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

Stöger, J.J.

9 – Conclusion and Directions for Future Research

This study provides a spatial and archaeological examination of selected aspects of Ostia's past urban space, following a scalar approach from individual houses to the city's street network. Throughout this thesis a 'Space First' policy was applied and Ostia's past built environment was examined to identify the underlying spatial structure, from which insights into the social organisation could be gained. This study was able to demonstrate that the 'Insula neighbourhood' (IV ii) was essentially collective, mediated through common spaces which were accessible to inhabitants and visitors alike. The analysis of the guild houses has shown that their spatial structure was primarily focused on generating potential for social interaction where the buildings meet the public domain, comprising Ostia's streets and public squares. For the street network itself the study could identify an underlying visual structure which gives cohesion to the city. With regard to the Human Use of Space, in many instances it could be established that spatial integration and interaction were privileged over segregation and exclusion, which should make for a safe and friendly urban environment, and thus providing urban qualities which were not only appreciated in second and early third century AD Ostia but are also highly relevant in today's cities. This brings us to other issues which were encountered in the course of the spatial enquiry into Roman Ostia: the questions of urban sustainability and abandonment. Our city block IV ii proved to be a good survivor and was able to sustain a long period of occupation. Several factors seem decisive for ensuring a long period of use; its spatial structure which encouraged interaction, but also its integration into a lively city quarter which was able to sustain a degree of urban density and a good variety of land-uses.[1]

The data-driven approach, applying Space Syntax's concepts and techniques, has proved to be a suitable and valuable research strategy to gain a deeper understanding of Ostia's urban landscape. Although Space Syntax methods have been developed to confront the challenges posed by today's urban planning, using common methods in the study of ancient and modern cities might allow us to find a common language in the study of cities, recognizing the potential of archaeology for illuminating long-term developments in cities, trends or other temporal patterns.[2] The case study of Ostia's Insula IV has demonstrated that Space Syntax has helped to detect spatial aspects which would otherwise not be noted by careful observation only. Space Syntax becomes a tool to think with, it inspires the researcher to explore further and to experiment at both levels: the technical side of the analyses and the possible interpretations of the results provided by the analyses. Finally, it also needs to be stressed that this study pursued a non-invasive approach to the city, applying non-destructive methods of data capture and interpretation, and it is thus fully compatible with current heritage principles. The method is not site specific and can be applied to the built environment at all time scales and geographic regions.

The following conclusion provides a chapter-by-chapter review of this thesis summing up what has been argued for and achieved, and presenting ideas for future research.

In the first chapter our appraisal of previous research into Ostia made clear that although recent studies made important contributions to the understanding of urban formation processes and development, insufficient attention has been paid to the city's spatial structure as a research interest in itself, let alone the relationship between the spatial organisation und urban society. Moreover, our evaluation has

1. See Pavolini (2002).

2. Smith (2010: 229-230).

shown that there is a need for more data-driven studies related to the built environment. Pioneer work in Space Syntax by DeLaine at Ostia revealed considerable scope for further development in which Space Syntax could be applied to the entire city at different spatial levels.

The following chapter introducing relevant comparative studies in Roman urbanism included three that were specifically guided in their spatial investigations by Space Syntax's theory and methods. The merits of the methods as well as the difficulties of applying the techniques to past urban space were presented in detail. The advantages offered by such a rigorous, analysis-driven approach to past built space seem to outweigh the difficulties which arise when a methodology is being followed which has its origin and motive in empirical studies of today's urban environment. When applied with caution, Space Syntax methods and techniques can lead to new insights into the past urban space which would not have been available to archaeological investigation alone. To gain a better insight into Space Syntax methods and theories Chapter Three introduced the main theoretical principles, and briefly reviewed a number of additional archaeological case studies deploying the technique.

In Chapter Four the methods and techniques discussed range from re-mapping an archaeological site to a fully embedded spatial analysis. The complexity of Ostia's archaeological record requires a combination of methods. Despite their diversity these can be summarised as non-destructive or non-invasive techniques of archaeological research. Such approaches have been successful in gaining new insights into sites which have been excavated some time ago. Moreover these methods are receiving increasing importance since excavations have become too demanding on both human and financial resources. Thus there is a large potential for integrating old excavation data with standing architecture at sites with a long history of excavations. The added analytical component, employing Space Syntax methods for spatial analysis, however took the approach followed in this study beyond the conventional recording and data processing and moved it towards a holistic study of past urban space.

In the following Chapter Five, focussing on one of Ostia's *insulae,* the little studied IV ii, a close examination of the buildings allowed us to reconstruct the Insula's development over the first three centuries AD. The structural remains bear witness to a dynamic environment which afforded continuous change involving all buildings to various degrees. The development reflected not only the larger building booms which shaped Ostia's built environment, but also periods of less pronounced activity. Through our detailed assessment structural changes could be identified and a chronological sequence, although relative, could be established for the development of the internal elements. For the majority of the discrete structures it could be demonstrated how closely they were linked to neighbouring buildings within the Insula and how changes in one unit affected the others. Not a single building existed within the Insula which did not in one way or other interfere with its next-door neighbour.

On the whole the Insula's structural remains confirm the general picture which has been established for Ostia's built environment. However, one important phase typical of Ostia is absent within the Insula: none of the buildings was ever converted into a Late Antique private luxury *domus,* as can be observed in other *insulae* of the surrounding area. Several reasons could account for this. The most plausible one seems to be that since the buildings remained operational into the 4th and some even into the 5th century they were not vacant and therefore not susceptible to functional change, i.e. being converted into luxury dwellings. Another reason could be that the single building units which comprise the Insula were too interdependent and interwoven and therefore not attractive for new owners, who would have to single out individual plots for luxury development while the remainder of the Insula would stay unchanged.

Chapter Six dealt with the application of Space Syntax to the functioning of life within the Insula. Through systematic analyses and interpretation of the various spatial aspects of the built environment this study was able to extract different layers of spatial structuring, co-existing within the same Insula plan, each with its own contribution to the city block's spatial functioning, and to the way

the spaces were perceived by those who used and navigated them. Access analysis provided insights into the individual buildings as well as the Insula's collective configuration, demonstrating how the individual layouts structured the relationship between residents, and between residents and visitors. Axial line analysis and Visibility Graph Analysis (VGA) helped in identifying the southern courtyard as the Insula's most integrated area, or its social hub. It could be established that the Insula's spatial structure was instrumental to its sustained development which assured occupation over about five centuries. Its collective space structure seems to have prevented fragmentation into highly individualised luxury architecture, which was the fate of some of the neighbouring *insulae*.

Although the Insula is a unique and distinguishable entity, at the same time it is only such by virtue of its membership of a much larger system of spatial relations. Moving then to the city as a whole in chapter seven we review our knowledge of Roman urban streets in general and of Ostia's street network in particular. Starting from a theoretical perspective the chapter discussed current approaches applied by various scholars to develop a better understanding of ancient streets as communication systems and spaces where social interaction took place.

The tools provided by Space Syntax allowed us to explore new ways of looking into Ostia's streets, moving away from the static position of charting street courses and recording the material evidence of street surfaces and paving materials. Chapter Seven focused on the movements of Ostia's population around their community and on those spaces which were destined to generate interaction, because of their overriding influence on aggregating pedestrian flows. We were able to confirm the predictions of Space Syntax theory whereby the location of particular streets or public spaces within the total network of such units within a city defines its effectiveness in concentrating human movement and social encounter.

A complementary aspect of Space Syntax analysis, the creation of visibility graphs helped us to identify the city's visual structure by detecting places which were most integrated by sight. This method revealed that the city's visually most integrated places and cross roads not only formed local visual *foci* for their neighbourhoods, but as a group they were linked up to each other through inter-visibility. Thus all local places were infused with a global element which binds the city together. Working backwards from this wider spatial analysis we investigated the identified focal points of the city to see if there were archaeological markers (an 'inverted archaeological assessment'). Our approach succeeded in finding public features (fountains, arches etc.) which the city generated to anchor its visual structure to topographical locations.

In Chapter Eight the analysis moved up one level higher to a class of important buildings distributed over many points of the urban plan: the guild seats (*scholae*) or headquarters, serving as centres for various commercial and religious organisations. As always these buildings reflect local spatial factors and at the same time their position responds to conditions created by the overall street grid of the city. The two scales of assessment and their results have to be considered jointly, since they represent interdependent spatial factors which inevitably influenced each other. The study of the spatial logic of the individual ground plans (Access Analysis) of the *scholae* was able to capture the spatial organisation of the buildings and recognise them as largely defined by the outside space, Ostia's streets. Their outward focus seems to suggest that the guild buildings had a high potential for promoting contact and communication at the interface with public space. Moreover the guilds preferred to locate their buildings along the most easily accessible streets within Ostia's street network. Their exposed location not only gave the guild buildings a high public profile, but also enhanced their capacity to benefit from the concentration of movement that occurred along the main streets.

Some of the *scholae*'s spatial characteristics give the impression of being readily apparent, and seem to confirm already established principles of Roman spatial organisation. Other Roman cities like Pompeii and Empúries show similar concentrations of movement-seeking land-use (commercial, public and religious), located along streets that are easily

accessible from outside and inside the city. What can a space syntax analysis add to our understanding of the spatial organisation of the Roman city that we do not already know? The added value of the approach offered here is that it produces the statistical values to place these spatial nexuses on solid impartial grounds. The turn from intuition to testable theory is justified through the importance of recognising the fundamental relationship between the urban grid structure (Ostia's street system) and human movement, as defined by the principles of the movement economy. This allows a broader understanding of movement beyond attractor-driven and purposive directed movement with their emphasis on direction and location.

Future directions

Clearly, Space Syntax tools have helped us to identify spatial configurations which would not have been visible to merely qualitative or intuitive scanning of street plans. However, having answered one set of questions cannot distract from the fact that this spatial enquiry left many questions unanswered and raised a number of new ones. These encourage future research and the development of new research directions.

The syntactical enquiry into the Insula could and should be expanded to include various other spatial parameters, such as by examining the Insula's total configuration from the perspective of each individual building, or by exploring the Insula's visual fields from location to location. Another promising addition to the current analysis would be to include the streets of the Insula's immediate surroundings into the area defined for analysis. Firstly this would give the Insula a buffer zone to counteract possible edge effects which the immediate boundary of the Insula might exert on the analysis. Secondly, by including a certain amount of street space the effect of the streets on the Insula can be more clearly appreciated. Above all, a similar spatial assessment to that conducted for Insula IV ii should be applied to other *insulae* of Ostia.

As for the street system itself, several pointers for future work can be offered, one of which is the overrated importance of the street termed the 'Semita dei Cippi' for Ostia's street network, as emerged from the Space Syntax analysis. An alternative favoured route now deserves investigation as a good starting point for examining the south-eastern suburbs of Ostia, promising new insights into the most densely developed area of the city. Another interesting idea which developed out of the Space Syntax analysis are several discontinuities in the urban grid which we identified in various locations, and presumably 'jeopardized' the viability of human mobility. A closer archaeological investigation into those areas would be rewarding.

Regarding future work on the guild seats it would be advantageous to increase their sample size, including all identified or hypothesised examples of Ostian guild seats to test whether the pattern identified by this analysis would be strengthened or require more elaborate and varied interpretative scenarios. In addition to guild seats other groups of buildings which have a city-wide distribution like Ostia's baths, or the *mithraea* could be an interesting field of study where Space Syntax could add new insights.

Although we have been obliged to construct this thesis from a series of different analyses at increasing spatial levels, we hope we have demonstrated the necessity of treating an ancient city as an integrated whole. This was indeed not only how the ancient inhabitants would have experienced it, but more fundamentally, their lives were highly conditioned by the constraints and possibilities engendered by the patterning of buildings and spaces that constituted the physical matrix of their daily existence. Hopefully this holistic form of urban analysis will be extended to the study of many other urban communities of the ancient world.