City gates: A gateway into Roman society

Examining the city gates of Roman Ostia through an analysis of the city plan

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1. Introduction

This thesis is concerned with the city gates of Roman Ostia, the harbour-town of ancient Rome. Since the mid twentieth century, a large number of researchers have examined different aspects of the Roman city of Ostia. Their scope encompassed research topics of great diversity and historical breadth. Russel Meiggs' comprehensive historical study of Ostia is still a landmark although it was written in 1960 and updated by the second edition of 1973. Unfortunately, this magisterial work does not include the last forty years of research. Further examples of studies that deal with smaller, yet still considerable parts of Ostia are the sanctuaries of Ostia (Rieger 2004), research on the necropolises found around the city (Heinzelmann 2000) the aspects of Roman city life in Ostia (Hermansen 1981), Pavolini's publication on daily life in Ostia, and most recently Boin on Ostia in Late Antiquity (Boin 2013).

Beside these larger topics, specific subjects have been submitted to more extensive research. One can think in this case of the study regarding the *Domus Fulminata* (Meer, van der 2005) and Guido Calza's research which concerned the Magna Mater sanctuary (Calza 1946). Other researchers applied modern techniques in the likes of space syntax analysis on Ostia to shed light on the spatial organization (Stöger 2011). These are just a few in a long line of intensive studies.

Despite the large amount of scholarly work that has already been carried out in Ostia, there are still quite a few aspects of

the city, which remained underexposed. Ostia's city gates and their urban setting are a case in point. The stated aim of this study is to shed light on the role the city gates of Ostia played in the formation of the urban landscape. This study focuses on a particular section of the Roman urban fabric, the area around the city gates of Ostia.

This study examines whether there are any features (e.g. buildings, monuments and spatial use) that only occur because of the presence of the city gates. Furthermore, it investigates whether these buildings or spaces changed over time, responding to new infrastructural demands or functional requirements. To answer these questions, a detailed, map-based study and an on-site inspection of selected areas of Ostia's built environment have been carried out. However, the principal data set for this study are the site maps of Ostia, available in printed form (Calza 1953) and in digital form (Manucci 1995). The potential and the significance of such a detailed map-based study of the ancient city is best understood when we follow Goodman who states that:

'*A roman city, like a text, a vase or a statue, is an artefact of the society which produced it. Its buildings, its infrastructure and its spatial organisation can therefore give us, as modern observers, an insight into the nature of that society. Working back from the material remains revealed by archaeology, and in the light of other forms of evidence, such as art, literature, legal documents or coinage, we can seek to identify the social custom and processes which shaped the character and appearance of the urban fabric* (Goodman 2007, 1).'

Expanding on the statement made by Goodman, Dominic Perring argued earlier that the complexity of urban society ought to be reflected by the physical complexity of the town (Perring 1991, 273). Therefore this study might not only provide answers about the urban composition found in the areas around the city gates but also offer a starting point for future research regarding the social structure of towns.

The study consists of eleven chapters. The introductory chapter (**Chapter One**) opens the discussion and intends to raise awareness of the issues dealt with in this thesis. The second chapter, **Chapter Two**, focuses on the research question; it explains the wider aim of this study, presents the specific research questions, which have been posited and the methodology, which is applied to answer them.

Chapter Three provides a short history of Ostia to give insights into the origin, the development and the final abandonment of the city. This will help us to contextualise the nature of the buildings and other features around the city gates within the city's development from a long-term perspective.

Chapter Four focuses on the role the city gates played in the formation of the urban fabric. Examples from other cities and different periods help to place Ostia's city gates within a wider discussion. Rome's city gates as well as Near Eastern case studies serve as examples. These provide us with a comparative perspective, which will help us to understand urban processes that occur at gates, or are related to activities linked to gates.

Chapter Five sheds light on the different boundaries that are present in and around Roman cities. It enlightens us on how boundaries are defined, and explains how different types of boundaries can be identified in the archaeological record. The most common boundaries, such as the *pomerium* and the city walls are dealt with. The findings from boundaries in other Roman cities will enable us to project these onto the urban context of Ostia

The following chapter, **Chapter Six**, shifts its focus on the methodology applied and the data sources studied by this thesis. The study areas are examined by means of a thorough exploration of the digital site-map of Ostia. The focus area is the built environment around the three gates. Furthermore, the presumed functions of the buildings are investigated which helps us with the interpretation of the covered area. Consequently, the layout as seen on the map is interpreted using a combination of information (site plan, digital map, photographs and observations and notes acquired on-site.)

Chapter Seven deals with the urban composition found at the areas around Ostia's city gates. The buildings located in the direct vicinity of the city gates are identified and the development of the area around the gates reconstructed. This chapter zooms in into the areas of the gates. Every building is identified, colour-coded and dated according to the chronology of its construction dates. This helps us to connect the buildings

throughout the city's continuous development, relating them to the different stages of Ostia's history.

Hereafter, **Chapter Eight** explores how the inhabitants of Ostia might have perceived the city walls. This chapter concentrates on the specific buildings around the city gates that seem to have had a different relationship with the city wall and gates, compared to the rest of the surrounding buildings. These constructions can therefore be regarded as indications for a changing function of the city walls.

Chapter Nine concentrates on the urban composition of Ostia. The most common types of buildings found within the city are identified and the numbers are compared against the buildings that are found at the different gates. This semi-quantitative assessment helps us to establish whether any buildings are represented above average at the gates.

The second to last chapter, **Chapter Ten**, explains if and how the different factors combined played their role in the formation of the urban fabric around the city gates of Ostia. The final chapter, **Chapter Eleven**, offers the conclusion; it synthesises what has been achieved and argued for by this thesis. Finally, suggestions will be made for future research into the area of city gates. This will be followed by the bibliography and a list of figures.

2. Research Question

The aim of this study is to shed light on the impact of Ostia's city gates on the surrounding urban fabric. City gates hold a specific position within the built environment: they not only manage the flow of visitors in and out of the city but also act like a bottleneck. This contributes to a higher density of people present in the area of the gates, and often results into a meeting point that attracts all kinds of activities.

As many Roman cities were equipped with walls one would expect that every possible angle has been the subject of extensive research. Unfortunately, on several occasions these earlier studies only deal with the date, location and building methods of the city walls and gates and in turn refrain from looking at the impact that these had on their direct surroundings (e.g. Chiaramonte 2007). The role and function of Ostia's city gates will be explored through a thorough study of the physical environment they are embedded in. Naturally, without a city wall, gates would not be present. Therefore, to offer a more complete picture, a short 'excursion' is made towards the city walls. The impact of the city gates is examined by positing four interrelated research questions:

1) Which buildings and spaces form part of the immediate environment of the city gates?
2) Which types of land-uses are found in the vicinity of the gates?

3) Are there differences in composition of the urban fabric between city gates and between the area of the gates and other sections of the city?

4) Did the way the inhabitants of Ostia interacted with the city wall and gates change after they had lost their defensive function?

The Roman city of Ostia serves as a case study to answer these questions. Ostia is one of the few Roman cities that has been excavated to a large extent. Last century's large-scale excavations revealed about one third of the city, while extensive geophysical prospection carried out about ten years ago, supplement data about the total expanse of the city (Heinzelmann et al. 1997). Ostia's standing architectural remains make it one of the best-preserved Roman sites.

The data sources this thesis makes use of consist of Ostia's past built environment with specific focus on the areas around the city gates: Porta Romana, Porta Laurentina and Porta Marina. These are extensively studied through Ostia's digital site-plan, and an on-site study of the built environment by the author. All of the information used by this study comes from earlier publications, no unpublished material is used. The intensive city-plan analysis is the work of the author.

The area around the city gates have been subjected to a detailed analysis of the existing digital map provided by Manucci, combined with the printed site-plan given by Calza (Calza 1953). This methodology is based on the proposition that the city-plan

contains encoded socio-spatial information as stated earlier by Goodman (see Goodman 2007, 1). Visualisation, in the form of a colour coded digital map is used as a research tool, which allows us to gain insights beyond a normal thorough study of the site plan. In addition, it provides us with a clear overview of the areas under study. The built environment around the gates is identified and, if the archaeological data permit, a date (based on the construction) and an indication of the building's function is given.

3. A brief history of Ostia

This chapter offers a brief history of Ostia's urban development throughout its long period of occupation. Understanding the development of the town will be of major importance to gain insights into the relationship between the inhabitants and the built structures. This in turn will help us to identify and evaluate patterns in the ways Ostia's inhabitants and visitors interacted with the built environment.

In the first half of the second century AD an inscription in marble was produced at Ostia to commemorate its founding by the legendary Roman king Ancus Marcius who presumably reigned from 640 to 616 BC (Meiggs 1960, 16). The inscription suggests that the city was eager to claim a long-standing tradition, pushing its foundation back into the earliest period of Roman history. Despite this claims, the fact that Ostia was founded by Ancus Marcius seemed rather unlikely (Meer, van der 2012, 4). Recent geomorphological research indicates that the area where Ostia is situated was only suitable for habitation around the fourth century BC. During this time the coastal area became stable enough for people to construct a settlement. This is supported by geomorphologic, sedimentologic and palynological data from the ancient marshes of Ostia. The combined evidence clearly points to human activity in this period (Bellotti et al. 2011).

Therefore, the real history of Ostia starts sometime around 300 BC when work commenced on a castrum, or the first defensive walls (Boin 2013, 17). The castrum was built in an area where previously no real large village was present. The only known earlier activities in the vicinity are connected with salt processing, which is assumed to date back to the Middle and late Bronze Age. The finds of surface pottery dating to the 7th and 6th century BC might indicate that a small settlement was present before Ostia was founded. It seems likely that this settlement was also linked to the archaic salt production in the area (Stambaugh 1988, 268; Stöger, 2011, ii)

The starting date of the construction of this castrum is based on Etrusco-Campanian pottery sherds that were recovered from the lowest level of the foundation ditches in which the walls were built (Martin 1996, 35). The castrum lies around 25 kilometres to the west of Rome and was conveniently placed at the mouth of the Tiber and at the coastline of the Tyrrhenian Sea. The castrum at Ostia is thought to belong to a series of so-called *Coloniae Maritimae* that were built along the coast to protect the important coastal land against seaborne invaders (Stöger 2011, iii).

This strategic location also lends the area its name: the word '*os*' meaning 'mouth' in Latin, refers to the mouth of the Tiber (Boin 2013, 17). Furthermore, two roads intersected at this location, one from the rural Laurentum area and one from Rome and the areas north of Rome. Although both roads firstly intersected at the coastal line, they were rerouted to intersect inside the

castrum (Hermansen 1981, 2-4)(fig. 1). These roads are thought to derive from an archaic road system, which led from the mouth of the Tiber towards Rome and further towards the Etruscan cities to the north of Rome (Stöger. 2011, ii).
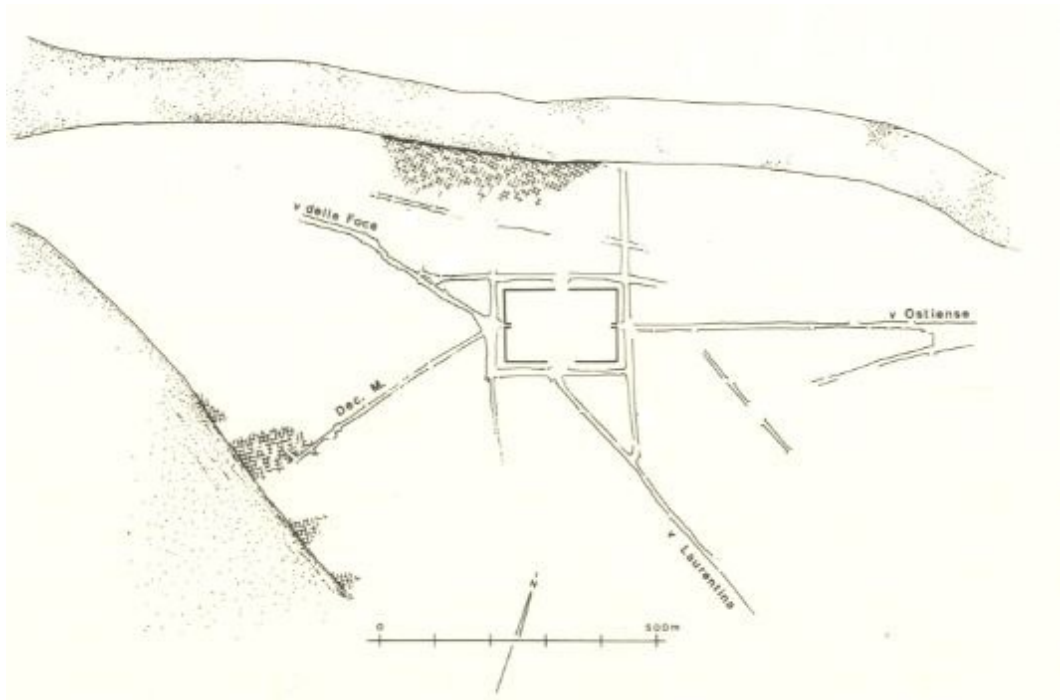
Figure 1: The organisation of the roads around the castrum (Mar 1991, 87).

The castrum, a rectangular fortification, was composed of large tufa blocks and measured approximately 194 metres in length and around 125 metres in width, and incorporated three large gates and one smaller gate. For a construction of this scale, large amounts of building blocks were needed. The blocks were quarried near Fidenae, a nearby city only a short distance to the north of Rome. The thickness of the walls was about 1.6 meters. While only parts of the castrum walls survived, the standing height of remaining stretches of wall measures around 6.6 metres (Meiggs 1960, 22).

During the second Punic war, the main function of Ostia was to act as a depot for grain imported from Sardinia (Stambaugh 1988, 268). After the second Punic war, which took place in the end of the third century BC, there was no threat for Ostia in the vicinity thus the defensive walls of the castrum had lost their principle function. This resulted in the deconstruction of large parts of the wall while other sections were incorporated in newly constructed buildings, serving mainly as rear walls (Meer, van der 2012, 5). By the time that the last pavement was installed in Ostia, around the fourth century AD, only small parts of the old castrum walls were visible above ground level (Boin 2013, 29).

According to Hermansen, the first civilian settlement that was constructed was located to the west of the castrum. This settlement included a small market place, which offered room to some fish shops on the southern side (Hermansen 1981, 4).

In the year 267 BC one of the 'questores classici' (the officials who took care of the Roman military fleet) was stationed in Ostia. This indicates that Ostia served as a Roman naval base. During the following decades Ostia largely maintained its military character but slowly transformed its appearance into a small civic town. The governance of Ostia changed from being directly controlled by Rome into its own independent local government. Gradually more and more commercial activities took place. Ostia became an important player in the supply of goods towards Rome and at the same time the population of Ostia kept growing

steadily until, at the end of the Republican period, Ostia had grown into a fairly large city (Stöger 2011, iii)(fig. 2).
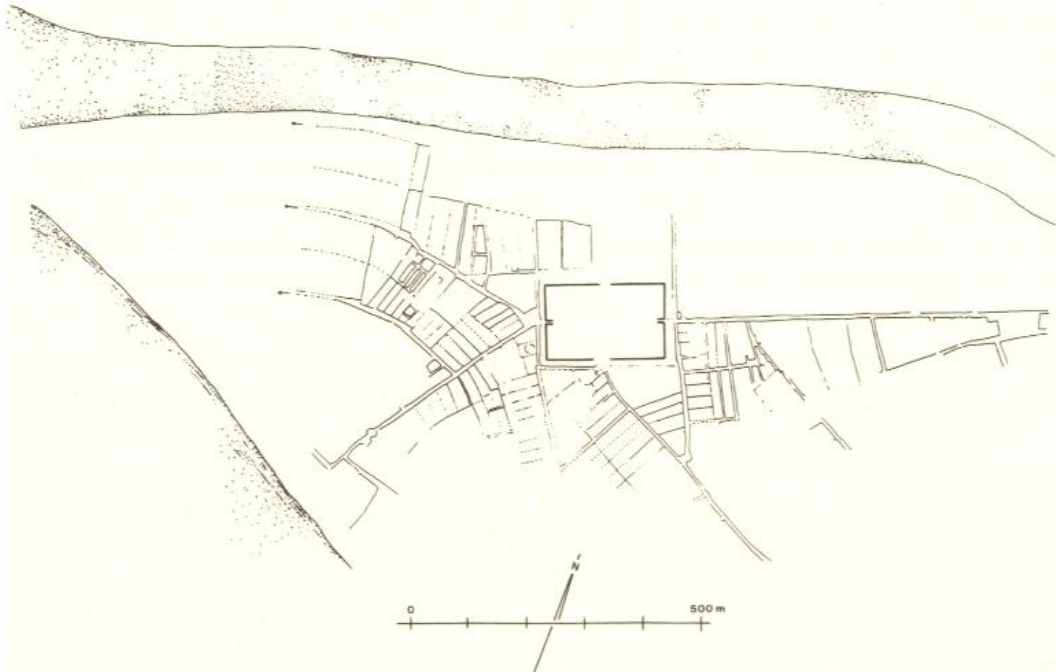
Figure 2: Development of Ostia around the second century AD (Mar 1991, 89).

The strategic importance of Ostia for Rome during the period of the Civil War is clearly shown in the strategic moves of Sulla and Gaius Marius. When the Roman general Gaius Marius returned from Africa, he immediately moved towards Ostia. Marius entered the city and sacked it, causing a serious setback to the prosperity of the town. Three years later, Sulla, returning from the east, also ordered his people to occupy Ostia if Rome could not be taken. Both leaders realised that control of Ostia meant control of the food supply of the capital and was therefore a very strategic point to possess (Meiggs 1960, 34).

Almost three centuries after the foundation of the castrum, the city received a new set of defensive walls. These walls were formerly known as the Sullan walls, since they were attributed to the consul Sulla who lived from 138-78 BC (fig. 3).
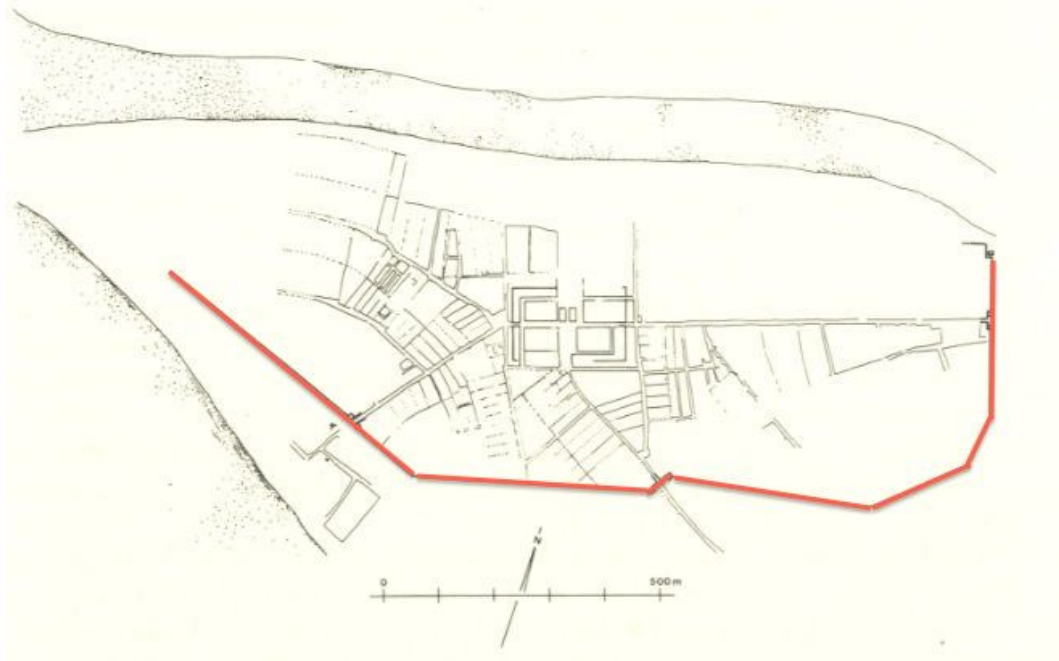
Figure 3: Ostia equipped with the 'Sullan' walls. Walls indicated in red (after Mar 1991, 95).

Recent research has confirmed though that it was the renowned orator Cicero who ordered the construction of these new walls during his consulship, which were finished by tribune P. Clodius Pulcher (Zevi 2004, 27–28). This places the construction date of these walls to the middle of the first century BC. With the construction of the new city walls, Ostia had now incorporated almost 70 ha (Meiggs 1960, 34). However, these calculations were made when it was thought that Ostia was limited to the southern side of the Tiber. This needs to be revised in light of new research on the northern side of the Tiber, where the University of Southampton carried out geophysical prospection.

Their preliminary results revealed a large stretch of Ostia's northernmost city walls, which would mean that the surface of the city was larger than previously assumed (fig. 4).

Figure 4: Map of Ostia with the city walls (dotted line) visible to the north (Earl 2014, http://www.portusproject.org).

Only a small amount of the buildings dating to the Republican period remain, whereas most of the older buildings are buried beneath the second century AD city. Around 17 BC, the first public buildings were built in the city. One of the first buildings on which construction commenced was the theatre of Ostia, which was the first theatre made out of stone outside the city of Rome itself (Cooley 1999). In the second and early third centuries AD the theatre was enlarged, first during the reign of Commodus, and later when Septimius Severus was in power (Meer, van der 2012, 5-7).

Because of the poor accessibility of the Tiber to sea ships and to ensure a steady supply of goods two new harbours were constructed. These were placed about three kilometres to the northwest of Ostia. This area became known as Portus, simply denoting its port function. At Portus, the first harbour, called the Portus Augusti, was commissioned in 42 AD by Emperor Claudius, and was finished in the year 64 AD by Nero. The second harbour, which got the name Portus Traiani Felicis, was rather an inward expansion of the Portus Augusti and was commenced by Trajan around 110 AD (Meer, van der 2012, 6; Meiggs 1960, 149–171)(fig. 5). The two new harbours resulted in a significant increase in trade volume, which in turn led to rapid urban expansion at Ostia.
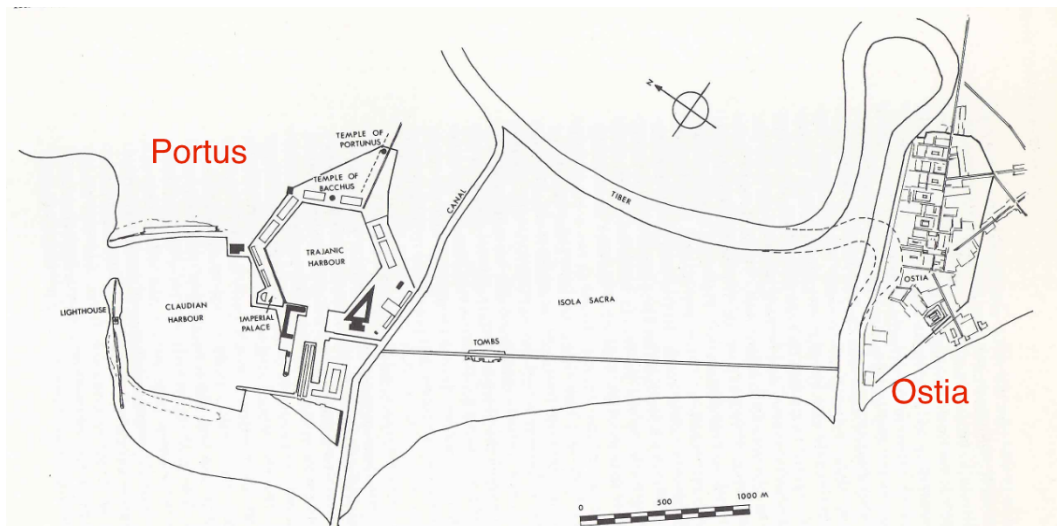

Figure 5: Map showing the position of Ostia compared to Portus (after Sear 1982, 122).

Ostia became the main port of Rome and distributed goods to the Roman provinces (Stöger 2011, iv). Consequently, Ostia replaced the city of Puteoli, on the Bay of Naples as Italy's most important port (Meiggs 1960 60–61). The most important

commodity in Ostia was grain. In Ostia's harbour it was loaded onto barges for immediate shipment to Rome, or loaded onto wagons to transfer along the Via Ostiensis into Rome but it could also be stored in Ostia to be brought to Rome at a later time (Stambaugh 1988, 268). The delivery of grain was not only reserved towards Rome, Ostia also acted as a station where shipments of products could be stored and reshipped towards other provinces (Meiggs 1960, 298).

To prevent the city against flooding by the Tiber, large parts of Ostia were raised under emperor Domitian in 96 AD and successively raised during later periods. During the reign of his successor Trajan houses containing multiple levels, referred to as *insulae,* were constructed. The groundfloor spaces facing the streets were often turned into commercial outlets. The urban fabric of Ostia consisted mainly of apartment blocks, which were designed to utilise the space in the city to the maximum (Meiggs 1960, 242).

Because of the fast expansion in the first half of the second century AD, Ostia had grown in all directions expanding considerably outside the Republican city walls. Large public buildings such as public baths and the Capitolium, presumably devoted to Jupiter, Juno and Minerva, were constructed and many trade related buildings such as warehouses and storage facilities emerged (Stöger 2011, iv). The number of building activities decreased after the reign of emperor Hadrian (117-138) but still new *insulae*, baths and temples were constructed, complemented with the modification and decoration of existing

buildings (Stöger 2011, iv; Meer, van der 2012, 7). Most of the houses featured rooms adjacent to the streets in which small shops or bars were established. It is estimated that at the height of Ostia's wealth the incredible amount of almost 800 *tabernae*, which served as commercial outlets including shops, bars and inns, were present in the city (Meer, van der 2012, 7). By the end of the second century BC, the estimated total amount of inhabitants of Ostia was around 60.000 (Meiggs 1960, 532–533).

More recent geophysical research, conducted outside the late Republican walls confirmed that large parts of the city are still buried which probably means that even more people lived in Ostia at the time. Furthermore, as suggested by van der Meer the population of Ostia could be variable by seasonal inhabitants who worked and visit the city during the grain trade season (Meer, van der 2012, 7). This was also suggested by Russel Meiggs who further states that in the early stages of Ostia, before the construction of the Republican walls, open spaces in Ostia habited houses made out of nondurable materials such as clay and wood. These would have housed the seasonal workers of the city and were gradually replaced by stone structures as the city developed and grew (Meiggs 1960, 127–128).

During this period a middle class was formed in Ostia, which according to inscriptions reading Latinized Greek names consisted primarily of freedmen. These were descendants of former slaves who were eventually adopted by their patrons, or gained freedom through manumission and were integrated in the

Roman society but did keep their non-Roman surname. This period was also the time that the first guilds or collegia can be found in Ostia (Meer, van der 2012, 6).

After the booming period of Ostia in the second century, the third century AD offered less prosperity and it gradually developed into a more difficult period for Ostia and the whole Roman Empire. Emperors followed each other quickly and the period of insecurity resulted in Ostia in the abandonment of buildings, which were not restored any longer (Meer, van der 2012, 8). It is possible that this decline was amplified in Ostia because the simultaneous silting up of the old harbour and the development of Portus as a residential town which drew people to it (Stambaugh 1988, 274).

The last notable building in Ostia was the Round Temple, finished around 244 AD. At this time, members of the elite renovated insula apartments blocks into aristocratic domus buildings. These buildings were highly decorated with large quantities of marble and floor mosaics. The most luxurious of the houses had indoor water fountains, gardens and internal baths. It is not sure who occupied these houses but it was probably the local elite and members of the Senate in Rome who could afford these kind of luxuries (Meer, van der 2012, 8).

During the fourth and fifth centuries AD, Ostia became more and more deserted. Multiple restorations of public buildings such as the baths and meat market did not have the desired effect as people kept away from Ostia (Meer, van der 2012, 9). King

Theoderic, who was king of Italy between 493-526 BC, even restored the baths at the Porta Marina. Theoderic's efforts were to no avail since people kept away from Ostia (Boin 2013, 48–49). The last buildings that were constructed were small baths, built at the beginning of the sixth century AD. The last inhabitants fled Ostia in the ninth century when the Saracenes conducted several raids on the city (Meer, van der 2012, 9).

After the abandonment of the city, the building remains of Ostia were stripped down and reused to facilitate the construction of several medieval buildings. Few people visited the site in the following centuries. Interest in Ostia was revitalized in the eighteenth century when the first excavations took place (Stöger 2011, iv). During the first half of the twentieth century excavations were conducted on the most important monuments, followed by a large excavation- and restoration campaign in the 1940s which were both largely undocumented (Stöger 2011, 51). Because of the silting of the Tiber through time, the old coastline was pushed outwards resulting in the present-day coastline situated almost three kilometres west of ancient Ostia (Boin 2013, 53).

As a result of the sediments placed on top of Ostia, large parts of the city remained preserved, including large parts of the city walls and three main access points to the city. These access points are of course the city gates, which in Ostia are the *Porta Romana*, the *Porta Marina* and the *Porta Laurentina* and in a later period the smaller, *Porta Secondaria.*

4. The nature of the city gates

This chapter focuses on the role city gates had in the development of the urban fabric. Since the city gates of Ostia, the *Porta Marina, Porta Laurentina* and the *Porta Romana* have so far not received much scholarly attention and have not been studied in their own right, city gates from other towns are taken as examples. This includes the *Porta Esquilina* in Rome, which was examined by Simon Malmberg and Hans Bjur (2011). In addition, a number of more distant examples found in the Near Eastern, from the Iron Age, will be studied, following the work of Tina Heattner Blomquist (1999). These different examples provide a comparative perspective which will help us to understand that some of these processes were not only typical of Roman cities, but might have been a kind of 'universal' response to city gates.

City gates are part of the wall of a city and have two important functions: Firstly, they are part of the city's defence structure, and secondly they allow traffic to enter and leave the settlement (Tilburg, van 2008, 134). The gate's dual and multiple functions are attested in the architecture of many earlier civilisations. The study of Heattner Blomquist clearly demonstrates that gates also functioned as a civic space in the Near East. Blomquist claims that, according to written sources, during the Iron Age in the Near East a city gate can be well recognized as the busiest place in a city. The city gate is named as a market place and a commercial and administrative centre for the villages in the region. It was also a seat for juridical procedures and legal

transactions; furthermore it housed public assemblies and proclamations. To summarize, the strategic bottleneck, created by the gate became a social meeting place for people (Blomquist 1999, 17). This can be seen in the archaeological record by the presence of benches at gates but also by the fact that the chambers inside gatehouses became considerably larger and are no longer closed but open onto the passageway (Blomquist 1999, 18). Although this phenomenon was identified in an earlier period, and a Near-Eastern site the activities identified there can be an indication of what one can expect at Roman gates.

Well-documented examples of the effects of city gates on their surroundings, are described by Simon Malmberg and Hans Bjur in their chapter on Rome dealing with the *Porta Esquilina* and *Porta Tiburtina* (Malmberg and Bjur 2011, 361–386). According to them, the position of gates, in their case the *Porta Esquilina* and *Porta Tiburtina*, play a vital role in the way the city was accessed and how people moved around it. Furthermore the gates determined the growth of the street network and the spatial development of the city (Malmberg and Bjur 2011, 362–363).

Another valuable example of how a gate can influence its surroundings is provided by Penelope Goodman (2006). She states that gates, and the accompanying walls, are fine locations to place a customs boundary in order to raise taxes. This was done at several places in Rome's Aurelian wall and in turn led to a difference in the character of the city just outside the walls.

Here, in order to avoid taxes, a significantly larger concentration of trading warehouses were constructed (Goodman 2006, 44).

Returning to Malmberg and Bjur, who saw a similar development near the Porta Esquilina in Rome where the area just outside this gate first was rather rural than urban. From seven BC the area started to change after Augustus instituted the new regions of Rome. The location of mass burials was moved further out and the area to the south of the gate was taken over by the *horti* of Maecenas. Other wealthy families soon followed and the area was soon covered in *horti* (Jolivet 1997, 193–208). However, the *horti* were more than only gardens, inscriptions show that significant production took place inside the *horti*.

Over time the areas became more and more commercial and along the road leading through the gate, informal but important markets appeared. The markets outside the gate were matched by the development of the so-called *Forum Esquilinum*, which developed inside the Porta Esquilina and also had a significant commercial function (Morley 1996, 180).

The developments around the gates had also an impact on the way the population experienced these gates. This is clearly expressed by David J. Newsome when he mentions the *Porta Capena*, a city gate from the Servian wall in Rome. Around the *Porta Capena* numerous types of buildings could be found. Amongst others there were *tabernae*, baths, fountains, temples and a *macellum*. Because almost every desirable necessity was present, Newsome states that people not only used to move

through a gate to get from 'A' to 'B' but people also moved *to* a gate. Newsome sees the area as an zone full of movement and interaction (Newsome 2011, 28–29). Patterson points out that these activities also attracted unwanted kinds of attention when he quotes Juvenal. According to Patterson, Juvenal states that beggars gathered in the area around the gate (Patterson 2002, 102). The beggars attended this area because of two reasons. Firstly, they were interested in the large number of people who had to move through the gate and secondly because of the customs boundary, as which the gate also acted. This led to numerous vehicles that had to stop in order to pay customs taxes and made themselves excellent targets to be approached by beggars (Newsome 2011, 29).

Although these insights regarding city gates come from other periods and different areas, they can raise our awareness on different processes that took place around city gates. As a result, this can help us to critically examine Ostia's city gates for similar activity patterns.

5. The effects of boundaries on the urban fabric

This chapter is dedicated to Roman boundaries. It will examine how boundaries are defined and how different types of boundaries, such as legal- and religious boundaries can be identified in the archaeological record. This information will help us to understand how these limits and liminal areas, such as city gates and natural obstacles affected the urban fabric in Roman times. The most common boundaries that can be found throughout the Roman Empire will be briefly dealt with. Understanding the different concepts of boundaries will help us to project the findings from other Roman cities onto the urban context of Ostia.

5.1 The city walls of Rome

In antiquity the city of Rome had various types of boundaries. The boundary that is the best visible in the archaeological record is the city's walls. During Rome's long history, several walls were constructed within the city and surrounding it. Their primary goal was to function as defensive structures. In addition, these defensive walls also had different functions: Besides being signs of prestige and power, the walls also defined the difference between the urban and peri-urban landscape or, in other words, the inner city and its surroundings (Goodman 2006, 45).

The first walls that have been constructed in Rome date back to the seventh century BC. These walls were built on the slopes of the Palatine hill and mainly consisted of rubble. Because of the

low height, these walls could not have had any defensive purposes; they might have rather functioned as demarcations of ritually defined boundaries, as has been suggested by Holloway (1996, 101).

The first really noticeable wall that surrounded the city of Rome was the so-called Servian or Republican wall. The Servian wall was named after Servius Tullius (578-535 BC), the legendary sixth king of Rome, who allegedly ordered the construction of the first city walls. However, such an early date can be firmly excluded based on the building material used. The building stone consist mainly of Grotta Oscura tufa. This type of stone was quarried near the Etruscan city of Veii, which was only conquered by the Romans in 396 BC. For the large amount of tufa required for the Servian wall, the Romans would have needed full access to the quarry. The walls have been dated to the years directly after 378 BC. This is deduced from the statement made by Livy who wrote that in that year a tax was levied for building a defence wall (Holloway 1996, 92). After completion, the total length of the Servian Wall measured at least eight kilometres and enclosed an area of around 2.46 square kilometres (Holloway 1996, 100).

The second large defensive wall was built during the late imperial period and is called the Aurelian walls after by Emperor Aurelian (reign 270-275 AD), who had ordered the construction of the new walls. It seems plausible that the construction of the walls was due to the fact that the preceding decade had seen two large-scale barbarian incursions in Italy (Dey 2011, 111).

Another reason, argued by Palmer, is that the walls not only functioned as a defensive structure but just as well as a customs barrier (Palmer 1980, 223). The Aurelianic walls are often considered to be the single greatest building project that was carried out in ancient Rome (Coates-Stephens 2004, 79). In contrast to the earlier Servian walls, which are made from masonry, the Aurelian walls are produced of brick-faced cement. The total length of the Aurelianic walls measured around 19 kilometres and enclosed an territory of approximately 13,7 square kilometres (Claridge 1998, 59).

As is clearly visible in Rome, different regulations were present between the areas that were inside and outside of the city walls. These regulations affected the composition of the urban landscape by allowing, denying, encouraging or discouraging certain activities. One of these activities that were affected by the city walls was for example the burying of the dead. Law prohibited burying people inside the city walls. As a logical result people were buried outside the city walls, concentrated in cemetery zones or along the main roads out of the urban centre (Goodman 2006, 2). Of course, as the city grew larger and the walls expanded, older burial sites came to lie inside the area where burials were now prohibited. From that moment on, new burials were not allowed at these places. In contrast to the cemeteries found in the urban periphery, burials in the rural areas were widely dispersed amongst the countryside. This implies that these people made a real distinction between the two and different conventions were present in both areas (Goodman 2006, 2).

The prohibition on burials was most likely a response to the danger that corpses were on the public health. Other practices that were bad for the public health or just formed a nuisance to inhabitants were in many cases also directed to the edges of the urban centre. These practices include tile-factories, which most likely were considered a danger of causing fires due to the presence of large kilns, but also included tanners who were excluded from the centre because of the obnoxious smells that were produced by their activities. Dangerous, wild animals, used for the games, were also kept on the edge of the city in a special constructed enclosure, which was incorporated in the Aurelian wall (Patterson 2002, 93).

The city walls defined the bounds of a city. The spaces are decided by the physical presence of the wall. The walls defined the difference between the city and the countryside but at the same time people could move through the gates. According to Ray Laurence, the cities were sacred places that differentiated from the rural areas because the cities had, in contrast to the countryside, a history. He stresses that the boundaries of a city are sanctified because they exclude the death. Therefore the city must be a place that had mythical and historical meaning for its inhabitants (Laurence 1994, 138).

In addition to the sacredness of the city, the city walls were also regarded as sacred and inviolable. It was therefore prohibited for anyone to climb over the city walls on penalty of sacrilege (Rykwert 1976, 134). Contrary to the walls, the city gates are

not sacred according to Rykwert. He argues that they lost their sacred status due to the passing of corpses and other necessities through them (Rykwert 1976, 135).

5.2 The pomerial boundary

A second boundary that certainly was present in Rome was the *pomerium*. The *pomerium* was a type of religious boundary that demarcated an area inside ancient Rome (Orlin 2002, 5). According to Roman tradition the *pomerium* was a furrow around a city, ploughed by Romulus, the legendary founder of Rome, as part of the original foundation of the city. A series of stones outside the gates marked the boundary of a city's *pomerium* (Laurence 1994, 138). The city walls were built inside this furrow which explains the etymology as *pomerium* is likely an abbreviation of '*post murum'*, which means 'outside the walls' (Orlin 2008, 241). As it was a religious boundary it was distinct from the city wall and the limit of actual habitation, although it could coincide with one or another (Roberts 2007).

The *pomerium* protected the sacred space of the urban centre and defined the appropriate location for certain activities (Goodman 2006, 43). It is rather difficult to determine precisely where the pomerial boundary was located because of the limited number of remaining markers. Presumably, the *pomerium* of Rome included the Capitoline, Quirinal, Viminal and Esquiline during the regal period and expanded with the addition of the Aventine under the reign of Claudius who wanted to commemorate his invasion of Britain and changed the pomerial

boundary in 49 AD (Olinder 1974, 69; Orlin 2002, 10; Patterson 2002, 89). Consequently, the *pomerium* was further expanded under Vespasian.

The new *pomerium*, as instated by Claudius, was marked out by at least 139 *cippi* of nearly two metres in height and one square metre in diameter. These *cippi* were placed wherever the boundary of the *pomerium* changed direction. The distance between each *cippi* was recorded in feet on the stone itself while all stones were numbered in sequence along the line of the pomerium (Beard et al. 1998, 177). The original *pomerium* that was, according to the legends instated by Romulus, measured an estimated area of 325 hectares. After its first expansion by Claudius, the *pomerium* covered an area of 665 hectares and was later expanded by Vespasian to 745 hectares (Beard et al. 1998, 177).

An important feature of the *pomerium* is that it could be moved, which could be done by generals or emperors who had successfully extended the empire's frontiers. With the construction of the new city wall, the *pomerium* was enlarged to follow the walls by Aurelian (Goodman 2006, 43-44; Patterson 2002, 89). The rerouting of the *pomerium* was not only reserved for Rome. At Pompeii, after a heavy earthquake had hit the city in 62 AD, the pomerial boundary needed to be redefined. Titus Suedius Clemens, a Roman tribune, did this by the orders of emperor Vespasianus. Evidence is provided by inscriptions found on the *cippi* that marked this new boundary (Laurence 1994, 36).

From the 'Urso charter', which are four bronze tablets found in Spain, it is clear that it was prohibited to bury people inside the pomerial boundary (Goodman 2006, 17). Also, the *pomerium* was the place where the auspices of the city could be taken. Furthermore, only outside the *pomerium*, military imperium could be held and ambassadors of hostile nations would be placed outside the pomerial boundary (Goodman 2006, 43). In addition, Roman military units, including the commander could only walk through the *pomerium* when a triumphal procession had been formally authorised by the Senate (Patterson 2002, 91).

The *pomerium* also functioned as a boundary, where not all deities could be worshipped. Augustus, for instance, ordered twice the removal of Egyptian cults from inside the *pomerium*, a measure that was later reinstated by Agrippa who also extended the area affected by the ban to one mile from the city (Patterson 2002, 92). This was done apparently because of the struggle that Augustus had with Marc Antony (Orlin 2002, 3). Nevertheless some other foreign cults were welcomed into the city as Cybele was brought from Asia Minor and was installed on the Palatine and sacrifices in honour of Isis were conducted on the Capitol. Therefore it is assumed that, although some cults were thought to be placed best outside of the *pomerium*, these choices were made on individual basis (Goodman 2006, 48).

This regulation was also extended to domestic deities that were connected with war such as Mars and Bellona, both situated

outside the *pomerium*. This may be an effect of the ceremonial activities that took place in these temples as for instance, soldiers that were departing for war assembled in front of the Mars temple and generals holding *imperium* were met by senate in the temple of Bellona (Goodman 2006, 49). It was only after the Emperors gained both civic and military power when the *pomerium*, as a religious boundary ceased to exclude the military. As a result, Mars did receive his first temple inside the *pomerium* in 2 BC (Beard et al. 1998, 180).

Unfortunately, even the Romans did not share a unified thought on the meaning of the *pomerium*. Amongst their ideas a *pomerium* could be a strip of land on either side of the city wall, a line defining the edge of the city and even the boundary defining Romulus' Palatine settlement (Patterson 2002, 88). A *pomerium* seems also to exist when a city did not have any city walls. In the case of Capua, a cippus inscribed with the words 'by order of Augustus where plough has been drawn', seems to indicate to presence of a pomerial boundary, which followed a different course than the older city walls. The presence of cippi definitely makes a *pomerium* easier to identify but in absence of any, identifying a pomerial boundary is rather difficult if it does not coincide with a defensive circuit. A useful tool to nevertheless establish the course of the *pomerium* is the location of cemeteries which, as mentioned above, were prohibited inside the *pomerium* (Goodman 2006, 62).

5.3 Changes in the orientation of major roads and the orthogonal grid

Another boundary that was present is the visible changes of major roads upon entering a city. This counts for both the roads going in east-west direction, the *decumanus maximus*, as well as the roads aligned to the north-south direction, the *cardo maximus*. A perfect example to show the deviation of these main roads is provided by the city of Bononia, which is present day Bologna and was originally founded in the early second century BC (Goodman 2006, 62-64).

In the case of Bologna, the Via Aemilia, which is the *decumanus maximus* of the city, deviates around fourteen degrees southwards upon leaving the east side of the city. At the same time, when the Via Aemilia leaves the city on the west side, the road changes its direction again around fourteen degrees northwards (fig. 6). According to Goodman, these changes in orientation are very important because the Via Aemilia is contemporary with Bologna and therefore both characteristics are planned by the founders of the city. Furthermore, the orientation of roads carried great value for the Romans.
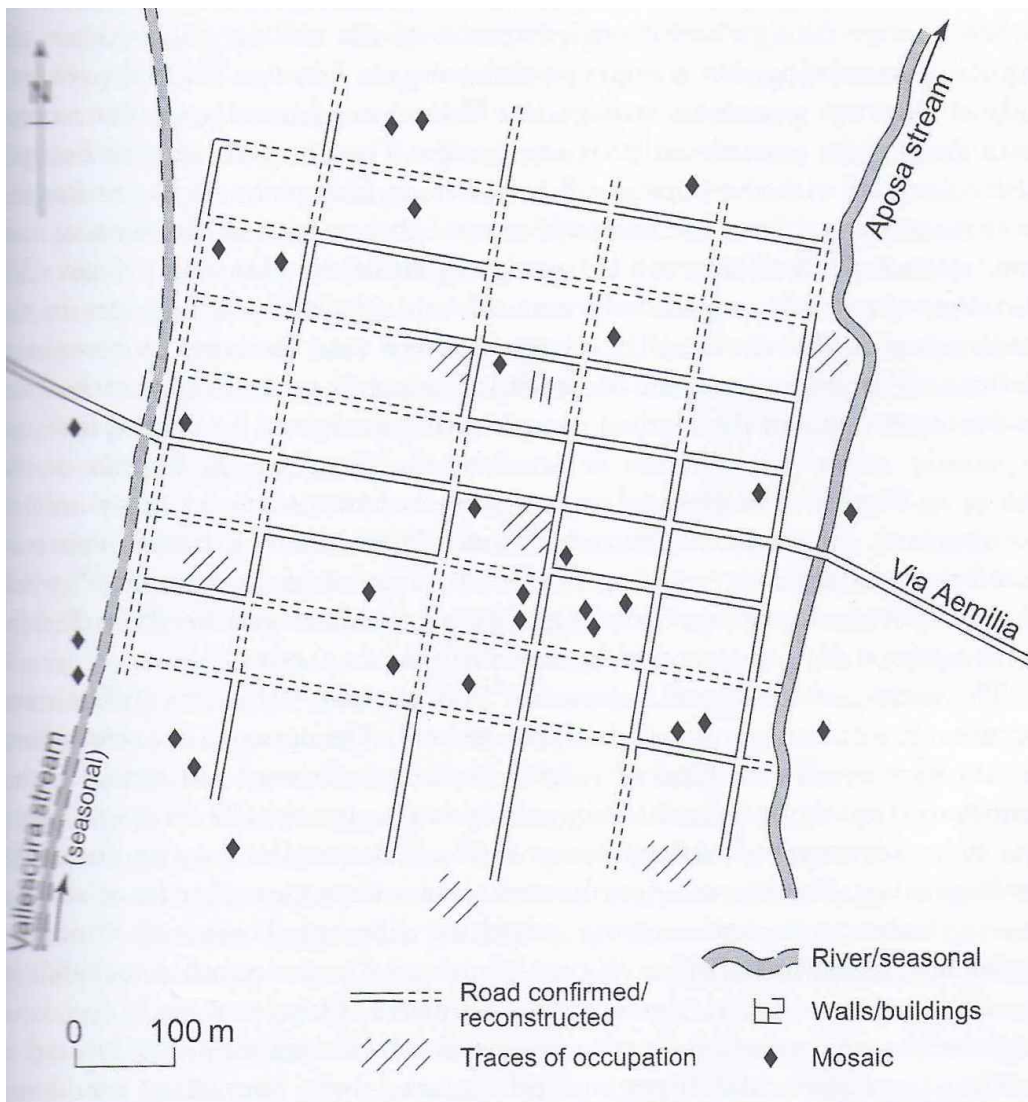
Figure 6: Map of Bolognia showing the deviation of the Via Aemilia (Goodman 2007, 63).

The orientation of the urban streets towards the midday sun of the day of the foundation was a way to commemorate this event (Goodman 2006, 62–63).The reason to change the orientation of the Via Aemilia as it entered Bolognia must therefore be seen as a marking out of the point of transition between the countryside through which the road was travelling and the city which it enters (Purcell 1990, 8).

The deviation of the main roads also occurred in Roman cities, which had city walls, such as Timgad in North Africa and Verularium, which corresponds with St. Albans in modern day Britain. At these sites, the deviations of the roads occur exactly at the point where they pass the city walls. This confirms that changes in the orientation of the roads indeed are a consequence of being a marker of the city boundaries (Goodman 2007, 63).

5.4 Natural barriers

Beside the man-made boundaries, most cities face different natural topographical features, such as mountains, swamps, deserts and rivers, which could act as a barrier to a city. Returning to the city of Bologna, Goodman shows us that the city was placed between two rivers, the Aposa stream to the east and the seasonal Vallescura stream to the west. These streams intersect with the Via Aemilia just outside the orthogonal grid of Bologna, which shows that these rivers are markers at which point the urban ended and the rural began. Besides the natural barriers provided by the two rivers, a topographical marker also indicated the northern edge of Bologna, in this case a slope with fluvial terraces (Goodman 2006, 64).

A city location alongside a river is a recurring feature found in many cities, including countless Roman cities. For instance London, on The Thames, Verona, on the Adige, but also of course Ostia which is on the northern bounded by the Tiber (Goodman 2006, 64). Having a river as a boundary had

advantages for the adjacent city. Not only were rivers permanent, ubiquitous, locally well known, highly visible and difficult to manipulate, they also acted as a way of transporting goods over large distances (Campbell 2012, 98).

5.5 The economical boundary

The placement of boundaries can have direct and indirect effects on the economy of a city. For Rome it is well attested that the city had a customs-boundary. This boundary consisted of 37 gates, which regulated traffic into the city. The gates also provided the possibility to levy taxes on the different goods that were going to be sold inside the city itself. Just like the markers that defined the pomerial boundary, stone pillars have been discovered on the Via Flaminia, the Via Salaria and the Via Asinaria, which record how the economical boundary was consolidated successively by Marcus Aurelius and Commodus around 170 AD.

Although 170 AD is a relatively late date, the economical boundary was first mentioned already by Pliny in 74 AD, according to Patterson, and may even date back to the time of Augustus who supposedly created the boundary when he divided Rome in its fourteen separate regions. In many places the customs-boundary did also form the basis of the route that Aurelian used when he placed his new wall-circuit around Rome and also coincides with the line that the *pomerium* followed (Patterson 2002, 94). According to Palmer, the toll levied at the city gates replaced the taxes that were required to be paid at the

marketplace itself (Palmer 1980, 223). The city gates and walls therefore helped the tax collectors to control the commercial traffic in and around the city (Perring 1991, 283).

The presence of a custom boundary is likely to have had an impact on the direct urban environment. For example, traders would be encouraged to set up their warehouses for the import and distribution of their supplies beyond the customs boundary rather than inside it, in order to evade possible customs taxes (Patterson 2002, 94). It is further possible to assume that the appearance of extra-mural settlements outside some cities was therefore a direct result of the avoidance of the taxes at town gates (Perring 1991, 284).

5.6 The Continentia Aedificia

Another boundary which is not as clearly marked as most of the Roman boundaries is the *continentia aedificia*.The *continentia aedificia* can be interpreted as the built-up area and consists roughly of the area where buildings are closely built against each other. It covered those areas, which were not included within the city walls or the *pomerium* as part of the city, but still needed laws appropriate to the large amount of commuters passing the area (Patterson 2002, 90). Such laws regulated the necessary maintenance on the urban streets and made sure these would not be blocked of by wheeled traffic (Goodman, 2007 15).

According to Penelope Goodman, Romans did distinguish two distinct zones within the definition of Rome. The city consisted

not only of the *urbs* or city-centre itself, which lied inside the city-walls but also the continuous occupation lying beyond those walls. The extra-mural section of Rome can therefore be seen as the urban periphery rather than the countryside (Goodman 2006, 14).

The use of the concept of the *continentia aedificia* makes it first appearance on the *Tabula Heracleensis* in a law that certainly predates 46-45 BC. According to Goodman, certain laws concerning road maintenance only apply in the city of Rome or nearer than one thousand paces from the city of Rome where it is continuously inhabited (Goodman 2006, 15).

5.7 The boundaries of Ostia

This sub-chapter will take account of the aforementioned boundaries that were present in the Roman World and examine whether these can be identified in Ostia. The knowledge of the presence of these boundaries informs us on the way Ostia developed and tells us which factors, due to the presence of certain boundaries, we need to take into account when looking at the composition of the urban composition of the city.

5.7.1 City walls

The discussion takes its starting point from the city walls, constructed around 50 BC, which are undoubtedly present at Ostia. Following the example from Rome, we can assume that the presence of the city walls resulted in the same type of

economical boundary that was present at Rome and should have similar impacts on Ostia as it had in the capital. Although when looking at the buildings outside the gates, we do not see the large number of warehouses that Patterson (2002) informs us about when he talks about Rome.

The pomerial boundary in Ostia is not clearly visible through pomerial *cippi* as it was in Rome. Because of the *pomerium* as a common feature in Roman towns, we can assume that Ostia was equipped with this type of boundary. Russel Meiggs mentions a pomerial boundary when referring to the walls of the castrum. According to him, city walls had to have an open space kept clear on both sides in order to maintain their defensive strength. Meiggs argues that these open spaces were indicated by roads, inside and outside the settlement, producing an 'inner-' and 'outer-*pomerium*' in which no construction was permitted (Meiggs 1960, 116). However, this seems to be a different kind of *pomerium* in contrast to the one present in Rome.

The usual indicator of a pomerial boundary, the absence of graves inside the city, cannot be ascribed solely to the presence of the pomerial boundary due to the fact that both the *pomerium* as well as the city's walls would most likely be following the same course. Both boundaries did not allow graves inside the city and can therefore not be identified as separate. A second indicator, the prohibition of deities associated with war inside the *pomerium* is also difficult to establish. This is because Ostia's temple dedicated to Bellona was constructed approximately 150 years after the emperors gained both civic and military power

and the prohibition on war associated was therefore not used anymore.

5.7.2 Boundary markers

Another type of boundary, found at Ostia, are five travertine *cippi* placed along Ostia's eastern *decumanus*. These *cippi* were erected by one Gaius Caninius who occupied the position of the so-called *praetor urbanus* in Ostia and can be seen as a urban Roman official (Steuernagel 2004, 62).

The boundary stones are spread out over a distance of approximately 600 metres starting at a short distance to the north of the *Porta Romana* towards the west. Next to the most western located boundary stone, a more recent cippus was placed which, according to its inscription marks the end of the public zone. This suggests, according to Russel Meiggs, that the *praetor urbanus* had declared this stretch of land between the *decumanus* and the Tiber as public land (*ager publicus)*. Meiggs argues that this legislation was brought into effect because this area was intended for loading and unloading of shipments, brought in by merchants (Meiggs 1960, 32). Therefore, to offer no obstacles when the goods were transferred, this part of Ostia had to remain mostly vacant (Steuernagel 2004, 62).

The *cippi* unfortunately lack an exact dating although it can be assumed that they were erected after Ostia had grown into a considerable town, around the second part of the second century BC (Campbell 2012, 87). The prohibition to construct anything

on this stretch of land remained effective until at least the first century AD (Mar 1991, 88–89).

5.7.3 Directional changes in the street system

No changes in the orientation of the major roads, the *decumanus maximus* and the *cardo maximus* seem to exist at the Porta Romana, Porta Laurentina or the Porta Marina. This is logical because the changes in the roads would have been made at the foundation of the settlement, which is when the castrum was built. Nevertheless, no orientational changes take place at the eastern gate of the former castrum. At the western side however, the road deflects a couple of degrees southwards. Because of the one-sided deflection, this seems to have had a different reason other than to commemorate the founding of the castrum. An explanation for the deflection that the *decumanus* makes to the west of the *castrum* is that the city followed the natural barrier provided by the Tiber and the coastline. Furthermore, the fact that Ostia was not planned with a preconceived layout, as was the case at Bolonia, could make it impossible for a road to run in certain directions without interfering with existing buildings.

Because of Ostia's position between a river and the sea, it possesses two natural barriers Furthermore, a third boundary in the form of a swamp can be found further to the east of Ostia. There can be no doubt that the Tyrrhenian Sea offers a strong barrier in which Ostia could not expand. At first glance, the Tiber seemed to be a similar barrier, as we encountered with the

example of Bononia. However, commercial activities are known to have taken place on the north bank of the Tiber. This area, called the Isola Sacra, is located between Portus and Ostia. Already in 1968 F. Zevi reported on some buildings and storehouses found in the southern part of the Isola Sacra. Furthermore two segments of walls were detected of which only the foundations remained (Germoni 2011, 253–254). Excavations show that these buildings date from the first century AD until the late antique period (Germoni 2011, 236). A couple of hundred meters to the west, pylons were found in the Tiber bed. This might have been the remains of a bridge crossing the river, although this has not been confirmed (Germoni 2011, 237). Besides these commercial structures, there is also a cemetery present on the Isola Sacra, which is dated between 100 and 250 AD (Graham 2005, 136).

On the 16th of April 2014, a press release from the universities of Southampton and Cambridge informs us that a new section of the city wall of Ostia was found. This part of the wall is located on the north side of the Tiber. Using geophysical survey techniques, a team led by Simon Keay and Martin Millet were able to identify a section of the wall, together with three previously unknown warehouses (fig. 7). Although, the pictures below seem to show a clear line that could indicate a city wall, some problems arise. Firstly the north-west orientated wall runs straight through an expected warehouse. Secondly the walls from the upper part of Ostia seem to connect to the Tiber on different locations than the walls from the southern part of Ostia.

It is because of these issues that, an extensive future research in this area is highly suggested.

Figure 7: Area to the north of Ostia on the 'Isola Sacra'. Preliminary results of research indicated in red (Keay 2014, http://www.portusproject.org).

5.7.4 Concluding Remarks

Boundaries played a major role in the everyday life of the Roman citizen; they impacted religious, social and economic life. The urban dwellers were not only affected by visible and impassable boundaries such as the city walls, but also had to consider the presence of boundaries, which were usually only visible in certain places, such as the pomerial boundary. Furthermore, some boundaries could be moved within a city through time. Some of them such as the *pomerium* and the city walls were less moveable than other boundaries, such as the *continentia*

Aedificia, which was indeed flexible and its shift did not rely on major political and religious events.

6. Data set and Methodology

This chapter introduces the digital map of Ostia, which represents the dataset used, and explains the methodology followed by this study. It will start by providing background information on the production of the digital map. Understanding of the way the map was produced will inform us on possible shortcomings that occurred when the digital imagery was made. At the same time, this chapter will explain the criteria for the colour coding given to the buildings and the chronological periods they are attributed to.

6.1 *Data set*

The data set, which is used for this study consists of the town plan of Ostia. It shows the manmade features (built environment) and can be considered as the topographical arrangement of the urban built-up area (Conzen 1960, 4–5). However, since the city not only consists of buildings but also includes the open spaces such as squares and roads, their position in relation to the buildings will be examined. For this study therefore, the focus will be placed on both the built and 'unbuilt' areas, which constitute the setting of Ostia's city gates.

6.2 Methodology

Research conducted by this study draws on Goodman's earlier quoted statement, which tells us that the built up remains of a Roman city reflect the social complexity of the society that

constructed it (Goodman 2007, 1). In other words, closely examining the digital map and identifying the chronology for the period of construction for specific buildings around the city gates, together with knowledge of the historical situation that took place during the construction of certain buildings, will provide us with information from which we can draw conclusions regarding the activities that took place at the gates.

Since Ostia underwent different through stages of development over time, the buildings reflect these changes. In order to provide a better understanding, the areas around the city gates have been examined and are represented according to their dates of construction following Calza' chronology. For better clarity, the buildings are colour-coded accordingly. This allows us to place each building into its historical framework. With the city gates as the centre, a circle with a diameter of 200 metres is drawn around each of them. The specific diameter is chosen since it encompasses almost every building that can be ascribed to the gate area at each of the gates. This uniform surface is needed so that the examined areas are not arbitrary at each separate gate, which would result in distortions. The total surface of the examined zones combined therefore covers 9.42 ha, which is approximately 13% of Ostia's surface inside the city walls. Within this circle, all building plots found will be examined for their function, and the data from the three main gates will be compared to see if they share common morphological commonalities from which conclusions can be drawn.

6.3 Ostia's digital site-plan

This chapter explains the origin of the digital site plan, used in this study. Furthermore, the used chronology and way of referring to it is demonstrated. Knowledge of the way in which this map is produced and used in this study will helps us to recognize possible shortcomings and strengths of the map.

This digital map of the city is based on aerial photographs taken in the summer of 1993. These photographs were examined and the buildings identified and drawn into plans. The original aerial photographs and drawings can be found in the Atlante di Ostia antica published in 1995 (Mannucci 1995). Because the pictures were taken during June of that year, most of the trees and shrubs were full of leaves during this period and their foliage blocked the archaeological features underneath them.

The buildings are dated on the hand of different types of construction of their walls. Further dating of Ostia's built environment happened mostly through a brick stamp chronology provided by Bloch. To keep the chance of errors to a minimum, Bloch refrained from dating buildings with brick stamps of unknown origin (Bloch 1953). Besides the brick stamp chronology, some of the buildings are dated on the hand of different types of construction of their walls.

In order to gain a clear overview of the different time periods in which the buildings were constructed, they are given different colours that show their age. Because the study focuses on the area around the three city gates in Ostia, only the relevant parts

around the gates are coloured. To make sure that each building is dated as correctly as possible, and the gaps found in de digital map do not distort the data, a drawn map by Guido Calza, published in the *Scavi di Ostia* was used next to the digital one (Calza et al. 1953). The map provided by Calza offers a large amount of attribute data on the archaeological and architectural features. It also offers information on earlier and later building phases and discontinued structures (Stöger 2011, 53).

To remain consistent, references to specific buildings are made by using the classification in the topographic index given by Calza. He firstly names the type of building that is encountered. Secondly, Calza divided Ostia into five regions (region I-V) and specified it into building blocks (Isolato), which are also numbered (I, II, III, etc.). To further distinguish them, separate buildings inside one block were given different numbers (1, 2, 3, etc.). An example of this classification can therefore be: *Caseggiato, Reg. III, Is. I, 5.*

Outside of the Porta Romana three buildings are coloured which do not appear in Calza's work. These buildings however seem to be closely related to the city walls and gates and are therefore included in the dataset. The age of these buildings are determined by following the date provided by Heinzelmann (2000).

Calza's work also provides a chronological index dividing the occupation of Ostia into fourteen separate periods. These periods start with the fourth century BC and finish in the fourth-fifth

century AD. From the Roman imperial age onwards Calza's chronological is based on Roman rulers, e.g. Augustan, Julio-Claudian, Antonine etc. For the sake of consistency, the divisions made by Calza have been followed by this study, and every period was assigned a colour. It must be noted that four of the building periods are not present in the area around the city gates, which are therefore left out of the legend. The software Google Sketchup was used to redraw the areas and apply colourcoding to denote the chronological sequence of the construction dates of the buildings.

7. Ostia's city gates in context

This chapter will deal with the urban composition of the areas around Ostia's city gates. The buildings located in the direct vicinity of the city gates will be identified and the development of the area around the gates will be reconstructed. This will be done by enlarging the areas around each individual gate and provide every specific building complex with a number. To avoid ambiguities, each concerning building will also be listed and provided with the corresponding chronological indication. By identifying the function and date of the buildings around the gates, and providing them in a clear visual framework, in the form of a map, knowledge will be gained on the different stages of development around Ostia's city gates (fig. 8). This knowledge related to a section of the city, in turn, can be compared and contrasted against the overall development of the city throughout its long-term development This semi-quantitative exploration will help us to understand why certain types of buildings were constructed in different stages of Ostia's city life.

Figure 8: Map of Ostia showing the color-coded areas around the city gates (after Mannucci 1995).

Legend

■ First century BC

■ First half first century AD

■ Second half first century AD

■ Trajan (98 - 117 AD)

■ Hadrian (117 - 138 AD)

■ Antoninus Pius (138 - 161 AD)

■ Marcus Aurelius (161 - 180 AD)

■ Severus (193 – 235 AD)

■ Second half third century AD

■ Fourth and fifth century AD

7.1 Porta Romana

The Porta Romana is the gate situated on the eastern side of the city. The gate is facing in the direction of Rome; it marks the beginning of the Via Ostiensis, which converts into Ostia's *decumanus maximus* at the point of the gate(Meiggs 1960, 129). A short distance inside the Porta Romana, a large open square is located. This square, called the Piazzale della Vittoria, was created in the third century AD (Sear 1982, 132). Although this square was founded in the third century, earlier maps show that the open space existed already before this square was constructed (Heinzelmann 2002, 107) (fig. 9).
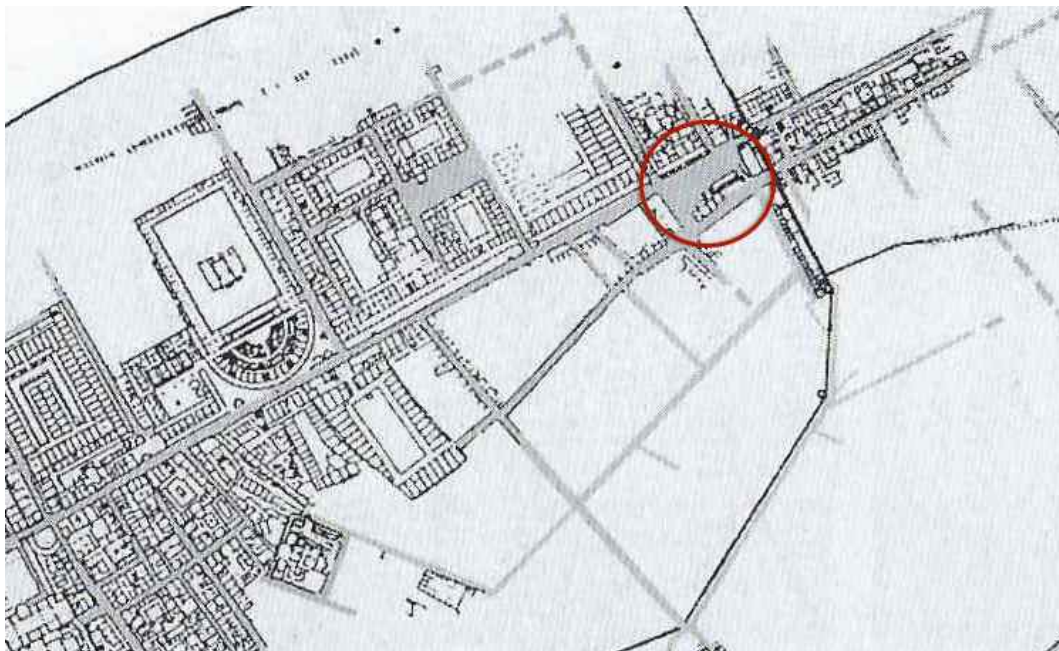

Figure 9: Location of the Piazzale della Vittoria (after Heinzelmann 2002, 107).

Besides the Porta Romana, the eastern part of Ostia was equipped with another, smaller gate, the Porta Secondaria, constructed during the reign of Hadrian. This gate is located at a short distance to the south and served as a secondary gate. The Porta Secondaria links to the Via dei Sepolcri. This road runs

parallel to the Via Ostiensis, connecting to it further outside the city. Outside of the Porta Romana a necropolis is located containing almost 60 individual graves (Heinzelmann 2000, 29). These graves, except for one built against the city wall, will not be taken into the map because the graves were reused and built over on multiple occasions.

Besides the fact that this would make a single clear overview rather difficult, identifying the different building periods of these structures would not help us with this study. With the construction of the Porta Secondaria, and the accompanying new part of road, new spaces became available for people to have their tomb placed along a street and the number of graves increased (Scott 2012, 85). The following figure shows a close-up from the Porta Romana with the examined area encircled and the buildings colour-coded (fig. 10).

Figure 10: Close-up of the Porta Romana with the research area indicated by the red circle (after Mannucci 1995).

List of buildings:

1- *Sacello, Reg. II, Is. II, 4. – 117-138 AD.*

2- *Mithraeum, Reg. II, Is. II, 5. – 117-138 AD.*

3- *Magazzini Repubblicani, Reg. II, Is. I, 2. - 50-30 AD.*

4- *Shops to the south of Magizzini Repubblicani – 50 AD.*

5- *Caseggiato del cane Monnus, Reg II, Is. I, 1 – 98-117 AD*

6- *Porta Romana and city wall – Around 50 BC.*

7- *Caseggiato, Reg. V, Is. XVIII, 1. – 161-180 AD.*

8- *Ninfeo su Piazzale della Vittoria, Reg. V, Is. XVII, 2. – 300-400 AD.*

9- *Grave* – around 25 BC. (Following Heinzelmann 2000, 36)

10- *Caseggiato* - 98 - 117 AD. (Following Heinzelmann 2000, 30)

11- *Addition to the caseggiato – 193-235 AD.*

12- Terme dei cisiari – 117-138 AD.

7.1.1 Buildings at the Porta Romana

The first building constructed at this site is the Porta Romana and the city wall itself around 50 BC (6). They were followed by the development of the Magazzini Repubblicani (3) inside the city walls. The Magazzini contained workshops and stores and were built between 50 and 30 AD (Meiggs 1960, 130). Shortly after the construction of the Magazzini Repubblicani, an additional row of shops was founded to the south with entrances not facing towards the busy *decumanus* but towards the north (4). The next building was constructed directly outside the city walls and concerned a grave (9), which was erected around the last quarter of the first century AD (Heinzelmann 2000, 36).

Hereafter, in the Trajan period, the Caseggiato del cane Monnus (5) was built directly inside the city walls with some parts of the building resting against the northern part of the Porta Romana. The construction was carried out simultaneously with the founding of an Insula (10) on the opposite of the city wall. Between 117 and 138 AD the area around the Porta Romana saw the erection of both a *mithraeum* (1) and a *sacello* (2) or small shrine. The buildings were built next to each other and seem to have had a doorway connecting the two buildings. The *mithraeum,* blocks a former street, which apparently came out of use. Next to these two buildings, a new bath complex, *Terme dei* cisiari was constructed.

The next building that was constructed concerned a *caseggiato* (7), which was built during the reign of Marcus Aurelius. This building is located directly against the southern part of the Porta

Romana and parts of the city wall. Between 193 and 235, an *insula* (10) built in the Trajanic period was expanded with a wall (11), towards the Via Ostiensis. The last notable development at the Porta Romana was the foundation of the Ninfeo su Piazzale della Vittoria, built (8) between 300 and 400 AD. In front of the Ninfeo, a large open space was kept clear from construction, which could be used for various activities.

7.2 Porta Laurentina

The Porta Laurentina is the gate situated to the south, deriving its name from the Laurentine territory which lies further to the south (Meiggs 1960, 522). Running through the Porta Laurentina is the Via Laurentina, which converts into the *cardo maximus* upon entering the city. The Via Laurentina is facing towards the rural hinterland of Ostia. On the inside of the city wall the large religious complex of the Magna Mater, also known as Cybele, can be found (Stöger 2007, 349). A short distance outside of the Porta Laurentina, a second necropolis is located (Heinzelmann 2000, 38). The following map will present a close-up from the Porta Laurentina with the examined area encircled and the buildings color-coded (fig. 11).

Figure 11: Close-up of the Porta Laurentina with the research area indicated by the red circle (after Mannucci 1995).

List of buildings:

1) *Tempio della Magna Mater, Reg. IV, Is. I, 1. – 117-138 AD.*

2) *Portico, Reg. IV, Is. I, 2. – 117-138 AD.*

3) *Terme del Faro, Reg. IV, Is. II, 1. – 98-117 AD.*

4) *Portico and Caseggiato dell'Ercole, Reg. IV, Is. II, 2-3. – First half first century AD.*

5) *Taberne, Reg. IV, Is. I, 9. – 117-138 AD.*

6) *Schola Degli Hastiferi, Reg. IV, Is. I, 5. – 138-161 AD.*

7) *Sacello, Reg. IV, Is. I, 8. – 117-138 AD.*

8) *Sacello di Attis, Reg. IV, Is. I, 3. – First half first century AD.*

9) *Extension of the Sacelli di Attis with apse, Reg. IV, Is. I, 3. – Second half third century AD.*

10) *Tempio di Bellona, Reg. IV, Is. I, 4. – 138-161 AD.*

11) *Casegiatto, Reg. I, Is. XIII, 5. – 193-235 AD.*

12) *Domus delle Gorgoni, Reg. I, Is. XIII, 6. – Fourth and fifth century AD.*

13) *Horrea, Reg. V, Is. I, 2. – First half first century AD.*

14) *Caseggiato, Reg. V, Is. I, 1. – 193-235 AD.*

15) *Porta Laurentina and city wall – Around 50 BC.*

16) *Fossa Sanguinis – First century AD (Following Rieger 2004, p.111)*

7.2.1 Buildings at the Porta Laurentina

Again, the first constructed buildings in this part of Ostia are the walls and city gates in the first century BC (15). The second building phase took place during the first half of the first century AD, when the construction of the Caseggiato dell 'Ercole (4) and the accompanying portico began. At the same time, work commenced on the *horrea* (13) and a *sacello* (8) or shrine, dedicated to Attis was built, which was therefore the first religious structure on the Campo della Magna Mater (Rieger 2004, 104). Furthermore, in the first century AD, work commenced to convert one of the towers in the wall into a so-called *Fossa Sanguinis* (16). This *Fossa Sanguinis* seems to be a type of shrine where animal blood sacrifices could be carried out (Rieger 2004, 111–112).

Between 98 and 117 AD work began on the Terme del Faro (3). This was followed by the Hadrianic period in which a considerable amount of buildings appear. To begin with, the Tempio della Magna Mater (1) was erected together with a portico (2), which ran along the city walls next to the Campo della Magna Mater. Furthermore, a shrine (7) was constructed on the Campo together with a dozen shops (5) on the west side of the Via Laurentina.

During the reign of Antonius Pius, the Schola degli Hastiferi (6) was built together with the Tempio di Bellona (10), which was placed directly against the western part of the Porta Laurentina. The period between 193 and 235 AD shows the foundation of two Caseggiati. Whereas one of these was constructed to the

gate on the east side of the Via Laurentina (14), the other group of buildings was built more inwards in Ostia itself (11).

The second to last building period only saw the extension of the Sacelli di Attis (9) with an apse. Construction around the Porta Laurentina area ended with the development of a large domus, called the Domus delle Gorgoni (12) around the fourth and fifth century AD, which was partly made up out of walls belonging to older buildings.

7.3 Porta Marina

The third gate of Ostia included in this study is the so-called Porta Marina. It is facing westwards towards the coastline. The Porta Marina offers passage to the *decumanus maximus*. Outside of the gate a large square is present, called the Foro di Porta Marina. Furthermore a large funerary monument, belonging to P. Lucius Gamala Sr, dating around 30 BC can be found here (Meer, van der et al. 2005, 91). The following figure will provide us with a close-up from the Porta Marina with the examined area encircled and the buildings color-coded (fig. 12).

Figure 12: Close-up of the Porta Marina with the research area indicated by the red circle (after Mannucci 1995).

List of buildings:

1) *Caseggiato, Reg. III, Is. VII, 7. – 98-117 AD.*
2) *Caseggiato, Reg. III, Is. VII, 6. – 98-117 AD.*
3) *Caseggiato, Reg. III, Is. VII, 5.* - Second half first century AD.
4) *Domus Fulminata, Reg. III, Is. VII, 3-4.* - Second half first century AD.
5) *Caseggiato, Reg. III, Is. VII, 3. – 117-138 AD.*
6) *Tempio della Bonna Dea, Reg. IV, Is. VIII, 3.* - First half first century AD.
7) *Ninfeo, Reg. IV, Is. VIII, 4.* - Second half third century AD.
8) *Caseggiato, Reg. IV, Is. VII, 5. – 117-138 AD.*
9) *Foro di Porta Marina, Reg. IV, Is. VIII, 1. – 117-138 AD.*
10) *Domus, Reg. IV, Is. VIII, 6.* - Second half third century AD.
11) *Cisterna, Reg. IV, Is. VIII, 2. – 117-138 AD.*
12) *Monumento sepolcrale, Reg. III, Is. VII, 2.* - First century BC.
13) *Caseggiato, Reg. III, Is. VII, 1. – 117-138 AD.*
14) *Caupona di Alexander Helix, Reg. IV, Is. VII, 4. – 193 -235 AD.*
15) *Caseggiato, Reg. IV, Is. VII, 5. – 117-138 AD.*
16) *Caseggiato, Reg. IV, Is. VII, 3. – 117-138 AD.*
17) *Portico della fontana con Lucerna, Reg. IV, Is. VII, 1 – 117-138 AD.*
18) *Caseggiato, Reg. III, Is. VI, 2. – 117-138 AD.*
19) *Domus del Ninfeo, Reg. III, Is. VI, 1.* - Fourth and fifth century AD.
20) *Caseggiato, Reg. III, Is. VI, 3. – 117-138 AD.*
21) *Ninfeo, Reg. III, Is. VI, 4. – 117-138 AD.*

22) *Caseggiato, Reg. III, Is. VIII, 1.* - Fourth and fifth century AD.

23) *Porta Marina and city wall – Around 50 BC.*

24) *Domus dei Dioscuri, Reg. III, Is. IX, 1. – 117-138 AD.*

25) *Edificio, Reg. III, Is. III, 2. – 117-138 AD.*

26) *Caseggiato della fontana con Lucerna, Reg. IV, Is. VII, 1. – 117-138 AD.*

27) *Loggia di Cartilio Poplicola – Reg. IV, Is. IX, 1. – 117-138 AD.*

7.3.1 Buildings at the Porta Marina

Constructions at the Porta Marina began with the foundation of the wall and gate (23) in the first century BC. During the same period a funerary monument (12) was erected just outside the gate, *decumanus maximus*. The following period, which concerns the first half of the first century AD, saw the foundation of a Temple dedicated to Bona Dea (6) on the opposite side of the road and the construction of the *Loggia di Cartilio Poplicola* (27) on the southern side of this intersection. This was followed by the construction of a *caseggiato* (3) and the so-called Domus Fulminata (4) in the second half of the first century AD.

During the period between 98 and 117 AD, two blocks of buildings (1,2) were developed along the *decumanus,* followed by a rather active building phase in the Hadrianic period. This period saw the foundation of another building block along the *decumanus* (5) and a second group of buildings (13) against the northern part of the Porta Marina just outside the gate.

Furthermore, the *Foro di Porta Marina* (9), a large forum outside the Porta Marina was erected with just to the south a large strip of buildings, (8) and to the east of the forum a water cistern (11). Inside the city walls, this period shows building blocks both on the north (20) and south side (15) of the Porta Marina, constructed against the existing city wall. Moreover, to the south (16) and north (18+25) of the *decumanus* long sections of premises were constructed; together with the *portico* and *Caseggiato della Fontana con Lucerna* (17+26) on the south side of the road. Further into the city, the *Domus dei Dioscuri* (24) was erected. Lastly, a *ninfeo* (21) on the east side of the city wall was founded.

The next period that encountered new buildings in the area around the Porta Marina was between 193 and 235 AD when the Caupona di Alexander (14) was established. This building was placed inside the southern part of the Porta Marina and therefore incorporated into the gate. During the second part of the third century AD, the *Tempio di della Bonna Dea* was expanded by adding a *nymphaeum* (7), which opened to the street. Furthermore, a domus was constructed slightly to the southeast of the Forum (10).

The last period of construction saw the building of a *caseggiato* (22) slightly to the north of the gate and the conversion of a building block into a domus called the *Domus del ninfeo* (19) placed on the north side of the *decumanus* inside the city walls.

7.4 *Conclusion*

A total of 55 buildings are recognized in the combined areas at the city gates. The digital map illustrates that during the period under Hadrian by far most of the buildings were constructed. During this time, 40% of the total amount of buildings around the city gates has its origin. From this number, sixteen buildings are identified as *caseggiati,* which comprise around 35% of the urban composition around the gates. This group of buildings, which functioned as residential- and commercial space, offered residential space for the growing number of inhabitants of Ostia. It might therefore not come as a surprise when we notice that 50% of the *caseggiati* are built between 117-138, at the time of Hadrian when Ostia was rapidly expanding. All of the *caseggiati*, in the area of the gates, founded in this period, are located at the Porta Marina.

The rest of the buildings do not show any clear patterns with all different building types being constructed across all the periods. At the same time, the diversity of building types found at the gates demonstrates that the gate areas had multiple functionalities and responded to a number of infrastructural demands. Therefore, we can say that the diversity of buildings at each gate is, in fact, also a pattern.

8. How did Ostia's inhabitants perceive the city walls?

This chapter concentrates on the specific buildings around the city gates that seem to have had a different relationship with the city wall and gates, compared to the rest of the surrounding buildings. These constructions can therefore be regarded as indications that the function of the city wall had changed. As Russel Meiggs (1960) stated, in order for a wall to act as a defensive entity, the direct area around the wall has to be clear of any type of buildings. Therefore we can assume that when buildings were constructed in these areas, the walls had lost their defensive function and were no longer off-limits for construction.

8.1 Porta Romana

Starting off with the Porta Romana, the very first building, which was almost built simultaneously with the construction of the wall kept its distance. The Magazinni Repubblicani was founded at a reasonable distance from the wall, as we would expect. Surprisingly, the next building that was founded did not follow up on this assumption. Already 25 years after the completion of the walls, a grave was constructed against the southern part of the Porta Romana (fig. 13). Even more surprisingly, is the fact that the western wall of the grave consisted of the actual defensive wall of Ostia.
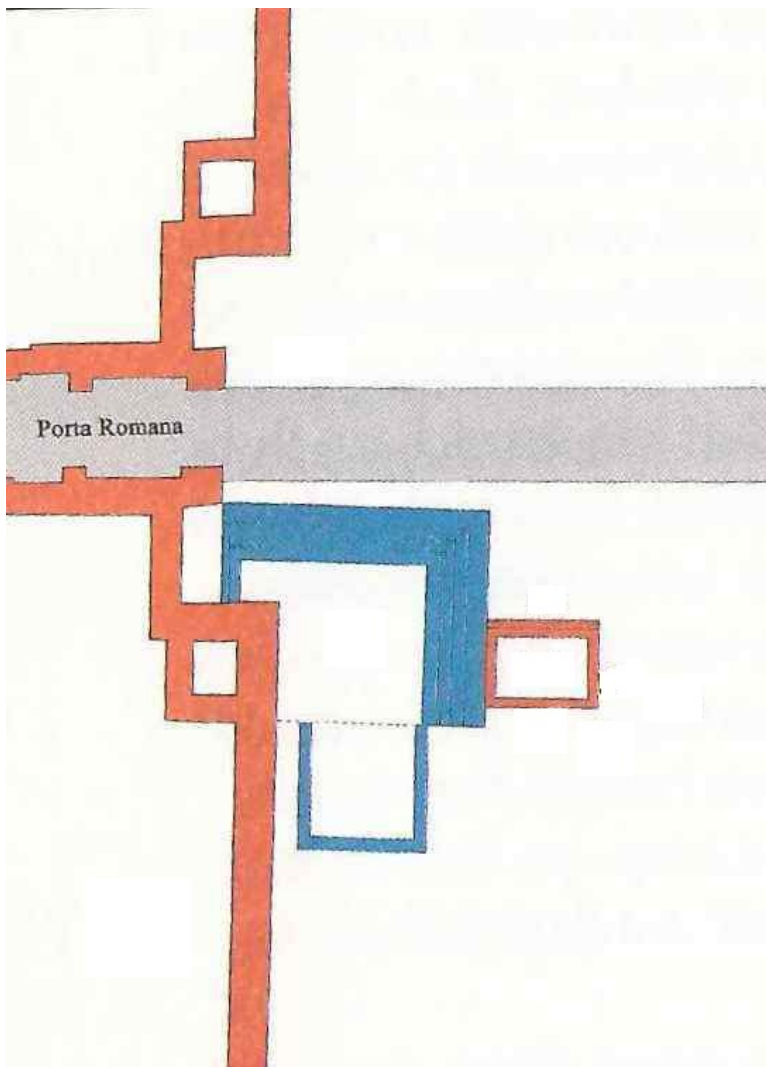
Figure 13: Porta Romana with the grave (in blue) constructed against the wall (Heinzelmann 2000, 36).

The same can be seen on the northern part of the Porta Romana during the Trajan Period. Here, inside the city wall, a small construction was erected that according to Calza belonged to the Caseggiato del Cane Monnus. It was built around the northern tower but in this case did not make complete use of the existing city walls. Rather, the northern part of this building got a new set of walls, placed against the current city wall. On the opposite of the wall another Insula containing shops and dwellings was constructed (Heinzelmann 2000, 30). In contrast to the building

on the opposite of the same wall, no new walls were placed against the defensive wall (fig. 14).
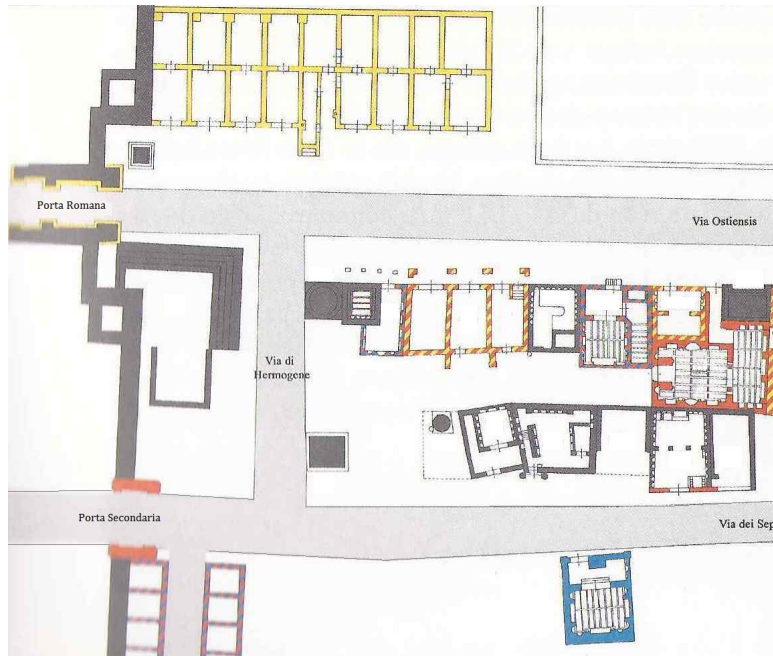

Figure 14: Insula (in yellow) at the Porta Romana, constructed against the city wall (Heinzelmann 2000, 37).

During the reign of Marcus Aurelius, which lasted from 161 until 180 AD, the last building was constructed against the city wall. This property was located inside the city and was fitted neatly between the southern part of the Porta Romana and the Porta Secondaria. The eastern wall of this building consists almost entirely of the city wall with the exception of a small chamber in the northern part of the property.

8.2 Porta Laurentina

At the Porta Laurentina, it takes some time after the construction of the city walls before the first buildings are erected. However,

during the first century AD, the tower that was incorporated in the wall was converted into the Fossa Sanguinis (Rieger 2004, 112). No new interior walls were erected and only slight modifications were carried out. The following building periods saw some constructions further away of the gate and wall until the mid-second century the Temple of Bellona was constructed. This temple was located on the area assigned to the Magna Mater and was placed in the corner of the southwestern part of the Porta Laurentina. Although a reasonable part of the building's wall could be made of the existing wall, no use was made of them and the whole building was constructed with new walls against the defensive wall.

The final building period took place between 193 and 235 AD, and shows a long row of shops on the inside of the Porta Laurentina and one on the outside of the gate. These buildings were placed against the northeastern part of the gate and on both sides a new wall was erected against the city wall. The shop inside the city, closest to the gate seems to have replaced a portion of the Porta Laurentina.

8.3 Porta Marina

During the first couple of periods after the completion of the Porta Marina and the city walls, buildings were only constructed at a distance from the gate. It lasted until the Hadrianic period that the first buildings reached the city walls. The Forum of the Porta Marina was erected, which only slightly touched the southern tower of the Porta Marina with its northern corner. At

the same time, a building was constructed against the northern tower of the gate but leaving a small space between the existing defensive wall and the wall of the building. Furthermore, on the opposing of the wall a building was founded, which partially touched the city wall but had its own walls. To the south of the gate, a couple of long stretched rooms were built, which ran alongside the defensive wall.

The most remarkable construction comes from the Severan period and consists of a bar, named the bar of Alexander and Helix, after the mosaics that are present on the floor. The tavern comprises two rooms and was one of the biggest taverns in Ostia (Hermansen 1981, 172). The bar is situated inside the corner of the southern part of the Porta Marina. The most notable aspect however is that the bar has multiple entry points of which one is facing the *decumanus maximus* and therefore is placed inside the gate.

8.4 The function of the city wall of Ostia
When we follow the statement made by Russel Meiggs (1960) that city walls need a zone free of buildings inside and outside the city, the walls of Ostia seem a bit off from the beginning. But after further consideration the main function of the gates might not have been a defensive one after all. Although at first, the main reason to build these walls was to offer a good defence against piracy, this threat was almost gone at the time the walls were completed (Meiggs 1960, 39). Furthermore, the Roman

Empire now entered a period of relative peace and Ostia; being in the centre of the empire had less to fear.

Therefore it seems probable that the function of the walls changed from defensive to an indicator of the city's boundaries. This can be seen at several other *Coloniae,* all of over the Empire, for example, Cologne and Xanten (Tilburg, Van 2008, 134). Van Tilburg states that in these cases, the walls were a guide line for the administrators of these colonies, to make distinctions between activities which take place inside and outside the city walls (Tilburg, Van 2008, 134). He further notes that, although these walls were not purely erected for defence, the gates could nevertheless be closed in times of danger (Tilburg, Van 2008, 136).

9. *The composition of Ostia's built environment*

This chapter concentrates on the composition of the built environment of Ostia. It describes the most common types of buildings that are encountered across the city. Knowledge on the composition Ostia's urban landscapes provides us with the opportunity to compare the city's buildings to the urban fabric around Ostia's gates. This enables us to drawn conclusion whether the presence of the gates had an impact on the built environment.

In order to get an overview of the different buildings that can be found in Ostia, the index that is provided by Calza (1953) is used. By organizing and tallying all of the structures, we get a notion of which buildings are mostly found in Ostia and in turn we can compare this number with the amount of similar buildings found around the gate. It must be noted that this list of buildings is not complete due the fact that not the whole city has been unearthed and the function of some buildings are yet unknown.

9.1 The buildings of Ostia
By far the most present building in Ostia are the so-called *caseggiati* of which over 150 are registered by Calza. Less frequent but still quite abundant are buildings that Calza classifies as *insulae,* of which almost 70 are identified. Calza defines the difference between a *caseggiato* and an *insula* as an *insula* being a complex building and a *caseggiato* being an even

more complex building. *Caseggiati* can bear multiple functions with shops placed at ground level and higher floors acting as living quarters (Stöger 2011, 67).

Far away from the large quantities of *insulae* and *caseggiati* present in Ostia we find the *Domus*, large domestic buildings often consisting of multiple apartments that are converted to a single residence. Throughout the excavated parts of Ostia we find around 25 of this building type.

With approximately eighteen units the baths of Ostia are also one of the most frequently found buildings closely followed by the amounts of *horrea*, temples and *nymphaea* with each of them represented on approximately fifteen occasions. The last three types of buildings consist of the *taberna* of which at least nine are identified. The taverns are followed by the *sacello and mithraeum,* which are presented by respectively seven and six separate buildings in Ostia.

The urban fabric of Ostia is composed out of far more different types of buildings, each with a specific function as for instance the *schola* and theatre. These, however, are represented in small numbers, often only once, and are therefore not useable for any comparison to the urban fabric around the city gates.

9.2 The buildings around the city gates
With comparing the number of certain buildings in Ostia to the number of the same buildings found around the city gates one

has to be cautious. Only from really conspicuous instances, recurring on multiple occasions is it safe to draw strong conclusions. Therefore, all the building types from which only a few are found in Ostia will be left out of the equation because the chance is too high that their location, presence or absence are a result of coincidence.

Keeping in mind that the area around the city gates combined is still only a small portion of Ostia's total surface we see that sixteen *caseggiati* are identified. This makes up around 10% of the total amount of *caseggiati* spread around the city, which is an amount that can be expected when looking at the difference in size.

The second most abundant building type, the *insulae,* shows a different result. With only one building at the gates identified as being an *insula*, this produces a mere 1% of the total amount of *insulae* throughout Ostia.

Looking at the *domus* buildings, a normal expected pattern reoccurs. With four buildings identified as *domus*, 22% of the total amount of *domus* are found at the gate. Although this is more than the 10% encountered at the *caseggiatos,* the difference is not significant enough in for us to draw conclusions from it.

When we look at the number of baths found at the gates we see the same pattern. Here, again around 10% of the total number of baths is found at the gates. Almost, none of the other building types seem to deviate far from this percentage except one.

The last building type that in fact differs from the rest is the *horrea.* Throughout the excavated parts of Ostia, fifteen *horrea* have been identified*.* From geophysical surveying in the unexcavated parts of the town, at least ten more *horrea* have been recognized (Heinzelmann 2002, 112). Because we did not use the data from the areas of Ostia, which are still buried, we have to refrain from using it in this case but we should keep it in mind when looking at the percentage of *horrea* encountered around the gates. From the total number of *horrea* in Ostia, only one is found at the gates. This makes up a mere 7% of the total, which declines even further when we add the ten other, unexcavated *horrea*.

9.3 How to explain the insulae and horrea?

When looking at the two building types that are underrepresented at the gates their absence at first seems odd. Though, when examining the functions that are ascribed to the *Caseggiatos* we notice that, besides acting as a residence, these buildings often were equipped with a shop at the ground level. Taking into account that the gates were located at the busiest, main roads of the city, having a shop closest to the city gates would make them attractive to traffic coming into the city. It would be therefore unwise to only construct a residential building when one could make more profit when shops were placed inside it.

The lack of *horrea*, large storage facilities, around the gates is a different matter. Because most of the goods that entered Ostia were transported over water, it seems likely that the majority of these facilities are located near the river to provide an easy access.

Indeed, many *horrea* are placed between the river and the *decumanus* but surprisingly, a large amount of them is constructed farther away from the Tiber (Stöger 2011, 10). The fact that the *horrea* were constructed to function as warehouses for goods coming from the river is shown by the orientation of the buildings. They are placed in a way that the only visible access fronts towards the waterside (Johnson 2003, 104).

However, the question still remains why a considerable number of the *horrea* was constructed away from the river. This phenomenon is explained by Heinzelmann (2002) who states that the bulk cargo like grain and marble were shipped to Portus instead of Ostia. Heinzelmann further argues that the *horrea* at Ostia rather had acted as storage facilities that housed more selected and profitable items. He comes to this conclusion due to the presence of commercial premises along the facades of the *horrea*. Because these are absent at Portus, Heinzelmann concludes that the goods that were stored at Ostia were sold straight from the *horrea*. He strengthens his argument when he points towards the architectural features that are present found at several of the *horrea.* These monumental entrances are intended to attract possible customers and are nothing like the sober warehouses found at Portus (Heinzelmann 2002, 113-114).

Nevertheless, the fact that the *horrea* in Ostia also acted as a shop does not completely explain why there is only one near Ostia's gates. However, on second glance when we zoom out from the direct vicinity of the gates, at least four large *horrea* appear to the north and south of the eastern *decumanus.* These enormous buildings are slightly further away from the Porta Romana and it is perhaps because of their size that none of the *horrea* could possibly be constructed in the already crowded area around the city gates.

10. How did the gates affect the urban composition?

This chapter synthesises the information that is gathered throughout the previous chapters. It will inform us 'if' and 'how' all the different factors played their role in the formation of the urban fabric as encountered at the gates.

As mentioned in the previous chapters, certain practices were not allowed inside the city walls. This resulted firstly in the amount of funerary structures right outside the gates. As burials were prohibited inside the city, the graves clustered outside the city, which is clearly visible at the Porta Romana. Secondly, the gates acted as a bottleneck where large amounts of travellers would have to travel through in order to enter or leave the city. This resulted in the considerable amount of *caseggiati* with shops at ground level. Presumably these shops offered a high variety of goods and services and contributed to the diversity of land-uses around the gates.

When we follow the comment made earlier by Blomquist, who states that Middle Eastern gates became a civic space where people could meet, we can take another look at the open spaces found around the gates (Blomquist 1999, 17). Looking at the Porta Marina, it is clear that such an open space existed just outside the gate in the form of the *Foro di Porta Marina.* Such space did in fact also exist at the Porta Laurentina, although it is perhaps less obvious. A large open space can be found directly inside the walls, the Campo della Magna Mater. Furthermore, a

smaller open space is present at the point where the *cardo maximus* and the Semita dei Cippi divide.

Whilst examining the area around the Porta Romana, we notice that this location is also equipped with an open space. The open space in this area is a large square, known as the Piazzale della Vittoria.

From Calza (1953), we know that the *Foro di Porta Marina was founded during the reign of Hadrian, between 117 and 138 AD.* The Campo della Magna Mater is older, with its first building being constructed during the *first half of the first century AD.* According to Sear, the Piazzale della Vittoria was constructed during the third century AD (Sear 1982, 132). However, maps dealing with earlier periods of Ostia's city plan already show an open space during the second century BC. All three of the open spaces are conveniently placed at the city gates and are therefore easily accessible for people from outside and inside Ostia. Furthermore, the spaces are large enough to offer place to a considerable amount of individuals, and large enough to allow many activities taking place at the same time.

Further examination of the different types of buildings encountered at the gates show that most of the expected buildings are represented. Through the large amount of *caseggiati,* residential space is provided and considerable space for commercial activities is presented. Furthermore, basic needs are provided in the form of baths and *tabernae*, located around the gates. These are supplemented with a number of religious

buildings as temples, *mithraeum's*, nymphaea and *sacella*. With practically all of the most common types of buildings on site and the presence of open area's where people have the opportunity to gather, we can look at these areas as a kind of 'gate communities'. This fits in the view provided by Newsome when he is discussing the Porta Capena in Rome. He notices the presence of *tabernae,* baths, temples and a market at the Porta Capena and interprets this as all desirable necessities clustered in one area. He further argues that therefore people not only move 'through' a gate but also moved 'to' a gate (Newsome 2011, 28–29). The presence of all these different types of buildings, and the large open areas would act as a magnet to the citizens. People were able to do their daily errands, do their ritual practices but maybe most importantly; they could meet other people at the open spaces and work on their social relationships.

When we project this onto the situation found at Ostia we can see that not only the 'necessities' are present but these are also complemented with open spaces where people could carry out in al sorts of activities. This strengthens the idea that a city has multiple activity centres, serving a number of communities. It could be the local neighbourhood of residence living close to the gates. The area could also serve people coming from outside the city, or live in the suburban areas of various communities that are present inside one city. People could not only gather at the centre of a town but also at the gates making the gates centres of activity on both the social and commercial level.

When we look at building types that are absent around city gates, none of the buildings found at other parts of Ostia stand out. Approximately twenty different types of building have been identified at the city gates and an equal amount of building types is absent at the city gates. Although these numbers seem to suggest that quite a large amount of buildings are absent, almost all of the buildings that are missing at the gates are only once or twice represented in the entire city. This low number is not considerable enough to draw conclusions upon, although it is entirely possible that certain types of buildings were deliberately excluded from the gate area. This should be investigated by comparing similar situations found at city gates in other cities throughout the Roman Empire.

11. Conclusion

This study provided a thorough analysis of the processes that formed the urban composition around the city gates of Ostia by examining the digital map of the city and focussing at the buildings at the city gates. Examination was conducted on the assumption that the urban composition and the layout of a city as a whole can inform us on the society that lived inside it.

By examining the urban landscape of the areas around the city gates and by comparing this data to the urban composition throughout the rest of Ostia we noticed that the area around the city gates is equipped with a wide diversity of building-types. Around the gates we encountered all of the building that were needed for everyday life in Roman Ostia. A large quantity of *caseggiati* was found at the gates, which can be explained by the commercial function that these buildings had which was a response to the large amount of people that visited these areas. The presence of the *caseggiati* resulted in fewer amount of buildings that were identified as *insulae,* which did not have this commercial function.

Besides the urban composition, the urban spaces were also under examination, which showed that around all of the gates of Ostia, a large open space was present. These open spaces were the Piazzale della Vittoria at the Porta Romana, the Campo della Magna and a smaller open space at the point where the *cardo maximus* and the Semita dei Cippi divide at the Porta Laurentina and the Foro di Porta Marina at the Porta Marina. As is suggested

by Newsome (2011), who states that city gates became a place to gather instead of a place to move through, we can conclude that this was also the case at Ostia. With all of the important buildings available and the presence of meeting places in the form of the open spaces, the city gates provided the whole spectrum that Romans would desire on a daily basis, making it the ideal places to meet and conduct all sorts of activities.

By examining the buildings that were constructed against the city walls we were able to conclude that soon after their completion, the city walls of Ostia had lost their primary defensive function. This is shown by the fact that swiftly after the walls were finished, buildings were constructed against the city walls, a practice not expected if the walls would have to be able to defend Ostia. It can be argued that the walls rather became an indication of the boundary of the city during a period of peace in the Roman Empire.

For future research at Ostia firstly a thorough examination of the buildings, and the possible city wall found to the north of the Tiber on the Isola Sacra suggested. This helps us to understand the nature of this area and perhaps shed light on the full extent of the city walls. Secondly, a study that deals with the unexcavated southeastern part of the city, which identifies all of the structures still buried, would be of great help to encompass the full composition of Ostia. Lastly, a study that compares the composition of the urban fabric found around Ostia's gates, to other cities in the Roman Empire is highly suggested. This will help us to understand if the situation encountered at Ostia can

be seen as a local phenomenon or that it is a common feature that is found throughout the Roman Empire.

Bibliography

Beard, M., J. North and S.R.F. Price, 1998. *Religions of Rome: Volume 1, A History*. Cambridge: Cambridge University Press.

Bellotti, P., G. Calderoni, F. Di Rita, M.D'Orefice, C. D'Amico, D. Esu, D. Magri, M. Preite Martinez, P. Tortora and P. Valeri, 2011. The Tiber river delta plain (central Italy): Coastal evolution and implications for the ancient Ostia Roman settlement. *The Holocene* 21(7), 1105–1116.

Bloch, H., 1953. I bolli laterizi e la storia edilizia di Ostia, in G. Calza, G. Becatti, M. FLoriani Squarciapino, R. Calza, P. Pensabene, A.L. Pietrogrande, P. Baccini, L. Paroli and C. Pavolini (eds), *Scavi di Ostia I*, *Topografia Generale,* Rome: Instituto Poligrafico e Zecca dello Stato/Libreria dello Stato, 215–227.

Blomquist, T.H., 1999. *Gates and Gods: Cults in the City Gates of Iron Age Palestine : An Investigation of the Archaeological and Biblical Sources*. Stockholm: Almqvist & Wiksell International.

Boin, D., 2013. *Ostia in late antiquity*. Cambridge: Cambridge University Press.

Calza, G., 1946. Il Santuario della Magna Mater a Ostia. *Atti della Pontificia Accademia romana di archeologia* 6, 183–205.

Campbell, B., 2012. *Rivers and the Power of Ancient Rome*. Chapel Hill: The University of North Press.

Chiaramonte, C., 2007. The Walls and Gates, in P. Foss and J.J. Dobbins (eds), *The World of Pompeii*, London and New York: Taylor & Francis, 140–149.

Claridge, A., 1998. *Rome: An Oxford Archaeological Guide*. Oxford: Oxford University Press.

Coates-Stephens, R., 2004. *Porta Maggiore: monument and landscape : archaeology and topography of the southern Esquiline from the Late Republican period to the present*. Rome: L'Erma di Bretschneider.

Conzen, M.R.G., 1960. Alnwick, *Northumberland: A Study in Town-Plan Analysis.* London: Institute of British Geographers.

Cooley, A., 1999. A new date for Agrippa's theatre at Ostia. *Papers of the British School at Rome* 67, 173–182.

Dey, H.W., 2011. *The Aurelian Wall and the Refashioning of Imperial Rome, AD 271-855*. Cambridge: Cambridge University Press.

Germoni, P., 2011. The Isola Sacra: Reconstructing the Roman landscape, in S. J. Keay and L. Paroli (eds), *Portus and its hinterland: recent archaeological research*, Rome: British School at Rome, 231-260.

Goodman, P., 2006. *The Roman City and its Periphery: From Rome to Gaul*. London and New York: Taylor & Francis.

Graham, E.-J., 2005. The Quick and the Dead in the Extra-urban Landscape: the Roman Cemetery at Ostia/Portus as a Lived Environment, in J. Bruhn, B. Croxford and D. Grigoropoulos (eds), *TRAC 2004*, *Proceedings of the fourteenth Annual Theoretical Roman Archaeology Conference*, Oxford and Oakville: Oxbow Books, 133–143.

Heinzelmann, M., 2000. *Die Nekropolen von Ostia: Untersuchungen zu den Gräberstraßen vor der Porta Romana und an der Via Laurentina*. München: Verlag Dr. Friedrich Pfeil.

Heinzelmann, M., 2002. Bauboom und urbanistische Defizite - zur städtebaulichen Entwicklung Ostias im 2. Jh, in C. Bruun and A. Gallina Zevi (eds), *Ostia e Portus nelle loro relazioni con Roma*, Rome: Institutum Romanum Finlandiae, 103–121.

Heinzelmann, M., H. Becker, K. Eder, and M. Stephani, 1997. Vorbericht zu einer Geophysikalischen Prospektions-Kampagne in Ostia Antica. *Mitteilungen des Deutschen Archaeologischen Instituts, Roemische Abteilung* 104, 537–548.

Hermansen, G., 1981. *Ostia: Aspects of Roman City Life*. Edmonton: The University of Alberta Press.

Holloway, R.R., 1996. *The Archaeology of Early Rome and Latium*. London:Routledge.

Johnson, P., 2003. Late Roman Economic Systems: Their Implication in the Interpretation of Social Organisation, in G. Carr, E. Swift, and J. Weekes (eds), *TRAC 2002*, *Proceedings of the Twelfth Annual Theoretical Roman Archaeology Conference*, Oxford and Oakville: Oxbow Books, 101–112.

Jolivet, V., 1997. Croissance urbaine et espaces verts à Rome, in *La Rome impériale: démographie et logistique : actes de la table ronde (Rome, 25 mars 1994).* Roma: École francaise de Rome, 193–208.

Laurence, R., 1994. *Roman Pompeii*. London and New York: Routledge.

Malmberg, S. and H. Bjur, 2011. Movement and Urban Development at Two City Gates in Rome: the Porta Esquilina and Porta Tiburtina, in R. Laurence and D. J. Newsome (eds) *Rome, Ostia, Pompeii: movement and space*, Corby: Oxford University Press, 361–385.

Mannucci, V., 1995. *Atlante di Ostia antica*. Venezia: Marsilio Editori.

Mar, R., 1991. La formazione dello spazio urbano nella città di Ostia. *Mitteilungen des Deutschen Archäologischen Instituts, Römische Abteilung* 98, 81–111.

Martin, A., 1996. Saggio sulle mura del castrum, in A. Gallina Zevi and A. Claridge (eds), *Roman Ostia Revisited. Archaeological and Historical Papers in Memory of Russel Meiggs*, Rome: British School at Rome, 19–38.

Meer, van der, L.B., N.L.C. Stevens and J. Stöger, 2005. Domus Fulminata: The House of the Thunderbolt at Ostia (III, vii, 3-5). *BaBesch* 80, 91–111.

Meer, van der, L.B., 2012. *Ostia speaks: Inscriptions, buildings and spaces in Rome's main port*. Leuven: Peeters Publishers.

Meiggs, R., 1960. *Roman Ostia*. Oxford: Clarendon Press.

Morley, N., 1996. *Metropolis and Hinterland: The City of Rome and the Italian Economy, 200 BC-AD 200*. Cambridge: University Press.

Newsome, D.J., 2011. Making Movement Meaningful, in R. Laurence and D. J. Newsome (eds), *Rome, Ostia, Pompeii: movement and space*, Corby: Oxford University Press, 1–54.

Olinder, B., 1974. *Porticus Octavia in Circo Flaminio: Topographical studies in the campus region of Rome*. Lund: Paul Åströms Förlag.

Orlin, E.M., 2002. Foreign Cults in Republican Rome: Rethinking the Pomerial Rule. *Memoirs of the American Academy in Rome* 47, 1-18.

Orlin, E.M., 2008. Octavian and Egyptian Cults: Redrawing the Boundaries of Romanness. *American Journal of Philology* 129(2), 231–253.

Palmer, R.E.A., 1980. Customs on Market Goods Imported into the City of Rome. *Memoirs of the American Academy in Rome* 36, 217-233.

Patterson, J.R., 2002. On the Margins of the city of Rome, in V. M. Hope and E. Marshall (eds), *Death and Disease in the Ancient City*, London and New York:Routledge, 85–103.

Pavolini, C., 1986. *La Vita Quotidiana a Ostia.* Bari: Gius. Laterza.

Perring, D., 1991. Spatial organisation and social change in Roman towns, in J. Rich and A. Wallace-Hadrill (eds), *City and country in the ancient world*, London and New York: Routledge, 273–293.

Purcell, N., 1990. The creation of provincial landscape: the Roman impact on Cisalpine Gaul, in T.F.C. Blagg & M. Millet (eds), *The Early Roman Empire in the West*, Oxford: Oxbow Books, 7–30.

Rieger, A.K., 2004. *Heiligtümer in Ostia*. München: Verlag Dr. Friedrich Pfeil.

Roberts, J., 2007. *Oxford Dictionary of the Classical World.* Oxford: Oxford University Press.

Rykwert, J., 1976. *The Idea of a Town: The Anthropology of Urban Form in Rome, Italy and the Ancient World*. London: Faber and Faber Limited.

Scott, M., 2012. *Space and Society in the Greek and Roman Worlds*. Cambridge: Cambridge University Press.

Sear, F., 1982. *Roman Architecture*. Bath: The Pitman Press Ltd.

Stambaugh, J.E., 1988. *The Ancient Roman City*. Baltimore and London: The Johns Hopkins University Press.

Steuernagel, D., 2004. *Kult und Alltag in römischen Hafenstädten: soziale Prozesse in archäologischer Perspektive*. Stuttgart: Franz Steiner Verlag.

Stöger, J., 2007. Monumental Entrances of Roman Ostia. *BaBesch* 82(2), 347–363.

Stöger, J., 2011., *Rethinking Ostia : a spatial enquiry into the urban society of Rome's imperial port-town.* Leiden: Leiden University Press.

Tilburg, van, C.R., 2008. Gates, Suburbs and Traffic in the Roman Empire. *BaBesch* 2008(83), 133–147.

Zevi, F., 2004. Cicero and Ostia, in A. Gallina Zevi and J.H. Humphrey (eds), *Ostia, Cicero, Gamala, feasts, & the economy : papers in memory of John H. D'Arms*, Portsmouth (RI): Journal of Roman Archaeology.

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