietina, which fed his grand new *naumachia*.⁵² Many of their most notable and best-loved building projects involved water in some fashion, as did their public spectacles. This shows that Augustus was well aware of the potential political power that control of water bestowed upon him, and he personally assumed the right of granting water concessions to private individuals.⁵³ He also kept the privilege to nominate the *curatores aquarum* and the sole right to order the construction of new water lines within the city of Rome. By doing this he gained a powerful tool for rewarding loyal individuals and could prove his personal generosity by granting water rights as a gift.⁵⁴ Over the course of the Republic a bounteous display of water had become an important status symbol for the Roman elite; an

⁵¹ Front. 99, *CIL* 6.29789; Bruun 1991, 140-142, 153-154, Roller 1998 13-15, 30-31, Rodgers 2004, 265, Taylor, Forthcoming "Herod". The Aqua Virgo ran deep below the horti and although Messalla may have add a concession to draw water from it, it would have required a specialized lifting device. By running the aqueduct through friendly territory Agrippa had better control over the line and could be sure of regular access for maintenance.

⁵² Shipley 1933, 24-34, Bruun 1991, 140-142, 149, Favro 1996, 44, 100-102, 128, 132, 134-135.

⁵³ Bruun 1991, 140-142, 149, Favro 1996, 44, 100-102, 128, 132, 134-135, Taylor 2000, 152-154.

⁵⁴ Bruun 1991, 140-142.

imperial gift of a private water concession was therefore a coveted award. Christer Bruun has noted that the water supply was as important as “bread and circuses” and Frontinus himself proudly asserts that his position as *curator aquarum* “concerns both the needs and health of the city, and even its safety [...]”.⁵⁵ Water was also an important source of entertainment when used for public baths and spectacles.

In Frontinus’ time various categories of water use existed: *nomine Caesaris*, *usus privati* and *usus publici* (subdivided into *castra*, *opera publica*, *munera* and *lacus*).⁵⁶ Agrippa seems to have created this categorization, a system of reserving a certain percentage of the water for the public, with the emperor providing water grants to private individuals (*beneficio principis*) as a special privilege.⁵⁷ Agrippa and Augustus therefore planned from the start to use a sizeable portion of the water supply for euergetic purposes, and created an administrative system in which they could exercise maximum control of Rome’s water resources while still retaining a fair amount of flexibility over what kinds of public or private gifts they chose to make with water. By supplying the city with many new fountains and basins, Agrippa and Augustus created a visible reminder of their generous gift of water to the public.⁵⁸

AGRIPPA AS A BUILDER

Although Agrippa had been awarded three triumphs, he turned all of them down; instead he chose to commemorate his achievements through public buildings, many of which involved

⁵⁵ Front. 1.1. “[...] ad usum tum ad salubritatem atque etiam securitatem urbis pertinens [...]”, Bruun 1991, 140-142, Geissler 1998, 58-59.

⁵⁶ Front. 78-86, Evans 1994, 8-12.

⁵⁷ Front. 3.2, 69.6, 74.4, 98.8, 105.1, 118.1-3, Bruun 1991, 140-142, Evans 1994, 8-12, Geissler 1998, 58-59.

⁵⁸, Evans 1982, 401-411, Roddaz 1984, 295-298, Longfellow 2011, 19-21.

water in a prominent fashion. Shipley notes that he probably got the funds for these from his share of the enormous spoils gained through his victories; Agrippa was therefore following the time-honored Republican tradition of investing the spoils of war in public buildings and infrastructure.⁵⁹ Shipley notes how sharply Agrippa's willingness to accept a minor position and dedicate himself to such humble issues as sewage contrasted with Augustus' political rivals such as Antony.⁶⁰ Cassius Dio (53.23) favorably remarks on Agrippa's modesty and rejection of glory, and notes that his buildings were genuinely useful to all. Dio also remarks on the fact that Agrippa collaborated closely with Augustus (rather than competing for his own renown) and reinvested any benefit he gained himself back into the good of the state.⁶¹ His actions therefore sent a powerful political message: to Agrippa, and by extension Augustus, the public welfare and the reconstruction of Rome were a greater priority than personal power or glory.⁶² Agrippa's choice of projects and modest behavior served as an example to others, but also sent the message that he and Augustus were creating a Golden Age while still honoring Republican roots.⁶³ It is clear why Dio (52.2-40) cast Agrippa as pro-Republican in his famous fictional discourse between Agrippa and Maecenas: Agrippa's choice of commissions and behavior as a benefactor were geared mostly towards the non-elite segments of the Roman population, but they benefitted the populace as a whole.⁶⁴ His gardens and baths promoted Augustus' fictional concept of the "*populus Romanus universus*", which encouraged the people of Rome to self-

⁵⁹ Shipley 1933, 9-13, 19-21, 84-85, Roddaz 1980, 948-949, Zanker 1990, 137-143, Favro 1996, 111-112, 133-140.

⁶⁰ Shipley 1933, 9-13, 19-21, 84-85.

⁶¹ Dio 53.23, Favro 1996, 118-120, Eck 2003, 77-84.

⁶² Dio 53.23, Shipley 1933, 9-13, 19-21, 84-85, Roddaz 1984, 231-298, Manning 1985, 73-74, Favro 1996, 111-112, 118-120, 133-140, Norena 2001, 160.

⁶³ Shipley 1933, 9-13, 19-21, 84-85, Roddaz 1984, 231-298, Manning 1985, 73-74, Norena 2001, 160.

⁶⁴ Dio 52.2-40, Kuhlmann 2010, 109-121, Adler 2012, 477-520.

identify with this cohesive concept, bridging social and geographical gaps.⁶⁵ Dio and Pliny the Elder enthusiastically list further examples of Agrippa's largesse, which included sponsoring free baths and barbers, games and spectacles, and free raffle tickets that could be exchanged for practical goods such as clothing and food. He also added some decorative yet practical touches to the Circus Maximus, most notably the dolphin- and egg-shaped lap markers on the *spina*.⁶⁶ Agrippa owned a large plot of land in the Campus Martius and most of his buildings were located there, completing Augustus' grand new scheme for this part of the city.⁶⁷ The Campus Martius was also where traditionally military exercises had been held, and where the *comitia centuriata* assembled to vote. The *comitia tributa* had originally met here only exceptionally, but over the course of the first century BCE, as space became more limited in the Forum, it too voted in the Campus Martius more often than not.⁶⁸

The remodeled area was famous in antiquity for its beauty and luxury, and combined a series of buildings and gardens that were frequently experimental and novel in design and function.⁶⁹ Agrippa was willing to experiment with new ideas and building forms, creating new types that would become influential; it cannot be emphasized enough how revolutionary and unique the entire complex was for its time.⁷⁰ His building program in the Campus Martius area promoted an inclusive cultural and intellectual policy; he made luxurious gardens and priceless works of art, which had previously been the exclusive domains of the rich, accessible to

⁶⁵ Eder 2005, 28.

⁶⁶ Dio 49.43, 53.23, Pliny, HN. 36.121, Shipley 1933, 9-13, 19-21, 84-85, Roddaz 1980, 948-949, Zanker 1990, 137-143, Favro 1996, 111-112, 133-140.

⁶⁷ Shipley 1933, 37-47, Roddaz 1984, 244-276, Zanker 1990, 139-143, Albers 2013, 99-134.

⁶⁸ Millar 1998, 16-17, 25, 150-153, 176, Mouritsen 2001, 26-30.

⁶⁹ Strabo 5.3.8, Shipley 1933, 37-47, Roddaz 1984, 244-276, Zanker 1990, 139-143, Coarelli 1996, 3-11, LTUR 1995 I p.220-224 s.v. Campus Martius.

⁷⁰ Shipley 1933, 37-47, Roddaz 1984, 244-276, Zanker 1990, 139-143, Favro 1996, 160-161.

everyone.⁷¹ Pompey had begun to systematically develop the Campus Martius and to create public gardens in the portico attached to his theatre. Agrippa drew from this model, but Pompey's gardens did not match Agrippa's new project in scale or open concept. Pompey's Portico, although intended to be open to everyone, had more limited entrances and originally included meeting rooms set aside for the senate.⁷² Because of this the entire space may have had something of an exclusive and upper class air, and a plebeian from the Subura may not have felt entirely at ease entering this space, even if there was nothing to officially exclude him. The "boni" and other members of the upper class likely felt much more at home in the Portico of Pompey and took more advantage of it.⁷³ Under the second Triumvirate the space was renovated and the more obviously political aspects of Pompey's sculptural program were toned down. Octavian and his colleagues had the *curia* where Caesar was assassinated bricked up and installed substantial public latrines.⁷⁴ These were certainly useful for theatre goers during intermission, but they may also have been an attempt to make the space less elite and more accessible.

Zanker calls Agrippa's public leisure complex in the Campus Martius "a villa for the masses." Even the urban poor could now experience and enjoy the luxuries of the elite free of charge.⁷⁵ Agrippa promoted the idea that the general populace should have access to means of

⁷¹ Roddaz 1984, 244-252, Zanker 1990, 139-143.

⁷² Coarelli 1971-72, 99-122, Grimal 1969, 173-178, Gleason 1990, 9-13, Coarelli 1990, 296, LTUR 1995 IV p.148-150 s.v. Porticus Pompei (Gros, Sabbatini Tumolesi), Kuttner 1999, 343-373.

⁷³ Coarelli 1990, 296, Gleason 1990, 9-13, LTUR 1995 IV p.148-150 s.v. Porticus Pompei (Gros, Sabbatini Tumolesi), Kuttner 1999, 343-373. The Portico was clearly popular with the upper classes and the well-educated, if we can judge by the number of poets who wrote about it, often in a highly allusive manner.

⁷⁴ Gleason 1990, 9-13, Kuttner 1999, 343-373, LTUR 1995 IV p.148-150 s.v. Porticus Pompei (Gros, Sabbatini Tumolesi).

⁷⁵ Zanker 1990, 139.

cultural enrichment. He spoke out against private art collections that jealously hid famous masterpieces from view and his buildings were lavishly outfitted with famous works of art from his own vast collection.⁷⁶ Agrippa's buildings eclipsed Pompey's adjacent theatre and portico and transformed this area of the Campus Martius into a new focal point of the city (fig. 2.3 and 2.4). A series of devastating fires during the first century CE and heavy building activity during the Middle Ages and Renaissance destroyed or obscured much of Agrippa's work. Many buildings were rebuilt or extensively renovated multiple times, therefore even if more substantial archaeological remains are known, it is difficult to say to what extent they reflect his original plan. Due to the experimental and unique nature of many of his buildings precise reconstructions are not always possible.⁷⁷

Agrippa completed the Saepta Julia, left unfinished at Julius Caesar's death, and also built the adjacent and functionally related Diribitorium, famous for the span of its roof and used for various functions, including gladiatorial and other spectacles.⁷⁸ Other famous monuments of his which scholars place in this general area were the *Porticus Argonautarum* and the *Basilica Neptuni*.⁷⁹ There is some uncertainty as to their exact nature and location: the former was possibly part of the Saepta, and the latter has been tentatively identified as the large building located to the south of the Pantheon, joining it to the Baths of Agrippa. Both are usually

⁷⁶ HN, 34.62, 35.26, 36,32, Roddaz 1984, 244-252.

⁷⁷ Shipley 1933, 37-47, Roddaz 1984, 244-276, Zanker 1990, 139-143, Yegül 1992, 133-137.

⁷⁸ Dio 53.23, Coarelli 1980, 269, 278, 296, Coarelli 1990, 296, LTUR 1995 IV p.228-229 s.v. Saepta Julia (Gatti), LTUR 1995 II p.17-18 s.v. Diribitorium (Torelli), Mouritsen 2001, 26-30.

⁷⁹ Dio 53.23, 53.27, Roddaz 1984, 259, Cordischi 1990, 11-33, LTUR 1995 IV p.118-119 s.v. Porticus Argonautorum (Guidobaldi), LTUR 1995 I p.182-183 s.v. Basilica Neptuni (Cordischi).

interpreted as celebrating Agrippa's famous naval victories and housed public art collections.⁸⁰ The attention lavished on Caesar's Saepta is noteworthy; it was the traditional site of voting for the Roman assemblies, the *comitia tributa* and *centuriata*.⁸¹ Caesar had set out to monumentalize it in marble and transform the space completely, but it had been left unfinished at his death.⁸² Completing the building was a poignant symbolic gesture; it suggested a return to the traditions of the Republic and the power of the people, the *populus Romanus*. But as noted, the Roman populace gradually lost more and more of their voting influence; the consuls were now appointed and foreign policy and treaty decisions handled through the senate.⁸³ Elections were, however, still held for minor officials and the *comitia* continued to meet in the Campus Martius and vote until at least the third century CE.⁸⁴ Agrippa was therefore developing a part of the city that the humbler inhabitants of Rome may have identified with as the site of their political power. The Saepta Julia, intended as a monumental voting enclosure and outfitted by Agrippa and Augustus as a luxurious multipurpose space, was not just open to the public, but intended for it. Placing the *Thermae* in the immediate vicinity of the voting enclosure further emphasized that they were intended for everyone, not just the better off. It also underlined the advantages of the new regime: some concessions had to be made, but the advantages and recompenses for no longer having a hand in, for example, electing the consul, were

⁸⁰ Dio 53.23.1, 53.27.1, Roddaz 1984, 256-260, 270-271, Zanker 1990, 139-143, Cordischi 1990, 11-33, LTUR 1995 I p.182-183 s.v. Basilica Neptuni (Cordischi), LTUR 1995 IV p.118-119 s.v. Porticus Argonautorum.

⁸¹ Millar 1998, 16-17, 25, 150-153, 176, Mouritsen 2001,26-30.

⁸² Shipley 1933, 37-40, Coarelli 1996, 269, 278, 296, Millar 1998, 16-17, 25, 150-153, 176, Mouritsen 2001,26-30.

⁸³ Millar 1998, 197-226, Eder 2005,13-32.

⁸⁴ Dio 58.20.4, Millar 1998, 197-226. Dio mentions the *comitia centuriata* still meeting, he does not seem to consider this fact unusual.

considerable. For plebeians who had probably never been able to vote, or had not been interested in voting, this must have seemed like a more than fair trade off. For women, who had been excluded from political activity, the new baths and parks must have been a delightful innovation, since they too could participate and profit from them.

Agrippa is also the builder of the original Pantheon. It had strong associations with Augustus and celebrated him and Agrippa alongside the principal gods of Rome; in essence it served as a veiled reference to his ruler cult. By placing his *thermae* in the immediate vicinity of a building that celebrated Augustus and his new order Agrippa was underlining and showcasing the positive impact of the new ruler of Rome.⁸⁵ Agrippa also started a tomb for himself (which was never used) and built a new bridge across the Tiber that linked his vast private holdings of land on both banks of the Tiber; at least some of this was accessible to the public already during his lifetime.⁸⁶ His famous map of the known world was exhibited in the Porticus Vipsaniae, built in his sister's name.⁸⁷ In keeping with his other utilitarian projects he sponsored the construction of a series of massive warehouses, probably connected with the administration of the *annona*, along the northwest side of the Palatine.⁸⁸ In the forum itself he rebuilt and embellished the Lacus Servilius with a famous bronze sculpture of a hydra.⁸⁹

⁸⁵ Dio 53.27, Shipley 1933, 55-65, Roddaz 1984, 252-278, Loerke 1990, 30ff., Zanker 1990, 141-142, Wilson-Jones 2009, 69-89, Albers 2011, 127-129.

⁸⁶ Dio 58.28.5, Coarelli 1996, 549-53, 553f. Taylor 2000, 146-149.

⁸⁷ Dio 55.8.3-4, Shipley 1933, 73-77, Roddaz 1984, 291-298, 573-587, LTUR 1995 IV p.151-153 s.v. Porticus Vipsaniae (Coarelli).

⁸⁸ Roddaz 1984, 294-295, LTUR 1995 III p.37-38 s.v. Horrea Agrippiana.

⁸⁹ Fest. 372L, HN 36.121. LTUR 1995 III p.172-173 s.v. Lacus Servilius (La Regina)

AGRIPPA'S WORK ON THE AQUEDUCTS

There is some uncertainty pertaining to the exact chronology of Agrippa's work on the aqueducts. Dio (49.49) indicates that his work on the Aqua Julia began as early as 40 BCE, when he was praetor. Frontinus (1.9) dates the Aqua Julia to 33 BCE, and Pliny (36.121) seems to confuse the dates of the Aqua Virgo and the Aqua Julia because he dates the former to 33 BCE instead of 19 BCE.⁹⁰ During his term as aedile in 33 Agrippa renovated all of the preexisting aqueducts and completely reworked the Aqua Tepula.⁹¹ He tapped new springs to improve the water quality and essentially made it a supplemental line to his new Aqua Julia; both flowed into the same *piscina*. Each still nominally had its own *specus*, but the water in each was a mixture from both sources. Neither the Tepula nor the Julia had its own arcades, but instead ran along the top of the Aqua Marcia with the Julia occupying the highest level.⁹² Augustus built the Porta Tiburtina, a monumental arch to be discussed in more detail below, around 5 BCE, where the arcades crossed the Via Tiburtina. The Julia had a fairly high elevation and volume, but Evans notes that it was distributed through the city less widely than one might expect.⁹³ He suggests that the line was mostly intended for the supply of the eastern part of the city, especially Augustus' new projects in the Forum area and the Porticus Liviae.⁹⁴ By increasing the amount of water available and expanding the distribution system within the city, Agrippa made the water supply more efficient and more reliable. A new network of *castella* also made the water supply easier to control because water could be redirected to different parts of the city as the need

⁹⁰ Dio 49.49, Front.1.9, HN 36.121, Shipley 1933 26-28, Evans 1982, 406-408.

⁹¹ Front. 8.1-2, 18 and 19, Evans 1982, 403-406.

⁹² Shipley 1933, 13-15, 24-34, Evans 1994, 95-98, 99-103, Taylor 2000, 132-146.

⁹³ Evans 1994, 99-103.

⁹⁴ Evans 1994, 102.

dictated.⁹⁵ The massive number of new fountains and basins he added, 700 *lacus* and 500 *salientes* according to Pliny the Elder, improved access to water and also proudly advertised Agrippa's impressive achievements.⁹⁶ Many of these new public fountains were embellished with marble or bronze sculptures; they were welcome public amenities that improved access to clean, healthy water, but also beautified the city and created new neighborhood landmarks.⁹⁷

The Aqua Virgo, completed in 19 BCE, primarily supplied Agrippa's ambitious new building programs in the Campus Martius; as much as 60% of its total volume may have been intended for Agrippa's baths, lake and Euripus.⁹⁸ It also delivered water to various other areas of the city, especially those that previously had a limited supply. The Virgo in essence expanded and supplemented the network and distribution system already started with the construction of the Julia and the improvements to the Marcia and the Tepula.⁹⁹ It increased the amount of water available in several districts and particularly the Transtiber area, which it supplied via Agrippa's new bridge over the Tiber. The Virgo tapped springs about 12 km outside of Rome in the hills off the Via Collatina and was famous for its high-quality water and cool temperature. The aqueduct ran underground for most of its course, sweeping around the urban area to the north in a wide arc. It finally tunneled through the Pincian Hill from where it continued to the Campus Martius on a series of arches, Rome's first significant intra-urban aqueduct arcade,

⁹⁵ Shipley 1933, 13-15, 24-34, Evans 1994, 95-98, 99-103, Taylor 2000, 132-146.

⁹⁶ Pliny presumably uses "*lacus*" to describe the catch basins and "*salientes*" for the standpipes and water supply. Some caution is also necessary with the exact numbers: not all manuscripts agree and the figures are rather too perfectly round. The argument stands, however, that Agrippa added a large number of visible and easily accessible fountains all through the city.

⁹⁷ Plin. *HN*. 36.24.121, Shipley 1933, 13-15, 24-34, Evans 1994, 95-98, 99-103, Taylor 2000, 132-146, Longfellow 2010, 19.

⁹⁸ Front. 19, Shipley 1933, 31-34, Evans 1994, 105-109.

⁹⁹ Front. 10-22, Evans 1994, 105-109.

which ended near the Saepta Julia. A branch line, probably below ground, then continued to Trastevere via the *Pons Agrippae*.¹⁰⁰ The arcade was not particularly high and only ran for several hundred meters, but it must have been an impressive sight just the same. Successive interventions make it difficult to judge its original appearance; the Claudian reconstruction was certainly monumental and ornamental.¹⁰¹ Rising above most of the buildings in the area and sweeping down the hillside towards the Campus Martius, it was highly visible and defined the boundary between “old Rome” and the “new Rome” of Augustus.¹⁰² It formed an important new landmark for the area and it is therefore likely that Agrippa, like Claudius after him, used choice materials like travertine and marble (rather than more utilitarian tufa) and an elegant, distinct design for the arcade. After all, it served to remind the viewer of his achievements in the re-organization of Rome’s water supply.¹⁰³

THE THERMAE AGRIPPAE: CREATING A NEW STANDARD

A fairly accurate reconstruction of the Thermae Agrippae is possible, but it is important to note that the known remains date to various later rebuilding phases. The original Baths of Agrippa were severely affected by the great fire under Titus, but were quickly rebuilt, and were extensively renovated under Hadrian and again in the Severan era.¹⁰⁴ The great remains of a rotunda still visible in the Via della Ciambella date to this Severan phase, but the original

¹⁰⁰ Front. 10-22, Evans 1994, 105-109.

¹⁰¹ Ashby 1935, 174-182, Evans 1994, 105-109, Nicolazzo 1999, 74-78, Osgood 2011, 92-96, 180-182.

¹⁰² Front. 10-22, Roddaz 1984, 277-290, Favro 1996, 5-6, 101, 268-269.

¹⁰³ Front. 10-22, Shipley 1933, 31-34, Ashby 1935, 174-182, Evans 1994, 105-109, Favro 1996, 5-6, 101, 268-269, Nicolazzo 1999, 74-78, Taylor 2000, 146-154, Rodgers 2004, 174-175, Osgood 2011, 92-96, 180-182.

¹⁰⁴ Hülsen 1910, 12-35, Roddaz 1984, 279-282, Yegül 1992, 133-137, Yegül 2010, 105-107.

building likely already included a large vaulted space of this type, which would have made it one of the earliest large-scale domes in Rome.¹⁰⁵ The general layout of the baths can be reconstructed with the aid of a few limited 19th century excavations and a fragment of the Severan Marble Plan (fig. 2.5) found in 1900 and drawings done by Palladio. Hülsen has shown that these all correspond with each other remarkably well in scale and detail.¹⁰⁶ The building shown on the Marble Plan must reflect the Baths of Agrippa as they looked during the Severan period, after they had been rebuilt several times already. Yet with their asymmetrical plan (fig. 2.6 and 2.7) and crowded succession of rooms they resemble an extremely enlarged private bath building, rather than any examples of later imperial baths, which feature rigid symmetry and a duplication of key amenities. Many architectural devices improving efficiency and crowd circulation that are found in imperial baths from at least the reign of Trajan onward do not yet appear in the plan of the Baths of Agrippa, which suggests that they were in fact re-built fairly faithfully along the lines of the original plan of the late first century BCE, rather than completely redesigned to reflect new developments in bath architecture.¹⁰⁷ The *Thermae Agrippae* were Rome's first monumental public baths and thus constituted a new form of public building; no standard plan or solution had been developed yet and their layout is therefore unique and experimental. The large circular room was probably a meeting space and unlike later rotundas such as the one in the Baths of Caracalla, it was not heated. The dome of the Baths of Agrippa

¹⁰⁵ Hülsen 1910, 12-35, Roddaz 1984, 279-282, Yegül 1992, 133-137, Lancaster 2005, 156-158, 195-196, Yegül 2010, 105-107.

¹⁰⁶ Hülsen 1910, 12-35, Roddaz 1984, 279-282, Yegül 1992, 133-137, Brundrett and Simpson 1997, 220-227, Yegül 2010, 105-107.

¹⁰⁷ Taylor, personal communication. Hülsen 1910, 12-35, Roddaz 1984, 279-282, Yegül 1992, 133-137, Brundrett and Simpson 1997, 220-227, Ball 2003, 232-238, Yegül 2010, 105-107, 133-137.

seems modest when compared to later examples, but at the time it must have seemed truly spectacular.¹⁰⁸

Dio informs us that the first phase of the baths dates to 25 BCE and that they originally consisted of a *laconicum*, which is usually identified as a sweat bath of a type often found in Greek gymnasia. The surrounding gardens could be used for exercise and recreation.¹⁰⁹ This stage pre-dates the Aqua Virgo and therefore rather than offering full bathing facilities probably made more modest use of water in the form of basins from which visitors could splash themselves while they used the sweat rooms. Since the Campus Martius was traditionally associated with military exercises, a sweat bath, a frequent feature in Greek gymnasia, which were also used for military training, was a fitting addition to the area. The baths were then expanded, presumably around 19 BCE once the Aqua Virgo was built.¹¹⁰ Ancient descriptions praise the lavishness and taste of the decoration, which included the original of Lysippus' *Apoxyomenos*, paintings, molded ceilings, mosaics and extensive use of marble.¹¹¹

Agrippa's baths were not the first public baths in Rome: those owned by private individuals and run as businesses had existed in Rome since at least the mid first century BCE and continued to exist for centuries. Generally speaking these types of establishment tended to be small and architecturally integrated into the urban fabric that surrounded them; few could have had enough space to include much in the way of exercise areas or gardens. But the

¹⁰⁸ Yegül 1992, 133-137, Brundrett and Simpson 1997, 220-227, Lancaster 2005, 156-158, 195-196, Yegül 2010, 105-107.

¹⁰⁹ Dio, 53.27, 54.29, Roddaz 1984, 278-279, Zanker 1990, 139-142, Yegül 1992, 133-137, Brundrett and Simpson 1997, 220-227, Lancaster 2005, 156-158, 195-196, Yegül 2010, 105-107.

¹¹⁰ Roddaz 1984, 278-279, Zanker 1990, 139-142, Yegül 1992, 133-137, Yegül 2010, 105-107.

¹¹¹ Pliny NH 34.62, 35.26, 36.189, Dio, 52.27.1, Roddaz 1984, 278-279, Zanker 1990, 139-142, Yegül 1992, 133-137, Brundrett and Simpson 1997, 220-227, Yegül 2010, 105-107.

Thermae Agrippae were the first state-owned baths of the city and therefore set a revolutionary new example that many subsequent emperors would embrace and follow.¹¹² Their scale and luxury was at the time without precedent. The gardens, art collections, meeting rooms and general leisure space gave them a multifunctional and cultural aspect not found in simpler Greek baths, which were firmly connected to gymnasias and exercise and were used mostly by young men. Agrippa's new baths in contrast were open to all members of the public, regardless of gender, age or economic status, and invited them to relax and explore the surrounding gardens and amenities at their leisure. Exercise was not a prerequisite. Agrippa willed the baths to the people and made provisions for their maintenance, ensuring that entrance was free for posterity.¹¹³

The *Thermae* with their large, airy and light-filled spaces must have been an extraordinary experience for Romans used to living in cramped, dark and filthy conditions.¹¹⁴ A large portion of the population of Rome had never had much in the way of a political voice; even those that did have the right to vote in the assemblies could find attending a challenge, and their vote may have counted for little.¹¹⁵ For many Romans, male and female, the construction of the *Thermae* of Agrippa and the surrounding parkland may have been the first time that they actually felt that someone did care about their existence and wellbeing. Elite rhetoric of the late Republic often revealed a marked disdain for the poor, or just the non-elite, who were all

¹¹² Zanker 1990, 139-142, Yegül 1992, 133-137, Brundrett and Simpson 1997, 220-227, Yegül 2010, 101-107.

¹¹³ Zanker 1990, 139-142, Yegül 1992, 133-137, Brundrett and Simpson 1997, 220-227, Yegül 2010, 101-107.

¹¹⁴ Scobie 1986, 399-433.

¹¹⁵ Mouritsen 2001, 4-17,23, 36-37,128-130, 195.

lumped together as rabble, regardless of actual income or profession. There was little communication between social strata, and elite bias suggested that the poor were morally inferior.¹¹⁶ Moderately prosperous artisans and shopkeepers, who worked hard for their living and were proud of their achievements, must have been particularly offended by this prejudice.¹¹⁷ Agrippa's baths offered amenities that the rich, moderately well-off, and poor could all take advantage of and did not show any elite prejudice towards the lower orders. The poor were offered a welcome escape from their daily drudgery and squalor and the free access was permanent, not just a temporary relief. The grand baths offered a pleasant and respectable place to socialize, and the positive environment was more amenable to peaceful and constructive conversation and sentiment than a dingy tavern or overfilled tenement. Even slaves, if they were lucky enough to get a few hours off, could attend. The wealthier members of society, including the "*boni*" who had lost most political influence, could equally enjoy the beautiful spaces, discuss the rich sculptural decoration and attend lectures and readings at the baths.

Even after the appearance of the magnificent larger baths of Nero, Titus, Trajan and Caracalla, the Baths of Agrippa remained popular and continued to be widely praised. The combination of luxurious bathing, green space and a program of cultural offerings is a key aspect of Roman imperial baths that already appears in these baths.¹¹⁸ They set a new standard and provided entertainment and leisure space, but also fulfilled a vital hygienic function. Subsequent

¹¹⁶ Mouritsen 2001, 38-62, 134-135, 139-141, Knapp 2011, 13-16. Cicero is full of such prejudice, e.g. Cic. *Agr.*2.70-1. Att. 1.16.11, 1.19.4, *De or.* 1.118.

¹¹⁷ Knapp 2011, 13-78.

¹¹⁸Roddaz 1984, 278-282, Zanker 1990, 139-142, Yegül 1992, 133-137, Yegül 2010, 101-107.

emperors realized the value of Agrippa's prototype and increasingly large, complex and lavish baths became an important part of imperial social policy. Grand baths were the perfect form of imperial benefaction because they could fulfill so many functions and offer a wide assortment of benefits that profited all levels of society. The gesture of sponsoring a bath building was also particularly valuable because the donor could hardly be accused of selfish motives.¹¹⁹

THE STAGNUM AGRIPPAE

Transforming marginal land into beautiful public parks and opening previously private *horti* up to the public was an important feature in Augustus' urban transformation process (fig.2.3 and 2.4). Many of his major buildings, for example the Temple of Apollo on the Palatine and his Mausoleum, included ornamental gardens accessible to the general public. During his reign Augustus inherited, confiscated or acquired many of these private gardens and parks and opened them to the public. Agrippa's transformation of the northern Campus Martius from a plain field into an elaborate park fits well with Augustus' general strategy.¹²⁰

One of the greatest innovations in Agrippa's complex is the central role that water played in the overall landscaping scheme. Many of the individual features of the gardens surrounding his baths have antecedents in the gardens and parks of Hellenistic royalty and the Roman elite that emulated them, but the sheer scale of the water features and their combination with a public bath building was a novelty.¹²¹ The famous *paradeisoi* of Hellenistic monarchs used enormous peristyles to frame vistas and create terraces to capture views over

¹¹⁹ Roddaz 1984, 278-282, Yegül 1992, 133-137, Yegül 2010, 101-107.

¹²⁰ Grimal 1969, 180, Roddaz 1984, 282-291, Favro 1996, 177-180.

¹²¹ RoddGrimal 1969, 18, Roddaz 1984, 278-282, Gros 1996, vol II 237-233.

the landscape. Fountains, pools and elaborate pavilions were important decorative features and allowed Hellenistic monarchs to show off their resources. Unlike Roman rulers they did not have to fear representing themselves as divine, and the wonders of their gardens helped them enhance that image.¹²² Agrippa's garden included not just shady groves, porticoes and plantings dotted with sculptures and fountains, but also a substantial artificial lake (fig. 2.8), the *stagnum Agrippae*, and an artificial canal or river, the Euripus (fig. 2.4).¹²³ No other Greco-Roman city could offer a comparable structure and certainly not in a completely public urban area. The closest analogy to the *stagnum Agrippae* comes from the Lower Herodion of King Herod in Judea, which was built between 23 and 15 BCE and is therefore roughly contemporary with the *stagnum*, which was completed in or around 19 BCE (fig. 2.9).¹²⁴ Agrippa and Herod were close personal friends and many design parallels between Herod's palace complex in Jericho and Agrippa's Villa Farnesina can be observed. The exchange of ideas and architectural inspiration likely ran both ways and inspired the unique design of the artificial lake in the heart of Rome. Agrippa was treating the Roman public to a magnificent royal garden right in the heart of the city which they were free to use at their leisure.¹²⁵

The *stagnum* was probably rectangular and was surrounded by a portico: an excavated section of the basin and two fragments of the Marble Plan help delineate its southeastern

¹²² Winter 2006, 207-218. See also Wallace-Hadrill 1998, 1-12, Champlin 1998, 335.

¹²³ Grimal 1969, 18, Roddaz 1984, 278-282, Zanker 1990, 139-142, Yegül 1992, 133-137, Yegül 2010, 101-107.

¹²⁴ Netzer 1991 and 2006, Roller 1998, Cariou 2009, 206-209. Josephus describes the palace complex in some detail in War 1.21.10; Antiquities 14.13.9.

¹²⁵ On their friendship see Dio 53.27.5. Taylor, personal communication, Netzer 1991 and 2006, Roller 1998, Cariou 2009, 206-209, Taylor 2013, Forthcoming "Herod". The Herodium pool served as a display, as well as a reservoir to irrigate extensive gardens. It may also have been used for swimming and boating in small leisure craft.

corner and its southern and western limit (figs. 2.8 and 2.10). How far it extended to the north is less clear.¹²⁶ The exact dimensions are hotly debated, but that it was of substantial size we learn indirectly from Tacitus, who notes that during a grand feast given by Tigellinus large numbers of rafts were floated on the *stagnum* and various larger boats were towed about.¹²⁷ To accommodate all of this, the *stagnum* clearly was more than just a pond; modern estimates based on the marble plan and excavated sections range from a length of 150 to 300m and a width of 150 to 180m.¹²⁸ The *stagnum Agrippae* disappears from the record by the late first century CE; it was probably badly affected by the great fire under Titus and was filled in and reutilized.¹²⁹ The outlines still appear on the Severan Marble Plan; these probably represent the original perimeter wall made of rusticated peperino blocks, parts of which have been excavated, and which remained in place even after the area ceased to be a lake. Excavations reveal that a colonnaded portico continued to exist long after the water feature was given up and was renovated several times.¹³⁰

In 1936/37 part of the enormous basin was discovered between the Via del Melone and the Corso del Rinascimento (fig. 2.10); about 60 meters of this basin can be traced. The bottom was formed by a 0.6 m thick layer of *cocciopesto*; the basin walls were 1.92 m high and consisted of a 0.6 m layer of waterproof cement backed by a 1.10 m tufa wall, with an additional

¹²⁶Roddaz 1984, 282-291, LTUR 1995 IV p. 344-45, p.511, s.v. *Stagnum Agrippae*, Fig. 170, p.512, fig.171 (Buzzeti), Coarelli 1996, 18, 125, 295-296, 550, Favro 1996, 177-180, Scaroina 2006, 37-39, 43-61, Cariou 2009, 200-206, Albers 2011, 268.

¹²⁷ Tac. Ann. 15.37, Favro 1996, 177-180, Scaroina 2006, 34-39, 44, Cariou 2009, 200-206.

¹²⁸ Roddaz 1984, 282-291, LTUR 1995 IV p. 344-45, 511, s.v. *Stagnum Agrippae*, Fig. 170, 512 fig.171 (Buzzeti), Favro 1996, 177-180, Coarelli 1996, 18, 125, 295, 550, Scaroina 2006, 43-61, Cariou 2009, 200-206.

¹²⁹ Roddaz 1984, 282-291, Scaroina 2006, 37, 43-61, Cariou 2009, 200-206.

¹³⁰ Roddaz 1984, 282-291, Coarelli 1996, 295-296, Scaroina 2006, 37-39, 43-61, Cariou 2009, 200-206.

spur wall running along the lower outside edge, probably for extra stability and to prevent leaking into the ground.¹³¹ In comparison, the pool of the Lower Herodion measured 69.2 by 45.5 meters and was almost 3 meters deep. This pool contained a small, round island with an architectural feature. Whether the *stagnum Agrippae* included anything similar is unknown because the central area is heavily built up and has not been systematically explored.¹³² The fragmentary remains of two water channels were found in the same 1936/37 excavation; both entered obliquely from the west and discharged onto the floor of the lake.¹³³ These could be part of the Aqua Virgo, or possibly they helped drain the surrounding terrain by leading the ground water into the *stagnum*. Scaroina notes that these remains are not necessarily Augustan, but may date to a later restoration; a water feature of this type probably required constant maintenance.¹³⁴

Cariou, combining all available evidence, estimates that the *stagnum Agrippae* measured about 194 m in length and was roughly 142 m wide, but Scaroina argues that excavations carried out in 2001 in the area between Teatro Valle and Via Monterone prove that the *stagnum* did not extend as far east towards the Baths of Agrippa as had always been assumed (fig. 2.11).¹³⁵ The excavation uncovered 12.5 m of a section of wall (fig.2.12), which runs on a north-south axis and seems to continue further along this line. It consists of a row of tufa blocks supporting a wall of large travertine blocks, which were intentionally rusticated and

¹³¹ Roddaz 1984, 282-291, LTUR 1995 IV p. 344-45, 511, s.v. Stagnum Agrippae, Fig. 170, 512 fig.171 (Buzzeti), Scaroina 2006, 43, Cariou 2009, 200-206.

¹³² Cariou 2009, 207, Taylor 2013, Forthcoming "Herod."

¹³³ Roddaz 1984, 282-291, LTUR 1995 IV p. 344-45, 511, s.v. Stagnum Agrippae, Fig. 170, 512 fig.171 (Buzzeti), Cariou 2009, 200-206.

¹³⁴ Roddaz 1984, 282-291, Scaroina 2006, 43-61, Cariou 2009, 200-206.

¹³⁵ Scaroina 2006, 37, 43-61, Cariou 2009, 200-206.

have distinctly beveled edges reminiscent of examples of First Style wall painting, suggesting that this side of the wall was meant to be visible. Scaroina notes that there are other faint traces of architectural decoration but he does not specify if the decorated side faces the east (the outside of the basin) or the west (the inside of the basin). The maximum preserved height is 4.45 meters and clamps, now robbed out, held the blocks in place.¹³⁶ Scaroina interprets this wall as part of the original perimeter wall and therefore the eastern limit of the *stagnum*, which would mean that it was considerably narrower than previously assumed, perhaps 210 m in length but only 90 m in width. According to Scaroina this would put the capacity of the lake at around 19,000 cubic meters, whereas usual estimates put it at around 53,000 cubic meters. Scaroina's interpretation would also place the eastern edge of the lake further away from the bath complex than previously assumed.¹³⁷ He argues that his reconstruction helps accommodate a road known to have been originally in the area that would have been destroyed if the *stagnum* was indeed as wide as previously thought. He further argues that traces of the narrower *stagnum* can still be seen in the modern street plan.¹³⁸

There are a number of problems with this interpretation: the wall is clearly present and quite substantial, but no date is suggested for it, and establishing a precise one is difficult because groundwater infiltration made excavations beneath the foundations impossible. The masonry style itself is not easily datable. Notably Scaroina does not mention any traces of waterproof mortar or a basin floor, not even a deposit of clay. The description of the construction technique used for the foundations does not appear suitable for a wall meant to be

¹³⁶ Scaroina 2006, 46-50.

¹³⁷ Scaroina 2006, 43-61.

¹³⁸ Scaroina 2006, 43-61.

submerged and to contain large volumes of water. Waterproof mortar is distinct and is usually readily identifiable and the construction technique is completely different from the remains excavated on the western side of the *stagnum Agrippae*, which prominently featured large quantities of hydraulic cement. This wall could conceivably have been part of an island feature located in the center of the lake; both the Lower Herodion pool and the *naumachia Augusti* included artificial islands. Although an island would not need to be built in the same way as the perimeter walls, one would still expect signs of hydraulic cement and a foundation designed to be submerged, but nothing in Scaroina's description supports this. It is therefore likely that the excavated wall dates to a later phase of the area when the *stagnum* was either filled in and built over, or reduced in size.¹³⁹ R. Taylor suggests that the area was redeveloped following the original orientation of the *stagnum*. This would allow any new structures to harmonize with the pre-existing layout of the area. The *naumachia Augusti* was redeveloped in much the same way after it was filled in; some of the original structures remained in place and were converted into gardens (see below for a full discussion).¹⁴⁰ The most recent excavations undertaken in the area suggest that the *stagnum* was again altered under Nero, who added a portico and gardens. He possibly reduced its size, but since we still have not discovered the eastern margin nothing can be said for certain.¹⁴¹

The general topography in this area is not flat; it gently undulates into small rises and dips, making it difficult to reconstruct exactly the ancient ground level around the basin, but recent research has shown that the *stagnum* was on a small rise. The walls formed a parapet

¹³⁹ Scaroina 2006, 37, 43-61, Cariou 2009, 200-206.

¹⁴⁰ Taylor, personal communication and Taylor 2000, 181-190.

¹⁴¹ Filippi 2010, 39-92.

above ground level and the water level of the *stagnum* was higher than the surrounding ground.¹⁴² This would have increased the water capacity of the *stagnum* and made it an ideal reservoir for irrigating the surrounding gardens, like the pool at the Lower Herodion. The gentle slope of the ground towards the Tiber would have facilitated use and distribution of the water. Taylor suggests that it may even have produced enough pressure for some modest water features.¹⁴³

Scholars usually state that the lake substituted for a *natatio*, which may be the case, but keeping in mind that the Baths of Agrippa were a new prototype, there was no real precedent yet for a bath building equipped with a *natatio*.¹⁴⁴ A deep *natatio* was in fact a fairly unusual feature. Most Romans were poor swimmers and would not necessarily have felt comfortable entering a large body of water almost two meters deep. This entire area of the city is on low ground and scholars have long believed that a swamp, the *palus caprae*, was located in this general area (fig. 2.3).¹⁴⁵ There were originally also two small streams, the *amnis Petronia* and a stream of unknown name (referred to as the aqua Sallustiana in modern sources), which flowed through the general area of the Campus Martius. Tiber floods were also a problem; good drainage was therefore vital to make this zone usable. Recent corings have revealed that the *stagnum* was located on slightly higher ground and that the *palus caprae* must have been

¹⁴² Filippi 2010, 39-92.

¹⁴³ Cariou 2009, 219-226, R.Taylor, personal communication and Forthcoming "Herod."

¹⁴⁴ Lloyd 1979, 195, Taylor 2000, 177-181, Rehak 2006, 10-11, 21-22, Scaroina 2006, 35-36, Cariou 2009, 219-226.

¹⁴⁵ Coarelli 1996, 17-20, Taylor 2000, 177-181, Rehak 2006, 10-11, 21-22, Scaroina 2006, 35-36, Cariou 2009, 219-226, <http://www3.iath.virginia.edu/waters/timeline/index.html>.

located further east.¹⁴⁶ The new results show that the elevation of the *stagnum* placed it above the ground water table and it therefore could not have had a role in regulating and controlling the natural water levels of the north western Campus Martius.¹⁴⁷ This does not, however, exclude it from playing a role in flood management when the Tiber burst its banks, as it frequently did in this area.

The *naumachia* of Julius Caesar illustrates some of the challenges that artificial lakes pose.¹⁴⁸ To avoid the same fate the *stagnum Agrippae* needed a constant flow and exchange of water; otherwise it too would become a foul, disease-ridden morass from the accumulation of sediment, algae and other unwanted intrusions. It needed a supply of fresh water flowing into it at one end and adequate, regulated drainage at the other; both intake and outflow needed to be controllable.¹⁴⁹ Since it continued to exist until at least the mid first century we know that the design of the *stagnum* must have solved those problems satisfactorily, but even with all of these technical problems solved, the lake would still have needed constant maintenance and cleaning to curb the growth of algae. Taylor has proposed a hypothetical drainage and regulation system for the *naumachia* of Augustus (see below) that is equally applicable to the *stagnum Agrippae* (fig. 2.13); the design of the much larger *naumachia* may in fact be based on that of the *stagnum*.¹⁵⁰ According to this model the lake was filled by a canal (supplied with water from the Aqua Virgo and the overflow of the baths) which flowed into it, but also circled around it

¹⁴⁶ Filippi 2010, 39-92.

¹⁴⁷ Coarelli 1996, 17-20, Taylor 2000, 177-181, Rehak 2006, 10-11, Cariou 2009, 219-226, <http://www3.iath.virginia.edu/waters/timeline/index.html>.

¹⁴⁸ Suet., *Jul.* 39. 4, Dio XLIII. 23, XLV. 17, Coleman 1993, 50, Garello, 2004, 115-117, Berlan-Bajard 2006, 13-33, 37-39, Cariou 2009, 29-39, Taylor, forthcoming.

¹⁴⁹ Coarelli 1996, 17-20, Taylor 2000, 177-181.

¹⁵⁰ Taylor 2000, 179-181.

separately (probably below ground) and connected directly to a drainage canal, located at the outlet of the *stagnum*.¹⁵¹ The discharge canal is probably identical with the so-called Euripus. A sluice at the intake and a weir at the discharge made it possible to regulate how much water flowed in and out of the lake and maintained an even water level.¹⁵² This system ensured a regular flow and movement in the water, which prevented stagnation and made it possible to shut off the water supply to the lake entirely when it needed to be drained for cleaning.¹⁵³ The two fragmentary water channels excavated in connection with the *stagnum* basin might represent part of the intake system. Since they would have been below the surface of the lake, they must have been regulated further up their course; they could also have been part of the system that helped drain the surrounding land. Locating the intake channels on the bottom of the lake ensured that the inflowing water circulated the water in the lake from the bottom up, minimizing stagnation and accumulation of algae or sediment on the floor.¹⁵⁴ Locating the *stagnum* on a slightly more elevated part of the Campus Martius also made it possible to completely drain the lake for cleaning. By solving these challenges the *stagnum* admirably showcased the skills of Augustan hydraulic engineering. The large artificial pool in the heart of Rome also served as an impressive visual reminder of Agrippa's largesse because its liquid display referred directly to the enormous volume of fresh water that he had introduced into the city. The large sheet of water gave the viewer a sense of the volume of fresh water introduced and distributed within the city on a daily basis.

¹⁵¹ Taylor 2000, 179-181.

¹⁵² Taylor 2000, 181, personal communication.

¹⁵³ Taylor 2000, 179-181, personal communication.

¹⁵⁴ LTUR 1995 IV p. 344-45, 511, s.v. *Stagnum Agrippae*, Fig. 170, 512 fig.171 (Buzzetti), Taylor 2000, 177-181, Scaroina 2006, 35-36, Cariou 2009, 219-226.

THE EURIPUS

The Euripus, sometimes specifically called the Euripus Virginis, is still poorly understood and there are many questions concerning its appearance, course and function. The *stagnum Agrippae* was of a highly unusual and novel design, but the Euripus was probably unique, which makes reconstructing it difficult. There were other features with the name Euripus in Rome, notably the Euripi in the Circus Maximus built by Julius Caesar around 46 BCE.¹⁵⁵ The North Nymphaeum in the city of Perge in Asia Minor flowed into a shallow open channel, about two meters wide, that ran down the middle of the central avenue for about 400 meters. It had a practical as well as a decorative function since it fed fountain basins along the way. The Perge channel dates to the reign of Hadrian and may have been inspired by the Euripus in Rome; it is the closest parallel to it that we have. Other open channels do exist, but they functioned as open sewers and can hardly be called ornamental. The North Nymphaeum at Perge included a complex sculptural program that made a direct connection between Hadrian and a river god, implying that the emperor was the source of the water. This association likely developed out of the messages Agrippa and Augustus tried to convey more subtly in the late first century BCE.¹⁵⁶ In a private context we can look at examples like the miniature *euripi* in the garden of the House

¹⁵⁵ Suet. *Caes.*39, Plin. *NH* 8.21, Humphries 1985 , 74, 76.

The name Euripus derives from the narrow sea channel between Euboea and the Greek Mainland. The strait is famous for its swift and violent tides that reverse direction roughly every six hours. Caesar's *euripi* ran in a horseshoe formation around three sides of the circus and were about three meters wide and deep, and acted as a barrier between the arena and the spectators. Nero later replaced them with another water feature that ran the length of the *spina* instead. Suet. *Caes.*39, Plin. *NH* 8.21.

¹⁵⁶Mellink 1974, 117-118, Longfellow 2011, 156-158. A similar, if much shorter arrangement also existed in Pisidian Antioch (Longfellow 2011, n. 77 p. 157).

of Octavius Quartio in Pompeii and Pliny's description of his fast flowing banquet pool in his villa at Laurentium.¹⁵⁷

The canal at Perge was impressive, but the Euripus of Agrippa seems to have been longer, deeper, and more elaborate. Ancient sources usually mention it in connection with the *stagnum* and the park surrounding the baths, but these references tend to focus on the pleasantness of the general area and are vague about the exact nature and appearance of the Euripus itself. Martial associated the Euripus with coolness and shade.¹⁵⁸ Seneca and Martial also mention swimming in it. Lloyd interprets this as evidence that the Euripus (and *stagnum*) served as a *natatio* for the Baths of Agrippa.¹⁵⁹ Coarelli interprets an apparently tree-lined feature on the Marble Plan as representing the Euripus. Various archaeological fragments are identified as parts of it.¹⁶⁰ These include a section of a round-bottomed canal (fig. 2.14), constructed of marble, travertine and *cocciopesto*. It was uncovered in 1930 in the area delineated by the Corso Vittorio Emanuele, Via Paola and the Lungotevere degli Altoviti. The excavated portion also included a small marble footbridge. Romanelli notes that other fragments of the same feature had been uncovered as early as 1886. All in all, seven different sections of this canal have been discovered and Romanelli concludes that the primary function of the canal was to aid in the drainage of this low-lying area and to guide excess runoff to the Tiber.¹⁶¹ The recent excavations for Metro Line C have confirmed the course of the canal: it began near the southwestern corner of the *stagnum* and ran approximately northwest, finally

¹⁵⁷ Pliny the Younger, *Ad Gall.* 23.

¹⁵⁸ Dio LIV, 29, Ovid, *Ex Ponto*, I, 8, 37-38, Martial, 5.20.9, 6.42.18, 11.47.5-6, CIL, VI, 29781.

¹⁵⁹ Seneca, *Epist.*, 83, 5, Martial, 11.47.5-6. Lloyd 1979, 195.

¹⁶⁰ Coarelli 1977a, 807-846, Filippi 2010, 59-81.

¹⁶¹ Romanelli 1931, 313-317.

taking a gentle turn to the north and the Tiber (fig. 2.15). The channel is 3.35m wide with a maximum depth of 1.73m at the lowest point of the curving bottom, although the cross section occasionally varies and has more of a flat bottom (fig. 2.15).¹⁶² The quality of the work is high, with carefully cut travertine blocks forming the upper edges of the canal. Parallel to the channel and running on either side of it were low walls of unknown function, built of tufa blocks.¹⁶³ Their presence suggests a role in flood control, or perhaps a safety measure to alert pedestrians of the canal's presence.

Dating the ensemble is difficult. Romanelli suggests an early imperial date for the bridge, and the canal could be contemporaneous or could antedate it; Filippi feels confident that an Augustan date fits.¹⁶⁴ Shipley rejects the identification of this channel with the Euripus, arguing that it is not large enough; instead he suggests this may have been a subsidiary branch of the canal.¹⁶⁵ Lloyd follows this interpretation, noting that the channel “[...] could never have provided the memorable swimming that our ancient sources unanimously record.”¹⁶⁶ The majority of scholars accept that these remains do represent the Euripus, an interpretation which is supported by Frontinus himself who notes that only 460 *quinariae* of the Aqua Virgo, about a fifth of its total capacity, supplied the Euripus; the rest was needed for the baths, the *stagnum* and the supply of Trastevere.¹⁶⁷ Seneca's New Year plunge seems to be a rare special occasion rather than a regular occurrence; there is no evidence that swimming was the primary or

¹⁶² Romanelli 1931, 313-317, Filippi 2010, 59-81.

¹⁶³ Romanelli 1931, 313-317.

¹⁶⁴ Romanelli 1931, 313-317, Filippi 2010, 59-81.

¹⁶⁵ Shipley 1933, 53-55.

¹⁶⁶ Lloyd 1979, 198.

¹⁶⁷ Front. 84, Romanelli 1931, 313-317, Shipley 1933, 53-55, Grimal 1943, 24-30, Coarelli 1977a, 807-846, Lloyd 1979, 193-204, Roddaz 1984, 282-291, Evans 1994, 10, 36, 106, 108-9, 144, Taylor 2000, 177-181, personal communication, Cariou 2009, 219-226.

intended purpose of the Euripus. A large, deep, fast-flowing channel as envisioned by Shipley and Lloyd would have been a safety hazard, especially considering that most Romans probably were not expert swimmers. In truth, we simply do not know what it was for. It may have been purely ornamental, but in all likelihood it had important drainage and maintenance functions in connection with the *stagnum*, an assumption that is addressed in more detail below.¹⁶⁸ Lloyd and Shipley clearly picture a much larger canal; Lloyd notes that based on the ancient sources the Euripus was fast flowing and that “[...]it should have resembled both in size and the nature of its course a considerable stream wandering as if naturally to the river.”¹⁶⁹ Our sources offer nothing specific to support this interpretation, and more importantly, although the Aqua Virgo did have a high volume, it could never have brought in enough water to keep a large, fast flowing channel such as Lloyd and Shipley envisioned, supplied with water. Romanelli’s channel, although relatively modest in size (it is still wider than the comparable channel at Perge), has a larger cross-section than the Aqua Virgo *specus* and therefore could carry more water than the aqueduct. For this reason we must conclude that the Euripus had to have a fairly slow flow velocity because otherwise the entire capacity of the Aqua Virgo could not have kept it filled.¹⁷⁰ Size alone therefore does not disqualify Romanelli’s channel from being the actual Euripus. The flow was probably controlled by a series of weirs (see below) which allowed for a certain flexibility in channel size.¹⁷¹

¹⁶⁸ Romanelli 1931, 313-317, Shipley 1933, 53-55, Grimal 1943, 24-30, Coarelli 1977a, 807-846, Lloyd 1979, 193-204, Roddaz 1984, 282-291, Evans 1994, 10, 36, 106, 108-9, 144, Cariou 2009, 219-226.

¹⁶⁹ Lloyd 1979, 198.

¹⁷⁰ Romanelli 1931, 313-317, Shipley 1933, 53-55, Grimal 1943, 24-30, Mellink 1974, 117-118, Coarelli 1977a, 807-846, Lloyd 1979, 193-204, Roddaz 1984, 282-291, Evans 1994, 10, 36, 106, 108-9, 144, Taylor 2000, 177-181, personal communication, Longfellow 2005, 200, Cariou 2009, 219-226.

¹⁷¹ Filippi 2010, 59-81.

Lloyd further suggests that there was no connection between the *stagnum* and the Euripus, but in light of its unusual nature and uncertain purpose, a drainage function would be a rational explanation for its existence.¹⁷² The *stagnum* could have been drained and regulated by means of an underground channel, it did not require an open canal, but the Euripus could conceivably have taken over some of the function of the natural streams, the *amnis Petronia* and *aqua Sallustiana*, in a practical as well as a conceptual sense (fig. 2.15).¹⁷³ The *stagnum* was located on a slight elevation and did not connect directly to the groundwater system, but the lower parts of the Euripus very well might have taken in the groundwater via branch canals and underground conduits.¹⁷⁴ Agrippa's architects and engineers presumably understood the principles of drainage since he undertook an extensive survey of Rome's sewer system during his aedileship and his general plan for Rome's water supply reveals a great deal of foresight and practical knowledge.¹⁷⁵ His bath complex was a luxurious gift to the populace of Rome, but it is unlikely that as unpractical and apparently wasteful a feature as the Euripus would have been included in the design simply for conspicuous consumption alone; it was meant to showcase Rome's skills in hydraulic engineering. The Euripus cleverly suggested the volume of water brought into the city by Agrippa and reminded any passerby of his engineering achievements, but it also ensured that the artificial lake at the heart of Agrippa's recreational complex remained a showpiece and did not quickly degrade into a boggy embarrassment. Regular cleaning was therefore vital if the lake was to remain a pleasant amenity; sometimes it needed

¹⁷² Coarelli 1977a, 807-846, Lloyd 1979, 196-198, 203, Coarelli 1996, 17-20.

¹⁷³ Lloyd 1979, 196-197, Roddaz 1984, 282-291, Coarelli 1996, 17-20, Taylor 2000, 179-181, Rehak 2006, 10-11, 21-22, Cariou 2009, 219-226.

¹⁷⁴ Filippi 2010, 59-81.

¹⁷⁵ Roddaz 1984, 282-291, Yegül 1992, 133-137, Evans 1994, 10, 36, 105-9, 144, Cariou 2009, 219-226.

to be emptied completely for a thorough cleaning. The Euripus was probably intended to regulate the drainage of the lake and could be supplemented directly from the Aqua Virgo if it was necessary to improve the water quality with a fresh supply. The channel that brought water into the *stagnum* also branched and fed directly into the discharge canal, explaining the close conceptual connection between the Euripus and the Aqua Virgo that we find in the written sources; it could be filled indirectly through the lake as well as directly through the extension of the intake canal.¹⁷⁶ If the *stagnum* is understood as an elaborate display that showcased and commemorated Agrippa's contributions to the Roman water supply, then the Euripus was a key design feature that helped keep the artificial lake looking impressive. Like so many other Roman utilitarian structures it was carefully conceived to be both functional and ornamental. The extensive gardens around the baths and lake also required large amounts of water and the Euripus probably aided in irrigation. Workers could draw water directly from the channel; it is also possible that there were branch lines that led to strategic areas of the garden to aid in watering.

The gradient of the land in this area is slight; to be able to ensure a regular flow and be able to control the amount and speed of the water precisely, the Euripus probably was not a canal with a continuous gradient, but was built in a series of long, gently sloping steps, each with a sluice gate and weir at the end that emptied into the next section of canal with a small cascade (figs.2.15 and 2.16). Nothing of the sort has yet been discovered, but large sections of the canal are still unknown. This design would have ensured a gentle flow and constant movement, which

¹⁷⁶ Lloyd 1979, 196-197, Roddaz 1984, 282-291, Evans 1994, 10, 36, 105-9, 144, Taylor 2000, 179-181, Rehak 2006, 10-11, 21-22, Cariou 2009, 219-226, Taylor personal communication, May 2012.

means that the Aqua Virgo was able to keep up with the supply of the canal and the *stagnum* did not empty unless the sluice gates were opened wide for that purpose. If there was heavy rainfall or flooding, or the lake had to be emptied for maintenance, the individual sluices could be opened wide so the flow could be increased to aid in drainage. The small cascades between the steps improved the aeration of the water and helped a little with the problem of algae growth; they would also have created a pleasant and refreshing sound and atmosphere for anyone walking in the gardens. The two low walls that were excavated on either side of the canal might have functioned as a safety barrier, particularly for children. The series of long, slow-moving pools thus created could be used for a quick swim like that described by Seneca without creating a serious drowning hazard.

Martial and Ovid frequently refer to shade, coolness and pleasant gardens, which indicates that the Euripus was probably lined with trees, an interpretation that is supported by the fragments of the Marble Plan. Strabo's description of the area suggests that there was a grove between the lake and canal.¹⁷⁷ Two decorative bases and three ornate cornice fragments found near the Euripus section that was excavated under the Palazzo della Cancelleria suggest that there were statue bases, and possibly fountains, along the course of the channel.¹⁷⁸ In any case, the Euripus was a maintenance-intensive feature: water plants, pond scum, garbage and fallen leaves would constantly have to be removed in order for it not to turn into a stinking open sewer during the summer months.

¹⁷⁷ Strabo 13.1.19, Ovid, *Ex Ponto*, I, 8, 37-38, Martial, 11.47.5-6, Coarelli 1977a, 807-846.

¹⁷⁸ von Hesberg 1992, 125-147, Taylor 2000, 179-181, Longfellow 2011, 20,

Agrippa's leisure complex in the Campus Martius was a lavish, yet highly practical, gift to the public that provided leisure space as well as health benefits. It was designed specifically for the people of Rome to enjoy free of cost and did not target any specific social strata. It could be enjoyed by senator and laborer alike.¹⁷⁹ The baths and sheer scale and complexity of the water features of the Agrippan complex were innovations that required a high amount of technical skill; although eclipsed by later bath complexes, for their time the Baths of Agrippa and the *stagnum/euripus* system must have been truly astonishing to visitors. They showcased the wealth and ingenuity of the empire and allowed the Roman populace to enjoy and experience the bounty of Agrippa and Augustus' rule in a tangible way. Rich, poor, male and female could get a sense that they benefited directly from the new regime.

AUGUSTUS AND WATER AFTER AGRIPPA: RESTORATIONS AND THE PORTA TIBURTINA

Maintenance and upkeep of the water supply was a constant concern, and from 11-5 BCE, only a few years after Agrippa's death, Augustus again renovated the entire supply network.¹⁸⁰ He notes this in the *Res Gestae* and in a prominent inscription (CIL 1244 (ILS 98)) that he erected over the newly monumentalized Porta Tiburtina, the modern Porta San Lorenzo (fig. 2.17).¹⁸¹ Although the aqueducts had been extensively rebuilt by Agrippa during his aedileship in 33 BCE, Augustus proudly proclaims in the *Res Gestae* that "*rivos aquarum compluribus locis vetustate labentes refeci, et aquam quae Marcia appellatur duplicavi fonte novo in rivum eius inmisso.*" (I restored aqueduct channels in several places which were collapsing through old age, and I

¹⁷⁹ In actuality members of the senatorial class may not have been keen on mixing with the masses, but officially the baths were open to anyone. Papalexandrou, personal communication April 2014.

¹⁸⁰ Front. 9.1., 125, Evans 1994, 111-112, Benefiel 2001, 1-3, 5, Scheithauer 2000, 72-73,.

¹⁸¹ RG 20.2, CIL 1244 (ILS 98)

doubled the capacity of the aqueduct which is called Marcian by introducing a new spring into its channel).¹⁸² The wording in the Porta Tiburtina inscription is similar, but emphasizes that all the aqueduct channels were restored, not just the Marcia.¹⁸³ Because of natural wear and tear on its structural fabric and the buildup of calcium carbonate, the aqueduct system was in constant need of maintenance. A major intervention seems to have been necessary on one line or another about every dozen years or so.

The Aqua Marcia was one of Rome's most popular aqueducts because the quality of the water was so high; for that reason it was reserved mostly for drinking. Until the construction of the Aqua Claudia, it was also the most visually impressive and noticeable of Rome's aqueducts. Its stately arcades marched dynamically towards Rome, carrying by this point not only the *specus* of the Aqua Marcia, but also those of the Aqua Tepula and the Aqua Julia. Therefore it makes sense that Augustus singled it out for special attention and tapped new springs to increase the amount of water the line carried. Apparently the Aqua Marcia was prone to running low during the dry summer months and therefore profited from the intervention. Augustus' project was substantial: he more than doubled both the original length and the volume of the aqueduct.¹⁸⁴

Augustus transformed the aqueduct arch that crossed the Via Tiburtina on the outskirts of the city into a monumental gate, the Porta Tiburtina (fig. 2.17).¹⁸⁵ Rome had by this time long outgrown its old Republican walls and the city had no specific delimitation or visually distinct or

¹⁸² RG 20.2, translation Cooley. Scheithauer 2000, 72-73, Benefiel 2001, 1-3, 5.

¹⁸³ CIL 1244 (ILS 98), Scheithauer 2000, 72-73, Benefiel 2001, 1-3, 5. Later emperors, notably Claudius, the Flavians and the Severans erected similar inscriptions.

¹⁸⁴ Front. 12.1, RG 20.2, Evans 1994, 71-73, 89-93, Aicher 1995, 58-59, Scheithauer 2000, 72-73,.

¹⁸⁵ Evans 1994, 85-89, 100, Aicher 1995, 58-59,.

formal entrances.¹⁸⁶ By transforming an arch of the Aqua Marcia/Tepula/Julia into a grand new entrance into the city Augustus created a visually impressive monument. The inscription reads (fig.2.18):

Imp(erator) Caesar divi Iulii f(ilius) Augustus
pontifex maximus, co(n)s(ul) XII,
tribunic(ia) potestat(e) XIX, imp(erator) XIII,
rivos aquarum omnium refecit.¹⁸⁷

The inscription commemorated Augustus' successful improvement of the water supply. He thus advertised that supplying fresh water, a vital need as well as a luxury, to the city was a high priority.¹⁸⁸ The Augustan gate is now encased by the later Aurelian one, which included brick watch towers and a U-shaped court, but the Augustan travertine façade is still visible on the western side.¹⁸⁹ The appearance of the gate today is different because the Aurelian walls form a solid and forbidding barrier; in Augustan times the aqueduct arcades were open and had an unobstructed maintenance corridor running at either side. The general prospect was therefore originally more open and inviting; the Augustan gate did not have a defensive function.¹⁹⁰ Instead it took the appearance of a single-bay arch; the columns and decorative scheme are executed in a classical style closely resembling that of the Forum of Augustus. The arch was built of travertine, contrasting with the rest of the aqueduct arcade, which was of tufa. The arch is flanked by Tuscan pilasters, which visually support an entablature; a *bucranium* decorates the

¹⁸⁶ Richmond 1930, 67.

¹⁸⁷ CIL VI 1244 (ILS 98), Benefiel 2001, 1-3, 5.

¹⁸⁸ CIL 1244 (ILS 98), Scheithauer 2000, 72-73, Benefiel 2001, 1-3, 5,.

¹⁸⁹ Aicher 1995, 58-59.

¹⁹⁰ van der Graaff, personal communication, Mancini 2001, 22.

keystone (fig. 2.19).¹⁹¹ Originally the gate had a triangular pediment, but it was cut away under Caracalla to make room for another inscription (fig.2.18).¹⁹² The pediment was surmounted by the three aqueduct channels proper, each of which is visually picked out by projecting courses of travertine. This simple device ensures that the viewer registers the presence of three separate aqueducts. Augustus' monumental inscription is carved into the uppermost *specus*, that of the Aqua Julia, which was of course named for his *gens*. The pavement under the arch was originally also of travertine, visually signaling to travelers that they had entered Rome.¹⁹³

MONUMENTAL PUBLIC FOUNTAINS UNDER AUGUSTUS

Pliny the Elder informs us that Agrippa added hundreds of public fountains to the cityscape and embellished many of these with sculptures. He states:

Agrippa, moreover, as aedile added to these [Rome's other aqueducts] the Aqua Virgo, repaired the channels of the others and put them in order, and constructed 700 basins, not to speak of 500 fountains and 130 distribution-reservoirs, many of the latter being richly decorated. He erected on these works 300 bronze or marble statues and 400 marble pillars; and all this he carried out in a year.¹⁹⁴

This addition of fountains had a significant visual impact and enlivened many street corners with a cool and refreshing (and useful) new focal point. A small number of Augustan public fountains

¹⁹¹ Aicher 1995, 58-59.

¹⁹² Aicher 1995, 58-59, Benefiel 2001, 1-3,5.

¹⁹³ van der Graaff, personal communication. Aicher 1995, 58-59, Mancini 2001, 22.

¹⁹⁴ Plin. *HN*. 36.24.121, Loeb translation. *Agrippa vero in aedilitate adiecta Virgine aqua ceterisque conrivatis atque emendatis lacus DCC fecit, praeterea salientes D, castella CXXX, complura et cultu magnifica, operibus iis signa CCC aerea aut marmorea inposuit, columnas e marmore CCCC, eaque omnia annuo spatio.*

are known archaeologically, including the monumental and conceptually new precursor to the fountain that became known as the *Meta Sudans*, and the more basic and traditional basins in Augustus' new forum.¹⁹⁵ As noted in chapter one, the Appiades fountain in the Forum Julium may have been Augustan, but Ulrich believes that it is earlier.¹⁹⁶

The unusual design of the temple of Venus Genetrix allowed the Appiades fountain to occupy the entire front of the podium and was therefore an important focal point of the Forum of Julius Caesar. Augustus chose a more traditional format for the Temple of Mars Ultor; the podium steps took up the space occupied by the Appiades Fountain in the Forum of Julius Caesar, leaving no room for a similar fountain.¹⁹⁷ Water was not a primary decorative element in the Forum of Augustus but it did occur in more subsidiary positions. The Temple of Mars Ultor had two fountain basins built in front of the spur walls projecting from either side of the podium steps (fig. 2.20). The Appiades Fountain at the temple of Venus Genetrix consisted of a larger central basin that ran along the entire length of the building and had a subsidiary basin at each end. In the Forum of Augustus we find only these auxiliary basins.¹⁹⁸ Longfellow suggests that "[...] perhaps they referenced the innumerable street basins added to Rome under Augustus [...]."¹⁹⁹ Considering that Agrippa added hundreds of new basins or fountains, Roman viewers would probably have made the mental connection between the fountains in the Forum Augustum and Augustus' wide-ranging reforms and restoration of the city's infrastructure.²⁰⁰

¹⁹⁵ Longfellow 2011, 19-25.

¹⁹⁶ Ulrich 1986, 406-411, 419-421.

¹⁹⁷ Longfellow 2011, 21.

¹⁹⁸ Ulrich 1986, 406-411, 419-421, Ungaro 2007, Fig. p.120-121, 130.

¹⁹⁹ Longfellow 2011, 21.

²⁰⁰ Longfellow 2011, 19-25.

Considering the importance of water in Agrippa's projects and the prominent role it played in Augustan policy, it is worth noting that water features did not occupy a more eye-catching position in the decorative scheme of the new forum. The need for a wide-open plaza for assemblies, parades, ritual and many other public functions made larger or more centrally placed basins unpractical. The basins provide a source of refreshing water and draw the eye towards the podium of the Temple of Mars Ultor, but among the many attractions that the Forum of Augustus offered they did not stand out prominently. The Appiades Fountain was much more noticeable because of its location, size and sculptural decoration. There is no evidence that the fountains in the Forum of Augustus stood out in any similar way.²⁰¹

As an important part of his restoration, Augustus reorganized the administration of Rome completely and replaced the original four *regiones* with 14 new ones.²⁰² He also reorganized the *vici* and promoted restoration of the shrines of the *Lares Compitales*, the local spirits that watched over each of Rome's neighborhoods. Their shrines were usually located at important intersections within a *vicus* and with Augustus' encouragement they came to also include his personal protective spirits, the *Lares Augusti*.²⁰³ He also donated new cult images to the shrines. By doing this he was indirectly promoting an imperial cult, carefully weaving together the urban fabric and binding it to himself.²⁰⁴ Public basins and fountains were often located at the same crossroads as the shrines; the combination of the fountains and compital shrines gave Augustus

²⁰¹ Ungaro 2007, Fig. p.120-121, 130, Longfellow 2011, 21, Taylor, personal communication. It is worth noting that the only one of the so-called Imperial Fora that did make use of large scale water features is Vespasian's Temple of Peace. It was by definition a temple, not a forum, and considered a quiet and reflective leisure space rather than a place of official business.

²⁰² Lott 2004, 1-12, 81-186.

²⁰³ Lott 2004, 1-12, 81-186, Cline 2013, 132-197.

²⁰⁴ Lott 2004, 1-12, 81-186, Longfellow 2011, 19-21.

a clear and visible presence in every part of the city.²⁰⁵ They served as a reminder of his achievements and his public services, announcing by their presence his continuous acts of benefaction and that he was reaching out to the humbler inhabitants of Rome. This sent a powerful message to every man, woman and child in Rome that Augustus was committed to rebuilding and maintaining the fabric of the city and to providing the basic necessities of life for everyone, while at the same time pleasing the gods by preserving ancestral religious traditions. This promoted health and safety by improving ready and abundant access to clean water for drinking, but also for fighting fires and cleaning the streets and drains.²⁰⁶

It was probably through courting the *vici* and *collegia* that Clodius and Milo had organized their supporters; politicians seeking to expand their power base tapped them as early as the 80s BCE. How much potential political power could be yielded through close collaboration with these neighborhood organizations is revealed by the fact that in the 60s BCE they were declared illegal.²⁰⁷ Cicero notes how important it was to court the leaders of the *collegia* and *vici* because they were the best way to reach a large number of non-elite individuals.²⁰⁸ Augustus reached out to, acknowledged and re-organized these associations, validating them and drawing them to his side. With all these actions he assured himself of the loyalty of the majority of the Roman population while at the same time giving them a sense that they played a part in maintaining the welfare of the state.²⁰⁹

²⁰⁵ Longfellow 2011, 23-25.

²⁰⁶ Lott 2004, 1-12, 81-186, Longfellow 2011, 19-21, Cline 2013, 132-197.

²⁰⁷ Millar 1993, 32-33, 136-138, Mouritsen 2001, 58, 83-4, 142.

²⁰⁸ Cic. Pro Ses., Dom. 21.54, Comm. Pet. 30.

²⁰⁹ Millar 1993, 32-33, 136-138, Mouritsen 2001, 58, 83-4, 142.

From Pliny we know that Agrippa decorated a large number of fountains with sculpture; therefore some of these neighborhood fountains, particularly at important intersections, may have been monumental and important local landmarks. Only one Augustan public fountain is known archaeologically: the Meta Sudans, which would rise to such prominence during the Flavian period. It was located in the valley of the Colosseum, at the base of the incline toward the Forum, where the *Via Triumphalis* turned onto the *Via Sacra*.²¹⁰ Panella's excavations of 2003 have shown that the first version of the Meta Sudans was built under Augustus, a fact that was previously unknown.²¹¹ Its foundations were excavated almost 6 meters below the Flavian version and consisted of a slender cone of tufa, probably set on a hexagonal base, rising out of a large, rectangular basin with two semicircular exedrae (fig. 2.21). The two exedrae complemented the round cone and visually harmonized with the circular and rectangular elements of the fountain.²¹² The excavators do not note the depth of the basin, but mention that it was deep, with a *cocciopesto* floor; a lead *fistula* was discovered in situ.²¹³ The cone measured 3.55m in diameter at its base, and fragments of the Luna marble revetment of the cone allowed Panella to estimate its height at about 16 meters. The Augustan Meta Sudans was therefore almost as tall, but only half as wide, as the Flavian version.²¹⁴ The Flavian Meta Sudans follows the Augustan prototype on a topographical, monumental and symbolic level, but there are some differences (fig.2.22). The Flavian version is larger and had a round basin. Augustus had to work his new monument into the preexisting fabric of the city and placed the fountain

²¹⁰ Plin. *HN*. 36.24.121, Longfellow 2010, 278-279, Longfellow 2011, 23-25.

²¹¹ Panella and Zeggio 2004.

²¹² Panella and Zeggio 2004, 73-77, Longfellow 2010, 278-279, Longfellow 2011, 23-25.

²¹³ Panella and Zeggio 2004, 74.

Panella and Zeggio 2004, 73-77, Longfellow 2010, 278-279, Longfellow 2011, 23-25.

not in the center of the plaza, but to one side, aligning it with the road that led to the forum. It was still visible from all approaches, but did not dominate the space to the same extent as the later Flavian version, which became the center point of the area.²¹⁵ Panella and Zeggio also discovered the foundations of a small structure, reached by three steps on the southern side of the fountain, which they interpret as a compital shrine. This matches what we know about Augustus' efforts towards re-organizing the *vici* and thus presents us with a monumentalized "state" version of what Romans would encounter on every crossroads in Rome: a compital shrine and a fountain; this association would not have been lost on viewers.²¹⁶

The excavators noted that the Flavian Meta Sudans resembled a baetyl, an aniconic cult image of Apollo, often associated with his role as protector of the roads (fig.2.23). A baetyl usually consists of a slender, somewhat bullet-shaped cone on a base; this resemblance is even more pronounced in the narrower proportions of the Augustan Meta Sudans.²¹⁷ Augustus considered Apollo his patron deity and his *domus* on the Palatine was connected physically as well as conceptually with the temple of this god, which actually contained a baetyl.²¹⁸ An Augustan archaizing plaque from that same sanctuary shows an example of a baetyl on a hexagonal, niched base. Another example appears in a wall painting in the Room of the Masks in Augustus' own house.²¹⁹ It is not surprising that Augustus should have chosen a form that honored his patron god and reminded passersby of his special connection with this deity. To

²¹⁵ Panella and Zeggio 2004, 73-77, Longfellow 2010, 278-279, Longfellow 2011, 23-25.

²¹⁶ Panella and Zeggio 2004, 73-77, Longfellow 2010, 278-279, Longfellow 2011, 23-25.

²¹⁷ Panella 1996, 65-66, 70-91, Panella and Zeggio 2004, 73-77, Longfellow 2010, 278-279, Longfellow 2011, 23-25.

²¹⁸ Eck 2003, 39, 63.

²¹⁹ Panella 1996, 65-66, 70-91, Panella and Zeggio 2004, 73-77, Longfellow 2010, 278-279, Longfellow 2011, 23-25.

construct a fountain in this shape was a new and unprecedented move, creating a monument that was not just a pleasant public amenity, but also sent a confident political and religious message: Apollo was on Augustus' side.²²⁰

The location of the Meta Sudans is significant and steeped in symbolism: it marks not only an important intersection, but also the spot where four (possibly more) of Augustus' new *regiones* intersected. In addition, this was probably one of the corners of the original *pomerium* of Romulus. Augustus was born in the vicinity, near the Curiae Veteres, one of Rome's oldest and most venerable shrines, and Panella and Longfellow suggest that Augustus deliberately marked this important, history laden spot with a novel and distinct monument to reinforce the associations between Romulus' original foundation of Rome and Augustus' restoration of the city.²²¹ A shrine to Augustus and the Julio-Claudian dynasty eventually stood in the immediate vicinity, and the general area was closely associated with Augustus' birth.²²² The Flavian fountain is sometimes thought to have been supplied via the Caelian by the Aqua Claudia; the water for the Augustan version came either from the Aqua Marcia or the Aqua Julia. Both entered the city at a sufficiently high elevation and the Marcia supplied the Palatine nearby.²²³ Since Augustus had just completed a renovation of all of Rome's aqueducts the Meta Sudans probably did not refer to any one line in particular, but rather celebrated Augustus' overall improvements to the water supply.

²²⁰ Panella 1996, 65-66, 70-91, Panella and Zeggio 2004, 73-77, Longfellow 2010, 278-279, Longfellow 2011, 23-25.

²²¹ Longfellow 2011, 23-25.

²²² Panella 1996, 65-66, 70-91, Panella and Zeggio 2004, 73-77, Longfellow 2011, 23-25.

²²³ Panella 1988, 43-51.

THE AQUA ALSIETINA AND THE *NAUMACHIA AUGUSTI*

Augustus did not limit himself to merely repairing and maintaining the aqueduct network, but built a new aqueduct, the Aqua Alsietina, sometimes also called Augusta. This line was fed by the Lacus Alsietinus (the modern Lago Martignano) and was the first aqueduct to enter the city on the west bank of the Tiber.²²⁴ It was in all likelihood primarily intended to supply Augustus' *naumachia* located in the Transtiber area, but was probably also intended to provide water for irrigation (fig. 2.24). Frontinus does not supply a date for the construction of the aqueduct, but it must have been completed by 2 BCE, when the *naumachia* was inaugurated.²²⁵ An additional supply channel from the Lacus Sabatinus (Lago di Bracciano) was added to the Alsietina either late in Augustus' reign or under Tiberius to further supplement the volume of water, most of which went to suburban concession holders.²²⁶

Frontinus gives comparatively little information about the line, especially when compared to his detailed accounts on the other aqueducts. He states that the water was of poor quality and not much use to the public and although he purports to be puzzled as to why Augustus created it in the first place, he finally concludes that he only built it so the *naumachia* would not divert high-quality, potable water from the rest of the urban distribution network.²²⁷ Frontinus and an inscription dating to between 4 and 37 CE tell us that water grants for irrigation were given from the Alsietina. It could act as a back-up line for the Transtiber, although this does not seem to have been a common occurrence. Since the water was

²²⁴ Front. 11, 18.8, 22.1, 71.1-2, 85, Aug. Res. 23, Evans 1994, 111-113, Taylor 2000, 169-179.

²²⁵ Evans 1994, 111-113, Taylor 2000, 169-179.

²²⁶ Evans 1994, 111-113, Taylor 2000, 169-179.

²²⁷ Front. 11, 18.8, 22.1, 71.1-2, 85, Evans 1994, 111-113, Taylor 2000, 169-179.

apparently not generally intended for a wider distribution within the city, the Aqua Alsietina did not have a settling tank. Instead it was a specialized line that was intended predominantly for the *naumachia*.²²⁸ Frontinus notes that in his day the entire yield of the aqueduct, a modest 392 *quinariae*, was used up outside the city; but this does not necessarily reflect the original volume or distribution of the aqueduct under Augustus.²²⁹

Taylor argues convincingly that the original volume must have been higher than that noted by Frontinus: the *naumachia* that Augustus constructed measured, according to his *Res Gestae*, around 533m x 355m; even if it was shallow, perhaps 1.5m, it would have taken the Alsietina as described by Frontinus over a month to fill the space.²³⁰ Coleman suggests that only seventeen days were required, but she is arguing for an oval basin with a smaller capacity; as will be seen below a rectangular shape is more likely for the *naumachia Augusti*.²³¹ It was probably also considerably deeper: Cariou has suggested as much as 5 meters.²³²

As noted above for the *stagnum Agrippae*, stagnation and unhealthy conditions would quickly arise in an improperly drained and circulated artificial body of water and this would have been unavoidable if the flow of the Alsietina had always been so sluggish: filling the basin would have been bad enough, but maintaining a regular exchange of water would have been even more difficult.²³³ Scholars have proposed that because of these problems the *naumachia* was kept empty most of the time and was only filled when an event was planned, but the

²²⁸ Front. 11, 18.8, 22.1, CIL VI 31566=XI 3772a, Evans 1994, 111-113, Taylor 2000, 169-179.

²²⁹ Taylor 2000, 169-179.

²³⁰ Front. 71, 85, Aug. *Res.* 23, Taylor 2000, 174-181.

²³¹ Coleman 1993, 53-54.

²³² Cariou 2009 81-83, 85-99.

²³³ Taylor 2000, 174-181

contemporaneous *stagnum Agrippae* was clearly kept filled continuously; therefore Augustus' and Agrippa's engineers knew how to solve at least some of the challenges posed by an artificial standing body of water.²³⁴ There is no reason to assume that the *naumachia* was only filled with water on rare occasions; if this had been the intention, why build a permanent structure with its own aqueduct? It eventually became the centerpiece of a park, the so-called *nemus Caesarum*, with sculptures commemorating Gaius and Lucius Caesar erected on a small island.²³⁵ Dio, Tacitus and Suetonius describe how Nero held elaborate public banquets in the surrounding gardens and even in boats on the *naumachia* (as well as the *Stagnum Agrippae*), and Statius briefly describes the area as a deep pond surrounded by gardens.²³⁶ Augustus' *naumachia* also played a central role in the great inaugural games held for the Colosseum but then fades from view. Some blank areas that appear on the Severan Marble Plan may show areas of the *naumachia* that remained undeveloped and one fragment shows a deviation in the grid system of Trastevere that might reflect the original orientation of the *naumachia* in the buildings that took its place; the width of this section is remarkably close to that reported for the *naumachia*.²³⁷ Dio mentions that remains of it were still visible in his day, but what form they took is unclear.²³⁸ It is possible that the monument to Gaius and Lucius and the former drainage canal of the *naumachia* continued to exist for centuries. A gradual decrease in the Alsietina's volume probably made maintenance impractical and the need for new land in this fast-growing

²³⁴Coleman 1993, 53-54, Taylor 2000, 174-181, Berlan-Bajard 2006, 162-178, Cariou 2009 81-83, 85-99.

²³⁵Dio 62.20.5, Taylor 2000, 174-181, Berlan-Bajard 2006, 162-178, Cariou 2009 81-83, 85-99, 264-277.

²³⁶Suet. *Nero* 27.2, Dio 62.20.5, Tac. *Ann.* 14.15, Stat. *Silv.* 4.4.5-7.

²³⁷Suet. *Tit.* 7.3, Taylor 2000, 181-190, Cariou 2009 81-83, 85-99.

²³⁸Dio 62.20.5

part of the city meant that the old *naumachia Augusti* was eventually filled in and built over, with part remaining in use as a public garden.²³⁹

It seems unlikely that Augustus would have invested in an entire new aqueduct if it was not intended to be in use regularly. How then could the Aqua Alsietina supply the required volume of water, if, as Frontinus notes, it delivered less than 400 *quinariae*? The answer is that Augustus' original Aqua Alsietina had a higher volume (and perhaps better quality water), which by Frontinus' day had been significantly reduced by a fall in the water level of Lake Alsietinus.²⁴⁰ Archaeological evidence shows that measures were taken to remedy this problem by creating a new intake channel at a lower level, but it was not enough to solve the issue successfully. At least one new source was tapped, but by Frontinus' time the supply was comparatively meager and unreliable.²⁴¹

Although the *naumachia* of Augustus was a large structure, its exact location, orientation and shape are still debated. We know that it was located somewhere in the Transtiber area and through a careful evaluation and comparison of known archaeological evidence, archival sources, the modern street plan and fragments of the Marble Plan, scholars have managed to pinpoint the original location as being in the flood plain of the Tiber, in the center of present-day Trastevere. One point still under debate is if the long axis of the *naumachia* was on a north- south or an east-west axis.²⁴²

²³⁹Coleman 1993, 53-54, Evans 1994, 111-113, Taylor 2000, 181-190, Berlan-Bajard 2006, 162-178, Cariou 2009 81-83, 85-99.

²⁴⁰ Liberati Silverio 1986, 73, 75-78, Evans 1994, 111-113, Taylor 2000, 176-178, Berlan-Bajard 2006, 162-178, Cariou 2009, 85-109, 230-277.

²⁴¹ Moccheggiani Carpano 1976, 25-31, Liberati Silverio 1986, 73, 75-78, Evans 1994, 111-113, Taylor 2000, 176-178.

²⁴² Taylor 2000, 181-193, Berlan-Bajard 2006, 162-78, Cariou 2009, 47-109, 230-277.

Many scattered archaeological fragments from isolated excavations all over Trastevere can be more or less securely connected to the *naumachia* itself (fig. 2.25). They include travertine blocks and revetments, a monumental mosaic and some curving wall fragments.²⁴³ From the ancient sources we know that the *naumachia* included a small island, which played a role in the “plot” of mock sea battles and eventually held the commemorative sculptures of Gaius and Lucius.²⁴⁴ The enormous mosaic, showing Neptune, may have been located on this artificial island; the curving walls may equally belong to this feature. The pool itself was probably rectangular, but with rounded walls on the short sides.²⁴⁵ Coleman suggests that the *naumachia* was an enormous oval because curved walls would structurally have withstood the water pressure better than a square basin could have.²⁴⁶ She also notes that an oval shape allowed for better visibility for the spectators, but both Taylor’s and Cariou’s reading of the ancient and modern street grid strongly suggests that two of the sides were straight, although the ends were possibly rounded.²⁴⁷

How was the basin itself constructed? As seen above, the *stagnum Agrippae* was a solid masonry structure using generous amounts of hydraulic cement, mortar and cocciopesto to form its sides and bottom. The lack of physical evidence for the *naumachia Augusti* has raised some doubts as to whether the basin had masonry walls and a concrete bottom. Instead it may simply have been excavated from the ground. The latter option is, however, unlikely because the natural alluvial soil of the Trastevere area is sandy, and some kind of measure to render the

²⁴³ Taylor 2000, 181-193, Berlan-Bajard 2006, 162-78, Cariou 2009, 47-109, 230-277.

²⁴⁴ Aug. Res. 23, Suet. Nero 27.2, Tit. 7.3, Dio 62.20.5, Tac. Ann. 14.15, Stat. Silv. 4.4.5-7.

²⁴⁵ Taylor 2000, 181-193, Berlan-Bajard 2006, 162-78, Cariou 2009, 47-109, 230-277.

²⁴⁶ Coleman 1993, 53.

²⁴⁷ Coleman 1993, 53, Taylor 2000, 179-193, Cariou 2009, 47-109, 230-277.

basin walls and floor waterproof would have been necessary; the fate of the *naumachia* of Julius Caesar clearly demonstrates that an excavated basin without additional support and waterproofing was impermanent at best.²⁴⁸ The edges of the basin had to be able to withstand at least foot traffic, as well as the weight of whatever seating was constructed for spectators.²⁴⁹ Test trenches in various parts of Trastevere identified as the site of the *naumachia* have revealed a thick layer of clay overlaying traces of building; Cariou suggests that this layer is probably the remains of the *naumachia*'s clay-lined bottom and notes that similar construction techniques are known from Roman harbor constructions.²⁵⁰ The ancient level of this layer of clay is about 5.5 meters below the level of the remains usually interpreted as forming the small island of the *naumachia*. Cariou therefore interprets this as the depth of the ancient basin; the Vatican *naumachia* seems to have been even deeper. This does not necessarily mean that the basin was filled to that entire depth; the island probably rose a meter or two above the surface of the water.²⁵¹

There are some problems with Cariou's interpretation: the layer of clay he identifies as the bottom of the *naumachia* could have been deposited by natural means, even if it does not reflect the typical soil profile of the area. Fine clay particles are often deposited in the standing waters of a flood plain and could reflect a particularly long episode of flooding during which the water stagnated on the plain. Cariou's projected basin floor also has the potential of being below the water table, which would be a maintenance problem because the *naumachia* could

²⁴⁸ Coleman 1993, 50, 53-54, Taylor 2000, 180-190, Berlan-Bajard 2006, 162-78, Cariou 2009, 29-39, 94-109, 230-244.

²⁴⁹ Coleman 1993, 53-54.

²⁵⁰ Taylor 2000, 180-190, Berlan-Bajard 2006, 162-78 Cariou 2009, 94-109, 230-244.

²⁵¹ Berlan-Bajard 2006, 162-78, Cariou 2009, 230-244,.

not have been drained for cleaning and would have prevented proper water circulation, leading quickly to stagnation and disease. While clay lined bottoms are known for harbors, they are less suitable for a structure that is intended to retain water.²⁵² Caesar's *naumachia* was excavated directly from the ground and proved ephemeral, but Augustus' *naumachia* was in use until at least the Flavian period and we may therefore assume that it was solidly constructed. If he went to the trouble of providing an entire aqueduct to supply it, Augustus intended to build an artificial body of water as elaborate and impressive as the Stagnum Agrippae that would leave a lasting impression; he would not likely cut corners and deprive his showpiece of a solid floor. Yet, if the *naumachia* had a *cocciopesto* floor, like the contemporary *stagnum* of Agrippa, why has none of it been found? The answer probably lies in a combination of heavy reuse of the area and a lack of systematic archaeological exploration. Ground levels have risen considerably due to the accumulation of river sediments and when the area was redeveloped in antiquity the basin floor was presumably torn out because it would have led to flooding and foundation problems in the new buildings that were being erected in the basin's place.²⁵³

We do not know what form the seating for the spectators took: in the Vatican *naumachia* it was a permanent feature, built along similar lines to the seating of the Colosseum and the Circus Maximus, but no evidence survives for the *naumachia Augusti*. Perhaps wooden superstructures were erected as needed; this practice is well attested for the period and

²⁵² Taylor, personal communication, Berlan-Bajard 2006, 162-78, Cariou 2009, 94-109, 230-244.

²⁵³ Taylor, personal communication 2013.

wooden platforms and props seem to have played an important part during the staging of Titus's and Domitian's spectacles in the old *naumachia*.²⁵⁴

The water flow of the *naumachia* was probably regulated along the lines of the theoretical system applied above to the *stagnum Agrippae* (fig. 2.13).²⁵⁵ Part of a canal probably connected to the *naumachia* was excavated in 1720; it was 2.67m deep and 1.78m wide. Its size and orientation suggest a connection to the Aqua Alsietina and the construction technique fits an Augustan date. Another canal, probably a segment of the same one, was excavated in 1888 (fig. 2.25).²⁵⁶ We know from ancient sources that the *naumachia* had an outlet canal big enough to be navigable with small boats, which corresponded in function to the Euripus of the *stagnum Agrippae*.²⁵⁷ It does not appear to have had any special name, but may have been provided with a simple system of locks, not unlike the system of weirs and sluices proposed for the Euripus, to allow the boats needed for the actual battles to be moved into the *naumachia* from the Tiber.²⁵⁸ Cariou's interpretation runs into several potential problems: he argues for a deep basin as well as an east-west orientation for the long axis, but in this configuration the *naumachia* would come uncomfortably close to the Janiculum and even cut into it (fig. 2.26). In addition, the great depth he conjectures would mean that the basin would have cut through an east-west channel known to run through the area. He tries to solve this dilemma by identifying it as a service conduit that ran along the southern boundary of the *naumachia*. Taylor proposes that the basin

²⁵⁴ Berlan-Bajard 2006, 178-196, Cariou 2009, 277-286.

²⁵⁵ Taylor 2000, 179-181, Berlan-Bajard 2006, 173-175, Cariou 2009, 248-264.

²⁵⁶ Coleman 1993, 53, Evans 1994, 111-113, Taylor 2000, 169-200, Berlan-Bajard 2006, 162-78, Cariou 2009, 47-109, 230-277.

²⁵⁷ Aug. *Res.* 23, Suet. *Tib.* 72.11, Dio 62.20.5.

²⁵⁸ Taylor, personal communication. Coleman 1993, 53, Evans 1994, 111-113, Taylor 2000, 169-200, Berlan-Bajard 2006, 162-78, Cariou 2009, 47-109, 230-277..

had a north-south orientation and was not as deep; this would allow the channel to run beneath the *naumachia's* floor and allow for more distance from the Janiculum (fig. 2.27).

AUGUSTUS' AQUATIC DISPLAYS AND SPECTACLES IN THE *NAUMACHIA AUGUSTI* AND ELSEWHERE

Naumachiae were rare events in Roman history and that given by Augustus, staged at the inauguration of the Temple of Mars Ultor in 2 BCE, was only the second one ever celebrated in Rome, after that of Julius Caesar in 46 BCE.²⁵⁹ With the exception of the Flavian period, *naumachiae* were staged, at most, once a generation; they were a remarkable and special event for everyone.²⁶⁰ *Naumachiae* were prohibitively expensive and involved highly complex logistics: they required enormous amounts of money, manpower and organization as well as specialized equipment; they also took years to prepare and were doubtlessly greatly anticipated. Organizing a *naumachia* called for an extremely high level of resource management and, as demonstrated by the *naumachia Augusti*, a high level of engineering savvy.²⁶¹ As a result they were well suited to impress the general populace with the sheer amount of resources and talent at the disposal of the emperor; the labor and effort required was awe-inspiring and those who were lucky enough to see a *naumachia* were intended to still be talking about it years later (fig. 2.28).²⁶²

²⁵⁹ Coleman 1993, 48-50, Berlan-Bajard 2006, 37-39.

²⁶⁰ Coleman 1993, 48-50, 68-74, Berlan-Bajard 2006, 21-27, 325-342, Cariou 2009, 427-442, Taylor, Forthcoming "Aquacades".

²⁶¹ Coleman 1993, 48-50, 68-74, Berlan-Bajard 2006, 21-27, 325-342, Cariou 2009, 427-442, Taylor, Forthcoming "Aquacades".

²⁶² Coleman 1993, 48-50, 68-74, Berlan-Bajard 2006, 21-27, 325-342, Cariou 2009, 427-442, Taylor, Forthcoming "Aquacades".

Julius Caesar had held his *naumachia* to celebrate his triumph, Augustus to celebrate the inauguration of the Temple of Mars Ultor and the fulfillment of his vow to avenge his adoptive father.²⁶³ As such the event combined a number of functions, including a commemorative one. Gladiatorial combat was a popular offering in the context of an elite funeral and Caesar started the trend of giving gladiatorial displays in commemoration of important events.²⁶⁴ Considering Augustus' greatest victory was the Battle of Actium, a naval battle, staging a grand sea battle was a fitting way for him to celebrate his achievements and impress friend and foe alike.²⁶⁵ The site where he built the *naumachia* basin had possibly once been Antony's garden, which underlined Augustus' victory even more strongly, but without unduly emphasizing that his great victories were in fact the result of civil war.²⁶⁶ In his *Res Gestae* (23) Augustus proudly gives the dimensions of the watery arena and gives the number of participating vessels and combatants:

I gave to the people a spectacle of a sea battle on the other side of the Tiber, in the place where Caesars' grove now is, once land had been removed, 1,800 feet in length, 1, 200 feet in breadth. On it thirty ships with rams – triremes or biremes – and many smaller boats did battle. In this fleet fought about 3,000 men, discounting the rowers.²⁶⁷

²⁶³ Coleman 1993, 48-50, Cariou 2009, 443-453.

²⁶⁴ Coleman 1993, 48-50, Cariou 2009, 443-453.

²⁶⁵ Coleman 1993, 48-50, Berlan-Bajard 2006, 37-41, 325-342, Cariou 2009, 443-453 Taylor, Forthcoming "Aquacades".

²⁶⁶ Coleman 1993, 53-55, Berlan-Bajard 2006, 13-33, 37-39, Taylor, Forthcoming "Aquacades".

²⁶⁷ *Res Gestae* 23. Translation Cooley. *Navalis proeli spectaculum populo dedi trans Tiberim, in quo loco nunc nemus est Caesarum, cavato solo in longitudinem mille et octingentos pedes, in latitudinem mille et ducenti. In quo triginta rostratae naves triremes aut biremes, plures autem minors inter se conflixerunt. Quibus in classis pugnaverunt praeter remiges millia hominum tria circiter.*

Considering that a single 5th-century Athenian trireme had 170 rowers, even assuming that Augustus' ships were on a smaller scale, that at least doubles the total number of participants to over 6000 men.²⁶⁸ Like Julius Caesar before him, Augustus chose to re-enact a historical battle, in this case the famous Battle of Salamis fought between the Athenians and the Persians in 480 BCE.²⁶⁹ Augustus' *naumachia* may have included the small artificial island because the island of Salamis played such an important strategic role during the real battle, or simply because the island added another element of interest to the spectacle. Historical accuracy was not an issue and it seems that the occasional reversal of history only added to the delight of these spectacles.²⁷⁰

Another form of aquatic display that Augustus gave was *venationes* of aquatic animals, specifically hippopotami and crocodiles.²⁷¹ For the inaugural celebrations of the Temple of *Divus Julius* he staged a number of animal hunts, including one involving a hippopotamus. It is unclear, however, if it was supplied with a watery habitat for the occasion or hunted on land.²⁷² For the grand opening ceremonies of the temple of Mars Ultor in 2 BCE Augustus brought thirty-six crocodiles to Rome from Egypt and put them on display in the Circus Flaminius, which was either flooded or supplied with a basin for the occasion. According to Dio the crocodiles were then killed during a *venatio*.²⁷³ Strabo, while discussing the inhabitants of Tentyra in Egypt, notes their unusual relationship to crocodiles and describes a spectacle in Rome involving a

²⁶⁸ Berlan-Bajard 2006, 325-41, Cariou 2009, 431-434, 443-453, 467-472.

²⁶⁹ Ov., Ars 1. 171-2, Dio 56. 25. 4, Dio 50.10. 7, Coleman 1993, 54-55, Berlan-Bajard 2006, 325-41, Cariou 2009, 431-435, Taylor, Forthcoming "Aquacades".

²⁷⁰ Ov., Ars 1. 171-2, Dio 56. 25. 4, Dio 50.10. 7, Coleman 1993, 54-55, Berlan-Bajard 2006, 325-41, Cariou 2009, 431-435, Taylor, Forthcoming "Aquacades".

²⁷¹ Berlan-Bajard 2006, 66-67

²⁷² Dio, 51.22.5

²⁷³ Dio, 55.10.8

demonstration of their hunting techniques. He specifies that the crocodiles were on display in a basin complete with a platform for them to bask on. A group of experts from Tentyra had accompanied the animals from Egypt and publicly demonstrated their hunting techniques by netting them, drawing them onto the platform and releasing them unharmed.²⁷⁴ Strabo does not give a date for this show, but Augustus' Nilotic *venatio* of 2 BCE seems the most likely occasion. Interestingly, Strabo does not mention the animals being killed; perhaps the demonstrations were given over several days before the final showdown.²⁷⁵ In these hunts Augustus was celebrating his victory over Egypt and displaying his personal wealth and power, but he was also showing off the resources of the Roman empire and thus fostering pride in them; he was again promoting his construct of the Roman *patria*. The people of Rome were not just treated to an entertaining spectacle, but also saw exotic creatures from the far reaches of the empire displayed in a habitat created for them, almost as if by magic.²⁷⁶

²⁷⁴ Strabo, 17. 1.44, Dio, 55.10.8, Berlan-Bajard 2006, 66-67

²⁷⁵ Coleman 1993, 56, Berlan-Bajard 2006, 66-67.

²⁷⁶ Coleman 1993, 56, Berlan-Bajard 2006, 325, 332-342. During the empire other forms of entertainment involving water became popular, especially a type usually referred to under the umbrella term *hydromime*. That they were popular and widespread is attested by the numerous basins and tanks that have been excavated in theatres and amphitheatres throughout the empire. Their exact date and origin is difficult to pinpoint; the earliest textual sources we have for them date to the Flavian period. Augustus and Agrippa therefore do not seem to have given spectacles of that particular type. The theatres at Pompeii and Pausilypon contain the earliest known examples of basins that seem to have been intended for this kind of show; the earliest definite date that can be offered for either is the Julio-Claudian period, possibly as early as the reign of Augustus. The theatre at Pompeii does have some earlier basins, but they are too small to have been anything but fountain basins. It therefore seems likely that the *hydromime* appeared in the early first century and really took off after the spectacular inaugural games of the Colosseum. Berlan-Bajard 2006, 217-255, 292-303, Taylor, Forthcoming "Aquacades".

THE LEGACY OF AUGUSTUS AND AGRIPPA

Augustus and Agrippa recognized the importance of water as a resource, and its power in propaganda; they set the precedent for the use of water as an imperial statement. They were the first to set up the formal management and regulation of the system that, with a few alterations, would form the basis of Rome's water administration and permanently tied the control of the water supply to the emperor himself. Agrippa's innovative changes to the administration of Rome's water supply addressed the problems that arose from the more *ad hoc* Republican system. Agrippa at least doubled the available water supply by rebuilding several of the older lines and adding the Aqua Julia and the Aqua Virgo. As part of his reorganization he also increased the number of public basins, many of which were embellished with sculpture. It is important to place Agrippa and his work within the larger context of the Augustan reforms and building programs. His bath complex was a pendant to Augustus' dynastic monuments in the Campus Martius; it showed the close connection between the two men and emphasized the generosity and social responsibility of Augustus' rule. The Baths of Agrippa set a new model and precedent for future emperors to follow: these were the first monumental public baths of Rome, and buildings of this type became a popular, and powerful, form of imperial gift. Augustus also contributed lavish water features in his own name, including a new *naumachia* and the Aqua Alsietina aqueduct to supply it. He sponsored monumental fountains in important public thoroughfares, and also built the first version of the Meta Sudans, a brand new form of monumental fountain. The Porta Tiburtina was a monumentalized arch of the arcade that carried the stacked channels of the Marcia, Julia and Tepula, and Augustus commemorated his repairs to the three lines with a large inscription. The arch had a dual purpose: it functioned as a

monumental new entrance to Rome and at the same time advertised Augustus' contributions to the water supply of the city at his own expense.

Agrippa and Augustus left Rome with a larger, more efficient and flexible water supply and created an administrative system to permanently manage it. These measures ensured more reliable access to water, but also enabled Augustus to personally control water distribution, which he did to great political effect: a bounteous supply of water was a key status symbol for members of the elite and the gift of a private water concession was a powerful incentive for loyalty. He controlled not only a vital necessity, but also the means by which water could be used for political purposes, such as shows and spectacles, or private concessions to reward loyalty. Augustus and Agrippa showed just how powerful a political tool water could be and developed prototypes, both physical and conceptual, that many future emperors would build upon.

Chapter 3: Claudius' Intra-Urban Projects

AUGUSTUS' IMMEDIATE SUCCESSORS; TIBERIUS: MAINTENANCE AND UPKEEP

Augustus's long rule was so characterized by civic peace that by the time of his death a great part of the Roman population had never known any other system of government. Tacitus' famous quote illustrates this perfectly: "How many were left who had even seen the *res publica*?"¹ Through careful and gradual changes he had secured his position and created a system by which he could transfer his power to a successor in a way that promised continuity. Augustus had made himself so indispensable to the Roman state that the thought of his death left many uneasy.² Yet the role and position of the emperor was not set in stone; it was not yet an institution and still in flux, especially during the Julio-Claudian dynasty. The extent of his power was by now fairly well delineated, but the exact role of the *princeps* was not yet clearly defined and there were no set rules of succession. There were still some who did not like the new form of rule and conflict was unavoidable unless the man in power trod carefully. Tiberius was still careful to decline excessive honours and to represent himself as a private citizen who had been entrusted with special responsibilities and power.³

Tiberius had shared power with Augustus for many years; he had been forced to earn it and prove that he was worthy of the responsibility. He had repeatedly shown himself to be an excellent general and administrator, and regardless of his potentially unpleasant personality,

¹ Tac. Ann.1.3

² Gruen 2005, 33-50.

³ Levick 2001, 41-42, Veyne 2005, 15-78, Osgoode 2011, 21-23.

Tiberius was a capable man.⁴ Augustus had created many powerful precedents: To give back to the people and state was not just a demonstration of personal largesse, but also an expression of duty; the Roman emperor, by the nature of his position, was obliged to care for the people and the state in exchange for his right to rule. In his public monuments he had emphasized his generosity and the merits of his character, suggesting that his superior virtues and skills in administration and war justified his right to rule.⁵ He took on not only the persona of a father to his people, but also all of the duties and privileges associated with it.⁶

Tiberius' position was secure in a way that Augustus' had initially not been. Because he followed Augustus' example and presented himself as an extension of his rule, he reassured the people and Senate alike with a sense of continuity.⁷ Although he did not distinguish himself as a builder, he did realize the importance of benefaction and followed many of the trends begun by his predecessor. Tiberius finished any projects not yet finished by Augustus at his death, continued Augustus' policy of maintaining traditional shrines and temples, and also promoted the cult of the divinized Augustus.⁸ Generally speaking he focused more on the promotion of the Julian *gens* as a whole than drawing particular attention to himself; he did not add his name to any of the buildings he finished or reconstructed. Augustus had, after all, already supplied Rome with a wealth of buildings.⁹

⁴ Gruen 2005, 35-50.

⁵ Veyne 1990, 292-294, Favro 1996, 4, 9-11, 53-56, Zuiderhoek 2007, 196-213.

⁶ RG 34-35, Veyne 1990, 294.

⁷ Gruen 2005, 33-50, Vout 2013, 59-77.

⁸ Favro 1996, 132-3, Scheithauer 2000, 90-101.

⁹ Favro 1996, 132-3, Scheithauer 2000, 90-101.

Our ancient sources are somewhat divided on Tiberius' building activities. They range from Velleius Parterculus' glowing praises to Suetonius' dry criticism that a miserly Tiberius spent little time, money or effort on buildings.¹⁰ Tacitus' opinion is somewhere in the middle: he describes Tiberius as fairly reserved about new building projects, but generous and fair in the case of catastrophic emergencies, such as the repeated fires that swept Rome; for this reason the people did not criticize his sparse building policy, but appreciated his munificence all the more.¹¹

A series of *cippi* attributable to the Aqua Virgo, Aqua Julia, Aqua Augusta, Aqua Appia and at least one other aqueduct attest to the fact that Tiberius was extensively involved in maintenance work for the aqueducts. Unlike Augustus, however, he did not commemorate the fact with any monumental inscriptions comparable to that on the Porta Tiburtina. His efforts in this respect are not mentioned by any of the ancient authors either.¹² The *cippi* prove that he was aware of the importance of the aqueduct network and its proper working order, and dutifully addressed the issue.¹³ The populace had come to presume that the emperor would provide an abundant and reliable water supply; not meeting this expectation would have been a politically unsound move, suggesting that the ruler did not take his duties seriously and that the people did not matter. There is also a mention in Tacitus that the treasury paid a certain Aurelius Pius for damages incurred to his properties from construction work that apparently

¹⁰ Vell. 2,130,1f., Suet. *Tib.* 47, 48, Favro 1996, 132-3, Scheithauer 2000, 90-101.

¹¹ Tac. *Hist.* 1.1.3, 6.45.1.

¹² CIL VI 1253a=31565a=ILS 5747a, CIL VI 1253b=31565c, 37036, 40879, CIL VI 31563c, CIL VI 40869, 40870, CIL VI 1255= 31571, Tac. *Ann.* 1.75, Blake 1959, 13-14, Bruun 1991, 141-142, 149-150, Evans 1994, 115, Scheithauer 2000, 90-101, Benefiel 2001, 8-9.

¹³ CIL VI 1253a=31565a=ILS 5747a, CIL VI 1253b=31565c, 37036, 40879, CIL VI 31563c, CIL VI 40869, 40870, CIL VI 1255= 31571, Blake 1959, 13-14, Bruun 1991, 141-142, 149-150, Scheithauer 2000, 90-101, Benefiel 2001, 8-9.

included a road and an aqueduct. This would indicate that Tiberius was contemplating expanding Rome's aqueduct network as early as 15 CE.¹⁴ Another important step that Tiberius took was to institute the *cura alvei et riparum Tiberis*, which was responsible for maintaining the Tiber, particularly dredging the river bed to remove obstructions and improve flow to help prevent floods and to maintain the river banks. There is little other evidence that Tiberius utilized water in any other way to legitimize his rule, but clearly it did play a role in his imperial policy.¹⁵

GAIUS: UNREALIZED AMBITIONS?

Getting a clear idea of Gaius's building policies and goals is difficult because his rule was short and the ancient sources tend to be hostile and geared towards the spectacular. Their discussion of his building activities is brief and is meant to illustrate his excesses and the irrational character and actions.¹⁶ He did not have to earn his position the way that Augustus and Tiberius had; instead he was the first Roman emperor to inherit his position, and he grew up expecting to eventually inherit power. Gaius broke with his predecessors' traditions and was willing to experiment with new, ambitious ideas and buildings, such as his expansion of the Palatine residence and a supposed plan for a bridge between the Palatine and Capitoline Hills.¹⁷ He also caused a lot of tension with the senatorial order by pressing his own powers and divine status

¹⁴ Tac. *Ann.* 1.75, Blake 1959, 13-14, Evans 1994, 115.

¹⁵ Bruun 1991, 141-142, 149-150, Scheithauer 2000, 90-101.

¹⁶ Suet. *Gai.* 19, 21, 22 Dio. 59.10, 59.17, 59.28, Front. 13.1, Aur. Vict., *Epit. de Caes.*, iv.6, Plin. *Nat.* 36.121, Scheithauer 2000, 101-106.

¹⁷ Suet. *Gai.* 22 Dio. 59.10, 59.17, 59.28, Scheithauer 2000, 101-106

and he frequently staged elaborate events to emphasize his super-human position.¹⁸ Gaius had an eye for spectacle and pageantry, and he built, or at least planned, several new venues intended for public entertainment. These included chariot racing tracks and an amphitheatre near the Saepta Julia, which was never built although the Aqua Virgo arcades were demolished to make room for it.¹⁹

Dio gives a brief and enigmatic account on how Gaius excavated the Saepta, filled it with water and exhibited a single ship in it. The choice of the Saepta as a venue is noteworthy. It had been built as a monumental voting enclosure, and although the Roman *populus* now only met to vote on issues such as electing minor officials, the Saepta was still their space and associated with the power of the people.²⁰ Gladiator shows and other spectacles had been celebrated there in the past, but there is nothing that suggests that any part of it was suitable for containing water.²¹ The Saepta was enormous: the surrounding portico measured at least 310 x120 meters, making it as long as the neighboring *stagnum Agrippae* and two thirds as wide.²² Cariou has estimated that, once one accounts for the porticoes, seating and other structures, there remained an area of 37,200 square meters that could be excavated and flooded.²³ For a

¹⁸ Suet. *Gai.* 19, 21, 22 Dio. 59.10, 59.17, 59. And 28, Front. 13.1, Aur. Vict., *Epit. de Caes.*, iv.6, Plin. *Nat.* 36.121, Levick 2001, 21-34, Scheithauer 2000, 101-106.

¹⁹ Suet. *Gai.* 18, 19, 20, CIL VI 1252=ILS 205, Ashby 1939, 175, Blake 1959, 19-24, Evans 1994, 115, 138, Scheithauer 2000, 101-106.

²⁰ Millar 1998, 16-17, 25, 150-153, 176, 197-226, Mouritsen 2001, 26-30, Eder 2005, 13-32.

²¹ Suet. *Gai.* 18, The claim is occasionally made that Augustus gave a *naumachia* in the Saepta. This is probably a misreading of Dio 55.10.7. The sentence reads: "There was a gladiatorial combat in the Saepta, and a naval battle between the "Persians" and the "Athenians" was given on the spot where even today some relics of it are still pointed out." (Loeb translation) The location that Dio is referring to is not the Saepta, but the old *naumachia* of Augustus, some remains of which, we must presume, still existed in his time.

²² Richardson 1992, 340-341, LTUR IV p.228-229 s.v. Saepta Julia (Gatti).

²³ Cariou 2009, 40-43 esp. n36.

ship of even modest proportions the water would have had to be at least 1.5 meters deep, probably substantially deeper.²⁴ This would require the excavation of 55,800 cubic meters of soil and an absolute minimum of 55,800,000 liters of water. If Dio's account is correct, considering the size of the Saepta (figs.2.3 and 2.4) this would have been an impressive undertaking that could demonstrate Gaius' resources and engineering skills.²⁵

Dio does not clarify if the emperor had intended to exhibit more ships and the experiment failed, if the single ship was remarkable in any way or what purpose it was meant to serve. Our fragmentary report on the event from Dio, along with Suetonius' silence, does not suggest that this event was particularly successful or popular.²⁶ Various suggestions have been put forward as to what exactly Gaius was trying to achieve with this operation. Did he stage a foot battle in shallow water that involved a ship as an elaborate prop?²⁷ How would a Roman have interpreted this appropriation of the Saepta? Was Gaius' spectacle intended as entertainment for the people, or was he misappropriating "their" space to make a statement about his own power? Earlier in his reign Gaius had attempted to revive some of the old functions and powers of the *comitia centuriata*, but he was unsuccessful because the majority of the *plebs* responded with apathy. By this point most magistracies had become largely formal, and attending and participating in lengthy electoral proceedings held little attraction. Gaius did occasionally behave towards the populace with disdain and gradually lost their support because

²⁴ Coleman 1993, 53.

²⁵ Dio. 59.10, Berlan-Bajard 2006, 80-81, Cariou 2009, 40-43.

²⁶ Dio 59.10

²⁷ Cavallaro 1984, 91-93, Berlan-Bajard 2006, 80-81, Cariou 2009, 40-43.

of this.²⁸ Flooding the Saepta and rendering it largely unusable for a period of time may have been Gaius' response to what he perceived as popular ingratitude.

Under Claudius, Nero and especially the Flavians, elaborate shows in which the same space alternately became dry land and flooded became an important theme; Gaius may have been pioneering this impressive feat of organization and showmanship. Gaius could have utilized the neighboring *stagnum* or Augustus' enormous custom-built venue and used clever rafts to transform the area into a stage the way his successors did, but he seems to have wanted to dazzle his audience with the unexpected. The Aqua Virgo arcade ended somewhere behind the Saepta; perhaps Gaius decided to give a celebration before he demolished the arcade to make room for his planned amphitheatre. It is unlikely that he wanted to draw attention to this particular action, but it would be an excellent way to showcase the amount of water at his disposal and to prove that the demolition of the Aqua Virgo arcade would not cause any water shortages. As we shall see below, the water of the Aqua Virgo could be distributed through alternate routes. The arcade was the most visible part of its distribution network, but not essential. It is conceivable that the construction work damaged the aqueduct and caused a flood, which urban legend then turned into the ship story related by Dio.

The fact that the entire operation would have been unpractical, expensive and difficult does not alone exclude it from actually having happened, but Suetonius' complete silence is notable. Could Dio have mixed up several events of Gaius' reign? He narrates the incident in a catalogue of Gaius' misdeeds against the senate and equestrians (and his therefore already biased against the incident). This episode could be the result of a garbled account combining

²⁸ Dio 59.9.6., 59.25.5, Suet. *Calig.* 16, 27, Yavetz 1969, 103-117.

references to the construction work next door to the Saepta and the giant ship Gaius used to move an obelisk to Rome. That ship was indeed remarkable; Pliny describes it as being 100 meters long. Romans who could afford it might well have travelled down to Ostia to view this curiosity before Claudius sank it to create a foundation for his new lighthouse in Portus.²⁹

Turning water into dry land was a powerful gesture and suggested superhuman control over the elements. Gaius had an elaborate ship-bridge (complete with lodgings and running water) built across the Bay Puteoli, a western bight of the Bay of Naples, so he could ride across it.³⁰ Dio's description of the bridge episode suggests that some sort of small *naumachia* also may have taken place, although he attributes the sinking and ramming of a series of small ships to the drunken high spirits of the emperor and his companions, rather than an actual event organized for public entertainment. The entire undertaking proved to be disastrously expensive, and may even have caused a famine because so many ships were taken away from their usual service; we may also assume that the ports of Baiae and Puteoli were at least somewhat obstructed.³¹

Although impressive from an engineering standpoint, Gaius' bridge over the bay was not a political success because it was not an act of generosity towards the people and felt uncomfortably close to the actions of Xerxes, who was remembered in Greco-Roman culture as a tyrant. Many of the design elements used in Gaius bridge are in fact reminiscent of those used by Xerxes engineers almost 500 years earlier.³² There was no official spectacle that the public was invited to attend; the people were excluded from the entire event. This was not a display of

²⁹ Pliny, Hist. Nat. 16.201-203, 36.70.

³⁰ Dio. 59.17-18, Coleman 1993, 68-69.

³¹ Dio. 59.17-18, Coleman 1993, 68-69.

³² Herod. 7.33-36.

Gaius' skill in organizing; nor did it showcase his resources: instead it drew important resources away from their intended purpose and created a supply bottleneck.

Suetonius informs us that in 38CE Gaius “[i]ncohabit autem aquae ductum regione Tiburti[...]” (“he also began an aqueduct in the Tibur region”), which Claudius completed and inaugurated in 52CE.³³ Unfortunately he gives no further evidence about the project or how far it may have progressed during Gaius' reign. The choice of the verb *incohare* suggests that the aqueduct was still in the early planning stages and only just begun.³⁴ This is confirmed by Frontinus and Pliny the Elder who accord the glory of construction to Claudius.³⁵ It took a further fourteen years before Claudius could inaugurate the Aqua Claudia and the Anio Novus, therefore work could not have gotten far before Gaius was assassinated.

Scholars have often suggested that Gaius initiated the new aqueduct because a growing taste for lavish water displays was taxing the existing supply.³⁶ The emperor probably also realized the crowd pleasing potential of a new aqueduct: it showed him following in the footsteps of the divine Augustus and would underline his role as a benefactor by supplying a much-needed resource that was welcomed by both rich and poor. The extended water supply could also be used for the kinds of displays and spectacles that Gaius was so well known for and that the populace enjoyed and approved of.³⁷ Whatever his intentions, they were cut short by his violent and early death. It would be Claudius who would take up and complete the aqueduct

³³ Suet. *Gai.* 21.

³⁴ Ashby 1939, 190-192, Blake 1959, 19-24, Evans 1994, 115, 138.

³⁵ Plin. *Nat.* 36.121, Front.13-14

³⁶ Ashby 1939, 190-192, Blake 1959, 19-24, Evans 1994, 115, 138, Scheithauer 2000, 101-106.

³⁷ Blake 1959, 19-24, Evans 1994, 115, 138, Scheithauer 2000, 101-106.

project and make it part of a comprehensive building program focused on large-scale utilitarian architecture.

CLAUDIUS

INTRODUCTION

When Claudius came to power in 41 CE he found himself in a difficult position; he had not been legitimately named Gaius' successor and was instead a usurper, installed by the army and dependent on popular support for survival. In the months leading up to the assassination of Gaius, the senate had already compiled a list of possible candidates for emperor; Claudius was emphatically not on it. There were some in the Senate who called for his murder too.³⁸ His position was further complicated by his physical disabilities, which had led his family to keep him out of the public eye. Claudius was, in many ways, the last person ever intended to rule, a fact which Seneca mercilessly exploited after Claudius' death in his vitriolic *Apocolocyntosis*.³⁹ The people of Rome did not share Seneca's sentiment, but had rather come to appreciate Claudius: he treated them with politeness and responded to their needs and concerns; they reciprocated with respect, even though he lacked the personal charm of Gaius or Nero.⁴⁰ The people perhaps did not love Claudius, but they liked him, and were upset when a rumor spread that he had been murdered.⁴¹

³⁸ Suet. Claud. 2-6, 10, 11. Dio 60.1-3. Levick 2001, 29-39, Osgood 2011, 9-46.

³⁹ Seneca, *Apocolyn.*, Levick 2001, 13-18, 187-197.

⁴⁰ Yavetz 1969, 118-121.

⁴¹ Suet. Claud. 12.

The building activity of Claudius is generally overlooked by modern scholarship. Marion Blake summed the general attitude up perfectly when she stated that “[...] his contributions were utilitarian or of minor importance.”⁴² The only aspect of his architecture that has been discussed in any detail is a distinct form of rusticated masonry that appears almost exclusively during his reign. Traditional rustication is characterized by a roughly worked, undressed surface and has a purely functional purpose. The rugged wall surface resists wear and tear, and is also a labor saving device since only the joints of the blocks need to be finely finished. In contrast, Claudian rustication has an overall extremely rugged and massive appearance and heavily exaggerates the roughness of the surface. Claudius’ architecture usually merits no space in general survey texts, and even works dedicated exclusively to him devote few words to his building activity. It is true that he was not as prolific a builder as many of his successors, but the monuments that he did build stand out as unusual, innovative and extremely ambitious.⁴³

Pliny the Elder is unequivocally positive about Claudius’ building projects and Frontinus shares this sentiment in his discussion of his contribution to the aqueduct system.⁴⁴ Pliny notes that the emperor captured springs and rivers, bored through a mountain, tamed a lake, and created a harbor out of dry land; each of these feats was Herculean in its own right.⁴⁵ Suetonius, Tacitus and Dio give a more mixed account on Claudius’ reign and administration, but are generally

⁴² Blake 1959, 25.

⁴³ The Porta Maggiore occasionally appears in survey texts, but generally speaking Claudian architecture is dismissed with a sentence or two, if mentioned at all. Osgood (2011) is the first to include an entire chapter and general discussion on Claudius’ building activity. MacDonald 1982, 13, makes some intriguing remarks which he never follows up on.

⁴⁴ *HN* 36, 121-123, *Front.* 13-21.

⁴⁵ Claudius even fought a whale that had strayed into his new harbor. Pliny, *Hist. Nat.* 9.14-15, Pliny, *Nat.* 36, 121-123, Suetonius *Claud.* 20,1-3, Bruun 1991, 149-153, Scheithauer 2000, 106-112, Levick 2001, 187-197, Berlan-Bajard 2006, 22-24, 342-348, Osgood 2011, 168-189.

positive about his buildings.⁴⁶ Suetonius approvingly notes that Claudius' chosen projects were not many, but necessary.⁴⁷ What he does not mention is that they were also massive undertakings. Seneca is scathing on all matters concerning Claudius.⁴⁸ Heavily influenced by the negative remarks in the ancient sources, scholars often conclude that his large-scale building projects are inherently flawed, but a careful re-examination of Claudius' monumental architecture reveals original, daringly ambitious and successful monuments. His buildings not only functioned as they were intended to, but contributed to Claudius' lasting fame.⁴⁹ He completed the two aqueducts begun by Gaius, the Aqua Claudia and the Anio Novus, and commemorated the fact with a monumental aqueduct crossing, the ancient Porta Praenestina, better known today as the Porta Maggiore.⁵⁰ This was not his only ornamental aqueduct-crossing in Rome: the little studied Arcus Claudii in the Via del Nazareno commemorates the reconstruction of the Aqua Virgo arcades torn down by Gaius.⁵¹ Claudius' British Victory arch also physically formed part of the same branch line. During the thirteen years of his reign

⁴⁶ Suet. *Claud.*, Tac. *Ann.* 11-12, Dio. 60.

⁴⁷ Suet. *Claud.* 20.1.

⁴⁸ Seneca, *Apocolychn.*

⁴⁹ For the ancient sources see: Pliny, *Nat.* 36, 121-123, Front. 13-21, Suet. *Claud.*, Seneca, *Apocolychn.*, Tac. *Ann.* 11, 13, 2, Dio 60. Osgoode in particular studies Claudius monuments in a more positive light. Keay, Millett et al. 2005 and 2011 argue that the Claudian harbor was, in fact, successful in both design and function. Coates-Stephens investigates the Porta Maggiore in great detail and demonstrates the originality of Claudius' monument, as well as discussing previous scholarship and the more negative reputation past scholarship has given to Claudius. This will be discussed in more detail below in connection with Claudian rustication. Levick pays little attention to Claudian architecture but re-investigates his reputation and how it was affected by the ancient sources. Scramuzza also says little about Claudius' building projects and tends towards criticism. Scheithauer and von Hesberg follow a more neutral path. Mommsen went so far as to call Claudius "mildly deranged." Blake 1959, 25, Mommsen 1992, 157-158, von Hesberg 1994, 246-247, Scheithauer 2000, 106-112, Levick 2001, 187-197, Coates-Stephens 2004, 41-48, Keay and Millett 2005, 271-278, Morelli, Paroli and Verduchi 2005, 241-263, Keay, Millett, Strutt et al. 2005, 71-75, Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 11-12, 34-40, Keay and Paroli 2011, 1-19, Morelli, Mainucci and Arnoldus-Huyzendveld 2011, 47-65, Osgoode 2011, 168-189.

⁵⁰ CIL VI 1256, Pliny, *Nat.* 36, 121-123, Front. 13-21, Suet. *Claud.* 20,1, von Hesberg 1994, 246-247, Scheithauer 2000, 106-112, Coates-Stephens 2004, 41-48, Osgoode 2011, 168-189.

⁵¹ CIL VI 1252=ILS 205, Suet. *Claud.* 20.1-2, Osgoode 2011, 180-181.

Claudius built two new aqueducts, completed the Fucine Lake project, built new roads throughout Italy, and made good headway on the harbor at Portus. Although not always without flaws, each of these large-scale engineering projects is a monumental and complex achievement in itself; even more impressive is the fact that they were all undertaken simultaneously.⁵² This called for an efficient organizational system that was capable of overseeing and coordinating multiple sites and thousands of laborers; it is likely that specialist workers, for example tunnel builders, were moved from one project to the next, exploiting their expertise to maximum effect.⁵³

His other known monuments include mostly smaller temples and altar enclosures modeled on the Ara Pacis; they celebrate the Julio-Claudian dynasty and emphasize the link to Augustus and his successor Tiberius. They also glorify Claudius' own family, announcing his dynastic goals.⁵⁴ He renovated and elaborately embellished the Circus Maximus and restored the Augustan Meta Sudans and its adjacent shrine, which were damaged by fire. He completed most of the rebuilding of the Theatre of Pompey, which had also suffered fire damage, and erected several commemorative arches (the exact number is under debate).⁵⁵

THE AQUA CLAUDIA (AND ANIO NOVUS): ROME'S MOST IMPRESSIVE AQUEDUCT

Claudius was most favorably remembered for the construction of the Aqua Claudia and Anio Novus aqueducts; like Q. Marcius Rex and Appius Claudius Caecus before him, he gained lasting glory from his aqueducts. The two lines seem to have been treated as a single building project.

⁵² Thornton and Thornton 1985, 105-119, Osgoode 2011, 168-189.

⁵³ Thornton and Thornton 1985, 105-119, Osgoode 2011, 168-189.

⁵⁴ La Rocca 1994, 60-111.

⁵⁵ La Rocca 1994, 60-111, Scheithauer 2000, 106-112, Panella and Zeggio 2004, 74, Osgood 2011, 56-62, 152-154, 168-189.

In 52 CE, after fourteen years of construction, they were inaugurated on Claudius' birthday.⁵⁶ Tacitus, however, reports that Claudius was already bringing water from a new source in to the city by 47 CE; this has led some scholars to suggest that the Claudia was finished first and the Anio Novus was completed in 52 CE, but there is no further evidence to corroborate this fact.⁵⁷ Tacitus may simply be mistaken in the year, or perhaps Claudius added a new source to one of the existing aqueducts, such as the Aqua Julia. During his reign repairs were undertaken on the Aqua Marcia and most other aqueducts of the city.⁵⁸

The Aqua Claudia is the most distinct and impressive of Rome's aqueducts. It has a total length of 68 kilometers (46,406 *passus*), about 15 kilometers (10,176 *passus*) of which ran on elevated arcades.⁵⁹ The massive stone arches, almost a thousand in number, march across the plain towards Rome at an impressive height and send a message of power, strength and solidity (fig. 3.1).⁶⁰ For part of its upper course the Anio Novus was an independent aqueduct with some impressive bridges, but for most of its course it rode on top of the arcades of the Aqua Claudia in an *opus reticulatum specus*. Its total length was about 87 kilometers (58,700 *passus*); only around 3.5 kilometers (2,300 *passus*) of that ran on its own substructures and arcades, all located in its upper course. For the remainder it ran below ground or was carried by the Aqua Claudia (fig.3.2).⁶¹ The superimposed lines entered Rome at Spes Vetus, where Claudius' massive

⁵⁶ Front. 13-16, Tac. *Ann.* 11.13, Plin. *Nat.* 36.24.122-123, Van Deman 1934, 187-266, Ashby 1935, 191-193, Evans 1994, 116, Coates-Stephens 2004, 35-36, Rodgers 2004, 182-183, Osgood 2011, 173-180.

⁵⁷ Tac. *Ann.* 11.13, Van Deman 1934, 187-266, Ashby 1935, 191-193, Evans 1994, 116, Rodgers 2004, 182-183.

⁵⁸ Tac. *Ann.* 11.13, Ashby 1935, 191-193, Rodgers 2004, 182-183.

⁵⁹ Front. 18, Ashby 1935, 190, Evans 1994, 115-116.

⁶⁰ Butler 1901, 175-199, Ashby 1935, 224-244, Evans 1994, 115-116, Rodgers 2004, 183, Osgood 2011, 174-177.

⁶¹ Front. 18, Ashby 1935, 252-253, Evans 1994, 115-116.

new aqueduct crossing, the Porta Maggiore, constituted a fitting commemoration of their construction. Together the two new aqueducts practically doubled the amount of water available and acted as the new backbone of the city water supply.⁶² The Aqua Claudia and Anio Novus completely transformed Rome's water supply and became its mainstay. Because of their great elevation the two aqueducts were able to reach all areas of Rome and after them only two more aqueducts were added to the water supply of Rome, one under Trajan, and one under Alexander Severus.⁶³

Pliny's evaluation is particularly valuable because he is a contemporary witness to the construction; his account praises not only Claudius' technical achievements, but also the luxuries and quality of life that the new aqueducts provided (HN 36.24.122-23):⁶⁴

But all previous aqueducts have now been surpassed by the most recent and costly work inaugurated by the Emperor Gaius and completed by Claudius, inasmuch as the Curtian and Caerulean Springs, as well as the Anio Novus, were made to flow into Rome from the 40th milestone at such a high level as to supply water to all seven hills of the city, the sum spent on the work amounting to 350,000,000 sesterces.

If we take into careful consideration the abundant supplies of water in public buildings, baths, pools, open channels, private houses, gardens and country estates near the city; if we consider the distances traversed by the water before it arrives, the raising of the arches, the tunneling of mountains and the building of level routes across deep valleys, we shall readily admit that there has never been anything more remarkable in the whole world.⁶⁵

⁶² Evans 1994, 125-128, 138-139.

⁶³ Evans 1994, 125-128, 129-133, 138-139.

⁶⁴ Plin. *Nat.* 36.24.123, Osgood 2011, 172-180.

⁶⁵ Plin. *Nat.* 36.24.122-123. Loeb translation. 122 Vicit antecedentes aquarum ductus novissimum inpendium operis incohata a C. Caesare et peracti a Claudio, quippe a XXXX lapide ad eam

We can see from Pliny's account that a fair amount of the water was destined for the use of the elite for conspicuous consumption, and also for commercial uses such as market gardens and businesses. Suetonius confirms this when he notes the "*plurimos et ornatissimos lacus*" that the new aqueduct supplied.⁶⁶

The Aqua Claudia drew its water from two particularly high-quality springs, the Caerulan and the Curtian. There was a third, the Albudine which it shared with the Marcia depending on demand, but this source may have been added under Nero.⁶⁷ The quality of the water was second only to the Marcia in quality and popularity.⁶⁸ The Anio Novus in contrast drew its water directly from the Anio River; because of this it was often turbid due to suspended mud particles in the river water. Various settling tanks were built to deal with the issue, but due to the small size of the sediment particles which remained in suspension, these did little to solve the problem.⁶⁹

Because the ground level gradually slopes downwards towards the city, the arches increase in height the closer they get to Rome, with the highest surpassing an impressive 30 meters (fig. 3.3).⁷⁰ The arches and piers have decorative features that, although simple, go beyond the merely utilitarian. The arcades of the great aqueducts of Rome are easily

excelsitatem, ut omnes urbis montes lavarentur, influxere Curtius atque Caeruleus fontes et Anio novus, erogatis in id opus HS [MMM] D.

123 Quod si quis diligentius aestumaverit abundantiam aquarum in publico, balineis, piscinis, euripis, domibus, hortis, suburbanis villis, spatia aquae venientis, exstructos arcus, montes perfossos, convalles aequatas, fatebitur nil magis mirandum fuisse in toto orbe terrarum

⁶⁶ Suet. *Claud.* 20.1, Plin. *Nat.* 36.122-25, Osgood 2011, 171-183.

⁶⁷ Front. 14.2, Van Deman 1934, 189-190, Taylor 2000, 204.

⁶⁸ CIL VI 1256, Front. 13-14, 18, 20, Van Deman 1934, 187-266, Ashby 1935, 191, Evans 1994, 116.

⁶⁹ Front. 15, 90, 93.4, Ashby 1935, 252-253, Evans 1994, 115-116, .

⁷⁰ Butler 1901, 175-199, Ashby 1935, 224-244, Evans 1994, 115-116.

recognizable; they can be distinguished from one another because each has a distinct series of design elements conveying a unique look and sense of proportion (fig. 3.4).⁷¹ Crosby Butler phrased it well when he said that each “purposely aimed at producing an effect of dignity and elegance suitable to the character of the monument.”⁷²

The piers and arches of the Aqua Claudia have a particularly recognizable design: the piers all have a more or less square cross-section and consist of large, roughly dressed stone blocks. On average the blocks measure about 0.9m by 0.9m by 1m.⁷³ Each pier rests on a deep concrete foundation and has a slightly projecting peperino base; the individual stones are laid dry, without any mortar.⁷⁴ The arches are arranged on top of these piers in a way characteristic for this aqueduct: rather than springing directly from the edge of the piers, they are set slightly back, creating an obvious “shelf” that emphasizes the visual distinction between pier and arch (fig.3.5). There is also a simple but elegant molded cornice that runs along the top of each pier, which is not structurally necessary and serves as embellishment. Although the surface of the masonry is intentionally left rough, all the joints and individual voussoirs are carefully and meticulously cut to fit precisely.⁷⁵ Just above the apex of the arches runs a simple projecting band of stone that both forms the base of the water channel and visually distinguishes it for the viewer. An identical band of projecting masonry slabs forms the top of the channel; the old Republican Aqua Marcia uses the same device (fig. 3.6).⁷⁶ The *opus reticulatum* channel of the

⁷¹ Butler 1901, 175-199, Ashby 1935, 224-244.

⁷² Butler 1901, 175.

⁷³ Butler 1901, 182-186, Ashby 1935, 224-244.

⁷⁴ Butler 1901, 175-199, Van Deman 1934, 187-266, 271-330, Ashby 1935, 224-244, Rodgers 2004, 183.

⁷⁵ Butler 1901, 175-199, Van Deman 1934, 187-266, 271-330, Ashby 1935, 224-244.

⁷⁶ Butler 1901, 175-199, Van Deman 1934, 187-266, 271-330, Ashby 1935, 224-244, Rodgers 2004, 183, Osgood 2011, 174-177.

Anio Novus was built on top of the stone *specus* of the Aqua Claudia. The difference in material might be structural, to save weight, or an intentional move to emphasize the presence of two separate aqueducts, or it may indicate that the Anio Novus channel was added at a later date. The general visual effect is one of impressive, massive solidity, but the placement of the arches and proportions also give the aqueduct a dynamic elegance that prevents it from appearing heavy or squat; instead the arches running across the plain towards Rome convey a tremendous sense of energy, their growing height further increasing their momentum.⁷⁷

What is immediately striking to the viewer is not only the great height of the Aqua Claudia arcades, but also that they are constructed out of large blocks of rusticated stone masonry (fig. 3.7). This raises the question whether the choice of building style was based on necessity or was chosen for its symbolic and aesthetic qualities.⁷⁸ Masonry of this type is quite well known for aqueducts: Segovia, Tarragona and the Pont du Gard are just three prominent examples, but the rustication in those cases is not as pronounced as that of the Aqua Claudia.⁷⁹ This rugged style seems to have been a deliberate choice and it is possible that Claudius is taking an already established and familiar form of aqueduct construction and exaggerating it in order to more heavily emphasize the utilitarian nature of the work. The style induces the viewer to make a mental connection to older, traditional public works and their benefits. There is not necessarily anything revolutionary about Claudius' aqueducts, although they are larger and

⁷⁷ Butler 1901, 175-199, Van Deman 1934, 187-266, 271-330, Ashby 1935, 224-244, Rodgers 2004, 183, Osgood 2011, 174-177.

⁷⁸ Van Deman 1934, 151-157, 187-266, 275-276, 299, Ashby 1935, 191-192, 206, Rodgers 2004, 183, Osgood 2011, 175, 177-180.

⁷⁹ Bridges were also frequently rusticated, for example the Augustan bridge at Narni. But again the masonry is not as exaggeratedly rugged as that of the Aqua Claudia.

more ambitious than their predecessors, but the unusual style intimates that there is something dramatically different about them.

It is possible that the Roman brick industry had not yet reached a sufficient level of organization to make brick and concrete a viable option for such a massive project as the Aqua Claudia.⁸⁰ Concrete technology had been used since the late Republic for substructures, terracing walls, warehouses and a multitude of other building types and it was employed for the foundations of the Aqua Claudia piers and the subterranean parts of both the new aqueduct channels.⁸¹ It was also used extensively and successfully in Claudius' harbor at Portus. Brick was used in repairs carried out under Claudius on the channels of the Tepula and Julia, which employed triangular bricks set in concrete, but none, or little, seems to have been used for the Aqua Claudia.⁸² Blake believed that Claudian engineers did not yet feel fully confident about the use of concrete and preferred to limit its use to thick, buried foundations and smaller, non-load-bearing parts of structures such as the channels of the aqueducts rather than the piers themselves that would have been subjected to high stresses.⁸³ She repeatedly notes signs of poorly mixed concrete and mortar and suggests that here and at the Fucine Lake problems arose because Claudian engineers were not yet able to create good concrete unless using *pozzolana* imported from the Bay of Naples (as they did for the harbor at Portus) and

⁸⁰ Van Deman 1934, 151-157, 187-266, 275-276, 299, Ashby 1935, 191-192, 206, Blake 1959, 79-86, MacDonald 1982, 12-13, Rodgers 2004, 183, Lancaster 2005, 1-21.

⁸¹ Van Deman 1934, 151-157, 187-266, 275-276, 299, Ashby 1935, 191-192, 206, Blake 1959, 79-86, MacDonald 1982, 12-13, Rodgers 2004, 183, Lancaster 2005, 1-21, Osgood 2011, 175, 177-180.

⁸² Testaguzza 1970, 70-75, 105-127, Morelli 2005, 241-247, Keay and Millett 2005, 11-14, 271-281, 297-304, Morelli, Marinucci and Arnoldus-Huyzendveld 2011, 47-66. For building techniques at Portus, Van Deman 1934, 151-157, 187-266, 275-276, 299, Ashby 1935, 191-192, 206, Blake 1959, 79-86.

⁸³ Blake 1959, 79-86.

occasionally used local materials incorrectly because they mistook them for *pozzolana*.⁸⁴ The first brick-and-concrete aqueduct arcade in Rome, the so-called *Arcus Caelimontani*, was built under Nero. As the numerous repairs attest, it still suffered serious structural problems.⁸⁵ For the first few kilometers of its trajectory, from its source until it meets the Aqua Claudia's route, the Anio Novus runs on a separate brick, tufa and concrete aqueduct that spans some deep and challenging ravines. Van Deman was satisfied with the quality of the concrete used.⁸⁶ Enough of the original Claudian phase of these aqueduct bridges survives to prove that they are impressive feats of engineering. This suggests that speaking solely from the standpoint of technical ability and construction know-how, the Aqua Claudia could theoretically have been constructed using materials different from the ones that were ultimately employed.⁸⁷ All imperial aqueducts that were to follow utilized brick and concrete rather than stone masonry, but a new aqueduct was not added to the city until the reign of Trajan.⁸⁸ Since the Anio Novus was superimposed on the Aqua Claudia arches the Roman engineers and architects may have felt that the solid stone building material was needed to support the additional channel, which was made mostly of concrete and was therefore substantially lighter than the massive stone *specus* of the Aqua Claudia.⁸⁹ Flavian inscriptions on the Porta Maggiore record two different

⁸⁴ Her findings have not been confirmed by modern day research at the Fucine emissary. We will revisit this question below. Blake 1959,79-86.

⁸⁵ Ashby 1935, 244-251, Evans 1994, 118-120. The Arcus Caelimontani had to be heavily shored up and renovated under the Severans, but they of course ruled 130 years after the aqueduct's construction. The chapter on Nero will revisit this question.

⁸⁶ Van Deman 1934, 151-157, 187-266, 275-276, 299, Ashby 1935, 252-298,

⁸⁷ Van Deman 1934, 151-157, 187-266, 275-276, 299, Ashby 1935, 252-298, Blake 1959,79-86, Evans 1994, 115-116, Osgood 2011, 175, 177-180,

⁸⁸ Evans 1994, 129-133.

⁸⁹ CIL VI 1257, CIL VI 1258, Van Deman 1934, 151-157, 187-266, 275-276, 299, Ashby 1935, 191-192, 206, Blake 1959,79-86, Evans 1994, 115-116, Rodgers 2004, 183, Osgood 2011, 175, 177-180.

restoration campaigns, which insinuate that the stone arches of the Claudia were not necessarily as stable as they appear. It is, however, important to note that the Flavians may be exaggerating for political reasons.⁹⁰ Stating that a building had fallen down from age (*conlapsa vetustate*) was a popular *topos* in imperial inscriptions. Numerous brick and concrete support structures were inserted to shore up the stone arches of the Aqua Claudia, but it is important to note that many of these repairs date to at least a century after the completion of the aqueduct.⁹¹

Utilitarian considerations were clearly not the sole determining factor for the choice of material used in the Aqua Claudia.⁹² Brick-faced concrete could have been a quicker and cheaper option, especially when one considers the enormous amount of labor and cost involved in the quarrying and transportation of the Aqua Claudia blocks, each of which weighs at least 2000kg. According to N.A.F. Smith's hypothetical calculations each individual stone block would have required about five days to quarry and roughly dress (assuming a two-man workforce) and would have required at least twelve oxen plus drivers to move it.⁹³ Each of the higher piers would have required somewhere between 200 and 250 blocks of stone or more. Smith does not

⁹⁰ CIL VI 1257:

Imp(erator) Caesar Vespasianus August(us) pontif(ex)
max(imus), trib(unicia) pot(estate) II, imp(erator) VI,
co(n)s(ul) desig(natus) IIII, p(ater) p(atriciae), |aquas Curtiam et Caeruleam perductas a divo Claudio
et postea intermissas dilapsasque | per annos novem sua impensa urbi restituit.

CIL VI 1258:

Imp(erator) T(itus) Caesar divi f(ilius) Vespasianus
Augustus pontifex maximus, tribunic(ia) |potestate X, imperator XVII, pater patriae, censor,
co(n)s(ul) VIII |aquas Curtiam et Caeruleam perductas a divo Claudio et
postea |a divo Vespasiano patre suo urbi restitutas, cum a capite aquarum a solo vetustate dilapsae essent,
nova forma reducendas sua impensa curavit.

⁹¹ CIL VI 1257, CIL VI 1258, Van Deman 1934, 151-157, 187-266, 275-276, 299, Ashby 1935, 191-192, 206, Blake 1959, 79-86, Evans 1994, 115-116, Rodgers 2004, 183.

⁹² Evans 1994, 115-116, Rodgers 2004, 183, Osgood 2011, 175, 177-180,

⁹³ Smith 2001, 68-75.

take into consideration the additional time, skill and labor that would have been necessary to create the voussoirs, each of which had to be an exact fit. Brick and concrete would require less specialized equipment such as the cranes and hoists that were needed to lift the massive stone blocks of the Aqua Claudia into place. Brick and concrete could also be transported more easily and flexibly.⁹⁴ Therefore, the choice and size of the building stone send an obvious message concerning the expense, effort and organizational skill required to create the aqueduct. Just like the Aqua Marcia before it, the Aqua Claudia was meant to be an aqueduct worthy of a world capital; it needed to be magnificent to worthily represent the city of Rome and its patron, the emperor Claudius. For much of its above-ground course the Aqua Claudia runs alongside Rome's other great aqueduct, the venerable Aqua Marcia, built close to 200 years earlier and up until this point Rome's most impressive aqueduct arcade. The towering new imperial aqueduct dwarfs the Aqua Marcia, but also invites comparison (fig. 3.6, 3.8, 3.9).⁹⁵ The masonry of the Marcia is smoother, but its blocks are equally large and impressive, and the two aqueducts share design elements such as the protruding stone courses marking the *specus* and carefully cut stone voussoirs. It is not hard to imagine that Claudius and his architects were trying to associate the new aqueduct with all the grandeur and dignity of the old aqueduct, which had been the pride of Republican Rome and brought its builder, Q. Marcius Rex, undying fame. The Aqua Claudia is echoing, and at the same time outshining, the Republican aqueduct builders.⁹⁶ Through association with the Aqua Marcia, the Aqua Claudia also suggests a renewed interest in the traditions and institutions of the past. This fits conceptually with Claudius' revival of the

⁹⁴ Smith 2001, 71-74.

⁹⁵ Rodgers 2004, 183.

⁹⁶ Van Deman 1934, 234-266, Veyne 1990, 292-294, Norena 2001, 160, Zuiderhoek 2007, 196-213.

ensorship, introduction of archaizing spelling and general emulation of Augustus' interest in restoring the *mos maiorum*.⁹⁷

CELEBRATING AN ENGINEERING ACHIEVEMENT: THE PORTA MAGGIORE

The most famous of Claudius' commissions is the Porta Maggiore. It was called the Porta Praenestina in antiquity and was dedicated in 52 CE. It is a monumentalized travertine gateway over 30 meters high that supports the Aqua Claudia and Anio Novus (fig.3.10).⁹⁸ It stands in the Spes Vetus area, in the spot where the two aqueducts reached the outskirts of Rome and crossed the ancient Via Praenestina, just above the point where that road and the Via Labicana split off from each other (3.11).⁹⁹ The Aqua Marcia, carrying the Aqua Julia and the Aqua Tepula, reached the city in the immediate vicinity and the entire area was dominated and defined by the aqueduct arcades.¹⁰⁰ Claudius most visibly contributed to the urban landscape of Rome through his aqueducts, and in the Porta Maggiore he created a new landmark. Extremely well preserved, it is most frequently discussed because of its use of the distinct, exaggerated Claudian rustication (which I will revisit in detail below), but it is important for a number of other reasons, including its unprecedented scale and innovative design.¹⁰¹

⁹⁷ Levick 1978, 80-81,94-97, Rodgers 2004, 183.

⁹⁸ LTUR III p. 310-311 s.v. Porta Praenestina (G. Pisani Sartorio), Aicher 1995, 52-58, Coates-Stephens 2004, 35-62.

⁹⁹ Ashby 1935, 190-191, 253, von Hesberg 1994, 248-250, Evans 1994, 116-118, Aicher 1995, 52-58, Coates-Stephens 2004, 36-48, 55-62.

¹⁰⁰ Ashby 1935, 190-191, 253, von Hesberg 1994, 248-250, Evans 1994, 116-118, Aicher 1995, 52-58, Coates-Stephens 2004, 36-48, 55-62.

¹⁰¹ Ashby 1935, 190-191, 253, von Hesberg 1994, 248-250, Evans 1994, 116-118, Aicher 1995, 52-58, Panciera 1996, 134-136,159-160, Benefiel 2001, 3-4, Ceccherelli and Manciola 2001, 173-175, Coates-Stephens 2004, 35-62, Osgood 2011, 177-180.

The Porta Maggiore itself consists of two massive arches defined by three piers; each of these rests on a slightly projecting base and is pierced by a smaller, arched opening about a quarter of the way up, which is in turn framed by a simple *aedicula* with finely carved Corinthian capitals supporting triangular pediments (figs 3.10, 3.12 and 3.13).¹⁰² The central pier has an additional arched opening at ground level. Each of the piers is decorated with a molded cornice about one-third of the way up the *aedicula* (fig. 3.13). The two gate openings themselves are monumental; their span was increased to 6.5 meters, as compared to 5.5 meters for the rest of the arcade, and finely carved moldings frame the arches. To make room for the Porta Maggiore and the new aqueduct arcades, some preexisting structures, such as a mill, had to be demolished. Others, like the Tomb of Eurysaces, were carefully accommodated and preserved. This accounts for the slightly skewed plan of the monument which caused each pier to have a slightly different cross-section and orientation (fig. 3.12).¹⁰³ The roads were also raised to even out the ground level and give the area a unified look.¹⁰⁴

The massive voussoirs of the various large and small arches draw the eye upwards and the rough surface of the individual stones gives the entire gate a hefty yet energetic appearance. The engaged columns of the *aediculae* are particularly notable. Their individual drums are only roughly rounded and resemble a series of stacked, unworked column capitals, yet the actual capital itself is finely worked (figs. 3.13 and 3.14).¹⁰⁵ The unfinished appearance of the columns is reminiscent of lifting bosses and reminds the viewer of the process involved in

¹⁰² von Hesberg 1994, 248-250, Coates-Stephens 2004, 36-48, 55-62.

¹⁰³ von Hesberg 1994, 248-250, Aicher 1995, 52-58, Coates-Stephens 2004, 36-48, 55-62.

¹⁰⁴ Coates-Stephens 2004, 36-48, 55-62.

¹⁰⁵ Lugli 1957, 208, 330, von Hesberg 1994, 248-250, Aicher 1995, 52-58, Coates-Stephens 2004, 36-48, 55-62.

building the Porta Maggiore. It signals that the construction of an aqueduct is a tremendous achievement, but also that the work on it is never really completed because maintenance is a vital aspect of aqueduct planning.

The attic of the Porta Maggiore is, in strong contrast, carefully smoothed and divided into three registers, each separated by a projecting course of stone (fig.3.15).¹⁰⁶ The two upper registers delineate the channels of the Aqua Claudia and the Aqua Anio Novus. The top register is a little higher than the other two, and bears Claudius' monumental inscription commemorating the inauguration of the two aqueducts. Two shallow pilasters supporting a cornice frame this inscription. The middle inscription was added by Vespasian, and the bottom inscription by Titus.¹⁰⁷

The Porta Maggiore is not the only example of a monumentalized aqueduct crossing, but it is larger and more impressive than any that were built before or after it. A comparison between the Augustan Porta Tiburtina (now Porta San Lorenzo) and the Porta Maggiore highlights the uniqueness and level of ambition of the Porta Maggiore. The Augustan monument, as discussed above, marks where the combined Marcia/Julia/Tepula crosses the Via Tiburtina, but it has only one bay, as opposed to the Porta Maggiore, which has two (figs. 2.17 and 3.16).¹⁰⁸ The size and scale of the two monuments is also different: the Porta Tiburtina is impressive and resembles a traditional city gate, but it is dwarfed by the Porta Maggiore. Augustus used finely dressed travertine and simple architectural features such as Tuscan columns, an entablature and a carved *bucranium* for decoration and to frame his monumental

¹⁰⁶ The two lower bands now occupied by the Flavian inscriptions may originally also have been rough, setting off the Claudian inscription even more. Petrucci 1938, 17 n1.

¹⁰⁷ CIL VI 1257, CIL VI 1258, von Hesberg 1994, 248-250, Benefiel 2001, 3-4.

¹⁰⁸ von Hesberg 1994, 248-250, Aicher 1995, 58-59, Coates-Stephens 2004, 41-48, 55-62.

inscription (fig. 2.19). It is built in a classicizing style popular during Augustus' reign.¹⁰⁹ In style, general design and size the Claudian monument has no typological precedent; it is a new and original creation. The Porta Maggiore would have been recognized as specifically Claudian by the ancient viewer.¹¹⁰

The Porta Maggiore not only carried the aqueduct channels, but like the Augustan Porta Tiburtina before it, it also functioned as a monumental new entrance into the city. The choice of rugged masonry for the Porta Maggiore might be intended to evoke a traditional city gate, since city walls often also employed rustication.¹¹¹ In the days when it was first built, the area around the Porta Maggiore was mostly suburban and not heavily built up, thus the monument was more visible and impressive than it is today. Most of the area was occupied by suburban villas, interspersed with monumental tombs and burying grounds along the Via Labicana and the Via Praenestina. The soaring new aqueducts crossing over the Via Praenestina had a great visual impact and created a worthy monumental entrance into Rome (figs. 3.11 and 3.17). The city had long outgrown its old Republican walls and had no visually distinct boundary or clearly signaled entrances in this period (with the exception of the Augustan Porta Tiburtina).¹¹² The Porta Maggiore was incorporated into the Aurelian walls in the third century and the aqueduct arches were filled in. Today we are faced by this visually solid barrier surrounded by buildings. In Claudius' day the gate and aqueduct made a different impression and functioned as a sort of penetrable city boundary.¹¹³

¹⁰⁹ von Hesberg 1994, 248-250, Aicher 1995, 58-59, Coates-Stephens 2004, 41-48, 55-62.

¹¹⁰ von Hesberg 1994, 248-250, Coates-Stephens 2004, 41-48, 55-62.

¹¹¹ Coates-Stephens 2004, 36, 39-62, Osgood 2011, 177-182, Personal communication van der Graaff.

¹¹² Coates-Stephens 2004, 55-62.

¹¹³ Ashby 1935, 242, Mancini 2001, 22, Coates-Stephens 2004, 37-40.

With the Porta Tiburtina, Augustus had already worked towards creating a prominent monumental entrance into Rome, worthy of her status as an imperial capital. With the Porta Maggiore Claudius added a new formal entrance to the city that announced to the visitor all of the power and ingenuity at Rome's disposal. The Porta Maggiore and its associated arcades might have an additional symbolic meaning and function: to delineate the southeastern boundary of the city *pomerium*, which was enlarged under Claudius and came to include at least part of the Aventine. Unfortunately there is only scant and inconclusive evidence as to how far the *pomerium* was extended in a southeasterly direction.¹¹⁴ The idea that the Porta Maggiore and aqueduct arcades were chosen to mark out and monumentalize this important boundary is attractive. However, the presence of tombs in the area complicates the issue, since burials within the *pomerium* were usually forbidden. Some ambiguous geographical labels transmitted in ancient sources such as Tacitus and Frontinus add to the uncertainty.¹¹⁵ Several *cippi* of the Claudian *pomerium* have been discovered, but their exact locations and context are either insufficiently known or inconclusive; they do not precisely pin down the course of the Claudian *pomerium* (fig.3.18).¹¹⁶ The Claudian inscription specifies the length of the two new aqueducts measured from the Porta Maggiore itself, which may indicate that the gateway delineated the *pomerium* and constituted both a physical and conceptual boundary.¹¹⁷

What messages were this monument and the associated aqueducts intended to send? We are fortunate enough to have the structure speak, at least in part, for itself: the extremely

¹¹⁴ Tac. Ann. 12.23.4ff, Seneca, *de Brev. Vit.* 13.8, Griffin 1962, 109-113, Levick 1978, 93-94, Coates-Stephens 2004, 40,55-62.

¹¹⁵ Tacitus *Ann.* 12.23, Front. 69, Coates-Stephens 2004, 40, 55-62.

¹¹⁶ Coates-Stephens 2004, 40.

¹¹⁷ Coates-Stephens 2004, 40, 55-62.

well preserved and grand inscription (CIL VI 1256) on the top register of the Porta Maggiore proudly proclaims Claudius' patronage and motivation (fig. 3.15). The choice of subject matter and wording reveals some of his specific concerns and interests, distinguishing the inscription from, for example, that on the Augustan Porta Tiburtina.¹¹⁸ Pliny the Elder (HN 36.122-23, quoted above) is probably drawing on this inscription when he discusses the sources and length of the two aqueducts.¹¹⁹

Ti. Clavdivs Drvsi f. Caisar Avgvstvs Germanicvs pontif(ex) maxim(vs), | tribvnicia potestate xii, co(n)s(vl) v, imperator xxvii, pater patriae, | aqvas clavdiam ex fontibvs, qvi vocabantvr caervlevs et cvrtivs a milliario xxxv, | item anienem novam a milliario lxii sva impensa in vrbem perdvendas cvravit.

(Tiberius Claudius Caesar Augustus Germanicus, son of Drusus, Pontifex Maximus, in his twelfth year of tribunician power, consul for the fifth time, emperor twenty-seven times, father of his country, at his own expense, ensured that the Aqua Claudia was brought from the springs which are called Caerulian and the Curtian, from the forty-fifth milestone, and also that the Anio Novus be brought into the city from the sixty-second milestone.)

The first two lines of the inscription consist of the standard formulas for Claudius' official titles and the date of the dedication, which is 52 or early 53 CE. One point of particular note here is the archaizing spelling used for CAISAR, frequently used in official Claudian inscriptions and associated with his scholarly interest in language. None of the new letters introduced during his reign (and abandoned after his death) appear in the inscription and the word "*patriae*" follows the standard spelling (rather than "*patriai*", as it is sometimes spelled during Claudius' reign).¹²⁰

The next two and a half lines give the specific names of the springs that feed the Aqua Claudia and focus on the length of the aqueducts and their exact point of origin. The distance from the

¹¹⁸ Front. 13-15, CIL VI 1256, Benefiel 2001, 3-4, Rodgers 2004, 182-188, Coates-Stephens 2004, 36-40.

¹¹⁹ Plin. HN. 36.122-23, Benefiel 2001, 3-4, Rodgers 2004, 182-188, Coates-Stephens 2004, 36-40.

¹²⁰ Levick 1978, 80-81, 94-97, Panciera 1996, 134-136, Benefiel 2001, 3-4, Rodgers 2004, 182-188, Coates-Stephens 2004, 37-40.

city (or rather the Porta Maggiore) is given in detail (some slight discrepancies in measurement can be attributed to later modifications to the course of the aqueducts).¹²¹ The springs are the Cerulean and Curtian. *Caeruleus* is Latin for “blue,” and is often used as an epithet of river and ocean deities. Consequently the name conjures up associations of purity and high quality. Mention of the individual springs can also be interpreted as an act of respect towards their tutelary deities. Pride of place in the inscription is given to the impressive length of the two aqueducts; it specifically notes that the Aqua Claudia originates at the 45th milestone (ca.68 km away) and the Aqua Anio Vetus, drawing water from the Anio River, at the 62nd milestone (ca.87 km).¹²² Most of the last line is occupied by Claudius’ emphatic statement that he paid for the entire aqueduct out of his own resources, rather than using state revenue.¹²³

Pliny the Elder’s discussion of the two new aqueducts emphasizes the process of construction and shows that he considered them to be crowning accomplishments of Roman engineering. Claudius reminds the viewer of this by means not only of the rugged style of the monument, but of the inscription as well. His personal generosity and role as a provider are important, but do not occupy as much space in the inscriptions. This projects modesty and places the achievements of Rome ahead of his own personal glory. Together with the inscription, the design of the monumental gate signals to the viewer the image of a masterpiece of engineering commissioned by an emperor who put in motion tremendous resources in skill

¹²¹ Benefiel 2001, 3-4, Rodgers 2004, 182-188, Coates-Stephens 2004, 37-40.

¹²² Ashby 1935, 253, Rodgers 1986, 157-160, Evans 1994, 115-116, Benefiel 2001, 3-4, Rodgers 2004, 182-188, Coates-Stephens 2004, 37-40.

¹²³ Panciera 1996, 142ff, Benefiel 2001, 3-4, Rodgers 2004, 182-188, Coates-Stephens 2004, 37-40, Osgood 2011, 177-182.

and manpower to capture the clean springs of distant mountains and bring them to Rome as a gift to the people.

MONUMENTALIZATION OF THE AQUA VIRGO ARCADES: OTHER MONUMENTAL AQUEDUCT ARCHES UNDER CLAUDIUS

Claudius beautified and monumentalized aqueduct arches in an unparalleled way. The Porta Maggiore is the most spectacular example, but not the only one. Even his triumphal arch celebrating his British victories was integrated into the Aqua Virgo aqueduct, rather than being a freestanding monument (fig. 3.19).¹²⁴ The Aqua Virgo arcade, built by Agrippa around 19 BCE, was not particularly long, probably about 700 meters, but it was the only significant aqueduct arcade within the urban area of Rome until Nero's construction of the Arcus Caelimontani.¹²⁵ It was an important landmark: in a modern-day context, the ancient aqueduct of Segovia (possibly of a Claudian date) can still convey how impressive a feature an aqueduct arcade can be within an urban context, even in a heavily built up area.¹²⁶ Ancient regulations stipulated an unobstructed space on either side of the aqueduct to ensure maintenance access; this means not only that the arcades remained unencumbered and visible, but that the maintenance corridors might have functioned as convenient shortcuts for the urban population.¹²⁷ After Gaius had demolished the arcades to make way for another project, Claudius rebuilt them using travertine and marble. He added at least two monumentalized street crossings and his triumphal arch along its intra-urban route from the Pincian Hill to the Campus Martius

¹²⁴ CIL VI 40416, Ashby 1935, 177-180, Laubscher 1976, *passim*, Barrett 1991, 3-15, La Rocca 1994, 267-273, Osgood 2011, 91-106.

¹²⁵ Ashby 1935, 172-182, Blake 1959, 26-28, Quilici 1983, 65-70.

¹²⁶ Personal communication with John R. Clarke.

¹²⁷ Blake 1959, 26-28, Van der Graaff, personal communication, Taylor 2000.

(fig.3.19).¹²⁸ Various excavations allow us to trace much of the route the arcade followed, but there is some controversy as to the exact terminus.¹²⁹ The precise orientation of the ancient street layout is also unclear; it is therefore hard to say with certainty how many monumental aqueduct crossings there were along the course of the Aqua Virgo or how many important streets it crossed.¹³⁰ There are numerous Renaissance accounts of piers and arches being uncovered in the general area, but the authors are often imprecise about the exact location and it is impossible to establish a date for the described finds.¹³¹ The picture is further complicated by the fact that much work was again carried out on the Aqua Virgo arcades after Claudius' death, mostly because of serious fire damage.¹³²

The best preserved of the Claudian arches is the so-called Arcus Claudii, now located in the courtyard of a modern apartment building just off the Via del Nazareno (fig.3.20).¹³³ Inaugurated in 46 CE it marked where the Aqua Virgo crossed over a side street of unknown name and commemorates the reconstruction of the Aqua Virgo arcades. It is an imposing and well-made monument, composed of large blocks of travertine and stylistically similar to the Porta Maggiore, although it is on a smaller scale and has three bays, rather than two.¹³⁴ It is exceptionally well preserved, but has only been excavated to just above the spring of its three arches. The façade projects out from the aqueduct arcade and the central arch is higher than

¹²⁸CIL VI 1252=ILS 205, Ashby 1935, 172-182, Barrett 1991, 2-3, La Rocca 1994, 60-111, Osgood 2011, 92-96, 180-182,.

¹²⁹ Ashby 1935, 172-182, Evans 1994, 105-109.

¹³⁰ Ashby 1935, 172-182, Barrett 1991, 2-4, LTUR I 1995p.85-86 s.v. Arcus Claudii ((E. Rodriguez Almeida), Lanciani, *Forma Urbis* 9, 15-16, 86-87.

¹³¹ Ashby 1935, 172-182, Barrett 1991, 2-4.

¹³² Ashby 1935, 172-182, Barrett 1991, 2-4.

¹³³ Osgood 2011, 92-96, 180-182, La Rocca 1994, 267-273, Barrett 1991, 2-4, Benefiel 1991, 6-7, Ramage 1983, 201-206, LTUR I p.85-86 s.v. Arcus Claudii ((E. Rodriguez Almeida), Ashby 1935, 174-182.

¹³⁴ Osgood 2011, 92-96, 180-182, Barrett 1991, 2-4, Ramage 1983, 201-206, Ashby 1935, 174-182.

the two lateral ones (fig 3.21). It is flanked by heavily segmented columns with Tuscan capitals, which in contrast are fully finished. Some of the column drums resemble roughed-out Corinthian capitals, just as on the Porta Maggiore (fig.3.22). The engaged columns support a molded cornice, above which is located a large inscription. The two side bays have monumental, projecting key-stones and a simple cornice just above their arches; there is no evidence for pediments like those on the Porta Maggiore. The attic inscription is surmounted by an entablature that extends laterally above the two side arches. Piranesi published two engravings of the Arcus Claudii: one as he saw it and the other a hypothetical reconstruction. He did not realize that there were three arches; he shows only the central one, misinterpreting the monumental keystones of the two lateral arches as projecting bosses (fig. 3.23).¹³⁵ There is no actual trace of the fine molding he shows on the central arch (comparable to that on the Porta Maggiore); instead the inside of the arch on the monument just shows the beautifully cut voussoirs.¹³⁶

The attic inscription (CIL VI 1252=ILS 205), located in identical form on each side of the monument consists of large, carefully cut letters and is an exceptional example of Imperial self-representation. The arch itself and the inscription reveal how Claudius characterized Gaius to the public and how he used him to legitimize his own rule.¹³⁷ The inscription reads:

Ti(berius) Claudius Drusi f(ilius) Caesar Augustus Germanicus | pontifex
maxim(us), trib(uncia) potest(ate) V, imp(erator) XI, p(ater) p(atriciae), co(n)s(ul)

¹³⁵ Piranesi, *Campo Marzio*, pl.20, *Antichità*, pl. 12, Osgood 2011, 92-96, 180-182.

¹³⁶ Piranesi, *Campo Marzio*, pl.20, *Antichità*, pl. 12, Osgood 2011, 92-96, 180-182.

¹³⁷ CIL VI 1252=ILS 205, Ramage 1983, 201-206, Osgood 2011, 92-96, 180-182, Benefiel 2001, 6-7.

desig(natus) IIII, | arcus ductus aquae Virginis disturbatos per C. Caesarem | a
fundamentis novos fecit ac restituit.¹³⁸

(Tiberius Claudius Caesar Augustus Germanicus, son of Drusus, pontifex
maximus, in his fifth year of tribunician power, emperor eleven times, father of
his country, consul designate for the fourth time, restored from the foundations
and made new the arcades of the Aqua Virgo, because they had been
demolished by Gaius Caesar)

Claudius had to walk a fine line on how he treated Gaius' memory. On the one hand Gaius had been unpopular and labeled a tyrant (at least by the upper classes), and had been brutally assassinated. On the other hand he was also Claudius' nephew and it was in part this blood relation that justified Claudius' own rule. He therefore could not completely vilify Gaius without hurting his own position.¹³⁹ Instead he chose to repeatedly contrast his socially responsible policies with Gaius' supposedly more selfish, frivolous or self-aggrandizing building projects; the reason why Gaius had interfered with the aqueduct, probably to build a new amphitheatre, is not discussed. Instead the reader of the inscription is invited to ask what could be more irresponsible than to demolish an aqueduct arcade and take a valuable resource away from the populace.¹⁴⁰ Claudius makes direct reference to this in the inscriptions, specifically naming Gaius as the cause of the Virgo's interruption and utilizing the word *disturbatos*, which implies that a

¹³⁸ CIL VI 1252=ILS 205, Benefiel 2001, 6-7.

¹³⁹ Ramage 1983, 201-206, Osgood 2011, 92-96, Benefiel 2001, 6-7.

¹⁴⁰ Evans 1994, 115, 138, Evans 1994, 115, 138, Scheithauer 2000, 101-106, Benefiel 2001, 6-7, Osgood 2011, 92-96,.

degree of active, intentional aggression was involved in the destruction of the arcade, and not simply passive neglect.¹⁴¹ This is favorably contrasted with Claudius' own action "*a fundamentis novos fecit et restituit*."¹⁴² He emphasizes the fact that he not only rebuilt the arcade from the ground up, he returned it to the people. It is notable that he actually mentions Gaius by name; later aqueduct inscriptions, Flavian or Severan for example, frequently imply that the aqueducts were disrupted due to an unpopular predecessor's poor government, but do not specifically name the culprit.¹⁴³ How serious a disruption to the water supply Gaius' demolition caused is hard to say, but in all likelihood it was fairly minor. The Virgo was still bringing water into the city and could be redistributed along secondary lines. It is possible that there were some problems of supply to the Baths of Agrippa, the *stagnum*, or the Euripus, but there is no actual evidence to corroborate this. The Virgo arcades were highly visible and an important local landmark, but they did not serve an absolutely vital function.¹⁴⁴

It is uncertain how much of the arcade was actually torn down, but it was enough to allow Claudius to furnish it with several ornamental crossings and to turn an entire stretch of the Aqua Virgo into an impressive showpiece.¹⁴⁵ Excavations carried out in the late 19th century revealed a number of piers near the arch in the Via del Nazareno, all of travertine, showing that even the regular arcade arches that did not mark a street crossing were monumental and decorative. In style and execution they resemble the Aqua Claudia piers, with the same kind of

¹⁴¹ CIL VI 1252=ILS 205, Ramage 1983, 201-206, Benefiel 2001, 2-7, Osgood 2011, 92-96, 180-182,.

¹⁴² CIL VI 1252=ILS 205, Osgood 2011, 92-96.

¹⁴³ Ramage 1983, 201-206, 209-214, Benefiel 2001, 2-7. One notable exception are the Domitianic *Arae incendii Neronis* that specifically criticize Nero. See Cline 2013.

¹⁴⁴ Ramage 1983, 201-206, Benefiel 2001, 6-7, Osgood 2011, 92-96,.

¹⁴⁵ Ashby 1935, 174-182, Ramage 1983, 201-206, Nicolazzo 1999, 74-78, Osgood 2011, 92-96, 180-182, Lanciani, *Forma Urbis* 9, 15-16.

impost molding, or shelf, which makes these so distinct.¹⁴⁶ Another set of beautifully constructed arches found near the Palazzo Sciarra were made of tufa, with key elements such as keystones and moldings made of travertine. Since the technique and material are different, it is possible that these do not date to the Claudian phase, but are either original to Agrippa or from a later restoration.¹⁴⁷ Where the arcades crossed the Via Lata they were transformed into Claudius' British Victory Arch, discussed below. Yet another monumentalized arch was discovered by the church of S. Ignazio, and we have two descriptions of it: one by Cassiano dal Pozzo and one by Alessandro Donati. It is not possible to establish a Claudian date from their descriptions, but its existence makes it likely that he originally built a monumentalized crossing here too, even if the described monument dates to a later rebuilding replacing a Claudian original.¹⁴⁸ Donati's description is detailed and he provides a reconstruction showing two somewhat fanciful elevations and a cross-section (fig. 3.24). He notes that the arch was revetted in marble, unlike the other arches found nearby, which are brick. He observed Corinthian columns, pilasters, friezes, moldings and other elaborate decorations, all in marble. The water channel was made of brick. The techniques and materials used, marble revetment and brick rather than massive travertine, suggest that the monument Donati saw is a later rebuilding of the arcade, and not Claudian. This area was severely damaged by subsequent fires, especially that of either 104 or 110 CE. Lead *fistulae*, some large, were discovered nearby. One mentions the temple of the Divine Matidia (built after 119 CE), indicating that this phase of the aqueduct

¹⁴⁶ Ashby 1935, 174-182, Nicolazzo 1999, 74-78, Lanciani, *Forma Urbis* 9, 15-16.

¹⁴⁷ Ashby 1935, 174-182, Nicolazzo 1999, 74-78.

¹⁴⁸ Donati 1695, 399-404, Ashby 1935, 174-182, Ramage 1983, 201-206, Nicolazzo 1999, 74-78, Benefiel 2001, 6-7, Osgood 2011, 92-96, 180-182, Lanciani, *Forma Urbis* 9, 15-16,.

arcade perhaps dates to a Hadrianic renovation.¹⁴⁹ This entire area was intensely reworked under Hadrian and gained a decidedly Hadrianic stamp. Further extensive rebuilding took place in the area under the Severans after the severe fire under Commodus.¹⁵⁰

The grandest part of the Aqua Virgo arcade was Claudius' British victory arch, erected where the Virgo crossed the important Via Flaminia, one of Rome's oldest streets and the main artery leading north. The arch itself no longer exists and was already in a ruined state by the ninth century. Representations on coins and a number of fragments from the actual monument allow us a good idea of what it looked like, although some questions still remain unanswered (fig.3.25 and 3.26).¹⁵¹ It had only one bay, but was richly decorated with relief panels, free-standing sculpture in the attic, and columns in precious and exotic marbles. There is no record that this monument featured Claudius' typical rustication. All known fragments used a Classical style reminiscent of Augustus.¹⁵² This does not necessarily mean that there was no use of exaggerated rustication on the arch, but it was clearly not a predominant decorative feature. The known fragments are of sculptures and inscriptions. The undecorated parts of the arch could have been executed in the distinct Claudian manner, but this monument celebrated a military victory, not an engineering achievement. The design would thus not have featured the rusticated style as prominently (or at all) because utilitarianism and the celebration of process were not its primary concern; on the contrary, a military victory was supposed to be final and

¹⁴⁹ Donati 1695, 399-404, Ashby 1935, 174-182, Nicolazzo 1999, 74-78.

¹⁵⁰ Ashby 1935, 174-182, Nicolazzo 1999, 74-78, Osgood 2011, 92-96, 180-182.

¹⁵¹ CIL VI 40416, Ashby 1935, 177-180, Laubscher 1976, Barrett 1991, 3-15, La Rocca 1994, 267-273, Osgood 2011, 91-106.

¹⁵² Ashby 1935, 177-180, Laubscher 1976, 78-103, Barrett 1991, 3-15, La Rocca 1994, 267-273, Osgood 2011, 91-106.

not one step in a long, never-ending chain. Claudius' rustication would therefore have sent the wrong message if used extensively on this monument.

The remains of the arch were excavated in 1562, but there is some evidence that some fragments were known even before then. Pirro Ligorio furnished two reconstruction drawings of the remains (fig. 3.27). They seem to be fairly accurate, and he recognized that the arch was an integral part of the Aqua Virgo. There are, however, errors in some details, including his transcription of the inscriptions. He notes that it was difficult to read them and when transcribing the attic inscription he seems to have assumed that this arch, like the one in the Via del Nazareno, commemorated the reconstruction of the Aqua Virgo and incorrectly conjectured that the inscription mentioned the aqueduct.¹⁵³ Flaminio Vacca, a local sculptor who purchased a large number of the fragments, gives further details: he mentions fragmentary reliefs, some showing Claudius, a number of inscriptions, and architectural elements such as moldings and column bases. All except the bases were carved from high-quality marble. The finds were unfortunately sold off and dispersed and most of them can no longer be accounted for. Vacca makes no note of rustication.¹⁵⁴ Another artist, Pierre Jacques, provided more drawings which might show some of the fragments of the arch, including a battle scene and architectural details. Other drawings show Roman military figures, such as a *signifer* and a *tubicen*, on a larger scale, probably from individual panels (fig.3.28). Some extant sculptural fragments show similar depictions of Roman soldiers. One example is a relief now in the Louvre showing what are probably Praetorians. They share the general style as well as some specific details with Jacques'

¹⁵³ CIL VI 920a, CIL VI 921a, Vat. Lat. 5237.141, Vacca 1594, section 28, Ashby 1935, 177-180, Barrett 1991, 3-15. All relevant excerpts of Ligorio and Vacca are quoted by Ashby.

¹⁵⁴ CIL VI 920a, CIL VI 921a, Vat. Lat. 5237.141, Vacca 1594, section 28, Ashby 1935, 177-180, Barrett 1991, 3-15. All relevant excerpts of Ligorio and Vacca are quoted by Ashby.

drawings, suggesting that it was these that he saw and copied.¹⁵⁵ Cassiano dal Pozzo informs us that during another excavation in 1641, more relief fragments were found, along with a large part of the attic inscription.¹⁵⁶ More recently Laubscher suggested that some of the fragments of a group of large sculptural panels known as the Della Valle-Medici, were originally Claudian (rather than Antonine), and were re-used as *spolia* on an arch of Diocletian. He notes that they were probably originally part of Claudius' victory arch on the Via Lata. The fragments show female personifications of provinces, Venus Victrix writing on a shield, the goddess Roma and other fragmentary scenes connected to imperial clemency, virtue, and duty.¹⁵⁷ The arch had not only a main attic inscription, but also a series of secondary ones that were dedicated to Claudius' extended family. Enough fragments, or drawings of fragments, exist to show that the same inscription was repeated on each side.¹⁵⁸

The date of the arch is somewhat controversial: Claudius rebuilt the Aqua Virgo in 46 CE according to the inscription on the arch in the Via del Nazareno; the senate voted the triumphal arch to Claudius in 43 CE and his triumph celebrating his British victories was held in 44 CE. The titles of Claudius and Nero, however, date the inscription on the monument itself to no earlier than 51 or 52 CE.¹⁵⁹ Barrett suggests that the Aqua Virgo was not finished until 51 CE and the victory arch had to be postponed until the arcades were done. Meanwhile Claudius reminded the public of the coming arch by issuing coins with its image.¹⁶⁰ Barrett's interpretation seems

¹⁵⁵ Barrett 1991, 1-19, Ashby 1935, 177-180.

¹⁵⁶ Barrett 1991, 3-15, Ashby 1935, 177-180.

¹⁵⁷ Laubscher 1976, 78-103, La Rocca 1994, 267-273.

¹⁵⁸ CIL VI 920a, CIL VI 921a, 921 b, 921c, 923. Some of these are only known from drawings. Ashby 1935, 177-180, Barrett 1991, 3-15.

¹⁵⁹ Barrett 1991, 6-19, Osgood 2011, n.72 p.285, 94-101.

¹⁶⁰ Barrett 1991, 17.

unlikely. The date on the Arcus Claudii is 46 CE and commemorates the reconstruction of the Aqua Virgo arcade. The entire arcade measures a mere 700 meters; it seems improbable that it would have taken from before 46 CE to 51/52 CE to complete this short section, especially considering that the entire Aqua Claudia and Anio Novus were built in fourteen years. Building projects were sometimes dedicated before they were completed, but in this case it would potentially have opened Claudius up to ridicule if the aqueduct was not yet fully functioning when he erected his inscription on the Arcus Claudii in 46 CE. It is possible that Claudius wanted to inaugurate all of his aqueduct projects the same year, in 52 CE, to make an added impression. It is more likely that after Claudius' wife Messalina conspired against him and had to be executed, the inscriptions on the victory arch were altered to omit her and include his new wife Agrippina instead. From the inscription fragments we can gather that Claudius included his wife and family members, both male and female, on the monument. The collection of names announced the dynastic continuity and cohesion of the Julio-Claudians, while at the same time setting apart Claudius' own little dynasty. The events surrounding Messalina's disgrace obviously necessitated the removal of her name. This may have delayed progress on the arch because elements had to be altered to exclude her.¹⁶¹ The aqueduct itself could have been completed much earlier while the inscriptions for the victory arch were redesigned or replaced. Osgood suggests that there was an earlier monument that was completely replaced with the better-known arch, but his arguments are not entirely convincing since our knowledge of the arch is limited to fragments of its decoration.¹⁶²

¹⁶¹ Barrett 1991, 6-19, Osgood 2011, n.72 p.285, 94-101.

¹⁶² Barrett 1991, 15-17, Osgood 2011, n.72 p.285, 94-101.

Why would Claudius have chosen to make his triumphal arch part of the Aqua Virgo rather than freestanding? The location was a prime one; the arch spanned the Via Lata in an area surrounded by important monuments, many of them dynastic monuments to Augustus and his family. Like the Porta Maggiore and its associated aqueducts, the arch functioned as a monumental entrance into Rome and the screen of the Aqua Virgo arcade took on the symbolic role of a city wall, signaling to travelers that they were entering into a different zone. The Via Lata also functioned as the main artery leading north, and therefore marked the departure point for Britain, Claudius' new conquest. Another victory arch was erected in Gaul, in Gesoriacum (modern day Boulogne), the embarkation point used for the conquest of Britain; an arch therefore marked each end of the voyage.¹⁶³ As discussed above, the Aqua Virgo arcades were highly visible and a striking landmark; they also functioned as a kind of conceptual boundary between Augustus' new developments in the Campus Martius and the actual city of Rome. Claudius' arch commemorating his military victories took pride of place in the new Rome built by his renowned predecessors and became a grand gateway to Augustus' dynastic monuments.¹⁶⁴ The goal may be glory through association, but Claudius' arch can also be read as an act of piety and respect to Agrippa and Augustus because it is physically integrated into the famous aqueduct built by Agrippa, compromised by Gaius, and carefully rebuilt by Claudius. His arch physically shores up and supports his predecessors, tying the past and present rulers together. In addition, the victory arch plays a utilitarian role by being part of the aqueduct arcade, which imbues it with an aura of social benefit and prevents it from being read as simply

¹⁶³ Barrett 1991, 1-3, 6-9, 19, Osgood 2011, 93-101.

¹⁶⁴ Favro 1996, 193, 268-269.

a conventional victory monument. It also helped underline Claudius' own dynastic pretensions, not only through the inscriptions in honor of his living family members, but also because the arch created a counterpoint to the one that had been voted to Claudius' father Drusus on the Via Appia, the main artery leading south.¹⁶⁵ The Arch of Drusus also appears on Claudian coinage, linking the military exploits of father and son. The Porta Maggiore, British victory arch, Arch of Drusus and the minor Aqua Virgo arches ensured that a traveler entering Rome was highly likely to encounter a monument celebrating Claudius and his family.¹⁶⁶

THE CLAUDIAN RUSTICATED STYLE

The most frequently addressed issue concerning Claudius' architecture is the use of a distinct form of heavy, exaggerated rustication, which is found most famously on the Porta Maggiore, but also at Portus, and in his arches along the Aqua Virgo Arcades.¹⁶⁷ The Aqua Claudia arcades, although rough, are not as heavily articulated as Claudius' other monuments and fall somewhere in the middle between Claudius' distinct form and conventional rustication. Traditional rustication is a roughly worked, undressed surface and has a purely functional origin; it wears better than finely dressed ashlar, especially in high traffic areas, and is a useful labor saving device. Because it visually has a pleasing solidity it was also popular for foundations. It was traditionally used for public utilitarian structures such as bridges, city walls, aqueducts and the lower courses of theatres.

¹⁶⁵ Suet. *Claud.* 1.3, Dio 55.2.3, Barrett 1991, 1-3, 6-9, 19.

¹⁶⁶ Suet. *Claud.* 1.3, Dio 55.2.3, Barrett 1991, 1-3, 6-9, 19, Osgood 2011, 93-101.

¹⁶⁷ To date Coates-Stephens 2004, 39-48, esp. 44-46, notes 50 and 51, has the most thorough and comprehensive discussion on Claudian rustication and its significance. See also Marchetti-Longhi 1955, 320-1, Lugli 1957, 208, 329-330, MacDonald 1982, 13, Claridge 1998, 313, 358, Woodhill 2001, 283, Liljenstolpe 2001, 1-27, Osgood 2011, 179-18, for different opinions on the significance of Claudian rustication.

Rustication came into widespread use for fortification walls during the Hellenistic period, Attalid Oenoanda and the walls of Perge are prime examples.¹⁶⁸ By the Mid-Republican period the technique appears in Italy in terrace walls, temple podia, city walls and aqueducts, most notably the Aqua Marcia, built in the 140s BCE (fig. 3.8). The Ponte di Nona, dating to the early first century BCE is a good example of rustication used in bridge architecture.¹⁶⁹ Its application in the lower courses of theatres and amphitheatres may be early Augustan. Most Republican amphitheatres are poorly preserved and most frequently appear to have a concrete façade faced with irregular reticulatum. Many republican amphitheatres that do show traces of rustication in their lower cases appear to have been refurbished under Augustus.¹⁷⁰ The Augustan Theatre of Marcellus is one of the earliest known theatres to employ this style of masonry (fig. 3.29). Later buildings such as the Colosseum continued to utilize rustication on the lower tiers, as do many bridges. Because it is predominantly found on public buildings it reminded the viewer of the process of building and the generosity of the structure's patron. Rustication also fits with the Vitruvian notions of *firmitas*, *utilitas* and *venustas*, the principle that strength, utility and beauty are appropriate and complement each other. Rustication represents this idea particularly well because visually it produces an interesting and contrasting texture that relieves monotony and creates the impression of solidity and stability; it also does not conceal the nature of the often humble building material, instead it is displayed for all to

¹⁶⁸ McNicoll 1997, 2-4, 120-126, 126-131.

¹⁶⁹ Lugli 1957, 208-212, 231, Liljenstolpe 2001, 7-10, 20-24.

¹⁷⁰ Welch 2007, 189-263. Part of the façade of the Nola amphitheatre preserves a layer of stucco in the First Style of wall decoration with the illusion of massive blocks at the bottom, but the effect is more that of ashlar masonry.

see.¹⁷¹ In contrast, the surfaces of Claudius' monuments have not simply been left in a roughly dressed state: the exaggerated, disarticulated Claudian rustication is a notable departure from this traditional form. The Claudian variant shows a radically new and anti-classical treatment of the individual elements of a building.¹⁷²

The style appears during his reign, is used once after his death on the substructures of the Temple of the Deified Claudius, and then apparently disappears (fig. 3.30). Chronologically and ideologically it seems specifically linked to Claudius, apparently so much so that it was deemed a fitting style for the platform of his temple.¹⁷³ Scholars usually attribute this unique style of masonry to the direct influence and tastes of the emperor himself.¹⁷⁴ Some have noted his known interest in scholarship and antiquarianism, which visually expressed itself, for example, in the archaizing spelling found in some of his inscriptions. The argument usually goes that Claudius was interested in Roman history and therefore liked rustication because it was a time-honored, ancient building technique.¹⁷⁵ This approach oversimplifies the issue and misses the fact that Claudian rustication is quite different in appearance from Republican examples: each stone is hewn in a heavy way to exaggerate its roughness and to emphasize each individual building element in a kind of artificial rawness. This is particularly clear in the columns of the

¹⁷¹ Vit. *de arch.* 1.3.2, Lugli 1957, 208, 330, Claridge 1998, 313, 358, Liljenstolpe 2001, 1-27, Coates-Stephens 2004, 36, 39-48.

¹⁷² MacDonald 1982, 13, Claridge 1998, 313, 358, Coates-Stephens 2004, 36, 39-48, Osgood 2011, 179-182.

¹⁷³ Prandi 1953, 373-420, LTUR I p.277-278 s.v. Claudius, Divus, Templum (Buzzetti), Coates-Stephens 2004, 39-48, Osgood 2011, 179-182.

¹⁷⁴ See Suet. Claud. 41-42 and Tacit. Ann. 11.13-14 for Claudius' interest in history and language. Marchetti-Longhi 1955, 320-1, Lugli 1957, 208, 329-330, MacDonald 1982, 13, Claridge 1998, 313, 358, Liljenstolpe 2001, 2, 6-21, Woodhill 2001, 283.

¹⁷⁵ For example Marchetti-Longhi 1955, 320-1, Levick 1978, 80-81, 94-97, Claridge 1998, 313, 358 (Claridge points out that Claudian rustication is quite different from the usual kind), Levick 2001, 19, Woodhill 2001, 283.

Porta Maggiore, the segments of which resemble a series of unfinished capitals stacked on top of each other.¹⁷⁶ All of the blocks, even the roughest-looking ones, are carefully and precisely worked around the joints, ensuring a perfect fit between the pieces. The actual building quality is therefore high.¹⁷⁷ Some of the blocks in the monuments are completely smoothed to enhance the contrast and set off the rough elements even more. The general result of this technique is to make a building appear more impressive than it already is: it gains a general air of massive, raw, unmovable strength. MacDonald interpreted this highly unusual form of rustication as a sign that Claudius was looking for a new dynastic style and was interested in moving away from the Augustan Classicism of his predecessors.¹⁷⁸

We find that the exaggerated Claudian variant is applied to buildings that are intended to be monumental showpieces, even if they are utilitarian in nature.¹⁷⁹ The unworked surfaces signal that the building is public and utilitarian, but the intentional, exaggerated styling of Claudian rustication seems to have an added meaning.¹⁸⁰ The heavily articulated elements reveal the structural basis of the building, emphasizing its honesty and solidity.¹⁸¹ By deliberately contrasting with that of Claudius' predecessors, this new style serves to remind the viewer of who was responsible for these new and important amenities for the city.

The question of meaning is further complicated by the great influence Claudian rustication had on Renaissance artists and architects. We need to remember that the way in

¹⁷⁶ Lugli 1957, 208, 330, Coates-Stephens 2004.

¹⁷⁷ Marchetti-Longhi 1955, 320-1, Lugli 1957, 208, 329-330, MacDonald 1982, 13, Claridge 1998, 313, 358, Woodhill 2001, 283, Liljenstolpe 2001, 15-18, Coates-Stephens 2004, 36, 39-48.

¹⁷⁸ MacDonald 1982, 13.

¹⁷⁹ Lugli 1957, 208, 330, Liljenstolpe 2001, 1-27, Coates-Stephens 2004, 36, 39-48.

¹⁸⁰ Claridge 1998, 313, 358, Liljenstolpe 2001, 1-27, Coates-Stephens 2004, 36, 39-48, Osgood 2011, 179-182.

¹⁸¹ Rabun Taylor, personal communication.

which the technique was used and understood in early modern times is not necessarily the same as it was in the first century CE.¹⁸² Osgood suggests that the massive, raw stone is meant to evoke the emperor's triumph over nature and to serve as a reminder of his engineering achievements.¹⁸³ The rough stone conjures up mental images of the tunneling, digging, quarrying and other enormous efforts that went into the creation of these monuments and Pliny the Elder praises these endeavors effusively in his writing.¹⁸⁴ Coates-Stephens notes that all of the known instances of Claudian rustication, with the possible exception of the Claudianum (fig 3.3), occur on buildings somehow related to water; he offers the explanation that the rough stone is meant to evoke natural grottoes, nymphaea and rock-cut water courses.¹⁸⁵ This building technique, however, is not really found in any ancient grottoes or nymphaea; the use of rugged masonry in the Claudian style for this type of structure is a Renaissance phenomenon and can be observed on examples such as the grottoes and fountains in the gardens of Fontainebleau and the Orti Oricellari.¹⁸⁶ Ancient Roman grottoes and nymphaea did not use great, rough travertine blocks, but instead utilized small pieces of tufa or pumice cemented to the walls and ceilings to

¹⁸² Liljenstolpe 2001, 1-27, Coates-Stephens 2004, 36, 39-48.

¹⁸³ Coates-Stephens 2004, 36, 39-48, Osgood 2011, 179-182.

¹⁸⁴ Plin. *Nat.* 36.122-25.

¹⁸⁵ Coates-Stephens 2004, 46, n.53. We do not know what the original plans for the Claudianum were since Agrippina's version was never completed and partially demolished by Nero. Perhaps some sort of water feature was planned and the marble plan locates the so-called aqueductium there. This feature is usually interpreted as either a distribution tank or the headquarters of the cura aquarum. (See Tucci 2006 for a detailed discussion) We will return to this question in the chapter on Nero.

¹⁸⁶ For a detailed discussion and many examples of Renaissance and Baroque nymphaea inspired by ancient architecture see Ballerini and Medri 1999.

create the effect of natural stalactites and rough cave walls. The general effect and technique are quite different (fig.3.31).¹⁸⁷

These opinions all have some valid points, but let us consider another aspect which has not been adequately treated. Water played an extraordinarily important role in Claudius' self-presentation and the Porta Maggiore is in many ways the embodiment of his legacy. Claudius followed the lead of Augustus and Agrippa in building aqueducts and reorganizing the water supply. He intentionally alludes to this fact, thus branding himself as a responsible and generous ruler. What sets Claudius apart is the new way in which he chose to celebrate water. Unlike the perfect, finished monuments of Augustus, he chose to put emphasis on the building process of the aqueducts rather than the completed product. He did not display the water itself in the same way his predecessors had; instead he focused on the tremendous skill, effort and resources required to bring the water to Rome. The rugged form of the Porta Maggiore reminds the viewer of the distant mountains where the precious water originates, but the unfinished qualities of the design also serve as reminders of the difficulty and sophistication involved in building an aqueduct. We are reminded of the multitude of people, both skilled and unskilled, that are required to carry out the work and that are at the emperor's disposal. Claudius is showing off his own abilities as an organizer, but also the talents of his workmen, the minds and

¹⁸⁷ Lugli 1957, 208, 330, Rabun Taylor and John R. Clarke, personal communication. Lavagne, 1988, in his massive work on Roman grottoes does not list any instances of masonry of the Claudian type. Other scholars have gone so far as to attribute the unusual style of the Porta Maggiore to Claudius' weakness as a ruler: unable to control his builders, he was defrauded by them, or, alternately, because the emperor ran out of funds the stones were left rough instead of being finished on site as planned. This is hardly convincing considering that the style appears on a number of extremely important and prestigious monuments. A show-piece such as the Porta Maggiore would hardly have been left in an unfinished state while Claudius was still alive to supervise construction. The platform of the Claudianum, begun by Agrippina and finished by Vespasian, also utilizes this style, which emphasizes the fact that it was a deliberate choice rather than the result of some sort of mistake. See Coates-Stephens 2004, 44-46, esp. notes 50 and 51, for a full discussion.

hands that make all of Rome's engineering marvels possible. Claudius utilized talented people, regardless of their humble origins (a factor that ancient authors would come to comment on scathingly) and showed off the human genius he commanded.¹⁸⁸ He is celebrating not just his own achievements, but those of Rome and her people.

The rough stones of the Porta Maggiore give it a solid, rugged look, but at the same time there is tremendous energy and the illusion of motion. The style and inscription remind the onlooker that the water is constantly moving through the massive aqueduct. The unfinished surfaces also draw attention to the fact that an aqueduct has to be constantly maintained; this work is permanently in progress. The labor of keeping it in running order is never over, but the expanded water administration of Claudius was created to ensure that the water supply remained safe and the Porta Maggiore is meant to remind us of this foresight. Claudius' monument suggests that he is thinking not just of the present, but also of the future.

The Porta Maggiore is carefully designed and practical to its core. The design is especially successful because it celebrates Roman skill, not just Claudius' ego, making it a monument to civic pride. It celebrates his triumph over water and nature, but also fêtes the people of Rome because the water brought by the aqueduct is a gift to them. As such the Porta Maggiore embodies Claudius' legacy and speaks to the past, present and future by evoking ancestral virtues, showcasing the emperor's generosity and talent during his lifetime, and also celebrating his lasting achievements and foresight. The Aqua Claudia and the Porta Maggiore announce that they are built to last for centuries and have an enduring benefit for the people of Rome. The way in which the style of the monument captured the imagination of Renaissance artists clearly

¹⁸⁸ Suet. Claud. 24, 25, 28, 29, Tac. Ann. 10.24, 10.28-29, 10.33, 12.25, Dio. 60.2 and *passim*.

shows the powerful and original nature of the design: it speaks to the viewer in so many ways that even observers far removed from Claudius' time and culture cannot resist it.

REORGANIZATION OF THE WATER SUPPLY UNDER CLAUDIUS

Frontinus quotes a pre-Claudian senatorial decree that specified that the number of public basins could be neither decreased nor increased. He argues that this was necessary because before the construction of the Aqua Claudia and the Anio Novus the available volume of water did not allow for an increase in the number of public fountains.¹⁸⁹ Rodgers recommends caution with this statement, noting that the decree was more likely the result of the senate trying to balance the priority awarded to public fountains (and therefore the needs of the public) with the wants of private water concession holders. Frontinus' interpretation does, however, prove how important and valuable the two Claudian aqueducts were perceived to be, even fifty years after their completion (fig. 3.32).¹⁹⁰ To care for the extensive new infrastructure and to ensure proper maintenance and distribution, Claudius reorganized and enlarged the *cura aquarum*. This built on the system created by Agrippa and almost tripled the number of staff responsible for the upkeep and management of the water supply by adding a new *familia* of 460 workers in around 52 CE. They did not replace the crew of publicly owned specialist workers instituted by Agrippa; instead they were intended to complement them and be responsible for the two new aqueducts. The new crew remained the property of the emperor and was part of the *familia Caesaris*. The *familia publica* workers were paid for from the *aerarium* (which received the fees

¹⁸⁹ Front. 104-106, 116-118.

¹⁹⁰ Rodgers 2004, 282-290, 298-305.

for private water concessions), while the new crew was financed *ex fisco*.¹⁹¹ Claudius showed the same kind of concern and foresight as Agrippa when he created and put in place the necessary measures to ensure that his aqueducts would continue to function and be administered and maintained even long after his own death. The two *familiae* were probably frequently combined into one, but nominally at least the original *familia publica* fell under the sway of the *curator aquarum*, whereas the imperially owned one was under the control of an imperial official, a procurator.¹⁹² Frontinus' language suggests that he was in fact in charge of both, perhaps as a result of a Nervan reform that streamlined the administration. Frontinus also attributes to Claudius some changes to the procedure by which a private water grant was obtained and notes that Claudius was the first to introduce a procurator, usually an imperial freedman, to assist the curator. How exactly the administrative duties were divided between the two is not certain. Rodgers suggests that Frontinus himself was not entirely sure why the position was created, but it was probably intended to relieve the senatorial *curator aquarum* of some of the more routine aspects of the position and take over some of the workload added by the two major new aqueducts.¹⁹³ He further proposes that the introduction of the new procurator may have resulted in some inefficiency in the system and led to competition and resentment between the curator and the procurator (one a senatorial, the other usually a freedman, sometimes an equestrian).¹⁹⁴ Occasionally a *curator aquarum* had to be away from Rome; for example, A. Didius Gallus, who held the post from 38 to 49 CE, was absent overseas

¹⁹¹ Front. 104-106, 116-118, Bruun 1991, 140-62, 207-209, 213-17, Rodgers 2004, 282-290, 298-305, Osgoode 2011, 181-182, 190-205.

¹⁹² Bruun 1991, 140-62, 207-209, 213-17, Rodgers 2004, 282-290, 298-305.

¹⁹³ Front. 104-106, 116-118, Bruun 1991, 140-62, 207-209, 213-17, Rodgers 2004, 282-290, 298-305,.

¹⁹⁴ Bruun 1991, 140-62, 207-209, 213-17, Rodgers 2004, 282-290, 298-305.

for several years.¹⁹⁵ Therefore, having a second reliable official to fill the breach was a practical move. One important function that the procurator was intended to serve was to increase imperial control over the water administration and especially the granting of private water concessions, which could be a powerful political reward and incentive. Agrippa had already appointed *adjutores* to assist the *curator aquarum*, but we do not know how regular or official the post was, or if Claudius' procurator was supposed to replace them and make the position more official and regularized.¹⁹⁶ Love of organization and efficiency are two aspects that Claudius' monuments frequently allude to.

THE LEGACY OF CLAUDIUS

In choosing mostly utilitarian projects Claudius employed a very powerful political tool: his buildings served important practical functions and the common good. Almost all of Claudius' major works are somehow related to water and the food supply, and because of this could be interpreted as acts of benefaction. He sent a clear message distancing himself from Gaius, who was often accused of self-indulgence, and proclaimed that he was instead a dutiful ruler dedicated to meeting the needs of his subjects. The choice of engineering projects allowed him to be ambitious while at the same time avoiding negative reactions: because the buildings were for the public good it did not matter that they were ruinously expensive. What in any other case could have been interpreted as excessive ambition or glory-seeking became instead an expression of generosity towards the public and a celebration of Roman engineering, and by

¹⁹⁵ Bruun 1991, 158-162.

¹⁹⁶ Front. 104-106, 116-118, Bruun 1991, 140-62, 207-209, 213-17, Levick 2001, 84, 111, Rodgers 2004, 282-290, 298-305, Osgood 2011, 181-182, 190-205.

extension, the Roman people.¹⁹⁷ The control and dominance of water that his monuments achieved also served to intimate that Claudius was victorious over nature and that because of this his own status approached the super-human.

His monuments and projects also showcase Claudius' capabilities as an organizer and the enormous feats of his engineers, designers and builders. Gaius had attempted something similar with his bridge across the Bay of Naples, but this was read as an act of self-aggrandizement because it was not a practical or public work. No one but Gaius drew a benefit from the bridge, and it even had negative consequences. Claudius' projects were carefully designed to showcase the emperor's chosen persona, that of *pater patriae* (a title he officially received in 42 CE) and benefactor, through the resources, both material and human, that he had at his disposal and was willing to mobilize for the common good. Perhaps more importantly his monuments also announced the greatness of the Roman Empire, and by extension the *populus Romanus*. The inhabitants of Rome could feel vested in Claudius' engineering triumphs because he presented them as their own.

Because of their visibility and accessibility, intra-urban aqueduct arcades could be a powerful political tool; when Claudius rebuilt the Aqua Virgo arcade he effectively transformed it into a celebration of his reign, using it to contrast his own reign with Gaius' perceived tyranny and lack of responsibility. Gaius had, after all, demolished the arcades to make way for another project.¹⁹⁸ In rebuilding and monumentalizing the Aqua Virgo arcades Claudius demonstrated his engineering resources and concern for the public water supply, but also forged a personal link to

¹⁹⁷ Osgoode 2011, 168-189.

¹⁹⁸ CIL VI 1252=ILS 205, Ashby 1935, 172-182, Barrett 1991, 2-3, La Rocca 1994, 60-111, Osgood 2011, 92-96, 180-182.

Augustus and Agrippa: he piously restored their work, while finding a way to condemn Gaius' actions without weakening his own claims to the throne.¹⁹⁹ The Aqua Virgo retained strong associations with Agrippa and the Golden Age of Augustus; Claudius' careful reconstruction effort therefore helped associate him with his illustrious predecessors and all their positive aspects.²⁰⁰ The Aqua Virgo arcade functioned as a visual threshold between old Rome and the Augustan developments in the Campus Martius; the arches therefore became symbolic gateways to the Augustan Golden Age, and now they had a distinctly Claudian veneer added to them.²⁰¹ What he had achieved with the Aqua Claudia and his aqueduct arcades was memorable and impressive, but it had been done before. At Portus and the Fucine Lake he set out to achieve what most considered impossible.

¹⁹⁹ CIL VI 40416, Barrett 1991, 1-19, Scheithauer 2000, 106-112, Levick 2001, 29-39, Osgoode 2011, 168-189.

²⁰⁰ Favro 1996, 193, 268-269, Osgood 2011, 92-96, 180-182.

²⁰¹ Ashby 1935, 172-182, Barrett 1991, 2-4, La Rocca 1994, 60-111, Favro 1996, 193, 268-269.

Chapter 4: Claudius' Extra-Urban Projects

FOR THE GREATER GOOD OF ROME

Claudius' arguably largest and most impressive public building projects were not located within Rome itself, but they were meant to benefit the city directly. They were closely linked to Rome conceptually and in the case of Portus, physically, since the gigantic new harbor was connected to the city via a series of canals and the Tiber river (fig. 4.1). Portus played a pivotal role in the food supply of Rome, particularly the *annona*. The harbor was vital for the import of luxuries and profited anyone involved in the import business by offering new harbor facilities with docks and warehouses. The proximity of the new harbor cut out many middlemen and streamlined transportation.¹

To drain the Fucine lake Claudius' engineers dug a massive tunnel and a canal, and created a complex intake structure to regulate the flow of the water. To celebrate this enormous achievement Claudius gave two spectacles that were remarkable in both scale and innovation. The land reclaimed by lowering the level of the Fucine Lake was intended for food production for the Roman market and was connected to the city by the brand-new Via Claudia Valeria (fig.4.2). The project was also an investment opportunity for wealthy individuals who hoped to gain a good profit off the reclaimed land.² In this chapter I will first visit Portus, then expand on Claudius' inaugural spectacles on the Fucine Lake and finally discuss the Fucine emissary.

¹ Rickman 1971, 123-132, Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 35-36.

² Dio 60.11.1-5, Scramuzza 1940, 173-174, Rickman 1980, 60-93, 156-197.

PORTUS: A NEW MARITIME HARBOR FOR ROME

As with the water supply, Claudius invested great effort in the grain supply of Rome, trying to enlarge and improve the system and to make it more efficient by eliminating bottlenecks.

Nothing illustrates this more clearly than his enormous harbor project at Portus. Newly and precariously in power in 41CE, Claudius was faced with a serious grain shortage in Rome.

According to Suetonius the populace came close to rioting, pelting Claudius with stale bread and threatening him to such a degree that he came close to being killed by the mob.³ He took this lesson to heart: if the people were not fed properly they could pose a great threat to a ruler, because an insufficient food supply led to real suffering and political instability. In response, Claudius made Rome's food and water supply a high priority for the rest of his reign. Claudius' actions suggest that he genuinely cared for the needs of the populace and in turn they were willing to give him their loyalty.⁴ Problems with the food supply were caused by a number of factors, notably inclement weather conditions which could severely slow or hamper transport by sea, or worst of all, sink the grain fleet.⁵ The old river harbor at Ostia was not large enough to deal with the grain ships or any major cargo vessels; instead they landed in Puteoli on the Bay of Naples, the only Italian port large enough to accommodate them. The grain was then either transported overland or sent up to Ostia in smaller craft and then reloaded a third time and

³ Suet. *Claud.* 18.

⁴ Rickman 1980, 74-76, Levick 2001, 108-109.

⁵ During the winter months shipping was completely suspended because it was considered too unsafe. Grain had to be carefully stockpiled and distribution precisely monitored during these downtimes and there was always the risk of it rotting in the warehouses or being destroyed by floods or vermin. The transport itself was not in government hands and the interests of the shipping and trading associations could create conflicts of interest, including price fixing and intentional delays to increase profits. Rickman 1980, 60-93, 156-197, Tchernia 2003, 45-60, Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 34-36, Osgood 2011, 182-187.

shipped up the Tiber.⁶ A highly efficient port was required for the ships to be able to make two grain runs a year: they had to be unloaded quickly so they could immediately turn around and sail back for Egypt while weather conditions were favorable. Because the grain ships usually arrived together in a fleet, at certain times Puteoli's resources were stretched to the limit. Enormous warehouses were also needed to safely store all the grain and other cargo coming off the ships until they could be redistributed.⁷

Grain was by no means the only food staple that had to be imported: olive oil, wine and *garum* were all vital products that needed to make their way to Rome.⁸ Creating a new harbor and storage facilities right at Rome's doorstep would eliminate many middlemen and delays, and Puteoli would no longer be at risk of being overwhelmed. It also ensured that the grain fleet was no longer dependent on a single harbor. Claudius traveled down to Ostia and the coast at the beginning of his reign and by 42 CE he gave the order to proceed with planning and construction; he visited the site fairly frequently.⁹ These tours of inspection were probably meant to reassure the plebs that he had not forgotten about their concerns. The undertaking was enormous and ruinously expensive; even Julius Caesar had decided against it. Dio provides us with the anecdote that when Claudius consulted his architects about the project their response was simply: "You don't want to do it!"¹⁰ But Claudius, seeing the necessity and the great advantages, went ahead, and according to Dio he "[...] conceived an undertaking worthy of

⁶ Rickman 1980, 60-93, 120-197.

⁷ Rickman 1980, 60-93, 120-197, Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 34-36.

⁸ Rickman 1980, 67-93, Tchernia 2003, 45-60, Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 34-36.

⁹ Dio 60.11.1-5, Keay and Millett 2005a, 271-278, Morelli, Paroli and Verduchi 2005, 241-263, Keay, Millett, Strutt et al. 2005, 71-75, Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 11-12, 34-40, Keay and Paroli 2011, 1-19, Morelli, Mainucci and Arnoldus-Huyzendveld 2011, 47-65, Osgood 2011, 182-187.

¹⁰ Dio 60.11.1-5

the dignity and greatness of Rome, and he brought it to accomplishment.”¹¹ An inscription from Portus (CIL XIV 85) dating to 46 CE records the construction of two canals connected to the Tiber intended to counter and control flooding; these were later also important to shipping, and the southern one is probably the foundation of the so-called *Fossa Traiana* (fig. 4.3). The inscription emphasizes the advantages that the canals bring the city of Rome, demonstrating how the entire project was conceptually closely linked to the capital and considered part of it.¹² We do not know how far construction of the harbor had progressed by the time of Claudius’ death. The canals for flood control and transporting building materials were ready by 46 CE, and enough of the harbor was already in place in the 50’s CE to entrap a whale. A large number of ships were using the harbor by 62 CE.¹³ In 64 CE Nero struck a series of coins depicting Portus. Most scholars interpret these coins as celebrating the official completion and inauguration of the harbor, but Pliny and Tacitus provide anecdotal evidence that the harbor was already in use much sooner. It was probably designed from the outset to be built in stages, allowing at least limited use from early in the construction process.¹⁴

The site selected for the new harbor was not ideal, but there was little choice in the matter because the entire stretch of coast around Ostia is highly unsuitable for a port: it is

¹¹ Dio 60.11.1-5, translation Cary 1924.

¹² CIL XIV 85, Keay and Millett 2005a, 271-278, Keay and Millett 2005b, 297-305.

¹³ CIL XIV 85, Pliny, HN. 16.76.201-2, 9.5.14-15, 36.14.70, Tacitus, Ann. 15.18.3, Suet. *Claud.* 18-20, Dio 60.11.

¹⁴ CIL XIV 85, Seneca *Brev.* 18.5-6, Dio 60.11.1-5, Pliny, HN. 16.76.201-2, 9.5.14-15, 36.14.70, Strabo 5.3.5, Tac. *Ann.* 12.43, 15.18.3, Suet. *Claud.* 18-20, Boyce 1966, 65-66, Keay and Millett 2005a, 271-278, Morelli, Paroli and Verduchi 2005, 241-263, Keay, Millett, Strutt et al. 2005, 71-75, Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 11-12, 34-40, Morelli, Marinucci and Arnoldus-Huyzendveld 2011, 47-65, Osgood 2011, 182-187. Boyce does not agree with the commonly held interpretation that the coins commemorate the official completion of the work. She suggests that the coins may have celebrated the 10 year anniversary of the completion, or, more likely a general celebration of the *annona*. We will return to this coin below.

straight, flat and sandy, devoid of any natural harbors or inlets, and offers no shelter from winds and currents (fig. 4.4). The Tiber's estuary created further challenges because of its unpredictable floods, shifting river course, and silt deposits, but being near the river was vital for the new harbor so cargo could be efficiently offloaded and shipped directly to Rome. Claudius' engineers therefore faced the challenge of creating a sheltered deepwater harbor on a coastline that offered no such amenities.¹⁵ Scholars long believed that there was a natural inlet to the sea on the northern side of the future harbor; recent research has shown that a subsidiary entrance to the port did exist here, but it was probably dug artificially.¹⁶ Claudius' engineers had to create a harbor from nothing: they needed to excavate an artificial basin and provide it with an efficient breakwater that would protect ships from storms, yet could also deal with floods and silt buildup from the Tiber River. It had to be large enough to accommodate the grain fleet and some of the gigantic transports that sailed in it, yet provide easy access to the Tiber and have enough storage facilities to handle the massive amount of goods coming in.¹⁷

Portus was an extremely ambitious and challenging project, of greater size and complexity than any other ancient artificial harbor, but it was not entirely unprecedented. Vitruvius dedicates some space in his fifth book to the construction of harbors; many of the techniques required for Portus were therefore already worked out in the Augustan age.¹⁸ Augustus and Agrippa had

¹⁵ Keay and Millett 2005a, 271-278, Morelli, Paroli and Verduchi 2005, 241-263, Keay, Millett, Strutt et al. 2005, 71-75, Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 11-12, 34-40, Osgood 2011, 182-187, Morelli, Marinucci and Arnoldus-Huyzendveld 2011,47-65, Keay and Paroli 2011, 1-19.

¹⁶ Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 11-42, Morelli, Marinucci and Arnoldus-Huyzendveld 2011,47-65, Goiran, Salomon, Tronchère et al. 2011,31-45.

¹⁷ Keay and Millett 2005a, 271-278, Morelli, Paroli and Verduchi 2005, 241-263, Keay, Millett, Strutt et al. 2005, 71-75, Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 11-12, 34-40, Osgood 2011, 182-187, Morelli, Marinucci and Arnoldus-Huyzendveld 2011,47-65, Keay and Paroli 2011, 1-19.

¹⁸ Vit. 5.2-6, 6.1.

expanded and renovated a number of Italian ports and carried out extensive work at Puteoli and Misenum. The Sebastos harbor of Caesarea Maritima, dedicated in 9/10 BCE, was built on a similar coastline and posed some of the same technical challenges as Portus. Here too a completely artificial deepwater harbor had to be created on a straight coast with no natural inlets.¹⁹ As a solution to this problem Roman engineers turned to hydraulic concrete made with pozzolana imported from the Bay of Naples. This material cures under water and becomes rock solid; it can withstand both the extreme mechanical pressures of wave action and the chemical aggression of salt water. It has the additional advantage that the pozzolana is fairly easy to transport in large quantities, at least compared to stone, and sand and aggregate are usually available on site.²⁰ The greatest challenge the builders faced was to get the concrete to the bottom of the sea and to ensure that it kept its shape until it had fully cured. The Romans solved this problem with several techniques, and evidence for all of them has been found at Portus (fig.4.5). Methods included building a wooden framework, essentially a primitive flat-bottom barge, which workers towed into place and then gradually sank as they filled it with concrete; this procedure was most suitable for shallow water. In some places the moles at Portus still preserve fragments of the wooden formwork used to create them. Another technique that worked better for deep water involved pre-casting the concrete blocks on land, then sinking them and allowing them to fully cure below water. The exact methods used depended on the depth of the water and the type of sea bottom.²¹

¹⁹ Hohlfelder, Oleson, Raban et al. 1983, 133-143, Blackman 1996, 41-49, Brandon 1996, 25-40, Gianfrotta 1996, 65-76, Hohlfelder 1996, 77-104.

²⁰ Vit. 5.2-6, 6.1, Brandon 1996, 25-40, Blackman 1996, 41-49.

²¹ Vit. 5.2-6, 6.1, Testaguzza 1970, 69-81, Hohlfelder, Oleson, Raban et al. 1983, 133-143, Brandon 1996, 25-40, Blackman 1996, 41-49, Gianfrotta 1996, 65-76, Hohlfelder 1996, 77-104,

What sets Portus apart from other examples of ancient harbors are its complex design, enormous area, and relative depth (fig. 4.6). We can reconstruct two moles, up to 18 meters wide, with a gentle curve open towards the west. They formed an inverted C with a small island carrying the lighthouse in the center. The northern mole has recently been estimated to be 1600 meters long and the southern one measured around 1320 meters. The outer harbor that they formed covered about 200 ha and at its widest part the basin was about 800 meters wide and on average 8 meters deep. Some especially vulnerable parts of the moles were either reinforced with, or constructed entirely out of, large travertine and basalt blocks.²² The dimensions and weight of the travertine blocks used on the north mole are reminiscent of those used for other Claudian projects such as the Aqua Claudia. Unfortunately, the deep-water part of the moles and the lighthouse are archaeologically the least known; we therefore do not know how exactly they were built and have to rely on ancient descriptions.²³

Dio, Suetonius and Pliny the Elder were fascinated not just by the scale, but also by the process of construction at Portus.²⁴ Considering the extent to which Claudius emphasized the importance of process in his monuments in Rome, it is significant to note how much these ancient authors were intrigued by how the harbor was built. Suetonius and Pliny devote most of their attention to the lighthouse. Together with Dio they also provide some descriptions of the

²² Testaguzza 1970, 70-75, 105-127, Keay and Millett 2005b, 297-305, Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 11-12, Keay and Paroli 2011, 1-19.

²³Dio 60.11., Pliny, HN. 16.76.201-2, 9.5.14-15, 36.14.70, Suet. *Claud.* 18-20, Testaguzza 1970, 69-81, Brandon 1996, 25-40, Blackman 1996, 41-49, Keay and Paroli 2011, 2-3, Goiran, Salomon, Tronchère et al. 2011, 31-45.

²⁴ Dio 60.11., Pliny, HN. 16.76.201-2, 9.5.14-15, 36.14.70, Suet. *Claud.* 18-20.

construction methods used at Portus; modern excavations at the site have confirmed some of their descriptions.²⁵ Dio explains:

In the first place, he excavated a very considerable tract of land, built retaining walls on every side of the excavation, and then let the sea into it; secondly, in the sea itself he constructed huge moles on both sides of the entrance and thus enclosed a large body of water, in the midst of which he reared an island and placed on it a tower with a beacon light.²⁶

He tells us that Claudius' engineers had to dig a vast basin out of the ground and provide it with supporting walls, much like a gigantic version of the *stagnum Agrippae* or the *naumachia Augusti*. Dio puts equal emphasis on the enormous effort of digging, creating the moles and building the lighthouse. Pliny focuses mostly on how an enormous ship built by Gaius to transport an obelisk was filled with concrete and submerged to form the base of the lighthouse island. He notes that "three moles as high as towers were erected upon it that had been made of Puteoli concrete for the purpose and conveyed to the place."²⁷ The last part of this line is particularly interesting; it suggests that some parts of the moles were pre-cast, then sunk and allowed to cure underwater. Suetonius tells us that "[Claudius] constructed the harbor at Ostia by building curving breakwaters on the right and left, while before the entrance he placed a mole in deep water."²⁸ He then goes on to explain how Gaius's ship was used to create the foundations for the structures in the deepest water. His description of the curving shape of the

²⁵ Dio 60.11., Pliny, HN. 16.76.201-2, 9.5.14-15, 36.14.70, Suet. *Claud.* 18-20, Testaguzza 1970, 69-81, 105-127, Brandon 1996, 25-40, Arnoldus-Huyzendveld, Keay, Millett and Zevi 2011, 11-12, Goiran, Salomon, Tronchère et al. 2011, 31-45, Morelli, Marinucci and Arnoldus-Huyzendveld 2011, 47-65.

²⁶ Dio 60.11 translation by Cary 1924.

²⁷ Pliny, HN, 16.76.201-2, translation Rackham 1945.

²⁸ Suet. *Claud.* 18-20.

moles and the arrangement of the island in relation to the harbor entrance has been helpful in tracking them archaeologically and evaluating Renaissance drawings of the harbor.²⁹

The northern mole is quite well known on its eastern, landward end; it runs from northeast to southwest, from Monte Arena towards the sea, until it disappears under the runway of Leonardo Da Vinci airport.³⁰ The south mole is in a poorer state of preservation. Unfortunately the seaward, or western, ends of the two moles are imperfectly known and although they have been tentatively traced using cores, they have not been excavated.³¹ From these results, descriptions by ancient authors, and the drawings of Labaco and Danti (figs. 4.7 and 4.8), who saw the harbor in the 16th century before it became landlocked, we can still reconstruct the harbor with some precision.³² The most recent research has revealed that there was also a shallow, secondary entrance to the harbor on the north, near the landward side.³³

At the harbor entrance, between the two moles, stood the famous Portus lighthouse, modeled on the Alexandrian Pharos and probably surpassing it in height (fig 4.9).³⁴ It is unclear how Gaius's ship could actually have resulted in a viable foundation, but it was another elegant

²⁹ Suet. *Claud.* 18-20, Keay and Millett 2005b, 297-305, Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 11-12, Keay and Paroli 2011, 1-19.

³⁰ Testaguzza 1970, 69-81, Keay and Millett 2005b, 297-305, Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 11-12, Keay and Paroli 2011, 1-19.

³¹ Marinucci and Arnoldus-Huyzendveld 2011, 47-65, Salomon, Tronchère et al. 2011, 31-45, Morelli.

³² Testaguzza 1970, 69-81, Keay and Millett 2005b, 297-305, Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 11-12, Keay and Paroli 2011, 1-19, Goiran, Salomon, Tronchère et al. 2011, 31-45, Morelli, Marinucci and Arnoldus-Huyzendveld 2011, 47-65.

³³ Goiran, Salomon, Tronchère et al. 2011, 31-45, Morelli, Marinucci and Arnoldus-Huyzendveld 2011, 47-65. Scholars have been suggesting since the 19th century that the harbor entrance was actually to the north, not the west. Testaguzza (1970) was firmly convinced of this. Goiran et al. have established the existence of this entrance, but also discovered that it was only about 1.6m deep and therefore subsidiary. The main entrance must have been to the west, as shown in Labaco and Danti's works. Most of the silting that has led to Portus being so far inland occurred in the 16th and 17th centuries; when these two artists saw Portus the moles still stretched into the sea and were probably visible in more detail.

³⁴ Dio 60.11., Pliny, HN. 16.76.201-2, 9.5.14-15, 36.14.70, Suet. *Claud.* 18-20, Testaguzza 1970, 70-75, 105-127, Keay and Paroli 2011, 1-19.

symbolic gesture: not only was it an impressive feat of Roman engineering, it again contrasted Claudius' utilitarian concerns with Gaius's more frivolous ones. In a grand gesture Claudius transformed the now useless and impractically gigantic ship into something that would continue to be useful for posterity. Testaguzza believed that he had found some of the actual remains of Caligula's ship preserved within the northern mole near Monte Arena; he argued that the harbor entrance was located in the north, and that the lighthouse was therefore also located there.³⁵ In reality both the lighthouse and harbor entrance were located to the west. If the imprints he identified were in fact left by a ship, it is possible that more than one old vessel was reused as a makeshift caisson in the construction process, perhaps to save wood and time.³⁶ Two canals, one to the north, one to the south (the so-called *Fossa Traiana*) connected the Tiber to the harbor. They probably served two functions: to divert and control Tiber floods and to improve the circulation of traffic in the harbor.³⁷ In the southeast corner of the outer basin was the entrance to a sheltered inner harbor, the so-called *darsena* (dock). It was probably intended to provide quiet waters for offloading cargo onto river boats. The loaded barges could then reach the Tiber through the southern canal.³⁸ The northern canal might have been used by barges coming down from Rome. They would have been only lightly loaded, and a one-way circulation system would have improved efficiency. Dio is presumably referring to the *darsena* when he mentions a vast basin being excavated from the land. Coring has shown that the moles

³⁵ Testaguzza 1970, 70-75, 105-127.

³⁶ Testaguzza 1970, 70-75, 105-127, Keay and Paroli 2011, 1-19, Goiran, Salomon, Tronchère et al. 2011, 31-45, Morelli, Marinucci and Arnoldus-Huyzendveld 2011, 47-65.

³⁷ Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 11-12, Keay and Millett 2005b, 297-305, Keay and Paroli 2011, 1-19.

³⁸ Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 11-12, Morelli, Paroli and Verduchi 2005, 241-261, Keay and Millett 2005b, 297-305, Keay and Paroli 2011, 1-19, Osgood 2011, 182-187.

were built directly onto the sea bottom and only little of the outer harbor involved excavation.³⁹

Excavating the two canals would have been a massive and impressive effort of digging and moving earth worthy of the monumental inscription noted above; they would also have provided many needed jobs for unskilled workers. In spite of their clear interest in the process of construction, none of our ancient sources mentions the amount of labor involved or how many years exactly it took to build the harbor.

On the landward side, forming the main façade of the outer harbor was a long, straight embankment offering mooring for ships. Due to heavy reworking of the area under Trajan we cannot be certain what exactly occupied this area under Claudius. To the north, near Monte Giulio, excavators discovered a Claudian bath building, and the aqueduct supplying it has been traced.⁴⁰ Recent excavators have not found much evidence for a precursor to the so-called *Palazzo Imperiale*, but they believe that an official building probably did originally occupy part of the space.⁴¹ Trajan's hexagonal basin destroyed a large section of Claudian Portus and massive restructuring and construction under Trajan and the Severans has further obscured details of the Claudian infrastructure of the area (fig.4.10). Only fragments of Claudian buildings have been discovered; these must be the remnants of the kinds of buildings necessary for the proper functioning of a harbor: *horrea*, warehouses, administrative offices and ship sheds.⁴²

A large, monumental portico with typical Claudian rustication was built on the south-eastern side of the inner basin (fig. 4.11). The Claudian portico was incorporated into a warehouse under

³⁹ Dio 60.11.1-5, Goiran, Salomon, Tronchère et al. 2011, 31-45.

⁴⁰ Scrinari 1980, 13-14, <http://www.ostia-antica.org/portus/c005.htm>.

⁴¹ Keay, Earl and Felici 2011, 72-77,84.

⁴² Lugli and Filibeck 1935, 102-104, Rickman 1971, 17-37,43-54, 64-69, 123-132, Patrich 1996, 146-176, Morelli, Paroli and Verduchi 2005, 241-261, Keay and Paroli 2005, 275-278, 242-261, Arata and Felici 2011, 127-163, Keay and Paroli 2011, 1-19, Keay, Earl and Felici 2011, 72-77,84.

the Severans and a complex sequence of buildings obscures the original layout.⁴³ Along with the portico a road survives, indicating that originally Portus' grid was aligned with this structure and that it must have been an important part of the harbor. The colonnade ran the entire length of the *darsena* and created a distinct and monumental façade. It was probably part of the principal building of the Claudian harbor, perhaps an official building equivalent to the *Palazzo Imperiale*. Portus needed a monumental façade to greet visitors and represent the grandeur of the Imperial capital.⁴⁴ We do not know exactly what this area looked like under Claudius; there is no detailed evidence to help us reconstruct what general form the architecture took or if there was much in the way of sculptural decoration. The grand inscription recording the completion of the two canals may have taken pride of place on a monumental arch, perhaps reminiscent of the Porta Maggiore, but no traces of such a structure survive.⁴⁵

Nero's harbor *sestertii* of 64 CE show the harbor, but as is often the case with coins, the design was adapted to look pleasing on a small, round surface. It is not necessarily an accurate or detailed representation of the harbor, but it is the only pre-Trajanic depiction of Portus that we have.⁴⁶ The coins were issued at both Rome and Lugdunum and show two long, curving arcades, and seven ships of different types and sizes (figs. 4.12 and 4.13). The coins struck in Rome are labeled *PORT OST*; those struck in Lugdunum bear the inscription *port Aug*.⁴⁷ The curving structures may be references to the curving moles of the outer harbor, but the left and

⁴³ Keay and Paroli 2005, 275-278, Morelli, Paroli and Verduchi 2005, 241-261, Keay and Paroli 2011, 1-19, Osgood 2011, 182-187.

⁴⁴ Levick 2001, 110, Liljenstople 2001, 15-17, Keay and Millett 2005b, 304-305, Paroli and Ricci 2011, 127-146, Keay, Earl and Felici 2011, 72-77,84, Osgood 2011, 182-187.

⁴⁵ Keay and Millett 2005b, 304-305.

⁴⁶ Boyce 1966, 65-66, Boyce 1956, 67-78, , Meiggs 1997, 56-57.

⁴⁷ Boyce 1956, 67-78, Boyce 1966, 65-66, Cuyler, personal communication, January 2014, B.M.C. Empire, Vol 1, Nero, nos. 131-132.

right sides are clearly different. On the left is shown a more rectilinear and regular series of arches which have a monumentalized entrance with a pediment in the center and at the further end (fig. 4.13). At the far end of the mole is a small temple built of large blocks (this is more visible on fig. 4.13) and the masonry is reminiscent of Claudius' rusticated style. The arcade depicted on the right is more massive, with heavier walls and roofs and looks less like a portico than the other structure. Large warehouses were often built as long vaulted spaces and this long row of solid-looking buildings resembles those built at Portus in the Trajanic and Severan periods, as well as the examples uncovered at Caesarea Maritima.⁴⁸ The view on the coin could be a depiction of the *darsena* with the monumental portico of Claudius on the left and the general expanse of warehouses on the right. The scene on the coin suggests grandeur and the potential storage capacity of the new facility. Oddly the coins do not show the lighthouse, perhaps because this is a view of the *darsena* looking inland, towards the granaries and warehouses.

At the center bottom of the coin reclines a god with a steering oar and a dolphin, perhaps Oceanus or a personification of the harbor itself.⁴⁹ On some coins (fig.4.12) a second reclining figure can be seen in the background towards the right hand side; it too reclines in the classic river god pose. This figure could conceivably represent the Tiber, signaling the canals connecting the harbor and the river. In the center of the harbor stands a sculpture on a tall column rising out of the water; it also appears on the second-century CE Torlonia relief of the harbor and a mosaic floor of a house in Ostia, the Caseggiato del Mosaico del Porto (I,XIV,2)

⁴⁸ Lugli and Filibeck 1935, 102-104, Rickman 1971, 17-37,43-54, 64-69, 123-132, Patrich 1996, 146-176, Arata and Felici 2011, 127-163.

⁴⁹ Boyce 1956, 67-78, Boyce 1966, 65-66, B.M.C. Empire, Vol 1, Nero, nos. 131-132 .

(fig.4.14).⁵⁰ The sculpture is of a nude bearded male holding a trident and a dolphin and therefore probably represents Neptune. John Clarke suggests that the representation of the statue on the coin could be a short-hand representation of the lighthouse, conflating its stepped base and the sculpture of Neptune. In that case the coin would be facing towards the harbor entrance.⁵¹ Considering that the lighthouse became such an iconic symbol of Ostia, and that both it and the sculpture on the column appear on the mosaic and Torlonia relief, it seems an unusual choice for Nero's coin not to show the lighthouse in a more clearly recognizable form. Moreover, focusing on the *darsena* and its *horrea* would have been a good way to remind the viewer that Nero's main preoccupation was improving the grain supply.

Portus was a triumph of Roman engineering and showcased an enormous output in resources, skill and time. The design drew on pre-existing prototypes but was unprecedented in size and complexity; Claudius inspired travelers, workers and locals to internalize the spectacular effort involved in creating this harbor.⁵² The grand building along the *darsena* was supplied with a portico in Claudius' signature rusticated masonry, forming a grand monumental façade for the harbor and allowing Claudius to showcase his skill as an organizer and the vast resources in manpower at his disposal. The distinct style would be among the first things to greet a visitor, and proudly announced the identity of the emperor responsible for this sophisticated and enormous engineering achievement. The choice of his unique form of rustication simultaneously signals and celebrates the utility of Portus and the many ways in which Claudius manipulated water. He visually links his great achievements in and around Rome

⁵⁰ Cuyler, personal communication January 2014.

⁵¹ J. R. Clarke, personal communication March 2014.

⁵² Keay and Millett 2005b, 304-305.

and invites comparison to his other projects, thus conjuring up associations with all the tremendous effort and expertise that went into creating not just Portus, but all of Claudius' other works. The knowledge that Claudius created a whole slew of massive and sophisticated public works, enhances the overall impressiveness of each. To administer the new port and ensure smooth operations Claudius created the equestrian post of *procurator Portus Ostiensis*, and in Rome itself he built massive new granaries to improve storage and distribution.⁵³ His distinctive building style signals that all of Portus is interconnected with the rest of the world and part of a vast, smoothly running organization.

Portus was an ambitious project and helped solve some of the supply issues that had plagued the city of Rome, yet scholars tend to be quite critical of the harbor and imply that it was inherently flawed.⁵⁴ Scholars often assume that the work carried out under Trajan was necessitated by poor planning on the part of Claudius' engineers, but the Claudian harbor at Portus was built with the most advanced techniques and high-quality materials available at the time, and for sixty years it functioned as Rome's main port before Trajan enlarged it. Recent excavators have noted that much of the original infrastructure has been obscured by later renovations and that many scholars in fact overlook just how complex and well-planned Claudius' harbor actually was. Portus was probably the biggest and most complex artificial harbor ever built in the ancient Mediterranean. Many parts of it continued in use with only

⁵³ Levick 2001, 110, Liljenstople 2001, 15-17, Keay, Millett and Strutt 2005, 82, Keay and Paroli 2005, 275-278, 242-261, Morelli, Paroli and Verduchi 2005, 241-261, Keay, Earl and Felici 2011, 72-77,84, Paroli and Ricci, 2011, 127-143.

⁵⁴ Momigliano 1934, 108, Scramuzza 1940, 165-167, Testaguzza 1964, 173-179, Levick 2001, 110.

minor alterations to the original layout, even if some structures were completely rebuilt.⁵⁵ Therefore the need for expansion, advances in harbor construction and regular wear and tear, rather than poor planning, were likely motivators for Trajan. Aside from the new hexagonal basin, it is difficult to gauge to what degree his architects did not simply take over and restore or enlarge the preexisting Claudian infrastructure.⁵⁶ The harbor continued to be provided with new warehouses and infrastructure for centuries and Portus underwent several major building campaigns, including under the Antonines and Severans.⁵⁷

Vulnerability to silting is often cited as a major planning fault of Claudius' port. This was a common problem in ancient harbors and planners tried to invent ingenious systems to remedy it. For example, Caesarea Maritima had to deal with similar issues; a complex system of openings in the moles was intended to counteract silting, but it did not function particularly well in practice.⁵⁸ Other ancient ports, such as Naples, Marseilles, Sidon and Tyre, show evidence of constant and regular dredging to remove accumulated sediments.⁵⁹ Portus' northern harbor opening may have been intended to help create a circulation system that, together with the northern canal, helped flush sediment out of the harbor.⁶⁰ Coring around the harbor has revealed that there was fairly little silt buildup coming from the landward side, but there were

⁵⁵ Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 11-12, Morelli, Paroli and Verduchi 2005, 241-261, Keay and Millett 2005b, 297-305, Keay and Paroli 2011, 1-19, Osgood 2011, 182-187, Goiran, Salomon, Tronchère et al. 2011, 31-45,.

⁵⁶ Momigliano 1934, 108, Momigliano 1934, 108, Momigliano 1934, 108, Testaguzza 1964, 173-179, Testaguzza 1970, 55, 69-71, Brandon 1996, 25-40, Blackman 1996, 41-49, Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 11-12, Morelli, Paroli and Verduchi 2005, 241-261, Keay and Millett 2005b, 297-305, Keay and Paroli 2011, 1-19, Osgood 2011, 182-187, Goiran, Salomon, Tronchère et al. 2011, 31-45.

⁵⁷ Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 11-12, Keay and Paroli 2011, 1-19.

⁵⁸ Hohlfelder, Oleson, Raban et al. 1983, 133-143, Hohlfelder 1996, 77-101.

⁵⁹ Morhange and Marrison 2008, 23-32.

⁶⁰ Goiran, Salomon, Tronchère et al. 2011, 31-45, Morelli, Marinucci and Arnoldus-Huyzendveld 2011, 47-65.

some deposits of marine sediments. On the basis of this evidence the excavators suggest that the harbor moles were not always successful in holding back marine incursions caused by large storms.⁶¹

This does raise the question whether this is the only possible explanation for the presence of the marine sediments, or if the interpretation of the cores was influenced by an episode from Tacitus, which is frequently cited as evidence for the inadequacy of the Claudian harbor. He records an episode from the reign of Nero, in 62 CE:

Moreover, to cloak his uneasiness as to the situation abroad, Nero had the grain for the populace, which had been spoilt by age, thrown into the Tiber, as proof that the corn-supply was not a matter for anxiety. The price was not raised, though some two hundred vessels actually in port had been destroyed by a raging tempest, and a hundred more, which had made their way up the Tiber, by a chance outbreak of fire.⁶²

The storm episode is often cited as proof that the harbor was poorly planned and inadequate, but Tacitus' account indicates that this was an unusually violent storm.⁶³ Patrizia Verduchi suggests that the catastrophic event that destroyed the ships may actually have been a

⁶¹Goiran, Salomon, Tronchère et al. 2011, 31-45, Morelli, Marinucci and Arnoldus-Huyzendveld 2011, 47-65. Little could be done about the sediment deposition and erosion along the external side (seaside) of the moles. The dominant ocean current runs from the southeast to the northwest; the harbor, by necessity, is built on an east-west axis. Therefore sediment was deposited and accumulated on the south mole because it intercepted the current and trapped sediments. This in turn caused the risk of erosion on the northern mole because new material was no longer being deposited there. The basalt blocks located along its base helped to counter this problem, following a strategy that is still used today. This phenomenon remains a challenge to present-day engineers and the only way to effectively deal with it is to regularly dredge the accumulated sediments and re-deposit them down-current in the areas at risk of erosion.

⁶² Tacitus, Ann. 15.18.3, Loeb translation.

⁶³ Momigliano 1934, 108, Scramuzza, 1940, 165-167, Levick 2001, 110, Verduchi 2002, 20, Keay, Millett et al. 2005, 42 n.35.

tsunami caused by the well-known earthquake that struck Campania in 62 CE.⁶⁴ The sinking of two hundred ships in a single event was a tremendous loss, but scholars have overlooked a number of important points in connection with this account. First, the storm struck in 62 CE, but most scholars believe that Portus was not officially completed and inaugurated until 64 CE.⁶⁵ This means that before the port was fully finished it could already accommodate and handle a large fleet. This invites the question as to how many ships must have been in the port overall for two hundred of them to be destroyed. Rather than illustrating Portus' shortcomings, the storm episode shows that it was already functioning efficiently when it was hit by a massive weather event of unusual scale. The recent coring does suggest that extreme weather events did occasionally overwhelm the moles, but not on a regular basis. Not all of these incursions necessarily happened in the first century CE either; many may have happened after the Trajanic alterations to the harbor or even after it fell out of general use.⁶⁶

In summary, extensive survey work and new excavations undertaken during the last decade have forced scholars to rethink Claudius' harbor. The evidence suggests that it was larger and more sophisticated than had been thought, and that many of the improvements attributed to Trajan were actually already part of the Claudian phase. Portus had to deal with many challenges, not least of which was the preexisting conditions of the site: the winds, currents of the ocean, sediments, and floodwaters from the Tiber. Considering the entire coastline around Ostia was unsuitable for a harbor, the choice of the location was not the result of poor planning, but the best option available. The harbor was carefully planned in stages

⁶⁴ Verduchi 2002, 20, Keay, Millett et al. 2005, 42 n.35.

⁶⁵ Nero's sestertius may in fact be meant to celebrate the *annona* and restore confidence in his ability to feed the populace after the catastrophic events of 62 CE. Chapter 5 will return to this question.

⁶⁶ Goiran, Salomon, Tronchère et al. 2011, 31-45.

allowing for different uses from fairly early on in the process. Ancient writers were impressed by the magnitude of the works and the ambition of the project. Claudius (and to a lesser degree Nero) gained much praise and admiration for his foresight and ambition.⁶⁷ Portus helped relieve some of the food pressure that was plaguing Rome and created a worthy, monumental gateway for the capital of the empire, complete with magnificent porticoes in typical Claudian rusticated style to provide an impressive façade for travelers arriving from overseas. Claudius was advertising the power, wealth and resourcefulness of Rome. He was also displaying his personal concern and responsibility for the well-being of the people of Rome. The harbor proclaimed the extreme measures that the emperor was willing to take to ensure that the populace were fed and supplied with all necessities.⁶⁸

THE FUCINE LAKE NAUMACHIA: THE BIGGEST NAUMACHIA EVER SEEN

Claudius put on a number of grand and elaborate spectacles for the people of Rome, including a grand re-enactment of the surrender of Britain in the Campus Martius and a big show celebrating the renovation of the Theatre of Pompey. He repeated the secular games, claiming that Augustus had calculated the date wrongly. He gave regular events in the traditional venues such as the Circus Maximus, which he also had renovated and monumentalized.⁶⁹ In an interesting display of ingenuity and organization he even held an impromptu whale hunt in his new harbor:

⁶⁷ Dio 60.11., Pliny, HN. 16.76.201-2, 9.5.14-15, 36.14.70, Suet. *Claud.* 18-20, Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 35-36.

⁶⁸ Rickman 1971, 123-132, Rickman 1980, passim, Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 35-36, Keay 2008, 13.

⁶⁹ Coleman 1993, 56, 69, Berlan-Bajard 2006, 71, 342-344, Osgood 2011, 168-169, 188-189, Taylor forthcoming, 9-13.

An *orca* was actually seen in the harbor of Ostia in battle with Emperor Claudius; it had come at the time when he was engaged in completing the structure of the harbor, being tempted by the wreck of a cargo of hides imported from Gaul, and in glutting itself for a number of days had furrowed a hollow in the shallow bottom and had been banked up with sand by the waves so high that it was quite unable to turn around, and while it was pursuing its food which was driven forward to the shore by the waves its back projected far above the water like a capsized boat. Claudius gave orders for a barrier of nets to be stretched between the mouths of the harbor and setting out in person with the praetorian cohorts afforded a show to the Roman public, the soldiery hurling lances from the vessels against the creatures [sic] when they leapt up alongside, and we saw one of the boats sunk from being filled with water owing to a beast's snorting.⁷⁰

It is striking that Claudius and his staff were able to seize on this unexpected opportunity and turn it into a public spectacle at a moment's notice; they turned an accident of nature into a successful publicity stunt for the new harbor. Pliny's account indicates that Claudius was personally involved in the planning and emphasizes the speed and efficiency with which he and his staff were able to organize an exciting entertainment. The prospect of a whale hunt would have drawn people down from

⁷⁰ Pliny, *HN*. 9.5.14-15, Loeb translation. Note the sudden change in tense from one animal to multiple, and Pliny's first person remark that indicates that he was actually there to witness the events. Berlan-Bajard 2006, 22-24, 342-348.

Rome, even if they only had a few days notice, and exposed them to the grand new harbor for the first time. Even in an incomplete state the size of the basin and the complexity of the building site must have been impressive.⁷¹ Symbolically speaking the incident was also very suggestive: Claudius' harbor was such a magnificent achievement that even the Ocean's monsters could not resist and were promptly trapped and defeated by it.

The greatest show Claudius organized during his reign was a *naumachia* held in 51 CE on the Fucine Lake to celebrate the completion of his drainage tunnel; he also gave a second smaller spectacle there to mark the re-inauguration of the redesigned emissary. The grand celebrations induced a multitude of people to visit an area they otherwise would never have seen. In order to reach the Fucine Lake, roughly 120 km away, travelers from Rome could take the brand new Via Claudia Valeria, another of Claudius' major engineering achievements (fig. 4.15).⁷² His *naumachia*, involving a battle between "Sicilians" and "Rhodians", was the largest and most complex in Roman history. There are interesting contrasts between the accounts of Tacitus, Dio and Suetonius.⁷³ According to Tacitus, Claudius held the spectacle to expose as large an audience as possible to the engineering triumph he had achieved:

Nearly at this date, the tunneling of the mountain between Lake Fucinus and the Liris had been achieved; and, in order that the impressive character of the work might be viewed by a larger number of visitants, a

⁷¹ Taylor, personal communication March 2014.

⁷² CIL IX. 5973.

⁷³ Coleman 1993, 56, 69, Berlan-Bajard 2006, 22-24, 342-348, Cariou 2009, 187-195, Taylor forthcoming "Aquacades", 9-13.

naval battle was arranged upon the lake itself, on the model of an earlier spectacle given by Augustus—though with light vessels and a smaller force—in his *naumachia* adjoining the Tiber. Claudius equipped triremes, quadriremes, and nineteen thousand combatants: the lists he surrounded with rafts, so as to leave no unauthorized points of escape, but he reserved space enough in the centre to display the vigor of the rowing, the arts of the helmsmen, the impetus of the galleys, and the usual incidents of an engagement. On the rafts were stationed companies and squadrons of the praetorian cohorts, covered by a breastwork from which to operate their catapults and ballistae; the rest of the lake was occupied by marines with decked vessels. The shores, the hills, the mountain-crests formed a kind of theatre, soon filled by an untold multitude, attracted from the neighboring towns, and in part from the capital itself, by curiosity or respect for the sovereign. He and Agrippina presided, the one in a gorgeous military cloak, the other—not far distant—in a Greek mantle of cloth of gold. The battle, though one of criminals, was contested with the spirit and courage of free men; and after much blood had flowed, the combatants were exempted from destruction.⁷⁴

Tacitus' account of the *naumachia* is favorable and he even seems impressed, which is surprising considering he is rarely one to hold back barbed remarks. The vessels used in the fight

⁷⁴ Tac. Ann. 12.56. Loeb translation, with some minor edits.

were impressive in size and number (fifty on each side according to Dio, twelve of which Suetonius tells us were triremes) and included triremes and quadriremes.⁷⁵ Tacitus also states explicitly that although they were captives the men fought well, and after a gory spectacle the survivors were pardoned. He reserves his criticism for the next section.⁷⁶

Suetonius' and Dio's accounts of the actual spectacle are more detailed and quite different: according to them the show itself did not go off quite as planned and was fraught with some embarrassments for Claudius.⁷⁷ Suetonius reports:

Even when he was on the point of letting out the water from Lake Fucinus he gave a *naumachia* first. But when the Combatants cried out: "Hail, emperor, they who are about to die salute you," he replied "or not", and after that they all of them refused to fight, maintaining that they had been pardoned. Upon this he hesitated for some time about destroying them all with fire and sword, but at last leaping from his throne and running along the lake with his ridiculous tottering gait, he induced them to fight, partly by threats and partly by promises. At this performance a Sicilian and a Rhodian fleet engaged, each numbering twelve triremes, and the signal was sounded on a horn by a silver triton, which was raised from the middle of the lake by a mechanical device.⁷⁸

Dio's account adds the following:

⁷⁵ Suet. *Claud.* 21.1-6, Dio 61.33.3-4, Coleman 1993, 56, 69, Berlan-Bajard 2006, 22-24, 342-348, Cariou 2009, 187-195, Taylor forthcoming "Aquacades", 9-13.

⁷⁶ Tac. *Ann.* 12.57, quoted below.

⁷⁷ Suet. *Claud.* 21.6, Dio 61.33.3-4

⁷⁸ Suet. *Claud.* 21.6, Loeb translation with minor alterations.

Claudius conceived the desire to exhibit a *naumachia* on a certain lake; so after building a wooden wall around it and erecting stands, he assembled an enormous multitude. Claudius and Nero were arrayed in full military garb, while Agrippina wore a beautiful *chlamys* woven with threads of gold, and the rest of the spectators whatever their fancy. Those who were to take part in the *naumachia* were condemned criminals, and each side had fifty ships, one party being styled “Rhodians” and the other “Sicilians.” First they assembled in a single body and all together addressed Claudius in this fashion: “Hail, Emperor! We who are about to die salute you!” And when this in no wise availed to save them and they were ordered to fight just the same, they simply sailed through their opponents’ lines, injuring each other as little as possible. This continued until they were forced to destroy one another.⁷⁹

At the beginning of the fight the captives, presumably in an attempt to mollify the emperor and hoping for leniency, proclaimed the now famous line “*morituri te salutant*,” to which Claudius rather cryptically replied “*aut non*.”⁸⁰ It seems that once the battle did actually get going it was a success and those who survived were granted leniency.⁸¹ It would be interesting to know if these hitches actually registered with the majority of the audience located on the encircling hillsides, or if only those close to the actual events were aware of them. In the general

⁷⁹ Dio 61.33.3-4. Loeb translation with minor alterations.

⁸⁰ Suet. *Claud.* 21.6. According to Dio the greeting was in the first person.

⁸¹ Tac., *Ann.* 12. 56-57, Suet. *Claud.* 21.1-6, Dio 61.33.3-4.

excitement the huge crowd probably missed them or considered them unimportant in light of the grand spectacle that followed. Tacitus' silence on these points suggests that the *naumachia* was in actual effect a great success.

Claudius' *naumachia* was distinct from any other not just because of its larger scale, but also because it was held in a natural venue. According to all accounts the venue was large enough to allow the ships to actually move about and maneuver. Dio claims that the prisoners took full advantage of the fact to put off actual battle, but a display of nautical skill was probably an intended part of the show's program. The ships crews must have received some sort of training to be able to have successfully carried this out.⁸² Cariou suggests that Claudius used a variant of a fortified ship bridge to encircle the "arena" and control the prisoners. He envisions a ring or oval of actual ships with superstructures comparable to those of a fort with palisades and artillery such as catapults and *ballistae* (fig. 4.16). This would have been an excellent public display of Roman military know-how and might.⁸³ Spectators might also compare this floating rampart favorably to Gaius' astonishing, but frivolous and ruinous, bridge across the Bay of Naples.⁸⁴ In addition to the floating rampart there were also armored boats full of marines on the lake as an added security measure. Considering the enormous number of armed combatants, who clearly were willing to resist, Claudius' security measures must have been formidable to not only contain them, but incite them to fight. The number of armed participants could potentially have caused a catastrophe on a level with Spartacus' rebellion. It also

⁸² Taylor Forthcoming "Aquacades", 9-14,

⁸³ Tac., *Ann.* 12. 56-57, Coleman 1993, 56,69, Berlan-Bajard 2006, 22-24, 342-348, Cariou 2009, 190-195.

⁸⁴ Coleman 1993, 68-69, Berlan-Bajard 2006, 22-24, 342-348, Cariou 2009, 190-195.

showcased Claudius' close relationship to his troops, particularly the praetorians to whom he owed his initial power.⁸⁵

After the magnificence and excitement of the great *naumachia*, the opening of the sluice gates in order to drain the lake seemed anticlimactic. Tacitus offers the following account, in which he highlights his criticism of Narcissus and Agrippina:

On the conclusion of the spectacle, however, the passage was opened for the waters. Carelessness was at once evident in the construction of the tunnel, which had not been sunk to the maximum or even the mean depth of the lake.⁸⁶

Undeterred Claudius had his engineers remedy the problem and gave a second spectacle:

An interval of time allowed the channel to be cleared to a lower level; and with a view of collecting a second multitude, a gladiatorial exhibition was given on pontoons laid for an infantry battle. A banquet even had been served near the influx of the lake; only to result, however, in a general panic, as the outrushing volume carried away the adjoining portions of the work, while those at greater distance experienced either the actual shock or the terror produced by the crash and reverberation.

At the same moment Agrippina profited by the emperor's agitation to

⁸⁵ Berlan-Bajard 2006, 22-24, 342-348.

⁸⁶ Tacit., *Ann.*12.57. Loeb translation.

charge Narcissus, as director of the scheme, with cupidity and embezzlement.⁸⁷

Perhaps the emissary had been primed to produce a more spectacular effect this time and provide a worthy finale, but it over-performed and caused a panic. Although the emissary stole its thunder, the gladiator show that Claudius gave on rafts or pontoons out on the lake was an impressive and innovative achievement. It set a precedent and the grand feat of turning water into dry land, and land into water, became an important feature of Neronian and Flavian spectacles.⁸⁸ Coleman eloquently sums up this development: the Julio-Claudians set an example that later rulers had to follow because they had created “[...]the 'miracle-factor': as the emperor's image moved further from man and closer to god, so his achievements must appear demonstrably superhuman.”⁸⁹

Anne Berlan-Bajard has examined in some detail how the Fucine *naumachia* and the whale *venatio* in the harbor at Portus showcased Claudius' role as a military leader and cemented his relationship with the praetorians. His *naumachia* officially celebrated not a military achievement, but an engineering one; yet the obvious presence of his troops and his choice of costume for the event, a particularly ornate *paludamentum*, added a martial flavor to the event. Claudius is reported to have worn this particular type of garment to a number of spectacles. Although it had become a sign of imperial power in general, its military symbolism and character were still obvious and sent the appropriate message, especially when coupled

⁸⁷ Tacit., *Ann.*12.57. Loeb translation.

⁸⁸ Tac., *Ann.* 12. 56-57, Suet. *Claud.* 21.1-6, Dio 61.33.3-4.

⁸⁹ Coleman 1993, 68.

with the strong presence of praetorian and naval troops on the security perimeter of the *naumachia* arena.⁹⁰

The improvised whale hunt in the harbor at Portus was performed entirely by praetorians, and as Berlan-Bajard notes, it was a valuable opportunity for Claudius to appear in public, near Rome, together with his soldiers.⁹¹ Although the conquest of Britain did not involve any notable naval battles, Claudius did celebrate it as a maritime success. Troop transports and supply lines across the English Channel doubtlessly were a vital aspect to the success of the campaign and according to Suetonius he added a *corona navalis* to the gable of his house, next to the *corona civica*. The successful crossing of the Channel was held in almost as high a regard as the campaign itself; in some ways, Claudius had conquered the ocean as well.⁹² The *naumachia* celebrated Claudius' conquest over the Fucine Lake and the watery forces of nature, much in the same way that his whale hunt in the new harbor at Portus displayed both his new project and the literal defeat of one of Ocean's monsters. The Porta Maggiore was a testament to his ability to bring water through mountains and valleys to the benefit of all of Rome, and even his British Victory arch, a physical part of the Aqua Virgo, reminded the viewer of Claudius' special control over water. He displayed Rome's engineering resources, but also suggested that his ability to control and manipulate water approached the superhuman.⁹³ The Fucine Lake became a stand-in for the Mediterranean, the *Mare Nostrum*, and demonstrated the extent of Claudius' power; it emphasized his rule over an entire ocean and all the lands, people and

⁹⁰ Berlan-Bajard 2006, 22-24, 342-348

⁹¹ Pliny, *Hist. Nat.* 9.5.14-15, Berlan-Bajard 2006, 22-24, 342-348.

⁹² Suet. *Claud.* 17.5, Berlan-Bajard 2006, 22-24, 342-348.

⁹³ Suet. *Claud.* 17.5, 21.1-6, Tac., *Ann.* 12. 56-57, Dio 61.33.3-4, Coleman 1993, 56,69, Berlan-Bajard 2006, 22-24, 342-348, Cariou 2009, 190-195, Taylor, forthcoming "Aquacades", 12-15.

resources that encircled it. The unbreachable ring of Praetorians was also a powerful analogy for the legions throughout the Roman empire guarding the borders and guaranteeing the peace and prosperity of Rome and her inhabitants.⁹⁴

With his British campaign he had gone beyond even that and conquered yet another ocean. The Fucine *naumachia* celebrated Claudius as ruler of the Mediterranean and reminded the large audience that the emperor was the master and controller of the sea, along with its shipping lanes and the resources of the empire, both human and material. The *naumachia* was a metaphor for imperial rule and allowed the interpretation that the emperor was indeed capable of superhuman achievements. This was probably why Claudius was highly visible during the event, much as he would be in the amphitheatre or circus. By surrounding himself with his army he was also celebrating his power. When, according to Suetonius, he jumped up and started rallying the combatants and his troops, he was acting in a manner that would be expected of a field commander; his *paludamentum* underlined this connection. He was the master of the *mare nostrum*, and he was celebrating not just the defeat of his worldly enemies, but also of the Fucine Lake and the unpredictable forces of nature.

THE DRAINING OF THE FUCINE LAKE

The problems recorded by the ancient sources help us understand the problematic and unusual nature of the Fucine Lake and highlight the difficulties involved in the construction of its new emissary. The Fucine Lake did not go without a fight. The Fucine Lake was Italy's third largest, but it no longer exists because it was completely drained in the late 19th century (figs. 4.15 and

⁹⁴ Taylor, personal communication November 2013.

4.17). It was located around 120 km away from Rome and covered a maximum area of around 140 square kilometers. It was an unusual body of water because it had no outlets and therefore did not drain naturally. It was fed by rivers bringing run-off from the surrounding mountains. Intense snow melts and rain storms, even if far away, could lead to marked fluctuations in the water level of the lake. Due to the karstic properties of the area the lake was prone to cyclical yet unpredictable shifts in its expanse; it could change size by many kilometers, sometimes uncovering valuable arable land, but often flooding it for many years. The agricultural land was highly desirable and valuable because of its fertility and also because of its convenient proximity to Rome.⁹⁵ Flooding continued to be a problem, sometimes with serious economic repercussions, until the 19th century. Occasional earthquakes and shifting fault lines further complicated the already complex local hydrology.⁹⁶

Claudius aimed to supply the Fucine Lake with an artificial outlet and thus to lower and stabilize the water level. The project consisted of three parts: a drainage tunnel almost 6km long (fig. 4.18), an emissary, or intake channel (fig. 4.19), at the mouth of the tunnel, and a canal that brought the water from the lake towards the drain. Most of the archaeological evidence was destroyed in the 19th century. We must therefore rely heavily on ancient descriptions, the accounts of early modern artists and travelers, and the records of 19th century engineers to reconstruct the details of the system.⁹⁷ This holds especially true for the intake structures: they

⁹⁵ Tac. *Ann.*12.56-57, Letta 1994, 202-203, Landini and Massimi 1994, 64-77.

⁹⁶ Thornton and Thornton 1985, 105-107, Castellani and Dragoni 1991b, 55-58, Giraudi 1994, 14-44, Burri 2001, 9-11, Agostini et al. 2001, 12-16, Segenni 2001, 25-28.

⁹⁷ Afan de Rivera 1836, *passim*, Brisse and De Rotrou 1876, 10ff, D'Amato 1980, 4-96, Castellani and Dragoni 1991b, 55-58, Burri 1994, 234-261. Sponsored by the Torlonia family, who required a large financial return for their investment, Brisse essentially enlarged the original Roman tunnel, steepened the gradient and incorporated many of the features of the Roman intake into his own work. Before the

consisted of a series of basins and sluices that regulated the flow of the water into the tunnel (fig. 4.19) and were visible aboveground. A visitor could apparently look down into the emissary, watch the water flow through and observe the sluices and other mechanisms in place to regulate the flow (fig.4.20, 4.21). Their monumental design showed off Claudius' achievements and included several features that could potentially have served as viewing platforms for interested visitors. The exit of the tunnel, where the water flowed into the Liris River, was also embellished. Poor preservation makes it unclear what form the exit actually took, but there are complex traces of masonry and the cliff-side was carefully smoothed (fig.4.22). The Fucine tunnel seems to have had a precisely leveled slope, which is all the more remarkable considering that multiple teams were working simultaneously and separately from each other.⁹⁸

Tunnel building was nothing new for the Romans. It was frequently employed in aqueduct construction and mining, and Roman engineers and work crews had an excellent grasp of the necessary techniques; the sheer scale and ambition of the Fucine drainage project is, however, worthy of note. The tunnel was longer and deeper underground than any project conceived before, or for a long time after. Until the opening of the Frejus tunnel in 1871, Claudius' Fucine tunnel was the longest in the world.⁹⁹ It was 5.6 kilometers long and had at least 40 vertical access shafts. Most of these are between 18 and 122 meters deep and some have their own

Torlonia financed project, the Kings of Naples had considered reviving the emissary on several occasions. Carlo Afan de Rivera was sent out in the 1820s and extensively surveyed the entire tunnel and the intake structures. His mission had been to simply restore and re-activate the ancient emissary in order to reduce the lake to its Claudian size, but the project was delayed by lack of funds. His excellent plans and maps remain a good source of information on the emissary before its destruction.

⁹⁸ Castellani and Dragoni 1991a, 47-58, Burri and Castellani 1994, 291-303.

⁹⁹ Plin. *HN* 36.124, Suet. *Claud.* 20.1-2., Suet. *Iul.* 44.2, Tac. *Ann.* 12.56-57, Dio 60.11.5, Brisse and De Rotrou 1876, 10ff, D'Amato 1980, 4-96, Thornton and Thornton 1985, 105-107, Castellani and Dragoni 1991b, 55-58, Burri and Castellani 1994, 262-281, Burri 2001, 9-11.

access tunnels (fig. 4.18).¹⁰⁰ The tunnel had to be dug through Monte Salviano, often more than 300 meters below grade, and the quarried stone and earth had to be winched to the surface through vertical access shafts. Most of the tunnel was cut out of the living bedrock, but where the substrata consisted of clay, sand and other unconsolidated deposits, brick and mortar were employed to stabilize the tunnel.¹⁰¹ The general shape of the tunnel is that of a barrel vault, but it fluctuates in the size and shape of its cross-section, as well as leveling and orientation (fig. 4.23). This variability was partially dictated by topography and the material being dug, and partially because different sections were constructed concurrently and independently through access by the vertical shafts, and then connected.¹⁰²

Crater lakes in the Lazio area, such as the Lagi di Albano, Nemi and Ariccia, also had no natural outlets and were prone to surface fluctuations (fig.4.24). They had been provided with artificial outlets by tunneling, which helped regulate and control their water levels; these tunnels are ancient and may date as far back as Etruscan times.¹⁰³ The tunnel that functioned as an outlet for the Lago di Albano until the 1980s is about 1.4 kilometers long with an average width of one meter and is three meters high; only two vertical access shafts were dug (fig.4.25). The Lake Nemi tunnel is around 1.6 kilometers long, with a similar cross-section and the same number of vertical shafts (fig.4.25).¹⁰⁴ It also has some marked course changes due to cave-ins and at one point a dramatic drop in its floor level because of an elevation mistake that had to be

¹⁰⁰ Castellani and Dragoni 1991b, 54-58, Castellani and Dragoni 1991a, 43-57, Burri 2001, 9-11.

¹⁰¹ Brisse and De Rotrou 1876, 10ff, Blake 1959, 84-86, D'Amato 1980, 4-96, Thornton and Thornton 1985, 105-107, Castellani and Dragoni 1991b, 55-58, Agostini et al. 2001, 12-16, Burri 2001, 9-11, Segenni 2001, 25-28.

¹⁰² Brisse and De Rotrou 1876, 10ff, Blake 1959, 84-86, D'Amato 1980, 4-96, Thornton and Thornton 1985, 105-107, Castellani and Dragoni 1991b, 55-58, Burri and Castellani 1994, 262-281, Burri 2001, 9-11.

¹⁰³ Castellani and Dragoni 1991a, 43-57.

¹⁰⁴ Castellani and Dragoni 1991a, 43-57, Castellani and Dragoni 1991b, 54-58.

corrected. The underlying geology of the Fucine project was far more challenging than that of its predecessors: the Fucine Lake is not a crater lake and is not surrounded by homogenous layers of stable and easily dug volcanic rock. The area traversed by the Fucine tunnel was composed of more heterogeneous material and included a number of different rocks and sediments of varying hardness and stability. Many strata also carried a high water content, which further complicated work and planning.¹⁰⁵

According to Suetonius, Claudius' project took a total of eleven years to complete and employed thirty thousand men:

He made the attempt on the Fucine Lake as much in the hope of gain as of glory, inasmuch as there were some who agreed to drain it at their own cost, provided the land that was uncovered be given to them. He finished the outlet, which was three miles in length, partly by leveling and partly by tunneling a mountain, a work of great difficulty and requiring eleven years, although he had thirty thousand men at work all the time without interruption.¹⁰⁶

Pliny the Elder is unequivocally impressed by the sheer scale of the project, as well as its potential usefulness. He states:

Among the most memorable works, too, I, for my own part, should include another undertaking of the Emperor Claudius, although it was afterwards abandoned in consequence of the hatred borne him by his

¹⁰⁵ D'Amato 1980, 4-96, Thornton and Thornton 1985, 105-107, Castellani and Dragoni 1991b, 55-58, Giraudi 1994, 14-44, Agostini et al. 2001, 12-16, Burri 2001, 9-11, Segenni 2001, 25-28.

¹⁰⁶ Suet. *Claud.* 20.1-2. Loeb translation.

successor; I mean the channel that was cut through a mountain as an emissary for Lake Fucinus; a work which cost a sum beyond all calculation, and employed a countless multitude of workmen for many years. In those parts where the soil was found to be saturated, it was necessary to pump up the water by the aid of machinery; in other parts, again, the solid rock had to be hewn through. All this, too, had to be done in the midst of darkness within; a series of operations which can only be adequately conceived by those who were witnesses of them, and which no human language can possibly describe.¹⁰⁷

It is possible that Pliny actually visited the building site himself and saw the work in progress.¹⁰⁸

The ancient sources express much admiration for the ambition and scale of the work, but they also voice concerns about the immense cost and supposed corruption of those in charge.¹⁰⁹ As we have seen above, Tacitus offers the most detailed account of the problems. According to him the main problems were caused by poor planning, construction mistakes on the intake structures, and corruption on the part of Narcissus, an extremely powerful freedman of Claudius', who was appointed to oversee the scheme.¹¹⁰ Suetonius adds a few words:

¹⁰⁷ Plin. *HN* 36.124, Translation by John Bostock.

¹⁰⁸ D'Amato 1980, 4-96, Burri and Castellani 1994, 262-281, Letta 1994, 202-212, Burri 2001, 9-11.

¹⁰⁹ Plin. *HN* 36.124, Suet. *Claud.* 20.1-2., Dio 60.11.5

¹¹⁰ Tac. *Ann.* 12.56-57 (see full quote above in connection with the second Fucine spectacle of Claudius).

He even gave a banquet close to the outlet of the Fucine Lake and was well-nigh drowned, when the water was let out with a rush and deluged the place.¹¹¹

In the end the project was financially not a success because although the amount of land gained by lowering the lake level was substantial, it was not enough, or did not have a sufficiently high value, for the investors to break even (fig. 4.26).¹¹² The drainage project was financed not by the emperor but by private investors who were to receive the resulting land in return. Claudius' plan included not just the drainage tunnel but also a canal that connected to the Liris River; the goal was to take advantage of the increased water flow to improve shipping on the Liris, and probably irrigation along its banks as well.¹¹³

The difficulties that plagued the intake structures and their very public malfunction on two grand occasions caused a lot of embarrassment for Claudius; scholars still tend to present the entire venture as a failure, but careful research has revealed that the Fucine Emissary actually functioned rather well, and continued to do so for centuries.¹¹⁴ Pliny notes that the entire project was badly neglected by Nero, and Dio cryptically notes that the massive expenditure was for naught, yet the emissary clearly was in use under Trajan and Hadrian and was repaired.¹¹⁵ A now lost fragmentary Trajanic inscription (*CIL IX 3915*), probably from a statue base for an honorary statue of that emperor, dating to 116 or 117 CE, seems to

¹¹¹ Suet. *Claud.* 32.1, Loeb translation.

¹¹² Letta 1994, 207, Manning and Morris 2007, 234-235, Osgood 2011, 168-169, 188-189.

¹¹³ Plin. *HN* 36.124, Suet. *Claud.* 20.1-2., Suet. *Iul.* 44.2, Tac. *Ann.* 12.56-57, Dio 60.11.5, Thornton and Thornton 1985, 105-107, Castellani and Dragoni 1991b, 55-58, Manning and Morris 2007, 234-235, Osgood 2011, 168-169, 188-189.

¹¹⁴ Letta 1994, 206-210, n 59 p.212.

¹¹⁵ *CIL IX 3915*, Plin. *HN* 36.124, Dio 60.11.5.

celebrate the return of land flooded by the Fucine lake to its owners, presumably by renovating Claudius' emissary.¹¹⁶ The recorded text reads¹¹⁷:

Imp. Caesari Divi | Nervae Fil Nervae |
Traiano Optimo | Aug Germanico |
Dacico Parthico | Pont Max Trib Pot XXI Im(p XII) |
Cos VI Patri Patriae | Senatus Populusq Rom(anus) |
Ob Reciperatus Agros et Possess(ores reductos) |
Quos Lacus Fucini Violent(ia exturbarat)

The fragmentary nature of the text and subsequent loss of the original complicate matters considerably. There is some controversy as to the exact reading and reconstruction of the text, and it is impossible to assess how precisely the transcription reflects the original text.¹¹⁸ It is notable that the term *violentia* is used for the Fucine Lake. It is unclear what this violence entailed, but it clearly affected private property and agricultural land. The language suggests that an earthquake or unusual weather event damaged or overwhelmed the emissary. The original context of the statue base is unknown, but it is possible that it decorated the aboveground structures of the emissary and celebrated Trajan's renovations and maintenance work. The appreciation of the local population for Trajan's intervention gives us a small idea of how great their gratitude must have been decades earlier toward Claudius for taming the unpredictable and violent Fucine Lake. Various ancient repairs, especially under Trajan and

¹¹⁶ CIL IX 3915, D'Amato 1980, 97-108, Letta 1994, 208.

¹¹⁷ The version given here is that found in the CIL, D'Amato and Letta disagree on some minor points but approve of the general meaning.

¹¹⁸ Letta 1994, 208.

Hadrian, as well as medieval and early modern interventions, further underline the importance of the emissary.¹¹⁹

THE TORLONIA RELIEFS

Within the chambers of the intake system, the 19th century engineering crews on several occasions found ancient sculptural fragments that had been reused in medieval repairs. They are now part of the Torlonia collection and once formed a large panoramic landscape (fig. 4.27-30).¹²⁰ The extant pieces include a city view, a rural landscape, tombs or shrines, and the lake itself with ships. Scholars have occasionally suggested that the ships shown on the Fucine Torlonia reliefs depict the actual Claudian *Naumachia*, but the two ships do not appear to be war-like (fig. 4.30). Neither has a ramming spur and except for the small contingent of rowers and a steersman, no combatants are shown. Instead they are probably private boats meant to quickly convey small groups of passengers.¹²¹

The lake fragment of the Fucine relief is particularly interesting because preserved in the upper right corner is a partial scene consisting of two teams of two workmen working vertically installed capstans (fig. 4.28). The machines consist of large beams, ropes and pulleys. The two groups are shown on two different levels, one above the other. The devices are identical and not connected to each other; each is working independently and they are each made up of two A-frames connected by a beam at the apex. A vertical post set up between this and the ground.

¹¹⁹ Brisse and De Rotrou 1876, 10ff, Brisse and De Rotrou 1883, D'Amato 1980, 4-96, Burri 2001, 9-11, Agostini et al. 2001, 12-16, Agostini and Burri 2001, 17-18, Segenni 2001, 25-28.

¹²⁰ Facenna 2001, 34-40, Giuliani 2001a, 40-41, Beltrame 2001,42-43, Rockwell 2001, 43-44, Agostini 2001, 44.

¹²¹ Beltrame 1991, 42-43.

The bottom of the post tapers into a conical foot and at about the waist level of the two workers is located a horizontal handspike that they are pushing. The top of the vertical post consists of two spools around which are wound thick cables; clearly the workers are turning the central post by pushing on the handspike and either winding or unwinding the cables from the spools, proving that these machines are two-man capstans for lifting and lowering heavy loads.¹²² Unfortunately the scene is only partially finished and cut off by breakage, but careful study of the two machines allows for a composite reconstruction: the two cables of each machine run to a pulley suspended from a tripod frame and then disappear into the ground, tautly hanging down vertically. The setup could be adjusted simply by moving the capstan itself closer to or further from the tripod with the pulley (fig. 4.29). Materials could be lowered or lifted by switching the direction in which the men pushed the handspike. The workers may be digging wells, but since the fragments were found near the outflow channel and show such an unusual representation of machinery right next to a body of water, it is more likely that this is a representation of work on the Fucine Lake tunnel.¹²³ The workers are probably winching dirt and stone cleared from the tunnels up through the vertical access shafts. Dating the reliefs is difficult and most scholars prefer a second century date on account of stylistic details and the marble pieces were reused from an older monument. Facenna identified them as deriving from a tomb, but they could just as well have come from a relief originally decorating the emissary that was damaged, perhaps during an earthquake that also affected the Fucine drainage system. One of the relief pieces preserves traces of an earlier carving showing cuirassed horsemen. Based on

¹²² Facenna 2001, 34-40, Giuliani 2001b, 41-42, Beltrame 2001,42-43.

¹²³ Facenna 2001, 34-40, Giuliani 2001b, 41-42, Beltrame 2001,42-43, Hodge 2002, 210-211.

the style of the cuirasses, Facenna determined that the earlier carvings may be of Claudian in date.¹²⁴ Considering the fragments were found reused in the emissary structures, it is likely that they did not come from far away. The reliefs probably decorated the structures that marked the beginning of the tunnel. The presence of the unusual representations of the workers and the digging equipment would be too much of a coincidence otherwise. They reflect the fascination with the process of construction that we find in other Claudian monuments. The Torlonia reliefs could be Trajanic or Hadrianic replacements for an earlier series of similar scenes that once decorated the emissary and that were damaged by whatever event necessitated repairs under these emperors. They might equally commemorate those efforts and record the digging and tunneling necessary to carry out repairs.

PIRANESI, BRISSE, AND THE LIMITATIONS OF THEIR RECORDS

Piranesi visited the Fucine lake in 1766. His prints of the Fucine are valuable because they give us an idea what the now mostly destroyed emissary looked like and allow us to compare what he saw with what the French engineers recorded a century later.¹²⁵ He saw the intake structures before the levels of the Fucine Lake rose dramatically in the late 18th century. They were almost entirely buried when he visited them and he misread the visible walls, unaware of how deeply below ground they extended (fig 4.31 and 4.32). He could not have seen the actual entrance into the tunnel and its masonry style, but it is clear that the structures were intact and well

¹²⁴ Facenna 2001, 34-40, Giuliani 2001b, 41-42, Beltrame 2001,42-43, Rockwell 2001, 43-44, Agostini 2001, 44.

¹²⁵ Vicari 1994, 192-199, Burri and Mattiocco 1994, 304-315. There is some debate as to what extent Piranesi was involved in creating the plates because they were not published until after his death. The prints bear both his and his son Francesco's signatures, but they are clearly based on G.B. Piranesi's own drawings.

preserved, although choked with sediment and no longer functioning.¹²⁶ Up until their destruction by the engineer Alexandre Brisse under the auspices of the Torlonia, the emissary intake structures were clearly well preserved, as attested by Piranesi and Afan de Rivera (4.18, 4.31 and 4.35). We have to rely on their records in an attempt to reconstruct the appearance of the intake structures.¹²⁷

Piranesi also created a series of elaborate engravings of the Lake Albano emissary in 1762. Although it is much older than the Fucine Lake structures, the Albano emissary is the best parallel to it that we have (fig. 4.33). Marion Blake, on the basis of the rustication used, suggested that the Albano tunnel entrance was rebuilt under Claudius.¹²⁸ The masonry as it survives today is rusticated, with a rough and heavy projecting crown molding, and the channel entrance has a rather archaizing flat lintel. These are all traits that are Claudian, and the masonry style is reminiscent of the Aqua Claudia. Claudius' engineers in all probability would have visited and studied the Albano emissary before embarking on the Fucine project; it is therefore possible that renovations were also carried out here during his reign.¹²⁹ Piranesi's prints include detailed maps, floor plans and reconstructed vistas of the ruins. As is usual for Piranesi, his work has to be evaluated carefully because although the details and structures seem accurate, he combined careful on-site observations with hypothetical elements and

¹²⁶ Burri and Mattiocco 1994, 304-315.

¹²⁷ Brisse and De Rotrou 1876, 234-25, D'Amato 1980, 4-189, 6, Burri 2001, 9-11, Agostino and Burri 2001, 17-18, Segenni 2001, 25-28.

¹²⁸ Blake 1959, 84-86

¹²⁹ B. Robinson, personal communication, March 2014.

exaggerated the scale for effect.¹³⁰ The ground plan accurately shows a slanting open canal that leads through stone grilles into an enclosed and roofed antechamber with three columns aligned transversely, and then into a rectangular basin that was open to the sky. A T-shaped extension then allowed the water to flow into the tunnel proper. One of Piranesi's prints shows this part of the structure as monumentally vaulted and built out of large, rusticated stone blocks (fig 4.34). The tunnel entrance itself is shown framed with exaggeratedly rusticated blocks reminiscent of the Porta Maggiore.¹³¹ This visually emphasizes the tunnel and makes it appear much larger and more impressive than it really is. The overall effect of Piranesi's vista of the Alban emissary tunnel is suspiciously Claudian, and Brisse includes a similarly rusticated view of the intake structures of the Fucine (4.35).¹³² Robert Adam, a contemporary and friend of Piranesi, visited the Albano emissary at around the same time and made a series of drawings and sketches that show that Piranesi's perfect Claudian rustication is exaggerated (fig. 4.36).¹³³ In 1861 Alessandro Torlonia, after gaining sole control of the project, decided to completely drain the Fucine lake and sacrifice the Roman structures. The descriptions by his chief engineer Alexandre Brisse are not always easy to follow and it is difficult to judge how accurate his interpretation of the evidence really is since we cannot compare his plans and descriptions to the now destroyed original structures. He was an engineer, not archaeologist, and he was following his own agenda; it is likely that he and his team exaggerated the problems that they encountered to justify their destruction of the ancient monument and to enhance their own

¹³⁰ Piranesi 1762, Wilton-Ely 1978, 45-64, 70-71, Tait 1984, 524-533, Castellani and Dragoni 1991b, 42-48, Burri and Castellani 1994, 262-281, Wilton-Ely 1994, cat.613-624, Burri and Mattiocco 1994.

¹³¹ Piranesi 1762, Wilton-Ely cat. 616, 619, 620

¹³² Wilton-Ely 1978, 45-64, 70-71, Tait 1984, 524-533, Castellani and Dragoni 1991a, 45-53.

¹³³ Tait 1984, 524-533.

prestige. The inscription on the modern emissary is telling: "*opus ab imperatoribus regibusque frustra temptatum.*"¹³⁴ Brisse's discussion is often heavily flavored by his personal interpretation of Tacitus, Dio and Suetonius, and his plans and interpretation of the intake structures match the ancient sources too well.

The aboveground portions of the Fucine emissary's intake were monumentalized, just like the intakes at Albano and Nemi. The structures located here were intended to help regulate the outflow of the water by means of sluices and basins. As we have seen, the size, shape and choice of materials used indicate that they were also intended to be decorative and visible (figs. 4.20, 4.21).¹³⁵ The basins and tunnel entrance could be seen from above and the plans of Brisse and De Rivera show that the masonry around the tunnel entrance was monumentalized and carried out in the distinct rusticated style so closely associated with Claudius (fig. 4.35). Brisse also describes the stone masonry as consisting of large blocks of heavily bossed local limestone, and he remarks on the high quality of the materials. His plan is based on that created by Afan de Rivera in the 1830s; both therefore show the tunnel entrance as having a monumental façade reminiscent of one of the archways of the Porta Maggiore.

Brisse identified several phases for the Fucine regulatory system and regardless of his accuracy, his plans and theories do illustrate some of the challenges that Claudius' engineers faced and had to work out, sometimes by trial and error.¹³⁶ The Nemi and Albano tunnels also yield evidence of several phases and repeated alterations to their regulation systems. The

¹³⁴ Brisse and De Rotrou 1876, 143.

¹³⁵ Brisse and De Rotrou 1883, plates VI, VII, XIX, XX, XXI, Brisse and De Rotrou 1876, 234-256, Blake 1959, 84-86, D'Amato 1980, 4-189, Castellani and Dragoni 1991b, 42-48, Castellani and Dragoni 1991a, 45-52, Burri and Castellani 1994, 291-303, Letta 1994, 203-208, Burri 2001, 9-11, Agostini et al. 2001, 12-16, Segenni 2001, 25-28, Facenna 2001, 34-40, Giuliani 2001, 41-42.

¹³⁶ Brisse and De Rotrou 1876, 234-256, D'Amato 1980, 4-189.

sluices and basins at the Fucine were probably renovated and altered under Trajan and Hadrian when Claudius' project underwent maintenance and possibly some expansion.¹³⁷ The individual phases and elements are difficult to date on the basis of Brisse's discussion, which we are forced to rely on.¹³⁸ It appears that the originally planned system is similar in principle to those of the Albano and Nemi tunnels, although it uses architecturally more elaborate forms. It seems to have consisted of a broad intake canal which ended in a V-shaped ante-basin that carried the water through a narrow passage (probably containing a sluice gate) into a larger, irregular hexagonal basin, open to the sky (fig. 4.19-21, figs. 4.37-39). There was a paved floor level flush with the basin and stairs leading down to it. Next the water flowed into a small rectangular room, which probably also held sluices to help regulate the flow. The water then fell into a deeper, roughly trapezoidal basin, also open to the sky and framed in decorative masonry, from which it ran into the tunnel proper.¹³⁹ The tunnel entrance had a series of service rooms and a structure with a triple-arched façade above it at ground level; galleries gave access to the areas below and drains from the surrounding hillside connected to the trapezoidal basin. The *loggia*-like structure at ground level would have made for a good observation platform for workers and visitors alike (fig. 4.20, 4.35). All in all the sequence of channels, basins and chambers is about 65 meters long, with an almost 5.5m drop between the hexagonal and trapezoidal basins.¹⁴⁰

¹³⁷ CIL IX 391, *HA Had.* 22.12.

¹³⁸ Brisse and De Rotrou 1876, 234-256, Brisse and De Rotrou 1883, plates VI, VII, XIX, XX, XXI, D'Amato 1980, 37-120,.

¹³⁹ Brisse and De Rotrou 1876, 234-256, D'Amato 1980, 45-60.

¹⁴⁰ Brisse and De Rotrou 1876, 234-256, D'Amato 1980, 45-60.

D'Amato suggests that this drop was intentionally planned to allow future adjustments to the intake channel and basins once the lake levels had fallen sufficiently.¹⁴¹

Brisse's plans and description show that the water regulation system was altered: a new tunnel carried the water from the canal directly underneath the floor level of the hexagonal basin, which went out of use; then the water continued into the trapezoidal basin as intended (fig.4.19, fig. 4.20, fig. 4.37-39). The sluices were apparently moved to the head of the intake canal. Brisse's report unfortunately does not allow for any precise dating of this second phase; he firmly believed that what he found verified Tacitus' account in every detail. Our ancient sources do inform us that the intake system was altered at least once under Claudius, either intentionally or unintentionally. According to Brisse's measurements the level of the original intake canal and hexagonal basin were too high to take in much water from the lake; therefore, he suggests, the intake channel was deepened and a short tunnel was dug underneath the hexagonal basin to remedy the issue. Brisse, drawing on Tacitus' report that the channel had not been dug deep enough and was poorly planned, believed that the alterations were an attempt to correct mistakes caused by Claudius' corrupt minister, Narcissus, cutting corners.¹⁴² D'Amato points out that Brisse's theory has a vital flaw: the canal from the lake itself was apparently not deepened, suggesting that the new channel under the hexagonal basin was built for other reasons.¹⁴³ He argues that the various phases are not the results of technical difficulties, but were intentionally planned stages meant to successively deal with the changes in flow that

¹⁴¹ D'Amato 1980, 232-244.

¹⁴² Tacit., *Ann.*12.57. Brisse and De Rotrou 1876, 234-256 and Brisse and De Rotrou 1883, plates VI, VII, XIX, XX, XXI. The passage is quoted above. It is important to note that in this episode Tacitus is more interested in the tensions between Narcissus and Agrippina than in the details of the Fucine emissary.

¹⁴³ D'Amato 1980, 232-244, Letta 1994, 203-210. Brisse was also apparently unaware that a series of seismic events had shifted some of the ground levels, leaving some of his elevations skewed.

would be created once the lake level started falling.¹⁴⁴ The section in rusticated masonry that Brisse indicated on his plan was built to provide the emissary with an ornamental façade and his drawings do not show any alterations to this part of the tunnel. If Brisse's plans are accurate, the changes in technique in the triangular ante-basin suggests that the lower part of the walls was built after the floor of the original was excavated out to accommodate the lowering of the lake.¹⁴⁵ Water flow would of course be strong at the beginning but would start ebbing off significantly over time as the water level went down; at that time, the intake channel would also have to be deepened. Piranesi theorizes a similar model in his Albano emissary series. Once the lake reached the required level the function of the emissary intake changed: the goal was to maintain and regulate the lake level, rather than further lower it. This would require adaptation of the emissary intakes and adjustments to the depth of the intake channel.

HOW SUCCESSFUL WAS THE FUCINE TUNNEL?

Claudius' ambiguous reputation as a ruler has heavily influenced scholarly interpretation, as did the account of Brisse.¹⁴⁶ Scholars have suggested that at some point part of the tunnel collapsed and got choked with debris; Brisse noted old collapses in the tunnel during his own work, but it is not possible to establish a precise date for these incidents; they probably occurred long after maintenance on the tunnel ceased.¹⁴⁷

Marion Blake found evidence that some of the concrete used was completely ineffectual

¹⁴⁴ D'Amato 1980, 4-189, 232-260.

¹⁴⁵ Taylor, personal communication April 2014.

¹⁴⁶ Brisse and De Rotrou 1883 and 1876, *passim*, Levick 2001, 187-197.

¹⁴⁷ Brisse and De Rotrou 1876, 10ff, Thornton and Thornton 1985, 105-107, Castellani and Dragoni 1991b, 55-58, Letta 1994, 203-210.

because the builders mistook local sand deposits for pozzolana. She does not specify where exactly she encountered this material (she seems to have been investigating the tunnels leading to the access shafts), or how she dated it to the Claudian phases.¹⁴⁸ She too may have been heavily influenced by Tacitus' account of fraudulent builders and cheap materials.

Was Claudius' Fucine tunnel a failure, as is so often asserted in scholarly literature? It faced many challenges and caused Claudius some public embarrassment, but it is in need of a re-evaluation. On a financial level it was not successful; the investment scheme could not break even and the project swallowed more funds than it generated; this would have angered those who sank their funds into the Fucine tunnel.¹⁴⁹ As for Tacitus' accusations of shoddy planning and Narcissus' embezzlement, it is now impossible to say if the problems encountered at the emissary were due to mistakes, the use of poor materials, corruption, or the result of the unpredictability of the Fucine Lake and its ever fluctuating water levels. Scholars have often criticized the project as a failure because the Fucine Lake was not fully drained, but careful measurements reveal that complete drainage of the lake was never the goal. Instead the tunnel was intended to lower and, most importantly, regulate the lake's unpredictable level (fig.4.26). The Nemi, Ariccia and Albano tunnels also served to regulate, not to completely drain their respective lakes; in this aspect the Fucine emissary simply follows ancient local conventions. Castellani and Dragoni question whether the gradient and cross-section of the tunnel would have been enough to fully regulate the lake level; they concluded that the volume and velocity

¹⁴⁸ Blake 1959, 79-86.

¹⁴⁹ D'Amato 1980, 61-149, Castellani and Dragoni 1991b, 56-57, Letta 1994, 202-212, Osgood 2011, 188-189.

of flow was too low to fully carry out what the tunnel was designed to do, but they concede that the shifting lake level would have been exceptionally difficult to control in any case.¹⁵⁰ Brisse's complete destruction of the ancient tunnel prevents a precise reconstruction of its dimensions and gradient; Castellani and Dragoni's assertions have therefore to be treated with caution.¹⁵¹

Brisse, who was looking at and surveying the actual tunnel, noted the high precision with which it was leveled and based his own calculations on these numbers. He concluded that if complete drainage had been the goal, Claudius' builders could easily have accomplished it.¹⁵²

Letta suggests that a collapse occurred around the time of Trajan and necessitated his restoration work. This would mean that the Fucine tunnel worked just fine for many decades, and although Brisse's destruction of the actual remains complicates the interpretation, neither Trajan nor Hadrian seems to have attempted to widen or deepen the tunnel itself, which indicates that its performance was deemed satisfactory.¹⁵³ The fact that they lavished attention on the drainage system and celebrated this with inscriptions and relief sculpture, suggests that they considered Claudius' project both useful and important. Over the course of the eleven years that the completion of the project took, the Fucine Lake could have risen or fallen considerably, as it tended to do in a cyclical yet unpredictable manner. D'Amato and Letta suggest that Claudius' original plan would have added a deeper and more elaborate canal between the lake and the intake structures once the lake level had fallen enough and

¹⁵⁰ D'Amato 1980, 61-149, Castellani and Dragoni 1991b, 56-57, Letta 1994, 202-212, Osgood 2011, 188-189.

¹⁵¹ Castellani and Dragoni 1991b, 57.

¹⁵² Brisse and De Rotrou 1876, 16-17.

¹⁵³ Brisse and De Rotrou 1876, 125-126, Letta 1994, 202-212.

stabilized.¹⁵⁴ At that point a further network of canals to improve the general drainage of the Fucine plain would have been implemented. The scheme might actually have paid off if Nero had fully carried out this plan and would have rendered the entire project more efficient by yielding more land.¹⁵⁵ But Pliny specifically notes that Nero neglected the Fucine to its subsequent detriment. The drainage tunnel clearly continued to function after Claudius' death, although perhaps with a more limited efficiency than planned.¹⁵⁶

The tunnel apparently did work a lot more successfully than usually believed: it stabilized the lake level and prevented floods. Any more investments of funds and labor were therefore not absolutely necessary. Perhaps this is why Nero did not pay it any attention, if Pliny's assertion is indeed correct. The sometimes devastating floods and fluctuations that had always plagued the inhabitants of the Fucine plain became a thing of the past thanks to Claudius' tunnel. We may recall that attempts to restore it occurred in the Middle Ages and several more bids were made in the Renaissance and the early 19th century. Map makers and surveyors of the seventeenth and eighteenth centuries carefully studied what remains they could see. It is likely that Brisse exaggerated the problems of the Claudian tunnel to enhance his own prestige and justify its destruction. It took him twenty-two years to effect complete drainage of the lake. It took Claudius' men 11 years to reduce its expanse to 90 square kilometers, eventually bringing it down to 57 square kilometers (possibly after Hadrianic

¹⁵⁴ D'Amato 1980, 4-189, Castellani and Dragoni 1991b, 42-48, Letta 1994, 203-208.

¹⁵⁵ D'Amato 1980, 61-149, Letta 1994, 202-212, Osgood 2011, 188-189.

¹⁵⁶ D'Amato 1980, 4-189, Castellani and Dragoni 1991b, 42-48, Letta 1994, 203-208.

improvements on the drainage canal).¹⁵⁷ The emissary may in fact have functioned efficiently, with only minor repairs and adjustments, for another six hundred years.¹⁵⁸

CLAUDIUS' LEGACY

The Fucine Lake project is typically Claudian in many ways: it is utilitarian, an enormous feat of engineering, and involves water. Both Julius Caesar and Augustus, in spite of frequent petitions from the local population, had refused to accept the challenge of draining the lake.¹⁵⁹ The resulting prestige that Claudius gained for making the attempt was therefore all the higher. Suetonius suggests that the quest for glory may in fact have been a prime motivating factor for Claudius to take on the project, yet because success would result in more arable land and more food production, he could challenge his builders and exhibit their skill without risking an accusation of egotistical self-display in the manner of Gaius with his ship-bridge over the Bay of Naples.¹⁶⁰ The draining of the Fucine Lake made a powerful ideological pendant to the harbor at Portus: in one case an artificial bay was created out of dry land by excavating and flooding it, in the other a hazardous body of water was drained away (at least partially) and turned into useful, arable land.¹⁶¹ It was to celebrate the completion of the drainage tunnel that Claudius held the largest *naumachia* ever known.¹⁶² With the Fucine lake tunnel and related spectacles Claudius

¹⁵⁷ D'Amato 1980, 61-149, Castellani and Dragoni 1991b, 56-57, Letta 1994, 202-212, Osgood 2011, 188-189.

¹⁵⁸ Pliny *HN* 36.124, Aelius Spartianus, Hadrian, 22,12, D'Amato 1980, 4-189, Letta 1994, 203-208. Michael and Edward O'Neill, personal communication, September 2012.

¹⁵⁹ Plin. *HN* 36.124, Suet. *Claud.* 20.1-2., Suet. *Iul.* 44.2, Tac. *Ann.*12.56-57, Dio 60.11.5

¹⁶⁰ Suet. *Claud.* 20.1-2., Letta 1994, 202-203.

¹⁶¹ Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 30-36.

¹⁶² Plin. *HN* 36.124, Suet. *Claud.* 20.1-2., Suet. *Iul.* 44.2, Tac. *Ann.*12.56-57, Dio 60.11.5, D'Amato 1980, 61-94, Coleman 1993, 68-69, Burri 2001, 9-11, Berlan-Bajard 2006, 22-24, 342-348, Cariou 2009, 190-195, Osgood 2011, 168-169, 188-189.

set many trends that would become enormously influential in later dynasties. The transformation of land into water, and water into land, was a theme also explored in some of the lavish spectacles that Claudius gave, and became a key factor in Flavian games and shows.¹⁶³ One difference is that Claudius did actually permanently transform part of the lake into dry land; it was more than an impressive and well-choreographed trick.

Claudius proved to be a capable administrator and reformer, as well as an enthusiastic and efficient builder who used utilitarian architecture as his legacy. His achievements deserve more attention and should be seen as what they were in their day: successful ventures that impressed contemporaries, had a lasting impact and improved the supply of water, food, and commerce to Rome. His monuments in and around Rome are indeed unique and distinct, but they must also be read in their greater context: their style is a confident statement of imperial legitimacy and power rather than an expression of personal eccentricity. The Aqua Claudia and Anio Novus aqueducts continued to form the mainstay of the city water supply; the Porta Maggiore and the refurbished Aqua Virgo arcade with its ornamental arches reminded posterity of Claudius' generosity, ability as an organizer and concern for public needs. Far from being a failure, Portus was the main harbor of Rome for sixty years before it was restored and enlarged by Trajan. The Claudian lighthouse continued to light the night sky for centuries. Although it was fraught with problems and possibly neglected by Nero, the Fucine drainage project was considered important and useful enough for Trajan, Hadrian and many after them to maintain it. Although Claudius' reputation suffered heavily under his immediate successor Nero, his improved *éclat* under later rulers stems from the usefulness and scale of his projects, which

¹⁶³ Coleman 1993, 68-69.

ultimately continued to benefit Rome for centuries. Nero, in spite of tolerating or even encouraging negative opinions of Claudius, actually followed the example set by his stepfather closely and was himself deeply interested in large-scale engineering works.

Chapter 5: Nero

NERO AS A BUILDER

The ancient sources report particularly salacious and shocking episodes for the life of Nero. He is accused of having started the great fire of 64 CE, of outlandish sexual mores, of patricide, matricide and fratricide.¹ His love for performing in public is brought into the foreground and depicted in a way that renders it almost buffoonish.² Suetonius, Dio and Tacitus describe a man increasingly obsessed with his own pleasure; neglecting his obligations as a ruler and instead pandering shamelessly to the urban masses to the detriment of the senate, and by extension, the state.³ The ancient sources report that when Nero finally ran out of money because of his extravagance, he raised false accusations against innocent senators in order to confiscate their wealth.⁴ They also singled out his building activities in particular. Suetonius states: "There was nothing however in which he was more ruinously prodigal than in building."⁵ Tacitus offers a similarly negative report on Nero's building program:

However, [after the fire of 64 CE] Nero turned to account the ruins of his fatherland by building a palace, the marvels of which were to consist not so much in gems and gold, materials long familiar and vulgarized by luxury, as in fields and lakes and the air of solitude given by wooded

¹ Suet. Nero, 27-30, 33-34, 36-37, 38. Tac. Ann. 13.2, 13.16-17, 13.25, 13.47, 14.1-11, 15.38-41, Dio, 61.12-13, 62.17-18.

² Suet. Nero, 20-21, 22.3, 23-25, Tac. 14.15-16, 15.33-37, Dio, 61.20-21, 62.29, 63.9-11, Shotter 2008, 111, 113-115.

³ Suet. Nero. 12, 27, 30, Tac. Ann. 15.37, Tac. Ann. 16.4., Dio 62.15.2, 63.15.

⁴ Suet. Nero, 32, Tac. Ann. 13.42-43, 15.45, 16.3, Dio 62.26-27.

⁵ Suet. Nero, 31.1., Loeb translation.

ground alternating with clear tracts and open landscapes. The architects and engineers were Severus and Celer, who had the ingenuity and the courage to try the force of art even against the veto of nature and to fritter away the resources of a Caesar. They had undertaken to sink a navigable canal running from Lake Avernus to the mouths of the Tiber along a desolate shore or through intervening hills; for the one district along the route moist enough to yield a supply of water is the Pomptine Marsh; the rest being cliff and sand, which could be cut through, if at all, only by intolerable exertions for which no sufficient motive existed. None the less, Nero, with his passion for the incredible, made an effort to tunnel the height nearest the Avernus, and some evidences of that futile ambition survive.⁶

Yet, even Nero's harshest critics, including Tacitus and Suetonius, admit that the building code and fire prevention measures introduced after the great fire in 64 CE were extremely well thought out and effective.⁷ In the last few decades scholars have begun to reevaluate Nero, and have shown that many of his commissions were actually useful and socially conscious structures that fall very much within the Julio-Claudian tradition for imperially sponsored buildings. Water is a conspicuous feature of many of his commissions (fig.5.1).⁸ Nero seems, in fact, to have been interested in using innovative architecture as a way to connect with the general populace and he embraced the notion of himself as a public benefactor. After his death he remained very

⁶ Tac. Ann. 15.42.

⁷ Tac. Ann.1 5.38-43, Suet. Nero. 16. MacDonald 1982, 27-31.

⁸ Elsner 1994, 112-130, Davies 2000, 27-44, Champlin 2003, 178-209, Shotter 2008, 111-126.

popular with the lower orders; it is the elite who disapproved of his pandering (as they saw it) to the plebs and it is only their voice that has survived.⁹ Nero's predecessors had created beautiful leisure spaces and worked on improving the water and food supply, but since the death of Julius Caesar none had paid much attention to the housing situation of the urban poor.¹⁰ Nero's baths in the Campus Martius perfectly illustrate his interest in reaching out to the populace. Following the example set by his great-grandfather Agrippa over half a century earlier he commissioned Rome's second set of imperial baths; they were popular and lavish, and even Nero's most caustic critics could not deny their appeal.¹¹ Unfortunately they were heavily damaged by fire several times and were completely overhauled by Alexander Severus; it is therefore hard to gauge their original plan and appearance.¹²

Nero is responsible for the Arcus Caelimontani (also known as the Arcus Neroniani), an important and visually impressive branch aqueduct that extended the Aqua Claudia to the Caelian Hill. Not only did it improve the water supply for the entire northern section of the city, it was also the first brick and concrete aqueduct built in Rome.¹³ Since the Arcus Caelimontani supplied the enormous nymphaeum built by Nero into the platform of the Claudianum, scholars have assumed that he built the entire branch simply to supply his own luxurious and extravagant

⁹ Elsner 1994, 111-114, 122-123.

¹⁰ Tac. Ann. 15.43, Suet. Nero, 16, Elsner 1994, 114, Beste and von Hesberg 2013, 314-316.

¹¹ Mart. II.14.13, II.48.8; III.25.4; VII.34.5, 9, XII.83.5, Suet. Nero, 12, Tac. Ann. 14.47, Dio 59.21, Elsner 1994, 112-130, Davies 2000, 27-44.

¹² S. Lusnia, personal communication November 2013, Ghini 1988, 123-128, Yegül 1992, 137-139.

¹³ Front. 20.3, 87.3, Van Deman 1934, 266-270, Ashby 1935, 244-249, Evans 1983, 392-399, Evans 1994, 33, 118-124, 138-139, Tucci 2006, 94-119.

water features within the Domus Aurea grounds, which included an artificial lake.¹⁴ It is more likely that the Arcus Caelimontani aimed to improve general water distribution and may even have been part of Claudius' original distribution plan.¹⁵ They also served Nero as an excellent tool to showcase his awareness of the needs of the people of Rome. Although Nero used water as a form of decoration on a novel and grand scale, improved water management and distribution were important factors in the fire prevention measures that he introduced after the great fire of 64 CE.¹⁶ Suetonius states that Nero abandoned the Claudianum and incorporated the land into the Domus Aurea grounds, but it is possible that instead he changed how the temple complex was used; in this reading, Nero turned the Claudianum into a kind of forerunner to Vespasian's Temple of Peace, combining the temple with a public, or at least semi-public, garden.¹⁷ Whether intentionally or not, the gigantic nymphaeum, fed by the Aqua Claudia, was a fitting memorial to Claudius, whose many hydraulic projects had provided him with a positive legacy and whose grand aqueducts supplied the water on display.

The nymphaeum on the Caelian was not Nero's only novel water display. Fountains and water features played a key role in the decorative schemes of the Domus Transitoria and the Domus Aurea. Exquisite water displays such as the so-called "Bagni di Livia" and a monumental Odyssey-themed grotto in the Esquiline wing of the Domus Aurea provided grandiose

¹⁴ Suet. Nero 31.1-2, Vesp. 9, Tac. Ann. 15.42.1, Lanciani 1881,370, Van Deman 1934, 266-270, Ashby 1935, 244-249, Grimal 1969, 78 n. 55, Evans 1983, 392-399, Bruun 1991, 151, Mucci 1986, 95, Evans 1994, 33, 118-124, 138-139, Cariou 2009, 209-215.

¹⁵ Evans 1983, 392-399, Evans 1994, 33, 118-124, 138-139.

¹⁶ Suet. Nero 16.1, Tac. Ann. 15.43.1-5, Front. 7.6, 20.3,76.6ff, 77.1, 87.3,102.9, MacDonald 1982, 25-31, Evans 1983, 392-399, Beste and von Hesberg 2013, 314-322.

¹⁷Suet. Vesp. 9, Lloyd 1982, 91-95, Beste and von Hesberg 2013, 316-318.

decoration and a polykinetic environment that delighted and stimulated the senses of visitors.¹⁸

The domestic fountains would only have been seen by invited guests, but the lake in the Domus Aurea's park was accessible to the public at least part of the time. Did Nero's *stagnum* enjoy the same popularity as that of Agrippa? Perhaps it lacked novelty, but there is some debate as to how public the grounds of the Domus Aurea really were. In the past, the assumption was often made that they were meant to be Nero's private retreat, but there is much evidence to the contrary. The Baths of Titus may be based on a Neronian precursor, which would indicate that the entire park may have been intended as a new Campus Martius, open to the public.¹⁹

Although Nero tolerated or even encouraged deeply hostile accounts of Claudius, he too showed great interest in utilitarian projects. Many of his policies closely follow Claudius' example, and he apparently modeled many of his more popular buildings on those of Agrippa. Claudius had shown that a well chosen and impressive feat of engineering could be a crowd pleaser with a powerful political impact and result in a lasting positive reputation. Claudius had shown Nero what Roman engineers could potentially achieve and it is likely that Nero inherited some very skilled engineers, architects and work crews from him. Besides the Arcus Caelimontani, Nero is often credited with completing Claudius' harbor at Portus, minting coins celebrating its official inauguration.²⁰ He also advanced plans for a canal through the Isthmus of

Corinth, and an ambitious canal linking Puteoli to Portus. Neither was ever completed and our

¹⁸ Boethius and Ward-Perkins 1970, 212, Bastet 1972, 61-87, Bastet 1971, 144-172, Sear 1982, 96, LTUR II 1995 56-63 s.v. *Domus Aurea: Il Palazzo sul Esquilino* (Fabbrini),.

¹⁹ Panella 1990, 67-68, Nielsen 1990, 45-47, LTUR II 1995, 49-50 s.v. *Domus Aurea* (Cassatella), 50-51 s.v. *Domus Aurea: Vestibulum* (Cassatella and Panella), 51-55 s.v. *Domus Aurea: Area dello Stagnum* (Panella), Panella 1996, 180-188, Champlin 2003, 131-132, 201-208, Welch 2007, 147-162. We will revisit this argument in some detail below.

²⁰ Boyce 1956, 67-78, Meiggs 1960, 56-57, Boyce 1966, 65-66, B.M.C. Empire, Vol 1, Nero, nos. 131-132. We will revisit this question below.

ancient sources are skeptical about the feasibility of Nero's schemes. The Tacitus passage quoted above reveals that he believed that even if they could have been completed, Nero's projects would not have been useful. Suetonius similarly concluded that Nero simply spent too much on massive buildings.²¹ Claudius had set the bar high when it came to impressive and challenging hydraulic projects and Nero had some impressive feats to surpass.²² Other remarkable engineering works that Nero embarked on were the three great concrete dams at his Subiaco villa. They were ambitious and impressive feats of construction; like Claudius' projects they challenged the limits of Roman hydraulic engineering, but unlike Claudius, Nero does not seem to have celebrated or advertised these structures, keeping them out of the public eye and reserving them for his private villa instead.²³

Nero also followed the example of his predecessors by giving water-themed parties and spectacles to entertain the general populace. The ancient sources usually present these events as illustrations of the excesses of the young emperor and his favorites, rather than lavish treats for the public. His water spectacles include flooding his wooden theatre, a sumptuous public banquet on rafts on the Stagnum Agrippae and night-time feasts in boats on the *naumachia* of Augustus.²⁴ Although Medieval and Renaissance tradition attributed a *naumachia* to Nero, he does not appear to have built a new one.²⁵

²¹ Tac. Ann. 15.42, Suet. 31. Moore 1950, 97-113, Elsner 1994, 119, Werner 1997, 98-119, Levick 2001, 187-197, Beste and von Hesberg 2013, 316-318.

²² Moore 1950, 97-11, Elsner 1994, 119, Werner 1997, 98-119, Shotter 2008, 120-121.

²³ Smith 1970, 68-78.

²⁴ Tac. Ann. 14.15, 15.37, Suet. Nero, 21.1, 27.2, Dio, 61.9.5, Dio 62.20.5, Elsner 1994, 115-123, Scaroina 2006, 34-39, 44, Shotter 2008, 120-125, Cariou 2009, 200-206,.

²⁵ Cariou 2009, 155-157.

THE BATHS OF NERO

The Baths of Nero were located in the Northern Campus Martius, close to the Baths of Agrippa; the two complexes shared the Stagnum. Rome's monumental core had continued to grow since the time of Augustus, and Agrippa's Baths, as revolutionary as they were in their day, were now almost eighty years old. Both their size and design probably proved inadequate to the growing population. Nero's new baths were at least double the size of those of Agrippa and were by all accounts even grander (Fig. 5.2).²⁶ Their exact date of construction is uncertain because our main written sources, Tacitus, Suetonius and Dio, give conflicting accounts.²⁷ The question is further complicated by the fact that they are unclear about the exact relationship between the bath complex and the gymnasium built by Nero in the same area. Suetonius is the only one who mentions the baths as possibly being inaugurated as early as 60 CE, but as he discusses them in the context of the Neronia, Nero's new Greek-style games, there is no way to be certain if he is discussing those of 60 CE or 65 CE.²⁸ Tacitus and Dio only mention the gymnasium, which was destroyed by fire in 62 CE, shortly after its completion. It was rebuilt quickly, but whether the original phase already included bathing facilities is not known.²⁹ Generally scholars can agree that the Baths of Nero were built and inaugurated between 60 and 65CE.³⁰ In the case of

²⁶ Mart. II.14.13, II.48.8; III.25.4; VII.34.5, 9, XII.83.5, Suet. Nero, 12, Tac. Ann. 14.47, Dio 59.21, Aur. Vict. Ep. 5; Eutrop. VII.15, Philostr. vit. Apoll. iv.42; Stat. Silv. I.5.62, CIL VI.8676, 9797.5 = AL 29.5 XII.83.5, Ghini 1988, 123-128, Yegül 1992, 137-139, Elsner 1994, 120-123, LTUR V 1995 60-62 s.v. Thermae Neronianae (Ghini), Darwall-Smith 1996, 35-55, Davies 2000, 27-44, Scheithauer 2000, 114-115, Shotter 2008, 114-116.

²⁷ Suet. Nero, 12, Tac. Ann. 14.47, 15.22, Dio 59.21.

²⁸ Suet. Nero, 12, Vassileiou 1972, 95-106, Ingram 1980, 28-35, Champlin 2003, 72-75.

²⁹ Suet. Nero, 12, Tac. Ann. 14.47, 15.22, Dio 59.21, Ghini 1988, 123-127, Yegül 1992, 137-139.

³⁰ Eusebius indicates that they were inaugurated in 63 CE, Cassiodorus gives us the date of 64 CE. Vassileiou 1972, 95-106, Yegül 1992, 137-139, LTUR V 1995 60-62 s.v. Thermae Neronianae (Ghini). See Ghini 1988, 123-127 for a detailed discussion.

Agrippa's Baths, the gymnasium was completed first, with the full bathing amenities added a few years later. But since Nero's gymnasium burnt down, the baths may have completely replaced it.³¹ We do not hear much about the gymnasium in Roman literature; the focus is instead on the Baths. This could be another indicator that they were substituted for the gymnasium, which by all accounts was of a very Greek type and somewhat foreign to Romans.³² Fedora Filippi has suggested that the colonnaded porticoes around the *stagnum* that were excavated in more detail during the construction for the new metro line are of a Neronian date and were part of the gymnasium.³³

Almost no remains of the Baths of Nero are visible above ground today, and the known ruins date mostly to the reign of Alexander Severus, who extensively renovated and practically rebuilt them in 227 CE (fig. 5.3). There is little or no physical evidence that helps us pin down the original layout of the Baths of Nero, but their plan as we know it today is rigidly symmetrical with the bathing rooms along the central, shorter axis. This central block is flanked by two wings that end in large colonnaded courtyards on the northern end, each with its own niched apse.³⁴ Most of the rooms in the wings do not have any clearly discernible purpose. Between the two peristyles was located a large *natatio* with an ornamental, aediculated façade. At the heart of

³¹ Tamm 1970, 7-30.

³² Suet. Nero, 12, Tac. Ann. 14.47, 15.22, Dio 59.21, Ghini 1988, 123-127, Yegül 1992, 137-139, Elsner 1994, 119, LTUR V 1995 60-62 s.v. *Thermae Neronianae* (Ghini), Shotter 2008, 116.

³³ Filippi 2010, 39-53, Tomei 2011, 113-115.

³⁴ Ghini 1988, 121-177.

the complex was the cruciform *frigidarium* with four plunge baths; the *caldarium* occupied the southern end of the central block and was reached through the *tepidarium*.³⁵

The decision to preserve the original form of the Baths of Agrippa was probably a nod to both Agrippa and the great popularity of his baths. Since the Baths of Nero were apparently even more beloved by the general population, Alexander Severus may have decided to preserve the original layout of the baths, especially since Nero's architects had, like Agrippa's before him, created innovative and original new designs and solutions for public buildings. The plan of the Baths of Nero that we have today is largely based on a drawing by Palladio, which he in turn based on a series of excavations of remains still visible in his day, many of which no longer exist (fig. 5.4). As is often the case his plan includes embellishments and reconstructions that are not necessarily based on any fact.³⁶ Giuseppina Ghini carried out a careful survey in the 1980s, tracing and recording all possible remains of the baths, mostly in the substructures of present-day buildings. She managed to confirm the general outline of the building, but could not fully validate Palladio's design; this is especially the case in the central area that would have composed the main bathing halls. Unfortunately it is next to impossible to say if this is because

³⁵ The site of Nero's Baths has yielded a wealth of architectural and decorative elements made of precious materials such as exotic marbles and porphyry. Most famously among these finds are the granite columns used to repair the Pantheon (two still stand in the Via S. Eustachio), an enormous porphyry basin and polychrome mosaics of vine scrolls. All of these fragments date to the Severan renovation, but they do indicate how lavishly decorated imperial baths were and what sumptuousness Alexander Severus had to supply to match or even surpass the previous decoration of the building. Martial 7.32.4-9, 2.48.8, 3.25.4, 10.48.3f, 12.83.5, Statius *Silv.* 1.5.62, Suetonius *Nero*, 12.3, Tac. *Ann.* 13.1-16, Ingram 1980, 28-35, Ghini 1988, 132-135, Yegül 1992, 137-139, LTUR V 1995 60-62 s.v. *Thermae Neronianae* (Ghini).

³⁶ LTUR V 1995 60-62 s.v. *Thermae Neronianae* (Ghini), S. Lusnia, personal communication, Ghini 1988, 121-177, Boucher 2000, 296-311. Palladio's reconstruction of the Baths of Agrippa, for example, does not reflect the actual remains because he assumed the building must be symmetrical, like the Baths of Caracalla.

the remains Palladio saw are now destroyed or inaccessible, or because he allowed his imagination to fill in any gaps (fig. 5.5).³⁷

The Baths of Nero as Palladio drew them consisted of a symmetrical block with suites of grand vaulted rooms and open central halls. This would have created a radically new kind of interior space in Neronian Rome, more impressive and beautiful by far than the old Baths of Agrippa, which must have appeared cramped, dark and winding by comparison (figs. 2.5-2.7, fig.5.2-5.3). Other Neronian commissions, such as his Macellum and the Domus Aurea's Esquiline wing, also embraced symmetry in a grand style and experimented with vaults and domes in exciting new configurations; the Domus Aurea contained long suites of vaulted rooms alternating with courtyards, as we find in the baths (fig. 5.16).³⁸ Certain features of the layout of the Baths of Nero suggest that it is an early form of the so-called imperial bath type, but it did not yet fully solve all the design challenges.³⁹ The central block is not as dominant as we find in later examples, and the grand central bathing rooms are surrounded by many other rectangular rooms of unknown function that seem to have equal importance. The axis of the bathing rooms is not the primary one: although it is more ornate, it is spatially on equal footing with the flanking suites, which do not seem to be bathing facilities.⁴⁰

³⁷ S. Lusnia personal communication, November 2013, Ghini 1988, 121-177.

³⁸ Ghini 1988, 121-177, Yegül 1992, 137-139, LTUR II 1995 56-63 s.v. *Domus Aurea: Il Palazzo sul Esquilino* (Fabbrini), Beste and van Hesberg 2013, 319-321.

³⁹ Krencker 1929, 263-265, Nielsen 1990, 45-48, Yegül 1992, 137-139, Shotter 2008, 115-121, Beste and van Hesberg 2013, 319-321.

⁴⁰ Krencker 1929, 263-265, Nielsen 1990, 45-48, Yegül 1992, 137-139, Ball 2003, 242-249, Beste and van Hesberg 2013, 319-321.

We find the closest parallel in design to the Baths of Nero in the Baths of Titus, inaugurated in 80CE.⁴¹ It is possible that these baths were also planned by Nero or at least had a Neronian predecessor (fig. 5.6).⁴² The two buildings share some features, including the two distinct courtyards at either end of the central bathing facilities, and large rectangular rooms that open directly on to them without connecting to the bathing areas. The Baths of Titus have a more compact layout and the axis of the bathing rooms is dominant over the less prominent side rooms.

What was Nero's motivation for building his baths and what was their reception before and after his death? Martial famously quipped "what worse than Nero, what better than his baths?" and he mentions them numerous times throughout his works. He cannot deny their appeal and beauty, even if he cannot resist criticizing Nero, probably because he wishes to please his patron Domitian.⁴³ Nero is so frequently censured for the extravagant decoration of his building commissions that it is easy to overlook the fact that Agrippa also made use of precious marbles and works of art in his public buildings, most famously his *thermae*.⁴⁴ Agrippa had eagerly promoted public access to famous sculptures and paintings as a valuable educational tool and it was he who created the precedent for large, luxurious baths as a place of

⁴¹ Knell 2004, 137.

⁴² Ghini 1988, Panella 1990, 67-68, Nielsen 1990, 45-47, Caruso 1994, 81-83, LTUR V 1995 66-67 s.v. *Thermae Titi* (Caruso), Panella 1996, 180-188, Coarelli 1995, 211, Champlin 2003, 207. We will return to this question below in connection with the Domus Aurea grounds.

⁴³ Martial 7.32.4-9, 2.48.8, 3.25.4, 10.48.3f, 12.83.5, Elsner 1994, 112-130, Darwall-Smith 1996, 35-55, Davies 2000, 27-44, Champlin 2003, 6-52, Krüger 2012, 226-235, Beste and van Hesberg 2013, 314-331.

⁴⁴ Dio 53.27, 54.29, NH 34.62, 35.26, 36.189, Shipley 1933, 55-65, Roddaz 1984, 252-278, Zanker 1990, 141-142, Loerke 1990, 30ff., Wilson-Jones 2009, 69-89.

retreat and recreation for the masses. Nero was simply following the pattern.⁴⁵ Nero seems to have used buildings and spectacles in a very direct way to win favor with the general populace, and his baths were a welcome improvement to the standard of living. In this they are not unusual: bath buildings in particular became popular imperial gifts to the people.⁴⁶ Nero's choice of location in the Campus Martius allowed him to ideologically tie himself directly to Augustus' and Agrippa's popular projects. The baths he contributed considerably outdid those of Agrippa, and thus sent a grand message of his own munificence.

The condemnation of Nero's buildings is largely posthumous: because Nero's performance as an emperor was ultimately unpopular with the elite, their dissatisfaction was projected onto his buildings after his death. With the encouragement of the Flavians his shortcomings were emphasized and Nero's buildings became the settings for his inappropriate behavior. Just as in the case of Gaius, they became metaphors for his tyranny.⁴⁷ Elsner points out that if the architectural remains are studied separately from Nero's reputation, they emerge as well-planned buildings of innovative design. Their construction was also well timed to provide maximum benefit to the target audience.⁴⁸ Nero's Baths are the least criticized of his buildings because their obvious positive benefits and public nature made them less suitable for hostile ancient authors. The baths in fact were so popular that several first-and second-century

⁴⁵ Roddaz 1984, 244-252, Zanker 1988, 139-143, Elsner 1994, 112-130, Champlin 2003, 206-209, Shotter 2008, 111-126, Beste and van Hesberg 2013, 314-331.

⁴⁶Elsner 1994, 112-130, Champlin 2003, 206-209, Shotter 2008, 111-126, Beste and van Hesberg 2013, 314-331.

⁴⁷ Elsner 1994, 112-130, Davies 2000, 27-44, Shotter 2008, 111-126.

⁴⁸ Elsner 1994, 119-120.

funerary inscriptions mention them as favorite haunts of the deceased.⁴⁹ No efforts were ever made to rename the baths and Nero's name remained firmly associated with them. Even after their complete reconstruction under Alexander Severus they were frequently still referred to as the *Thermae Neronianae* or the *Thermae Alexandri et Neronis*.⁵⁰

THE ARCUS CAELIMONTANI AND NERO'S INTEREST IN THE WATER SUPPLY

The water supply appears to have been a concern to Nero, especially after the great fire of 64 CE. He passed measures against water theft and carried out maintenance work on the Aqua Marcia, although Tacitus accused Nero of sacrilege when he decided to swim in the Aqua Marcia's source.⁵¹ Frontinus mentions the Albuline spring, which was added to the Aqua Claudia in order to improve the supply and sometimes also supplemented the Aqua Marcia when the need arose.⁵² Van Deman notes that the spring must have been tapped after the reign of Claudius; it is therefore possible that it was Nero who is responsible for the capture and utilization of this high-quality new water source.⁵³ Nero's most significant contribution to the city water supply was an elaborate new branch aqueduct for the Aqua Claudia, the Arcus Caelimontani.⁵⁴ According to Van Deman the construction technique was coarse, with rough mortar and bricks that were hastily made, although well fired. She interprets this as a sign that the line was built quickly during the post-fire rebuilding efforts, possibly because the water

⁴⁹ CIL VI.8676, CIL VI.3052, Martial 7.32, Elsner 1994, 112-130, Davies 2000, 27-44, Shotter 2008, 111-126.

⁵⁰ Ghini 1988, 124-127, Elsner 1994, 112-130, Davies 2000, 27-44, Shotter 2008, 111-126.

⁵¹ Tac. Ann. 14.22.4.

⁵² Front. 14.2, Taylor 2000, 204.

⁵³ Van Deman 1934, 189-190, Taylor 2000, 204.

⁵⁴ Tac. Ann. 15.43.4, Front. 7.6, 20, 76.6ff, 77.1, 87.3, 102.9, Van Deman 1934, 266-270, Ashby 1935, 244-249, Evans 1983, 392-399, Evans 1994, 33, 118-124, 138-139, Taylor 2000, 201-206.

supply was a high priority in the stricken city.⁵⁵ The Arcus Caelimontani were about two kilometers long and ran aboveground on a tall arcade for almost their entire course, with additional branches heading towards the Aventine. They split off the main line of the Aqua Claudia/Anio Novus near the Porta Maggiore and followed the crest of the Caelian Hill, which made them conspicuous and highly visible.⁵⁶ The terminus was on the Caelian in the vicinity of the Temple of the Divine Claudius, and is identified as the feature labeled as the *Aqueductium* on the Severan Marble Plan.⁵⁷ It formed an impressive and significant landmark, displaying its new material in a highly visible and elegant fashion (fig.5.7).⁵⁸ The new branch line consisted of around two hundred arches, the highest of which soared to 17 meters (figs.5.8, 5.9, fig. 5.10).⁵⁹ The individual arches had almost twice the span of earlier arcades, requiring fewer piers and fewer arches in total. The arcade was embellished with brick molding: three projecting courses of brick formed a simple cornice just below the spring of each arch, and the *specus* is picked out by four rows of projecting bricks. The overall effect is simple but elegant and strikingly different from the Claudian aqueducts.⁶⁰ The piers are far less massive than those of the Aqua Virgo or any other aqueduct, measuring on average 2.1 by 2.4m; in the surviving parts of the arcade the spacing between the piers is around 7.75 m.⁶¹

⁵⁵ Van Deman 1934, 266-270. She also notes a lot of irregularity in brick size and that the materials used in the Severan repairs were of a much higher and consistent quality.

⁵⁶ Van Deman 1934, 266-270, Ashby 1935, 244-249, Evans 1983, 392-399, Evans 1994, 33, 118-124, 138-139.

⁵⁷ Evans 1994, 118, Tucci 2006, 94-119, FUR, 63, pl.16.

⁵⁸ Van Deman 1934, 266-270, Ashby 1935, 244-249, Evans 1983, 392-399, Evans 1994, 33, 118-124, 138-139.

⁵⁹ Van Deman 1934, 266-270, Blake 1959, 42-54.

⁶⁰ Butler 1901, 193-196, Van Deman 1934, 266-270, Ashby 1935, 244-249.

⁶¹ Butler 1901, 193-196, Van Deman 1934, 266-270, Ashby 1935, 244-249.

According to Frontinus, the new line incorporated distribution tanks from the Aqua Marcia and Aqua Julia. There may have been an earlier limited branch line that supplied the Caelian, but it must have been more limited in capacity and elevation; the Aventine, for example, does not seem to have been supplied by it. The size of the new arcade suggests that it carried a large volume of high quality water and helped remedy supply bottle necks on the Caelian, on the Aventine and in the Transtiber area.⁶² Nero's Macellum, completed in 59, was in all likelihood also located on the Caelian. He issued a series of coins depicting it in 64 or 65 CE; they probably commemorate its reopening after the great fire.⁶³ A large quantity of fresh water was vital to the proper functioning of a macellum and the new Arcus Caelimontani could supply it.

The Arcus Caelimontani were only the second significant intra-urban aqueduct arcade to be built since the Aqua Virgo, and they surpassed the earlier example in both height and length. Claudius' Aqua Virgo arcades impressed the viewer with their massive solidity and the use of fine building stone; the Arcus Caelimontani awed with their soaring height and unusually slender and elegant proportions, which further set them apart from all previous aqueduct arcades. The new arcade was perhaps meant to showcase brick and concrete, so widely used in the reconstruction efforts after the great fire. Aesthetics were too much of a priority: the branch line had to be shored up under the Flavians and was heavily rebuilt under the Severans, who further reinforced and widened many of the piers to add stability. Van Deman suggested that

⁶² Front. 7.6, 20, 76.6ff, 77.1, 87.3, 102.9, Evans 1983, 392-399, Evans 1994, 100, 118-124, 138-139.

⁶³ Dio 62.8, Colini 1944, 56-7, LTUR III 1995 204-206 s.v. Macellum Magnum (Pisani Sartorio), B.M.C. Empire Vol.1. Nero nos.191-197 and 335-337.

the unusual proportions and reduction in the number of piers was the result of the aqueduct traversing an already built-up area.⁶⁴

Claudius could expect popular approval for rebuilding the Aqua Virgo arcades, even though their demolition had not actually posed a great problem to the water supply of the city; similarly, Nero's branch aqueduct could win him favor because of its high visibility.⁶⁵ Aqueducts were crowd pleasers and could garner a lot of popular support. They brought a much-needed resource for daily survival, but also supplied the baths, parks and amenities that rich and poor alike had come to appreciate and expect. His aqueducts were Claudius' main legacy and it was an unshakably positive one. When he built the Arcus Caelimontani Nero was perhaps completing Claudius' plans for the distribution network of his two aqueducts, but he must also have been aware of the positive associations that the construction of an aqueduct would bring him. The Arcus Caelimontani were politically the next best thing to actually building an aqueduct because they sent many of the same political messages with less expense and effort. They were visually striking and improved the water supply to some underserved areas of the city; for many poor individuals, especially on the Aventine and in the Transtiber area, they must have amounted to almost the same thing as a whole new aqueduct. The tapping of the Albuline spring, however, meant that the amount of available water was increased, and did not run low during the dry summer months. In addition, the population displaced by the great fire needed to settle somewhere during the rebuilding efforts and Taylor suggests that many were at least temporarily housed across the Tiber. Nero embarked on some large-scale building projects in

⁶⁴ Van Deman 1934, 268-270, Evans 1994, 123, Taylor 2000, 202-203.

⁶⁵ CIL VI 1252=ILS 205, Ashby 1935, 172-182, Barrett 1991, 2-3, La Rocca 1994, 60-111, Osgood 2011, 92-96, 180-182. For a more detailed discussion see chapter 3.

the Transtiber and Vatican areas, such as new housing and the Circus of Gaius and Nero. The increased supply of water to the Transtiber is probably a reflection of these efforts.⁶⁶

Not everyone agrees that the Arcus Caelimontani were intended to improve the public supply, but argue instead that they were intended to supply the lavish water features of the Domus Aurea and its gardens, above all the Caelian Nymphaeum.⁶⁷ Some of the water doubtless went to the nymphaeum, which was a monument of conspicuous consumption, but it also displayed the sheer volume of water at Rome's disposal. As such it embodied Rome's wealth and ingenuity in much the same way that the Stagnum Agrippae, Euripus and Naumachia Augusti had. The Porta Maggiore also celebrated these achievements, although without displaying the water itself. Nero's rebuilding of the city was an ambitious, systematically planned project, with important urban requirements taken into account.⁶⁸ It is therefore highly unlikely that the Arcus Caelimontani were built for Nero's private consumption alone. Instead they formed an important part of repairing and improving the urban water distribution network.⁶⁹

ORNAMENTAL WATER FEATURES OF THE DOMUS TRANSITORIA AND DOMUS AUREA

THE FOUNTAIN COURT OF THE DOMUS TRANSITORIA

The surviving sections of the Domus Transitoria and the Domus Aurea preserve the remains of a number of unusual and lavish water features (fig. 5.11). Water was clearly an important

⁶⁶ Taylor 2000, 205-206.

⁶⁷ Suet. Nero 31, Vesp. 9.1, Tac. Ann. 15.42.1, Lanciani 1881, 370, Van Deman 1934, 266-267, Ashby 1935, 244-249, Grimal 1961, 78 n. 55, Evans 1983, 392-399, Bruun 1991, 151, Evans 1994, 118-128, 138-139, Champlin 2003, 202-204, Shotter 2008, 115, Dembskey 2009, 73-82, Cariou 2009, 209-215. On the Caelian nymphaeum see below.

⁶⁸ MacDonald 1982, 36-45.

⁶⁹ Evans 1983, 392-399, Evans 1994, 118-128.

decorative element, both inside buildings and in the extensive grounds. Conspicuous consumption of water had long been a status symbol for the wealthy and Nero followed and expanded upon this tradition. Similar water features are not unknown, but most of them were found in villas in the country, or at least the suburbs. Their scale, luxury and location in the heart of the city make them remarkable.⁷⁰

The Domus Transitoria is only preserved in sections and not much remains of the complex of rooms around a sunken fountain court commonly known as the “Bagni di Livia” (fig. 5.12 and 5.13). They are usually attributed to the Domus Transitoria because they were subsequently covered by construction phases of the Domus Aurea and the Flavian Palace. The surviving marble and paintings were removed in the eighteenth century, further damaging the architectural remains.⁷¹ The focal point of the suite was a richly decorated fountain wall, a little over ten meters wide, divided into nine rectangular niches embellished with columns, reminiscent of a theatre stage, and encrusted with precious multicolored marbles. Water flowed down a *scalina d’ aqua* above, then bubbled up into a basin, 0.6 meters wide and 0.38 meters deep (fig. 5.13). Because the water flowed into a deep holding tank behind the decorative wall, it had sufficient pressure to power little fountain jets in the basin. Facing the nymphaeum was a colonnaded dining pavilion, flanked by small rooms with richly painted ceilings and lavishly inlaid floors; there was another water basin in the floor of the pavilion. This was probably not a state dining room, but a smaller summer retreat. It stands out mostly for the beauty and richness of

⁷⁰ Salza Prina Ricotti 1987, 137-184, Neuerburg 1965, 86-91, Mielsch 1987, 16-35, 104-106, 121-134, Evans 1994, 65-67, Berg 1994, 139-141, MacDonald and Pinto 1995, 3-6, 176-178, Gros 1996, vol II 244-252, Longfellow 2011, 15.

⁷¹ Suet. Nero 31, MacDonald 1982, 20-46, Manderscheid 2004, 75-85, Welch 2007, 148-158.

its decoration; similar warm-weather dining rooms can be found in villas throughout Italy.⁷² The aediculated wall, columns and basins were taken up again and enlarged to a huge scale for the great nymphaeum on the Caelian. The façade of the *natatio* of the Baths of Nero also used these design features.⁷³

THE WATER FEATURES OF THE DOMUS AUREA

Suetonius describes the Domus Aurea as follows:

He made a palace extending all the way from the Palatine to the Esquiline, which at first he called the Domus Transitoria, but when it was burned shortly after its completion and rebuilt, the Domus Aurea. Its size and splendor will be sufficiently indicated in the following details. Its vestibule was large enough to contain a colossal statue of the emperor a hundred and twenty feet high; and it was so extensive that it had a triple portico a mile long. There was a pond, too, like a sea, surrounded with buildings to represent cities, besides tracts of country, varied by tilled fields, vineyards, pastures and woods, with great numbers of wild and domestic animals. In the rest of the palace all parts were overlaid with gold and adorned with gems and mother-of-pearl. There were dining rooms with fretted ceilings of ivory, whose panels could turn and shower down flowers and were fitted with pipes for

⁷² Bastet 1972, 61-87, 1971, 144-172, MacDonald 1982, 20-26, Griffin 1984, 126-128, Manderscheid 2004, 75-85, Beste and Van Hesberg 2013, 322-323.

⁷³ P. Davies, personal communication March 2014.

sprinkling the guests with perfumes. The main dining hall was circular and constantly revolved day and night, like the heavens. He had baths supplied with sea water and sulphur water. When the place was finished in this manner and he dedicated it, he deigned to say nothing more in the way of approval than that he was at last beginning to be housed like a human being.⁷⁴

Nero's palace water features, although they followed common elite prototypes, had to be the most lavish in the empire.⁷⁵ Unfortunately the principal reception rooms of the Domus Aurea no longer exist; they were probably located on the second floor of the Esquiline wing, cut back into the hill side.⁷⁶ Pools, basins and fountains clearly played an important part in the decorative scheme of the palace building, but due to its limited state of preservation we can only get an incomplete sense of their true prominence. We know that there were reflecting pools and fountains in the peristyles of the ground floor of the Esquiline Wing, in inner courtyards tucked away throughout the building and on the terraces of the upper floors (fig.5.11, fig. 5.14 rooms 20, 43, 45, 51, 124).⁷⁷ The famous Octagonal Hall contained a water stair and another lavish fountain was built into the back wall of a dining suite decorated with scenes from the Odyssey (fig. 5.15).⁷⁸ Beyond this we cannot say much more about the fountains inside the buildings, but

⁷⁴ Suet. Nero. 31. Translation from MacDonald 1982.

⁷⁵ Gros 1996, vol. II 247-252.

⁷⁶ P. Davies, personal communication March 2014, LTUR II 1995 56-63 s.v. *Domus Aurea: Il Palazzo sul Esquilino* (Fabbrini).

⁷⁷ LTUR II 1995 56-63 s.v. *Domus Aurea: Il Palazzo sul Esquilino* (Fabbrini), Claridge 1998,290-292, Moorman 1998, 345-362, Ball 2003, 11, 107, 122, 133-199,222, 227, 266. The many water features in the Esquiline Wing could have been fed by any of the aqueducts that entered Rome in the Spes Vetus area.

⁷⁸ For a more detailed discussion of these water features see Appendix II, "The surviving water features of the Esquiline Wing."

we can gain a much better sense of the use of water in the extensive grounds. Here it was employed on a massive scale, which contributed to the notoriety of the Domus Aurea (fig.5.11).

THE GREAT CAELIAN NYMPHAEUM

The enormous nymphaeum on the Caelian was built in to the side of the platform of the Temple of the Divine Claudius and occupied the entire northeast escarpment of the hill. Some scholars have even suggested that it may have continued along the northeastern side as well, but the remains in this area are too fragmentary to allow any conclusions. The basic plan consists of alternating round (fig. 5.16) and square niches, with a larger and deeper square niche, itself apsed, dominating the center (fig. 5.17). The plan is a little irregular; the better preserved niches on the northern end still have traces of being further subdivided into a series of smaller, rounded niches (5.18, 5.19). The entire façade between the larger recesses is articulated with smaller niches, three per interval on the northern end, and four on the southern. At 167 meters long and 11m high its dimensions are truly spectacular.⁷⁹ The entire massive structure was made of brick-faced concrete and formed a screen wall, separated from the hillside behind it by a narrow passageway for maintenance and to house pipes (5.16).⁸⁰ The passage may also have contained lead cisterns to help regulate water pressure and to provide power for jets, as in the “Bagni di Livia” fountain.⁸¹ Nero stopped work on the Temple of the

⁷⁹ Suet. Vesp.9, Colini 1944, 137-162, Prandi 1953, 373-419, Neuberger 1965,195-196, Lloyd 1986, 92-94, Richardson 1992, 87, Claridge 1998, 307-308.

⁸⁰ Colini 1944, 137-162.

⁸¹ Colini 1944, 137-162, Prandi 1953, 373-419, Neuberger 1965,195-196, Lloyd 1986, 92-94, Richardson 1992, 87, LTUR I 1995 277-278 s.v. Claudius, Divus Templum (Buzzeti), Claridge 1998, 307-308.

Divine Claudius after Agrippina's death in 59 CE, but the nymphaeum was presumably only built after 64 CE when the Arcus Caelimontani were completed and could supply it with water.

Some general features of the decoration are still discernible today and a print by Piranesi shows the nymphaeum in a better state of preservation, depicting the articulation and subdivision of the façade more clearly (fig. 5.20).⁸² The entire structure was originally covered in marble and decorated with columns and sculptures in a manner reminiscent of the *scaenae frons* of a theatre. The façade was divided into two stories by a projecting entablature, supporting columns and sculpture in the niches. This nymphaeum is essentially a two-story, greatly magnified version of the almost contemporary fountain wall in the sunken court of the Domus Transitoria. The *natatio* of the Baths of Nero also utilized this decorative device. The Severan Septizodium, which measured around 95 m in length and was three stories tall, offers a close parallel in terms of decoration and water use (figs. 5.21, 5.22).⁸³ The water did not flow down the entire façade, but out of the seven larger niches and collected in a basin along the foot of the Caelian. Because it was larger and deeper, the central square niche must have been particularly ornate and probably held the best sculpture. Not enough evidence survives to say if the water flowed over *scaline d'aqua*, from fountain sculptures or simply from openings. After leaving the nymphaeum the water could be used for irrigation and other water features in the Domus Aurea Park, including the lake.

What could the purpose of such a gigantic and lavish water feature have been? To many scholars it has seemed a disrespectful gesture towards Claudius and a symbol of Nero's self-

⁸² Wilton-Ely 1994.

⁸³ Gorrie 2001, 653-670, Lusnia 2004, 517-544. The city nymphaea of Side, Miletus and Perge offer similar parallels.

absorption.⁸⁴ As noted above the nymphaeum can be reinterpreted as a celebration of the Arcus Caelimontani and a display of the resources at Nero's, and by extension all of Rome's, disposal. The Caelian nymphaeum showcased not just the water, but also the engineering know-how needed to provide it. The display is not necessarily intended for Nero's personal enjoyment alone, but like the *stagnum* of Agrippa, the old *naumachia* of Augustus and the numerous decorated public fountains set up by Augustus and Agrippa, the great nymphaeum showcased Rome's wealth and the luxuries available to her inhabitants. It obliquely faced the Esquiline Wing of the Domus Aurea and helped guide the viewer's eye towards the complex. It also ran parallel to a public street (the present day Via Claudio) and thus made accessible to the public a uniquely large version of a pleasure usually reserved for the aristocracy. Nero was essentially sharing the luxury of his private dining pavilion with all of Rome.⁸⁵ The decorative use of a *scaenae frons*-like aediculated façade with columns and basins also echoed the design of the Baths of Nero, reminding the passerby that Nero was the donor of both. In this sense Nero was using a decorative device to link his public commissions, much as Claudius had done with his distinct form of rustication.

THE STAGNUM NERONIS

Nero's lake is mentioned in a number of sources, most notably Suetonius, Tacitus and Martial, and has achieved certain notoriety in the popular imagination. We hear from Suetonius that "...there was a lake which was so large that it resembled the sea, and was surrounded by

⁸⁴ Colini 1944, 137-162, Prandi 1953, 373-419, Neuerburg 1965,195-196, Griffin 1984, 139, Lloyd 1986, 92-94, Richardson 1992, 87, Claridge 1998,307-308, Champlin 2003, 203.

⁸⁵ R. Taylor, personal communication March 2014.

buildings which were constructed to look like whole cities..." A rural landscape with animals and a mile long colonnade completed the park; on a great platform stood the vestibule with Nero's 40 meter Colossus (fig.5.11).⁸⁶ Tacitus adds to his account the importance of views and the illusion of rural landscapes, along with his comment on Severus and Celer and Nero's interest in controlling and sculpting nature, already quoted above.⁸⁷ Martial, writing for his Flavian patron, showcases the magnanimity of the new dynasty in constructing the Colosseum, a public building, on the site of Nero's lake:

Where the starry Colossus sees the constellations at close range and lofty scaffolding rises in the middle of the road, once gleamed the odious halls of a cruel monarch, and in all of Rome there stood a single house. Where rises before our eyes the august pile of the Amphitheatre, was once Nero's lake. Where we admire the warm baths, a speedy gift, a haughty tract of land had robbed the poor of their dwellings. Where the Claudian colonnade unfolds its widespread shade, was the outermost part of the palace's end. Rome has been restored to herself, and under your rule, Caesar, the pleasantries that belonged to a master now belong to the people.⁸⁸

Located in the valley later known as that of the Colosseum, the *stagnum Neronis* was long thought to be an irregular, natural-looking basin.⁸⁹ The area was originally marshy and a stream

⁸⁶ Suet. Nero 31. Translation by Graves, Champlin 2003, 131-132, 200-208.

⁸⁷ Tac. Ann. 15.42

⁸⁸ Mart. De spectaculis 2. Translation from Welch. Welch 2007, 148-162. See also Champlin 2003, 201.

⁸⁹ E.g. Boethius and Ward-Perkins 1970, 215.

traversed the valley, but it had already been captured and canalized sometime during the Republican period. Immediately prior to the fire of 64 CE and the construction of the Domus Aurea the area was a mixed residential zone; Nero's Lake therefore did not play a role in drainage and water regulation.⁹⁰ Excavations and soundings in the last few decades have revealed that the lake was actually a completely artificial rectangular structure, similar in design to the stagnum Agrippae.⁹¹ It was surrounded by colonnades and aligned on the same axis as the Domus Aurea vestibule (now the platform of the Temple of Venus and Rome). Recent excavations have helped pinpoint the approximate extent of the lake on the southern, northern and eastern sides where remains of the surrounding porticoes have been found (fig. 5.23). Based on this information the *stagnum Neronis* must have been between 175 and 195 meters wide and between 195 and 205 meters long.⁹² It was therefore of comparable size to, or only a little larger than, the Stagnum Agrippae and smaller than the Naumachia of Augustus. Based on soundings the depth has been estimated at between 4 and 6 meters, which is deep compared to the Stagnum Agrippae and the *naumachia*.⁹³ As is the case with the *Naumachia Augusti*, the floor of the basin has not been found, prompting the suggestion that it was composed of sand and clay, but just as in the case of the *naumachia* the floor may have been completely torn out when the area was redeveloped and the Colosseum was built. An impermeable *cocciopesto* floor beneath any part of the Colosseum would have been troublesome for reasons of structure and

⁹⁰ Cariou 2009, 211 n. 35.

⁹¹ LTUR 1995 II 50-51 s.v. *Domus Aurea: Vestibulum* (Cassatella and Panella), 51-55 s.v. *Domus Aurea: Area dello Stagnum* (Panella), 67-68, Gros 1996, vol. II 246, Medri 1996 in Panella 1996, 165-188, Champlin 2003, 206-208, Cariou 2009, 209-215.

⁹² Panella 1990, 67-68, Medri 1996 in Panella 1996, 165-188, Champlin 2003, 206-208, Cariou 2009, 209-215.

⁹³ Cariou 2009, 211-212, esp. n.36 and 38.

drainage; in addition, the foundations of the amphitheatre extend deeper than the conjectured basin.⁹⁴ Nero's Lake would have posed the same challenges as Rome's other artificial bodies of water. It needed to maintain proper circulation and drainage to prevent it from growing stagnant and unpleasant, and it was as such a labor-intensive feature. The water was supplied by the Aqua Claudia via the Arcus Caelimontani and the great nymphaeum; perhaps some of the local streams were also captured. Excavations revealed a section of a drain that wrapped around the eastern and southern edges of the lake.⁹⁵ Like the Stagnum of Agrippa, which served to display the abundance of the Aqua Virgo and to remind visitors of Agrippa's extensive work on the Roman water supply, Nero's lake displayed the great yield of the Aqua Claudia. It also further enhanced the perception, right or wrong, that Nero's Arcus Caelimontani actually increased Rome's water supply. Perhaps there was even an equivalent to the Euripus channeling water from the nymphaeum to the lake.

Suetonius also tells us that the lake was surrounded by buildings meant to evoke the appearance of cities; buildings of various kinds dotted the grounds and may have had fanciful titles reminiscent of famous places. Suetonius is probably using this language as an analogy to emphasize the size of the lake, and should not be taken too literally.⁹⁶ The colonnades surrounding the lake were not just an open portico, but incorporated many small rooms

⁹⁴ Panella 1990,67-68, LTUR II 1995 50-51 s.v. *Domus Aurea: Vestibulum* (Cassatella and Panella), 51-55 s.v. *Domus Aurea: Area dello Stagnum* (Panella), Medri 1996, 165-188, Cariou 2009, 211-212, esp. n.36 and 38.

⁹⁵ LTUR II 1995 50-51 s.v. *Domus Aurea: Vestibulum* (Cassatella and Panella), 51-55 s.v. *Domus Aurea: Area dello Stagnum* (Panella), Medri 1996, 167-185.

⁹⁶ Suet. Nero 31., P. Davies, personal communication March 2014.

reminiscent of *tabernae*, or shops.⁹⁷ This suggests that it was intended to serve multiple functions and was perhaps meant to be used for public banquets and entertainments, for storage, food preparation or to seat individual parties of diners, sorted according to rank. The project was, however, never completed and probably was never used as it was intended. Nero used the *stagnum Agrippae* and the old *naumachia* for lavish (and according to our ancient sources, risqué) public entertainments, during which he erected temporary booths and shops around the venues. His own *stagnum* may have been designed for similar purposes.

A NEW CAMPUS MARTIUS?

This all raises the question how public or private this part of Rome was. Traditionally, inspired by Flavian propaganda, scholars have perceived the Domus Aurea as Nero's gigantic indulgence that misappropriated the heart of Rome for his own personal use. As Griffin has pointed out, this is hardly tenable. Roman houses were never entirely private; they also had a very public function and this is particularly true for the Roman elite. In addition, several important thoroughfares ran through this territory and some old temples, such as that to Fortuna, were located within the grounds.⁹⁸ Nero did probably take over some land that had been in private hands, but the majority of the area occupied by the Domus Aurea had already been Imperial property for some time. Griffin suggests that perhaps the Domus Aurea grounds were not fully embraced by everyone in the same way as the Campus Martius because the exact purpose of many of its features was not fully understood; especially if the concept for the grounds was

⁹⁷ LTUR II 1995 50-51 s.v. *Domus Aurea: Vestibulum* (Cassatella and Panella), 51-55 s.v. *Domus Aurea: Area dello Stagnum* (Panella), Medri 1996, 165-188.

⁹⁸ Griffin 1984, 16-23.

never fully realized.⁹⁹ The Campus Martius had also been largely undeveloped land at the time that Agrippa and Augustus embarked on their building program.

Some scholars propose that the overall effect of the Oppian wing of the Domus Aurea, the *stagnum* and its porticoes, is reminiscent of the grand aristocratic villas that dotted the coast around Baiae, a location that Nero was particularly fond of. He was transposing the forms and functions of an aristocratic seaside resort to the center of Rome.¹⁰⁰ Agrippa and Augustus created something similar in the Campus Martius; ancient criticism was therefore aimed not so much at the types of buildings in the Domus Aurea grounds as at their extreme size and their location in the heart of Rome. Many of Nero's contemporaries seem to have been uncomfortable with his use of this space, feeling that it was not the ideal use of the land.¹⁰¹ Nielsen and Coarelli have speculated that the Baths of Titus had a Neronian predecessor that was meant to connect to the Domus Aurea grounds in the same way that the Baths of Agrippa and of Nero utilized the Campus Martius. This would explain why the Baths of Titus, unlike most other imperial baths, had no surrounding parklands and why no trace of the Domus Aurea baths has been found. The monumental stair case that leads up to the Baths of Titus may have been Neronian and originally intended to link the baths with the Domus Aurea park.¹⁰² Suetonius tells us that Nero's baths there "had a constant supply of sea-water and water from sulphurous

⁹⁹ Griffin 1984 , 16-23, Champlin 2003, 201-209.

¹⁰⁰ Champlin 1998, 342-343, Champlin 2003, 201-209, Ball 2003, 1-8.

¹⁰¹ Griffin 1984, 18-20, Champlin 2003, 201-209.

¹⁰² Nielsen 1990, 45-47, Coarelli 1996, 211.

springs.”¹⁰³ If this is accurate, and not just an attempt by Suetonius to illustrate Nero’s frivolous excesses, the effort in man and animal power to transport it would have been enormous.

The Campus Martius had been the great, generous gift of Agrippa and Augustus to the people of Rome. They had taken a piece of land traditionally associated with the power of the people and had transformed it into a beautiful leisure space that anyone was free to utilize. Their projects there had underlined the advantages of Augustus’ rule and had become a symbol of the Golden Age. By building a related complex near the Forum Nero may have been attempting to create a space that would be associated with himself, yet tie him favorably to his great-grandfather and Augustus. The vicinity of his own residence echoed that of Agrippa, who also used his own land to build the *thermae* and parks in the area. Nero had profited from the devastating fire to acquire the land; it therefore seemed like less of a gift and more of a misappropriation. Nero seems to have been trying to present himself as one with the people; perhaps this was his way to celebrate the idea of the *populus romanus universus* that Augustus had created and Claudius had further cultivated. Nero did not treat the elite in a particularly respectful manner, as we shall see below. He seems to have elevated the general populace to the detriment of elite privilege; this is probably one reason why the ancient sources were so hostile to him. In the Domus Aurea gardens he created a park that ancient authors considered too large and too ostentatious to be located within an urban setting; it also, at least at times, admitted anyone. Rich and poor could mingle and Nero encouraged a mixing of the orders, a policy which to many elite Romans was threatening and inappropriate.¹⁰⁴

¹⁰³ Suet. Nero. 31.

¹⁰⁴ Welch 2007, 153-162.

ENGINEERING WORKS

THE FOOD SUPPLY: PORTUS AND CANAL SCHEMES

Much of Rome's food was still unloaded at Puteoli, and Nero envisioned a canal that could accommodate large cargo vessels would allow grain and other necessities to be safely shipped from Puteoli to Rome without the risk of storms or the loss of time and resources required by reloading the cargo multiple times.¹⁰⁵ That Nero's concern was not unfounded is shown by the multiple catastrophes that threatened Rome's grain supply. In 64 CE the great fire destroyed much of Rome and must have taken out granaries and warehouses. In addition, that same year a great storm sank 200 ships in Portus, another fire destroyed numerous grain barges on the Tiber, mould ruined the food supplies stored at Rome and a grain fleet was severely damaged, again by a storm, in the vicinity of Cumae.¹⁰⁶ A safe food supply was vital to the inhabitants of Rome, especially the urban poor who had very few resources to fall back on in lean times; because many lived at a subsistence level, famine was a frequent and real threat to them.¹⁰⁷ Food riots and unrest could be the consequence; Claudius had found this out early in his reign and sought to remedy it with Portus. Nero demonstrated repeatedly how important the plight of the plebs was to him and the food supply was high on his agenda.¹⁰⁸ In order to secure the food supply of the capital, it was often necessary to go further afield, as Claudius had done. As mentioned above Nero paid much attention on the harbor at Puteoli and conceived a canal scheme that to ancient authors seemed overly ambitious (although Julius Caesar had already

¹⁰⁵ Meiggs 1973, 57-58, Rickman 1980, 60-93, 120-197, Tchernia 2003, 45-60, Champlin 2003, 157-159, Arnoldus-Huyzendveld, Keay, Millett and Zevi 2005, 34-36, Shotter 2008, 120, 124-129.

¹⁰⁶ Tac. Ann. 15.18, 15.46. See also chapter 4.

¹⁰⁷ Scobie 1986, 399-433.

¹⁰⁸ Shotter 2008, 128-129.

proposed it): he wanted to dig a channel that linked Puteoli via Lake Avernus to the Tiber River, a distance of 160 Roman miles. Scant remains of this canal have been found near Cumae; it was between 60 and 65 meters wide, enough to let two vessels with up to five banks of oars pass each other.¹⁰⁹ According to Suetonius Nero rounded up prisoners from all over the empire to carry out the work and eagerly drove the project forward. Ancient sources hostile to Nero clearly dismissed the enterprise as unattainable.¹¹⁰ Claudius had also encountered criticism and ridicule when he embarked on his great harbor and drainage tunnel, yet he had managed to complete both successfully in a surprisingly short time. This example may have encouraged Nero to go ahead with a project that was an enormous commitment of resources, time and labor, but that could actually have some positive consequences.

Nero's harbor *sestertii* of 64 and 65 CE are usually interpreted as celebrating the completion and inauguration of Portus, but they may equally have been minted to reassure the people of Rome that in spite of the catastrophes they had recently experienced, the *annona* was secure and that the continued improvement to shipping lanes and harbor infrastructure was high on Nero's list of priorities.¹¹¹ Although Nero made the canal project a high priority, it does not seem to have progressed very far by the time of his death and his successors preferred to invest their time and funds into further improving the harbor facilities at Portus and Puteoli instead.

¹⁰⁹ Johannowsky 1990, 1-13.

¹¹⁰ Tac. Ann. 15.42, Suet. 31.3, Caes.44, Pliny 14.68, Stat. Silv. 4.3.7-8, Johannowsky 1990, 1-13, Champlin 2003, 157-159, Shotter 2008, 120, 124-129.

¹¹¹ Boyce 1956, 67-78, Meiggs 1960, 56-57, Boyce 1966, 65-66, B.M.C. Empire, Vol 1, Nero, nos. 131-132.

Nero also considered cutting a canal through the Isthmus of Corinth and started work on it in 67CE after a grand inauguration ceremony, but the project was abandoned after his death the next year.¹¹² Pausanias noted still seeing remnants of the Nero's canal about a century later.¹¹³ Like Claudius' Fucine tunnel, most of the remains of Nero's canal were destroyed by modern engineers who followed the same route and reused as much of the ancient work as they could.¹¹⁴ Nero mobilized a large surveying team that undertook extensive measurements and exploratory shafts and 6000 Judean prisoners of war were set to work digging.¹¹⁵ Gerster, who in 1884 published a detailed survey by the engineering team working on the modern Isthmus Canal, states that Nero's crews started at both ends. He estimates that they had dug something close to 2 kilometers of a 50-meter-wide canal on the western side, but had only reached a depth of about 10 meters. At the eastern end they had not gotten as far, but had reached a greater depth.¹¹⁶ The 19th century canal involved a tremendous effort and was fraught with difficulty; the progress that Nero's engineers made in just a year is therefore impressive. The advantages of an Isthmus canal are undeniable and Nero was not the first to consider the venture; the tyrant Periander, Demetrius Poliorketes and Julius Caesar all looked into the viability of such a project and Gaius had briefly toyed with the plan.¹¹⁷

Another grand hydraulic project that Nero considered was a vast porticoed pool that stretched from Misenum to Lake Avernus; his aim was supposedly to divert all the hot springs of Baiae into

¹¹² Plin. HN, 14.68, Tac. Ann. 15.42, Suet. Nero 31.3, Stat. Silv. 4.3,7-8.

¹¹³ Paus. II.1.5.

¹¹⁴ Werner 1997, 114-117.

¹¹⁵ Plin. HN, 14.68, Tac. Ann. 15.42, Suet. Nero 31.3, Calig. 21, Stat. Silv. 4.3,7-8, Josephus, Bell. Jud., 3.10.10.

¹¹⁶ Gerster 1884, 225-232.

¹¹⁷ Suet. Caes. 44, Calig. 21, Strabo 1.3.11, Werner 1997, 114-117, Champlin 2003, 13-16, Shotter 2008, 120-121, 124-125.

this new amenity. The exact purpose of this massive project is unclear. Perhaps Nero intended it as a gigantic public resort, a way for him to share his favorite haunt with the broader populace and mingle with his subjects. Enough of the work progressed for a feature in the area to still be known as the *Stagnum Neronis* centuries later.¹¹⁸

THE SUBIACO DAMS

Nero owned a lavish private villa at Subiaco; its most remarkable features were three dams that blocked the Subiaco gorge below the villa and created a series of artificial lakes, one above the other (fig. 5.24).¹¹⁹ Almost no traces of the three dams at Subiaco survive; even their exact locations are under debate, but we do know that the middle dam was unsurpassed in height until modern times.¹²⁰ Smith estimates that it was approximately 50 meters high. It reportedly collapsed in 1305, but the collapse must have been only partial since it still appears in a painting in the local Monastery of St. Benedict, dating to 1428 (fig. 5.25). This painting is the best source on what the dam actually looked like: it shows a massive wall with two spillways that allowed the water to overflow near the lip of each dam, creating a gentle waterfall into the pool below.¹²¹ The dams were gravity dams, massive concrete structures with masonry reinforcements that resisted the force of the water through their sheer bulk. Large fragments of the concrete core can still be found in the river downstream from the dams' original site. The

¹¹⁸ Suet. 31.3, Blake 1959, 83-84, Ostrow 1979, 85-87, 127-130, Champlin 2003, 158-159.

¹¹⁹ Tac. Ann. 14.22, Front.93, Plin. NH. 3.12. Most reports, including Pliny, state that there were three lakes. Di Matteo argues, based on the surviving physical evidence, that there were actually only two lakes. For a detailed discussion of the villa see Di Matteo 2005.

¹²⁰ Ashby 1935, 253, Smith 1970, 58-68, Di Matteo 2005, 105-112.

¹²¹ Smith 1970, 58-68, Di Matteo 2005, 105-112. Lanciani 1889, 274 overestimated their height considerably.

largest lake occupied part of an ancient quarry and was comparable in size to, if not larger than, either of Rome's artificial lakes (although longer and narrower) and considerably deeper.¹²²

The artificial lakes originally had no practical purpose; they were used for leisure and to beautify the grounds of the villa. There is also evidence that the upper most lake supplied the villa with water through two short aqueducts. Nero could have employed them to improve the public water supply and there are other potential public uses for the lakes that he did not exploit.¹²³

They would have lent themselves well to an aquatic spectacle to showcase Nero's visually impressive dams and celebrate the advanced engineering achievement required to build them, just as Claudius celebrated his *naumachia* on the Fucine Lake; he wanted to showcase his Fucine emissary. Nero did not choose to do the same with his lakes at Subiaco, perhaps because he considered this villa a private retreat and, more importantly, because the dams did not serve the populace in Rome. An engineering marvel was much more impressive when it had a public benefit.

One key reason that Nero's engineering ventures did not meet with the same admiration and positive reception as those of Claudius might be because his contemporaries were uncertain if Nero was commissioning them for an actual practical reason, or as a personal challenge and for self-glorification. The Romans admired engineering works that challenged and reshaped Nature, and we can see from Suetonius' and Tacitus' accounts of the Domus Aurea grounds and the Avernus canal that they did garner some admiration. A massive utilitarian work

¹²² Smith 1970, 58-68, Di Matteo 2005, 105-112.

¹²³ Smith 1970, 66-67. Trajan later added a water intake for the Anio Novus here.

also displayed the resources and manpower at the patron's disposal.¹²⁴ Was it possible for it to be too large and too expensive? If the cost and effort were perceived to outweigh the benefits an engineering work could lose in prestige; this was the case with the Fucine emissary, that although admired and celebrated, was criticized for the high cost. Another potential risk that the patron of an extremely large engineering project ran was that of appearing hubristic. Taming Nature could be admirable, but if it appeared that a patron was challenging her on only to prove his own power, or worse, challenge the gods, this would reflect negatively on the patron. This would be further exacerbated if the average person could not readily see the how the benefits of a project outweighed the costs.¹²⁵ Since Nero's canals remained unfinished, their true usefulness was never proven.

WATER SPECTACLES

Since the time of Julius Caesar water spectacles had become a popular entertainment, and Augustus, Gaius and Claudius set the bar successively higher. Nero staged a number of successful water spectacles and he presumably built his *stagnum* in the Domus Aurea grounds because he intended to use it to put on floating banquets, exhibit exotic aquatic fauna and celebrate other surprising entertainments. His use of water as a decorative feature in architecture and landscape design reveals that Nero had an eye for the showy potential of water. His predecessors' aquatic spectacles had all had a triumphal aspect, either to celebrate a military victory, a great victory over nature, or a combination of both. Starting with the reign of

¹²⁴ Tac. An. 15.42, Suet. Nero. 31.

¹²⁵ DeLaine 2002, 223-226.

Nero, water spectacles started to lose their association with specific maritime victories and became more general celebrations of imperial power and ingenuity.¹²⁶

Claudius' Fucine *naumachia* had been such an enormous event that it could not be surpassed, at least not in a show staged on just one day; it also revealed the potential risks of involving too large a number of individuals in a spectacle. Augustus had started the trend of inverting water and land when he provided suitable habitats for exotic animals by flooding part of the Circus Flaminius. Claudius took this a step further by giving gladiator contests on rafts on the Fucine Lake. Nero's spectacles concentrated less on the number of participants in an event and instead embraced quick and astonishing changes of scene, such as the sudden flooding and draining of an amphitheatre.¹²⁷ These extremely fast, almost miraculous scene changes would become a key element of the Flavian inaugural shows for the Colosseum.

It is unclear how many *naumachiae* Nero actually put on because the ancient sources are somewhat ambiguous on this point. We do know that he celebrated one during the grand spectacles that he gave in 64 CE in his wooden amphitheatre in the Campus Martius; it was a magnificent construction with extraordinarily luxurious decoration. We do not know what the occasion for the spectacle was; some scholars have suggested that it was to celebrate the inauguration of the amphitheatre.¹²⁸ The show included a *naumachia*, but it was just one event in the day's program and not the culmination of festivities. Because of this and the restricted space of the venue, it must have been on a much smaller size than the *naumachiae* of Caesar, Augustus or Claudius. Nero's perceived control over the elements and elaborate, illusionistic,

¹²⁶ Berlan-Bajard 2006, 348-368.

¹²⁷ Berlan-Bajard 2006, 348-368.

¹²⁸ Coleman 1993, 68, Champlin 2003, 73.

life-like special effects took center stage in this show. Nero also insisted that members of the elite perform in the arena, which to them was an outrageous debasement. He was essentially demonstrating his power over the senatorial and equestrian orders and reminding them of this fact in a none-too-subtle fashion.¹²⁹ Suetonius describes Nero's *naumachia* and related shows as follows:

[...] At the gladiator show, which he gave in a wooden amphitheatre, erected in the district of the Campus Martius within the space of a single year, he had no one put to death, not even criminals. But he compelled four hundred senators and six hundred Roman knights, some of whom were well to do and of unblemished reputation, to fight in the arena. Even those who fought with the wild beasts and performed the various services in the arena were of the same orders. He also exhibited a naval battle in salt water with sea beasts (*belvis*) swimming about in it [...]¹³⁰

After draining off the water the program was rounded out with Pyrrhic dances and various re-enactments of myths. Dio describes the event and adds some details on the water spectacle:

In the course of producing a spectacle at one of the theatres he suddenly filled the place with sea water so that fishes and sea monsters swam about in it, and he exhibited a naval battle between men representing Persians and Athenians. After this he immediately drew off

¹²⁹ Suet. Nero. 11,12, Dio 61.9.5, 62.15.1, Berlan Bajard 2006,41-43, 349, 356-7, 365.

¹³⁰ Suet. Nero. 12 Loeb translation. I translated *marina aqua innantibus belvis* as sea beasts rather than sea monsters. Other authors have translated this line as "huge fishes" etc.

the water, dried the ground, and once more exhibited contests between land forces. [...] ¹³¹

Dio returns to water spectacles a little later on: ¹³²

[...] And on one occasion after exhibiting a wild beast hunt he immediately piped water into the theatre and produced a sea fight; then he let the water out again and arranged a gladiatorial combat. Last of all he flooded the place once more and gave a costly public banquet. ¹³³

Dio's account indicates that Nero's spectacle represented the battle of Salamis, just like the *naumachia* given by Augustus. Our sources do not give any details on the ships: we do not know their type, size or number, nor who the combatants were, although in one of his letters Seneca mentions barbarians being in a *naumachia* staged by Nero; it is likely that they were prisoners of war. ¹³⁴ Suetonius' emphasis that no one was put to death during these celebrations, not even criminals, seems to indicate that Nero's sea battle was all show and not lethal.

The ship battle was only one of many entertainment offerings presented over the course of the day, and the men and the ships were not the only element of interest. Both authors emphasize the use of salt water, in the heart of Rome, and the release of exotic aquatic animals; they seem more interested in these strange creatures than in details of the *naumachia*. Prominent Romans had brought exotic creatures to Rome since Republican times, exhibiting and

¹³¹ Dio 61.9.5, Loeb translation.

¹³² In the next line Dio launches into a discussion of Tigellinus, as if the flooding spectacle had preceded his banquet. Presumably he is, however, referring to the same show as in 61.9.5.

¹³³ Dio, 62.15.1, Loeb translation.

¹³⁴ Sen., Epist. LXX. 26, Coleman 1993, 67.

slaughtering them for public entertainment. Augustus had imported animals from Egypt to celebrate his victory, but Nero went a step further and presented his subjects with animals that for many must have seemed like myths incarnate.¹³⁵ The sea creatures exhibited at this event were alien to the general populace; many had never been shown in Rome before. The ancient sources use only the most general language; they are probably being intentionally vague to increase the mystique of the events they are describing. Their descriptions could be referring to anything from sea mammals to large fish, but seals are likely candidates.¹³⁶ By having the mythical monsters displayed and killed at his will he demonstrated his superiority over Ocean himself.¹³⁷ Claudius' whale hunt in Portus had been an unplanned but excellent occasion for him to display his dominance over the sea, and sea creatures were featured in at least two of Nero's festivities, including the banquet given by Tigellinus.¹³⁸ Claudius' impromptu whale hunt had been a first; Nero went further and imported live sea creatures into Rome. It must have been technically difficult to obtain and transport the animals alive. For individuals attending the spectacle and seeing the animals for the first time, it must have seemed as if Nero was reaching to the furthest and most mysterious corners of the empire to bring these animals to Rome.¹³⁹ Nero may have been influenced by Claudius' second Fucine spectacle, which involved gladiator fights on rafts. In 59 CE he held a big celebration for the Juvenalia on the *naumachia* of

¹³⁵ Coleman 1993, 56-58, Berlan Bajard 2006, 41-43, 349, 356-7, 365.

¹³⁶ Coleman 1993, 57, Berlan Bajard 2006, 86-98.

¹³⁷ Pliny, *Hist. Nat.* 9.14-15, Berlan-Bajard 2006, 22-24, 342-348, 365-367.

¹³⁸ Berlan Bajard 2006, 22-24, 41-43, 349, 356-7, 365.

¹³⁹ Berlan Bajard 2006, 349, 357-358, 362.

Augustus, but the feast given by Tigellinus on the Stagnum Agrippae in 64 CE is better documented.¹⁴⁰ Tacitus describes the events as follows:

To bolster the claim that nowhere else gave him as much pleasure, Nero proceeded to provide banquets in public places, and to treat the entire city as his own house. And the banquet most celebrated for its extravagance and notoriety was that hosted by Tigellinus. I shall cite this as an illustrative case to avoid frequent descriptions of the same kind of prodigality. Tigellinus constructed a raft on Agrippa's lake and on it set a feast that could then be moved about, towed along by other vessels. The vessels were trimmed with gold and ivory, and the oarsmen were male prostitutes who were grouped according to age and sexual expertise. Tigellinus had sought out birds and wild animals from distant lands, and sea creatures all the way from the ocean. In the lake's banks stood brothels filled with women of distinction, and on the other side common prostitutes were to be seen in the nude. At first there were obscene gestures and body movements; and when darkness began to fall the whole nearby copse and the surrounding buildings rang with singing and became bright with lights [...].¹⁴¹

Dio adds the following details on the construction of the pontoons:

¹⁴⁰ Tac. Ann. 14.15, Ann. 15.37, Dio 61.20.5, Woodman and Powell 1992, 173-178, Coleman 1993, 51, 251-255, Champlin 2003, 155-156, Berlan Bajard 2006, 362-363.

¹⁴¹ Tac. Ann. 15.37, Transl. Yardley and Barrett

[...] In the center of the lake there had first been lowered the great wooden casks used for holding wine, and on top of these, planks had been fastened, while round about this platform taverns and booths had been erected.¹⁴²

Dio then follows up with a description of licentiousness that is very similar to that of Tacitus. Suetonius does not mention this specific event; instead he offers a more generalized account of Nero's public banquets, feasts and debauchery. Both authors emphasize again that the elite was forced into roles that were humiliating to them.¹⁴³ Woodman suggests that Tacitus is trying to highlight the contrast between Agrippa's beneficial engineering works, of which the *stagnum* is one, and Nero's perceived debauchery.¹⁴⁴ As we have seen, in many of his projects Nero was actually following his great-grandfather Agrippa's example closely, right down to creating his own lake and grand baths. The rafts that Tigellinus had constructed are reminiscent of the pontoons that Claudius used for his gladiatorial spectacle on the Fucine Lake, and of the floating military fortifications on display at his *naumachia*.¹⁴⁵ They also formed a marked contrast to Gaius's ship bridge on the Bay of Naples that had been for his use alone. Tigellinus' rafts were emphatically made public use and they showcased Roman ingenuity and naval technology in a way that ensured they would be seen and experienced by a large and varied audience. Nero and Tigellinus also picked up on the theme of switching between dry land and water and of radically changing the environment for novelty and show. To Tacitus this seems frivolous and

¹⁴² Dio 62.15.2

¹⁴³ Suet. Nero. 27, Champlin 2003, 156.

¹⁴⁴ Woodman and Powell 1992, 173-178, 251-255, Champlin 2003, 153-157.

¹⁴⁵ See Chapter 4.

unnatural; but to the guests that attended the banquet it offered a novel experience: this was not just a spectacle to watch, they could walk on the pontoons and participate in the banquet. Because the rafts were being towed around on the lake, guests were treated to a boat ride and changing vistas of the Campus Martius lit up by night. Here again Nero was treating his audience, which judging by the description was composed of a wide cross-section of Rome's population and included many women, to the joys of Baiae and giving all a taste of luxury and pleasure.¹⁴⁶ Tigellinus' banquet offered the regular, non elite people of Rome a holiday in the heart of the city, an opportunity to strip off the restrictions of daily life and celebrate Saturnalia in the summer. Just like the Saturnalia celebrations it allowed them to briefly forget the daily struggle for survival by providing ample food and drink free of cost, along with original entertainments that often forced the elite to come down to the same level as everyone else.¹⁴⁷

CONCLUSION: NERO'S LEGACY

Nero was a prolific and varied builder who pushed architectural forms and materials to new limits. His commissions were original and innovative in form and design, but otherwise fell clearly within traditional Julio-Claudian building policies.¹⁴⁸ A careful examination reveals that the buildings themselves are not inherently extravagant, inappropriate or unusual, except perhaps in scale. Many of Nero's building projects reflect those of his great-grandfather Agrippa and the Domus Aurea park may in fact have been an attempt to reproduce in the heart of Rome a public amenity similar to the Campus Martius. Nero also showed enthusiasm for engineering

¹⁴⁶ Woodman and Powell 1992, 173-178, 251-255, Champlin 2003, 153-157, 206-207.

¹⁴⁷ Champlin 2003, 156.

¹⁴⁸ MacDonald 1982, 25-31, Elsner 1994, 112-130, Shotter 2008, 111-126.

works. The ancient sources mocked them as excessive and unrealistic, but these projects had a sound economic reasoning behind them. Completion would have taken an enormous amount of planning and resources, and probably a decade of constant work, but in this Nero's engineering works are no different from Claudius' harbor and Fucine drainage tunnel.

Elsner states that instead, after Nero's death, they were tainted by their association with him, because he failed to live up to the expectations the elite placed on him as an emperor.¹⁴⁹ Gaius' buildings gained a similar negative reputation, but his known commissions deviated from many other imperial buildings, including many of Nero's, in that most of them were not intended for public use and were only accessible to a few. His short reign probably is the reason for this pattern.¹⁵⁰ Nero had repeatedly humiliated Rome's aristocracy by making them perform in the arena, or mix and interact with the plebs in a way that put them all on the same level. This gained him the support of the masses, but deeply offended the elite. His predecessors, Gaius excluded, had been careful to cultivate the elite as well as the general population of Rome in order to preserve the peace and promote harmony among the *populus Romanus*, even if it meant no real change to the conditions of the poor.

Although his death marked the end of a dynasty, it did not mean the end to many monument types that the Julio-Claudians had experimented with and developed. Nero's buildings proved to be of a practical and interesting design that was picked up and developed by his successors.

¹⁴⁹ MacDonald 1982, 25-31, Elsner 1994, 112-130, Davies 2000, 27-44.

¹⁵⁰ Suet. *Gai.* 19, 21, 22 Dio. 59.10, 59.17, 59.28, Front. 13.1, Aur. Vict., *Epit. de Caes.*, iv.6, Plin. *Nat.* 36.121, Scheithauer 2000, 101-106.

Conclusion

The importance of water as a political strategy has very ancient roots, and the control of water means real political power. The Romans were influenced by both Greeks and Etruscans, but they used water in ways that were entirely their own. When Appius Claudius Caecus initiated the construction of the Aqua Appia he set in motion a number of trends that would come to shape not just Republican Rome, but the principate as well. With the political success and fame that he gained through his patronage of the aqueduct, even if he did not pay for it out of pocket, he set a precedent for the political influence and fame that a successful large-scale engineering project could garner its initiator. His success was so great that his colleagues in the senate were more cautious and maintained greater control over the officials they put in charge of the Aqua Anio Vetus, which, rather tellingly, was named for its source, not its builder. Quintus Marcius Rex encountered similar resistance in the 140s BCE, but he too gained a reputation and success that his descendants could still proudly utilize for their own political gain.

Republican water displays, although very important for elite conspicuous consumption, were found mostly in a private context. Public examples tend to be architecturally simple, but they display the water in a way that Greek antecedents did not. Palestrina, the Lacus Iuturnae and the Appiades Fountain all use the sound and reflective qualities of water to enhance the architecture and environment that they are part of. Pompey and Caesar, inspired by Hellenistic royal parks and elite Roman gardens, brought architecturally more elaborate water displays out into the open and made them accessible to the public. In doing this they gave the Roman populace a taste for gardens, pools, fountains and great statuary that they never lost. Parks and

gardens became a vital part of imperial bequests and seem to have been extremely popular. In crowded, filthy Rome green space was rare and offered a little respite and a touch of luxury to the poor.

Augustus and Agrippa picked up where Caesar and Pompey had left off. They recognized that water related programs were pleasing to both elite and poor Romans because of their versatility. They met the basic needs for survival of the poor, were commercially beneficial, and fulfilled the demands for conspicuous consumption of the elite. Agrippa and Augustus' large-scale restructuring of the water supply helped ensure that they held it firmly in their hands and that they could use it as they saw fit. They utilized their control to court both the masses and the upper echelons. Successive emperors generally continued and improved upon the foundations set by Agrippa and Augustus. Imperial baths, an invention of Agrippa, became an important form of benefaction, as did gardens and public fountains. Inscribed aqueduct arches and inscriptions announcing repairs to the infrastructure continued to be an important political tool.

One less successful concept that went out of fashion was that of large artificial lakes such as the *stagnum* and the *naumachia* of Augustus. Both went out of use within the first century CE and were redeveloped rather than restored and maintained in their original form; we know of no other examples of this type of artificial lake after the reign of Trajan. This suggests that they were too impractical and that their positive benefits were outweighed by their high maintenance costs and the constant risk of stagnation. They also occupied large tracts of prime real estate that later rulers preferred to utilize in a different manner. The fate of Nero's lake, which was replaced by the Colosseum, is a prime example.

Barbara Levick sums up both the ancient and modern attitudes towards Claudius perfectly: “The ups and downs of Claudius’ reputation since his death reveal more about those who have passed judgment on it than about the regime itself.”¹ Claudius cannot easily be stereotyped as a “good” or “bad” emperor and his choice of building projects seems to have been a major factor in promoting a lasting favorable memory of him, in spite of his harsh critics.² Claudius’ utilitarian works were far from humble; the majority were designed to be visible and impressive, proudly proclaiming to the masses who had built them and why. Claudius picked up Augustus’ concept of a common *patria* and celebrated Roman skill and ingenuity in his architecture; he invoked the patriotic pride of senator and beggar alike. Gaius had cultivated his divine status too much and ended up severely undermining his position with both the elite and the people. Claudius, by choosing to lavish attention on aqueducts in particular, emphasized that he was not just controlling water, but giving it away as a gift. He was balancing his control by presenting the image of munificence through spectacular displays and public access to water. This strategy became immensely influential on later rulers.

Claudius’ engineering works were so numerous and so ambitious that relatively few emperors were involved in as many. Domitian was an enthusiastic builder, but built mostly ornamental water displays and the Palatine Palace. Although the terracing and water-supply of these is an impressive feat in itself, he does not seem to have promoted his buildings from this angle. Perhaps this is why they were generally less well received, especially by the elite. Titus

¹ Levick 2001, 187.

² Osgood 2011, 9-37, 172-175, Levick 2001, 187-197, La Rocca 1994, 61-62.

and Vespasian erected enormous inscriptions announcing their repairs to the aqueducts and set a new pinnacle on water displays and spectacles.

Trajan renovated and rebuilt many of Claudius' great works and added his own new aqueduct. He also built his own public baths and gardens and a *naumachia*. Trajan pretty much built one of every type of Julio-Claudian water-related monument and fully embraced water as a powerful political tool. His posthumous reputation even today is largely positive, and it is noteworthy that he followed closely in Claudius' footsteps with his public commissions. The difference in their reputation lays partially in how ancient sources remembered them, and partially in Trajan's greater military success. Hadrian was the patron of aqueducts, baths and other water related monuments all over the Provinces. He took the valuable strategies learned from the Julio-Claudians and employed them empire wide, reaping their political benefits outside of Rome as well.

Nero found innovative uses for water within the city of Rome. For example the gigantic Caelian Nymphaeum, which is usually seen as a prime illustration of Nero's excesses, actually vividly showcased Rome's wealth in natural resources in an unprecedented and spectacular way. Domitian would pick up on this trend and develop a whole vocabulary of monumental public fountains that was further expanded by the Severans, who created the Septizodium, their own version of the Caelian Nymphaeum, at the foot of the Palatine. Nero and the Julio-Claudians experimented with and perfected the use of water as a political tool and showed their successors how to use, display, and above all, generously give away water to ensure the loyalty of their subjects in the capital. Regardless of their negative propaganda, the Flavians adapted many of Nero's designs. Many of the water features found in the Domus Aurea reappear in a

more compact form in the Palatine palace. Domitian would go a step further and transpose these types of water features into public spaces.³

The propaganda of the Flavians systematically created a contrast between their own dynasty and Nero. They pitted their supposed solid reliability against Nero's flighty excesses, and this program of denigration also extends to aqueduct maintenance.⁴ In 71 CE Vespasian added an inscription (CIL VI, 1257) to the Porta Maggiore celebrating his restoration of the Aqua Claudia. In this he was following the examples of Augustus and Claudius who had erected similar inscriptions commemorating renovations to the aqueduct network.⁵ Unlike Claudius in his Aqua Virgo inscription, which specifically names Gaius as the active agent of disruption, Vespasian's reference is oblique; he implies, but does not name the culprit. In the inscription he indicates that the aqueduct had been out of service for nine years because of neglect.⁶ Poor construction and maintenance, a natural disaster or protracted repair work because of the great fire have all been put forth as explanations. Dembskey follows Vespasian's lead and speculates that Nero, distracted by his tour of Greece, was neglecting state business.⁷ It is more likely that the inscription is a Flavian exaggeration, echoing Claudius exploitation of Gaius' damage to the Aqua

³ Longfellow 2011, 15, Gros 1996, vol II 244-252, MacDonald and Pinto 1995, 3-6, 176-178, Evans 1994, 65-67, Berg 1994, 139-141, Salza Prina Ricotti 1987, 137-184, Mielsch 1987, 16-35, 104-106, 121-134, Neuerburg 1965, 86-91. Many of the Domus Aurea fountains, such as those on the second floor, are very similar to the Domitianic fountains in the sunken court of the Palatine Palace, with re-curving shapes reminiscent of Amazon shields placed in a square basin. The long basins on the upper floor terrace were also picked up by the Flavians who incorporated them on the upper level of the so-called Domus Severiana. It was equipped with a large terrace with a long water basin commanding sweeping views over the city and towards the Alban Hills, reminiscent of seaside villa.

⁴ Champlin 2003, 6-52, Rubies 1994, 29-47, Barton 1994, 48-66, Elsner 1994, 112-130, Ramage 1983, 209-214.

⁵ CIL VI 1257, CIL VI 1252, Dembskey 2009, 74-80, Benefil 2001, 1-10. See Chapters two and three.

⁶ CIL VI 1257, CIL VI 1252

⁷ Dembskey 2009, 74-80.

Virgo for political effect, even if it the actual impact on the water supply was minor. Regular maintenance was key to the proper running of the aqueducts and the Aqua Claudia was probably due for a major renovation, not because of Nero's failings, but because of natural wear and tear. This is further supported by the fact that ten years later Titus also erected an inscription on the Porta Maggiore celebrating restorations of the aqueduct; it is unlikely that he was criticizing his own father. The Severans would employ a similar series of inscriptions around Rome's main aqueduct crossings, and especially along the Arcus Caelimontani, which they extensively rebuilt.⁸

Nero's water spectacles were notorious, but he was actually drawing on precedents set by Claudius. The Flavians embraced many details of the water spectacles of Augustus, Claudius and Nero and further elaborated on them in the great inauguration ceremonies of the Colosseum. Quick changes of scenery and switches between water and land had been pioneered by Claudius and greatly promoted by Nero; under the Flavians these spectacles reached their zenith of ingenuity. Domitian and Trajan each built and held a *naumachia*, but after them they seem to have gone out of fashion.⁹

The Julio-Claudians pioneered benefaction and entertainment with water and created many prototypes that future generations of rulers would build upon. They tied water and its control to the emperor and promoted his persona of master of water through ingenious spectacles and beautiful architecture such as fountains, baths and parks. These forms of building and display became almost canonical in the Roman vocabulary of power. After the Julio-

⁸ CIL VI, 1257, CIL VI, 1258, Van Deman 1934, 266-71.

⁹ Coleman 1993, Berlan-Bajard 2006, Cariou 2009.

Claudian dynasty water displays did, however, not stagnate. The Flavians promoted elegant and ingenious fountains as a form of public architecture and added to the variety and richness of public fountain design. Nerva and Trajan embarked on a large-scale reorganization of the water supply and Trajan added Rome's last major aqueduct, the Aqua Trajana. Trajan also renovated Claudius' harbor, enlarging it with the addition of a hexagonal basin. Hadrian clearly carried out extensive renovations on Rome's aqueduct system, but chose not to commemorate this epigraphically, unlike most of his predecessors who proudly announced their attention to the water system. His villa is a proliferation of ingenious water displays, and he presented himself as master of water on his private estate.

The Severans again launched into a wide scale renovation of the water system and used their mastery over water as a major ideological signifier of their dynasty. They rebuilt the aqueducts and built the massive baths of Caracalla complete with its own branch aqueduct. They also constructed the Septizodium as a new façade for the Palatine and built Rome's last aqueduct, the Aqua Alexandrina.¹⁰ Even during the unrest of the third century, short-lived emperors such as Trajan Decius tried to build bath buildings and use their control of water as a legitimization of their rule. Diocletian and Constantine revived these efforts and the elaborate and ingenious aqueduct system of Constantinople proves that even after the floruit of Rome as an imperial capital the ideological connection between water and power continued.¹¹ Many Roman traditions and attitudes to water as a symbol of power and life also continued in the Islamic world; here too water management and the ingenious use of hydraulic technology was

¹⁰ Lusnia 2004.

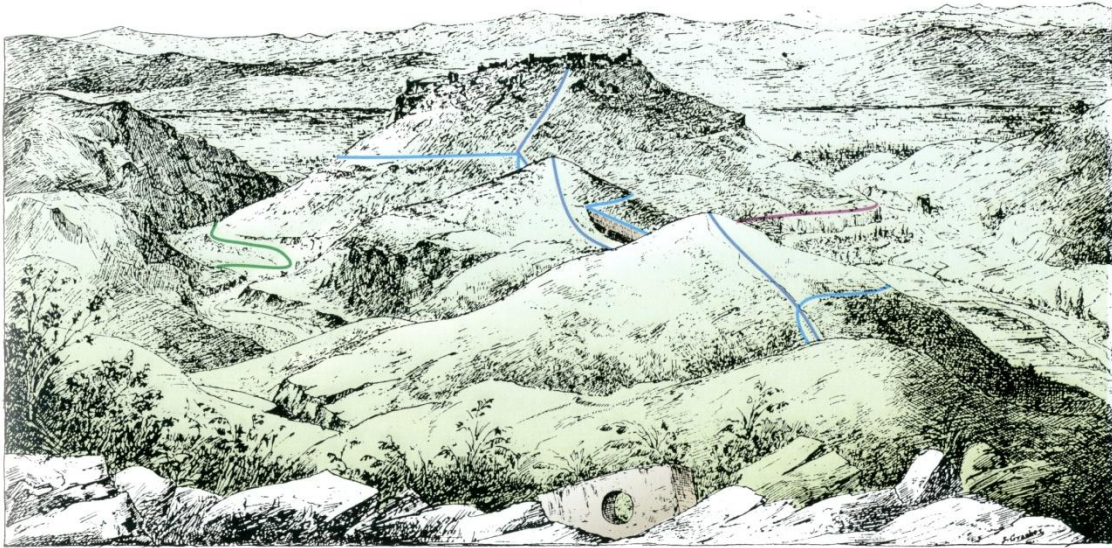
¹¹ Crow, Bardill and Bayliss 2008.

held in exceptionally high regard. The Ottomans and other invaders maintained, restored and expanded the ancient aqueduct networks, and although spectacles such as *naumachiae* went out of favor, lavish gardens and original, technically sophisticated fountains remained sources of potential political power.¹² Renaissance and Baroque popes again revived this notion in Rome when they rebuilt some of the aqueducts. Through all these protracted changes, the Aqua Virgo has continued to flow, a continuous reminder of Agrippa and Augustus' plans for the city of Rome and the foundation of their power.¹³

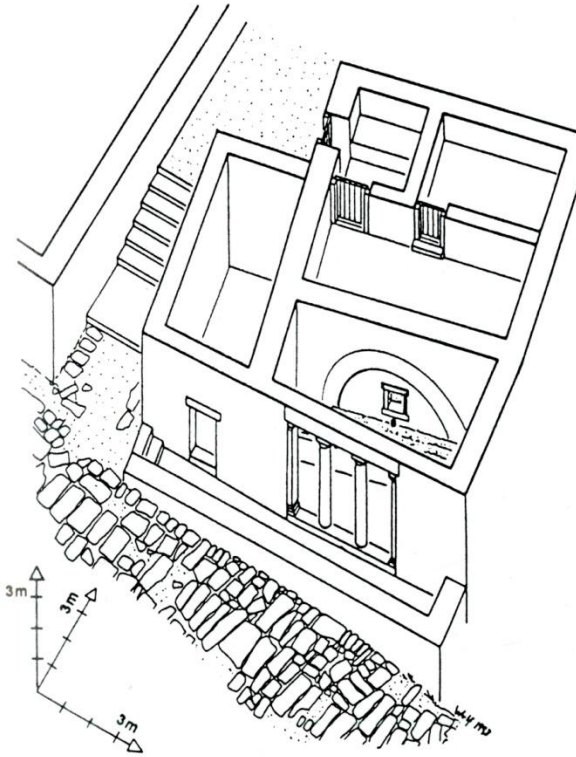
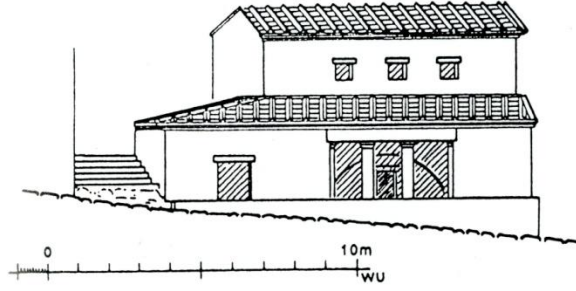
¹² Ruggles Fairchild 2008, Crow, Bardill and Bayliss 2008.

¹³ Rinne 2011.

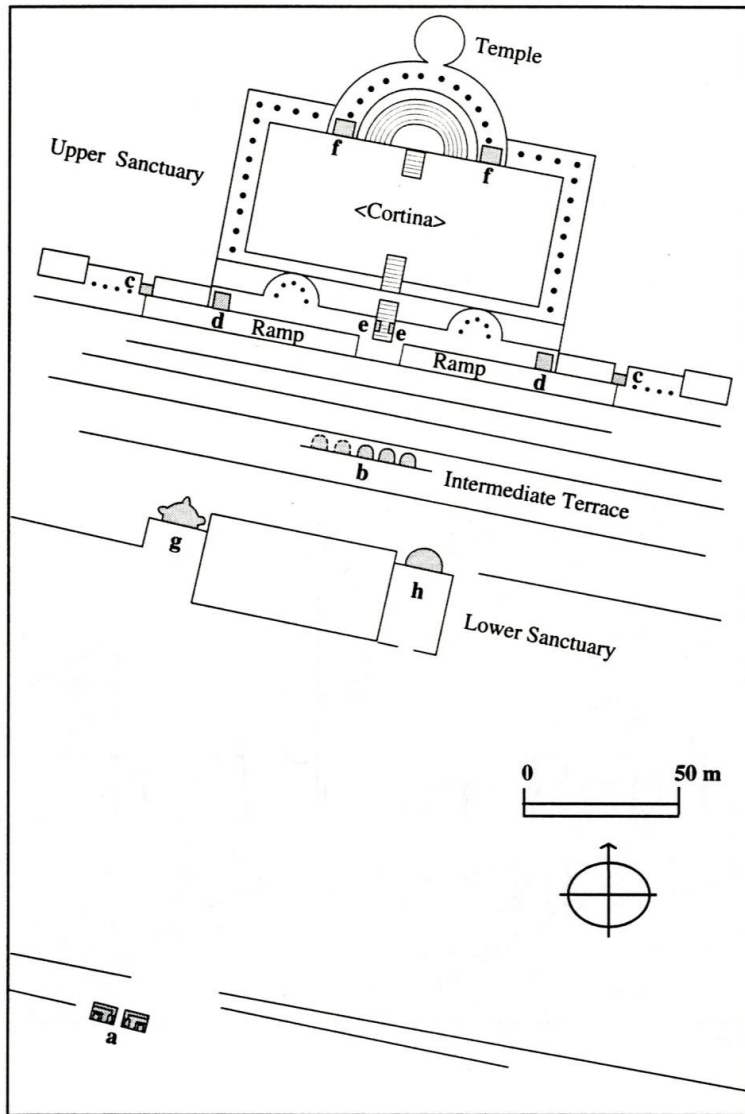
Figures Chapter 1



1.1 The aqueduct system of Pergamon (fig.95, Radt 1999)



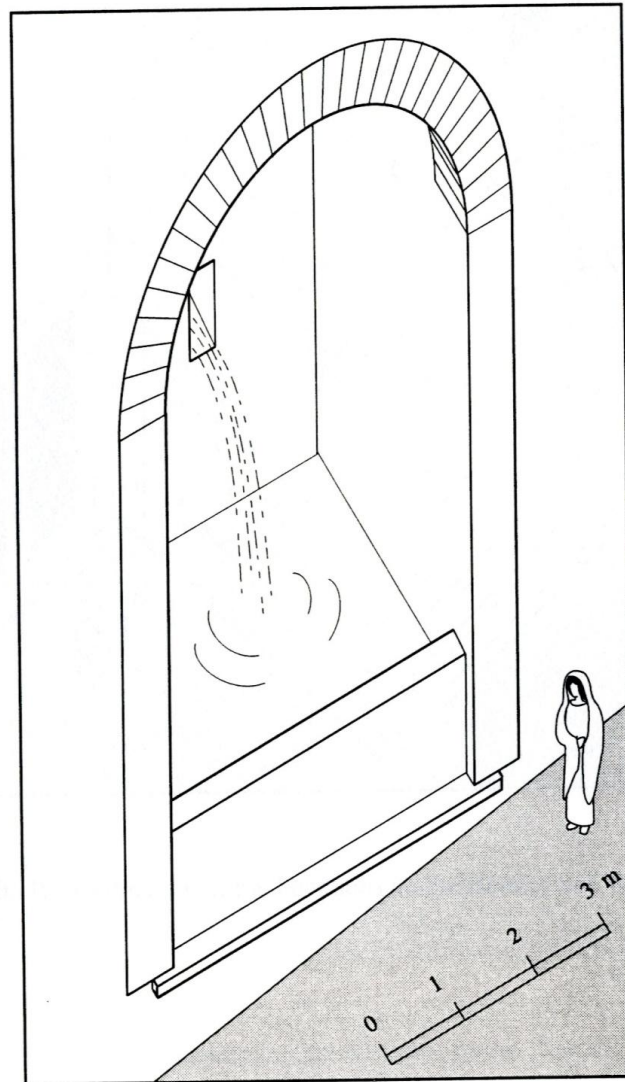
1.2 Pergamene public fountain house (fig. 91, Radt 1999)



Berg 94

Figure 37. Plan of the Sanctuary of Fortuna at Praeneste (adapted from Quilici (1980) fig. 2)

1.3 The Sanctuary of Fortuna at Palestrina, a-h refer to water features (fig. 37, Berg 1994 after Quilici 1980)



Berg 94

Figure 39. Reconstruction of the Niche Fountain/Reservoir on the Ramp at Praeneste

1.4 One of the large fountain on the ramp, indicated by d on figure 1.3 (fig.39, Berg 1994)

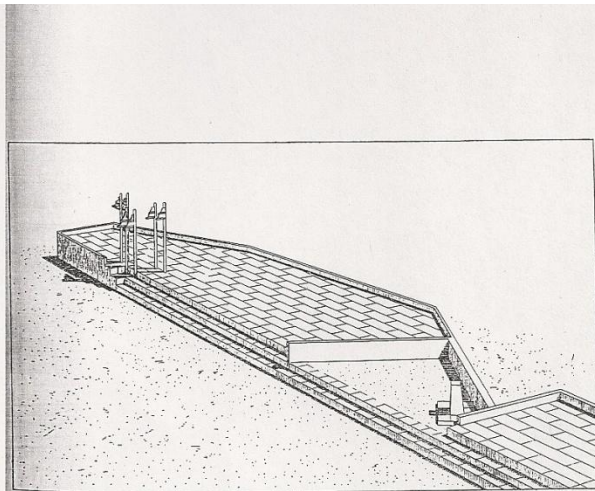


Fig. 94. *Rostra (età repubblicana)*. Ricostruzione dei Rostri, del sacello e della *Graecostasis* nella terza fase edilizia (da E. Gjerstad, *OpArch* 2.2 (1941), 142 fig. 9).

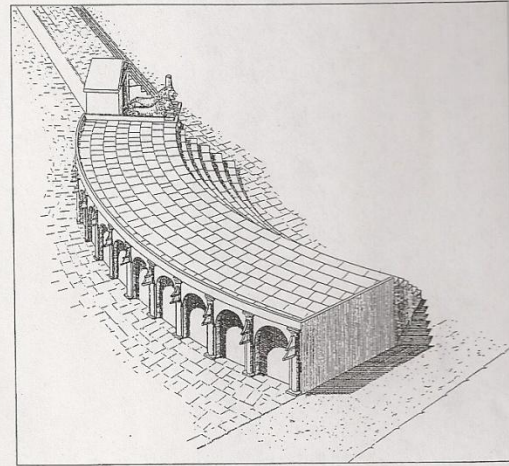


Fig. 95. *Rostra (età repubblicana)*. Ricostruzione dei Rostri, del sacello e della *Graecostasis* nella quinta fase edilizia (da E. Gjerstad, *OpArch* 2.2 (1941), 143 fig. 10).

1.5 Early reconstructions of the rostra in the Roman Forum with the display of captured ship's prows. (Fig. 94 and Fig. 95 LTUR 1995)

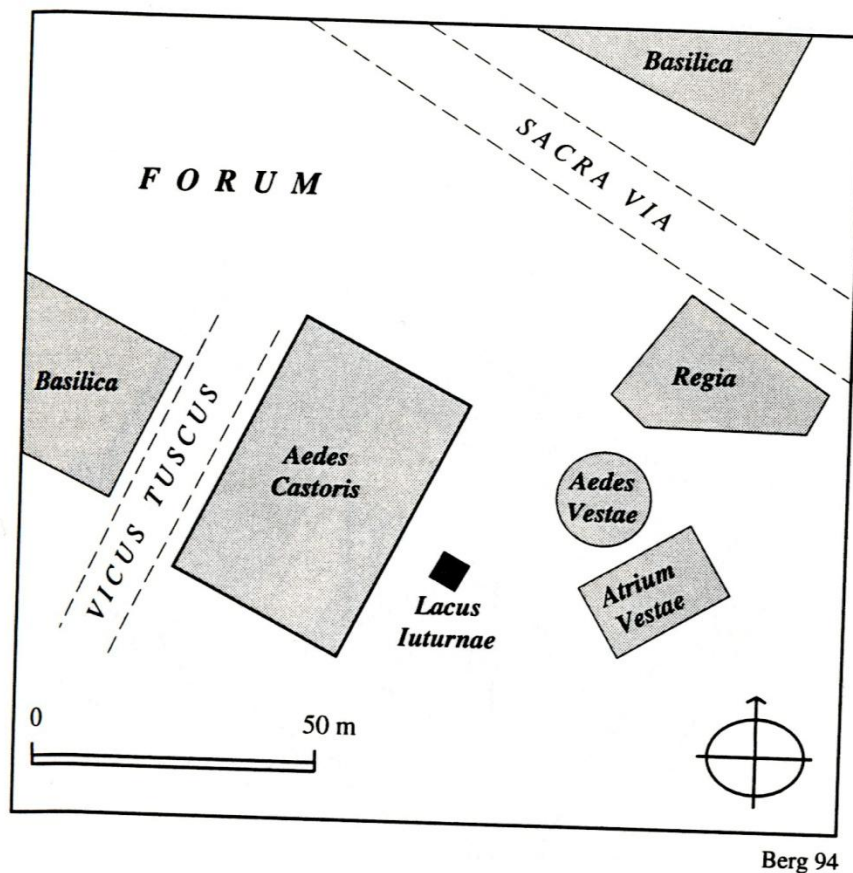


Figure 35. Plan of the Forum at Rome in the late second/early first century B.C. (adapted from Coarelli (1983) 38-39, 81)

1.6 Map indicating site of Lacus Iuturnae (fig.35, Berg 1994)

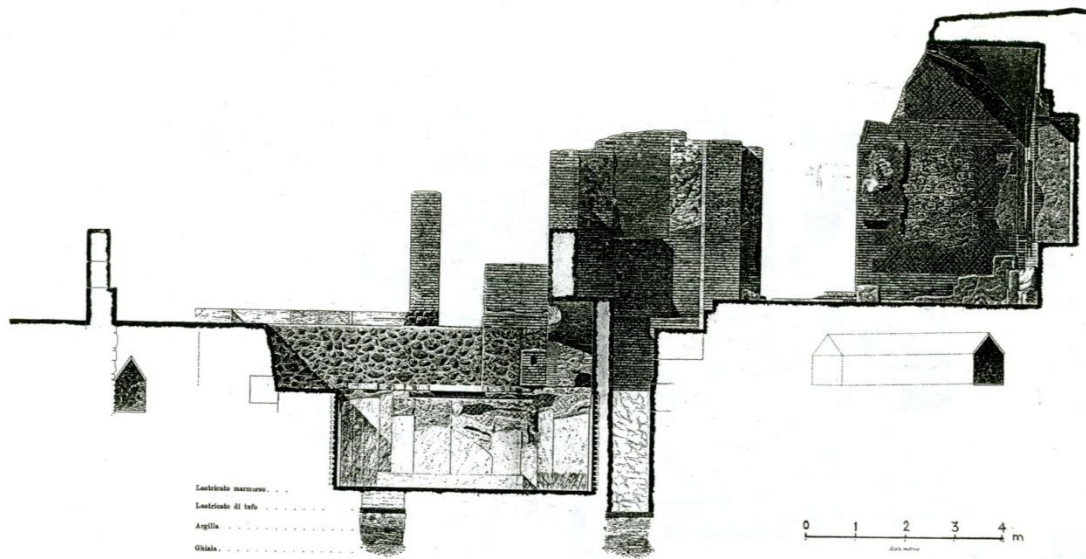
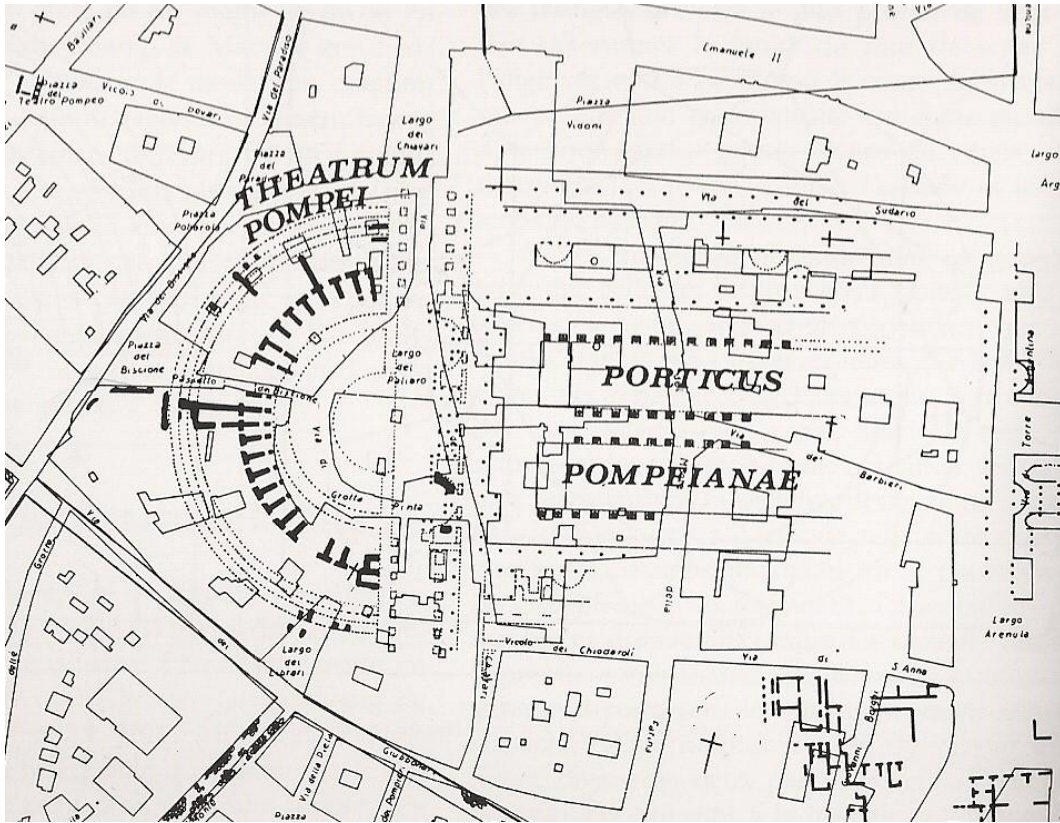


Fig. 118. *Lacus Iuturnae*. Sezione E-O (da G. Boni, *NSc* 1901, tav. fuori testo fig. 17).

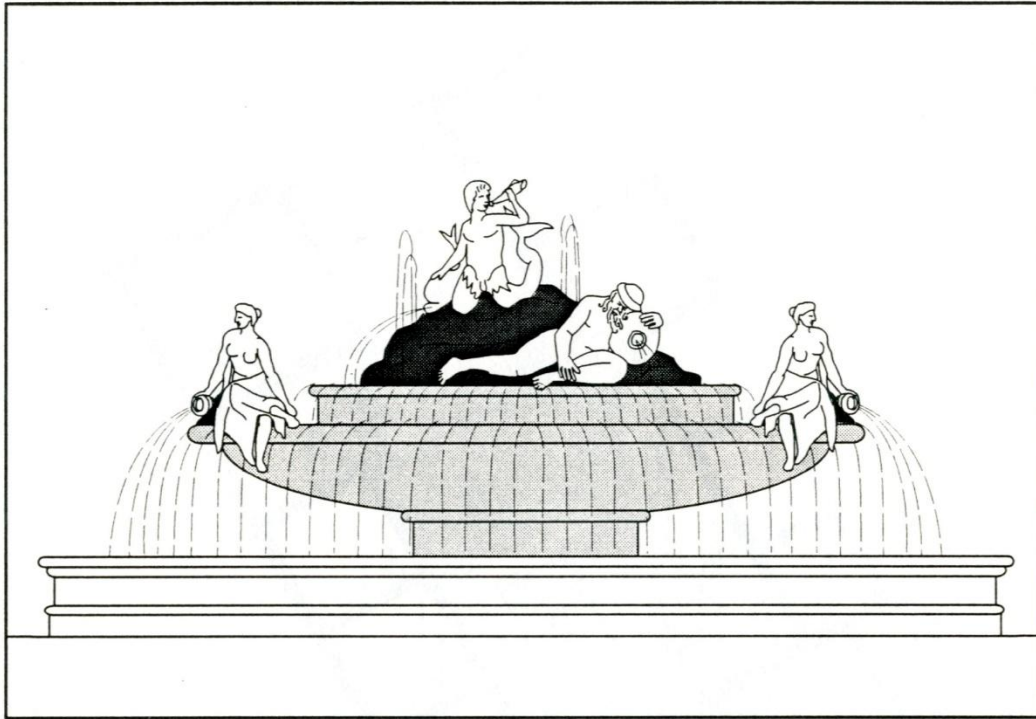
1.7 Cross-section of the Lacus Iuturnae showing marble clad pool. (LTUR III, fig.118)



1.8 Republican era public fountain in Formiae (fig. 3, Longfellow 2011)



1.9 Theatre and Portico of Pompey (fig 327, Gros 1997)



Berg 94

Figure 44. Reconstruction of the Fountain in the *porticus Pompeii*

1.10 Berg's reconstruction of the fountain in Pompey's Portico based on descriptions and similar examples from the Hellenistic East (fig. 44, Berg 1994)

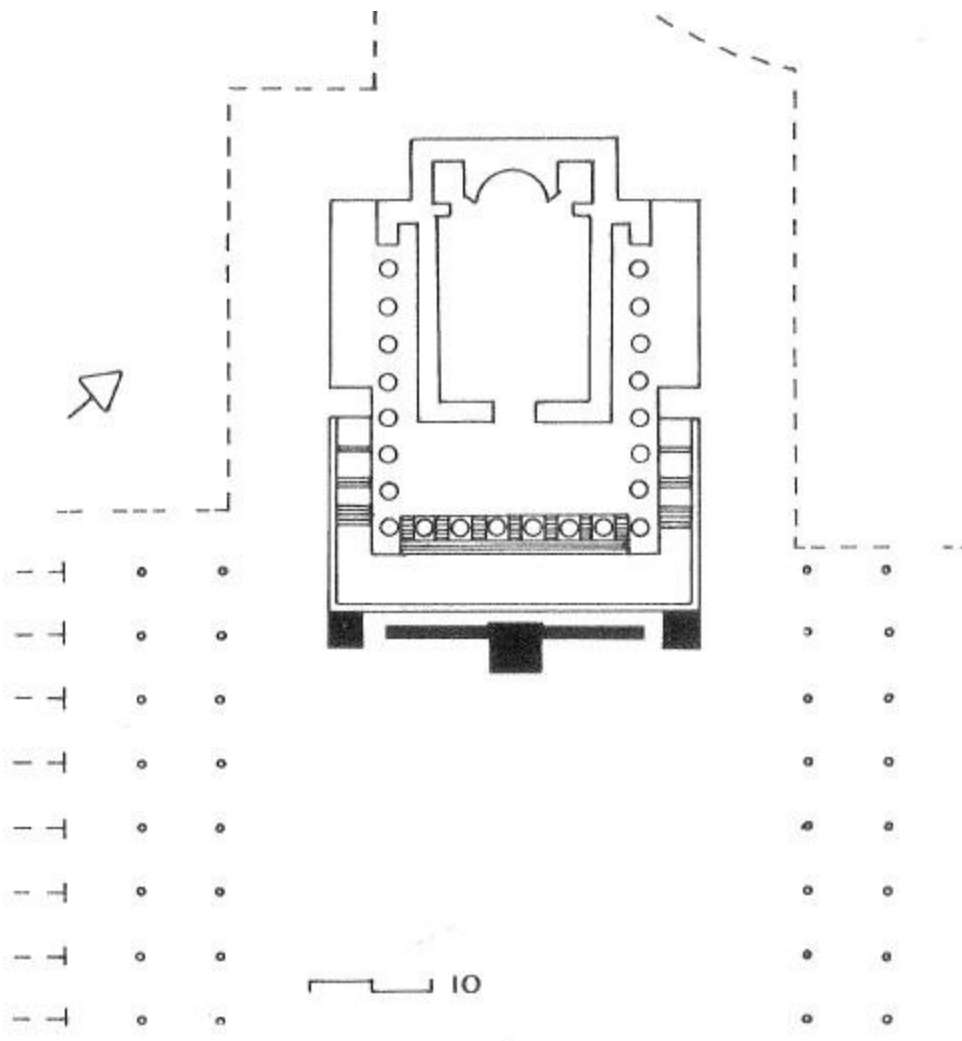


Fig. 1 Plan of the Temple of Venus Genetrix in the Forum Iulium (ca. 113 A.D.). The fountain structures are shaded

1.11 Plan of the Temple of Venus Genetrix and the Appiades Fountain, indicated in black. (fig. 1, Ulrich 1986)

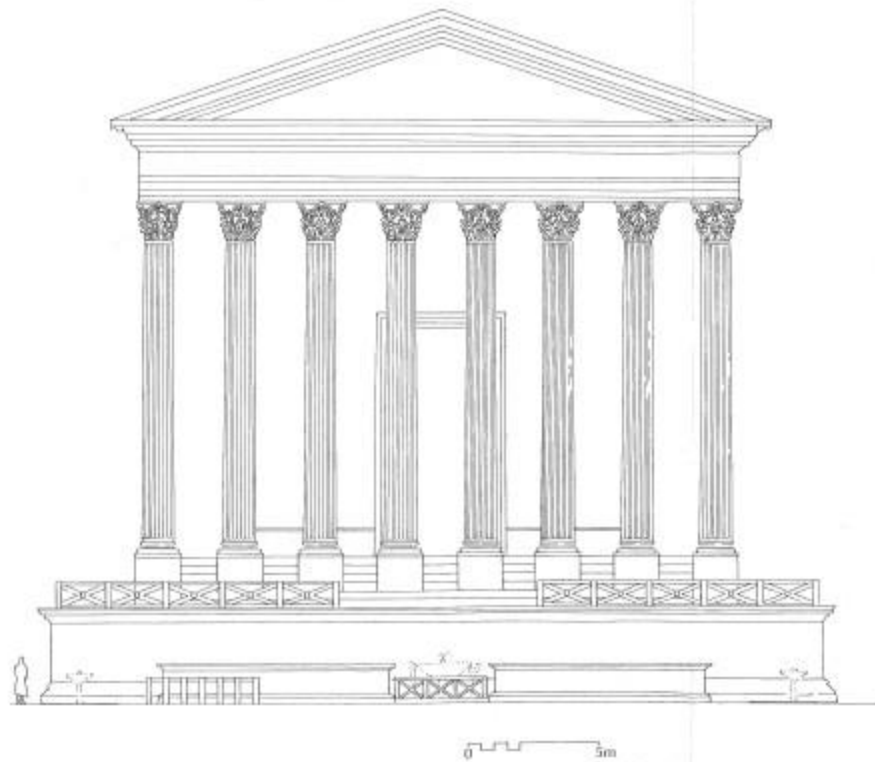


Fig. 6 Reconstructed elevation of the Temple of Venus Genetrix and the Appiades fountain. The Tribune of the Senate stood in front of the fountain structure in front of the temple's side of the podium.

1.12 the Temple of Venus Genetrix and the Appiades Fountain in front of it. (fig.6,Ulrich 1986)



1.13 Aqua Marcia arcades near Rome (photo J.L. Lardi 2009)



1.14 Aqua Marcia arcades near Rome (photo J.L. Lardi 2009)

Figures Chapter 2

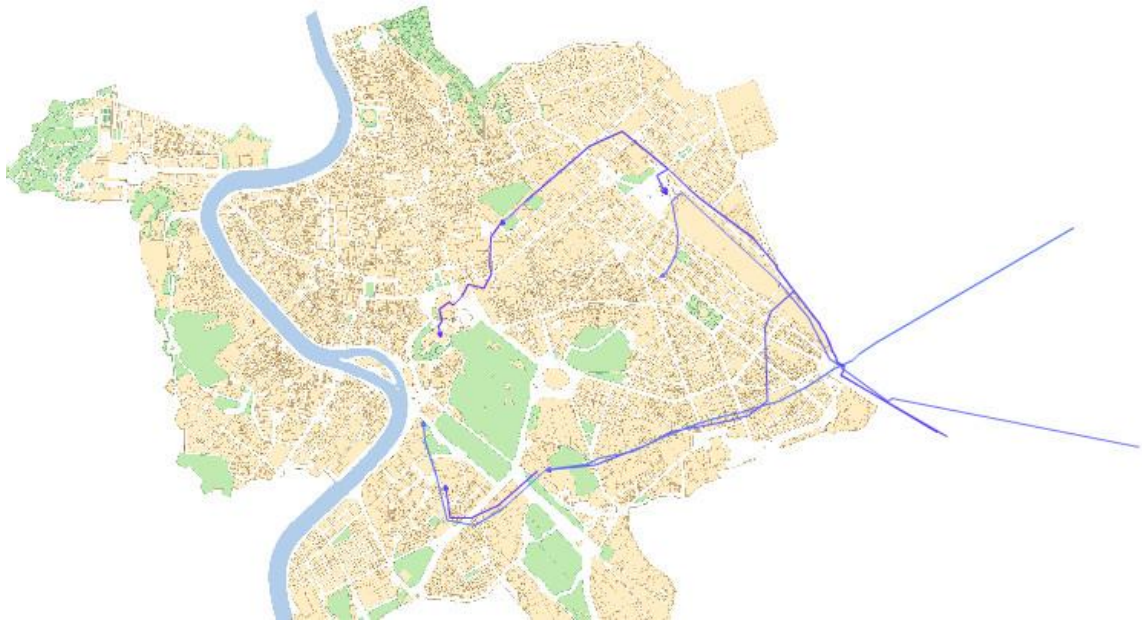


Figure 2.1 Aqueduct Network before Agrippa's aedileship in 33BCE, map created using <http://www3.iath.virginia.edu/waters/timeline/index.html>



Figure 2.2 Aqueduct Network at time of Augustus' death, map created using <http://www3.iath.virginia.edu/waters/timeline/index.html>

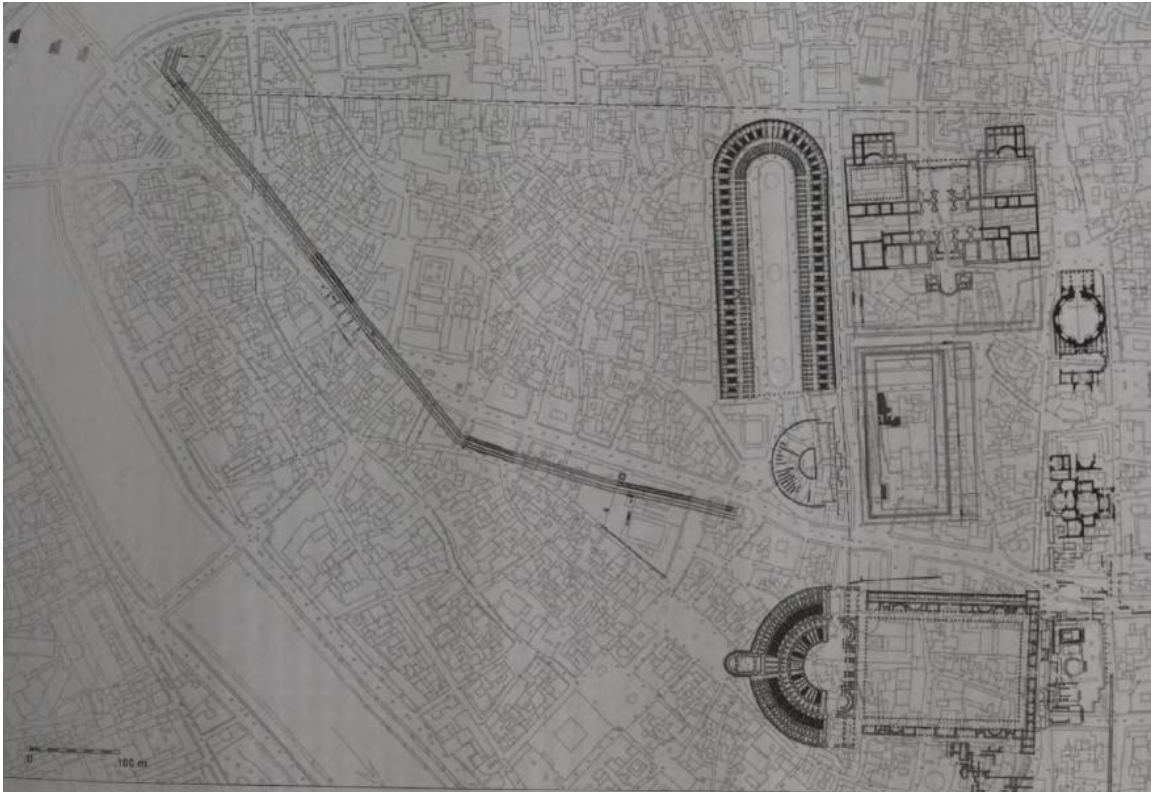


Figure 2.3 The Campus Martius showing most up to date archaeological finds. The course of the Euripus has been largely confirmed by the recent Metro Linea C excavations. (Fig. 18, Filippi 2010)

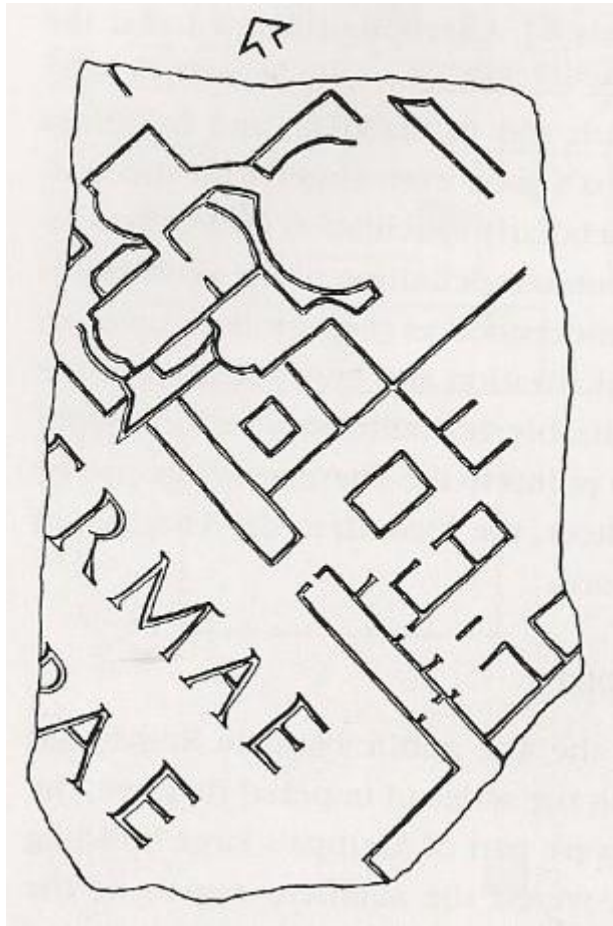


Figure 2.5 Baths of Agrippa as they appear on a fragment of Forma Urbis (Fig. 143, p.134, Yegül 1992)

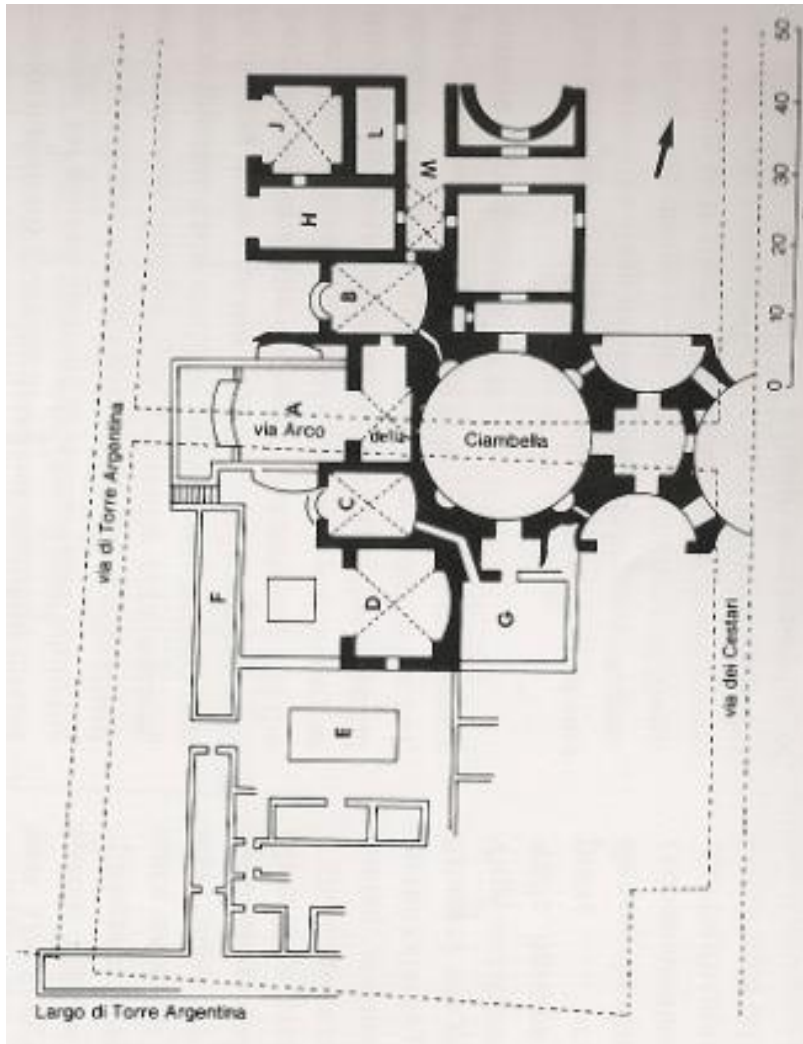


Figure 2.6 Baths of Agrippa, reconstructed plan after Huelsen (Fig. 145, p.134, Yegül 1992)

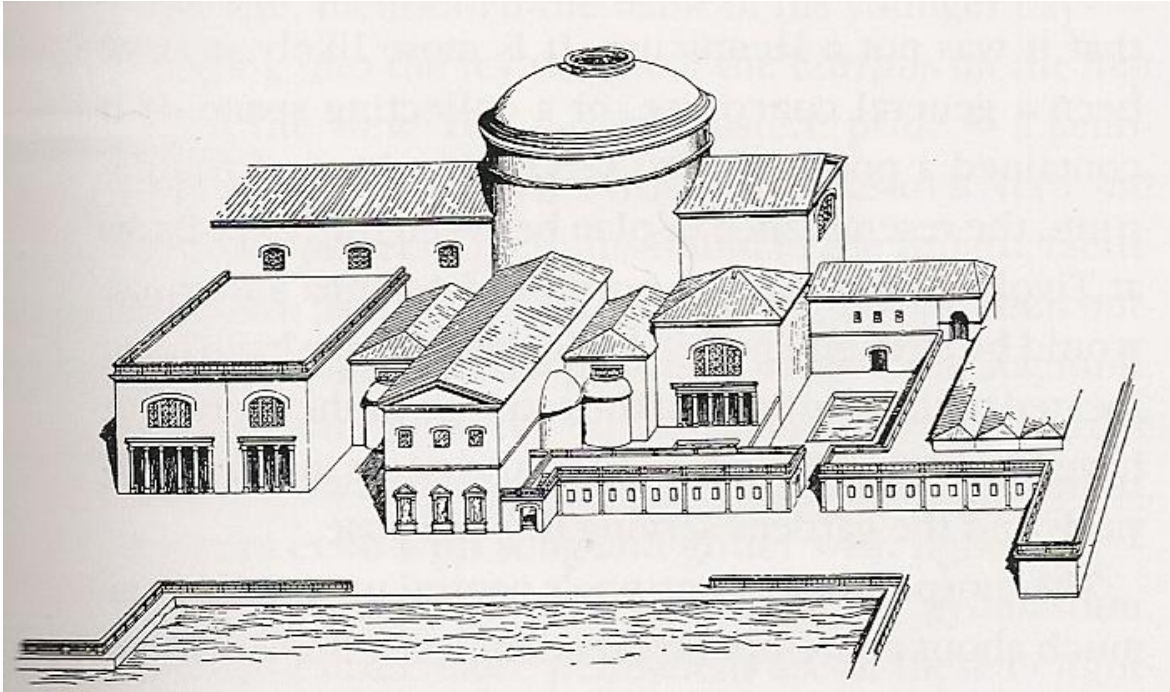


Figure 2.7 Baths of Agrippa, reconstruction after Huelsen (Fig. 145, p.134, Yegül 1992)



Figure 2.8 Stagnum of Agrippa, location and size as determined by excavated remains and fragments of Marble Plan (Fig. 170, p.511,LTUR IV, s.v. Stagnum Agrippae (Buzzetti))

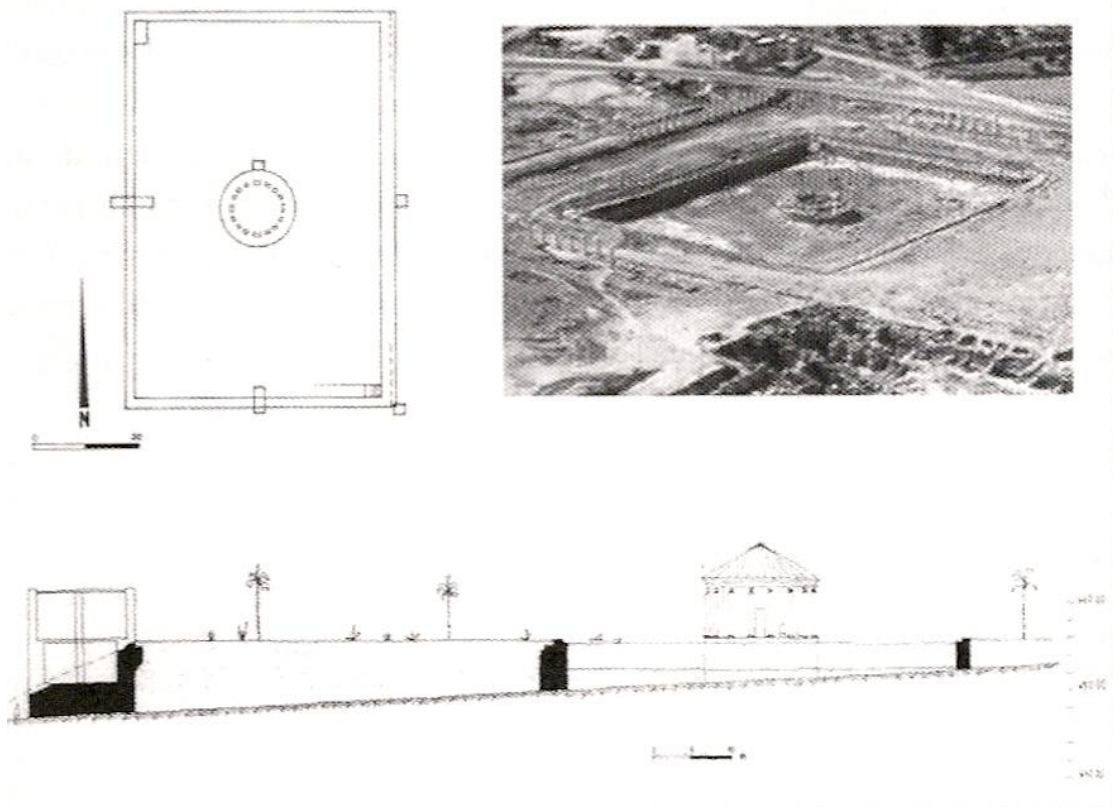


Figure 2.9 Lower Herodian Pool (Fig. 9, p.11 and fig.11, p.13, Netzer 1981)

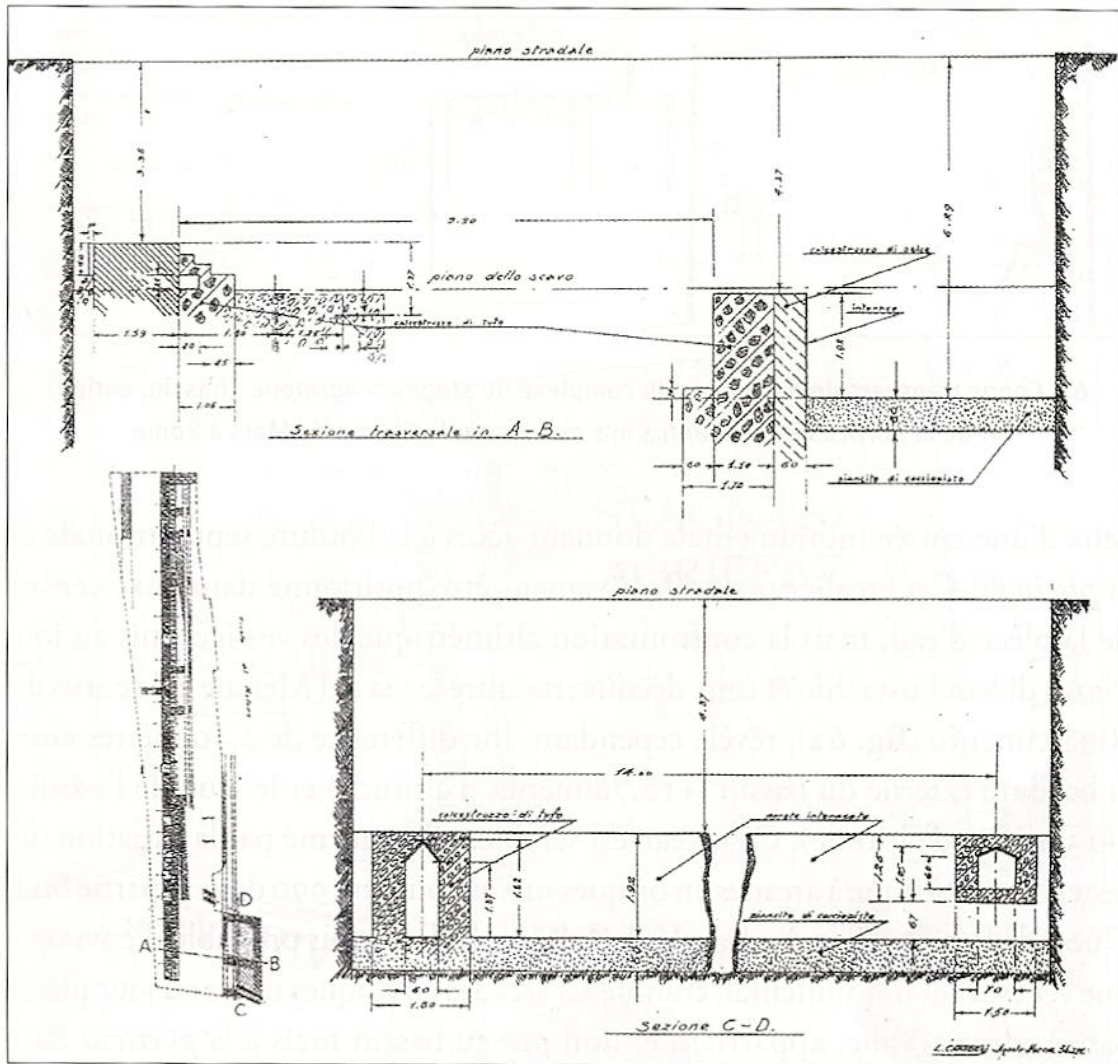
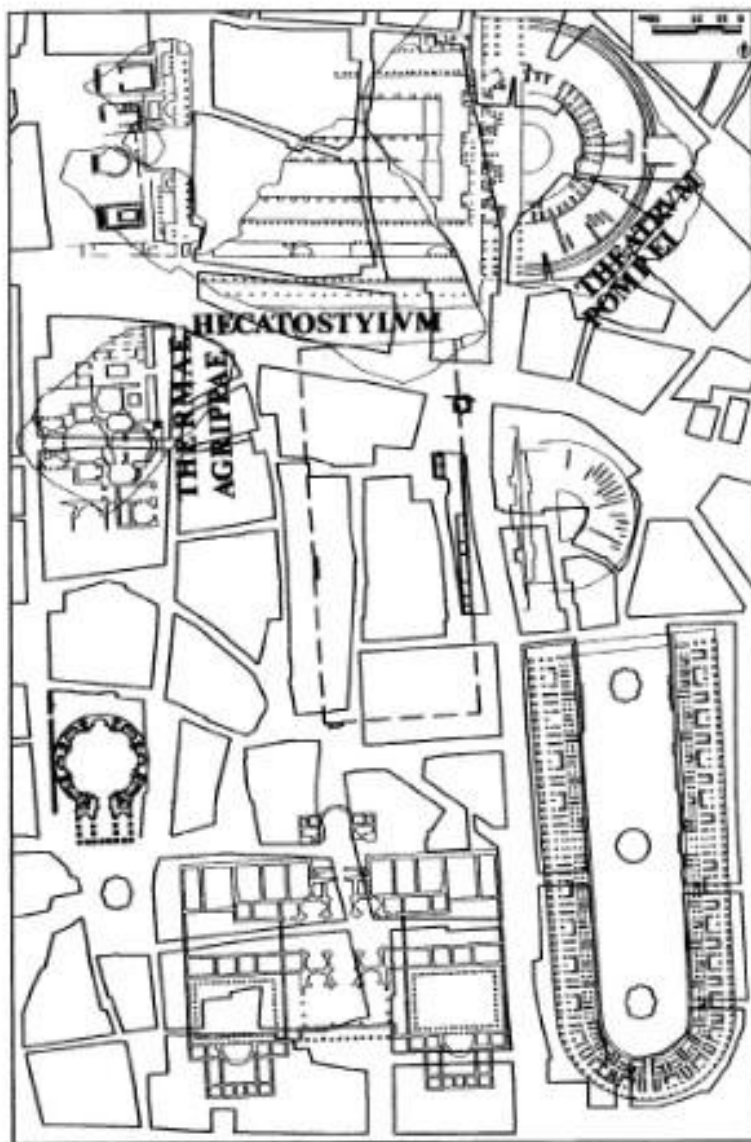
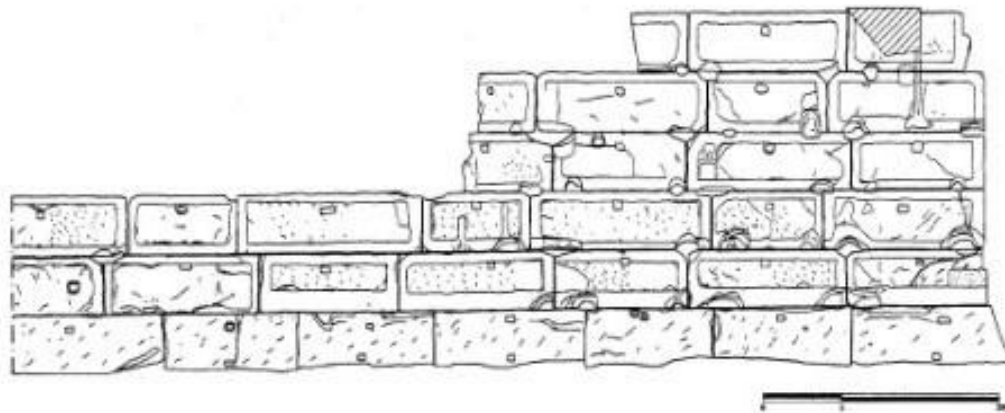


Figure 2.10 Stagnum of Agrippa, excavated remains of the western edge of the basin (Fig. 171, p.511,LTUR IV, s.v. Stagnum Agrippae (Buzzetti))



Ricostruzione topografica dell'area dello stagno di Agrippa

Figure 2.11 Stagnum size according to Scaroina (Plate 12, Scaroina 2006)



Struttura emersa tra via del Teatro Valle 48-49 e via Monterone 83
(rilievo dell'autore)

TAVOLA IX

Figure 2.12 Scaroina's wall feature which he believes was a perimeter wall of the Stagnum Agrippae (Plate 9, Scaroina 2006)

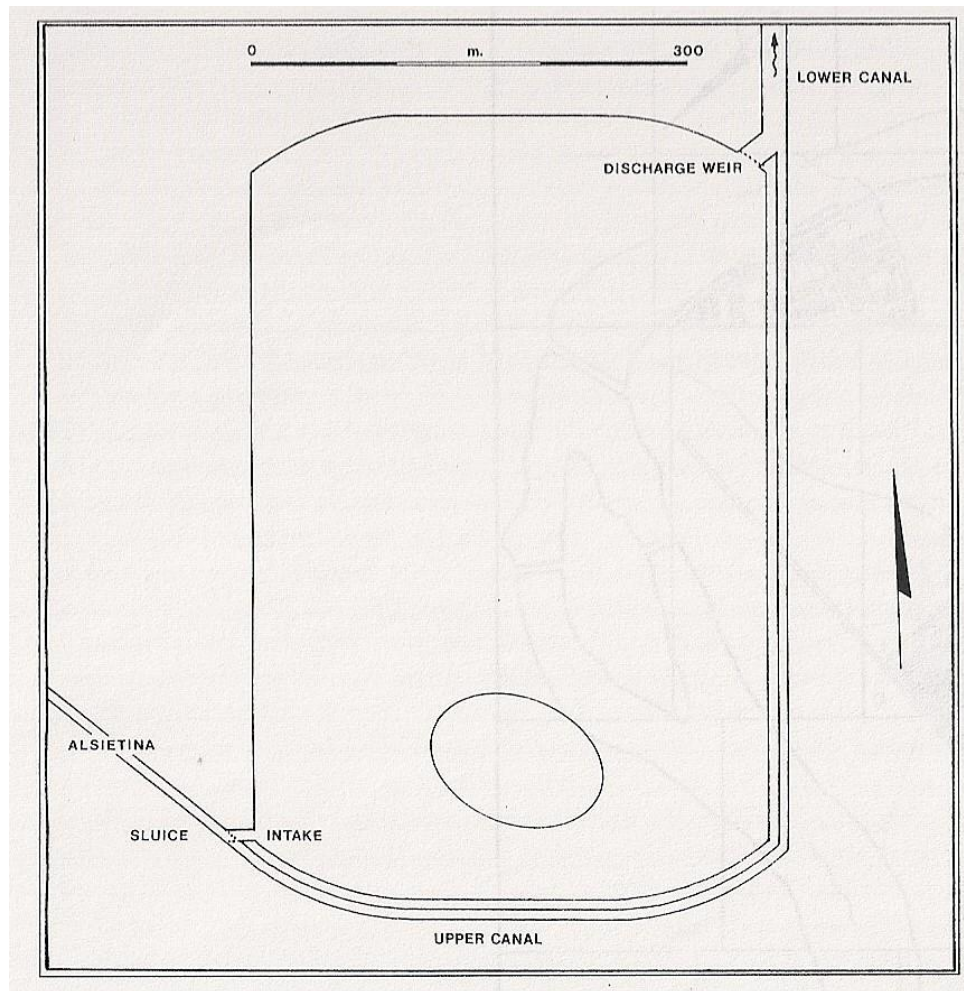


Figure 2.13 Rabun Taylor's hypothetical drainage and regulation system for the *naumachia* of Augustus is equally applicable to the *stagnum Agrippae* (Fig. 14, p. 180, Taylor 2000)

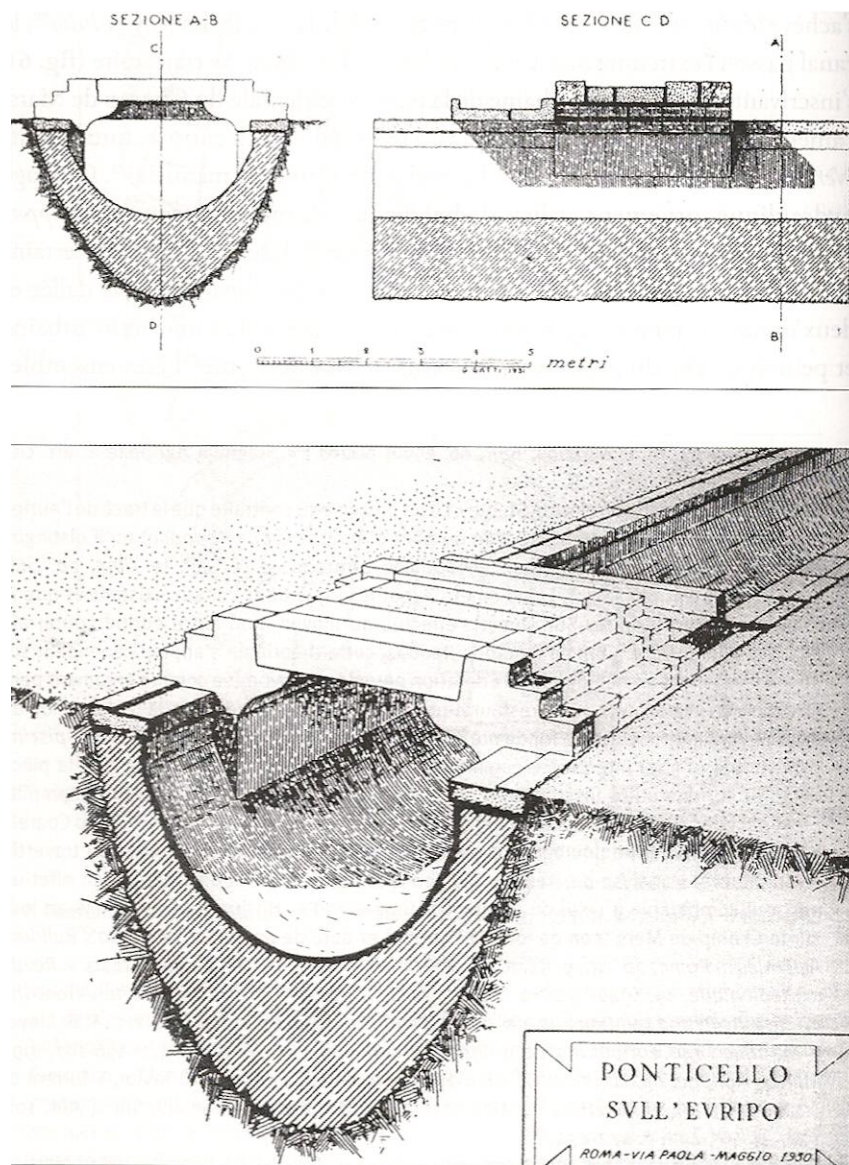


Figure 2.14 Section of round bottomed canal identified as part of the Euripus (Figs. 2 and 3, p.316, Romanelli 1931)

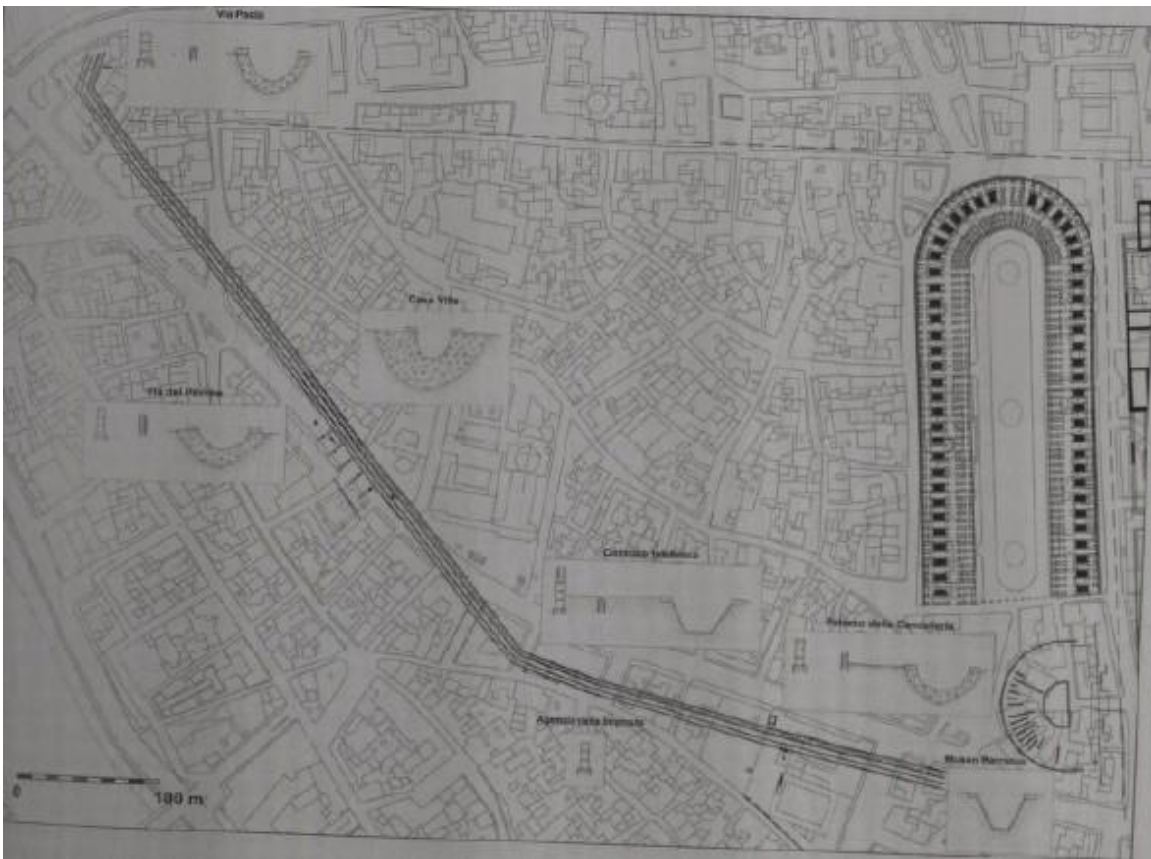
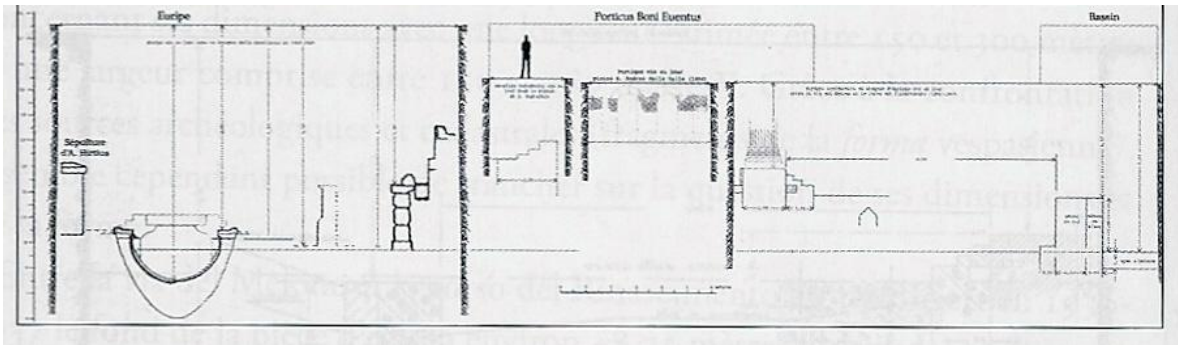


Figure 2.15 Euripus and Stagnum, relative ground levels and course and cross-sections confirmed by recent excavations (Fig.62, p.204, Cariou 2009 and fig.33, Filippi 2010)

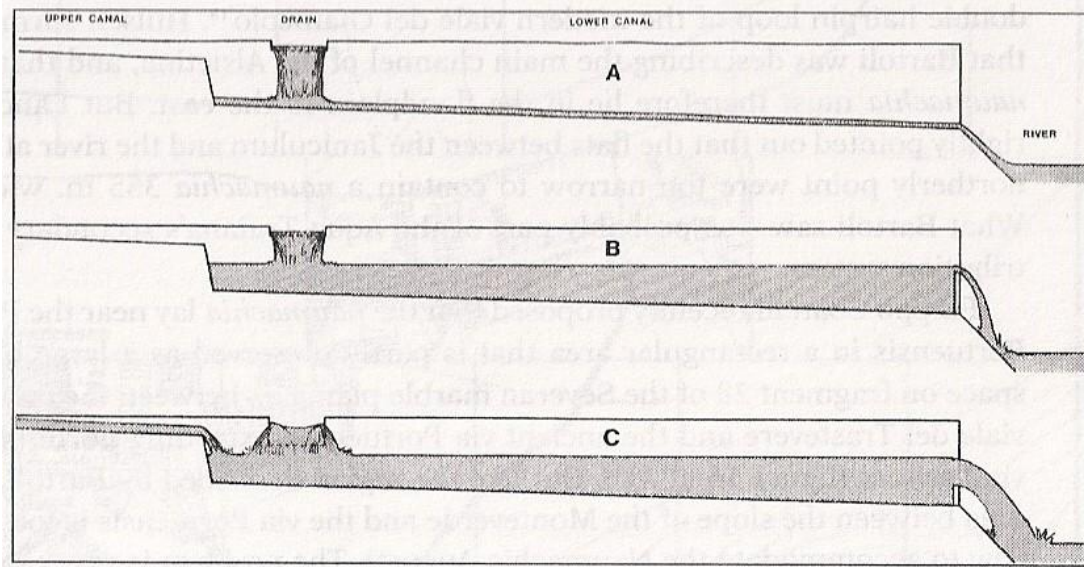


Figure 2.16 Above: Rabun Taylor's hypothetical weir system for the *naumachia* of Augustus. We may imagine that the *Euripus* consisted of a series of "steps" similar in design. Below: Filippi's reconstruction of the Euripus. (Fig.15, p.181,Taylor 2000 and fig. 34, Filippi 2010)



Figure 2.17a Porta Tiburtina (Photo Joelle L. Lardi 2009)



Figure 2.18 Porta Tiburtina Inscriptions. The top most is the Augustan inscription CIL 1244 (ILS 98). Note the pediment that was removed under Caracalla to make room for another inscription. (Photo Joelle L. Lardi 2009)



Figure 2.19 Bucranium on the Porta Tiburtina (Photo Joelle L. Lardi 2009)

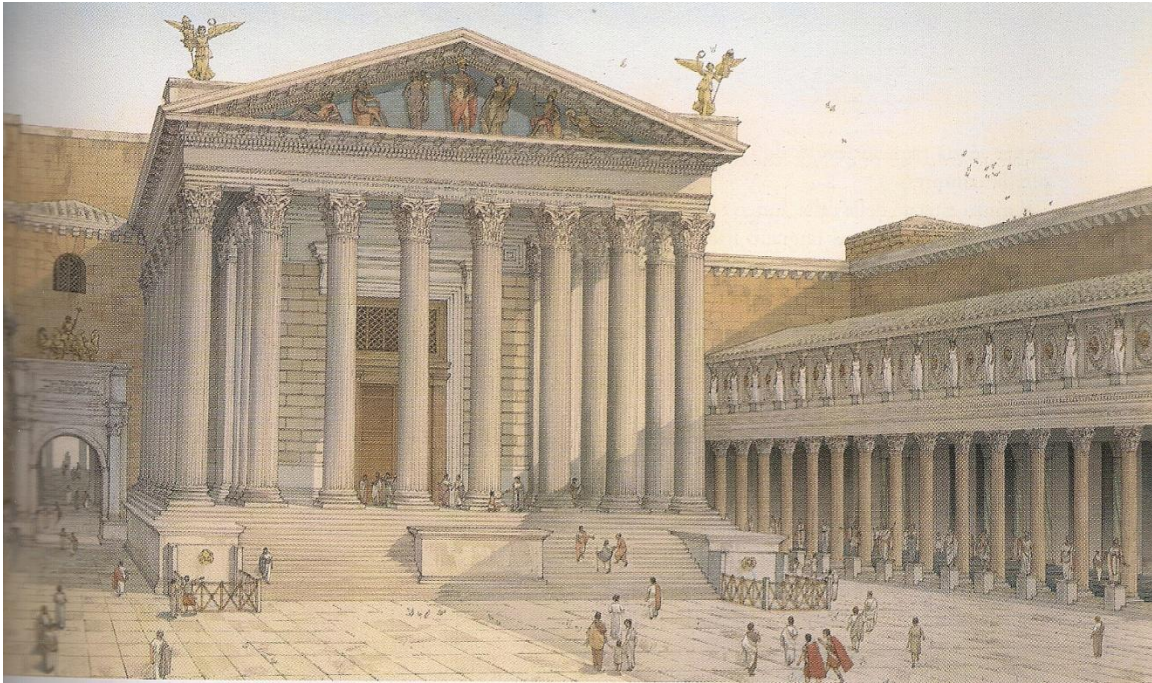
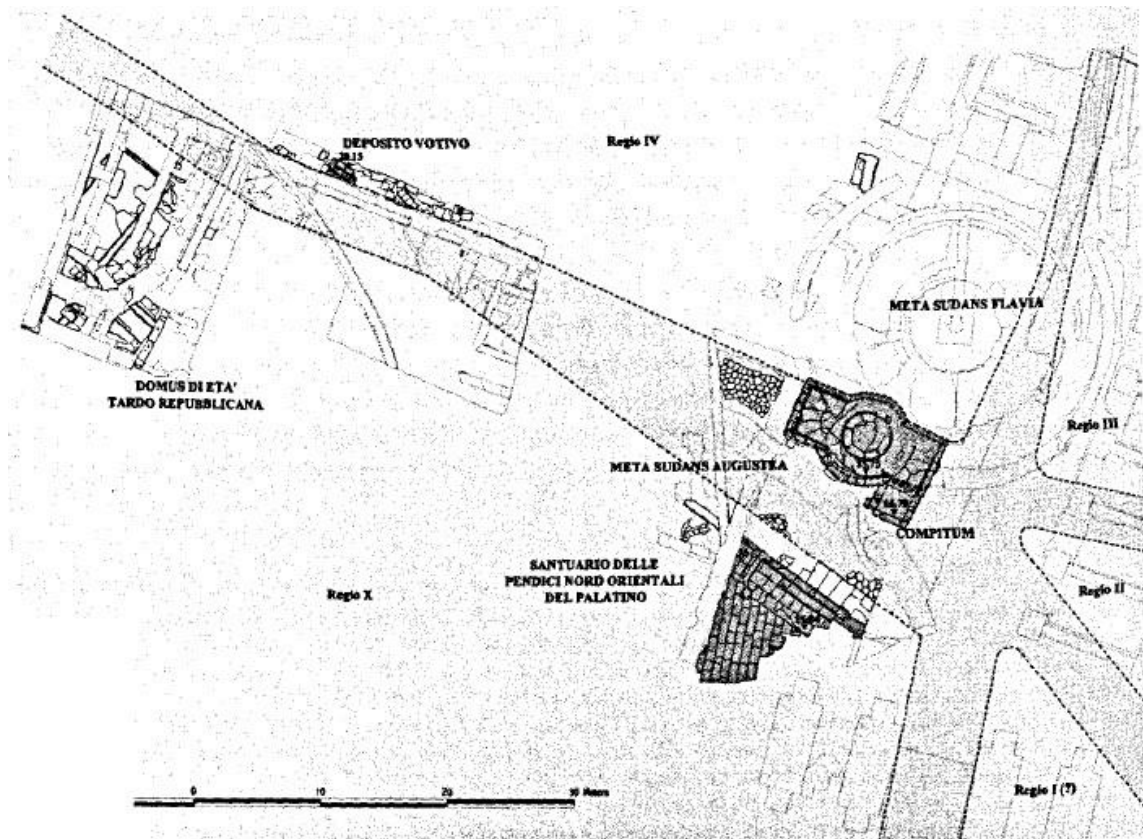


Figure 2.20 Temple of Mars Ultor with two simple fountains (Fig. 36, p.47, Meneghini 2007,(Inklink))



Fig 2.21 Remains of Augustan Meta Sudans (Fig. 4, Panella and Zeggio 2004)



Planimetria delle evidenze di età pre-neroniana individuate nelle due aree di scavo. rigio la ricostruzione della viabilità di età giulio-claudia (dis. E. Brienza, M. Fano).

Fig 2.22 The Augustan Meta Sudans, general location and comparison to Flavian fountain (Fig. 2, p.6, Panella and Zeggio 2004)

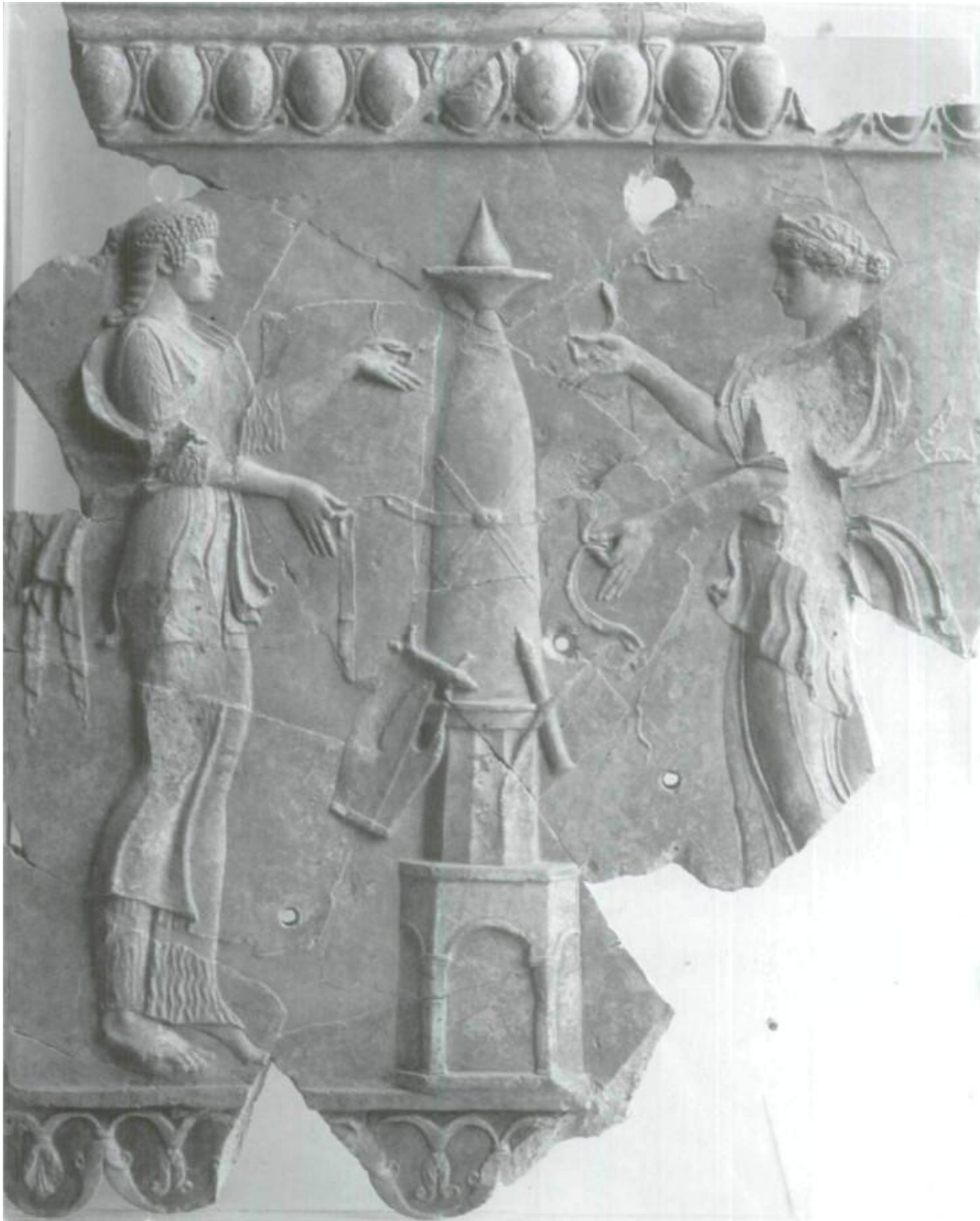


Figure 2.23 Augustan terracotta plaque showing a baetyl (Fig.5, p.279, Longfellow 2010. Image in public domain photograph by Werner Forman, provided by Art Resource, NY)

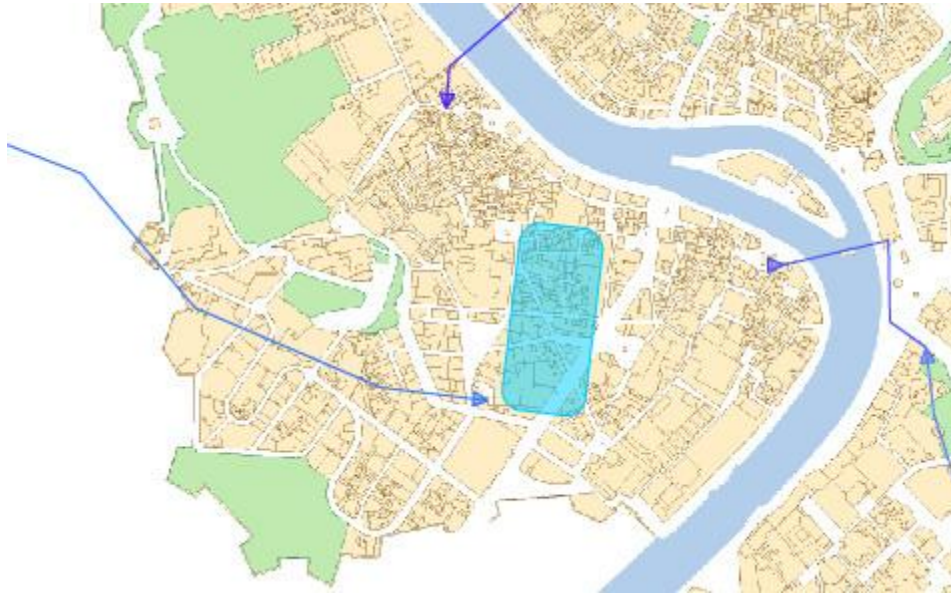


Figure 2.24 Known route of the Aqua Alsietina and the *naumachia* of Augustus, map created using <http://www3.iath.virginia.edu/waters/timeline/index.html>

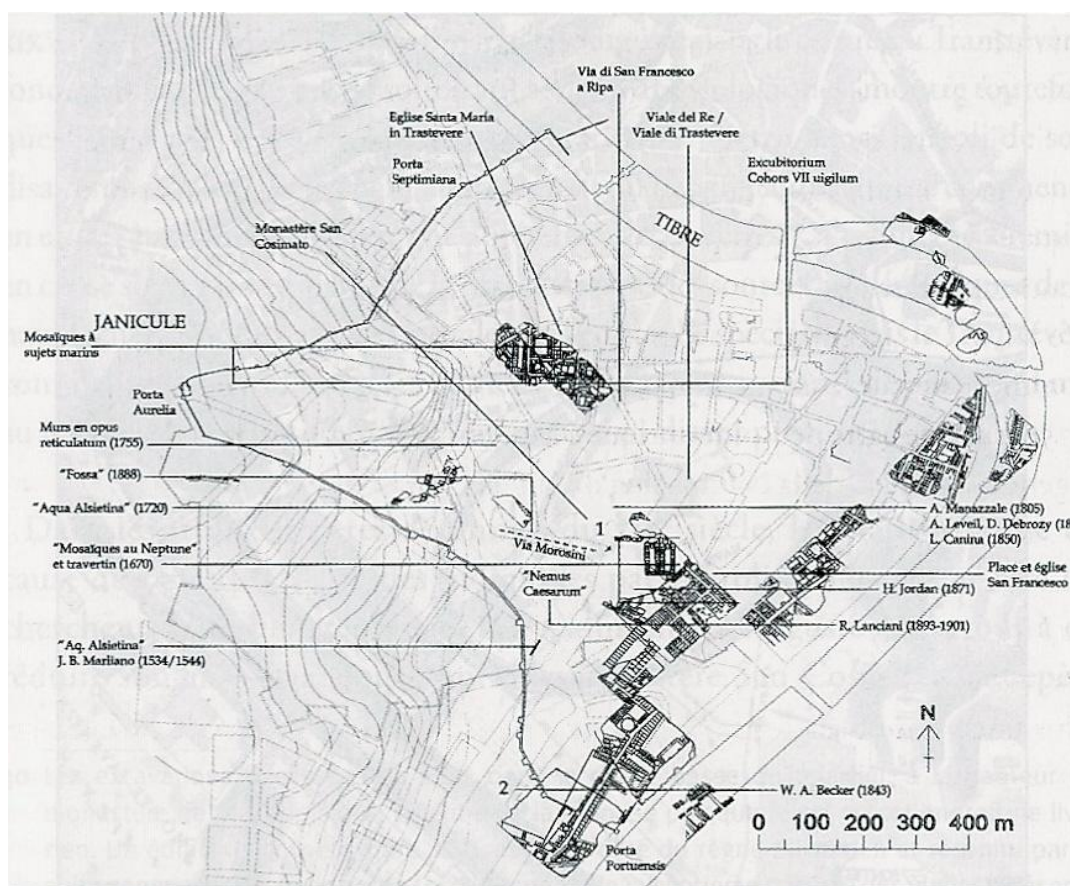


Fig 2.25 Archaeological finds related to *naumachia* Augusti (Fig. 13, p.57, Cariou 2009)

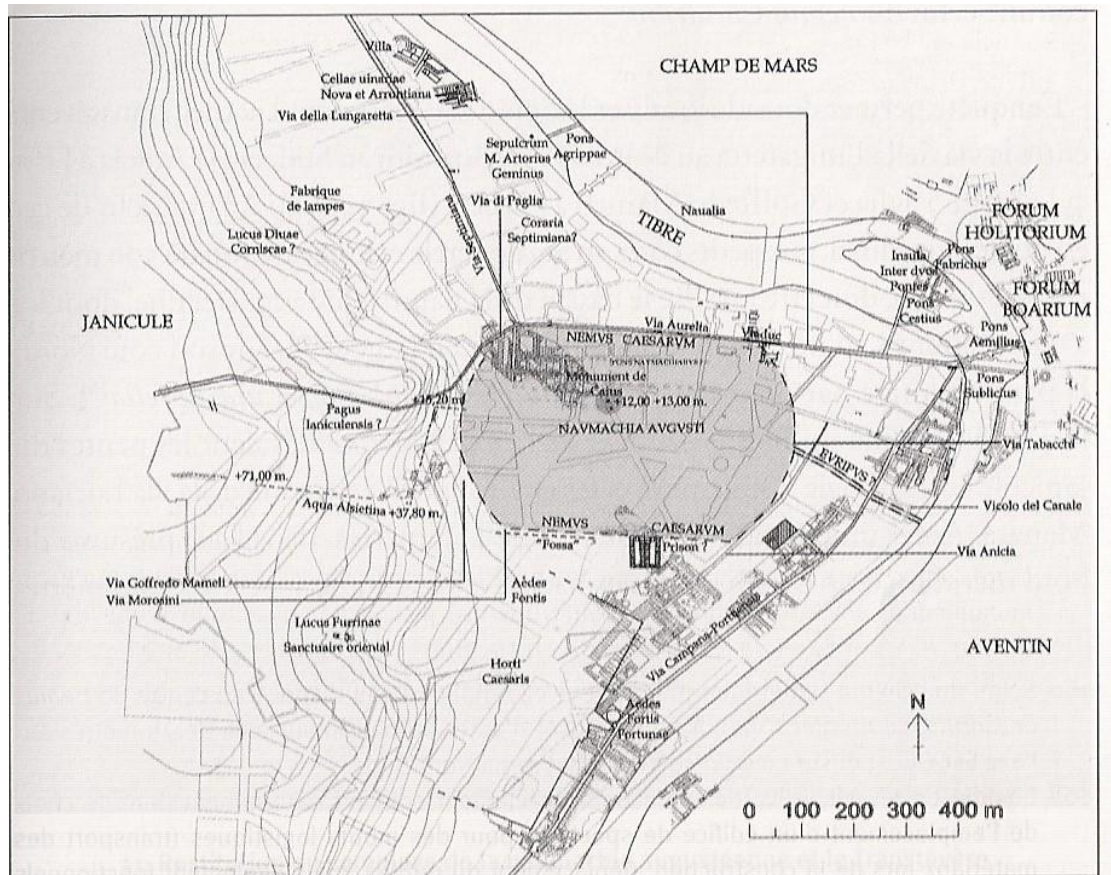


Fig 2.26 *Naumachia* of Augustus, orientation according to Cariou; note how uncomfortably close this proposed layout comes to the Janiculum Hill. (Fig. 29, p.105, Cariou 2009)

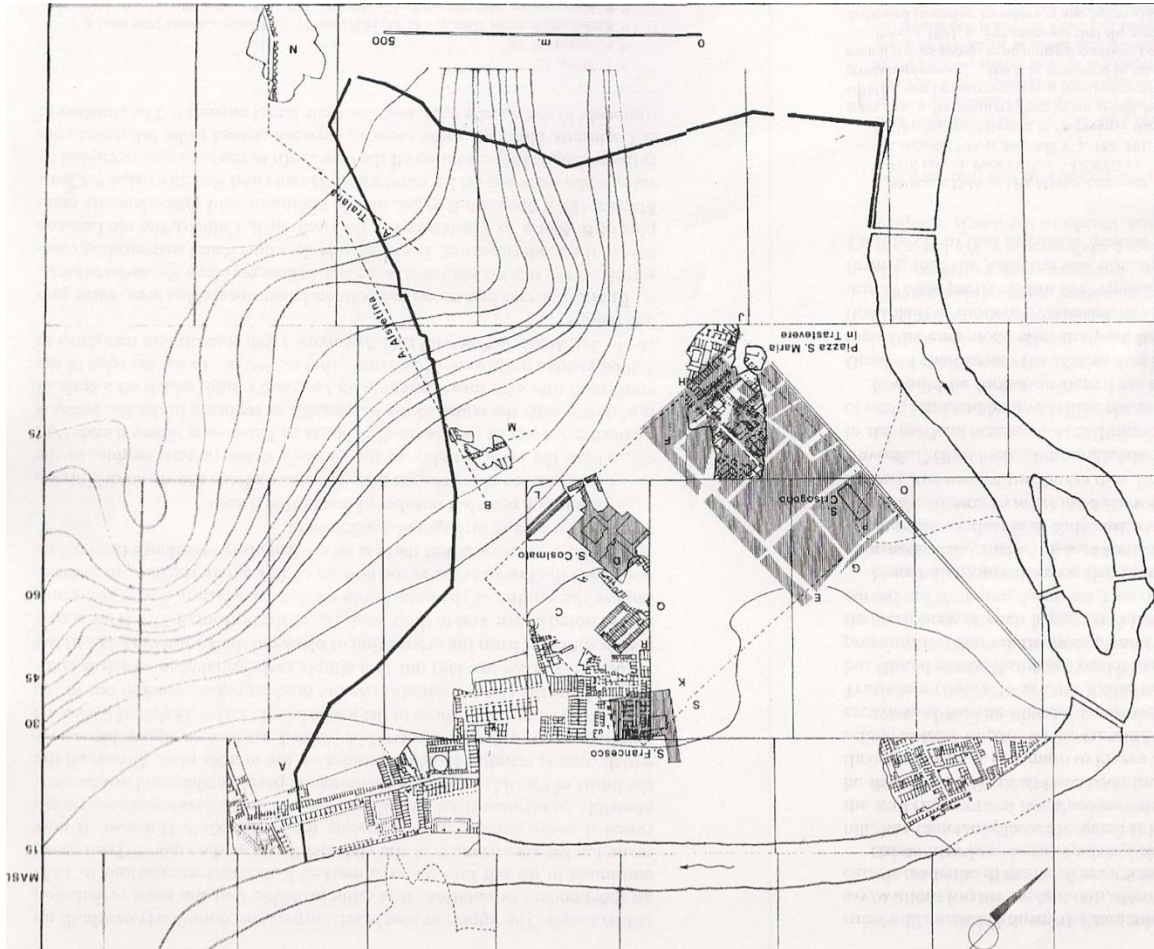


Fig 2.27 *Naumachia* of Augustus, orientation according to Taylor (Fig.16, Taylor 2000)



Fig 2.28 Reconstructed view of the *naumachia* of Augustus (Book cover, Cariou 2009)

Figures Chapter 3



Figure 3.1 Section of the Aqua Claudia arcade (Photo Joelle L. Lardi 2009)



Figure 3.2 The Anio Novus *specus* is clearly distinguishable here by its different building material, brick and concrete. (Photo Joelle L. Lardi 2009)



Figure 3.3 Some of the highest Arches of the Aqua Claudia arcade marching towards Rome
(Photo Joelle L. Lardi 2009)

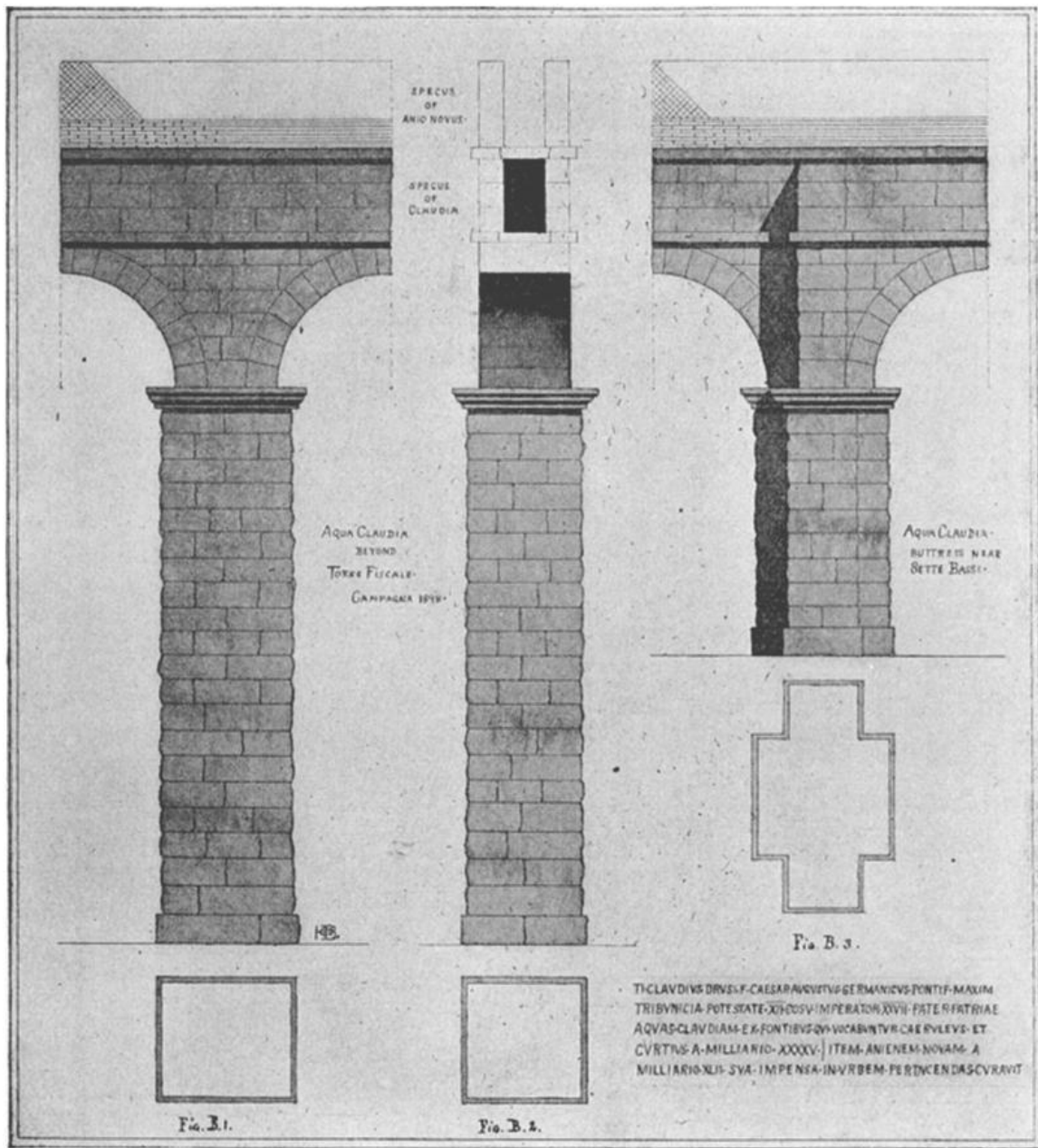


Fig. 3.4 Howard Crosby Butler's elevations of the Aqua Claudia highlight the distinct proportions and design elements of the aqueduct (Figure B, p. 183, Butler 1901)



Figure 3.5 Aqua Claudia arcade (Photo Joelle L. Lardi 2009)



Figure 3.6 The Aqua Claudia and Aqua Marcia in comparison (Photos Joelle L. Lardi 2009)



Fig. 3.7 Individual arch of the Aqua Claudia showing size and texture of individual building stones. Note the person for scale. (Photo Joelle L. Lardi 2009)



Figure 3.8 A section of the Aqua Marcia for comparison. Please note that the Aqua Marcia is in a much poorer state of preservation (Photos Joelle L. Lardi 2009)

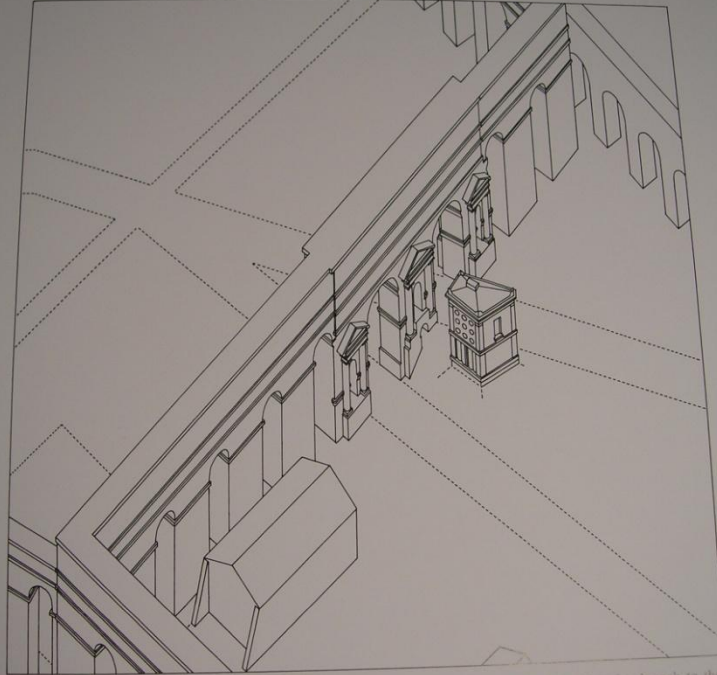


Figure 3.9 A section of the Aqua Claudia arcades (Photos Joelle L. Lardi 2009)



Figure 3.10 The Porta Maggiore (Photo by Joelle L. Lardi 2009)

PLATE VI



Axonometric reconstruction of the monument shortly after the works of *Caesarius*. The *Meronian* branch to the Caelian is visible to left (Eamonn Canniffe).

Figure 3.11 Axonometric reconstruction of the Porta Maggiore and immediate surroundings (Plate VI, Coates-Stephens 2004)

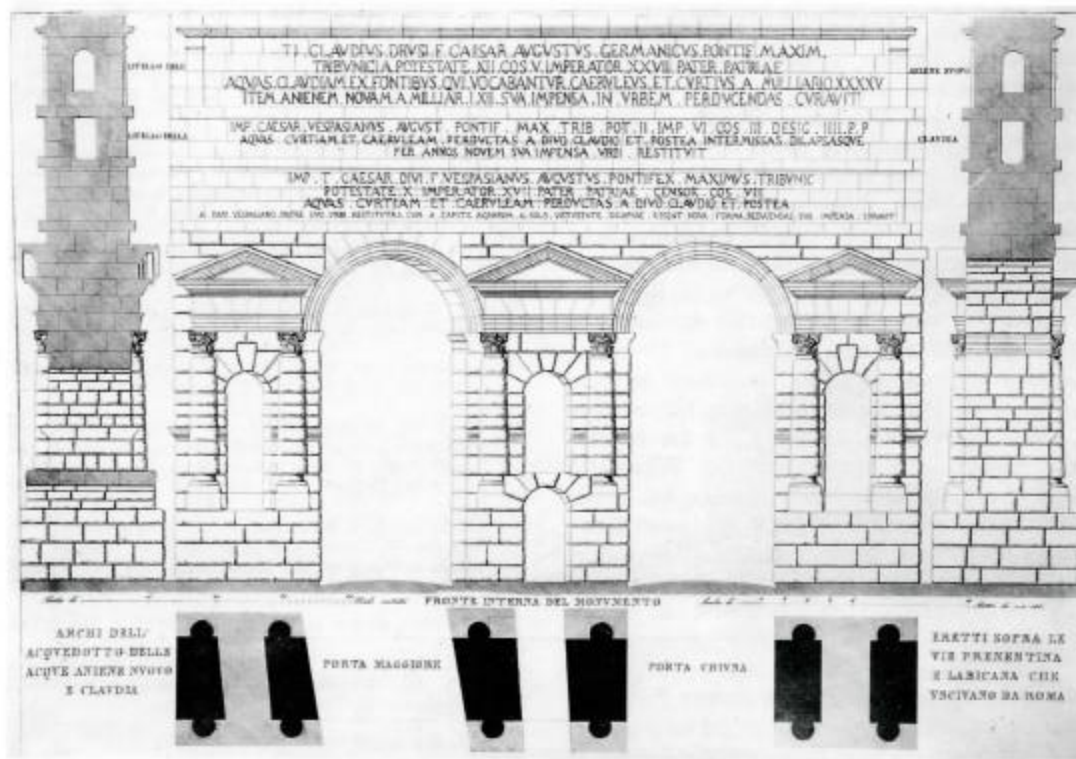


Figure 3.12 Elevation and ground plan of the Porta Maggiore (Fig. 5, p. 249, Hesberg 1991)



Figure 3.13 Central pier with *aedicula* and distinct architectural features (Photo Joelle L. Lardi 2009)



Figure 3.14 Close-up of exaggeratedly articulated columns and finely carved capitals (Photo Joelle L. Lardi 2009)



Figure 3.15 Attic and inscription of the Porta Maggiore (Photo Joelle L. Lardi 2009)

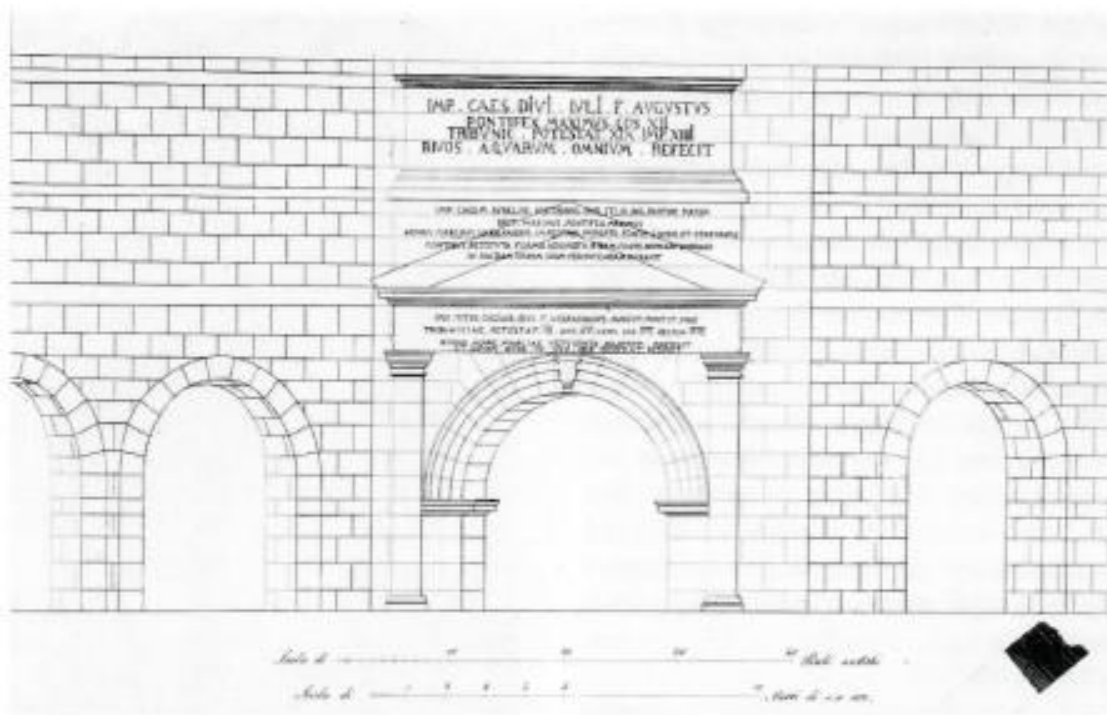


Figure 3.16 Elevation of the Porta Tiburtina (Fig. 6, p. 251, Hesberg 1991)

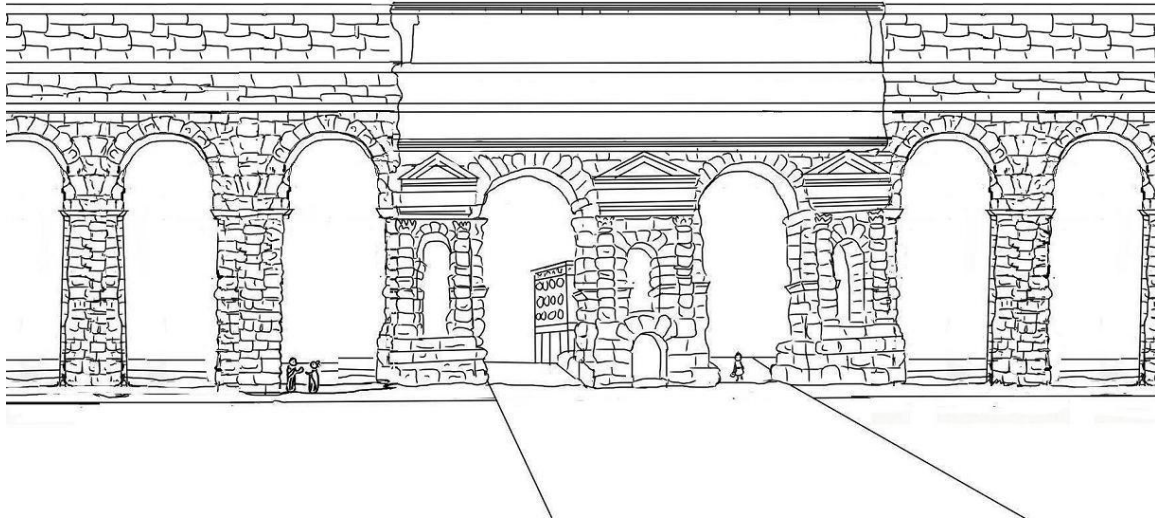


Figure 3.17 The Porta Maggiore and aqueduct arcades as they would have appeared in the time of Claudius. (Drawing Joelle L. Lardi)

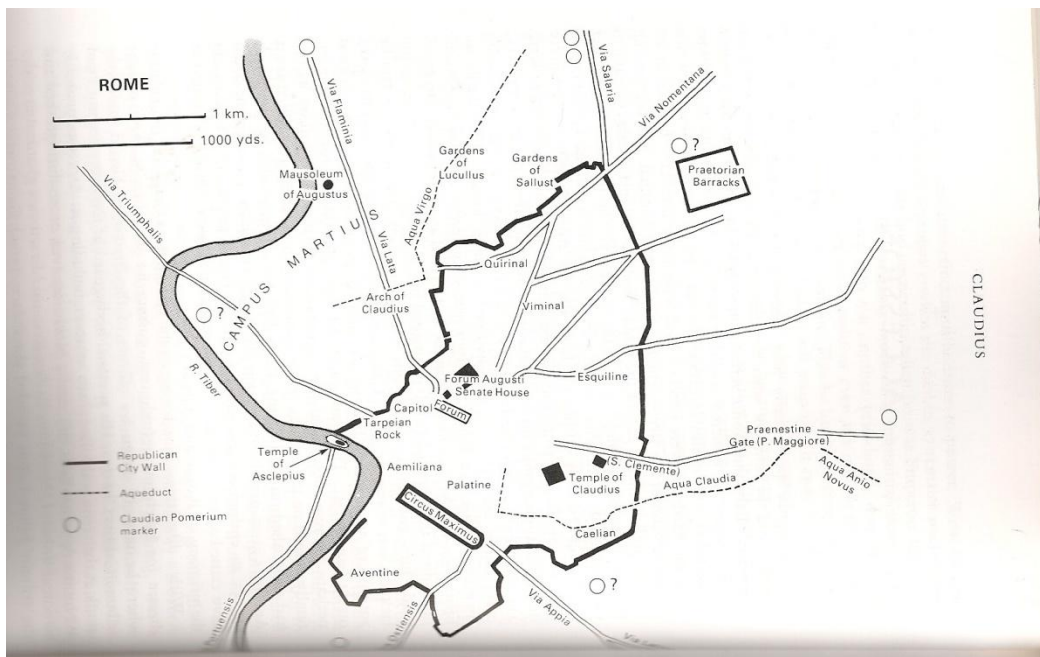


Figure 3.18 Map showing approximate find spots of Claudian *cippi* and estimate of extent of his new *pomerium* (Fig p. 30, Levick 2001)

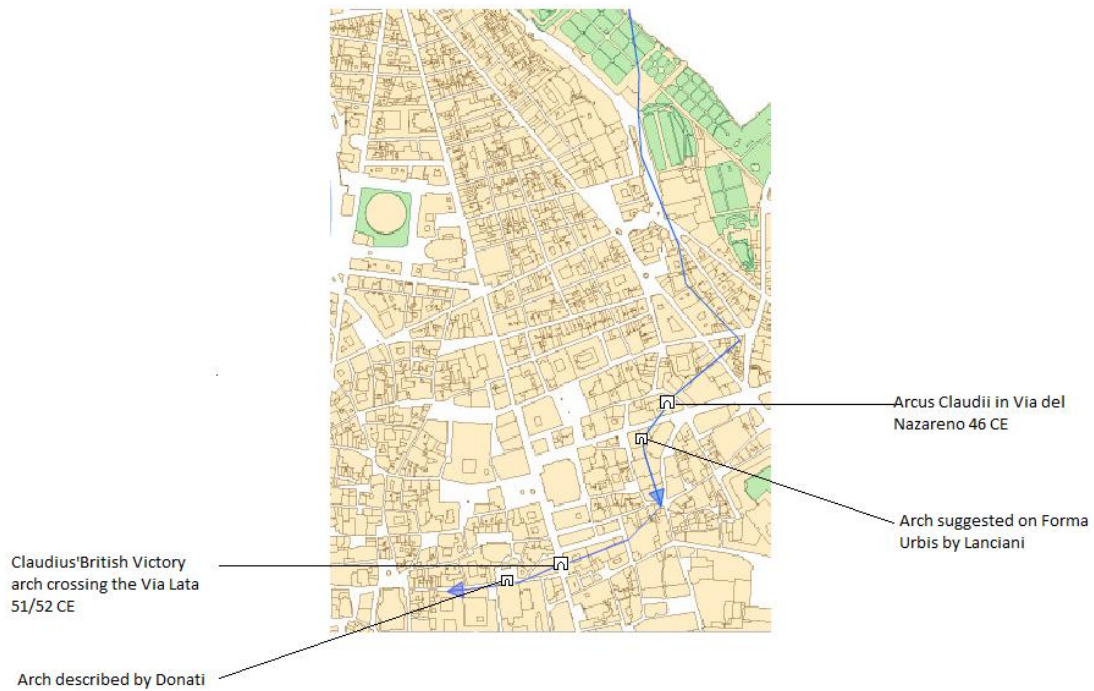


Figure 3.19 Map showing course of Aqua Virgo and known monumentalized arches (Joelle L. Lardi working on base from <http://www3.iath.virginia.edu/waters/timeline/index.html>)



Figure 3.20 Arcus Claudii in Via del Nazareno. Because it is only partially excavated and tightly enclosed on all sides, the monument is very difficult to photograph. (Photo Joelle L. Lardi 2009)



Figure 3.21 Central Bay with a person for scale (Photo Joelle L. Lardi 2009)

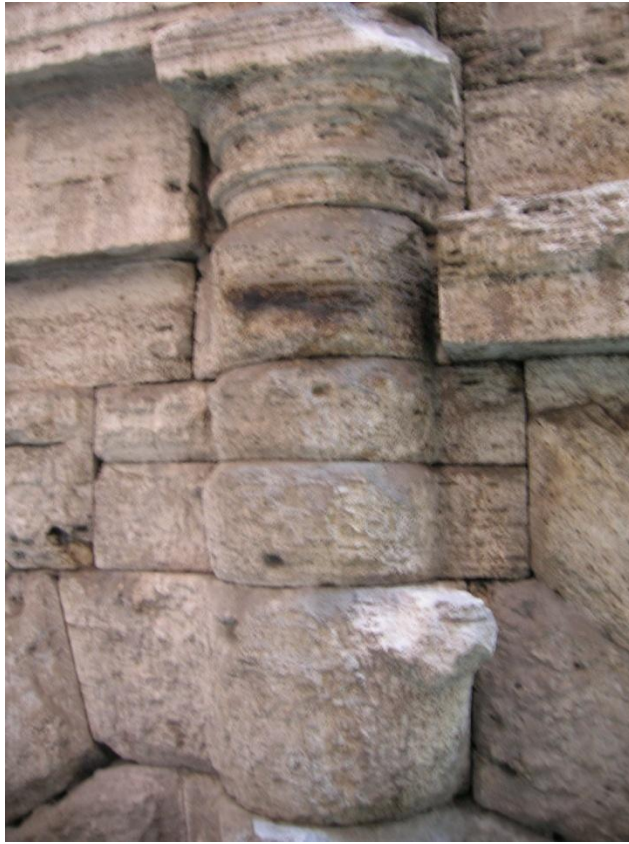


Figure 3.22 Close up of one of the columns. Note the resemblance to the Porta Maggiore. (Photo Joelle L. Lardi 2009)

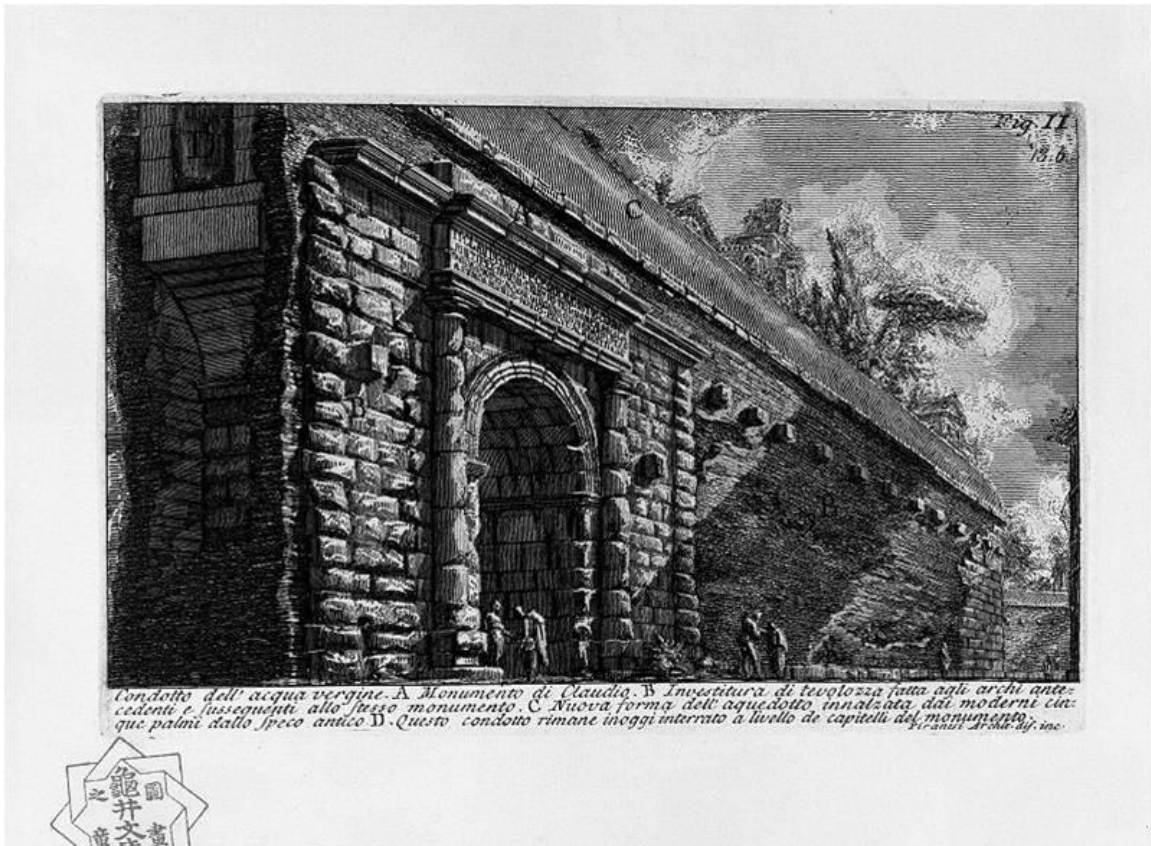


Figure 3.23 Piranesi's interpretation of the Arcus Claudii. He did not realize that the arch had three openings, nor did he show the arch connected to an aqueduct arcade. He shows another surviving pier of the Aqua Virgo on the far right.

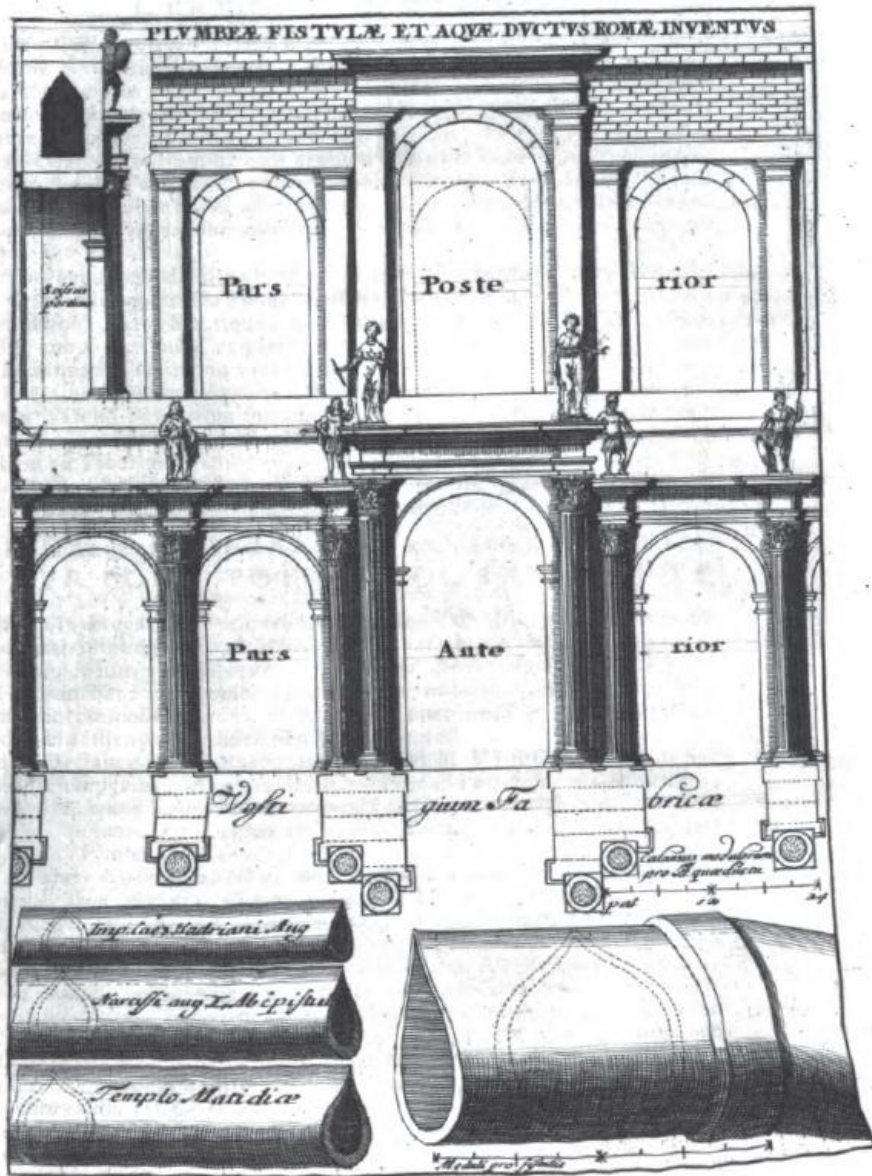


Figure 3.24 Donati's rather fanciful reconstruction of the ornamental aqueduct arch found in front of S. Ignazio (Donati 1695)

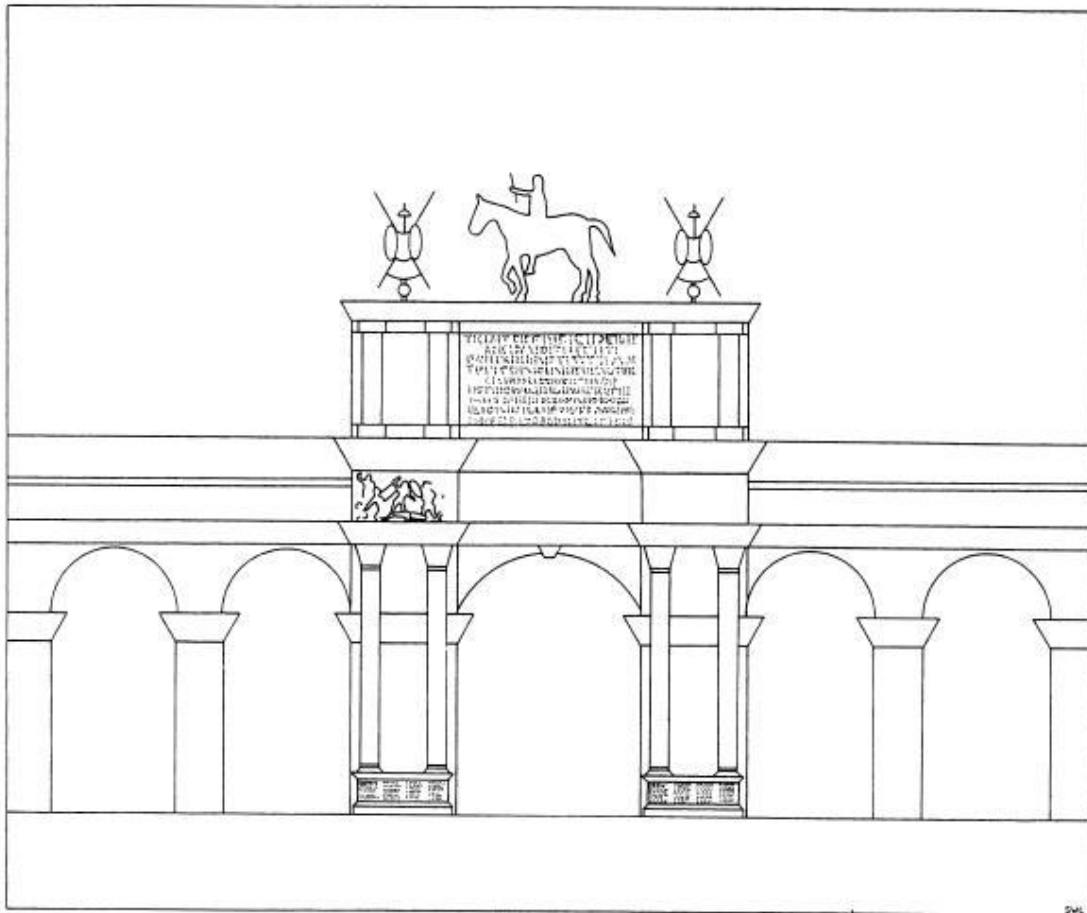


FIG. 5. Claudius' Victory Arch.
(Drawn by Stephen Copp)

Figure 3.25 Reconstruction of Claudius' British Victory Arch with Aqua Virgo arcade (Fig. 5, p. 18, Barrett 1991)



Figure 3.26 Gold *aureus*, minted in 46-47 CE showing Claudius' British victory arch

(http://www.britishmuseum.org/explore/highlights/highlight_objects/cm/g/gold_aureus_-_emperor_claudius.aspx)

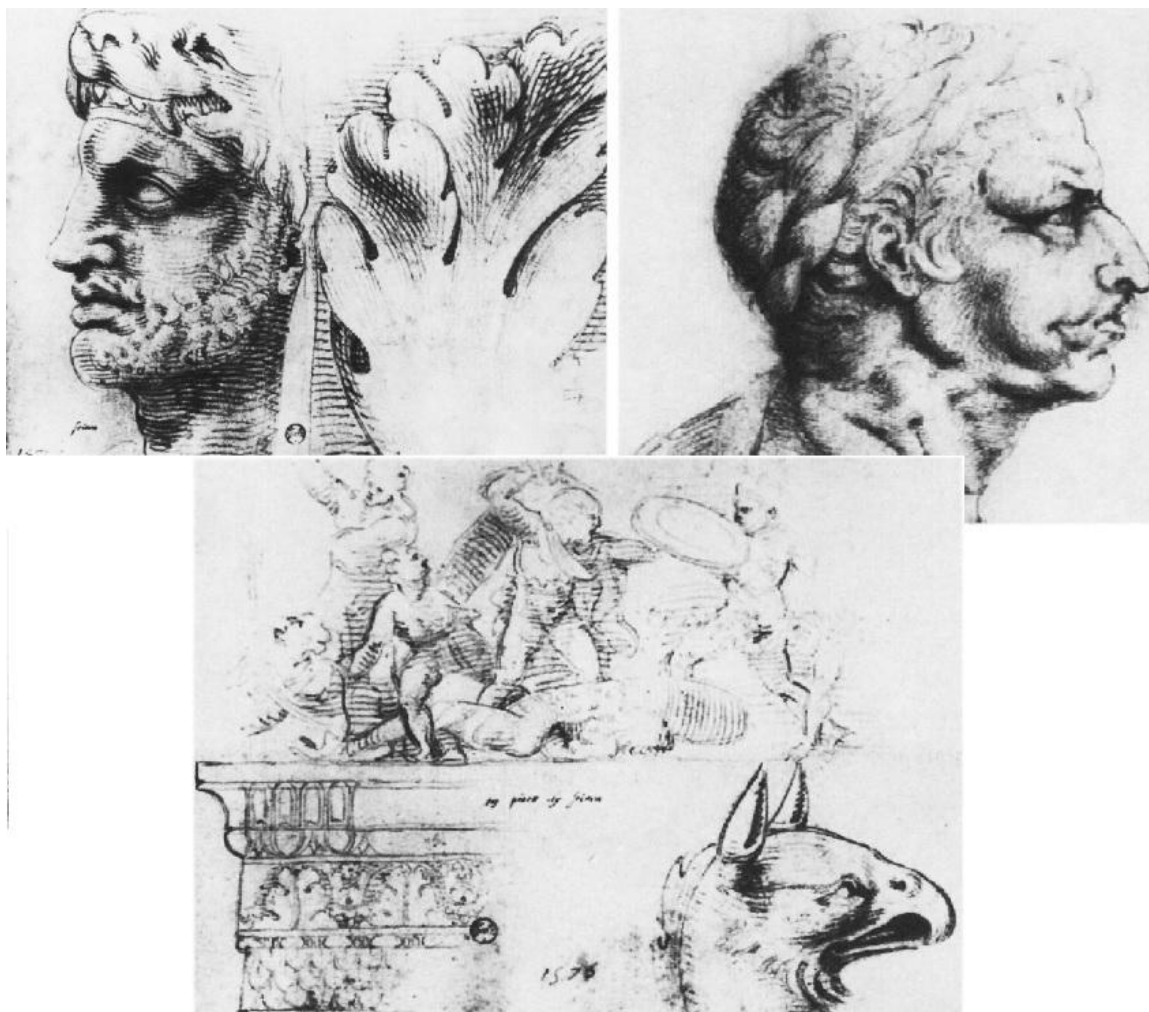


Figure 3.28 Some of Jacque's drawings of fragments of the Claudian Victory Arch (Plate II, figs. A and B, Plate I, fig. A, Barrett 1991)



Figure 3.29 Comparison between the rusticated styles of the Theatre of Marcellus (completed 13 BCE) and the Porta Maggiore (52 CE) (Photos Joelle L. Lardi 2009)

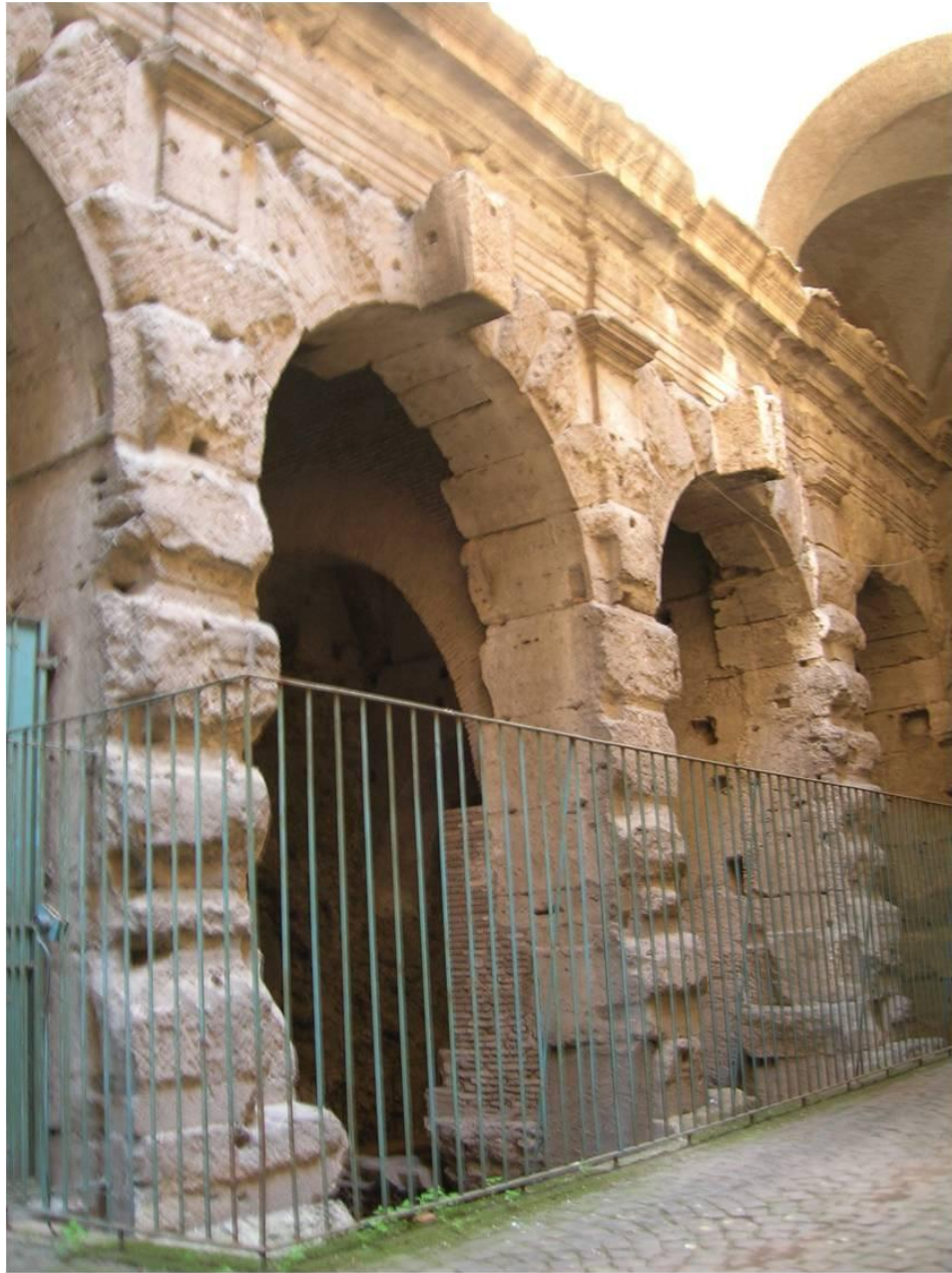


Figure 3.30 Base of the Claudianum (Flavian, in the Claudian rusticated style)(Photo Joelle L. Lardi)

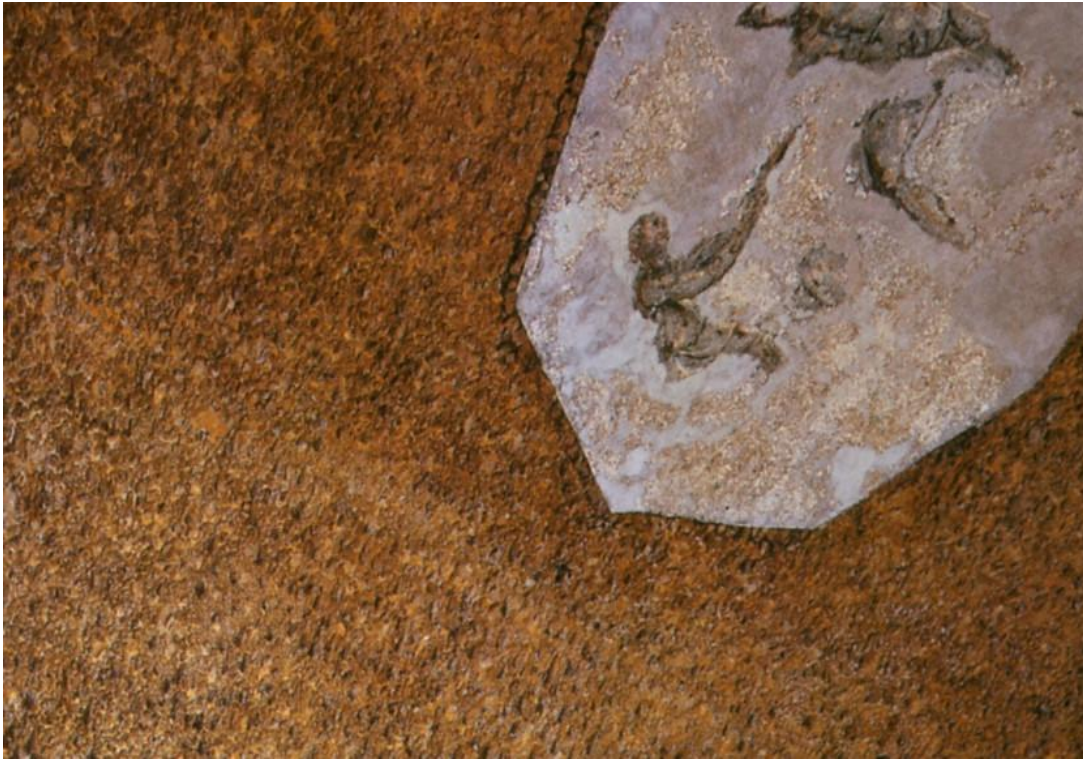


Figure 3.31 Ceiling detail of Polyphemos Room in Domus Aurea showing the typical tiny pieces of tufa used in decorating roman nymphaea.

(Close up detail of images/architecture/italy/rome/palaces/domus aurea/views/polyphemos room/gettydomus317.tif)



Figure 3.32 Rome's aqueduct system at the time of Claudius' death, map created using <http://www3.iath.virginia.edu/waters/timeline/index.html>

Figures Chapter 4



Figure 4.1 Map showing relation between Portus, Ostia and Rome. The Trajanic phase of Portus is shown. (Fig.3,p.115, Boetto 2008)

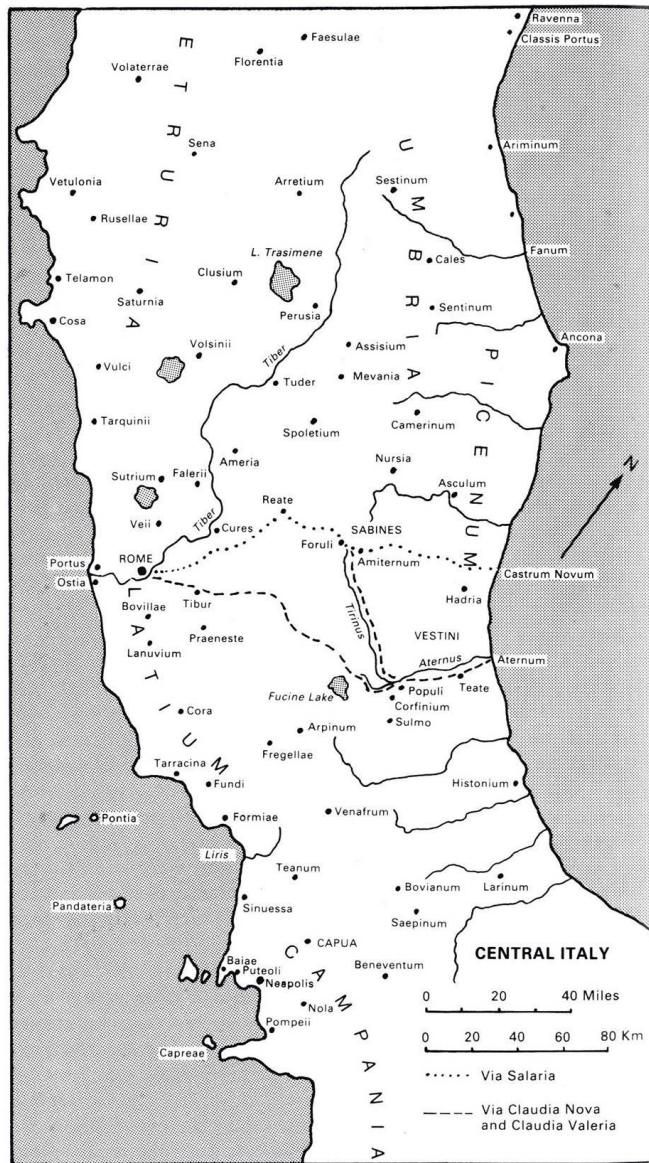


Figure 4.2 Map of Italy showing the relation between Portus and the Fucine Lake to Rome.

Note the course of the Via Claudia Valeria, and the distance from Puteoli to Rome. (Fig.X, Levick 2001)



Figure 4.3 Monumental Inscription from Portus, dating to 43 CE, commemorating creation of canals to relieve Tiber flooding. (Fig. 9.1, Keay et al. 2005)

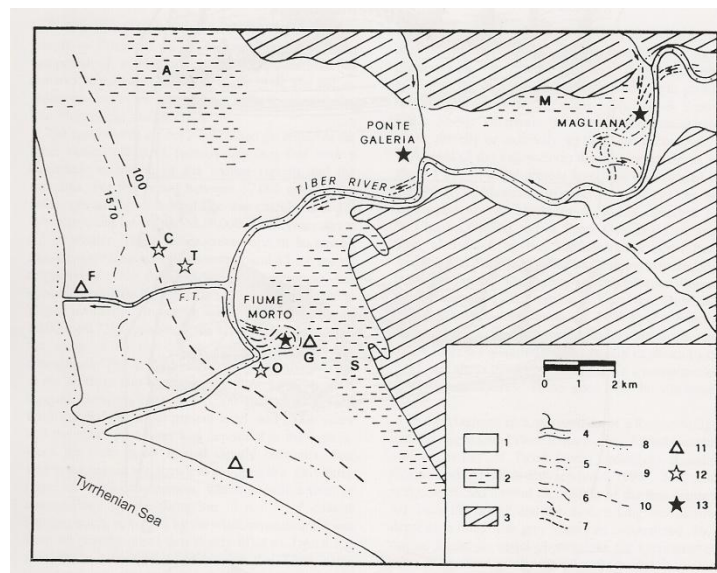


Figure 4.4 Reconstruction of the original coastline before construction the construction of the harbor began. (Fig. 2.3, Keay et al. 2005)

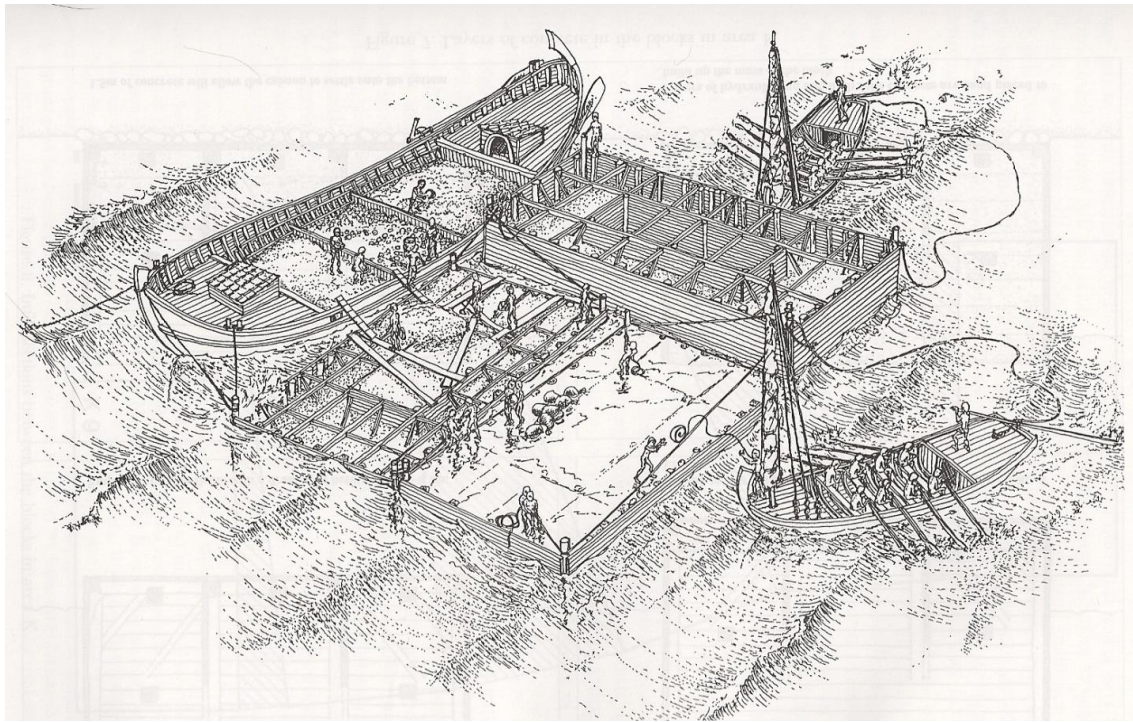


Figure 4.5 Examples of the construction techniques used to create the concrete moles at Portus.
(Fig. 6, Brandon in Raban et al. 1996)

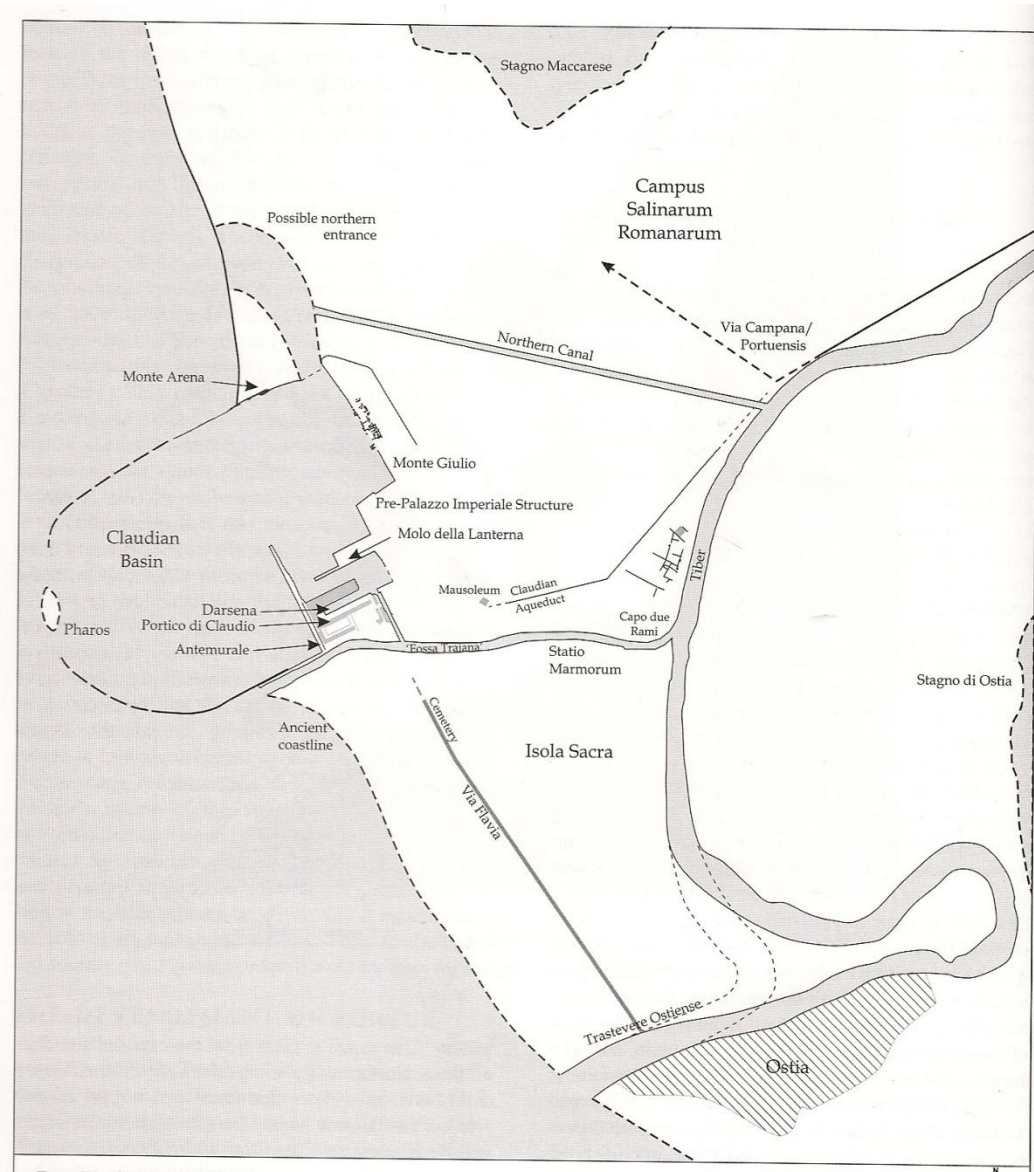


Figure 4.6 Plan of Claudian Portus with all known structures (Fig.1.3, Keay et al. 2011)

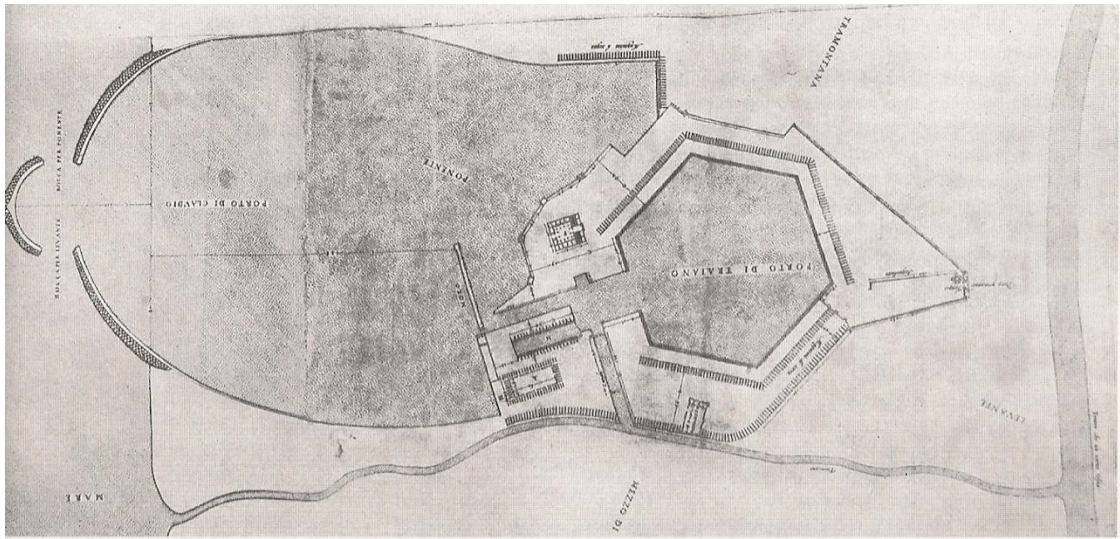


Figure 4.7 Labaco's view of Portus, 1567 (Fig. 3.1, Keay et al. 2005)

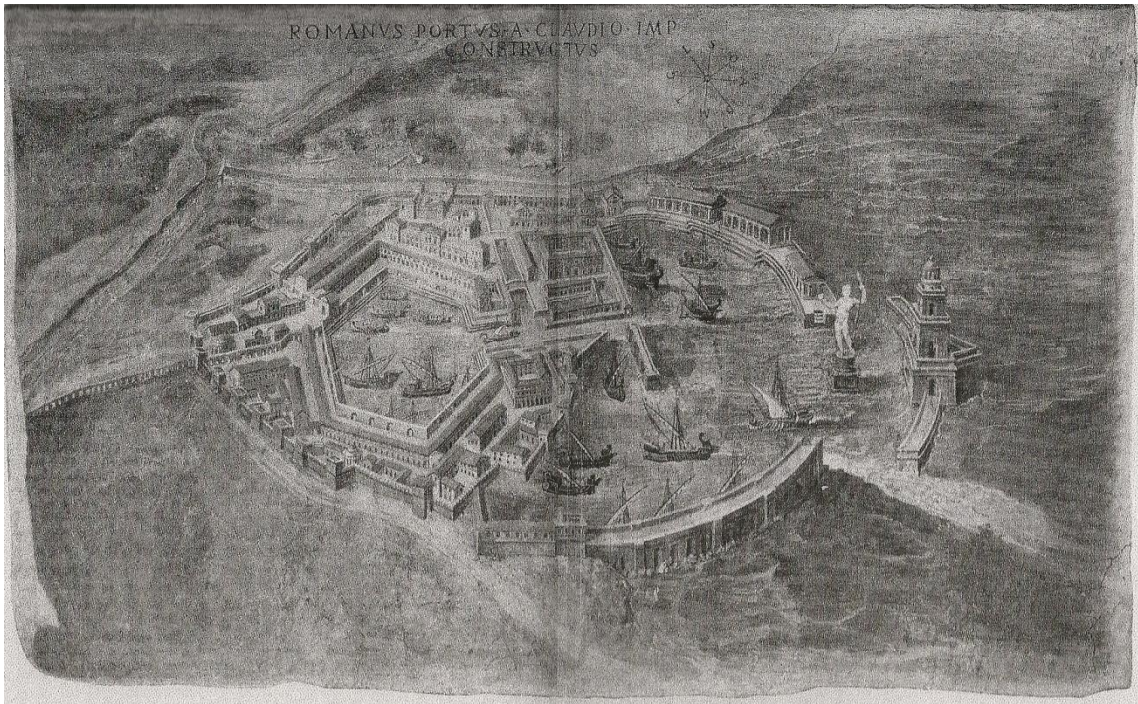


Figure 4.8 Danti's view of Portus from the 16th century (Fig. 7.2, Keay et al. 2005)



Figure 4.9 Mosaic from Ostia, Square of the Corporations (II,VII,4), showing the famous lighthouse at Portus. (Photo from <http://www.ostia-antica.org/piazzale/corp46-2.jpg>)

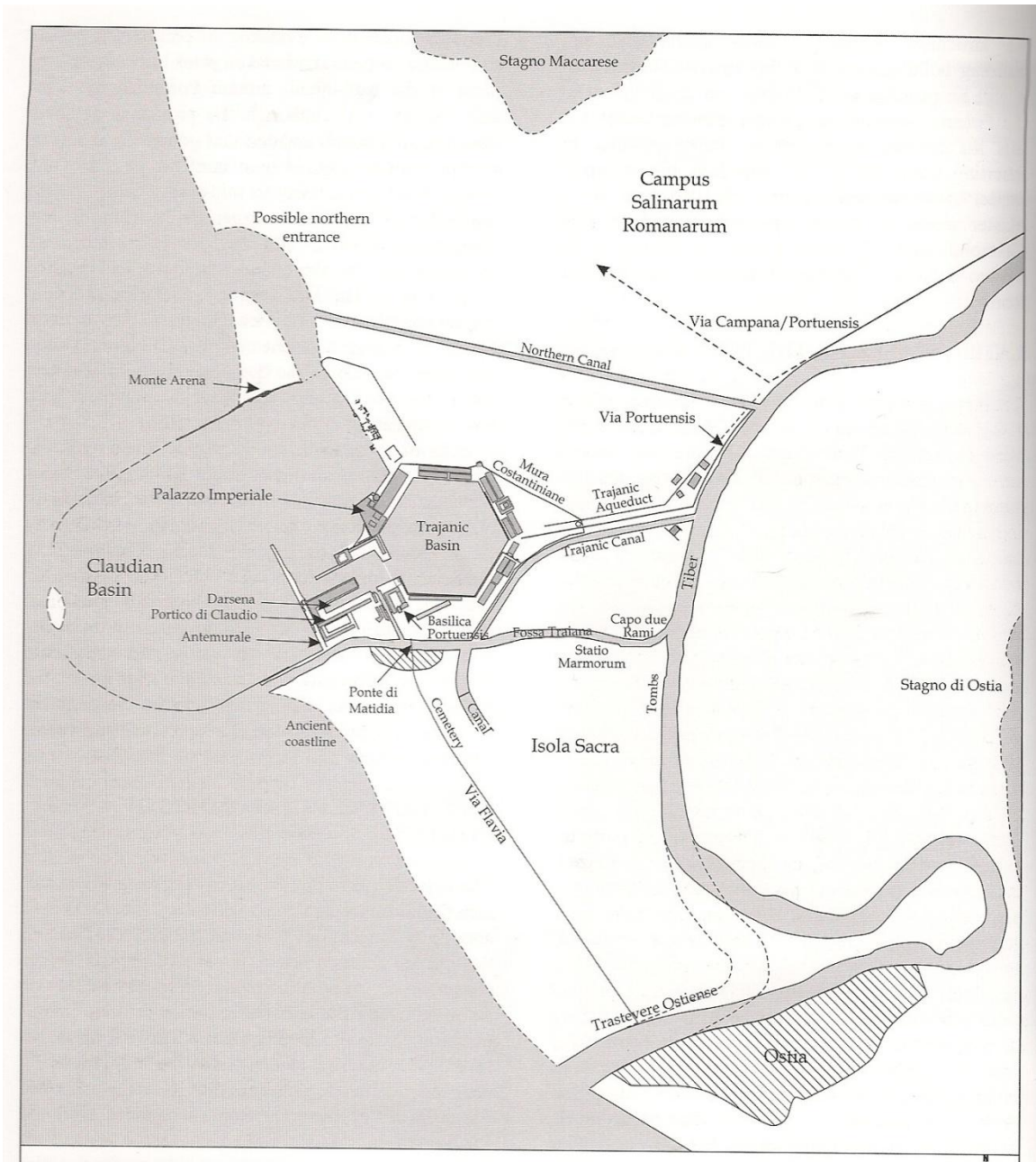


Figure 4.10 Trajan's expansion of Portus (Fig. 1.4, Keay et al. 2011)



Figure 4.11 Columns of the monumental portico along the south side of the *darsena*. The brick belongs to later phases of the building when it became incorporated into a warehouse.

(Photo by Jan Theo Bakker at <http://www.ostia-antica.org/portus/t052.htm>)



Figure 4.12 Bronze sestertius of Nero showing Portus. Dated to 64 CE.

(CM BMC132, Image copyright of British Museum,
http://www.britishmuseum.org/explore/highlights/highlight_image.aspx?image=k23420.jpg&retpage=17235)



Figure 4.13 Bronze sestertius of Nero showing Portus. Dated to 64 CE.

(Classical Numismatic Group Auction 87 Lot 967 (18 May 2011))



Figure 4.14 So-called Toronia relief showing Portus and mosaic showing statue on column from the Caseggiato del Mosaico del Porto (I,XIV,2). (Testaguzza 1970, p. 171 and Scavi di Ostia IV, Tav. CLXI)

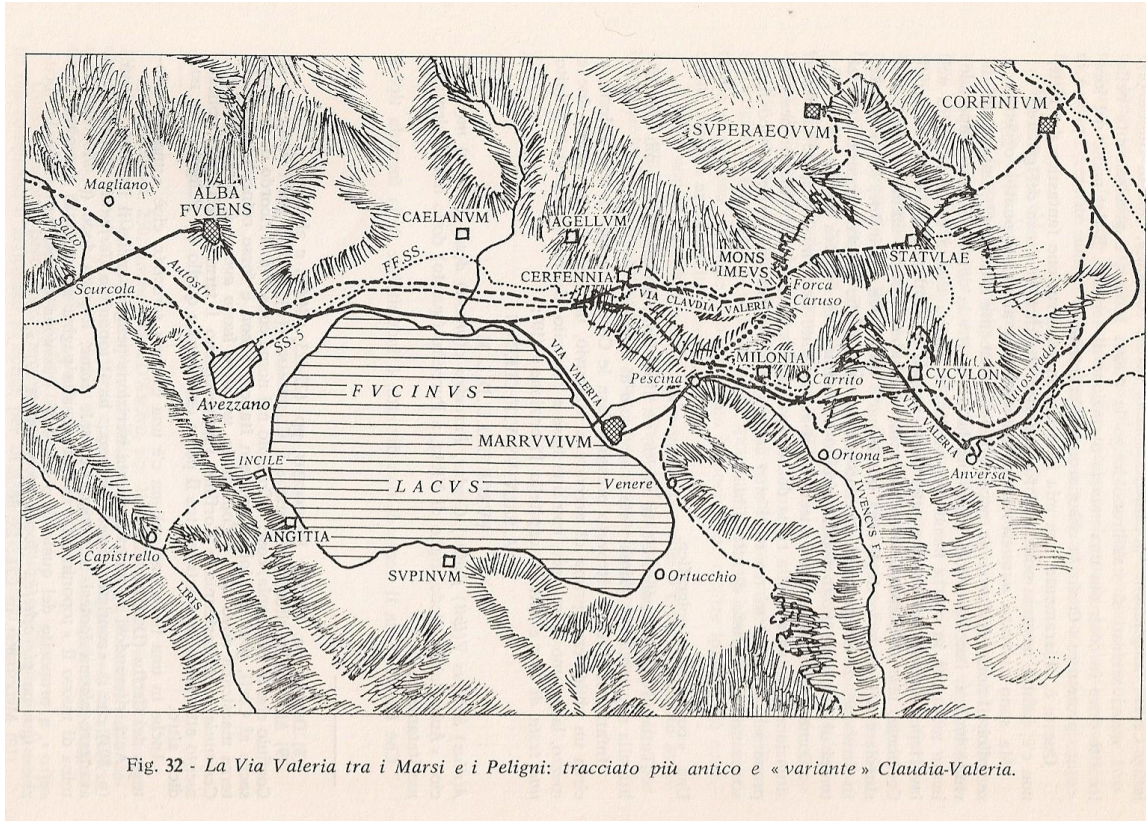


Figure 4.15 Reconstruction of the former extent of the Fucine Lake in Roman times, before it was drained. (Fig. 32, D'Amato 1980)

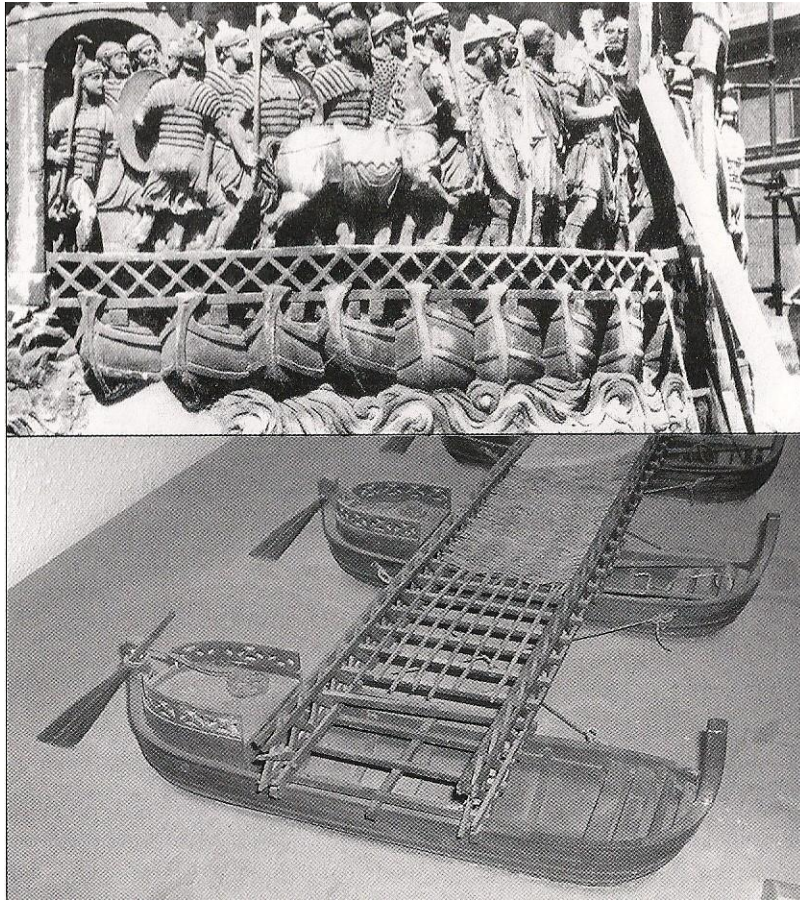


Figure 4.16 Detail of the Column of Marcus Aurelius showing a ship bridge and model of the same (Fig. 58, Cariou 2009 from Reddé)



Figure 4.17 The dry basin of the former Fucine Lake. The roads and layout of the agricultural plots still preserve its outline. Claudius' probably shrank the surface of the lake down to just slightly beyond the smaller circle still outlined by the inner road.
(Image NASA, public domain)

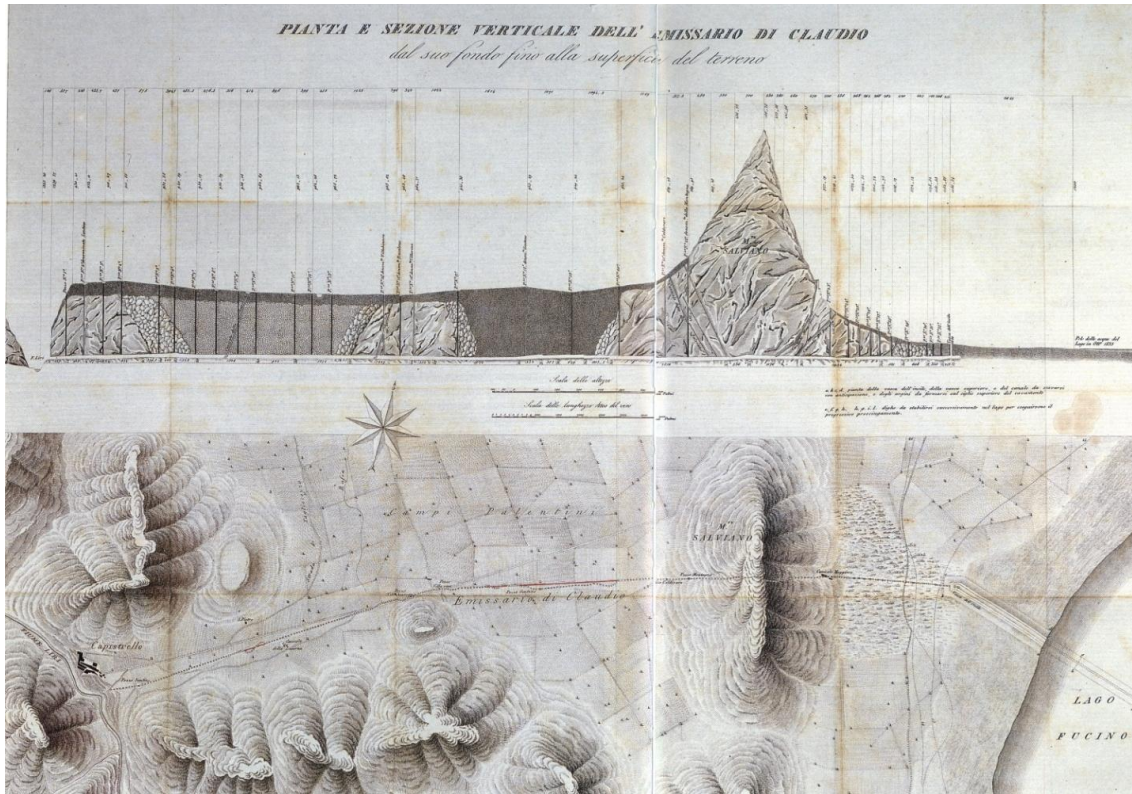
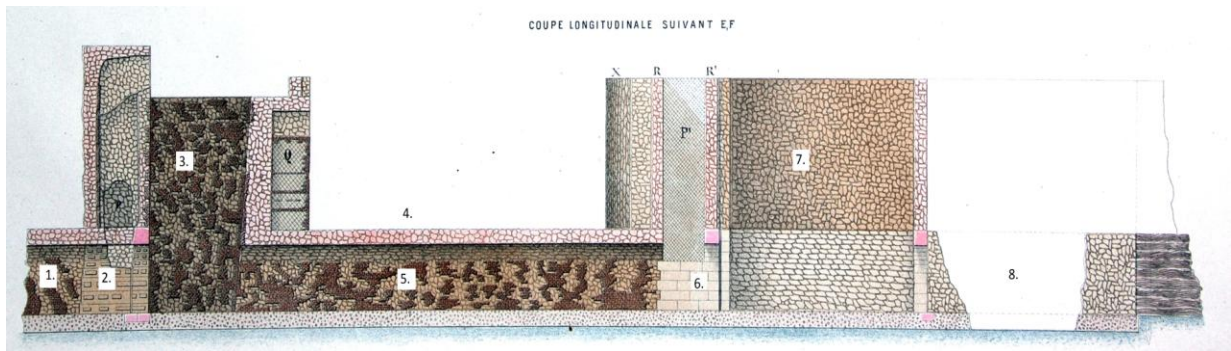


Figure 4.18 Fucine drainage tunnel (Brisse and DeRotrou 1883, based on Afan De Rivera)



1. Entrance to drainage tunnel
2. Monumentalized masonry in rusticated style
3. Trapezoidal basin
4. Hexagonal basin (replaced by 5.)
5. Channel
6. Sluice
7. Triangular ante-basin enlarged into oval basin in second phase
8. Intake channel from lake

Fig. 4.19 The intake structures of the emissary (Based on Brisse 1883 Plate VI (lower figure), labels based on D'Amato 1980, fig. 5, p. 45)

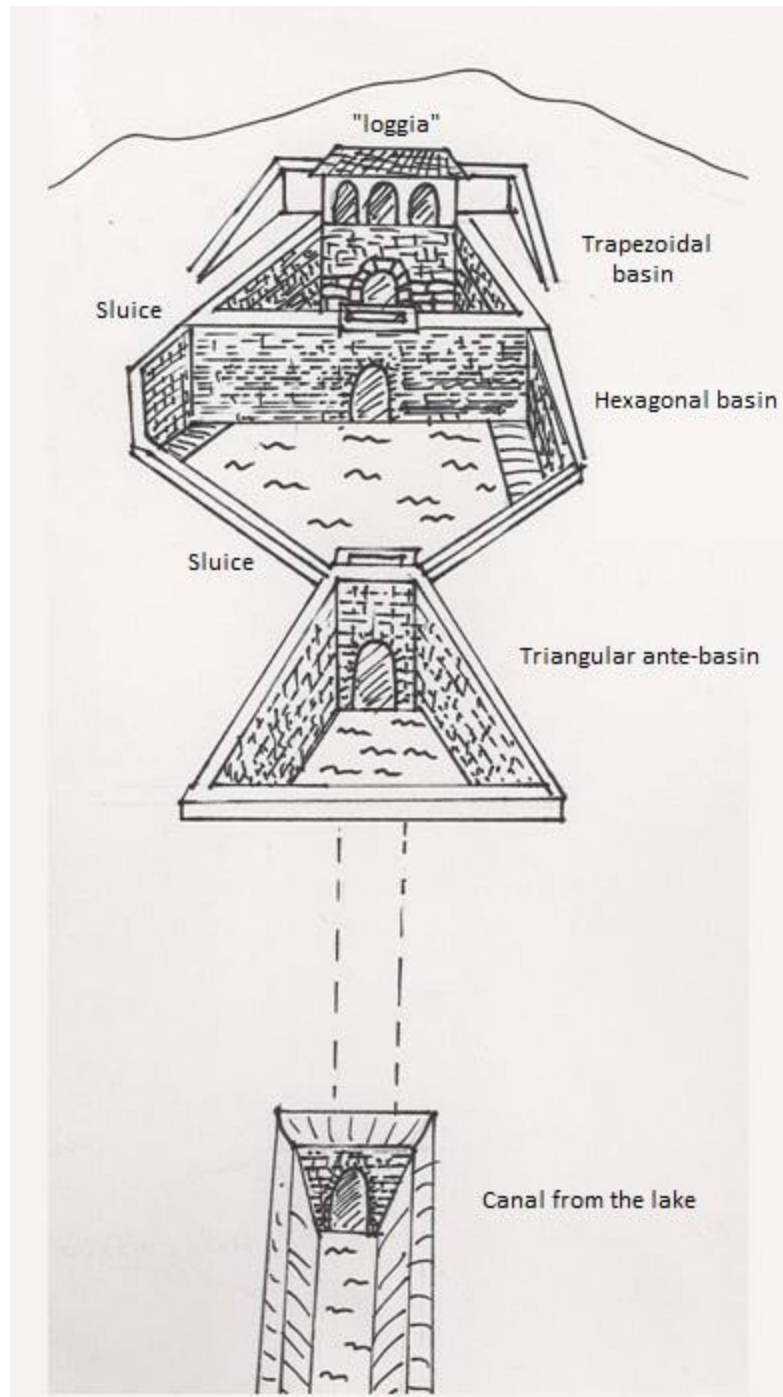


Figure 4.20 Fucine intake structures seen from above ground. This view shows the first phase with the hexagonal basin that later went out of use. (drawing by J. L. Lardi 2014)

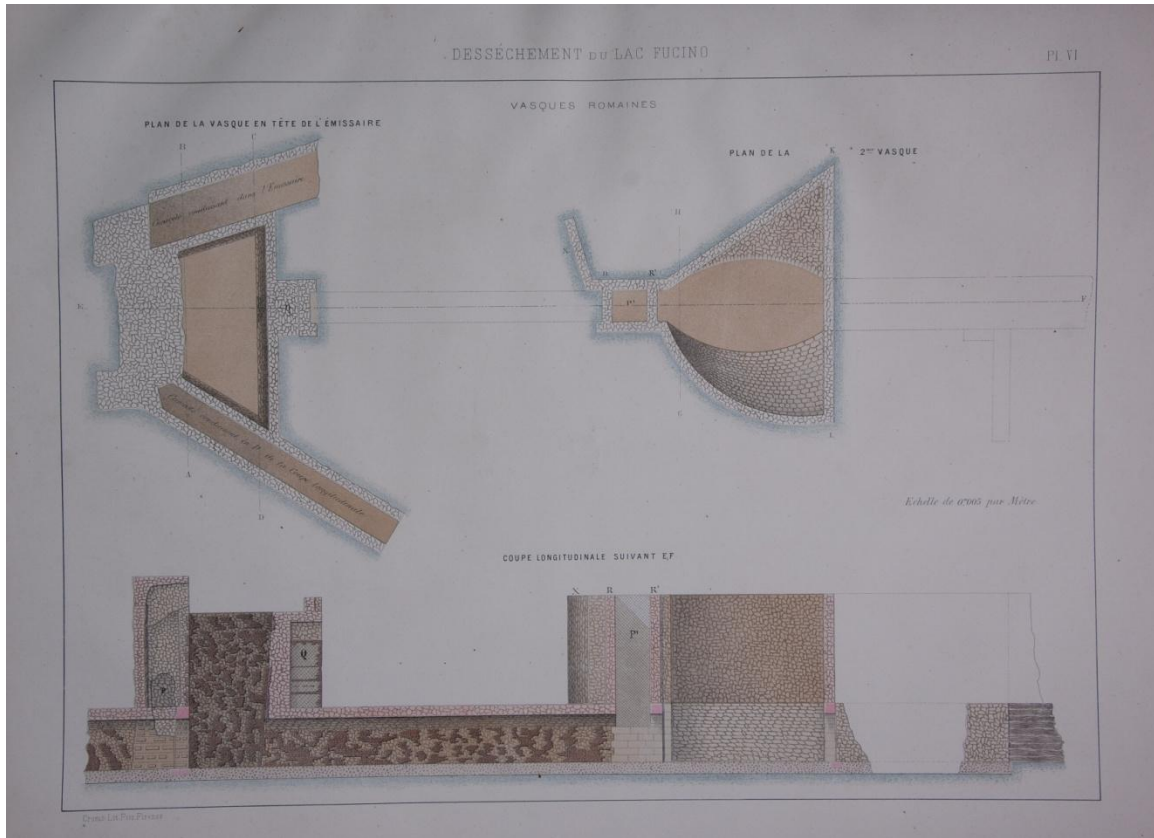


Figure 4.21 Fucine intake structures seen from above and the side. (Brisse and DeRotrou 1883 plate VI, based on Afan De Rivera)



Figure 4.22 Fucine tunnel exit at Liris showing some of the ancient remains (Burri and Castellani 1994, fig. 255)

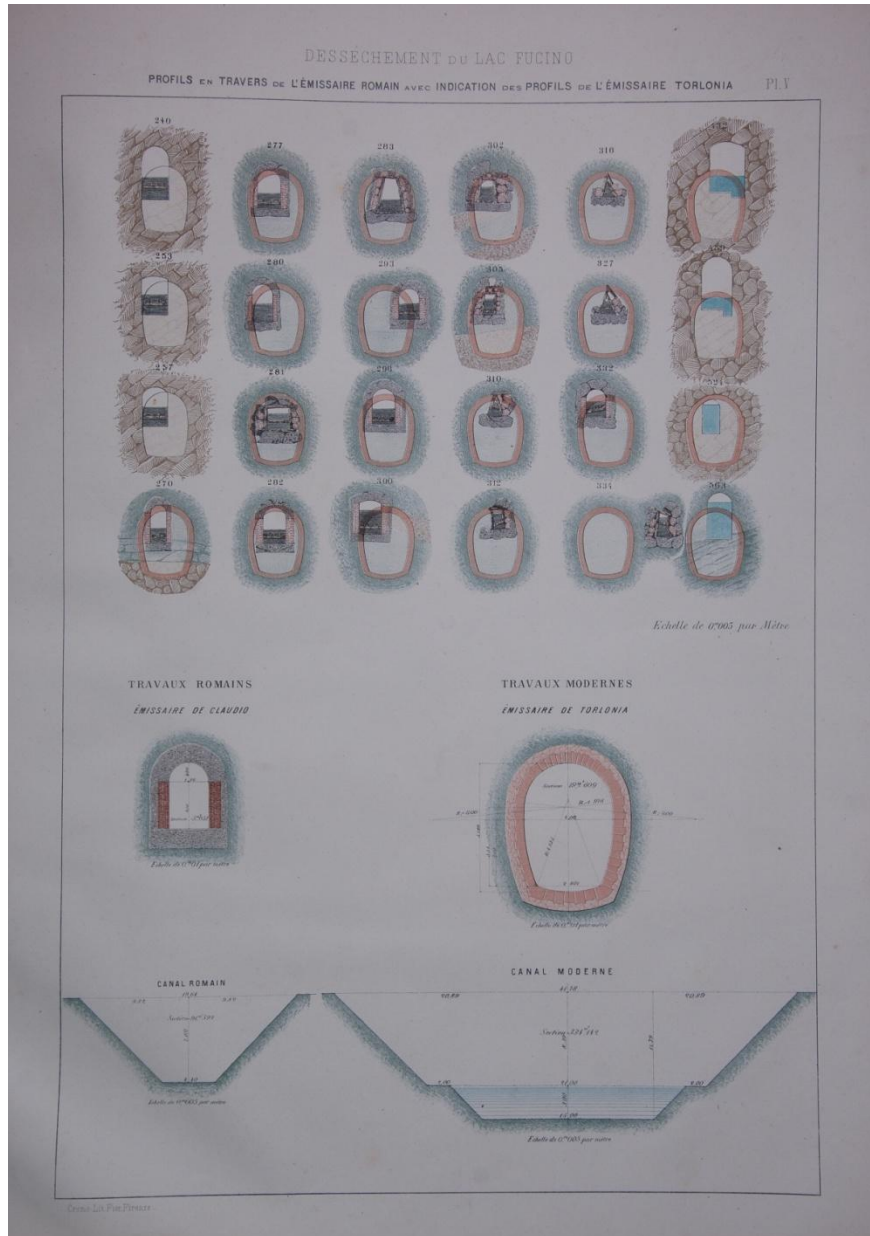


Figure 4.23 Cross-sections of Birsse's tunnel showing how they utilized Claudius' tunnel, and comparison in size and depth of ancient and modern tunnel (Brisse and DeRotrou 1883, Plate I)

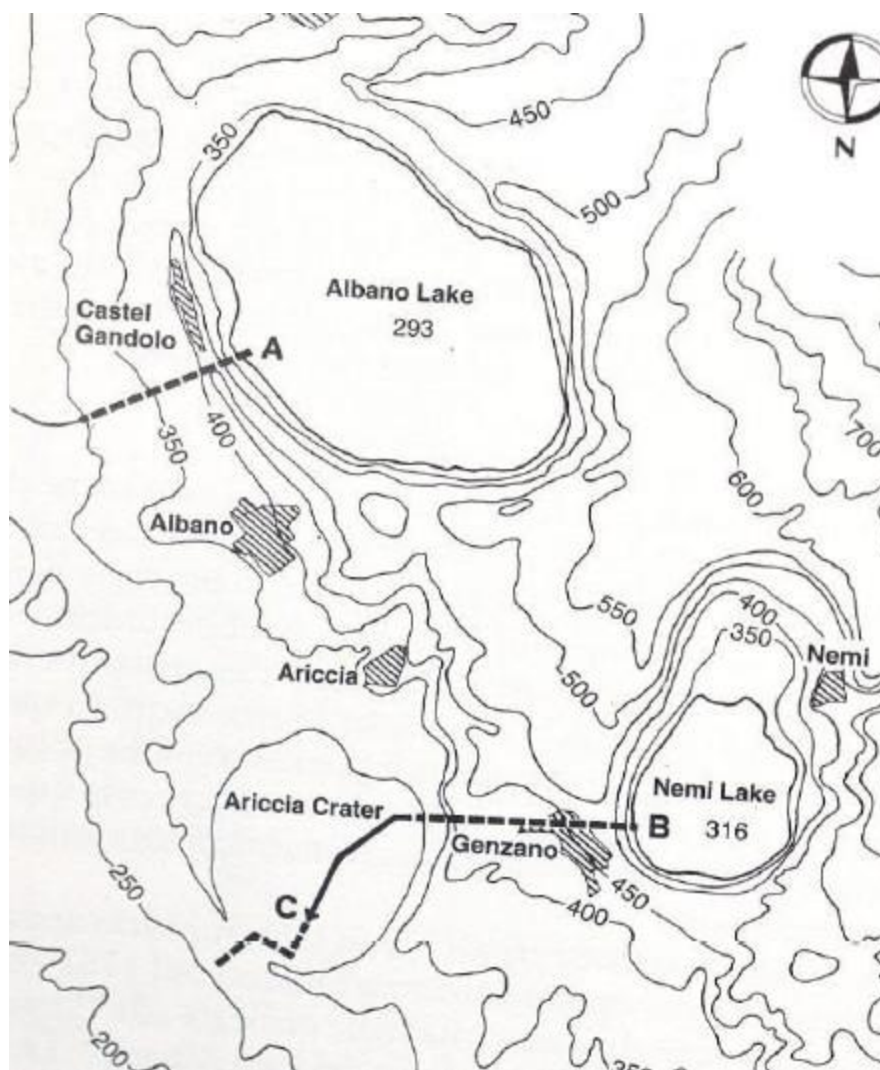


Figure 4.24 Map showing Lakes Albano, Nemi and Ariccia with the approximate course of their drainage tunnels. (Fig.3, p. 46, Castellani and Dragoni 1991a)

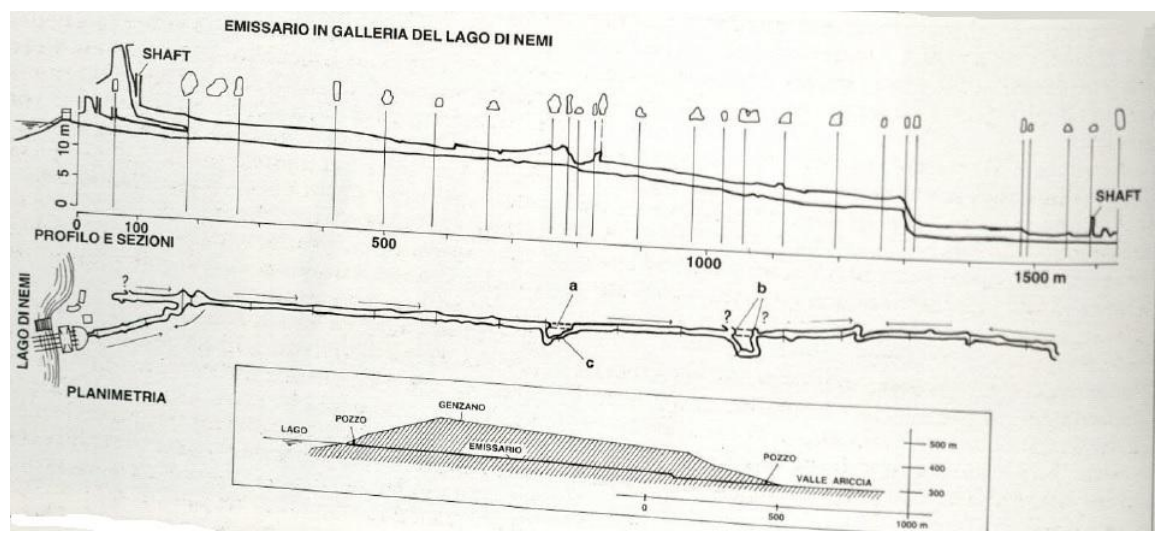
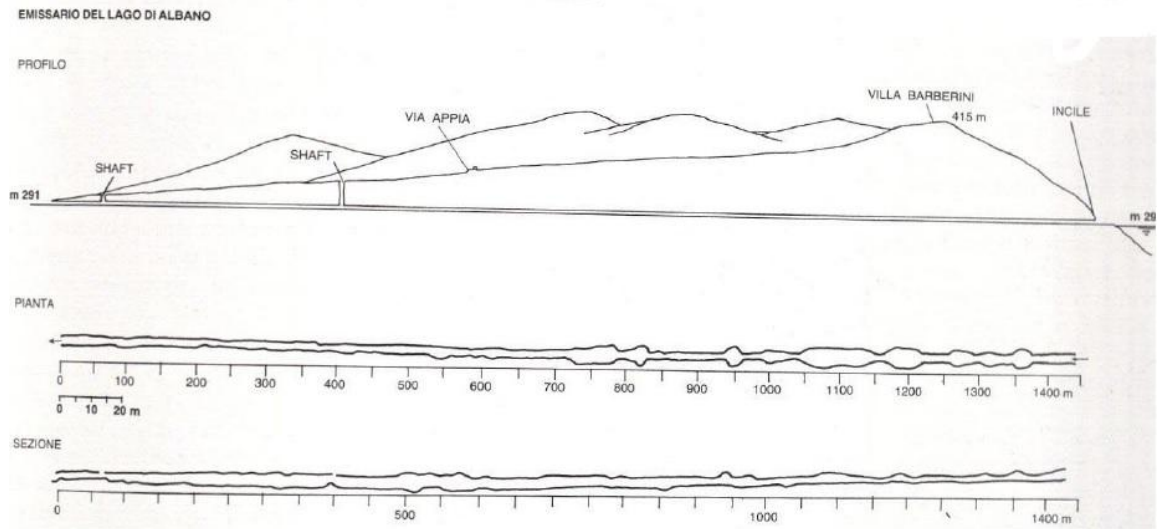


Figure 4.25 Lake Albano drainage tunnel and Lake Nemi drainage tunnel

(Fig.4, p. 47, Castellani and Dragoni 1991a)(Fig.10, p. 50, Castellani and Dragoni 1991a)

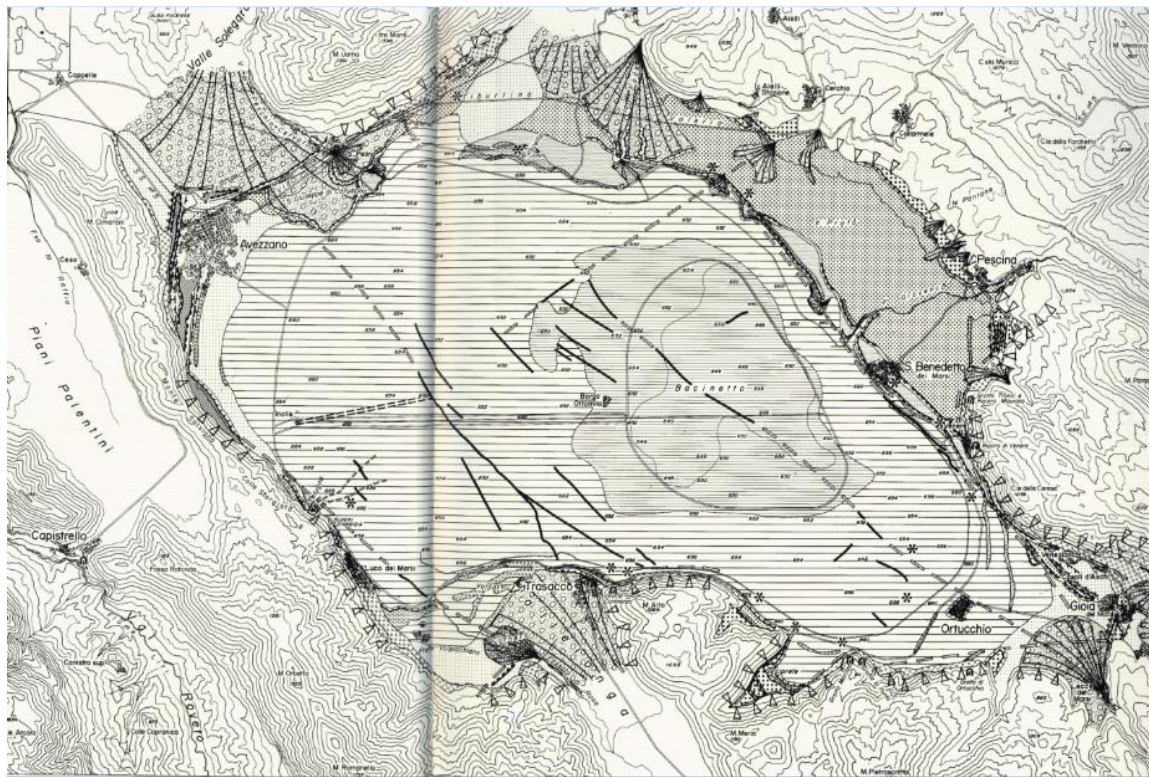



Figure 4.26  The wider spaced lines show the expanse of lake before drainage. The lake surface was substantially reduced by the Claudian Fucine emissary, as shown by the finer lines. (Fig. 6, Giraudi)

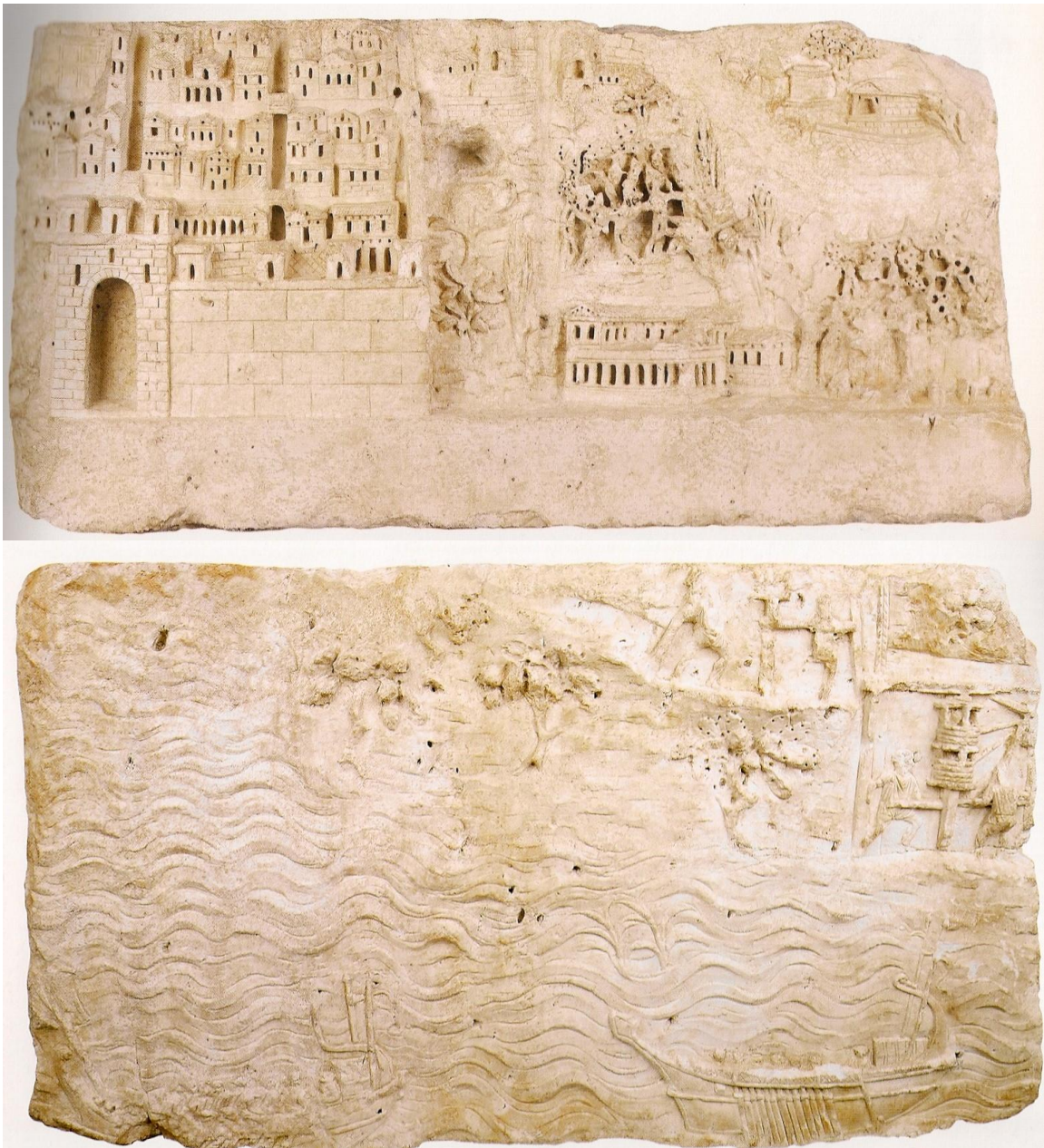


Figure 4.27 Torlonia Landscape relief, above the city, below the lake with boats and workers in the top right corner. (Figs. 1 and 2, Facenna 2001)



Figure 4.28 Detail of Torlonia relief showing workmen and capstans (Photo by permission O'Neill, 2012)

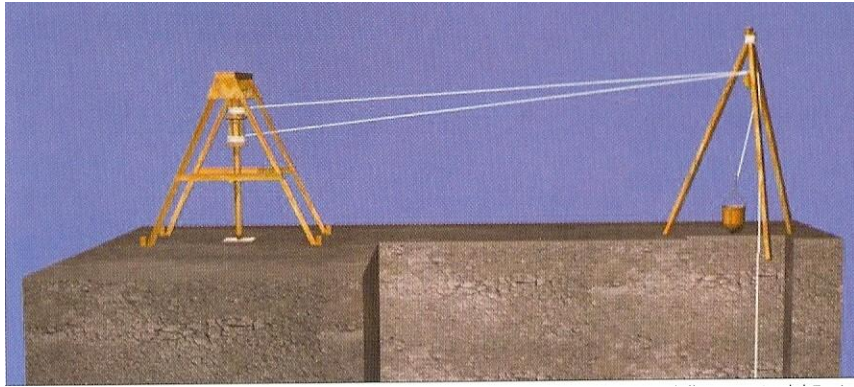


Figure 4.29 Reconstruction of the capstan cranes (Fig. 2, Giuliani 2001)



Figure 4.30 Detail of Torlonia relief showing boat on the lake (Photo by permission O'Neill, 2012)

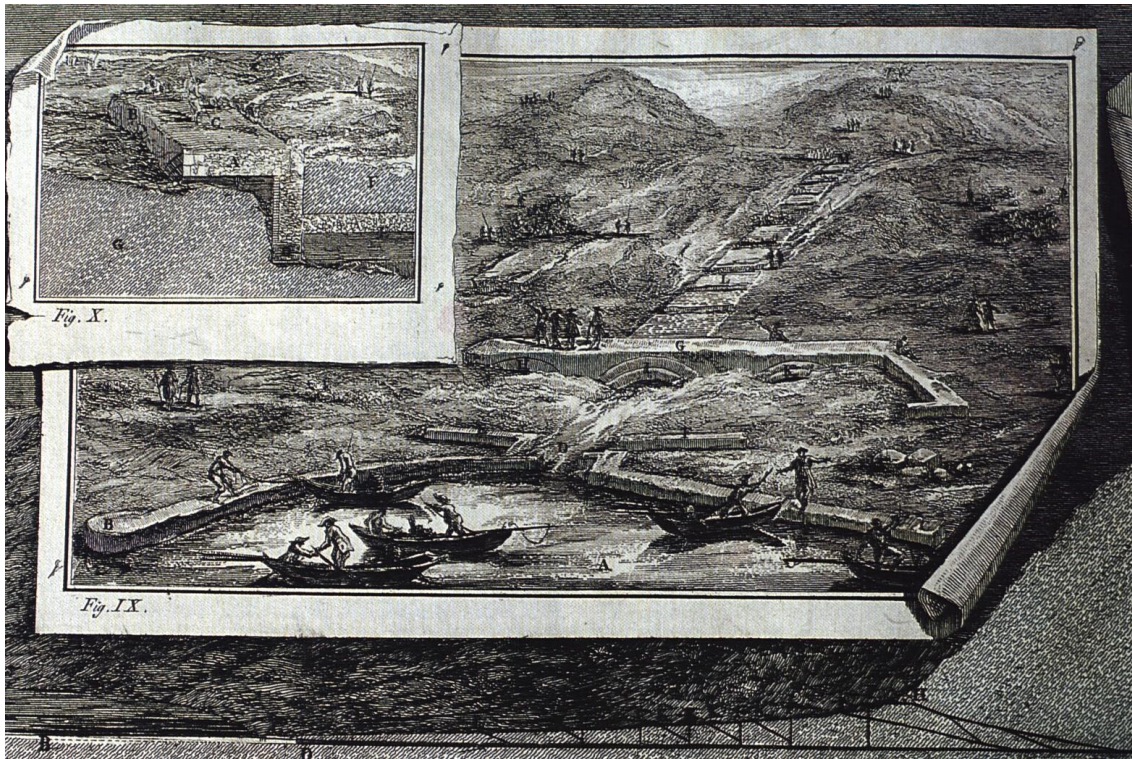


Figure 4.31 Detail of Piranesi's view of the Fucine Emissary, compare to figs. 4.20 and 4.24.
 (Fig.19, Matiocco 1994)

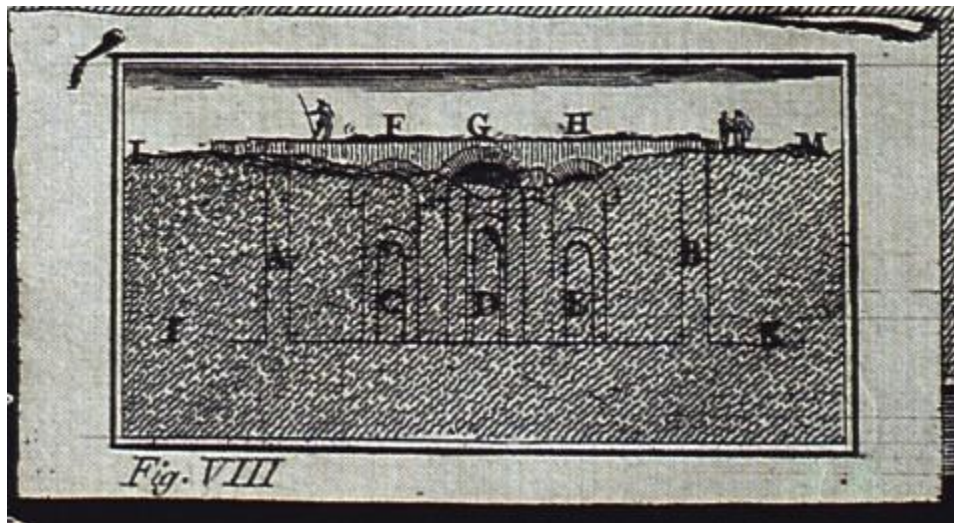


Figure 4.32 Detail of Piranesi's view of the Fucine Emissary showing his proposed (incorrect) reconstruction. (Fig.19, Matiocco 1994)



Figure 4.33 The Albano Emissary, vault leading into tunnel (Photo B. Robinson, with permission)



Figure 4.34 Detail from G.B. Piranesi's *Descrizione e Disegno dell'Emissario del Lago Albano*

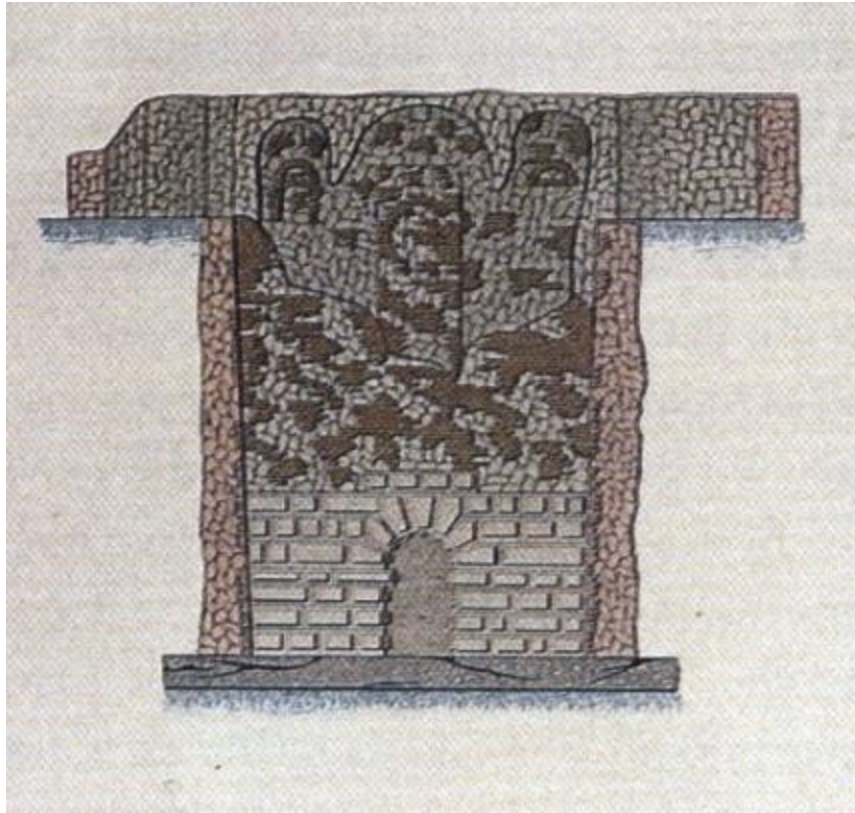


Figure 4.35 Brisse's view of the Fucine tunnel entrance. Based on Afan De Rivera. (Brisse and De Rotrou 1883, detail of Plate XX)



Figure 4.36 Entrance to the tunnel at Castel Gandolfo by Robert Adam (Clerk of Penicuik Collection) (Plate 4b, Tait 1984)

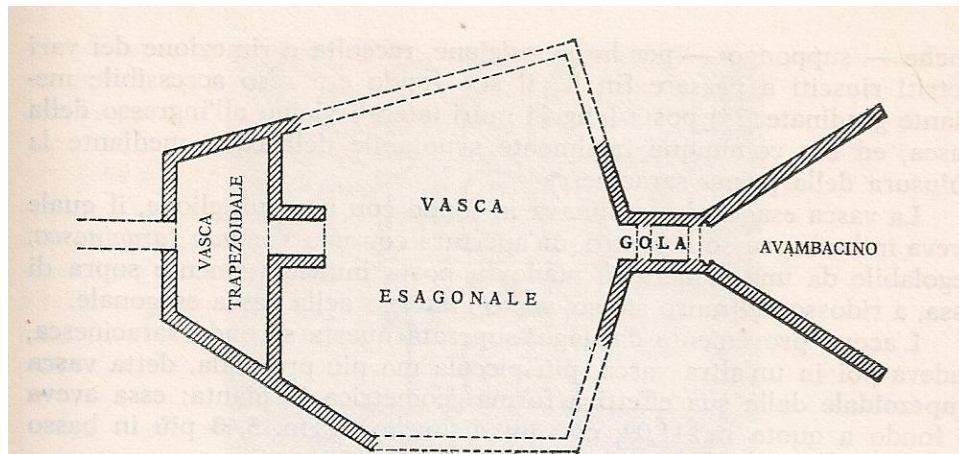


Fig. 6 - Incile romano, secondo il progetto di Claudio: pianta schematica.

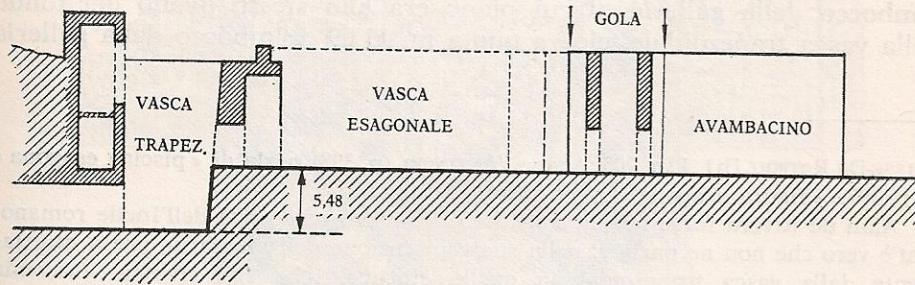


Fig. 7 - Incile romano, secondo il progetto di Claudio: sezione longitudinale.

Figure 4.37 Projected initial phase of the Fucine intake structures. (Figs 6 and 7, D. Amato 1980)

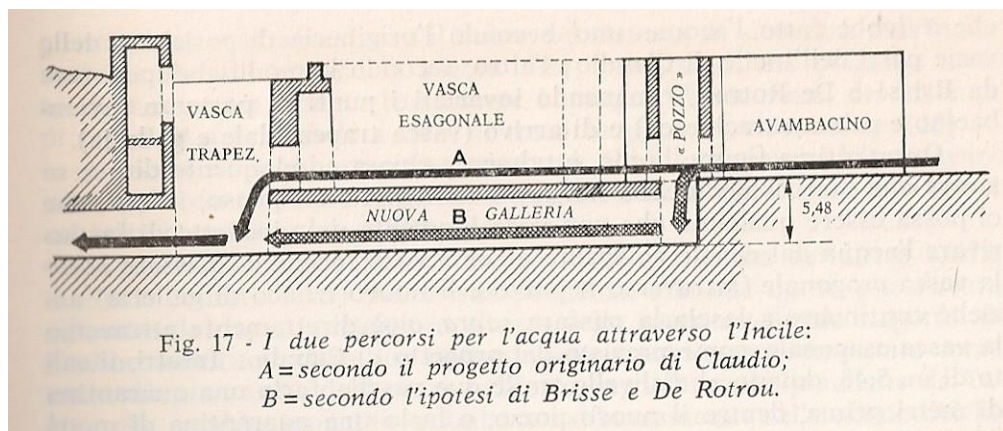


Fig. 17 - I due percorsi per l'acqua attraverso l'incile:
 A=secondo il progetto originario di Claudio;
 B=secondo l'ipotesi di Brisse e De Rotrou.

Figure 4.38 Projected initial phase of the Fucine intake structures (black arrow A) with second phase added (hatched arrow B)(Fig.17, D. Amato 1980)

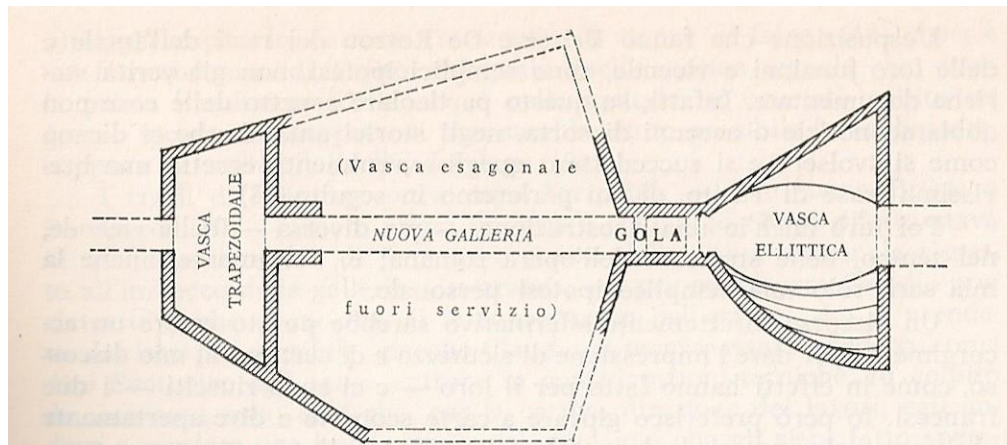


Fig. 14 - Incile romano, dopo i lavori di Adriano: pianta schematica.

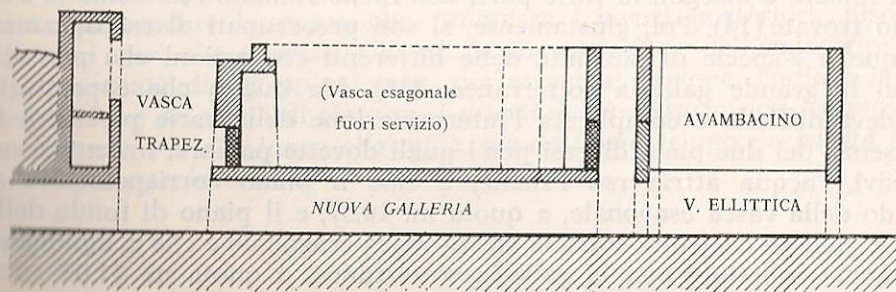


Fig. 15 - Incile romano, dopo i lavori di Adriano: sezione longitudinale.

Figure 4.39 Fucine intake structures after Hadrianic repairs (Figs.14 and 15, D'Amato 1980)

Figures Chapter 5

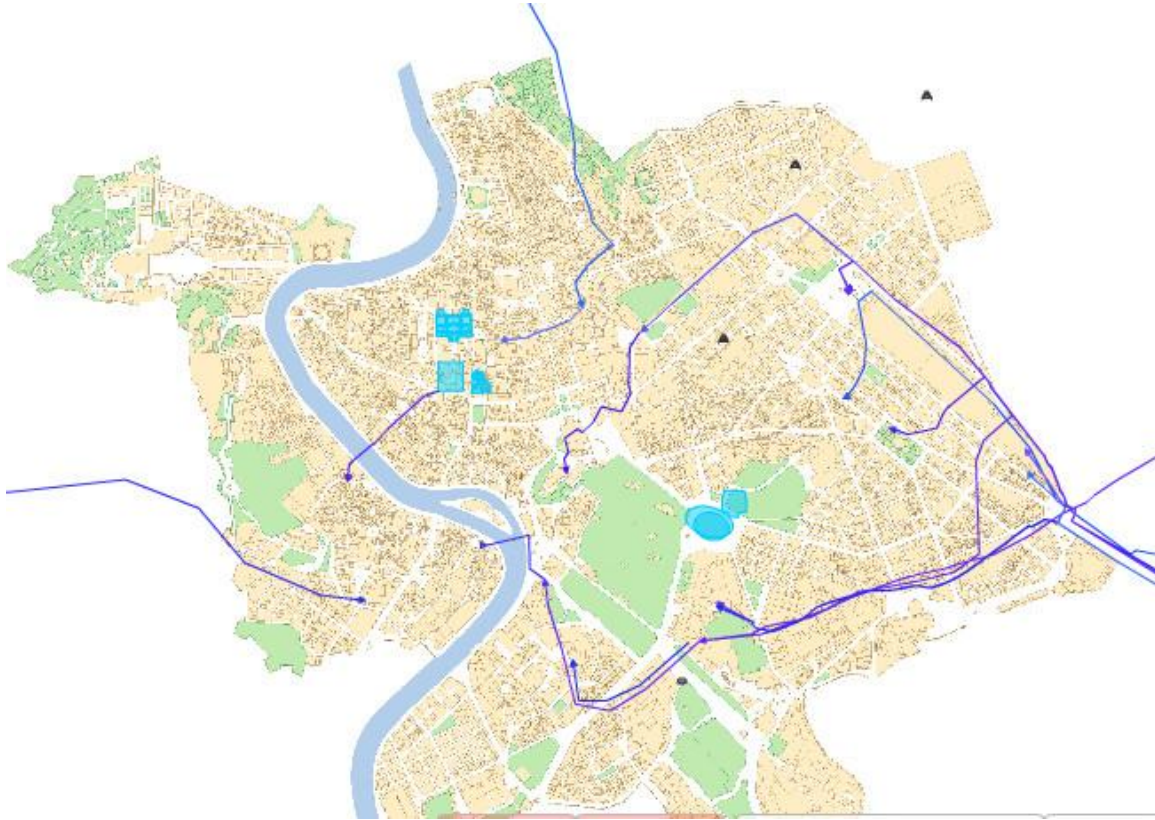
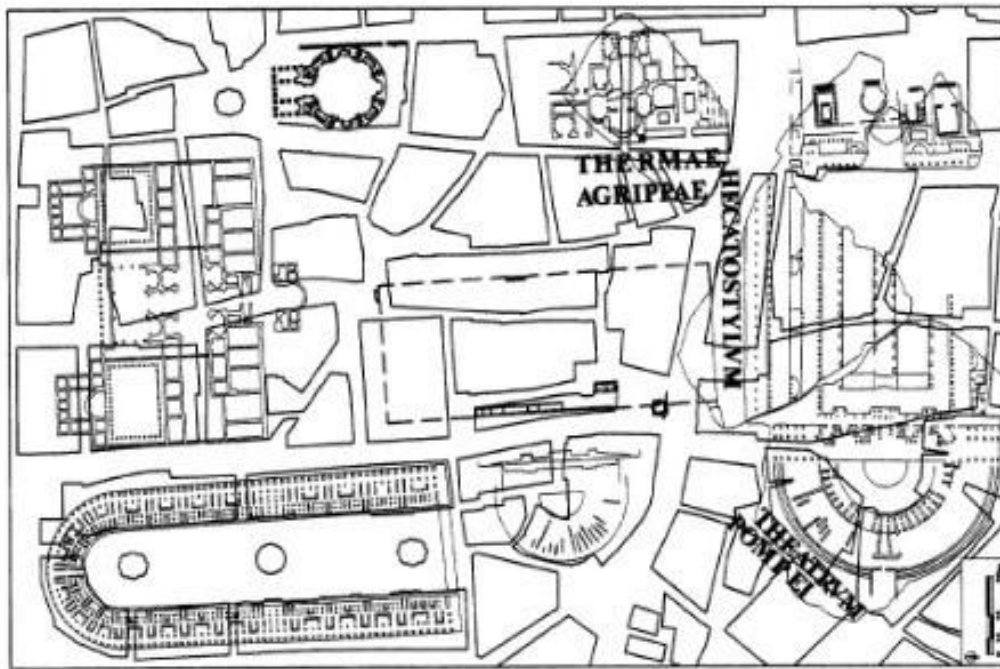


Figure 5.1 Water features under Nero, the view also includes the Baths of Agrippa and all aqueduct lines up to and including the Arcus Caelimontani, map created using <http://www3.iath.virginia.edu/waters/timeline/index.html>



Ricostruzione topografica dell'area dello stagno di Agrippa

Figure 5.2 The Baths of Nero in context. Note location of the Stagnum Agrippae and Thermae Agrippae (Plate XII, Scaroina 2006)

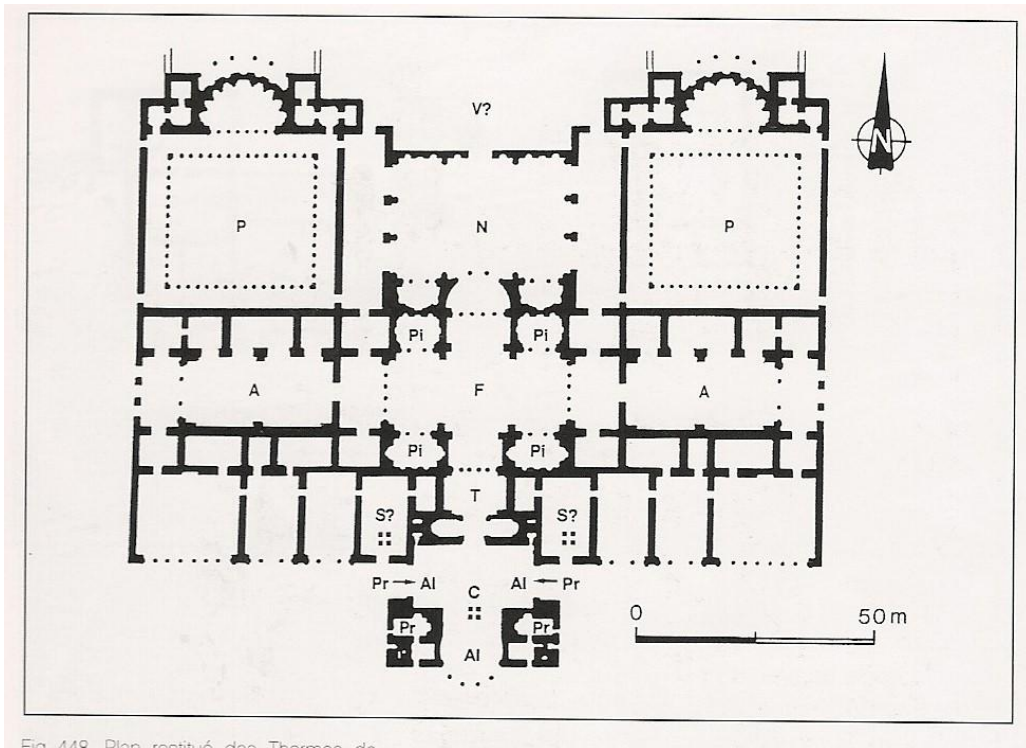


Fig. 448. Plan restitué des Thermes de

Figure 5.3 Baths of Nero, plan (Fig. 449, Gros 1996, based on Krencker and Palladio)

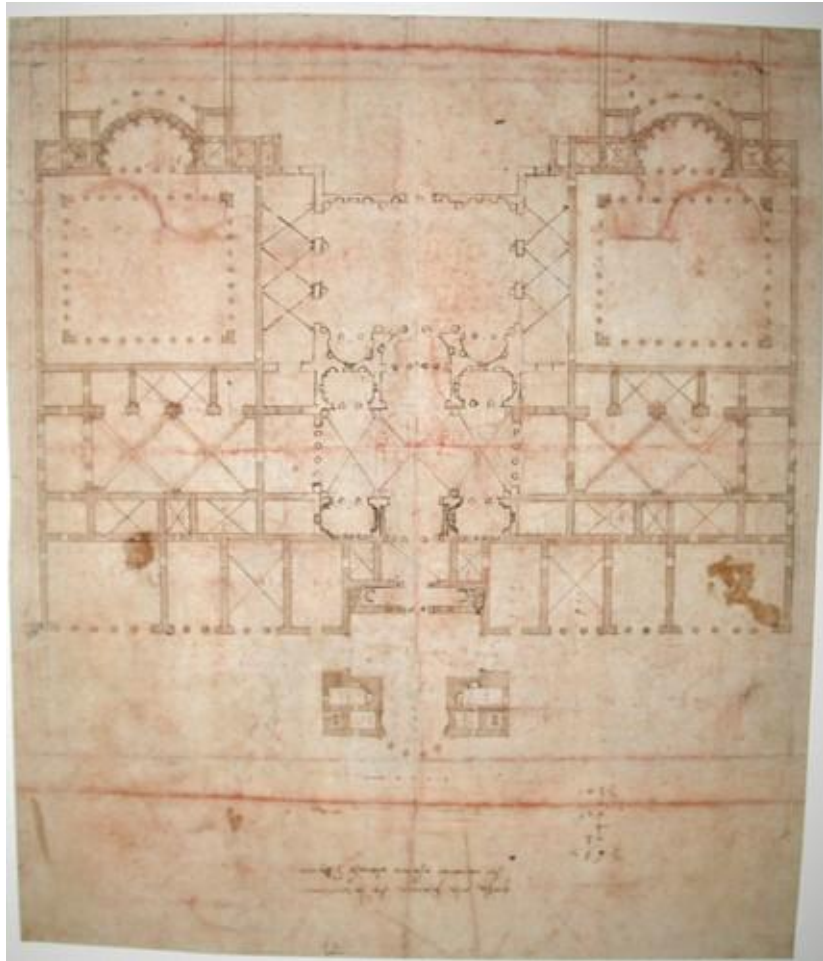


Figure 5.4 Palladio's drawing of the Baths of Nero (RIBA Library Drawings Collection)

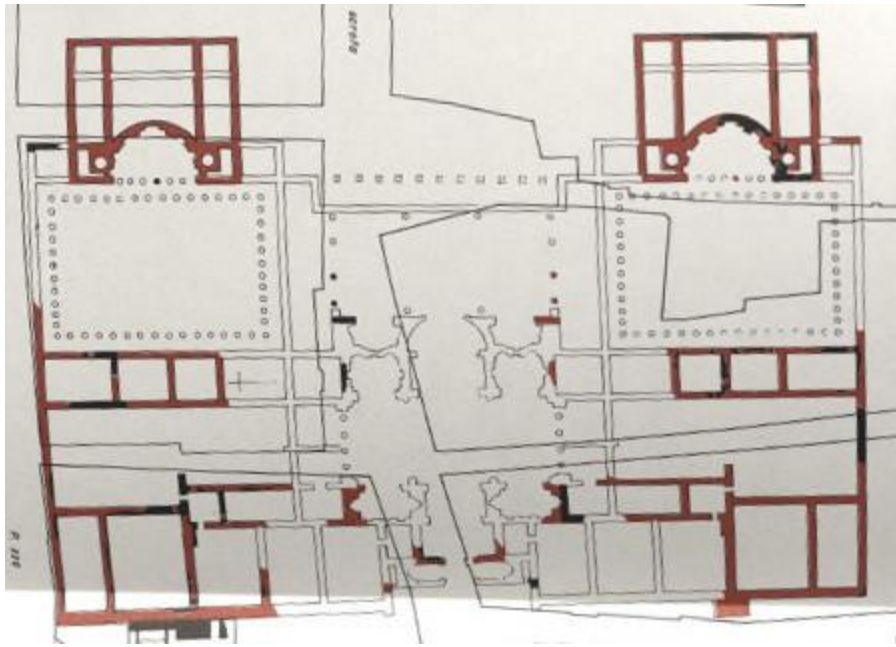


Figure 5.5 The results of Ghini's survey showing the correspondence (in red) between actual remains and Palladio's work. (p.139, Ghini 1988)

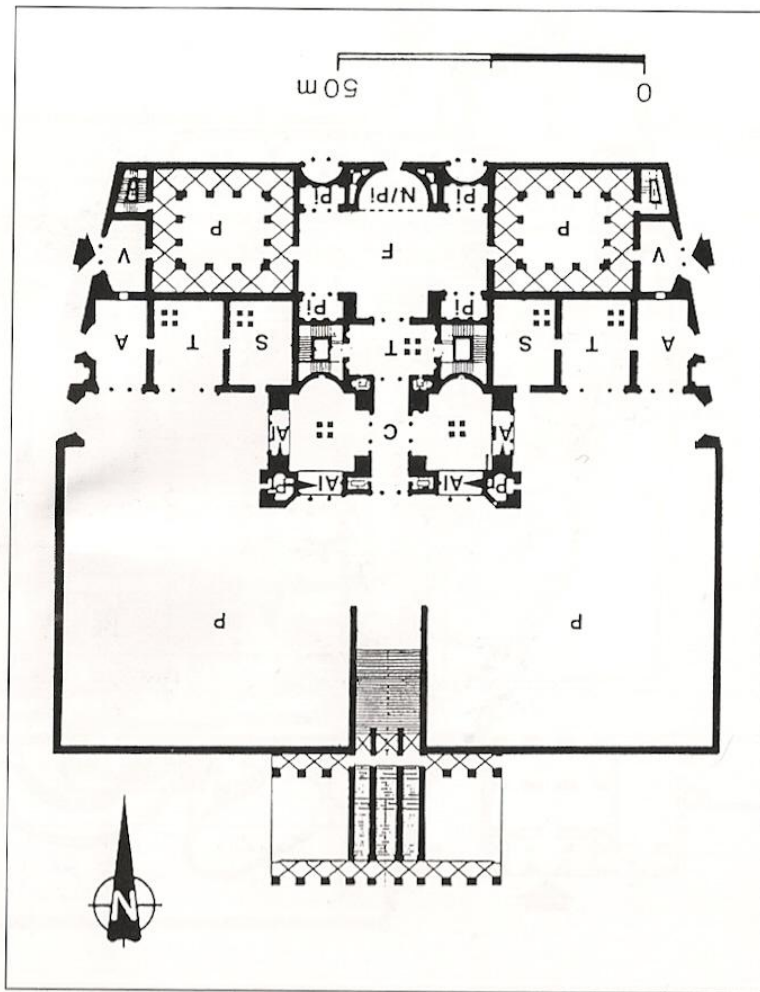


Figure 5.6 The Baths of Titus (fig. 450, Gros 1996, based on Krencker and rotated to match orientation of Baths of Nero plan)

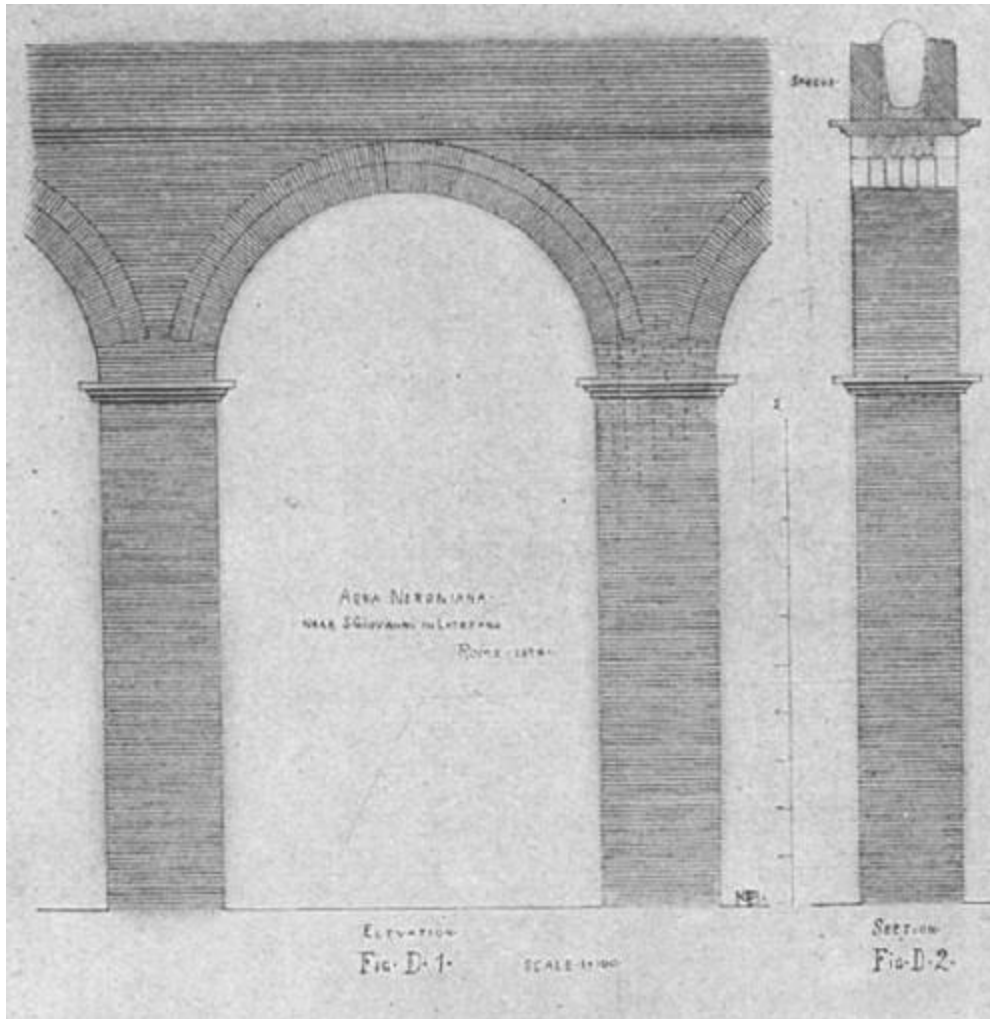


Figure 5.7 H. Butler's drawing of the Arcus Caelimontani and its proportions (fig.D, Butler 1901)



Figure 5.8 Some modern day remains of the Arcus Caelimontani near Piazza S. Giovanni in Laterano (Photo J.L. Lardi 2009)



Figure 5.9 Detail of 5.8 (Photo J.L. Lardi 2009)



Figure 5.10 Piranesi print from *l'antichità Romane* showing the Arcus Caelimontani

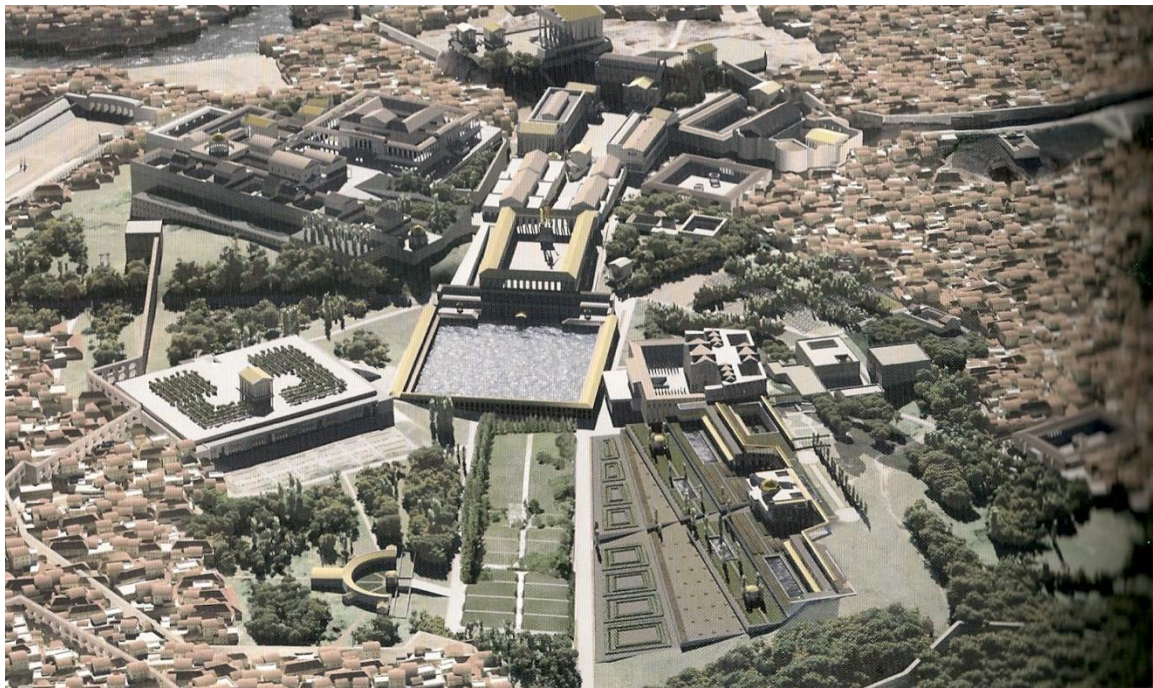
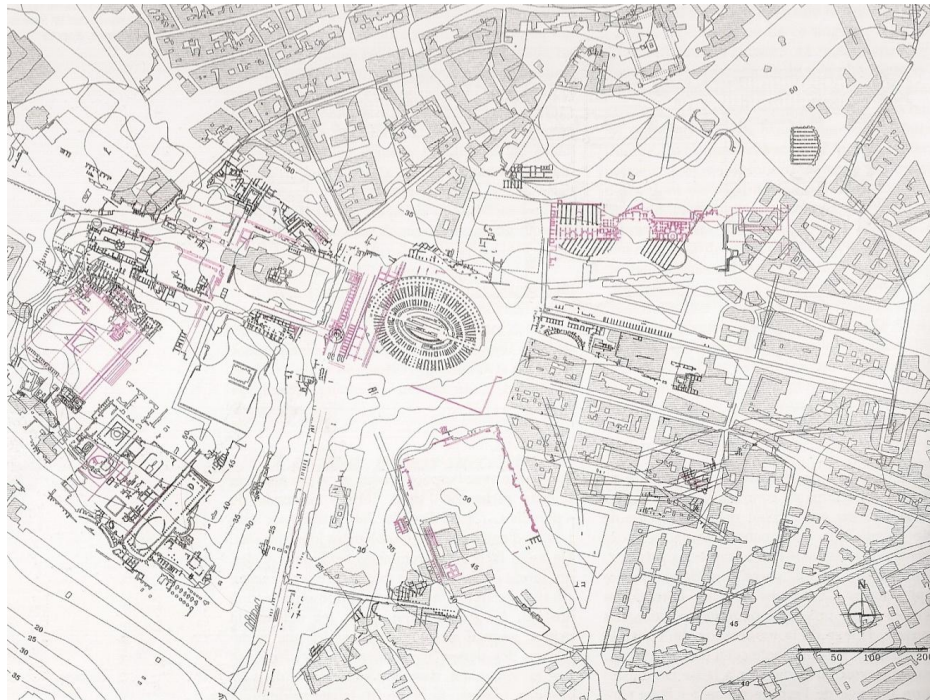


Figure 5.11 The Domus Aurea grounds plan of archaeological remains and reconstructed view

(fig 271, Gros 1996, after Panella; fig 2, p. 158, Tomei 2011)

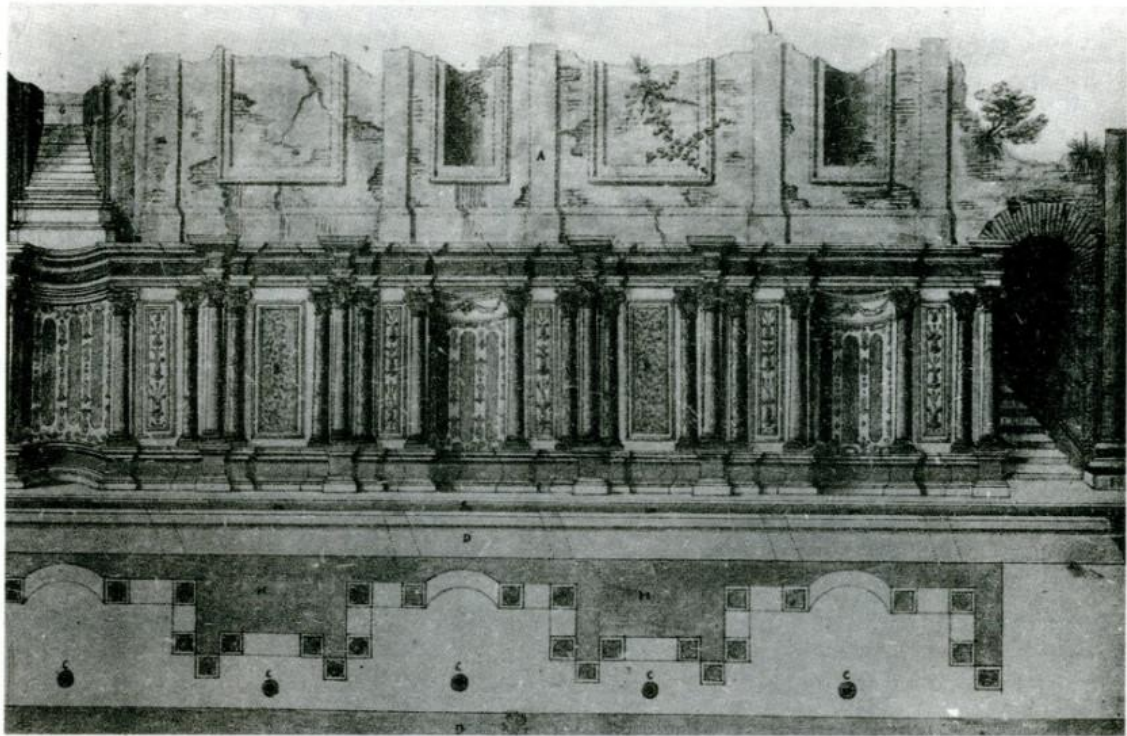


Figure 5.12 Cross-section and decoration of the “Bagni di Livia” (LTUR IV, fig 64)

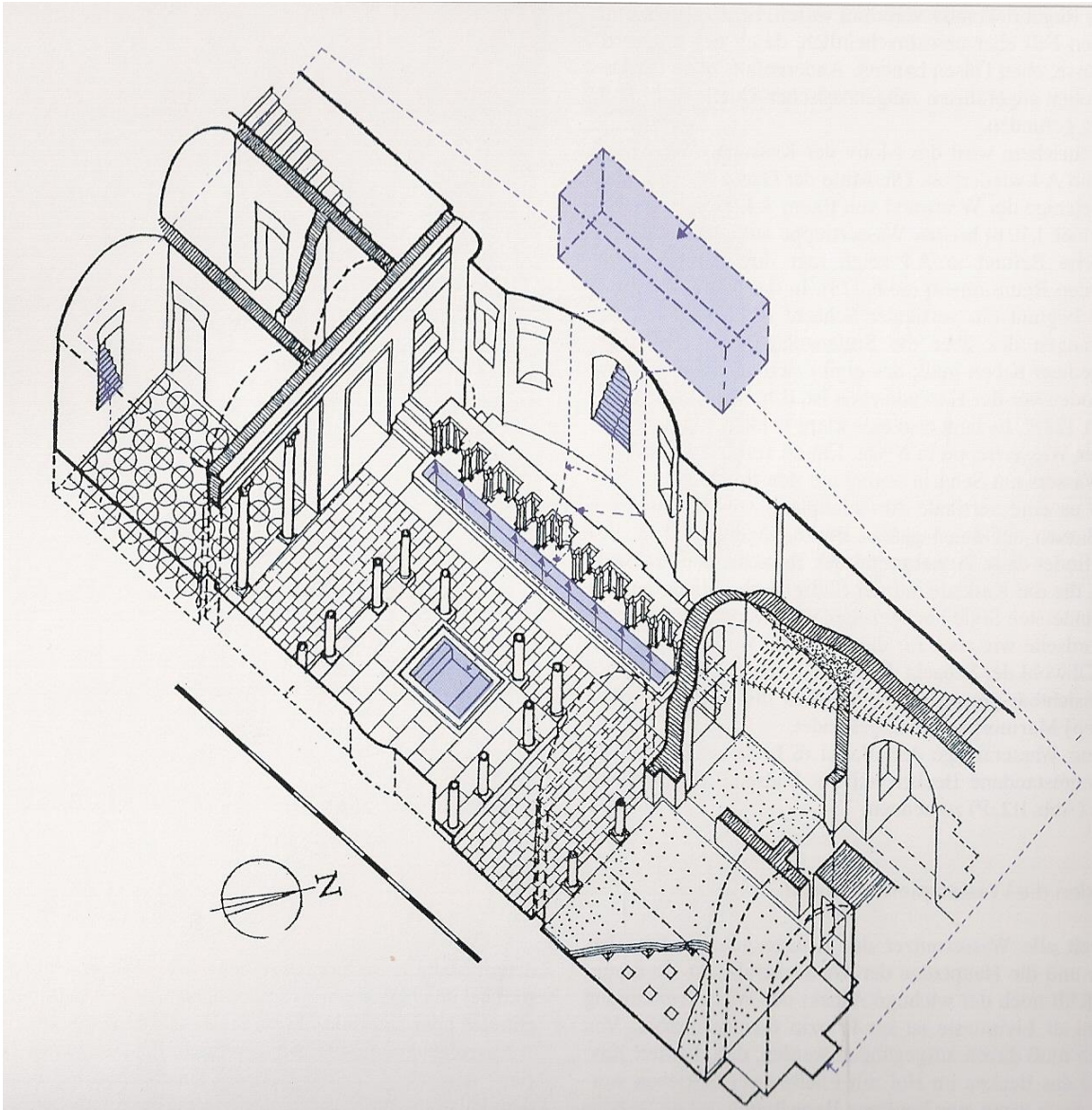


Figure 5.13 Reconstruction of the water features in the so-called 'Bagni di Livia' (fig. 124, Manderscheid 2004)

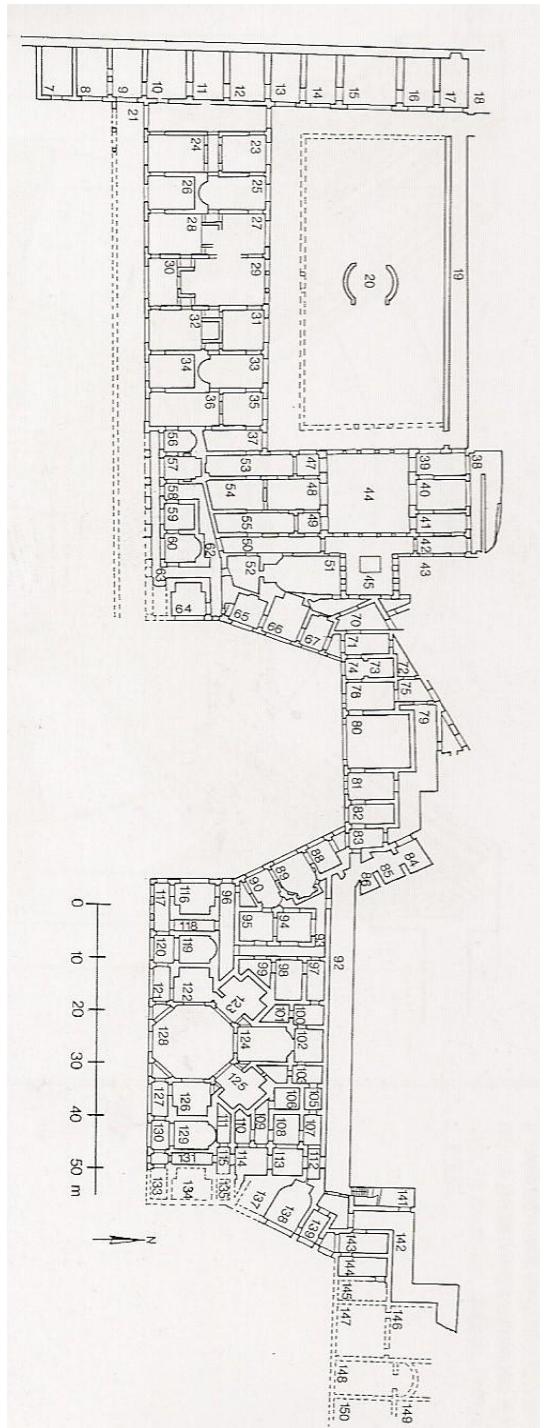


Figure 5.14 The Esquiline wing of the Domus Aurea

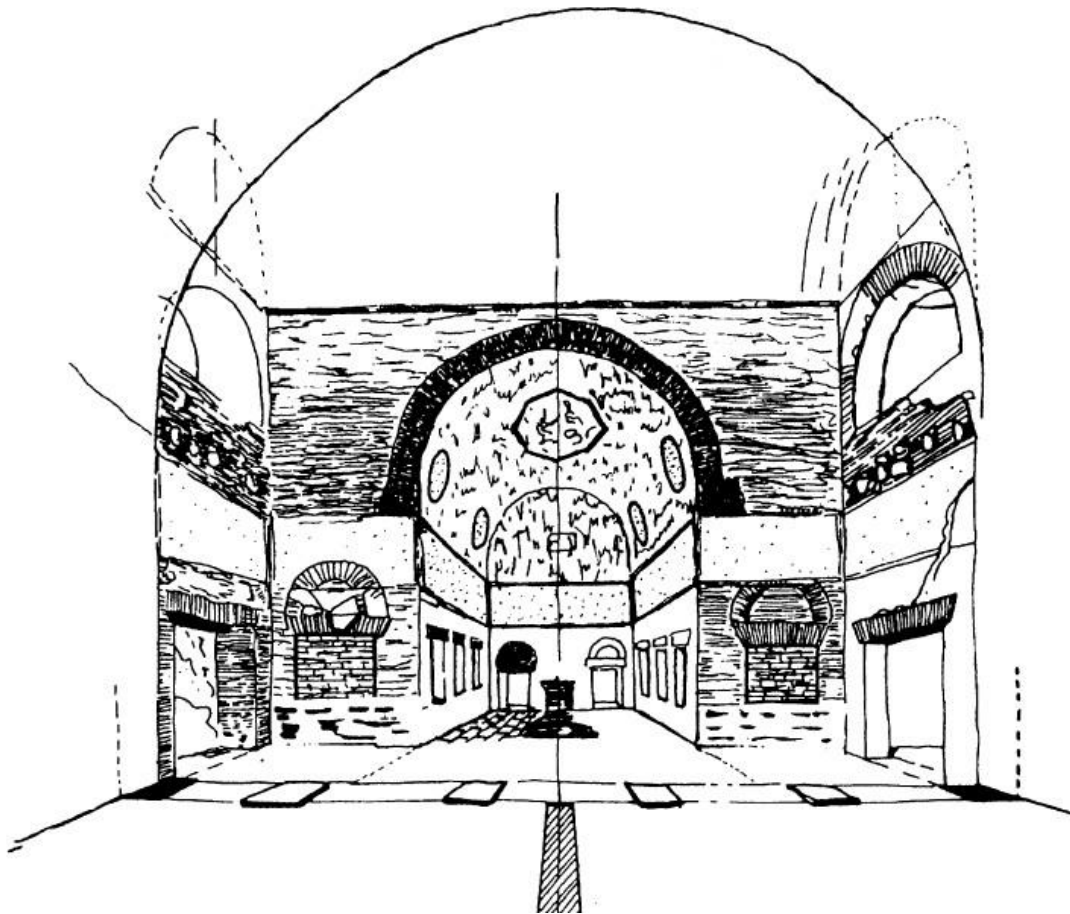


Figure 5.15 Reconstruction of the Domus Aurea Nymphaeum suite (rooms 40-51 on figure 5.16)
(fig. 4, Carey 2002 , based on Zander)

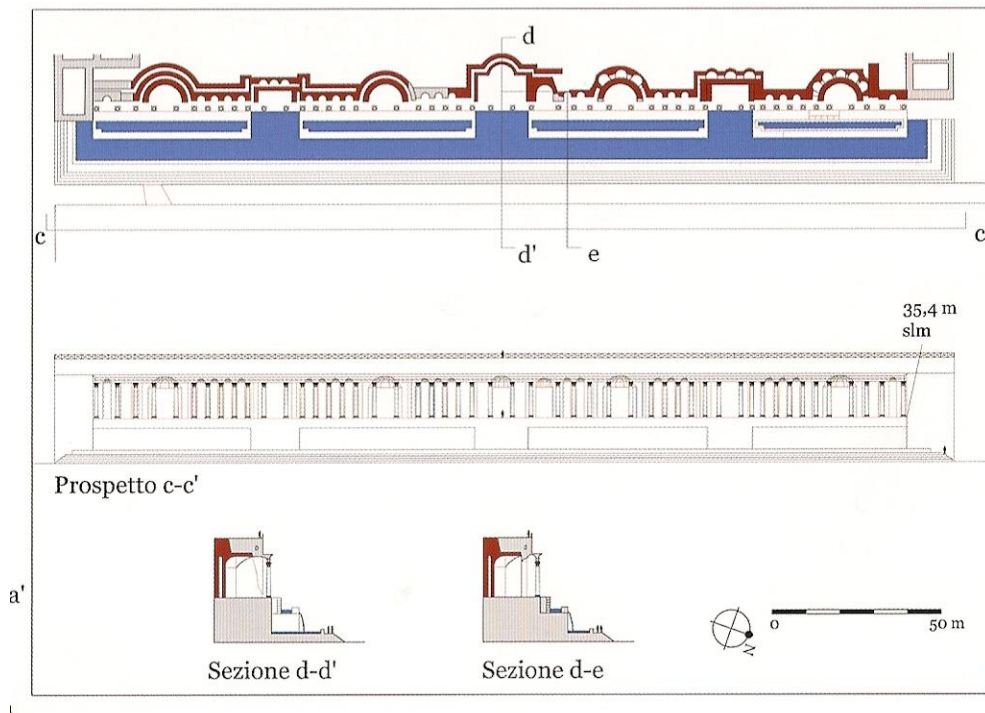


Figure 5.16 Celian Nymphaeum (fig.180, Tomei 2011)



Figure 5.17 Large rounded niche of the Celian Nymphaeum (photo J.L. Lardi 2008)



Figure 5.18 Part of the articulated façade of the Celian Nymphaeum (photo J.L. Lardi 2008)



Figure 5.19 Close up of 5.18 (photo J.L. Lardi 2008)



Figure 5.20 Piranesi Ninfeo di Nerone from *Antichità Romane*

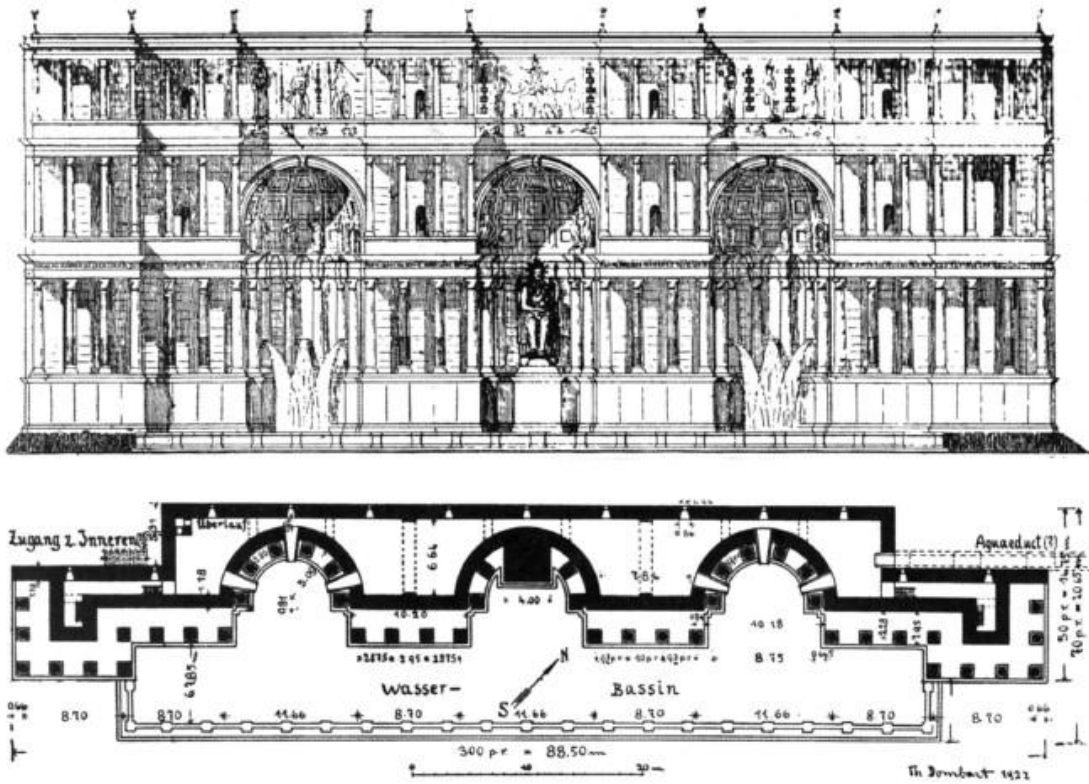


Fig. 5. Dombart's reconstruction, with ground plan. (After Dombart 1922, frontispiece)

Figure 5.21 Dombart's reconstruction of the Septizodium (fig. 5, Lusnia 2004 after Dombart)

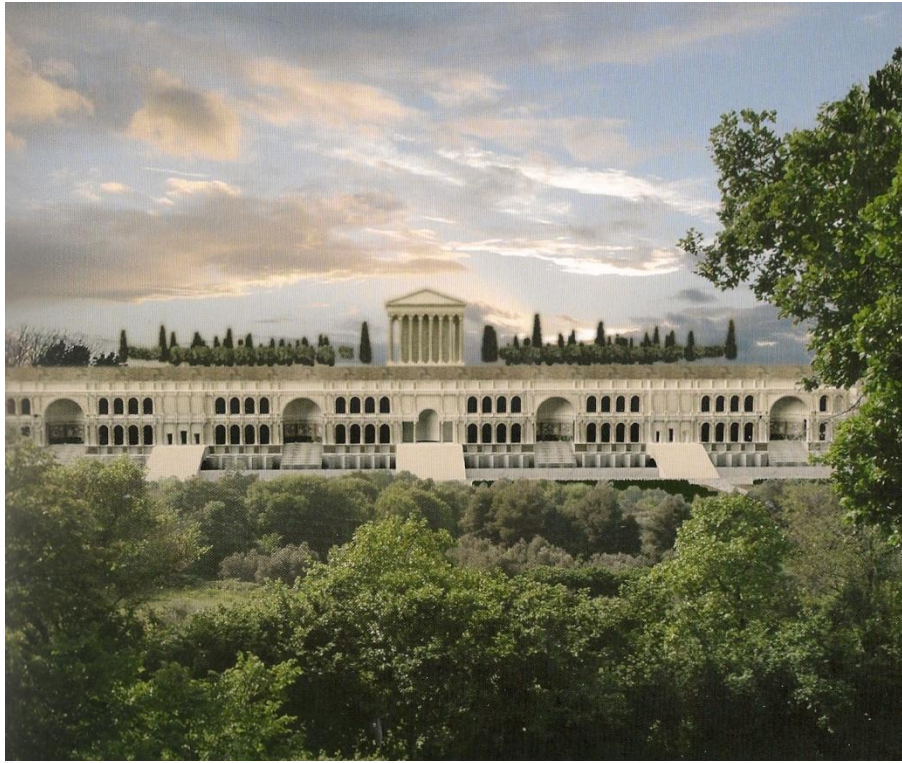


Fig. 5.22 Reconstruction of the Celian Nymphaeum (Fig. 5, p. 150, Tomei 2011)

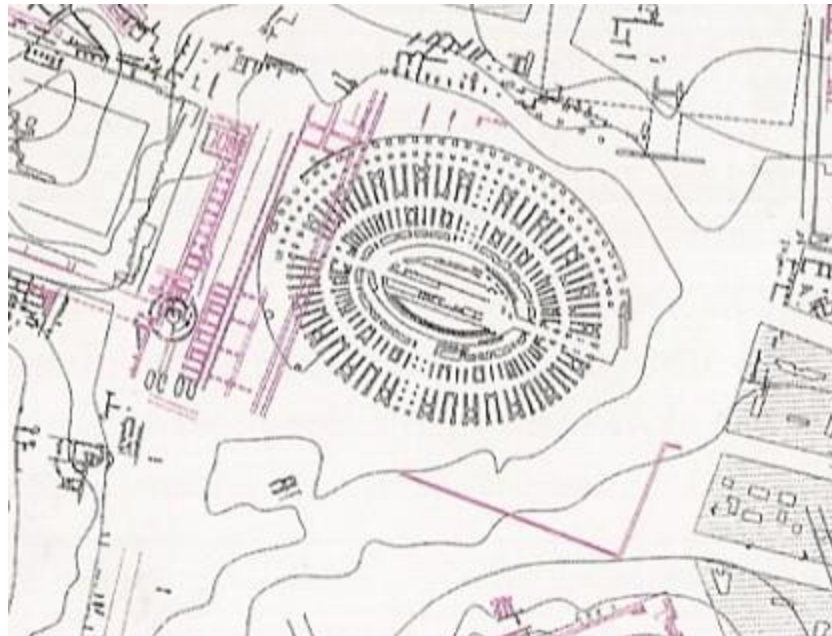


Figure 5.23 Shown in red are the excavated remains of the stagnum Neronis and associated architecture. (detail from fig. 271, Gros 1996, after Panella)

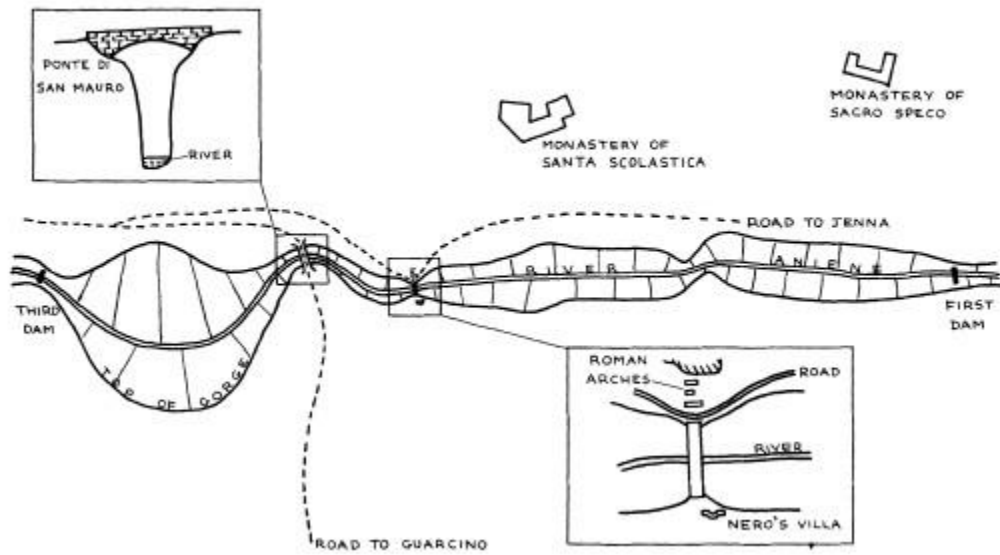


Figure 5.24 Schematic drawing of the dams and artificial lakes at Nero's villa in Subiaco (fig. 3, Smith 1970)



Figure 5.25 Painting in the Monastery of Saint Benedict showing the largest Subiaco dam, 1428 (fig. 2, Smith 1970)

Appendix I: How did aqueduct access influence water consumption among the elite? The example of the House of the Vestals and the House of Bronze Bull in Pompeii

The aqueducts certainly changed how Romans consumed and thought about water and Christer Bruun has raised some doubts as to how abundant a water supply the average inhabitant of Rome actually did have access to. Most inhabitants got their water from public fountains (and still used alternate sources such as wells, cisterns and springs if convenient). Only a small fraction of houses in a Roman city was directly connected to the water grid. The house owner would have to apply to city officials for a license and pay for the right to draw water. The grant included a strict specification on how much water the license holder was allowed to draw; the water supply granted to each individual was therefore not unlimited. In addition to these restrictions, the water supply available to private individuals was whatever amount was left over after public needs were met. According to Frontinus, water concessions of this nature were a great privilege only allotted to the highest elite.¹ The average person probably could not afford the license fee to begin with. Even in Imperial Rome during the reign of Trajan, when the city of Rome was supplied by ten different aqueducts, private access to water was not a regular occurrence and remained a great luxury for those who had it. Water rights were jealously guarded and a lavish display of water was therefore a great status symbol for a private individual; for a public figure such as an emperor it was not only an example of conspicuous consumption, but also of largesse because he was willing to share his abundance with the masses.

¹ Front. 94.6, Jones and Robinson 2005, 698-699, Koloski – Ostrow 2001, 1-9, Jansen 2001, 27-40.

Since Rome has been continuously inhabited since antiquity there are few well preserved examples of private houses. In Pompeii, however, preservation is much better and allows us to gain an idea of how patterns of water consumption changed in the town once it gained aqueduct access, and what effect the interruption to the aqueduct had on the choices people made as to decoration and water use. The Pompeian examples, although the city did not receive an aqueduct until centuries after Rome did, illustrate how the advent of the aqueduct radically changed how water was used, particularly in the select households that could afford a water license. The house of the Vestals in Pompeii illustrates the growing importance of water as a decorative element. It demonstrates how water could be consumed in an elite urban dwelling and illustrates just how vital a status symbol hydraulic displays were for the uppermost echelons of Roman society. Careful excavation of the house has revealed its entire water system and the changes in use and design it underwent between the late first century BCE and the destruction of the city in 79 CE. Key changes came to the house during Augustus' reign when Pompeii's new aqueduct brought not only larger quantities of water, but also pressurized pipes and all their potential for jets, sprays and other fountain forms.² Before the aqueduct was built, according to the excavators, "[...] water usage was strictly utilitarian, and there were no decorative water features prior to the arrival of pressurized water in the house at the end of the first century BC."³

² Jones and Robinson 2005, 695-697, Jansen, 2001, *passim*. Anderson. Ohlig in his 2001 book argued that Pompeii received its first aqueduct under Sulla. Duncan Keenan-Jones concludes in his recent dissertation that there was probably no earlier aqueduct.

³ Jones and Robinson 2005, 697.

The house did already possess a private bath before the advent of the aqueduct; considering that the water came from wells and cisterns, this was a great luxury and a good example for the conspicuous consumption of water. The archaeological evidence shows that the baths were designed to use as little water as possible, demonstrating that it was a valuable resource and the supply limited. The Agrippan aqueduct enlarged the supply of water, but also changed how it was distributed. Built on high ground, the new *castellum* enabled the city to regulate and distribute the water through pipes to secondary reservoirs throughout the urban area according to need. It also provided water pressure that could be exploited for decorative effects. The House of the Vestals seems to have been connected to the water grid very early, and as a result, within just a few years, the owner extensively renovated and re-structured the house in a way that took full advantage of water features for its decoration. The main entrance of the house was moved and doorways enlarged; this allowed for more and better views into the peristyles and gardens. The old baths were replaced with larger, more elaborate ones. Most of the rooms in the house were redecorated and provided with new mosaic floors, and, significantly, the floor levels were raised to allow for the passage of water pipes. This planning step shows that water features (and the need for the necessary access pipes) were an important and integral part of the renovations. The main water supply entered the house near the new baths and was redistributed from there.⁴ In the original layout a series of fountains and water features served as focal points on a symmetrical axis between the formal entrance of the house and the main dining rooms.

⁴ Jones and Robinson 2005, 697-699,701, Ohlig 2001, 82-84, Jansen 2001, 30-31.

By the early first century this decorative scheme was altered in favor of a more dramatic and less direct route that played on the contrasts of light and dark, public and private. Jones and Robinson state that water “[...] played a dominant role within the open areas through the creation of focal points, highlighting the wealth and status of the property and its owners in the eyes of anyone visiting.”⁵ Another example, the House of the Bronze Bulls, shows similar changes: “The form of grand axiality was also abandoned in the House of the Bronze Bull, where it was similarly replaced by a series of closed, shorter views from groups of rooms that looked onto water features.”⁶

Most fountains were placed in such a way that they could be seen through the entrance from the street. Frequently *impluvia* were retrofitted with jets and ornamental basins with subsidiary water features visible along a receding line into the house. The fountains were an act of conspicuous consumption of water: sometimes they drained into old cisterns and kept them full, but more often the runoff flowed into drains and out of the house. In the case of the House of the Bronze Bull, there is a fair amount of evidence for taps and shut off valves: the fountains were therefore not always allowed to run.⁷ In the House of the Vestals, a viewer in the doorway would be able to see the main entrance atrium, with a fountain, and behind it a small formal garden with another water feature. The grandest decorative water feature was located in the largest peristyle at the rear of the house and could not immediately be seen by a visitor, though it could perhaps be heard. One would have to cross two atria (each fitted out with their own fountain) and take a 90 degree turn to reach the peristyle in question. The decoration consisted

⁵ Jones and Robinson 2005, 699-670,

⁶ Jones and Robinson 2005, 670, Anderson 1990, 236.

⁷ Jones and Robinson 2005, 670, Anderson 1990, 213 and ? for taps etc.

of a large pool which the excavators believe was filled by a sizeable fountain sculpture that once stood along the south wall. The pool then drained in a visible manner, emphasizing the fact that water was simply allowed to run out of the house; it was not utilized for anything except display. Jones and Robinson note that pressurized water “was a luxury rather than a utility, and, as Wilson points out for North African houses, ostentation was the key.” The basic water needs of the household were still largely met from the old cisterns in the house.⁸

The 62 CE earthquake seems to have caused little physical damage to the House of the Vestals, but it did have a severe impact on Pompeii’s aqueduct. As a result, the excavators suggest, the house had to be completely redecorated because pressurized water, the key feature in the current scheme, was no longer available. This of course rendered the fountains obsolete, if not embarrassing. The now useless baths were completely removed, and the lead supply pipes (although invisible) were torn out all over the house, damaging the mosaic floors. This same process can be observed in other Pompeian houses, notably the House of the Menander.⁹ Whenever possible house owners modified preexisting water features to accommodate standing water, so for example in the House of the Vestals the two fountains in the atria were converted into pools and the large basin in the rear peristyle was reduced in size, subdivided and partially turned into garden space. The new, much smaller pool was still provided with a fountain, which was supplied by a raised cistern. Clearly having some form of working fountain display was very important to the owners of the house because they went to considerable trouble to accommodate the cistern. The loss of running water, and with it the

⁸ Jones and Robinson 2005, 702, Wilson 2001, 92.

⁹ Jones and Robinson 2005, 702-704. Ling, 1997, 69.

water displays of the house, was so significant an event that it motivated the redecoration. This example therefore serves to illustrate perfectly how aqueduct water was utilized by the elite and how important a status symbol the conspicuous display and consumption of water was. Even when abundant supplies were no longer conveniently available, wealthy homeowners still ensured that they had some form of water display in the house: luxury and water were inextricably linked in the Roman mind.¹⁰

¹⁰ Jones and Robinson 2005, 705-710.

Appendix II: The surviving water features of the Esquiline Wing

The two most impressive sets of rooms that survive are the Octagonal Hall and the so-called Nymphaeum Suite; they were both equipped with water features that enhanced and transformed the space. All room numbers refer to those shown on figure 5.14. The Nymphaeum Suite is located off the western peristyle, which itself contained a large fountain (20), and includes the two largest rooms preserved in the Esquiline Wing (44 and 45).¹ It was a reception area (room 44) and dining room, screened by columns on either end; located in a recess at the back was a large nymphaeum (45), lined with statue niches, with a large central *scala d'aqua* (water-stair) in the back wall and a basin in the floor, perhaps equipped with jets.² The nymphaeum was flanked by two small courtyards (51 and 43) that also held fountains.³ The water had a cooling effect, provided a soothing yet refreshing backdrop of sound, and reflected light throughout the space. Overall it enlivened the room, transforming it into a kind of artificial grotto. A visitor who first entered the large peristyle of the Esquiline Wing would have heard the cascade in the nymphaeum before they would have seen it. The water feature was tucked away in the back of the room (45), and during the day the contrast of brilliantly lit courtyard and dark room would have concealed it until the guest had approached. The hidden cascade encouraged the visitor to look for the source of the sound and revealed itself, as well as the subsidiary fountains in the smaller side courts, visible only upon entering into the outer reception room (44). The water feature therefore encouraged the visitor to walk around the peristyle and take

¹ Ball 2003, 107, 133-199, 219-229.

² Ball 2003, 133-138, 219-229.

³ Ball 2003, 133-134.

in the beautiful decoration and varied plan and design of the Domus Aurea. The central fountain in the peristyle (20) is on the same central axis as the nymphaeum cascade. A guest looking out from the Nymphaeum Suite would therefore have found the two water features were elegantly linked and extended the view across the main axis of the large court yard.

In design the Nymphaeum Suite resembles an enlarged type of summer dining room frequently found at luxury villas, including known imperial villas such as Claudius' villa at Baiae.⁴ This connection is further enhanced by the decoration: the vaulted ceiling of the nymphaeum was decorated with little pieces of pumice in imitation of a grotto; let into the ceiling were large mosaic medallions. Only the octagonal central medallion is well preserved and shows Odysseus handing a cup of wine to Polyphemus. The figures are large, Polyphemus is nearly two meters long, and this rendered them visible in spite of their location on the ceiling. The quality of the mosaic is high: it consists of tiny, densely set tesserae and uses careful shading and colour gradations to mold the figures three-dimensionally. The limited palette of bronze tones with ochre and green highlights suggests that the two figures are meant to be depictions of a sculpture group, comparable to actual examples found in Imperial villas such as that of Tiberius at Sperlonga and that of Claudius at Baiae, both of which Nero probably knew.⁵ Nero's representation specifically depicts a bronze sculpture group, which might itself be associated

⁴Longfellow 2011, 53, Ball 2003, 133-138, Carey 2002, 44-61, Gros 1996, vol II 350-360, Salza Prina Ricotti 1987, 137-184, Lavagne 1970, 673-721. Elite examples include the so-called Villa of Cicero at Formiae (Gros 1996, vol II. 305-307), some famous examples of small scale evocations of such elite spaces are the *triclinia* in the Praedia of Julia Felix, D. Octavius Quarto and the House of the Ephebe.

⁵Carey 2002, 44-61, Dunbabin 1998, 271-272, Gros 1996, vol II 350-360, Zevi 1996, 316-331, Sear 1977, Cat. 61, 90-2, Lavagne 1970, 673-721.

with the Julio-Claudians and the Imperial family.⁶ Carey concludes that by the reign of Nero representations of the scene of Odysseus and Polyphemus had become an imperial symbol. Since the mosaic is located in an imperial palace, the Nymphaeum Suite might have been reserved for more intimate, personal events, such as might take place on an imperial estate. The rooms were located on the lower floor on the interior of the building, which further suggests that they were somewhat removed and subsidiary to the principal state rooms on the upper floor and that access was reserved to confidantes or important individuals on sensitive state missions. The sound of the cascade not only added an element of surprise and mystery to the entire courtyard, it also enhanced the privacy of the room by blanketing any conversation taking place there from outsiders.⁷ Although it enclosed a large space, the peristyle was an area with limited access and therefore could not be accessed by just anyone. The Nymphaeum Suite only looks out on the inner court and does not take advantage of the views over the extensive gardens and lake in the park. It was therefore an ideal space to receive visitors out of the public eye.

Nero's famous Octagonal Hall consisted of a large domed space with an oculus surrounded by eight smaller rooms opening into it. Each of the smaller rooms connects to its neighbors and their floor plans reflect different types of *tricilina*. It was an exciting experimental space, and although not as large as the Nymphaeum Suite, it must have been an important reception room, probably used primarily for entertaining (rooms 121-128).⁸ None of its

⁶ Longfellow 2011, 73-74, Carey 2002, 55-56, Viscogliosi 1996, 252-269. This motif also appears in public Nymphaea associated with Imperial patronage, for example in Ephesos (See Longfellow 2011, 68-76).

⁷ P. Davies, Personal communication March 2014.

⁸ Suet. Nero. 31. Gros 1996, vol. II 247-252, MacDonald 1982, 39-41.

indubitably lavish decoration survives with the exception of a fountain with a long *scalina d'aqua* in its central niche (room 124).⁹ The water feature was fed by a substantial bridge that carried the water from the floor above and over a service corridor.¹⁰ This indicates that the flow of the cascade must have been impressive as the remains of the *scalina* are not extraordinarily large. The sound of the fountain must have reverberated in the grand domed space; depending on where the viewer stood it would not have been immediately visible, adding an element of mystery to the space. One of the most remarkable features of the Octagon Suite is the dynamism of its forms, an octagonal hall transforms fluidly into a dome. The lighting of the space is remarkable; not only does the oculus cast a disk of bright light, each of the subsidiary rooms is cleverly lit by hidden, raking light wells.¹¹ The combination of bright sunlight and its reflections on the rippling surface of the nymphaeum at the back must have transformed the space into something remarkable, especially when the marble revetments were still in place to further enhance the light effects. The Octagon Suite quite literally aimed to dazzle the guests. It also gave access through its southern most door to the long portico that ran along the façade of the Esquiline Wing, allowing guests to admire the sweeping views across the Domus Aurea park.

Above the dome, on the upper floor, was a courtyard that contained two more fountains.¹² On the terraces in front of the colonnades that screened the façade of the upper floor were located long rectangular pools creating an almost maritime vista over the ground of the Domus Aurea , reminding a visitor of the joys of Baiae.

⁹ Ball 2003, 200-218, 219-229, Gros 1996, vol. II 247-252, MacDonald 1982, 34-46.

¹⁰ Ball 2003, 11, 76-77, Fabbrini 1982, 5-24, Fabbrini 1983, 169-185.

¹¹ MacDonald 1982, 34-46.

¹² Fabbrini 1982, 5-24, Fabbrini 1983, 169-185.

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