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Rethinking Ostia : a spatial enquiry into the urban society of Rome's imperial port-town

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1 – Research in Ostia

Until the early 1990s Ostia was still considered to be one of those sites, which had been largely excavated but not equally well studied or published.¹ Over the last twenty years research activities in and around Ostia have substantially increased, involving a large number of Italian as well as foreign researchers and research teams. Most of all, the results of the intensive DAI project, based on geophysics and targeted excavations carried out in the unexcavated areas, have extended the city's boundaries far beyond expectations.² In this way the DAI project has not only provided new data for land-use and the organization of space in the suburban areas,³ but also contributed to a change of focus: from an inward oriented research tradition based on monuments and architectural structures, new projects developed with a focus on Ostia's extra mural territory and the city's wider context.

Russell Meigg's indispensable, monumental work *Roman Ostia*, published in 1960 and revised in 1973, remains the landmark in historical research.⁴ A re-evaluation of Ostia's urban development integrating the results of the last 40 years of archaeological and historical research is still to be written. Large-scale archaeological projects that aim at the incorporation of a multitude of data are still not well represented in Ostian research.⁵ Some smaller projects however

have attempted to link their specific research to the overall development of the city.⁶

Research at Ostia is generally carried out under the auspices of the *Soprintendenza per i Beni Archeologici*, which manages the site and approves research projects.⁷ The majority of projects currently under study are concerned with a particular building or a group of buildings for which the *Soprintendente* grants specific research permits. In this way individual projects are registered with the *Soprintendenza* and possible overlaps can be avoided. At the same time this administrative procedure seems to have influenced the way in which the site has been studied. As a result, research has been very compartmentalized and fragmented, dealing with one or a few aspects of the site at a time.

The way in which the established research tradition in Ostia was formed is not an isolated case; until the mid 1990s, fragmentations by subject boundaries are also well reflected in literature on ancient urbanism and architecture. Classical archaeologists have tended to focus on architectural details, often neglecting the social and political context. Likewise historians have been inclined to use examples from past building activities as evidence for the interpretation of economic or political trends, and have neglected the built environment itself. Only recently have historians and archaeologists attempted to come to terms with concepts of looking at urban space as a means of studying past urban societies. Within the considerable number of recent publications on Ostia, although to a large extent still dealing with specific

1. Kockel (1990: 99, note 2).

2. The Deutsches Archaeologisches Institut in Rom (DAI) carried out research in Ostia between 1996-2001. The project concentrated on the unexcavated areas; s. section 1.3 below.

3. See Heinzlmann (1998a: 183); Bradford (1957: 242-248) and Meiggs (1973: 473-474); Chapter Six of this study discusses Ostia's streets in the periphery.

4. Meiggs (1973).

5. DeLaine's urban project (DeLaine forthcoming) aims at a new evaluation of Ostia's urban development, concentrating on specific topics: the formation of urban identity; the nature and mechanics of urban change; the social structure of urban space; and the economics of urban life.

6. E.g. the Texas University project studying Ostia's Synagogue; the Kent/Berlin project directed by Gering and Lavan, examining Ostia in Late Antiquity.

7. Since 2009 the Soprintendenza of Ostia has been joined to the Soprintendenza of Rome and is now referred to as *Soprintendenza Speciale per i Beni Archeologici di Roma, Sede di Ostia*.

aspects of the site, a shift in perception can be noted.⁸ Gradually the city and its surroundings are being perceived as inhabited space rather than a collection of monuments.

In the following chapter a selection of 'Ostian studies' will be examined. All of them have synthesized and analysed recent information and excavation data, or have looked at already existing data with new research questions. The selection is focused on approaches related to urban formation and development, and above all, these studies show a heightened awareness of past urban space as a significant factor in urban development. These studies will be examined on how they conceptualize and analyse urban space, and will be evaluated in terms of their contribution to a better understanding of the overall organisation of the city.

1.1 HERMANSSEN: ASPECTS OF CITY LIFE, BUILDING-TYPES AND URBAN FORMATION

The starting point for this discussion is Gustav Hermansen's *Ostia: Aspects of Roman City Life*, published in 1982. Hermansen entered the scene when Ostia was only sparingly published. He investigated Ostia's 'little ephemeral material' that did not appeal to scholars as much as the grand marble sculptures and mosaics. The publication concentrates on the material culture of everyday life in the light of literary sources. The discussion is exploratory and selective with an emphasis on apartment living, the guilds, and the taverns of Ostia, thus providing a glimpse into the life and the

living spaces of the majority of Ostia's population. The study sets out with a number of pertinent questions concerning Ostia's urban development. From the very beginning, Hermansen expressed doubts about Ostia's 'Golden Age' in the 2nd century AD, which occurred at a time when one might have expected that the city's usefulness had been largely taken away by Portus, the new harbours of Claudius and Trajan. According to Hermansen, Ostia was doomed before its development was completed. In 1982 Hermansen wrote that this paradoxical fact has never been discussed or explained.⁹ Recent research in the Portus area and in Ostia has shed new light on the peculiar relationship between Portus and Ostia.¹⁰ Some of the questions Hermansen raised have been answered by the results of the new research projects; others have to be addressed through a radical re-reading of the existing evidence.

Hermansen's work is of specific relevance to the study of Ostia's urban formation as it pioneers straightforward ways of reading urban space. Already in the 1970s Pompeian studies applied methods of urban geography, and recognized the significance of urban space and the built environment for revealing the socio-economic structure of the town plan. In contrast, urban studies in Ostia, had not been influenced by urban geography and had not yet applied analytical approaches to past built space. In Pompeii systematic urban research had started with Eschbach's town plan, providing information on the function of each building.¹¹ Raper's sociological examination of Pompeii's urban space took Eschbach's information further and classified land use into twelve categories, and devised a grid system to obtain percentile land use data.¹² As far as Ostia

8. Current work has been presented at international Ostia colloquia held in Rome between 1996 and 2001, partly published in Gallina Zevi and Claridge (1996), Mols and van der Laan (1999), Descœdres (2001) and Bruun and Gallina Zevi (2002). Furthermore in both of the 105th (2004) and the 106th (2005) Annual Meetings of the Archaeological Institute of America a session was dedicated to current projects and recent research in Ostia. The 105th meeting, named Ostia, Port City of Imperial Rome, dealt with two broad categories: topography and monuments and society and culture. The 106th meeting was conceived as a sequel and counterpart to the previous session and focused on Ostia 'fuori le mura': research in the Ostian territories.

9. Hermansen (1982: 2, 11).

10. See Keay *et al.* (2005); the Portus project has been conducted collaboratively by the Univ. of Southampton (S. Keay) and the Univ. of Cambridge (M. Millett). Starting in 1998 a geophysical survey has now been completed covering 128 ha of the port complex at Portus. The study offers new insights into the development of the imperial harbours and their surroundings. The Portus project forms part of the larger Tiber Valley Project.

11. Eschbach (1970); with an appendix to the Pompeian city plan, providing a functional category (land-use) for all excavated buildings, however, often misleading.

12. Raper (1977: 207-208; 1979); see chapter three this study, in particular the section on Kaiser (2000).

is concerned, Hermansen's work demonstrates the beginning of an analytical approach to urban space: he grouped buildings, and identified that specific buildings, i.e. taverns (pubs and inns) and guild seats, were found at certain locations within the town plan. Unfortunately he did not further investigate this phenomenon to establish whether the detected patterns of distribution relate to urban zoning, or whether they reflect concentration, dispersion or even a balance of commercial activities. Nevertheless he observed that taverns have a tendency to be situated on street corners, and he established that about one-fifth of all taverns identified in Ostia are located on street corners, constituting a high proportion for one type of land-use. He also noticed that there was only one district within the city where a real concentration of taverns was found: nearly one-third of all Ostian taverns are located along the western *decumanus* with a slight concentration in or outside the *Porta Marina*. Hermansen claimed to recognize a trend and concluded that taverns respond to travellers and their needs for refreshments as soon as they enter the city.¹³

Hermansen's conclusions remain too superficial, and are not even borne out by his observations. He seems to have ignored the fact that Ostia's major access roads reflect different patterns of land-use, resulting in different densities of taverns: along the eastern *decumanus*, in the area of the *Porta Romana*, where travellers from Rome enter the city, far fewer taverns are found than on the western *decumanus*. Moreover, in the vicinity of the *Porta Laurentina* on the *cardo maximus* only a small concentration of taverns provided service to travellers coming from *Lavinium*. Yet the highest concentration of taverns is found around the *Porta Marina*, the city gate towards the sea-shore and coastal region of Ostia.¹⁴ This seems to suggest that factors other than arriving travellers and their need for refreshment are at play. It appears that the area in and outside the *Porta Marina* enjoyed added recreational value due to its proximity to the seashore. The area must have attracted local citizens as much as residents from the outlying areas along

the seashore where large-scale villas had developed from the early imperial period onwards;¹⁵ hence the popularity of the area might account for the large number of taverns.

Even though Hermansen presented his observations without further analysis of the spatial relationships of buildings with similar utility, still his study betrays an acute awareness of the significance of space within the urban context. This is evident throughout his work and is clearly expressed in his approach to Ostia's guild seats: "*To find a guild, then, one must look for the sanctuary and the facilities for meetings and banquets, a good water supply in the immediate neighbourhood is also necessary, both for ritual purposes and for consumption.*"¹⁶ His brief descriptions of Ostia's guild seats are complemented by a separate plan of every individual site.¹⁷ Unfortunately such practice isolates the buildings from their context, and by ignoring the guild buildings' neighbourhoods, he neglected a decisive factor otherwise acknowledged throughout his work. Considering the degree of importance Hermansen's work dedicates to urban space, it is difficult to understand why his survey does not utilize larger sections of Ostia's maps to illustrate his observations, all the more so since his approach calls for the use of maps, and the help of visual tools to provide a link between location and archaeological data.

Nevertheless, to this date Hermansen's work is a major contribution to the better understanding of Ostia's guilds.¹⁸ He investigated the activities of the guilds in the light of inscriptions, assessing their economic and social aspects. His textual evaluation is corroborated with information gleaned from the built property of Ostia's guilds.¹⁹ Hermansen applied

13. Hermansen (1982: 185-186).

14. A thorough study of Ostia's *tabernae* (pubs and inns) has been conducted by A. Kieburg, as part of her PhD research (Univ. of Bonn) and will be published shortly.

15. The Laurentine shore project, directed by A. Claridge, Royal Holloway.

16. Hermansen (1982: 60).

17. Hermansen (1982: 63-87, figs. 12-32).

18. See Hermansen's survey of Ostia's guilds (1982: 55-89); see chapter eight of this study for a spatial assessment of Ostia's guild buildings.

19. Hermansen was the first to identify four distinct categories of guild buildings in Ostia. His categories are confirmed by Bollmann's study that took all guild seats of Roman Italy into consideration (Bollmann 1998:30). Hermansen's classifications are based on commonalities

the Roman laws related to buildings as a guideline for the evaluation of the property of the guilds. He took up the challenge to measure Ostia against these laws. His starting points are the building laws introduced by Nero after the fire of 64 AD, recorded in Tacitus' *annales*. These laws proclaim that there should be no common single walls, *paries communis*, between neighbouring buildings, but each should be contained by its own walls.²⁰ Hermansen claims that by appraising the guilds' attitude toward the adjoining property – whether they respect it or violate it - information about potential ownership could be gained. His method is based on the assumption that the guilds owned the adjacent buildings in those cases where flagrant violation of neighbouring property occurred.²¹

Hermansen's approach received considerable criticism from scholars specialising in Roman building law, and experts in guilds, notably Bollmann.²² Her intensive study of Roman guilds combines the vast body of inscriptions and the archaeological evidence relevant to guild seats in Roman Italy.²³ Furthermore detailed structural studies carried out in selected areas of Ostia seem also to disprove Hermansen's method of establishing the presence or absence of *paries communis* as valid property markers.²⁴ Although the rules of the *paries communis* are followed in most Ostian buildings, there are exceptions.²⁵ Private agreements between owners, as well as court cases dealing with violations of building rules, testify to various exceptions.²⁶ Bollmann therefore argues that

between the built structures. Category 1: Guild sites of monumental character where the effect of the sanctuary is enhanced by the frontal axially of the plan. Category 2: Buildings where the sanctuary is replaced by a tablinum-type stateroom. Category 3: Sanctuaries with their surroundings not arranged with an artistic and architectural intent. Category 4: Buildings which condense all guild functions within one single room (Hermansen 1982:74; Bollmann 1998:20).

20. Tacitus, *Ann.* XV 43.

21. Hermansen (1982: 95-96).

22. Bollmann (1998).

23. Bollmann (1998); see also chapter eight of this study for an overview of research on Ostia's guilds, including Bollmann's work.

24. Boersma (1985: 214, fig. 202, 234-237).

25. Pavolini (1986: 172).

26. *Dig.* VIII 2, 8; 13 pr. and 1; 19 pr. and 1; 25, 1; 40; see Hermansen (1992: 92).

there is not enough conclusive evidence to ascertain that legal categories allow assumptions to be made with regard to common ownership or the division of property.²⁷ At the same time Bollmann's work does not disprove Hermansen's thesis, and these exceptions could actually prove the rules.

Whether Hermansen's deductions are borne out by the existing architectural evidence is outside the remit of this thesis. Still, despite Bollmann's critique, Hermansen's approach has stimulated a re-evaluation of guild seats and their respective properties, which will be in part addressed in Chapter Eight of thesis. Regrettably Hermansen's study was still very much concerned with questions about the individual building-types or location and distribution and misses out on questions concerning the integration of the buildings into the overall organization of the city. Nevertheless his observations relating to Ostia's taverns and their spatial distribution raised attentiveness towards the spatial properties of the city's past urban environment. Thus Hermansen's surveys paved the way for later studies concerned with the functional organisation and distribution of commercial space in Ostia, some selected studies of which will be discussed in the following sections.

1.2 KOCKEL: PUBLIC SPACE IN TRANSFORMATION

With a focus on urban space and changes in the urban structure of the 2nd century AD city, Kockel's *Beobachtungen zum Wandel eines Stadtbildes* take the urban discourse a step further.²⁸ Following Zanker's work in Pompeii and Rome,²⁹ Kockel adds a new analytical component to Ostian research: the concept of 'visual imagery'. He moves away from the genre-specific direction of previous research and looks at the city in its totality. Kockel traces Ostia's development from Republican times to the Julio-Claudian period and looks at the Campanian cities for a comparative benchmark.³⁰ Although the two

27. Bollmann (1998: 213-221).

28. Kockel (1992).

29. Zanker (1988a; 1988b).

30. Kockel (1992: 99).

towns differ radically in history and character,³¹ by way of comparing and contrasting Ostia and Pompeii, Kockel attempts to establish the degree of Ostia's 'relative' urban standard reached by the middle of the 1st century BC. His first comparison clearly portrays Ostia as a city of critical urban shortfall.³² Kockel argues that all later urban changes, including the extraordinary development occurring in Ostia from the time of Domitian onwards, can only be assessed correctly, when judged against the background of these initial shortcomings.

The study follows Ostia's progress into the Imperial period and explores certain aspects of the city's structure to gauge its urban development. The urban elements under study are public space and its design; the significance of public buildings and monuments as visual markers; water as indicator of civilisation; the overall distribution of cult buildings; the guild seats (*scholae*), and the presumed height of buildings, although private dwellings and apartment houses are treated only cursorily. Kockel refers a second time to the Campanian cities for comparison and establishes that at the end of the Julio-Claudian period Ostia's urban standard was still lagging behind.³³ What defined a Roman city seemed self-evidently based on its physical form. By then most cities of Roman Italy would have comprised a colonnaded *forum*, a basilica, temples dedicated to imperial cults, smaller temples to various divinities, a honorific arch, a theatre, aqueducts and fountains. Ostia in contrast was only moderately equipped, as Kockel argues, still lacking urban characteristics like colonnaded halls, arches and fountains.³⁴

Ostia's so-called architectural revolution started in the time of Domitian, leading to a marked increase in urban development driven by the activities of Trajan's harbour in Portus. These prompted an enormous influx of people and goods. Building activities under Trajan were mainly concerned with apartment houses and storage facilities, concentrated in the west of the city in the neighbourhood of the *Via della Foce*, one of Ostia's major thoroughfares

31. Meiggs (1973: 11-15).

32. Kockel (1992: 104).

33. Kockel (1992: 107).

34. Kockel (1992: 107).

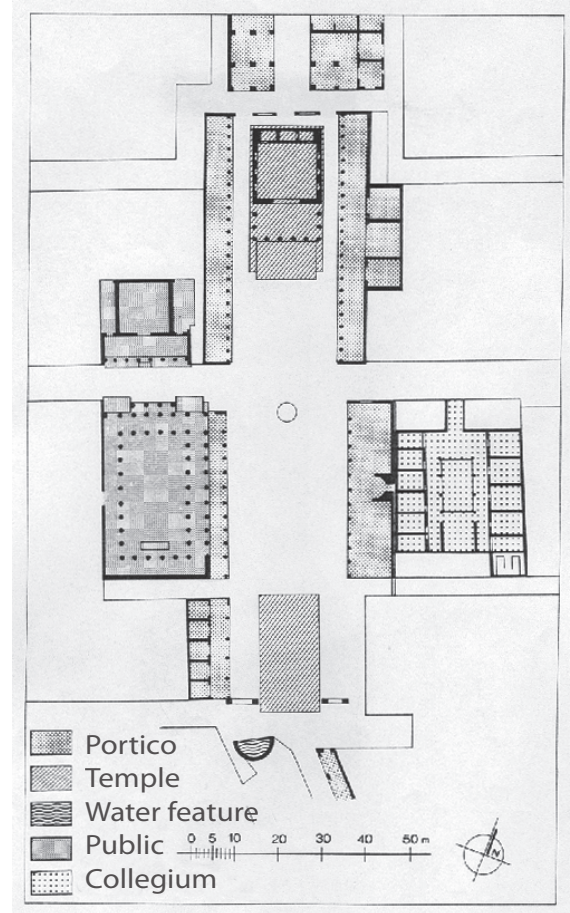


Fig. 1.1 – Functional zones of Ostia's *forum* (source Kockel 1992: 111, fig. 66)

leading to the mouth of the Tiber. Kockel points out that new or rather higher 'standards of living' are evident from the simultaneous construction of five new bath complexes, partly replacing pre-existing houses. These baths are all located in the western part of the city, doubling the total number of Ostian bath complexes,³⁵ identified within the excavated area.

The largest urban transformation and expansion took place under Hadrian, with a distinct early and a late Hadrianic phase.³⁶ According to Kockel the entire northeastern part of the city, including the *forum*, was

35. Kockel (1992: 110).

36. Pavolini (1986: 22-24).

part of the first large-scale development programme under Hadrian.³⁷ Although the programme included the construction of storage buildings and apartment houses, according to Kockel the emphasis was on enhancing the representative character of the area.³⁸

Kockel breaks new ground in Ostian research by analysing the *forum* in terms of its functional zones (Fig. 1.1). He distinguishes colonnaded porticoes, temples, fountains, public buildings and guild seats. He looks into the overall integration of these single units into a coherent programme for development. From the pattern that emerged Kockel concluded that the re-design of the *forum* was dictated by an overruling desire for representation, and in its conception the new *forum* bears closer similarity to the magnificent imperial *fora* of Rome than to *fora* of other provincial towns of that period.³⁹ Kockel argues that Ostia's Hadrianic *forum* did not gradually develop in response to its functions, but was turned into an artificially constructed display to flaunt the city's grandeur.⁴⁰ However, any such statement labelling the *forum* as being "*als künstlicher Prachtbau inszeniert*" is difficult to maintain. Laurence reminds us that these 'intentional actions' took place within the existing fabric of the city, and one could equally well argue that Ostia's *forum* was altered as the requirements and priorities of the city changed.⁴¹ Lefebvre states that "*an existing space may outlive its original purpose and its raison d'être which determines its form, functions and structures; it may thus in a sense become vacant and susceptible to being diverted, re-appropriated and put to a use quite different from its initial one.*"⁴²

Kockel extends his investigation to late Hadrianic baths, distributed over most areas of the city. Equally well spread are cultic centres, notably cult-rooms dedicated to Mithras. Kockel reads this city-wide distribution over almost all quarters as a sign of

relative independence of Ostia's neighbourhoods.⁴³ Furthermore, Kockel's study identifies the guild seats as one of the major forces shaping Ostia's urban development during the 2nd century.⁴⁴

Kockel rounds up his urban discourse by exploring the visual impact of the 2nd century city. He states that the first impression the city would have made on its visitors would have been dominated by the remarkable height of many of the buildings. In addition, the ever-present guild seats and storage buildings constituted a faithful reminder of the mercantile nature of the city. Colonnaded porticoes flanked most streets and created long perspectives without focal points; many streets were still lacking visual determinants. Only the ostentatious facades of prominent guild seats offered visual markers in an otherwise monotonous street layout. All in all, 2nd century AD Ostia, as Kockel perceives it, seems to have overcome its urban shortcomings and appears to have grown into a well-equipped urban centre. Kockel's interpretations have been challenged by a more recent urban study of Ostia, drawing on new archaeological data and a vastly extended new site-plan, which will be examined in the following section.

1.3 HEINZELMANN: THE 'BOOMTOWN MODEL' AND URBAN SHORTCOMINGS

Between 1996 and 2001 the *Deutsches Archäologisches Institut* in Rome,⁴⁵ dedicated a large-scale interdisciplinary project to the investigation of unexcavated areas of Ostia.⁴⁶ By combining the use

37. Cf. DeLaine's assessment (2002) established late Trajanic dates for the north-eastern part of the city.

38. Kockel (1992: 112).

39. Kockel (1992: 112).

40. Kockel (1992: 112).

41. See Laurence on urban change and the production of urban space (2007: 185-186).

42. Lefebvre (1991: 167), as quoted in Laurence (2007: 185).

43. Kockel (1992: 114).

44. Bollmann gives credit to Kockel's work as one of the first studies to recognise the full significance of guilds within Ostia's urban structure (Bollmann 1998: 11, note 1).

45. The DAI project was conducted in co-operation with the American Academy in Rome, Bayerisches Amt für Denkmalpflege, Munich, Geographisches Institut der Universität Bonn, Institut für Photogrammetrie und Fernerkundung, TU Munich, and the Soprintendenza Archeologica di Ostia.

46. Non-invasive geophysical survey of Ostia's periphery; see Eder *et al.* (1997); Heinzelmann (1998a); Bauer and Heinzelmann (1999a); Bauer and Heinzelmann (1999b); Bauer *et al.* (2000); Heinzelmann and Martin (2002); Heinzelmann (2002: 105-108); the final publication of the

of geophysical surveying, systematic evaluation of aerial photography and selected stratigraphic trial trenches, the project was able to contribute extensive additions to the existing city plan.⁴⁷ Previously unknown large structures like the Constantinian Episcopal Church and the river harbour with its *navalia* and temple could be located; in addition the project managed to establish the extent of the developed urban areas and the city's outlying zones.

The joint research project, though primarily concerned with peripheral, unexcavated areas of Ostia, sought to address the city's general urban formation, and gain a deeper insight into its long-term development, and the city's economy until the final abandonment in the 7th-8th century AD. Based on the project's results, and prior to the publication of the final report, Heinzelmann, the director of the project, presented a preliminary interpretation of Ostia's urban development in the 2nd century AD.⁴⁸ His focus was on the city's formative processes at a very crucial moment in time, when the city experienced its vastest urban expansion and the biggest changes in its social structure. His assessment made use of survey data from the unexcavated areas, as well as archaeological evidence from the excavated parts of the city.

The period in question only spans a few decades when large quarters of Ostia were flattened, the street and occupation levels artificially raised, and finally large areas re-developed. Within this period the city's population multiplied through massive immigration, not only outnumbering but also '*outclassing*' the local inhabitants. By touching all levels of society these social changes seem to have caused a profound destabilization of Ostia's social structure.⁴⁹ The changed social composition of the population finally led to a wider representation in office of families that were predominately of freedmen descent and

not of Ostian origin.⁵⁰ Heinzelmann stresses that the impact of these population changes could not have been more severe, and he underlines that the consequences can hardly be overestimated.⁵¹

1.3.1 Controlled development versus private enterprise

The typical 2nd century AD townscape of residential and commercial *insulae* and warehouses has always been interpreted as largely the result of prosperity connected to the imperial ports and/or deliberate imperial strategy to upgrade the city. Whilst Kockel's reconstruction, discussed above, still fits into this general picture, Heinzelmann, being finally in a position to evaluate the entire extent of the city,⁵² develops a different image of Ostia's urban dynamics.⁵³ Contrary to Kockel, who concluded that the second-century city had finally overcome its urban shortcomings, Heinzelmann sees the city's infrastructure, in particular during the first half of the 2nd century AD, still lagging behind in terms of public places, streetscapes and theatres, and in no way matching the vast urban growth. He perceives the city as having all characteristics of a typical 'boomtown', marked by weak public institutions on one side, and a highly competitive private economy on the other.⁵⁴

Heinzelmann's investigations are concerned with the major urban changes occurring during this process of transition. By taking Ostia's 'missed opportunities' as a point of departure, he claims that any urban restructuring of such immense scale would have provided the city with the unique opportunity to re-organise its layout and enhance its urban qualities. Judging by the extent of the existing development, Heinzelmann argues that the city seemed to have been in a financial position to accomplish any major project. Thus Heinzelmann tries to identify possible factors that had hampered urban development.

project's result is still awaited.

47. The site-plan of Ostia, *SO I* (Calza 1953) concentrates on the centre of the city and covers only the excavated areas; the latter account for less than half of the total extent of the city.

48. Heinzelmann (2002).

49. Heinzelmann (2002: 106, note 19).

50. Meiggs (1973: 203-204).

51. Heinzelmann (2002: 106).

52. Heinzelmann (2002: 107, fig. 1) Ostia: site plan of the city's maximal expansion during the 2nd century AD.

53. Heinzelmann (2002: 103, note 1).

54. Heinzelmann (2002: 119).

1.3.2 Defining indicators for regulatory intervention

Without explicitly defining his theoretical and methodological approach, Heinzelmann seeks answers for Ostia's urban disparities by drawing on spatial concepts of Roman urbanism, similar to those which have been reflected in the work of Laurence and Perring.⁵⁵ Hence Heinzelmann examines Ostia's urban space under the premise that the spatial organisation of the city ought to shed light on its social organisation. Therefore Heinzelmann is not overtly concerned with Ostia's urban performance in comparison to other centres of Roman urbanism, instead he is interested in the city in its own right, however, assessed in the light of the new survey data. The study concentrates on identifying indicators for regulatory public or imperial interference, implying that pre-determined urban planning would point towards controlled intervention. Within this context Heinzelmann's study investigates selected areas of the city, focusing on streets and open places, commercial facilities, housing and buildings of public use.

Streets and public places

Streets and public places in Roman cities normally fell under the authority of the municipality.⁵⁶ Being of interest to every citizen, public space is expected to reflect a concern for unity, expediency and public appeal.⁵⁷ Heinzelmann observes that in Ostia hardly any attempt was made to achieve these urban qualities. The irregular street grid offers Heinzelmann a case in point. He claims that the city missed an excellent chance to regulate the pre-existing irregular street pattern when extensive efforts were made to raise and flatten the terrain of the city in preparation for large-scale development.⁵⁸ In the course of these

major earth movements the levels of the existing network of streets were also raised and all streets received new pavements. Heinzelmann wonders why Ostia's streets remained within their original, rather unsystematic street pattern. He reckons that it was foremost private landownership, which shaped urban space and the city's network of streets, determining not only the course of the streets but also their width.⁵⁹ He notices that even major through routes respond spontaneously to projecting and recessing building frontages and display varied street widths; together leading to Ostia's unsettled and inconsistent street picture.⁶⁰

Heinzelmann detects similar shortcomings concerning public places.⁶¹ In the 2nd century the *forum* in the centre was reconstructed and enlarged. Despite the enlargement, the *forum* still remained slightly smaller than the one of Pompeii. More importantly, in proportion to the immense growth of the city in the 2nd century AD, the *forum's* dimensions appear remarkably modest. Only one additional public place was created just outside the Porta Marina, the so-called *Foro di Porta Marina*.⁶² Its function has not been securely established. It might have served as a public *porticus* or a sanctuary or possibly both. Other than that, an already existing *porticus*, the so-called *Piazzale delle Corporazioni*,⁶³ along the northern part of the theatre was altered and adapted to meet the requirements of the urban community.

Based on the DAI survey data from the unexcavated areas, Heinzelmann was able to exclude the existence of other open places for the outlying areas. Thus with only three public places, Ostia seems surprisingly poorly equipped.⁶⁴ Not only the number of public places but also their architectural design in

55. Laurence (1994); Perring (1991); Laurence's approach is discussed in the next chapter.

56. See Robinson (1992: 59-61) on the responsibility of magistrates for urban streets, public spaces and porticoes.

57. Moughting (1991: 153-159).

58. Only the northern side of the *cardo maximus* along the northern side of the *forum* points towards a planned municipal or imperial intervention due to its homogeneous design (Heinzelmann 2002: 108). DeLaine's detailed assessment (2002: 64-71) suggests a sequence of construction over a period of 6-10 years. According to DeLaine the sequence in

itself does not rule out that all buildings are part of a single project. The project however underwent some revision during the early Hadrianic period (DeLaine 2002: 64).

59. R. Mar (1991) studied Ostia's network of access roads and streets and their impact on the city's urban development. Heinzelmann refers to Mar's study, but appears not to take much of Mar's observations into consideration.

60. Heinzelmann (2002: 108).

61. Heinzelmann (2002: 110)

62. Reference according to Calza (1953): IV viii 1.

63. Meiggs (1973: 285-287); Pavolini (1983: 67-69).

64. Heinzelmann (2002: 110).

general and the facades of buildings flanking them appear equally unimpressive to Heinzelmann. His overall assessment of the *forum* leads to different conclusions than Kockel's earlier ones.⁶⁵ Contrary to Kockel's claim for a coherent *forum* programme, Heinzelmann, by looking closer into architectural details detects a rather piecemeal development with too little consistency to speak of a homogenous design conceptualized as a unit.⁶⁶

Porticoes

Ostia's porticoes flank the *decumanus* and the major through roads. Although contributing to a more unified street design, according to Heinzelmann they still lack the spatial integrity of continuous street frontages. The street design along the Via Epagathiana provides a suitable example to support Heinzelmann's claim.⁶⁷ This street corresponds to the former outer boundary of the castrum, leading north from the western gate to the shore of the river. Along the Via Epagathiana, it looks as if the decision as to whether to build a *porticus*, as well as its design, was in the hands of the individual property owner, with little or no public interference. Many of the *insula* owners seem to have opted for the expansion of their commercial space at the expense of a jointly used colonnaded portico. With commercial space extending right to the edge of the pavement, or directly to the curb of the street, much of Ostia's street design gave way to the taste and practical needs of the property owner. The results were often narrow corridor streets flanked by commercial outlets on both sides. In addition, the substantial height of Ostia's buildings increased the corridor effect.

Heinzelmann is completely taken aback by the overall lack of concern for street unity. To him it appears that there was neither a concern for the spatial harmony

65. Kockel (1992: 112, fig. 66).

66. A re-evaluation of 'Ostia's *forum*, called 'from the inside out' has been carried out by G. S. Gessert, Hood College, US (unpublished, not seen by the author). Heinzelmann (2002: 110, note 25) describes a gradual building programme, basing his observations on different architectural elements used for different sections of the porticus surrounding the *forum*. These sections vary in depth as well as in column size and intercolumn distance.

67. Heinzelmann (2002: 111).

of their own street shared by individual *insula* owners, nor was there a communal desire to improve the unity of the streets and thereby further the spatial integrity of the city. In those instances where property owners opted for a colonnaded portico in front of their shops to allow free flow of movement and protection from the elements, the motivation seemed purely commercial. Accordingly the choice of materials look basic and economical; columns were built of simple brickwork and only in a few cases travertine was preferred. The use of marble was restricted to columns at the public *forum*. To stress his point Heinzelmann refers to Roman cities in the Near East, which contrary to Ostia, demonstrate a leaning towards formal ceremonial streets; with their colonnaded *decumanus* they represent an excellent example of unified street design.⁶⁸

Commercial facilities

Second-century Ostia gives priority to commercial land-use and dedicates a vast amount of urban space to trade related activities. In particular *horrea*, large storage facilities, play a dominant role in Ostia's urban landscape of the 2nd century AD. Fifteen *horrea* are located within the excavated areas,⁶⁹ at least 10 further *horrea* have been identified in the unexcavated areas by geo-physical surveying.⁷⁰ Within the excavated area *horrea* are mainly concentrated along the *Via della Foce* towards the river port in the west of Ostia's Region III.⁷¹ Also along the northern shore of the Tiber, traces of a number of *horrea* have been discovered, however, the area has not been studied thoroughly enough to ascertain their number and size.

Heinzelmann investigates Ostia's *horrea* for indications of regulatory public or imperial intervention. Judging from the spatial distribution and the architectural form he deduces that they reflect private rather than public operation and ownership. Heinzelmann turns to *horrea* at Portus for comparison to support his deductions. In contrast to Portus where the harbour basin was surrounded by

68. Heinzelmann (2002: 112).

69. Rickmann (1971: 15-86).

70. Heinzelmann (2002: 112).

71. Heinzelmann (2002: 112).

storage buildings of regular and unified design, the *horrea* of Ostia display varied designs and irregular distribution patterns.⁷² Whilst many of Ostia's *horrea* are located north of the *decumanus* and north of the *Via della Foce* in close proximity to the river, still a large number are far away from the river, making them less suitable for bulk cargo. Moreover only three of them can be securely identified as grain storage facilities, indicated by ventilation devices.⁷³ This leads Heinzelmann to assume that bulk cargo, like marble and grain were handled and stored in the imperial *horrea* of Portus; whereas Ostia's predominantly private *horrea* foremost dealt with selected and more profitable goods. Heinzelmann draws attention to the fact that many Ostian *horrea* incorporate commercial premises (*tabernae*) along their street frontages. Conspicuously these *tabernae* are absent from *horrea* in Portus. Their presence in Ostia could indicate that many stored goods were directly retailed from the *horrea*. In addition, several *horrea* are embellished with architectural devices to attract potential and existing customers: monumental entrance arrangements and elaborate inner courtyards. These architectural features seem to emphasize the busy trading side rather than the sober warehousing aspect of many other storage buildings in Ostia and Portus.⁷⁴

Next to Ostia's *horrea* and other commercial or industrial premises, *tabernae* play a leading role in Ostia's streetscapes. *Tabernae* are not only found along the major through routes but also along secondary roads and inside *insulae*, where they form market-like structures. All in all, Ostia seems to display such a high level of commercial land-use that supplying Rome and fulfilling the consumer requirements of Ostia proper and its rather sparsely populated hinterland can hardly explain it.⁷⁵ In fact, Heinzelmann questions whether the *tabernae* at Ostia could have played any major role for goods destined for Rome. He sees their significance rather as trading agencies for goods shipped to other Mediterranean regions of the Roman Empire. According to him Ostia seemed to have carried out a dual function: a

supply city for Rome and a central trading post to supply other Mediterranean regions; the latter being largely underestimated and not sufficiently explored in Ostian research.⁷⁶ As stated by Heinzelmann, it is precisely this dual function that could explain Ostia's enormous expansion dynamic and its power to attract numerous newcomers.⁷⁷

Residential space

The commercialization of Ostia's urban space radically changed the housing market. During the 2nd century AD multi-storey apartment blocks replaced the traditional private house type of ground floor dwellings with atrium and peristyle. Heinzelmann points to the commercial advantages of these apartment houses, which not only offer a higher residential density but also a variety of land-use along a vertical axis: their ground floor supplying commercial space, the upper stories providing rental space of different size and function.⁷⁸ Roman property law only recognizes property that is tied to the ground and the right of ownership was virtually unlimited: '*The owner of the land owns it as high up as the sky*'.⁷⁹ These multiple rental units in the centre of Ostia seemed to have offered a highly profitable investment; however, landownership was

76. Prior to the Portus project, important contributions to the better understanding of Ostia's commercial activities have been made by Fulford (1987;1991); Fulford's 'Ostia Model' (based on the ratio of local to imported ceramics) sees the port city as the key to the manipulation of the *annona*; Fulford's 'Ostia model' helps to reinforce the interpretation that a state system was responsible for the extended pattern of supply of goods between the Mediterranean and the northern European provinces. The granaries at Ostia and Portus offered the option of storage either for consumption at Rome, for sale at the market, or for redistribution elsewhere. Fulford links Ostia's growth in importance and usefulness through the first and second century to the emergence of the Gaul-Danube route to supply the Danube provinces. According to Fulford the location of Ostia and Rome on the western side of Italy and their proximity to Gaul effectively favoured the Gallic supply route to the detriment of the traditional Adriatic/Danube axis (1991: 297-301).

77. Heinzelmann 2002:114; Heinzelmann does neither refer to Fulford's 'Ostian Model' nor does he acknowledge Vitelli's quantitative study of grain storage and urban growth in imperial Ostia (1980). Vitelli's study links Ostia's urban development solely to the needs of Rome.

78. Heinzelmann (2002: 116).

79. Hermansen (1982: 93).

72. Heinzelmann (2002: 113).

73. Rickmann (1971).

74. Heinzelmann (2002: 113-114).

75. Heinzelmann (2002: 114).

a prerequisite. During the 2nd century AD landed property in Ostia's centre reached the highest level of commercialization and must have been subject to fierce competition.⁸⁰ Only within the context of commercialization and competition can Ostia's housing market be explained as well as the role of the many thriving private developers during the 1st half of the 2nd century AD.⁸¹

Considering all these traits Heinzlmann begins to inquire about the 'fate' of the former landowners and their urban *domus*.⁸² The results of the geophysical survey shed new light on these questions. Several large *domus* and suburban villas of considerable size could be identified in the southern and western periphery of the city.⁸³ Heinzlmann seems convinced that the owners of these large *domus* and villas at the outlying areas of the city were identical to Ostia's rich landowners. Selective stratigraphic excavations carried out on one specific *domus* confirmed a very large, lavishly decorated building dating to the end of the 1st century AD.⁸⁴ The *domus* was in use until the 4th/5th century AD and was built over a preceding structure of the Early Imperial period. The date of the *domus*' construction corresponds to the beginning of Ostia's rapid urban expansion. Heinzlmann's inferences about the whereabouts of Ostia's rich landowners are further strengthened by the fact that the surveyed peripheral areas produced very limited evidence for smaller-scale private houses of the atrium/peristyle type characteristic of the Early Imperial period. Instead the survey data revealed

that even the outlying areas were covered with commercial buildings and apartment blocks next to the large *domus*.⁸⁵ Bringing all these factors together Heinzlmann concludes that the range of available residential space was evidently unbalanced. Owners of smaller or medium sized land seem to have yielded under the force of Ostia's building boom and the pressure of investment. This picture seems to be confirmed by the constructions in the centre of the city, where large *insulae* blocks were formed by fusing together smaller individual units of land.⁸⁶

Buildings of public use

Finally Heinzlmann turns to public buildings to gauge the level of commitment the town extended toward the citizens and vice versa. To begin with he concentrates on Ostia's theatre. It was built during the period of Augustus and offered space for about 3000 people.⁸⁷ Interestingly enough it remained unchanged during its vastest urban expansion. Population estimates for Ostia range from 10,000 to 100,000.⁸⁸ Meiggs suggests a population between 50,000 and 60,000 for the Antonine period. His numbers are based on a conservative estimate calculated by Calza for the area enclosed by the city walls.⁸⁹ Bearing in mind the expanse of the unexcavated areas these estimates appear very low.

Only at the end of the 2nd century was the theatre adapted to seat about 4000 people. Considering the entire city, the number of seats available to Ostia's citizens seems rather modest; all the more so since the results of the geophysical research allow Heinzlmann to exclude any additional theatre, amphitheatre or circus within the surveyed area of the city. In view of Ostia's capacity, the city's

80. Heinzlmann (2002: 116).

81. DeLaine (2002).

82. Heinzlmann (2002: 116).

83. The concentric zone model of the Chicago school of town-planning (Park, Burgess and McKenzie 1967) should be briefly considered: Burgess (1967: 47-62) perceives the growth of a city as a process that can be best illustrated by a series of concentric circles. These represent the successive zones of urban extension and the types of areas differentiated in the process of expansion. This model brings out the tendency of each inner zone to extend its area by the invasion of the next outer zone. In the Chicago model the residential zone of high-class residential buildings and single family dwellings has gradually moved outward to the city limits. The 'relocation' of Ostia's *domus* and villas to the peripheral areas of the city indicates similar processes of expansion by succession.

84. The *domus* is located in region V, still within the city walls (Heinzlmann 2002: 116)

85. Heinzlmann (2002: 117).

86. See DeLaine (1995: 81-84); cf. Mar (1991).

87. Cooley (1999: 173-177) suggests a date of construction between 18-17 BC, based on inscription pointing to the involvement of Agrippa.

88. Storey (1997: 974-975), see also Storey's calculations for population estimates for Rome, based on population densities calculated for Pompeii and Ostia (1997: 973, table 1).

89. Meiggs (1973: 532); Ostia's area inside the so-called Sullan walls is about 69 ha, see D'Arms (2000: 197, note 31) on Ostia's population estimate calculated at the end of the Republic.

commitment to public entertainment appears meager and seems in stark contrast to other Roman cities.⁹⁰ Heinzelmann sees a similar pattern emerging from the sparse presence of other public buildings and their rather modest architectural execution.⁹¹ All these buildings date to the end of the 1st century and the beginning of the 2nd century AD. Yet again, based on the results from the geophysical survey, no additional buildings suggesting a public function could be added to the existing group already present in the excavated parts of Ostia.

Ostia's temples and sanctuaries seem to follow a similar trend. Prior to its vast urban expansion the city was already fairly well equipped with sanctuaries and temples. During the major expansion, however, only two larger religious buildings were constructed: the temple in the centre of the Piazzale delle Corporazioni (II, vii, 5),⁹² and the Capitolium. Otherwise, Heinzelmann observes that all other building activities concerning sanctuaries were limited to alterations of existing structures.⁹³ Once more, the survey results did not point to any further temples or sanctuaries built in the outlying areas during the period of Ostia's largest urban growth. As far as the religious climate in the 2nd century AD is concerned, these observations fit well into the general picture of a shift towards Eastern religions and their requirement for more privacy and seclusion. Typically, Ostia's religious landscape of the 2nd century AD is characterized by a dynamic expansion of cult rooms dedicated to Mithras and other smaller sanctuaries, serving a fair number of small communities.⁹⁴

Heinzelmann concludes by stating that despite their obvious decrease in popularity Ostia's traditional cults still retained their solid, physical presence almost unchanged since the Early Imperial period. He adds that this physical persistence is even more remarkable when considering the large-scale urban redevelopment and the enormous expansion of the city's population.⁹⁵ However, notwithstanding the city's radical redevelopment, the permanent nature of temples, as defined by Vitruvius as well as their status as *res sacra*,⁹⁶ makes it difficult to remove or deconsecrate a temple. Heinzelmann has largely overlooked these fundamental principles. In this way temples and sanctuaries form a series of fixed points within the structure of the Roman city and are incorporated into the expanding urban formation.⁹⁷ Any redevelopment would take these places into consideration. Only exceptional circumstances made a move of a temple possible. The Capitolium was adjusted in the 2nd century AD therefore constituting one of these exceptions.⁹⁸

1.3.3 Heinzelmann's conclusions

Based on the combined evidence from the excavated and un-excavated areas Heinzelmann reached the following conclusions:⁹⁹ during the earlier half of the 2nd century AD Ostia largely remained a city of contradictions and infra-structural deficiencies in spite of intensive urban development and constructions. The major driving force behind the city's rapid expansion appears to be private enterprise with little control exerted by public institutions. The causes and mechanisms of Ostia's lop-sided urban development are complex; however, the main reason seems to be the construction of the

90. In comparison, Puteoli, Ostia's rivaling port was equipped with a theatre, two amphitheatres and a large circus (Heinzelmann 2002: 118).

91. The group of buildings with a public function comprise the co-called Curia (I ix 4), the Caserma dei Vigili (II v 1,2), the so-called Macellum (IV v 2), the latter has not been securely identified as macellum, see Kockel (2000: 22) and Kockel and Ortisi (2000: 351-364).

92. Possibly built during the Flavian Period, see Heinzelmann (2002: 118); Rieger (2004: 244).

93. The same observations were made by Rieger (2004: 31).

94. Smaller sanctuaries and premises for the religious gatherings of guilds increasingly emerged at the end of the 2nd century AD; see Heinzelmann (2002: 119).

95. Heinzelmann (2002: 119).

96. Vitruvius *De Architectura* 4.3.

97. Laurence (1994: 73). The sanctuary of Hercules, originally a rural shrine in the fourth century BC, was later incorporated into the expanding city.

98. The construction of the Capitolium was part of the reconstruction project of the *forum*. In the course of the project two earlier temples, probably dating to the late Republican period were flattened, one of them was reintegrated into the Capitolium (Steuernagel 2004: 61, 71, 85, fig. 5).

99. These conclusions are summarised in Heinzelmann (2002: 119-121).

imperial ports and the connected increase of trade volume. Within a short period of time the city turned into a very lucrative location for both investment and residence. Unlike Puteoli, which had time to gradually develop and establish itself as an important port city, Ostia was pressurized into expansion.

Heinzelmann identified the composition of Ostia's population as the major factor shaping the city. Attracted by economic gain the newcomers appear reluctant to show interest in the city itself. In contrast to the Late Republic and the Early Imperial period, only few examples of buildings constructed through private sponsorship are known from the first half of the 2nd century AD.¹⁰⁰ Heinzelmann claimed that the paucity of dedicatory inscriptions and statues of private citizens is striking. The conspicuous absence of euergetism from the early 2nd century Ostia needs to be explained since elsewhere Roman urban culture provides a typical field for private sponsorship.¹⁰¹ In Ostia, instead, the major part of the urban population seems to lack identification with the city. During the early 2nd century Ostia was transformed into a new city obscuring both its history and its original population. Only gradually did a new sense of belonging developed, allowing Ostia's *collegia* to flourish with new mechanisms for social integration.

1.3.4 Heinzelmann critically examined

Heinzelmann's research adds new elements to the urban discussion by investigating the city's infrastructural shortcomings against the generally held view of prosperity and imperial intervention. Sole access to the results of the geophysical survey allows him to encompass not only the excavated areas but also the entire city.

At first glance the study presents a seemingly convincing picture of second-century Ostia as a typical boomtown. Heinzelmann supplies fitting examples to support his case, elegantly glossing over his selective and unsystematic approach. Nevertheless his arguments remain only suggestive,

clearly demonstrated by his deliberations on streets, porticoes and public places. He objects to Ostia's lack of spatial integrity and unified street design; but this is arguing from the basis of one single street, whilst ignoring long stretches of colonnaded porticoes along the eastern and western *decumanus*.

In addition, the study investigates public places, their quantity and architectural quality. Again, Heinzelmann concludes that Ostia was meagerly equipped. At the same time the study omits the presence of public and/or private baths and their role as social foci. A considerable number of baths dating to the period of Trajan and Hadrian are found in various parts of the city.¹⁰² Later in the course of the 2nd century AD, the most existing baths were eclipsed by the large size of the Terme del Foro, built during the time of Antoninus Pius. Heinzelmann cursorily refers to this bath complex together with other public buildings dating to the mid of the 2nd century AD, and identifies them as indices for increased activities in the field of public buildings and private sponsorship in the later course of the second century.¹⁰³

All of Ostia's baths, and the Terme del Foro in particular, underline their significance as urban determinants. It strikes one like a civic statement, finding the *forum* baths inserted into the existing public space at the centre of the city, joining together three separate spaces of public character in the course of its development. This ambitious project required two secondary roads to be closed off and built over, as well as the possible destruction of an extensive tract of the old wall of the castrum.¹⁰⁴ Whilst respecting its original function of physical education and recreation, the bath complex' progressive development during the Imperial Period led to the accentuation of its urban role. It turned into an 'institution' in the final stages of its evolution. Responding to urban directions in its aspects, the bath complex incorporated rental apartments, a system of *tabernae*, and two temples; altogether it

100. See Jouffroy's survey of public buildings in Italy and Roman North Africa (1986: 112-131).

101. See for example Cornell and Lomas (2003).

102. Meiggs (1973: 418, fig. 30).

103. Heinzelmann (2002: 120).

104. The streets corresponding to the inner and outer pomerium were partially closed off and built over (Mar 1991: 102).

developed the character of a public piazza.¹⁰⁵ At a functional level, large bath complexes were able to assume the role of public places providing various facilities for people to meet.

Any assessment of Ostia's urban development ought to take account of the baths as social and urban focal points. The same applies to the religious topography and the city's street network. Only a systematic spatial examination of Ostia's network of streets and related house frontages and porticoes can bring the results that are required to establish the degree of private or public intervention in actual terms. Furthermore any evaluation of Ostia's land use needs to be conducted in a systematic way. Notwithstanding this, Heinzelmann offers interesting insights and new openings to be investigated. However, the main question whether second-century Ostia was able to accommodate the enormous growth without degrading community life still remains unanswered. This questions needs to be explored with adequate tools, possibly borrowed from today's approaches to urban planning. New planning methods have been devised for cities, which are confronted with enormous urban growth and are expected to accommodate their rapid expansion without deteriorating the cities' infrastructure.

Heinzelmann's article appeared in advance of the expected publication of the results of the DAI/AAR campaign. Hence it remains open whether his awaited final publication will answer all questions raised by his preliminary assessment. It is hoped that the forthcoming publication will approach Ostia's urban development within a clearly defined theoretical framework and apply a systematic methodology. The publication is eagerly awaited since much of the established understanding of Ostia's urban processes requires a re-reading in the light of the new results.

1.4 MAR: THE FORMATION OF URBAN SPACE

Ten years earlier than Heinzelmann's assessment,¹⁰⁶ Ricardo Mar approached the city's urban space from the perspectives of an urban geographer in his *La formazione dello spazio urbano nella città di Ostia*.¹⁰⁷ The article traces and explores Ostia's transformation processes from the early beginnings until the city's expansion in the 2nd century AD. Mar applied an instrument fundamental to urban analysis: the study of Ostia's 'centuriation' and how the limites, marking the land parcels, have survived in the urban record.¹⁰⁸ In practical terms he approached the city through three levels of interrelated analysis: the course of the roads;¹⁰⁹ the system of parcellation, and the typology of buildings.¹¹⁰

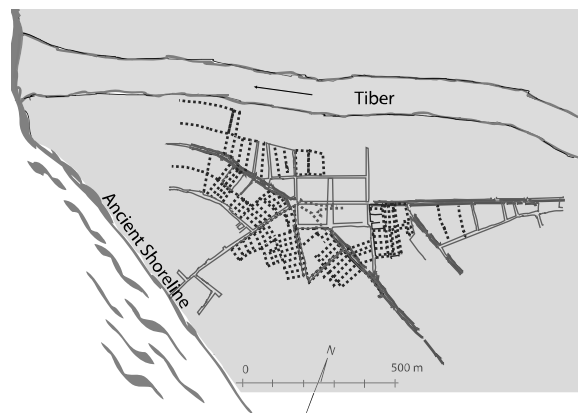


Fig. 1.2 – Land parcellation in the Republican period (after Mar 1991)

106. Heinzelmann (2002: 103, note 1), refers to Mar's work as one of several publications concerned with Ostia's urban development. All of Mar's later work echoes his preoccupation with processes of urban formation. His major work in Ostia however concentrates on sanctuaries, exploring them within their urban setting. His research focused on the Serapiaion, the sanctuary of Hercules, and the Campo della Magna Mater.

107. Mar (1991: 81-109).

108. Mar (1991: 81).

109. See chapter six on Ostia's streets, including a brief section (6.2.2.) on Mar's research on Ostia's streets.

110. Mar (1991:84, note 16).

105. Mar (1991: 102-103).

The diachronic approach applied by Mar reconstructs the major lines of Ostia's urban transformation following the mechanisms of these changes. The study, although conducted before the extent of the entire city was revealed, still remains highly relevant for the understanding of Ostia's urban language. It accounts for all urban processes, not only those that reflect rapid change as a demonstration of vitality and strategic choices, but also the ones that are discretely active over centuries. It is precisely these long-term processes, which strike one as being unsatisfactorily treated in Heinzelmann's study, e.g. the physical persistence of sanctuaries and the fossilized irregular street-pattern, which seem to Heinzelmann no longer in tune with the requirements of the city's grid-based *insula* layout. Both appear to have outlived their function in second-century Ostia, but still constituted fixed points within the urban texture of the city. Mar claimed that the study of urban structures can only be understood as a historical process, since the reality, or the affirmation of the built structures, is always the product of the preceding situation.

1.4.1 Mar's urban discussion

Given that the main part of Ostia's standing architectural remains date back to the second century AD, at face value they offer little information about earlier phases. Furthermore excavation data pertaining to the Republican and earlier periods are very scarce. Therefore Mar applied a method by which he claimed to reach an approximate understanding of how the earliest road system around the walls of the initial nucleus, the so-called castrum and the surrounding areas were consolidated. He holds that the original Republican cadastral system can still be traced back through the successive reconstructions of the buildings, which in themselves represent a 'fossilized record' of the boundaries of land division; the latter being still reflected in the structural remains of the second-century buildings (Fig. 1.2).¹¹¹

111. Mar (1991: 84-85, fig. 12).

Ostia's road system

The fact that Ostia's irregular street system survived the second-century building boom presented a bone of contention for Heinzelmann, who saw it as a missed opportunity to improve the street network when the city expanded. In contrast, Mar understood the street network as a result of long-term processes, aiming for equilibrium between territorial determinants and urban development. He explained that the streets' physical materialization responds to a particular balance reached between various factors such as settlements, economic interests, and strategic considerations. In the case of Ostia, the foundation of the so-called castrum provoked a noticeable change within the existing 'pre-castrum' situation and resulted in an adjustment based on new factors. From the new balance achieved between the so-called castrum and the new situation, the town's road system developed as we know it today.¹¹² As maintained by Mar, the entire road system can be explained in terms of a relationship between three topographic landmarks and the gates of the castrum. The mouth of the river, marked by a watchtower, the Tor Boacciana, constitutes the first landmark.¹¹³ In physical terms, the Via della Foce forms the line of movement, leading from the western gate of the castrum to the mouth of the river. The river port with facilities along the banks of the river represents the second landmark according to Mar,¹¹⁴ while the coastline constitutes the third point of reference. The latter coincides with the area, which successively developed outside the Porta Marina. Having defined the territorial determinants which created Ostia's

112. Mar (1991: 87-88).

113. This point constitutes the original termination of the two 'Salarian' roads; see Mar (1991: 88).

114. In view of the results of the DAI/AAR campaign (Heinzelmann and Martin 2002), Mar's second point of reference, the river port needs to be redefined. The joint DAI/AAR project was able to confirm the existence of a river port consisting of a harbour basin and *navalia*. The location could be firmly established: on the left bank just inside the mouth of the river. Mar's second point of reference seems to relate to port facilities north of the castrum. Various port facilities could have been placed all along the bank of the river. In terms of movement in relation to the castrum, the identified river port coincides with Mar's first point of reference, the mouth of the river. Thus the river port and the mouth of the river share the same line of movement: the *Via della Foce*.

streets system, Mar moved on to investigate the remaining 'empty' space between the lines of communication. Consequently this called upon questions concerning the parcellation of land along the streets of Ostia and the boundary lines marking the original property divisions.¹¹⁵

The system of parcellation

After having identified a regular pattern of land division visible in Ostia's plan, Mar attempted to reconstruct the first cadastral system by which the land located between the roads had been subdivided.¹¹⁶ He noticed two singular situations where these signs of regularity were not respected: the sanctuary of Hercules, and the area delimited by the *cippi* placed by the urban praetor C. Caninius.¹¹⁷ These areas seem not to follow the rules identified in the rest of the urban area. Then again, a fabric of long and straight land parcels, always perpendicular to the corresponding roads, characterizes the remaining territory. The exceptions, however, made him confident to have applied the correct analysis. Mar identified four sectors within the city, still retaining the original system of land division.¹¹⁸ First, the zone north of the Via della Foce, where a system of long and straight parcels splits the space in lots. The division is visible in the regular rhythm of buildings, formed by the Terme del Mitras and the adjacent *caseggiati* leading to the Terme dei Mensores. The second block of parcels is found between the Via della Foce and the Via degli Aurighi. These roads are equidistant to each other, between them lies a double system of land parcels. A third zone of systematic land division can be identified along the eastern *decumanus* with a series of long and straight parcels lined up perpendicular to the course of the street leading toward the Porta Marina. Another cluster can be identified lining the *cardo maximus* in the direction of the Porta Laurentina. There are nine

lots of the same depth and length; their limits are fragmentarily conserved in the later constructions.¹¹⁹

Finally, in the quarters south-east of the castrum, to the south of the *decumanus maximus*, Mar detected another very regular group of parcels. Located between the Semita dei Cippi and the Via del Mitreo dei Serpenti, three orthogonal blocks can be identified, each based on a square modul of 75 m in length, all compartmentalized into four equal lots.¹²⁰ Mar points out that this is the only area free of oblique roads, and hence these streets follow the course of the walls outlining the castrum, and not a pre-existing street system. These streets run parallel, spaced at distances created by the grid of the divided land, and consequently leading to a different pattern of urban formation emanating from the castrum itself. He concluded that both the road system and the centuriation trace their origins from outside the city, their roots lying in a communication system preceding the foundation of the so-called castrum.¹²¹ This seems to suggest that the military settlement came to control a significant area of the territory, where already a certain size of population had developed activities of subsistence and production. The castrum therefore produced a restructuring of the preceding system, however, conserving its principle traces, which are still reflected in the later system of roads and the specific character of the corresponding parcellation of land.

1.4.2 Mar's contributions – long-term processes appreciated

In all, Mar presents a lucid case for how multiple processes shaped Ostia's urban layout, stressing the initial correspondence between the pre-existing roads and the division of land. A coherent system of streets grew around the castrum, defined by the exit gates

115. Mar (1991: 88).

116. Mar (1991: 88).

117. Mar (1991: 88-89). The delimited area survived undeveloped until the 1st century BC, respecting the area earmarked by the *cippi*.

118. Mar (1991: 90-91).

119. Mar (1991: 91); the general structure is visible in the limits of the Campo della Magna Mater, it underlies the Terme del Faro and the Caupona del Pavone.

120. 75 m approximates to twice an *actus*. An *actus* was a unit of linear land measurement, equivalent to 35.1-35.6 metres, measuring 120 Roman feet, *pedes monetales*. The value in common use during the Empire was around 35.5 m, giving a value of 710 m for the side of a century of 20 *actus*.

121. Mar (1991: 91).

and the walls of the castrum. Mar presented a picture that brings clarity into the apparent irregularity of streets evident in the second-century Imperial period. Above all he alerted us to the effect of long-term processes and the interdependency of activities, which at first seem autonomous of each other.

Returning to Heinzelmann's critique related to Ostia's 2nd century AD irregular street pattern one needs to take Mar's approach a step further. This leads to the question: how could such a severe impact as the second-century building boom influence the existing road system to a lesser degree than the foundation of the so-called castrum centuries before? One answer, however only partial, could be that Ostia's vast expansion developed to a large extent vertically by increasing the height of the buildings. In terms of horizontal expansion, the city grew along already existing routes, pushing the city's boundaries outwards. New territorial determinants, which would provoke a change of directions within Ostia's established lines of movement and communication, seem absent. A superimposed grid, against the grain of the established road network would inevitably lead to many dead ends. After all, the urban grid needs to be brought in phase with the major access roads.

It is interesting to note that the rebuilding of London following the great fire of 1666 also presents an example of contrasting viewpoints in terms of city planning.¹²² The shortcomings of the old irregularly laid out medieval city had been recognized. Inspired by an enthusiasm for Renaissance city-building, several plans were drawn up of which six have survived, the most famous by Christopher Wren. All plans show a completely new street layout, either grid-based or a combination of grid and radial elements. All these plans were quickly abandoned. The merchants took control, and the city they rebuilt

122. See Carl *et al.* (2000) for a wider view on ancient city planning. Under the heading whether cities were built as images city planning is analysed from different angles by various authors. Berry Kemp's article 'Brick and Metaphor' makes a case for less formal self-organizing schemes and that their natural strength has been under-evaluated. He refers to the rebuilding of London. Furthermore he draws on comparisons between the distribution of functional buildings in Amarna and late-medieval London (Carl *et al.* 2000: 335-346).

was in its plan identical to the old, although with significant improvements in materials, street widths and administration. They rebuilt a smartened-up version of the old city, which had served them well in the past.¹²³ Could lessons be learnt from London and could they help to reach a better understanding of processes that were at play in second-century Ostia? Kemp reminds us that in the study of the past there is a tendency to pass favourable judgments upon examples of urban layout possessing a marked degree of regularity. This often leads to under-evaluating the degree to which society has been effectively served by less formal self-organizing schemes.¹²⁴ This is certainly something to remember when we will later apply Space Syntax techniques to the street system of Ostia.

1.5 FURTHER MAJOR CONTRIBUTIONS IN OSTIAN SCHOLARSHIP: DELAINE, RIEGER AND PAVOLINI

Rieger explored Ostia's urban development through its changing religious landscape.¹²⁵ The study addressed the urban integration of the sanctuaries, their architectural layout, their history of reconstruction, as well as their periods of activities. However, Rieger's most valued contribution lies in her social approach to these sanctuaries: she examined the function of sanctuaries as social and communicative space, and as a provider of identity within the city and its society.¹²⁶ DeLaine's research has been contributing to Ostian archaeology through various detailed publications on the building industry, the construction process and the brick industry related to it.¹²⁷ However, more relevant to this study are her applications of formal methods of spatial analysis, of which she is a pioneer in Ostia.¹²⁸ DeLaine's spatial assessment of Ostia's medianum

123. Carl *et al.* (2000: 338).

124. See Carl *et al.* (2000: 342-344) for Kemp's comparison between Amarna and London.

125. Rieger (2004).

126. See Heinzelmann (2008) for a review of Rieger's contribution to the better understanding of Ostia's sanctuaries.

127. DeLaine (2002; 2004; 2005; 2008).

128. DeLaine (2004).

apartments is a remarkable example of a fully data-driven examination of Ostia's built environment.

Finally, Pavolini's work on quotidian Ostia is of utmost relevance to everyone who takes an interest in the daily life of the city.¹²⁹ His socio-economic perspective on urban life has produced a number of scholarly works centred on the economy of Ostia quotidiana, with his more recent publication on Ostia's changing economic role in the Severan period.¹³⁰ Last but not least thanks to Pavolini's outstanding scholarship Ostia can pride itself of having the best archaeological guide book to the city and its buildings.¹³¹ Pavolini's 'Ostia' is far more than a guide book it is the first and foremost point of reference for anyone in Ostia, without we would be lost.

From this appraisal of research in Ostia it should be clear that recent studies have made important contributions to the understanding of urban formation processes and development. However we also conclude that not much attention has been paid to the city's spatial structure as a research focus in itself, let alone the relationship between the spatial organisation and urban society. Moreover, the evaluation has shown that there is a need for more data-driven studies related to the built environment. Next to the pioneer work in Space Syntax by DeLaine, it appears that there is scope for further development within the line of systematic, analytical research, i.e. Space Syntax, and hence this explains why it is applied to the archaeological record of Ostia by this study.

129. Pavolini (1996).

130. Pavolini (2002).

131. Pavolini (2006).