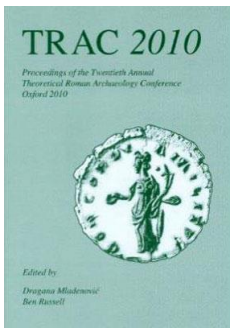

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Meaningful *Insula*: Bridging the Gap between Large and Small Scale Studies of Urban Living Conditions

Heini Ynnilä

Introduction

Traditionally questions related to Roman urbanism are studied by looking broadly at city layouts and scattered evidence – whether structural remains, literary sources or epigraphic material. Moreover, a sample from the best surviving evidence is often selected to deduce some overarching principles. Both tendencies are evident in Pompeian studies. As Zanker (1998: 30) remarks, '[T]he history of Pompeii continues to be written as a history of individual structures, providing little or no sense of larger connections'. In recent years the flaws in these approaches have become even better understood. There is, as Newsome (2009: 123) has put it, 'the need to understand a property in relation to its neighbours and, more ambitiously, to the development of the town as a functioning, dynamic whole'.

In the current paper it is argued that by focusing on the smallest unit of communal living, that is a city block, a better understanding of the organisation of the basic conditions in which urban lives were lived can be achieved. Indeed, though elaborate forms of Roman urbanism, such as luxurious *horti* and private baths, have attracted attention, the tendency has been to overlook the fact that they were developed on the precondition that the basic amenities operated efficiently. The micro-scale arrangements of these amenities, such as light, water and sewage, remain inadequately understood. Consequently, *insula*-based studies can bridge the gap between the large and the small scale.

Insula-based studies are not a new concept. In the context of Pompeian scholarship the first such study was published in the early twentieth century by Noack and Lehmann-Hartleben (1936). More recently, it has become a more or less standard practise to carry out re-documentation projects in Pompeii on an *insula*-basis, thanks to the current policy on granting permissions to study *insulae* or larger urban districts rather than individual houses (*e.g.* Carandini 2007: 9). However, the potentials of these studies have not been explored in full. The detailed description of the extant archaeological evidence and archival material, and the phasing of the development of the given *insulae*, which typically form the contents of the final publications of these projects (see *e.g.* Bonghi Jovino 1984; Carocci *et al*. 1990; Ling 1997; Gallo 2001; Aoyagi and Pappalardo 2006; Coarelli and Pesando 2006; Amoroso 2007; Verzár-Bass and Oriolo 2009), are extremely significant contributions as such. Nevertheless, analyses need to be taken further. Aspects such as building legislation, neighbourhood relations, ownership and changes in ownership remain largely untouched (though see Ling 1997: 238–53).

Therefore, in order to improve our understanding of the city block as a unit we have to approach the available data with a number of different concepts in mind. This dynamic hermeneutics, a dialogue between data and concepts, forms an interpretative cycle in which an understanding of data-set interconnections and their importance is developed and subsequently ameliorated. To examine this line of thought in practice, the current paper examines the

availability of water and light in a single city block. The process necessitates a general understanding of how water and light were made available in Pompeii. Secondly, the particular requirements of individual households in relation to water and light need to be assessed. Having acquired this information, we can proceed to a detailed examination of various solutions adopted to secure water and light supply. The arrangements made for acquiring water are discussed in order to understand the interplay of needs and choices. Lighting arrangements are discussed in order to understand how neighbourhood relations might have involved agreements indicated in Roman law. As a result, the paper touches upon the dynamics of the *insula*: the impact of the social and physical position of the houses on the factual evidence we have today.

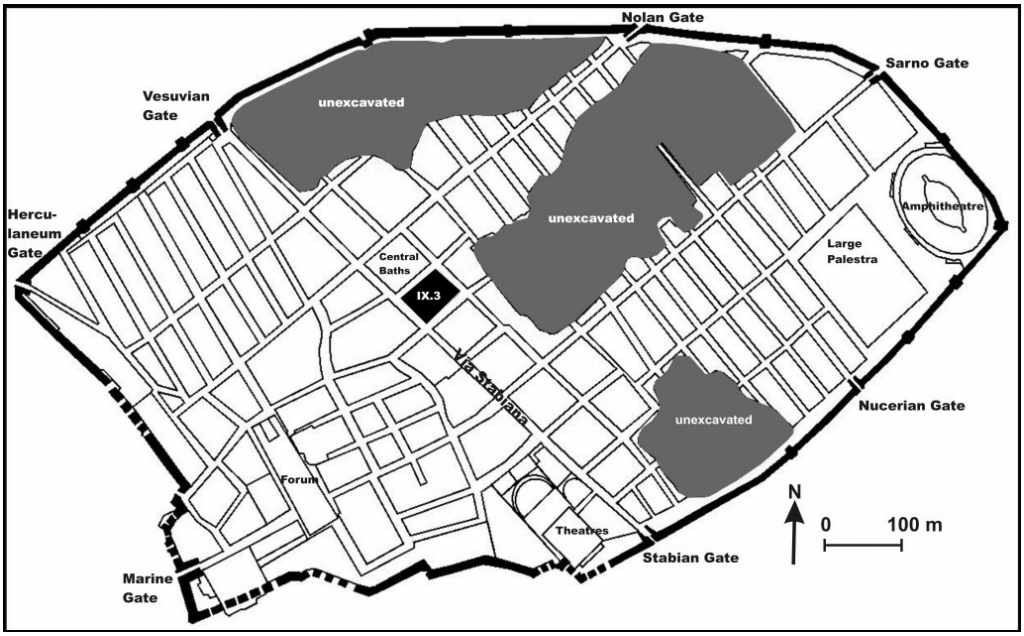

Figure 1: The location of Insula IX.3 in Pompeii. Modified from the Soprintendenza archeologica di Pompeii plan.

Background

The current paper is based on Pompeian *Insula* IX.3. This city block is located at the geographic centre of the city (Fig. 1), and in A.D. 79 when the city was destroyed the block contained an unoccupied plot and 18 houses (which are referred to by the traditional numbers given to their entrance door ways). Of these units, 4 houses (Houses 5/24, 15, 23 and 25) contained no architectonic elements or artefact assemblages that would connect them with commercial functions. In contrast, the rest of the houses had wide shop door ways and finds or fixtures which identify them as both residential and commercial units. Of these, Houses 1–2, 10–2 and 19–20 contained a series of similar productive fixtures which suggests large scale production. House 1–2 operated as a dye-workshop, Houses 10–12 and 19–20 as mills-

bakeries. The remaining houses (3, 4, 6, 7, 8, 9, 13, 14, 16, 17 and 18) contained either productive apparatuses or groups of finds, none of which were closely similar and hence the units seem to have been involved in retail and production on a less standardized and small scale.

The *insula* was excavated between the 1840s and the 1870s, and because of poor initial documentation and later neglect, the block has been re-studied since 2002 by the *Expeditio Pompeiana Universitatis Helsingiensis* (the Pompeii Project of the University of Helsinki). The aim of the team is to produce a corpus of structures and finds in the *insula* in A.D. 79, as well as to carry out small-scale excavations below the last occupation level in order to understand its architectonic and socio-economic development (Castrén 2008; Castrén *et al.* 2008). Because the work is ongoing and the evidence consequently only partial, interpretations presented in this paper are subject to change.

Need and choice: water

Studying consumption has always been an integral part of archaeological research as the acquisition, use, maintenance and disposal of goods, utilities and services are all necessarily touched upon when material culture is studied. Whereas consumption is ultimately a response to basic human needs, including access to food, drink, light, air and warmth, it is extensively influenced by the consumers' cultural backgrounds, as well as being connected to the cognitive and psychological mechanisms of a human being. Leaving psychological and cognitive aspects more or less aside, archaeologists tend to study the socio-cultural, political and technological aspects of an ancient society through consumption, especially because it involves choice (see Ray 2006: 25–7 for bibliography and discussion). Indeed, the mere availability of alternatives is already revealing of the society in question. Moreover, it is widely acknowledged that archaeologically discernible arrangements for consumption were frequently elaborated, *i.e.* to serve also other needs, even when aimed at basic sustenance (*e.g.* Hingley 2005: 107 on acquiring basic commodities produced at some distance apart, as opposed to local goods; Morley 2007: 46 on elaborated forms of eating and dressing). Douglas and Isherwood (1996: 26–9) have criticized, eloquently, the view that rationale and the maximization of utility are the driving forces of human behaviour. As a result, the concepts of need and desire may prove useful in the study of water supply in the *insula*. We can analyse whether certain arrangements are more likely to have resulted from meeting needs or pursuing desires, or, and most probably, how these two motives were interlinked (compare *e.g.* Martins 2003: 86–7; Greene 2008: 66). In terms of wants, conspicuous consumption merits discussion because water features were often made highly visible in the urban matrix (Ellis 1997).

Altogether in our current, limited knowledge, only around a hundred of the roughly one thousand excavated houses in Pompeii were connected to mains water supply (Jansen 2001: 27). However, the connections were not evenly distributed throughout the city. Some *insulae* had many more connections than others (Dessales 2007: 130, fig. 1). Although many more connections probably remain to be found, the available evidence at least indicates that a decision to invest in running water was made only rarely. The overall picture seems to be supported on a smaller scale in the case of *Insula* IX.3 (Fig. 2). As far as we know, mains water was used for certain in only two and at the most four properties in the *insula*. A water-pipe was found in House 5/24 running between its entrance and a garden further back (Viitanen and

Andrews 2008: 68–9). Another connection was taken through Rooms 105 and 107 in House 18 to Room 121 in House 19–20. From Room 121 it forked underneath the floor to Room 122 to serve its fountain, and climbed above-ground to Room 118 to serve baking and milling activities here (Monteix 2009a: 5–6, fig. 6). When the water pipe into House 19–20 was taken through House 18, the latter might well have acquired a connection to it; at any rate, a distribution box was found in it (James Andrews, pers. comm., 20.05.2006). Furthermore, the evidence suggests that piped water from Room 122 was evacuated through House 17 which might also have had a connection of its own, especially given that a tap was reportedly found in it (Eschebach *et al.* 1993: 417; however, see Jansen 2001: 38–9, note 6).

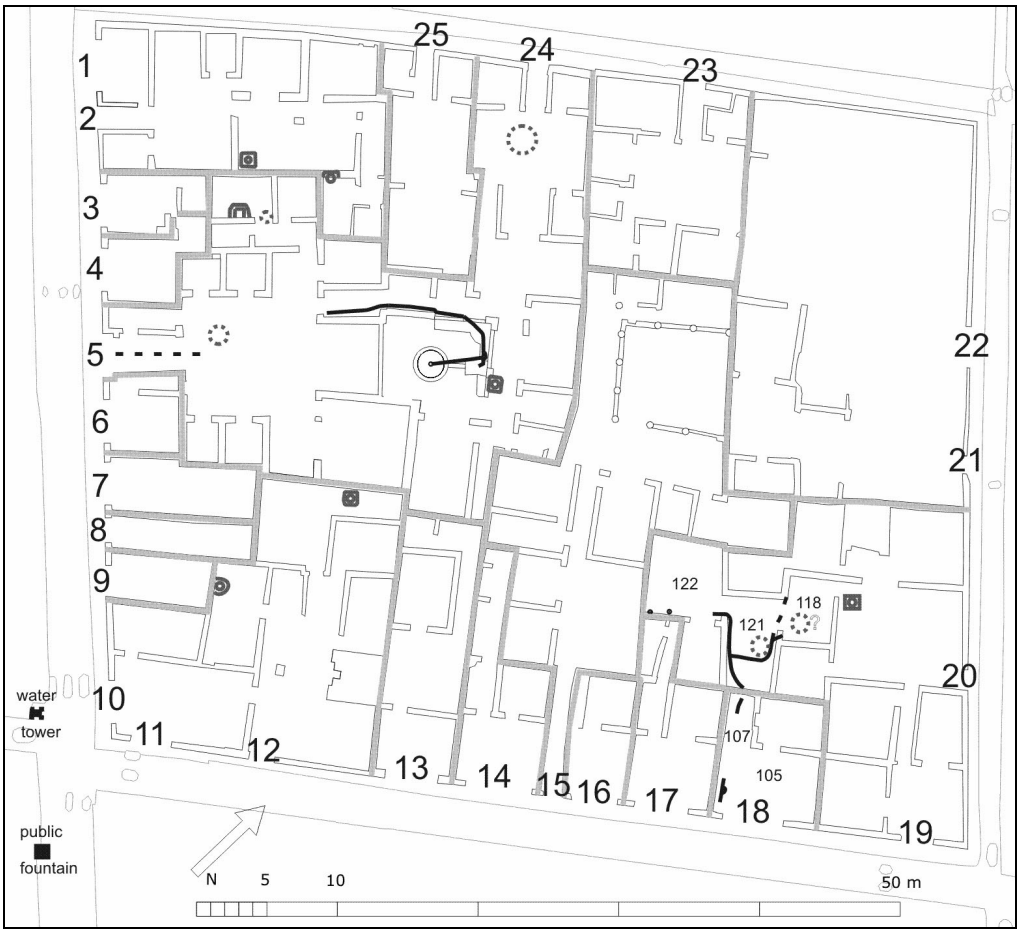

Figure 2: The distribution of known water pipes (in black) and cisterns (in grey) in Houses 1–2, 5/24, 10–12, 18 and 19–20. The cisterns out of use in A.D. 79 are shown in broken line. The closest water tower and public fountain are also indicated, and the property outlines are shown in light grey (EPUH/M. Holappa/H. Ynnilä; N. Monteix).

What is interesting, in addition to the small number of connections, is that it seems that the largest and most luxurious house in the *insula*, House 5/24, acquired a connection almost a century, if not more, after the introduction of the aqueduct (for an Augustan dating of the aqueduct, see *e.g.* Zanker 1998: 118; Ling 2007: 123; for a Sullan date, see Ohlig 2004: 104–5; and for an even earlier date, see Mau 1899: 227). If this was truly the case, such a late connection requires explanation. The garden layout of the house was altered, the ground level apparently lowered, pipes laid and some old water gutters taken out of use, during the second half of the first century A.D. (also Viitanen and Andrews 2008: 67; compare Jones and Robinson 2004: 117 on the House of the Vestals (VI.I.7) and Sear 2004: 151–60 on the House of the Grand Duke (VII.4.56) for similar developments, earlier in date). We can speculate for instance that only through this remodelling did the house acquire an ornamental garden as its centre-piece. In such a setting fountains were fundamental – and an additional need for water had been created. Consequently, the connection could have related above all to changes in style and design.

Although we know very little of the house prior to the first century A.D., and it is fully possible that we have simply not encountered any evidence for earlier connections, the situation in House 5/24 in A.D. 79 is nevertheless in striking contrast to the situation at some other houses. After the earthquake of A.D. 62, entire systems based on pressurized water were removed, or modifications were made so that on-site water collection could better correspond with the water consumption rate of the time (*e.g.* Jones and Robinson 2007: 401 on the House of the Vestals; also Dessales 2007: 134–6 on the Houses of Trebius Valens (III.2.1) and Ling 1997: 69–70, footnote 68 on House of the Menander (I.10.4) where the situation is less clear). At least one third of private baths were taken out of use and many more downsized after A.D. 62 (De Haan 2001: 46). However, these changes may be at least partially explained by changes in social practices and do not necessarily demonstrate that the water mains were not functioning properly. Public baths had probably become increasingly important (Zanker 1998: 131). Hence, even if there had been some general problems with the water supply provided by the city, and if the house owners in the areas most susceptible to these problems had consequently opted for private solutions to secure their water maintenance, the supply had remained good in other parts of the town. Areas most likely effected by water shortage were those farthest away from the *castellum aquae* (such as the Houses of Trebius Valens and the Menander), and, because the flow of water was based on gravity, those at an altitude close to that of the *castellum* (such as the House of the Vestals). Instead, the location of *Insula* IX.3 along one of three water mains, next to the third water tower of this easternmost mains (see Wiggers 1996: 29, fig. 1), suggests a steady supply when the system was in operation. Indeed, evidence in House 5/24 shows that the pipes were chosen to be repaired after having been damaged, probably in further tremors between A.D. 62 and 79 (Viitanen and Andrews 2008: 69), rather than the water supply system itself altered. The house owner counted on the city infrastructure.

Acquiring a connection to the water mains was, in the case of House 5/24, an act of conspicuous consumption and display. It is striking that running water only served aesthetic needs – *i.e.* it was meant to be seen and heard, not consumed. Once used in the fountains, water was simply discarded outside the premises (compare *e.g.* Jones and Robinson 2004: 117). There was no intention to reuse it (*contra e.g.* the House of the Grand Duke (VII.4.56) where it was taken into a lavatory, Sear 2004: 162, 166). Cisterns were kept in operation to fulfil the needs of everyday life (compare Jones and Robinson 2004: 117; Sear 2004: 165).

In contrast, piped water was used in baking and milling in House 19–20. Moreover, spills of running water might have been collected to a cistern or two (see Monteix 2009b: 10–11). However, it is revealing that House 19–20 is the only commercial unit which had, without doubt, a connection to the water mains. It shows that industries, even those with a high rate of water consumption, were run without direct access to the water mains. Indeed, adequate amounts of water can be supplied in various ways. For instance, all the *fullonicae* in Timgad contained wells (Wilson 2003: 444). Likewise, not all of the *fullonicae* of Pompeii had a connection to the aqueduct (Jansen 2001: 38–9, note 6; Flohr 2007: 133).

Despite all this, we need to ask, why House 10–12 was not connected to the mains, even though it had roughly the same production capacity, in terms of oven size and mill count, as House 19–20. In industrial baking water is needed for various activities, such as moistening grain, leavening, kneading, washing utensils, sprinkling loaves before and during baking, and watering animals at work (Thurmond 2006: 52–72). However, some of these activities might have been outsourced and hence the rate of on-site water consumption could have varied between bakeries. Moreover, milling had been halted in House 10–12 by A.D. 79 (Fiorelli 1873: 51). Depending on how recent the cessation was, it might have had an impact on the water supply strategies of the bakery, or been a result of them. Perhaps because House 10–12 contained two cisterns and was located next to a public fountain, its water supply was efficient enough without mains water, especially considering that the house had no fountains. In terms of comparative studies, a French team currently studying 21 Pompeian bakeries have so far found traces of piped water in only one third of them (Monteix 2009a: 9). House 10–12, therefore, was not exceptional in this regard. Likewise, and seemingly for similar reasons, a dye-workshop in House 1–2 managed without a connection to the water mains. The capacity of the dying vats was in hundreds rather than thousands of litres (Borgard and Puybaret 2003: 309) and hence a connection was seemingly deemed unnecessary when the house was furnished with two cisterns. Indeed, the cisterns alone were probably enough to meet the need for water (Wilson 2003: 444 for general cistern capacities). This was important because a source of free public water was not as easily accessible as in House 10–12. House 1–2 was located over 50 m from a public water source, more than was customary in Pompeii (Eschebach 1979: 38–9, fig. 8).

As a result of this discussion, some crucial factors, on the basis of which decisions on water supply strategies in commercial contexts were made, may be identified. Three factors, namely the overall need for water, the internal capacity to collect and store water, and the location of the house in relation to public water sources, were probably decisive. Therefore, perhaps because House 19–20 was both located over 50 meters away from a public water source, a fountain was desired, and certain water collection structures in the house had gone out of use (Monteix 2009b: 9–11 on earthquake damage in the house), its owner decided it was worth investing in running water.

Law and regulation: windows

In addition to need, taste, choice and economic rationale, certain arrangements are likely to have resulted from Roman property law. Particularly important in this context are servitudes, which are either rights to or restrictions of certain actions that concern neighbours. Servitudes were based on property instead of individual owners, and were hence passed on when property was sold or inherited. However, servitude only applied when both parties acknowledged it, and

therefore it had to fall within a recognized format (*e.g.* Crook 1967: 150; Watson 1968: 176). Furthermore, in terms of neighbours with a more or less equal relationship – *e.g.* with a shared party wall (*paries communis*) – lawyers still saw limitations on what one could and could not do (*e.g. D.* 8.2.8; Crook 1967: 150–1; Saliou 1994: 81).

Because natural light was essential for the use of all interior spaces prior to the advent of efficient artificial lighting, securing access to it was of utmost importance. Rodger (1972: 50), for example, has argued that light was more fundamental than the availability of water. Indeed, a tenant could walk out from a contract if the rented property became too dark (*D.* 19.2.25.2). Because Pompeian houses had very few windows opening onto streets on the extant ground levels, and then only small ones, natural light mainly derived from internal light wells. Moreover, *Insula* IX.3 contained relatively few reported lamps per unit, between none and a couple of dozen. It corresponds with a pattern that emerges from comparative studies (Berry 1997: 103–6; Proto 2004: 22–7; Peña and McCallum 2009: 189, footnote 164) and stresses the importance of daylight. Therefore, it is of no surprise that several laws and regulations dealt with the availability of natural light inside houses.

For instance, in the Pergamene Astynomic Law, originally produced in the Hellenistic era but reproduced in the Hadrianic period, when it was probably still valid (Oliver 1955), piercing a common wall without a mutual agreement by the two parties is explicitly banned (II, 128–132). If, on the other hand, a wall was owned by only one of the two neighbours, this neighbour might have been allowed to pierce it. Furthermore, according to Roman law, one could hold a light servitude, or 'a servitude of the non-obstruction of light' (*servitus ne luminibus offiatur),* over a neighbouring property. The servitude made it possible to prevent the neighbour from blocking access to light during any redevelopment works (*D.* 8.2.15, 8.2.17). In the archaeological record these rights might be manifested as windows, the location of which, if not the extant window, probably predates the construction of one of the neighbouring units, when the other property had a window onto a vacant plot. Alternatively, the windows may indicate walls of a single ownership, or they may be located between rooms formerly under a single ownership. These windows would hence have been left by the creation of a servitude, after the division had taken place. Servitudes were not exclusively created in conjunction with changes in ownership, but other times too, by payment or agreement (*D.* 8.3.14). Consequently, whereas direct correlations between material culture and laws may be difficult to ascertain, laws can provide additional insight into the study of amenity provision and communal life.

There probably were at least eleven windows between various houses in *Insula* IX.3 (Fig. 3). More might have been blocked during restoration works and are now beyond recognition. Moreover, there might have been more windows between houses on upper floors. Andrews (2006: 117–9) has, for example, stressed the importance of windows between units in the lighting arrangements of upper floors in Herculaneum. Unfortunately we know next to nothing of upper floor windows in *Insula* IX.3. Nevertheless, several observations can be made on the basis of known windows. It is notable how some rooms served as a light well for several properties. For instance, at the rear of House 13 natural light was divided between Houses 5/24, 13 and 15. Room 73 of House 13 had been covered by an upper floor which was subsequently dismantled and the room left unroofed. At this point a servitude was created and windows between properties built, or an existing servitude was honoured by leaving windows that had previously opened onto the upper floor untouched (also Andrews 2010: 8–9; compare Murgatroyd 2008: 3.4 on the House of the Surgeon, VI.1.10/23). It seems probable, therefore, that Houses 5/24 and 15 held a light servitude over House 13.

Figure 3: The distribution of windows (in black) between houses in Insula IX.3. Roofless spaces onto which these windows opened are shaded dark grey, and partly unroofed spaces are shown in light grey (EPUH/M. Holappa/H. Ynnilä).

In some other cases, however, windows opened between rooms that were neither particularly light nor particularly dark, and hence the motivation for installing them is unclear. For instance, it seems that a window between Houses 1–2 and 25 opened onto rooms with fairly similar lighting conditions. Indeed, as far as we can tell from the available archaeological evidence, it seems that both internal windows between rooms in a single property, and windows shared by two units, were either clearly designed to distribute light from well lit to dark spaces or located between rooms with more or less similar lighting conditions. Moreover, it is probable that some of these windows had initially served a different room arrangement as

well as upper floor lighting and hence the impression we have today is misleading. Nevertheless, these observations remind us of how ubiquitous change and development were.

Flow of light could also be secured by limiting building heights. To safeguard existing light from streets and through internal light wells, one could hold *servitus altius non tollendi* which forced the neighbour in question to refrain from extending the height of his or her house above a certain limit (*e.g. D.* 8.5.5; Rodger 1972: 6–7; Saliou 1994: 218–9). Unfortunately, since the actual building heights remain largely unknown, this type of light servitude is beyond our scope. What is clear is that light is an example of shared facilities between houses; this meant shared infrastructure and arrangements that extended beyond conventional property boundaries.

Conclusions

Since multi-disciplinary *insula*-based studies have become more common, we can begin to see their value in the study of Roman cities at large. However, they have a greater potential than so far acknowledged. As long as the micro-scale is inadequately understood and ignored, conclusions on a macro-scale unavoidably stand on a weak basis. Noted differences in the arrangement of amenities discussed in this paper emphasise the fact that generalizing from the study of one or two individual properties could produce an overall interpretation that is fundamentally flawed.

This case study has shown that investment in running water in *Insula* IX.3 was foremost the result of a desire for display rather than consumption as such, only secondarily serving to meet the quantities consumed in everyday operations. Servitudes were found to be noteworthy explanations to some lighting arrangements between houses. To begin to generalize more widely, we need to bear in mind that city blocks constituted the immediate surroundings of individual houses in which the residents made their presence visible and defined their territories. The physical constraints, including size and location of the city block, and the past histories of individual houses, had an impact on choices made which moreover resulted from hierarchies of household needs, the general city-wide availability of amenities, as well as cultural norms, law and respective socio-economic situations. Altogether, only the aggregate understanding based on various concepts and types of data in different scales can produce a more elaborate image of cities as more than the mere sums of their parts.

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