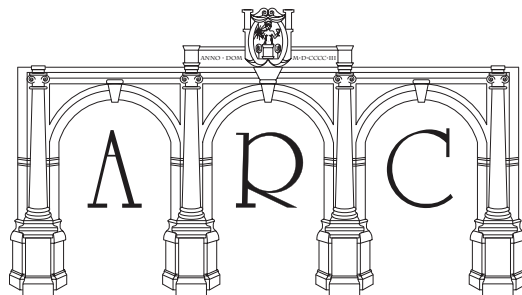


# SEEN & UNSEEN SPACES

EDITED BY  
MATTHEW DALTON, GEORGIE PETERS  
& ANA TAVARES



## Contents

<b>Introduction: Seen and unseen spaces</b>	1
MATTHEW DALTON, GEORGIE PETERS AND ANA TAVARES	
<b>'Out of sight': The role of Kfar HaHoresh within the PPNB landscape of the Lower Galilee, Israel</b>	7
MICHAL BIRKENFELD AND A. NIGEL GORING-MORRIS	
<b>Site and scene: Evaluating visibility in monument placement during the Bronze Age of West Penwith, Cornwall, United Kingdom</b>	17
CHELSEE ARBOUR	
<b>(In)visible cities: The abandoned Early Bronze Age tells in the landscape of the Intermediate Bronze Age southern Levant</b>	28
SARIT PAZ	
<b>'All that we see or seem': Space, memory and Greek <i>akropoleis</i></b>	37
ROBIN RÖNNLUND	
<b>Becoming visible: The formation of urban boundaries in the oppidum of Manching (Bavaria)</b>	44
THIMO JACOB BRESTEL	
<b>Mutable spaces and unseen places: A study of access, communication and spatial control in households at Early Iron Age (EIA) Zagora on Andros</b>	52
KRISTEN MANN	
<b>Privacy and production: Sensory aspects of household industry in Classical and Hellenistic Greece</b>	63
KATHERINE HARRINGTON	
<b>Some thoughts on the habits of graffiti-writing: Visual aspects of scratched inscriptions within Pompeian houses</b>	70
POLLY LOHMANN	
<b>Visibility, private religion and the urban landscape of Amarna</b>	77
ANNA STEVENS	
<b>In the eyes of the other: The mythological wall reliefs in the Southwest Palace at Nineveh</b>	85
KIERSTEN A. NEUMANN	
<b>Ziggurats: A viewer's guide</b>	94
MARY SHEPPERSON	
<b>Modelling household identity in a multi-ethnic society</b>	102
MIRIAM MÜLLER	
<b>From vision to cosmo-vision: Memory and the senses in the creation of Maya ritual space</b>	113
LISA M. JOHNSON, JAMES M. CRANDALL AND LUCAS R. MARTINDALE JOHNSON	
<b>Visualising personhood: Race, space and materiality in the historic mortuary landscapes of eastern Long Island</b>	123
EMILY BUTTON KAMBIC	
<b>Segregation of mortuary spaces within the context of double funerals: An ethnoarchaeological approach applied to Neolithic Pouilly (France)</b>	134
JENNIFER KERNER	
<b>Creating visual boundaries between the 'sacred' and 'secular' in New Kingdom Egypt</b>	143
NICOLA HARRINGTON	
<b>Life after death: Shrouded burials in later Anglo-Saxon England</b>	150
SIÂN MUI	
<b>Book Reviews</b>	
EDITED BY MATTHEW DALTON	
<i>Archaeology and the Senses: Human Experience, Memory, and Affect</i>	157
By Yannis Hamilakis	
REVIEWED BY LUCY SHIPLEY	
<i>An Archaeology of the Troubles: The Dark Heritage of Long Kesh/Maze Prison</i>	159
By Laura McAtackney	
REVIEWED BY CALUM GAVIN ROBERTSON	
<i>Animals as Neighbors. The Past and Present of Commensal Species</i>	160
By Terry O'Connor	
REVIEWED BY WILLIAM C. MCGREW	
<b>Forthcoming issues and subscription information</b>	162
<b>Available back issues</b>	163

# Mutable spaces and unseen places: A study of access, communication and spatial control in households at Early Iron Age (EIA) Zagora on Andros

Kristen Mann

Department of Archaeology  
University of Sydney  
kman2025@uni.sydney.edu.au

Spatial perception is intrinsic to how we understand our world. As such, critical consideration of household space is essential when studying settlement social dynamics. This paper explores household spatiality at the EIA site of Zagora on Andros, through an examination of the spatial configurations of eight Late-Geometric II (LGII, ca 720–700 BC) house compounds. It considers how identified patterns of access and communication might have shaped the experience and social perception of household space.

The principles of convex spatial analysis (often referred to as access analysis) are employed in a preliminary study of spatial arrangements and control over sight, movement and social interactions (both internally and with respect to the larger community). Specifically, this paper queries whether elements embedded in the spatial syntax of the Zagora houses suggest that control over physical or visual access was a desired quality, and what significance this holds for the perception of domestic space in an EIA agrarian community such as Zagora.

Patterns of access and control are then integrated with spatial properties and practical requirements for household behaviour (such as access to natural light or functionally specific installations) to further explore their functional and social implications. This study aims to better understand the diversity of variables at play regarding household space, and to ensure that any social inferences drawn from the architectural configurations are founded on theoretical engagement with spatial use, lived experience and material processes in household contexts.

## The site of Zagora

The 6.7 hectare site of Zagora is located on the west coast of Andros in the Cycladic archipelago (Cambitoglou *et al.* 1971, 1981, 1988). The site is situated on a steep promontory, with land access controlled by a fortification wall (fig.

1). Despite its much discussed isolation (e.g. Gates 2011: 197), Zagora had ready access to fertile land and sea trade (McLoughlin 2000, 2011: 876).

Ten percent of the site has been excavated, revealing domestic units undisturbed by subsequent occupation in areas D, H, J, B, E and F (fig. 1). Exposed walls and geophysical survey indicate that preserved structures cover the entire promontory (Beaumont *et al.* forthcoming; Petrakos 2013). Although the early excavations predated the development of techniques such as flotation or micro-stratigraphic analysis, they demonstrate a detailed treatment of domestic finds and architecture (Cambitoglou *et al.* 1971, 1981, 1988).<sup>1</sup>

Earlier houses (ca 860–720 BC) consisted of one or two rooms, often with a covered area protecting the front entrance (fig. 2). During the LGII period, these houses were modified or expanded, creating multi-room configurations accessed via a central unroofed space (Cambitoglou *et al.* 1988: 150–154). Soon after (ca 700 BC) the settlement was largely abandoned (Paspalas 2014: 528–529).

Domestic architecture was agglutinative, comprised of rectangular schist and marble constructions. This created large, well-defined spaces, often subdivided into smaller units (Cambitoglou *et al.* 1988: 147–161). Most incorporate built features such as benches, bins or hearths, indicating a desire for extensive storage and a preference for access to at least one internal unroofed space (McLoughlin 2011: 869). Each household appears to have been fairly self-sufficient, although household activities and economic strategies are currently under renewed investigation (McLoughlin 2000, 2011; *cf.* Garnsey and Morris 1989).

Despite the deceptive clarity of the site plan, the architectural sequence is suggestive of organic development,

<sup>1</sup>Data reliability issues are discussed further in Mann 2014.

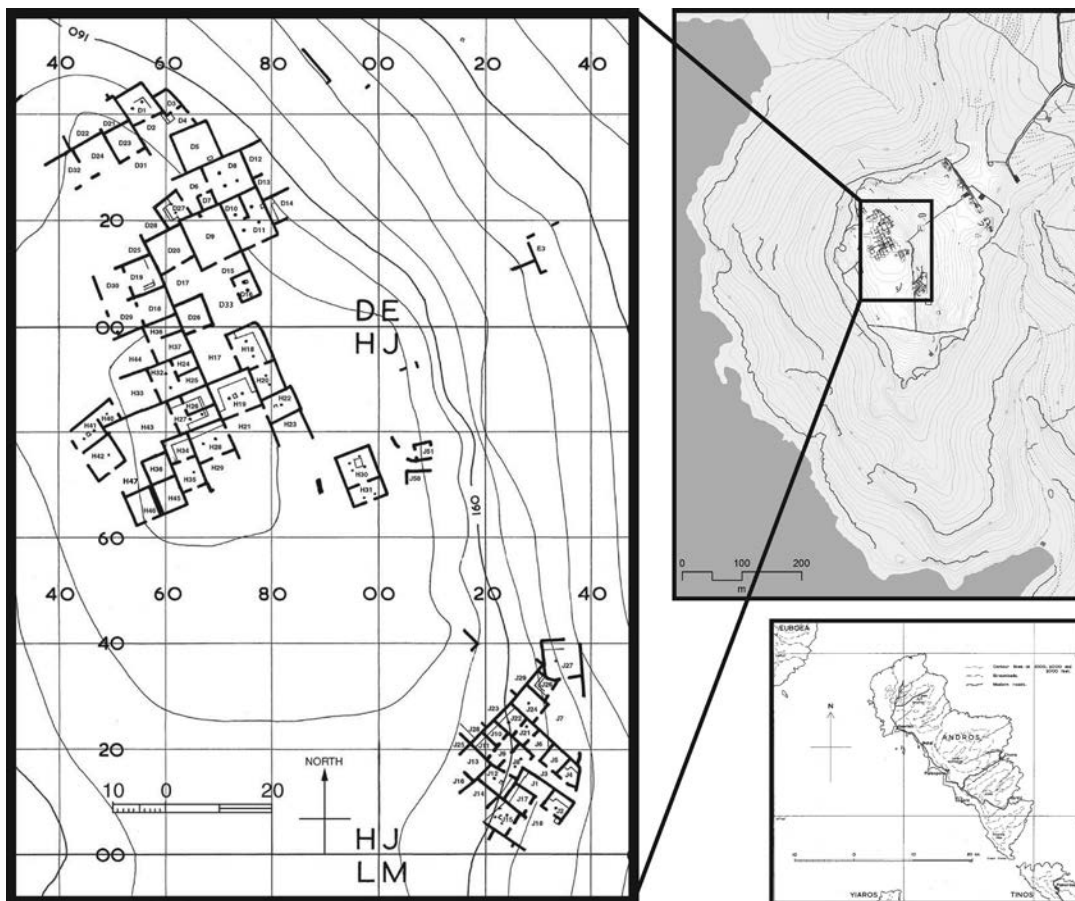


Figure 1. Plan and location of Zagora on Andros. (McCallum and Wilson's digitization of Coulton's original, reproduced with permission of the Australian Archaeological Institute at Athens).

better connected to household life-cycles and settlement growth than the development of centralized planning (Cambitoglou *et al.* 1988: 158–160; Gounaris 2007; Vink 1997: 132–137). However the prevalence of shared walls and the agglomerative, organic growth of each neighbourhood indicate ongoing spatial negotiation between households. Investigating how such negotiation may reflect household relationships and social networks holds great potential for better understanding social organisation at Zagora.

### Households, space and social meaning

Households were critical vehicles for social conditioning, with behaviour learnt first at home and continually remade through daily practices (Bourdieu 1977, 1990; Giddens 1984, 1989: 280; Netting *et al.* 1984: xxii; Rapp *et al.* 1979: 175–176; Souvatzi 2008: 16–18). As the physical setting for daily activities, built space influenced how behaviours were learnt, social relationships formed and understood, and identities constructed. Yet households are not static entities. Rather they are fluid social constructs (Souvatzi 2008: 2; see also Dobres and Robb 2005: 161–164).

Not only were households dynamic social units, but the use and perception of domestic space was highly contex-

tual, and therefore mutable. In EIA Aegean settlements, it is unlikely that houses were understood through modern ideas of exclusive room 'function'. The meanings ascribed to space were likely shaped by diverse variables, including practical logistics, intended use, social ideology and cultural convention (Sanders 1990; Souvatzi 2008: 29). The social perception of space was therefore determined by a confluence of variables, such as who was present, the behaviours they engaged in, built form or furnishings, sensory perception and temporal context.

Current research recognizes the mutability of households, and demonstrates a maturing fascination with human experience and the social meaning of space (Parker and Foster 2012; Pluckhahn 2010; Yasur-Landau *et al.* 2011). However, there is growing concern that aggressively 'objective' approaches strip the past of its humanity, and so methodologies that draw on human experience and sensory perception have been gaining traction (Brück and Goodman 1999; Matthews 2012: 562; Souvatzi 2012; Tringham 1991). While such approaches may seem nebulous in a discipline founded on material data, engagement with lived experience and the more intangible elements of ancient households can strengthen insights drawn from archaeological material (Beaudry 2004; Brück 2005).

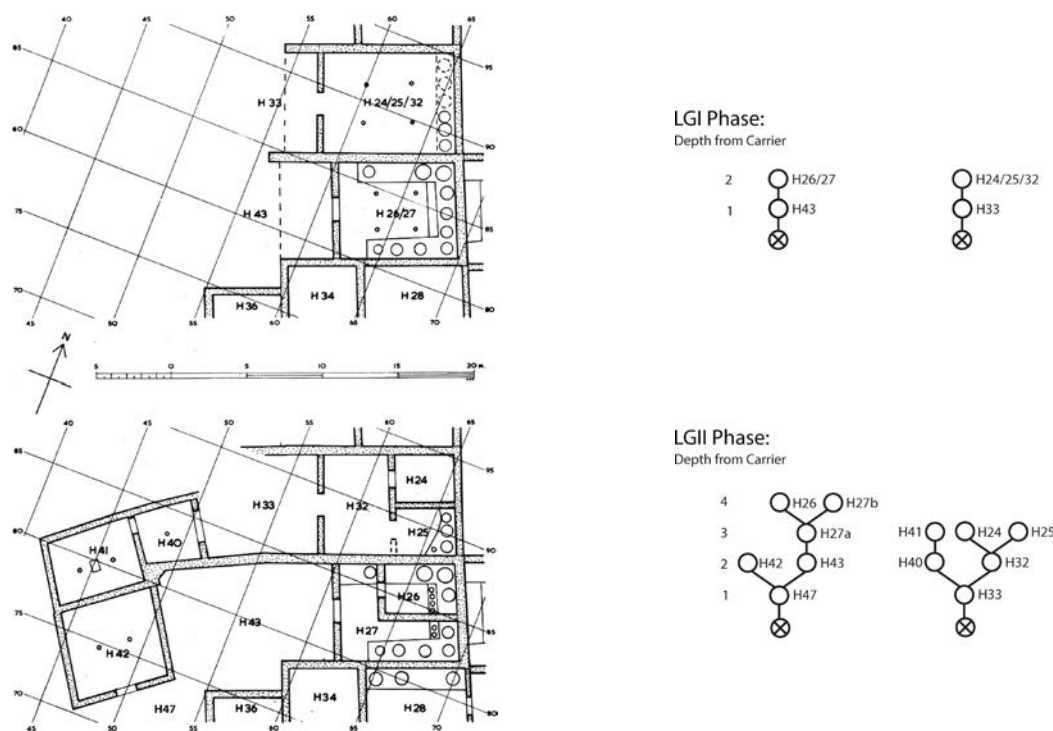


Figure 2. Phasing and spatial modifications in the H47 and H33 compounds (Kristen Mann after Cambitoglou *et al.* 1988: plate 11, plans reproduced with permission).

For many years, Zagora has elicited the interest of Classical archaeologists, particularly those seeking the origins of the Archaic Greek *polis* in eighth-century BC settlements (Ault 2000; Cambitoglou *et al.* 1988; Coldstream 2003: 303–315; Coucouzeli 1999, 2004, 2007; Lang 2007; Mazarakis Ainian 2007; Murray 1983: 198–199; Nevett 1999: 158–160; Vink 1997). The regularity of the Zagora architecture has encouraged its recurring association with the development of urban planning and political transformations during the Geometric to Archaic periods (Coldstream 2003: 288; Coucouzeli 2007; Fagerström 1988: 171; Snodgrass 1971: 421–422).

Significant social meaning has been ascribed to the Zagora houses according to perceptions of household autonomy and hardening gender ideologies traditionally associated with the Classical *polis* (Coucouzeli 2004: 474–476, 2007: 179; Morris 1999: 308–312; Westgate 2007: 236; *cf.* Lang 2007: 188; Mazarakis Ainian 2007: 168; Nevett 2007: 9). Critical to such arguments is the rapid transformation in spatial configurations during the LGII (see fig. 2). The final-phase arrangements, with their multiple rooms and central unroofed spaces, are often viewed as precursors to the Classical ‘courtyard house’ and imbued with similar social values (Nevett 2007: 9). This association is drawn largely from the architectural plans, frequently divorced from (or only superficially employing) other evidence such as depositional context or material distribution patterns (Coucouzeli 2007: 180; Morris 1999: 308; *cf.* Nevett 2010: 38). While this is inevitable, given that publication of the Zagora data remains

incomplete, many treatments lack theoretical engagement with how ideology, behavioural context, human experience and sensory perception collide to shape the meaning and significance of space.

### Spatial syntax: Principles, methods, limitations

Access analysis (Hillier and Hanson 1984; Hillier *et al.* 1987) was originally developed by modern architects to design buildings that better served anticipated social and functional requirements (Cutting 2003: 1; Mustafa *et al.* 2010).<sup>2</sup> Archaeologists quickly saw the potential that inverting this method—moving from building plans back to behavioural context—had for investigating the use and perception of space in antiquity.

There are two critical components to visualizing spatial relationships through access graphs: one is the depth of each space from the ‘carrier’ (outside); the other is the number and types of linkages each space has with its neighbours (Cutting 2003: 4; Fisher 2009: 440–442; Hillier and Hanson 1984: 147–155). The first element is particularly useful for examining the degree of control that could be exerted over interactions, chance or intentional, between the household and the larger community. The second is more qualitative, and flags difference according to how each space links with the rest of the system (*cf.* Cutting 2003: 4).

<sup>2</sup> See Hillier and Hanson (1984: 143–176) and Ferguson (1996: 11–24) for the full methodology for space-syntax.

Compound	D33 (graph H)	H47 (graph F)	H21 (graph D)	J7 (graph B)	J3 (graph G)	H33 (graph E)	J18 (graph C)	D6 (graph A)
Total roofed spaces	6	3	3	3	9	5	4	3
Total unroofed spaces	4	2	1	1	2	1	1	1
Total area	671m <sup>2</sup>	304m <sup>2</sup>	276m <sup>2</sup>	255m <sup>2</sup>	244m <sup>2</sup>	225m <sup>2</sup>	189m <sup>2</sup>	173m <sup>2</sup>
Available floor area*	650m <sup>2</sup>	271m <sup>2</sup>	232m <sup>2</sup>	220m <sup>2</sup>	220m <sup>2</sup>	218m <sup>2</sup>	170m <sup>2</sup>	157m <sup>2</sup>
Unexcavated area	474m <sup>2</sup>	224m <sup>2</sup>	22m <sup>2</sup>	173m <sup>2</sup>	28m <sup>2</sup>	114m <sup>2</sup>	48m <sup>2</sup>	53m <sup>2</sup>
Benches	2?	5	4	5	7	1	5	2
Pot nests	3?	8	12	19	0?	4	16?	13
Hearths	1?	0?	2	1	1	1	1	0?
Bins	-	-	1	-	-	-	1	-

Table 1. Spatial properties of the Zagora case-study compounds. Area values are to nearest m<sup>2</sup>, obtained from ArcGIS data, based on preserved extent of rooms and current understanding of excavation extent. 'Unexcavated' refers to areas not investigated at all, or where only topsoil was removed to reveal walls. \*Percentage of floor space left after area allocated to benches factored out (table by Kristen Mann).

Inherent to the methods proposed by Hillier and Hanson (1984: 150–155) is the formal quantification of spatial order, integration and communication. However, as Cutting argues, there are fundamental problems in quantifying partially preserved archaeological remains (2003: 5, 2006). Furthermore, space syntax was developed for modern spatial behaviour, which frequently assumes functional specificity. It should be applied with care to societies where spatial use was flexible, or where meaningful space did not necessarily equate to architecturally bounded space (Leach 1978; Morris 1999: 309–310). Importantly, the inappropriate application of quantitative methods can mask data ambiguity, eliciting an impression of certainty that is fundamentally misleading.

### Initial assessment of access patterns at Zagora

This research employs justified access graphs as a visual aid to examining movement and communication, rather than a formal tool for quantified analysis (Cutting 2003: 18). There is too much ambiguity in the Zagora spatial data for more quantitative applications. Several walls were not well preserved, particularly the southern extent of units H21, H23 and H29, and most compounds were not fully excavated.<sup>3</sup> A sample of eight LGII-phase compounds are examined here, as they represent the only houses with enough of their architectural plan exposed to enable access analysis (table 1 and fig. 3). Each case-study consists of three or more rooms accessed via a central unroofed space. However, the size and precise configuration of their rooms differ.

Upon initial examination of their access graphs, three distinct categories are identifiable within the sample group as defined by their spatial syntax (fig. 3): the D6, H21, J7 and J18 compounds form the largest group, with shallow symmetrical graphs (graphs A–D); the H33 and H47 compounds are deeper and more asymmetric (graphs E–F); and the D33 and J3 compounds combine elements of the

other two categories (graphs G–H). However, all three groups consistently have non-distributed arrangements with external access controlled by an initial 'buffer' space.

Shared traits within each category, such as the permeable shallowness of the first category or the polarized juxtaposition of rooms in the second, allude to shared values and behaviours between those households. Yet differences in patterns of access and spatial movement between these three groupings, such as the 'simplicity' of the first category in comparison to the third, imply variation in household behaviour and spatial perceptions across the settlement.

The second and third categories entail syntactical patterns that are often associated with functional specificity and control over external and visual access into deeper interior spaces (Cutting 2003: 4; Mustafa *et al.* 2010: 159). Such configurations seem designed to restrict access to the deepest parts of the house, resulting in arrangements that might allow for the spatial separation of occupants and activities according to cultural perceptions of appropriate interaction and behaviour, as advocated by Morris (1999) and Coucouzeli (2007). These inferences are weakened, however, when patterns of access and communication are reassessed with respect to spatial properties such as roofing and natural light, and functional installations such as hearths, benches and bins.

### Reassessment of access graphs

The deepest spaces (as in fig. 4, graphs E–H) are often associated with feminine use, with their 'invisibility' seen as enhancing the perception of such spaces as an inner, intimate, domestic sanctum (Coucouzeli 2007; Morris 1999). However, upon closer examination such spaces were among the darkest in each house compound, and overwhelmingly dominated by storage facilities (*cf.* Parisinou 2007: 217). The only exceptions to this pattern are H41 and H20, which both had good potential for natural light, and the two unexcavated spaces in D9 (Cambitoglou *et al.* 1988: 112).

The subdivision of these rear spaces provided better structural support for the roof, surely a significant factor behind

<sup>3</sup> In areas B, E and F no full house was uncovered, as only rooms that abut the fortification wall were excavated.

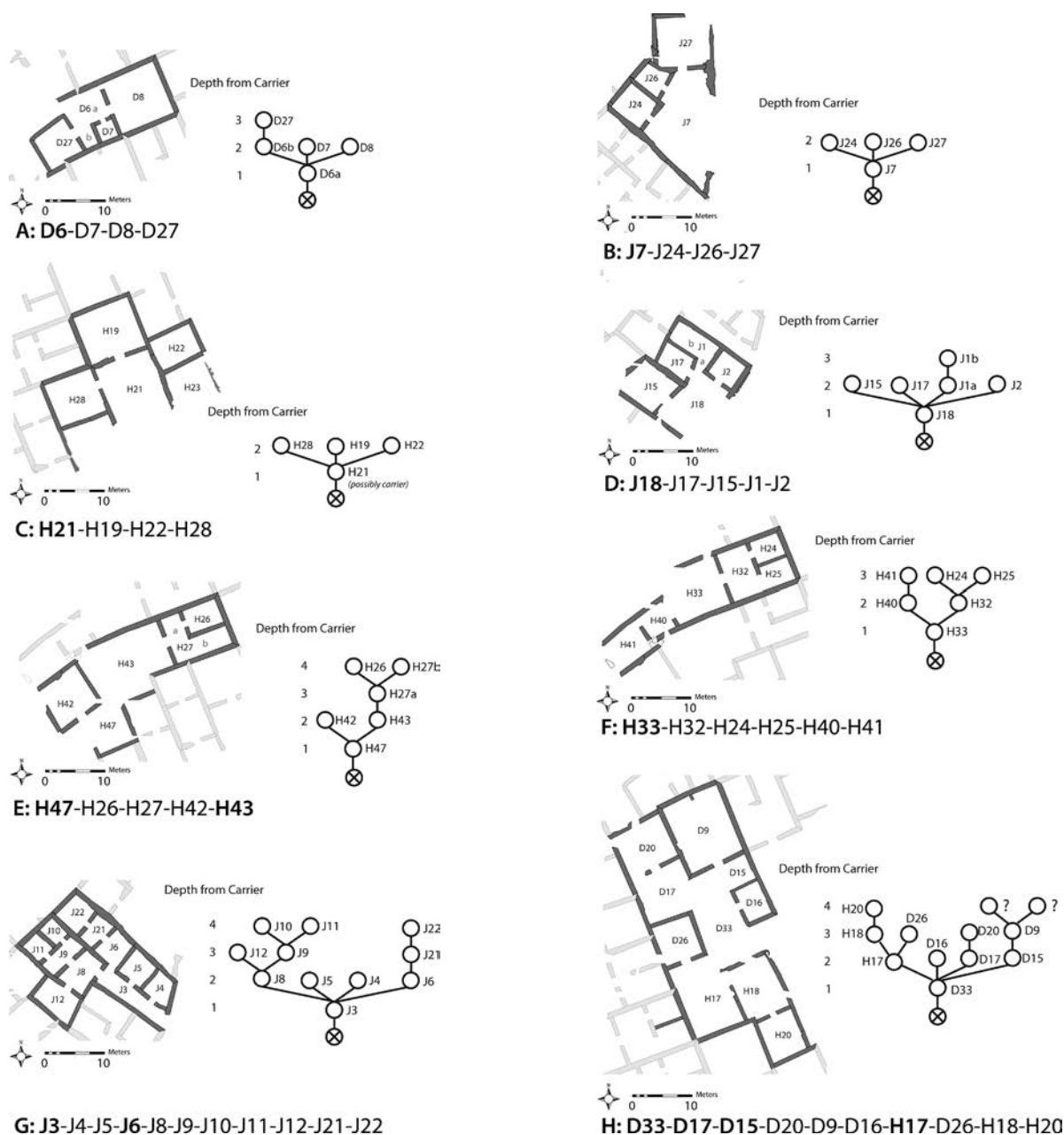


Figure 3. Justified access graphs for eight household compounds from Areas D, H and J. Individual compounds have been identified on the basis of access, including liminal convex spaces that mediated external access, and are referred to by their primary access space (e.g. ‘the J7 compound’). It should be noted that ambiguity remains as to whether the J3 and D33 compounds constituted single or multiple households, or larger extended kin or co-operative household networks. The use of roof space and presence of upper storeys or mezzanine levels are issues that remain unclear. ‘Justified’ refers to access graphs that are tiered so that all spaces at the same depth from outside ‘carrier’ space are aligned horizontally (Kristen Mann after McCallum’s ArcGIS digitization of Coulton’s originals).

many of the LGII renovations (Cambitoglou *et al.* 1988: 148). Whether undertaken in order to support a second storey, or because the initial construction method had proven inadequate, subdivision resulted in smaller, darker spaces. Without artificial lighting, such rooms would have been impractical for many household tasks, with larger and potentially better-lit spaces more suitable for most non-storage activities. However the darkness (and coolness) of these rooms would have been ideal for bulk storage. Furthermore, storage practices at Zagora involve cumbersome equipment (large pithoi and built stone

benches to keep them cool and dry), so relegating as much storage as possible to the rear of houses would make sense in a context where spatial use was fluid.

However, not all storage facilities are found in such spaces, nor are all well-lit spaces kept free from storage facilities. Several rooms such as J15, H19 and J12 (fig. 4, graphs C, D and G) combine storage facilities with a built hearth. This could suggest that some element of storage display was intended in contexts where hearths provided a focal point for social behaviour (Hurdley 2013: 33; Sherratt

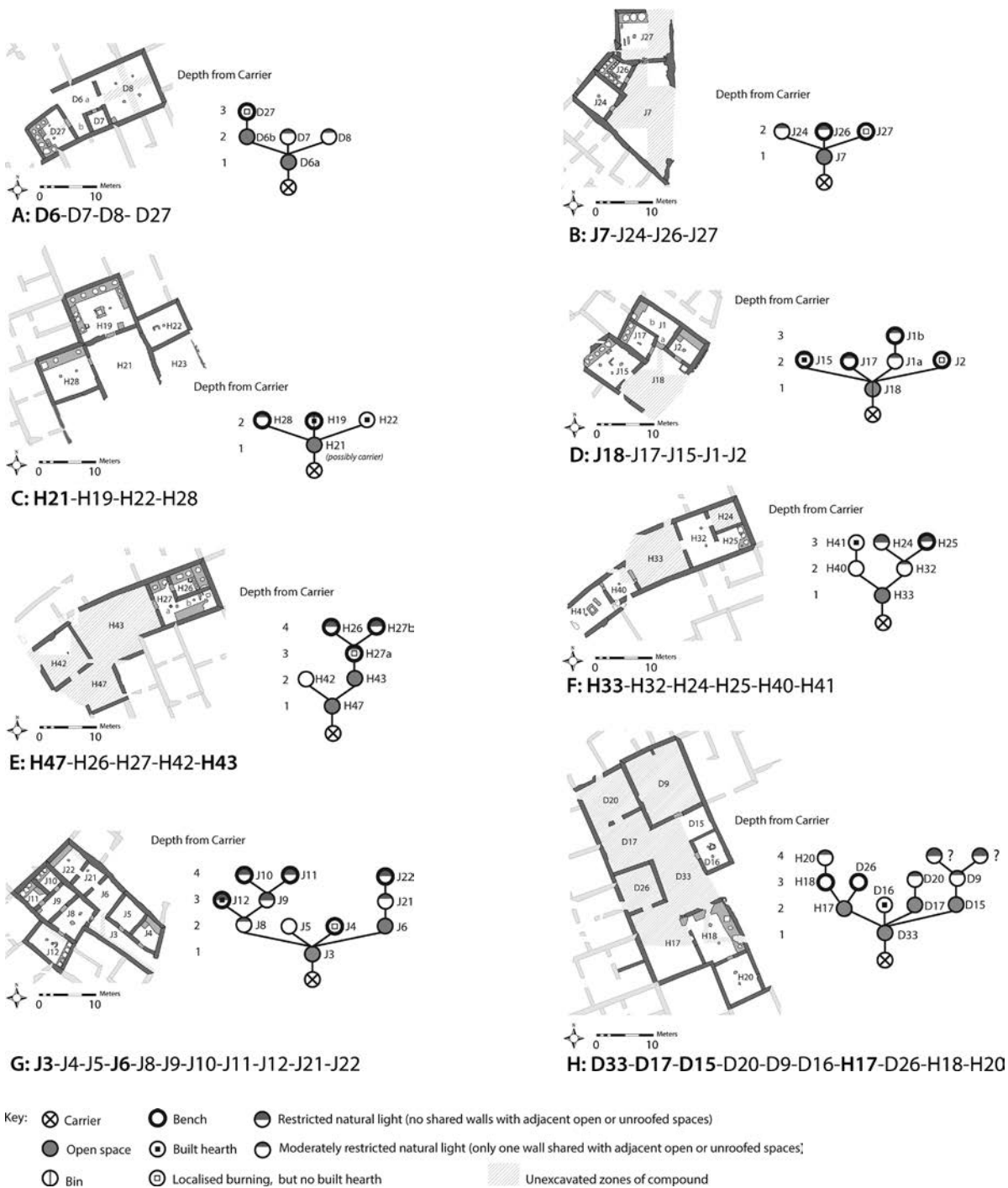


Figure 4. Justified access graphs integrated with additional qualitative details. Storage facilities were intimated for D26 by the pithoi uncovered there during the 2013 excavation campaign at Zagora (Petraikos 2013), although the new material has yet to be fully studied (Kristen Mann after McCallum’s ArcGIS digitization of Coulton’s originals).

2004; Tsakirgis 2007, 2014: 3136–3142; cf. Semper 2011: 102). The phenomenon of “conspicuous storage” has been raised by Ebbinghaus (2005) in relation to the elaborate decoration prevalent on applied-relief pithoi from Zagora and other Cycladic EIA sites. McLoughlin has convincingly argued (2011: 875) that these pithoi could be linked to the storage of wine, with the decoration perhaps advertising both the quality of the contents and the status of owners. While pithos distribution across the site has yet to suggest

control of this resource by a particular elite group, the consumption of wine was an inherently social and convivial practice, as attested by the wide-spread distribution of drinking paraphernalia across the site (cf. McLoughlin 2011: 872, 875). While the material from J15, H19 and J12 remains under study, it is plausible that some element of social display was associated with certain storage practices at Zagora (McLoughlin 2011: 875–76). It is therefore not surprising that some spaces combine both storage benches and



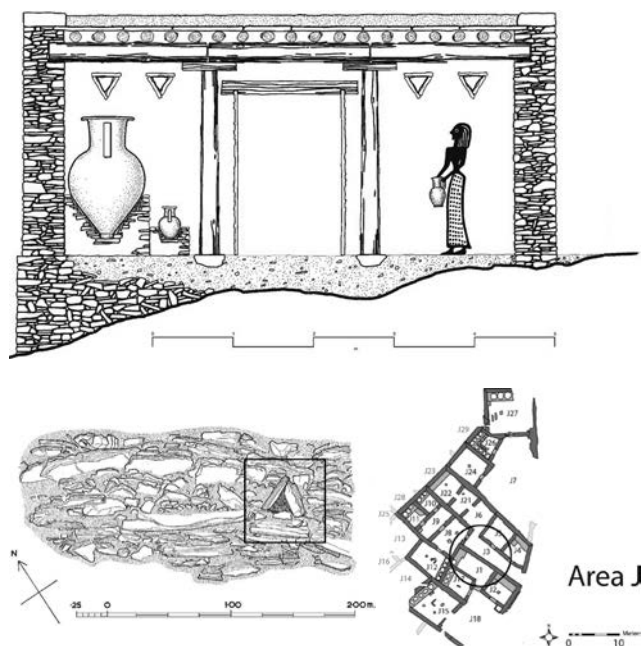


Figure 5. Coulton's reconstructed section through a Zagora house (Wilson after Coulton, reproduced with permission of the Australian Archaeological Institute at Athens); the window from Room J1 in the J18 compound (Cambitoglou 1972: fig. 7, reproduced with permission); plan of Area J (Kristen Mann after McCallum's ArcGIS digitization of Coulton's originals).

built hearths. What is also interesting about these particular spaces is that they were fairly shallow (or in the case of J12, less deep) in the spatial system, and therefore more readily accessible from the outside world.

The second group of compounds (graphs E–F) with the most asymmetric access patterns, however, do not seem to have a space that combined a bench and hearth. Here, built storage facilities were relegated to the least visible rooms, suggesting a different discourse regarding social display and success. In such households, the social significance ascribed to domestic space may have been different, as they also effectively subdivide the house into two zones: one being more accessible and visible to outsiders, the other screened from sight or easy access. This is particularly the case for the H47 house, where the addition of a second unroofed space (H47), combined with the alignment of doorways and surrounding wall lines, serves to enhance the privacy and 'invisible' quality of the rest of the household's space.

The provision or enhancement of natural light was clearly a critical element in the spatial configurations. Creating enclosed open spaces (such as H33, D33 and J7) not only provided a central and sheltered outdoor space (from the wind and public gaze), it also allowed better provision of natural light to adjacent roofed spaces. The size of these central yards would have maximized natural light while promoting a diversity of activities, a theme commonly discussed with respect to the central yard spaces (Nevett 2010: 9; Parisinou 2007). Yet how this may have conflicted

with social values or perceptions of household privacy bears some consideration. In particular, a consideration of the placement of windows and apertures for fresh air and light is suggestive of effective ongoing social diplomacy.

To date, only one 'window' has been identified at Zagora (Cambitoglou 1972: fig. 7): this is a small triangular aperture that was located high in the wall shared by J1 and J3 (fig. 5). The amount of light provided would have been minimal, suggesting an allied concern for ventilation. This small triangular aperture has dominated reconstructions of household space at Zagora (fig. 5), and fostered an assumption that all windows were small and triangular (Parisinou 2007: 215).<sup>4</sup> One explanation for the small size was to minimize wind penetration, although it might also reflect the social value ascribed to household privacy, as it protects the visual (if not aural) privacy of both households. Larger, rectangular windows (as seen in modern ethnographic parallels on Andros) may have been used where they would not grant visual access to the internal space of another house.

Differences in the position of unroofed spaces are particularly interesting, especially between configurations involving more than one (fig. 4, graphs E, G and H): some augment household privacy (Graph E), while others (Graph H) promote larger-scale spatial use and household activity. The larger compounds might have comprised multiple households engaged in separate economic strategies and daily tasks. The D33 compound (fig. 6) could represent two independent houses that negotiated access via D33, particularly as H20 may have had a second—external—entrance (Cambitoglou *et al.* 1988: 77, 148). Not only would this scenario alter the accessibility of H20, but it creates the only non-distributed access pattern for the entire site, allowing people to move in and out without going through the more 'public' space of D33 (fig. 6). If the D33 compound constituted multiple independent households sharing a single access point, it has a profound impact on our assumptions regarding household composition and spatial negotiation. Either way, the prevalent emphasis on household privacy (and attached perceptions regarding internal space) does not seem so obvious in this compound, perhaps due to atypical social or familial connections.

It is however perhaps more plausible that the larger compounds (fig. 4, graphs G–H), and their more complicated spatial syntax, reflect the presence of extended households (perhaps based on kin networks or economic co-operatives) comprised of multiple smaller household units (*cf.* Feinman 2000; Halstead 2014: 259–328; Souvatzi 2008: 9–14; Wilk 1993). The access graphs seem to intimate that we are seeing a more organic expansion of the first category, as Graphs G and H are effectively extended versions of the shallow accessibility pattern seen in Graphs A–D. This could reflect

<sup>4</sup> Terracotta house models found at Argos and Perachora have also influenced reconstructions.

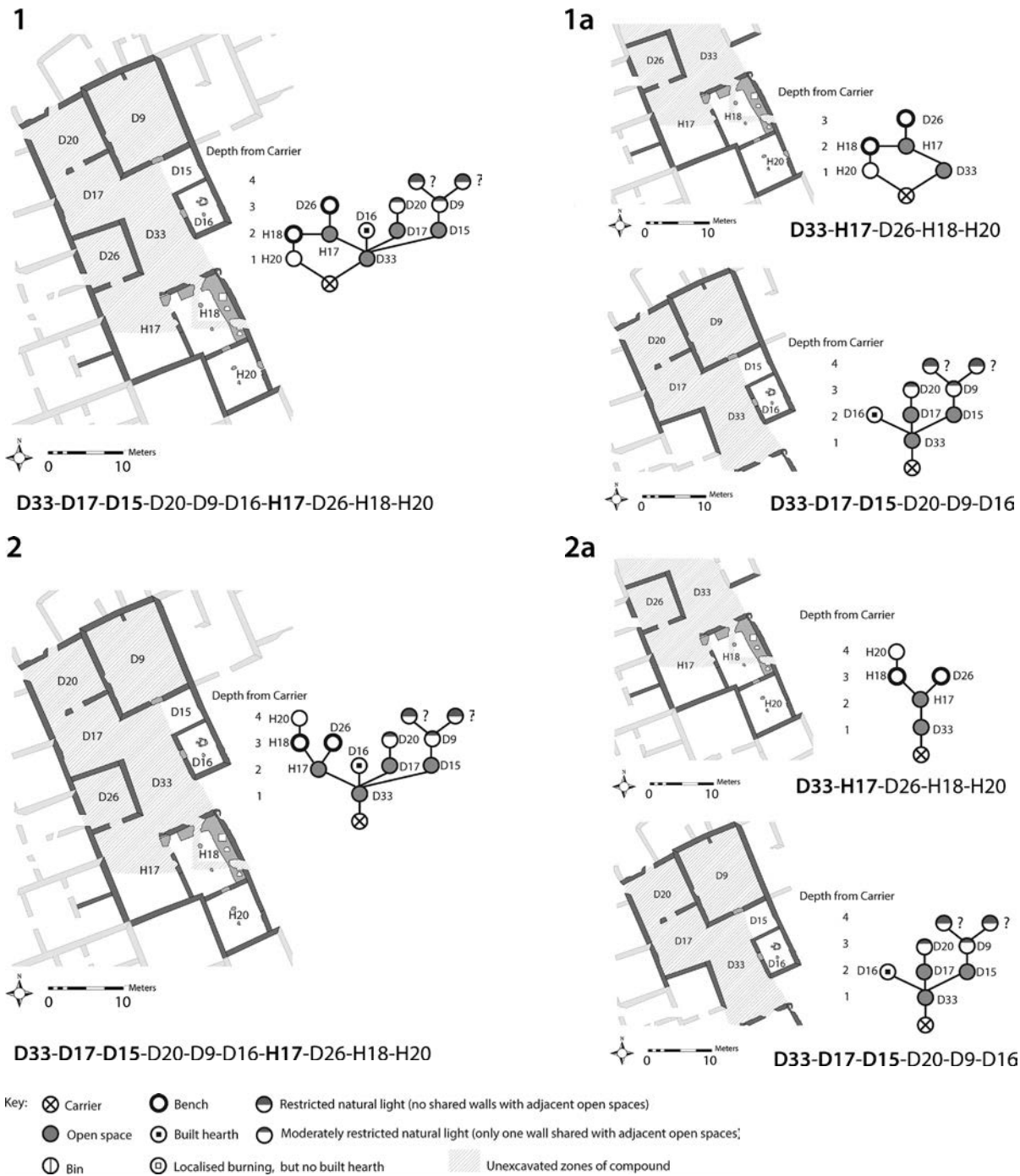


Figure 6. Use of access graphs to explore uncertainty and spatial possibilities for the D33 compound (Kristen Mann after McCallum’s ArcGIS digitization of Coulton’s originals).

changing ideas about spatial behaviour, economic strategies, or simply the fluid nature of households and household life-cycles. In this context, while different spaces may perhaps be associated with specific domestic groups or individuals within the larger household network, the meaning and significance ascribed to household space would be more complicated than in other smaller compounds. Interestingly, so far only one formal built hearth has been identified

for each of these compounds (in D16 and J12).<sup>5</sup> In such a context, these hearth-spaces may have held particular significance by providing a central unifying ‘heart’ or hub for the household, reinforcing and defining the ties that wove these smaller units into a larger collective. Interestingly, D16

<sup>5</sup> Renewed excavations at Zagora have confirmed that D26 did not contain a built hearth (Petrakos forthcoming). Although as D9, D20, D17, D33 and most of H17 remain unexcavated we cannot yet fully explore the question of multiple independent or co-dependent households.

is much shallower in its spatial system than J12, and could potentially have provided a venue for entertaining guests, while still ensuring the privacy of deeper internal spaces.

## Discussion

If we are indeed to situate Zagora within the context of nascent *polis* ideologies, then developing ideas regarding social status, gender roles and household tasks would have affected the meaning ascribed to different spaces (Nevett 2007: 9). Morris (1999) categorizes interior domestic space as implicitly female, imbued with symbolic connotations of intimacy and secrecy (see also Coucouzeli 2007: 177; Rider 1916: 218; cf. Antonaccio 2000; Foxhall 2013). Although Morris consciously (1999: 306, 312) interprets earlier data in terms of later ideas, he does acknowledge (1999: 307) that spatial meaning and social perceptions were fluid.<sup>6</sup> At first glance the lack of permeability (excepting possibly H20) in the access graphs favoured arguments that the rapid modification of the earlier—arguably more accessible—configurations reflected hardening perspectives on household autonomy and gender roles during this period (Morris 1999; Westgate 2007).

The modifications to the Zagora houses did enhance the ability to control physical and visual access to internal spaces. This suggests that domestic space was considered an autonomous domain within the larger community, with value placed on household privacy. Given the limited number of rooms (with the third category compounds a possible exception), the social perception of space was likely contextual rather than fixed. The meaning ascribed to space would therefore change depending on factors such as the context of action or the combination of people present (cf. Nevett 2010: 38). An outsider's perceptions of interior household spaces would differ greatly to those of the occupants, and a room used by household members for daily tasks could take on an entirely different meaning on special occasions or in the presence of non-related guests (cf. Foxhall 2013: 115). Morris (1999: 308) argues that the LGII increase in rooms per house demonstrates a shift towards functional specificity and more fixed ideas of spatial use. However, closer examination of the access patterns with built features and spatial properties indicates that a reappraisal of this argument is warranted. Clearly a desire for flexibility in activity patterning remained prevalent, aided by the concentration of storage practices within deeper (and darker) rooms.<sup>7</sup>

The differences between the categories outlined in the initial assessment also seemed to support previous assessments that inferred socio-political tensions from the Zagora

architecture (Coucouzeli 2004, 2007; Morris 1999; Westgate 2007). However the lack of any localized clustering of compounds with shared spatial attributes (such as room size, access patterns or built features) does not support the subdivision of Zagora into socially differentiated 'neighbourhoods,' contra Coucouzeli (2007: 180).

The LGII spatial configurations seem better connected to household life-cycles and the dynamic nature of households, than to changing perspectives regarding culturally appropriate behaviour within a domestic context. This is not to say that the spatial changes were not accompanied by a shift in the perception of, and social value ascribed to, domestic space: such arrangements could well have nurtured burgeoning codes of etiquette regarding household privacy (cf. Morris 1999: 309). However there is little evidence that an ideological change was the prime motivation behind the renovations. A diversity of factors influenced both the LGII transformation of household space at Zagora and its social significance. In particular, the recurring association of deeper spaces with changing gender ideologies is not tenable.

On a local level, the combined study of spatial syntax and built properties suggests that vision and 'zones of intimacy' were not controlling factors in managing internal social interactions during the course of daily activities. However, the final-phase configurations do suggest that control over visual and physical access to interior household space from the outside world was a fundamental quality desired by the inhabitants. This is central to the syntax of every compound so far studied. So while new arrangements may have been motivated by a desire for better living conditions, as well as differential household life-cycle stages, they also opportunistically enhanced household privacy.

Nonetheless, there are suggestions that elements of display were of importance to interactions between occupants and outsiders within particular contexts, such as convivial settings perhaps. However, differences in the depth and placement of hearths, and what other features they were combined with (such as benches) suggest that no single overarching narrative can be inferred regarding either the use or meaning ascribed to domestic space, at least not on the basis of plans alone. Architecture and spatial syntax, while highly informative, cannot be used in isolation when interpreting human interaction and social significance from the material footprint of past behaviour. We need to know more about artefact distribution, depositional processes and stratigraphy, and any residues or micro-data available if we are more fully to investigate household behaviour within these spaces. A preliminary study of architecture and spatial syntax can help establish a provisional context of behavioural possibilities, against which more detailed studies of household spatial use and archaeological data can be conducted.

<sup>6</sup> Morris builds on Nevett's (1995) arguments for a spectrum of gendered meanings rather than a literal subdivision of male from female.

<sup>7</sup> The diversity of objects found in these rooms supports this impression, and is the focus of my ongoing doctoral research.

## Acknowledgements

I thank my supervisors L. Beaumont and M. Miller for their support, and also P. White and S. Bourke for reading early drafts. This research would not be possible without that of my colleagues S. Paspalas, B. McLoughlin and M. McCallum, whom I thank for their ongoing support and advice. My research in Greece was made possible by generous scholarships from the Australian Archaeological Institute at Athens, the Hellenic Club in Sydney, the Dorothy Cameron fellowship, and the Nicholas Aroney and Carlyle Greenwell Research Funds.

## References

- AULT, B.A. 2000. Living in the Classical Polis: The Greek house as a microcosm. *The Classical World* 93(5): 483–496.
- ANTONACCIO, C. 2000. Architecture and behavior: Building gender into Greek houses. *The Classical World* 93(5): 517–533.
- BEAUMONT, L., Miller, M., Paspalas, S., Bassiakos, Y., Cantoro, G., Déderix, S., McLoughlin, B., Papadopoulos, N., Sarris, A. and Wilson, A. Forthcoming. New investigations at Zagora (Andros): The Zagora Archaeological Project 2012. *Meditarch* 25: 43–66.
- BEAUDRY, M. 2004. Doing the housework: New approaches to the archaeology of households. In Barile, K. and Brandon, J. (eds), *Household Chores and Household Choices: Theorizing the Domestic Sphere in Historical Archaeology*. Tuscaloosa: University of Alabama Press, 254–262.
- BOURDIEU, P. 1977. *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.
- BOURDIEU, P. 1990. *The Logic of Practice*. Trans. Nice, R. Cambridge: Polity Press.
- BRÜCK, J. and Goodman, M. 1999. Introduction: Themes for a critical archaeology of prehistoric settlement. In Brück, J. and Goodman, M. (eds), *Making Places in the Prehistoric World: Themes in Settlement Archaeology*. Cambridge: University of Cambridge, 1–19.
- BRÜCK, J. 2005. Experiencing the past? The development of a phenomenological archaeology in British prehistory. *Archaeological Dialogues* 12: 45–72.
- CAMBITOGLU, A. 1972. Αλεξάνδρου Καμπίτογλου: 'Ανασκαφή Ζαγοράς Ανδρου (1971). *Praktika*: 251–273.
- CAMBITOGLU, A., Birchall, A., Coulton, J. and Green, J. 1988. *Zagora 2: Excavation of a Geometric Town on the Island of Andros. Excavation Season 1969; Study Season 1969–1970*. Athens: Athens Archaeological Society.
- CAMBITOGLU, A., Coulton, J., Birmingham, J. and Green, J. 1971. *Zagora 1: Excavation Season 1967; Study Season 1968–69*. Sydney: Sydney University Press.
- CAMBITOGLU, A., Peirce, S., Segal, O. and Papadopoulos, J. 1981. *Archaeological Museum of Andros: Guide to the Finds From the Excavations of the Geometric Town at Zagora*. Athens: Basil and Goulandris.
- COLDSTREAM, J. 2003. *Geometric Greece: 900–700 BC* (2<sup>nd</sup> Ed). London and New York: Routledge.
- COUCOUZELI, A. 1999. Architecture, power, and ideology in Dark Age Greece: A new interpretation of the Lefkandi Tomba Building. In Doctor, R. and Moormann, E. (eds), *Proceedings of the XVth International Congress of Classical Archaeology, Amsterdam, July 12–17, 1998*. Amsterdam: Allard Pierson Series, 126–128.
- COUCOUZELI, A. 2004. From tribe to state in the Greek Early Iron Age: The archaeological evidence from Lefkandi and Zagora. In Stampolidis, N. and Giannikouri, A. (eds), *Το Αργαίο στην Πρωιμή Εποχή του Σιδήρου, Proceedings of the International Symposium, Rhodos 1–4 November 2002*. Athens: University of Crete/Archaeological Institute of Aegean Studies, 461–80.
- COUCOUZELI, A. 2007. From megaron to oikos at Zagora. In Westgate, R., Fisher, N. and Whitley, J. (eds), *Building Communities: House, Settlement and Society in the Aegean and Beyond. Proceedings of a Conference Held at Cardiff University 17–21 April, 2001*. London: British School at Athens, 169–181.
- CUTTING, M. 2003. The use of spatial analysis to study prehistoric settlement architecture. *Oxford Journal of Archaeology* 22(1): 1–21.
- CUTTING, M. 2006. More than one way to study a building: Approaches to Prehistoric household and settlement space. *Oxford Journal of Archaeology* 25(3): 225–246.
- DOBRES, M.-A. and Robb, J. 2005. “Doing” agency: Introductory remarks on methodology. *Journal of Archaeological Method and Theory* 12(3): 159–166.
- EBBINGHAUS, S. 2005. Protector of the city, or the art of storage in early Greece. *Journal of Hellenic Studies* 125: 51–72.
- FAGERSTRÖM, K. 1988. *Greek Iron Age Architecture: Developments Through Changing Times*. Göteborg: Paul Åströms Förlag.
- FEINMAN, G. 2000. Corporate/network: Perspectives on models of political action and the Puebloan Southwest. In Schiffer, M. (ed.), *Social Theory in Archaeology*. Salt Lake City: University of Utah Press, 31–51.
- FERGUSON, T.J. 1996. *Historic Zuni Architecture and Society: An Archaeological Application of Space Syntax*. Tucson: University of Arizona Press.
- FISHER, K. 2009. Placing social interaction: An integrative approach to analyzing past built environments. *Journal of Anthropological Archaeology* 28: 439–457.
- FOXHALL, L. 2013. *Studying Gender in Classical Antiquity*. Cambridge: Cambridge University Press.
- GARNSEY, P. and Morris, I. 1989. Risk and the polis: The evolution of institutionalized responses to food supply problems in the ancient Greek state. In Halstead, P. and O’Shea, J. (eds), *Bad Year Economics: Cultural Responses to Risk and Uncertainty*. Cambridge: Cambridge University Press, 98–105.
- GATES, C. 2011. *Ancient Cities: The Archaeology of Urban Life in the Ancient Near East and Egypt, Greece and Rome*. London: Routledge.
- GIDDENS, A. 1984. *The Constitution of Society. Outline of a Theory of Structuration*. Cambridge: Polity Press.
- GIDDENS, A. 1989. A reply to my critics. In Held, D. and Thompson, J. (eds), *Social Theory of Modern Societies: Anthony Giddens and His Critics*. Cambridge: Cambridge University Press, 249–301.
- GOUNARIS, A. 2007. Curvilinear versus rectangular? A contribution to the interpretation of the evolution in architectural forms in Greece during the Protogeometric – Geometric – Archaic periods based on a study of the constructions at Oropos. In Mazarakis Ainian, A. (ed.), *Oropos and Euboea in the Early Iron Age. Acts of an International Round Table, University of Thessaly. June 18–20, 2004*. Volos: University of Thessaly Press, 77–122.
- HALSTEAD, P. 2014. *Two Oxen Ahead: Pre-Mechanized Farming in the Mediterranean*. Chichester: Wiley-Blackwell.
- HILLIER, B. and Hanson, J. 1984. *The Social Logic of Space*. Cambridge: Cambridge University Press.
- HILLIER, B., Hanson, J. and Peponis, J. 1987. Syntactic analysis of settlements. *Architecture et Comportement/Architecture and Behaviour* 3(3): 217–231.
- HURDLEY, R. 2013. *Home, Materiality, Memory and Belonging: Keeping Culture*. New York: Palgrave Macmillan.
- LANG, F. 2007. House—community—settlement: The new concept of living in Archaic Greece. In Westgate, R., Fisher, N. and Whitley, J. (eds), *Building Communities: House, Settlement and Society in the Aegean and Beyond. Proceedings of a Conference Held at Cardiff University 17–21 April, 2001*. London: British School at Athens, 183–193.
- LEACH, E.R. 1978. Does space really constitute the social? In Green, D., Haselgrove, C. and Spriggs, C. (eds), *Social Organisation and Settlement: Contributions from Anthropology*. Oxford: British Archaeological Reports, 38–72.

- MANN, K. 2014. Social living: Visualising spatial variability in households at Early Iron Age Zagora on Andros, Greece. In García, A., García, J., Maximiano, A. and Rios-Garaizar, J. (eds), *Debating Spatial Archaeology. Proceedings of the International Workshop on Landscape and Spatial Analysis in Archaeology. Santander, June 8–9, 2012*. Santander: The Cantabria International Institute for Prehistoric Research, 179–197.
- MATTHEWS, R. 2012. About the archaeological house: Themes and directions. In Parker, B.J. and Foster, C.P. (eds), *New Perspectives on Household Archaeology*. Winona Lake: Eisenbrauns, 559–565.
- MAZARAKIS AINIAN, A. 2007. Architecture and social structure in Early Iron Age Greece. In Westgate, R., Fisher, N. and Whitley, J. (eds), *Building Communities: House, Settlement and Society in the Aegean and Beyond. Proceedings of a Conference Held at Cardiff University 17–21 April, 2001*. London: British School at Athens, 157–168.
- MCLOUGHLIN, B. 2000. *Searching for the Potter's Intention: The Pithos Makers of Zagora*. Unpublished MPhil dissertation submitted to the University of Sydney.
- MCLOUGHLIN, B. 2011. The pithos makers at Zagora: Ceramic technology and function in an agricultural settlement context. In Mazarakis Ainian, A. (ed.), *The "Dark Ages" Revisited. Acts of an International Symposium in Memory of William D.E. Coulson, 14–15 June 2007*. Volos: University of Thessaly Press, 869–884.
- MORRIS, I. 1999. Archaeology and gender ideologies in Early Archaic Greece. *Transactions of the American Philological Association* 129: 305–317.
- MURRAY, O. 1983. The symposion as social organisation. In Haag, R. (ed.), *The Greek Renaissance of the Eighth Century BC: Tradition and Innovation. Proceedings of the Second International Symposium at the Swedish Institute in Athens, 1–5 June, 1981*. Stockholm: Svenska institutet i Athen, 195–199.
- MUSTAFA, F., Hassan, A. and Baper, S. 2010. Using space syntax analysis in detecting privacy: A comparative study of traditional and modern house layouts in Erbil City, Iraq. *Asian Social Science* 6(8): 157–166.
- NETTING, R., Wilk, R.R. and Arnould, E.J. 1984. Introduction. In Netting, R., Wilk, R.R. and Arnould, E.J. (eds), *Households: Comparative and Historical Studies of the Domestic Group*. Berkeley: University of California Press, xiii–xxxviii.
- NEVETI, L. 1995. Gender relations in the Classical Greek household: The archaeological evidence. *Annual of the British School at Athens* 90: 363–381.
- NEVETI, L. 1999. *House and Society in the Ancient Greek World*. Cambridge: Cambridge University Press.
- NEVETI, L. 2007. Greek houses as a source of evidence for social relations. In Westgate, R., Fisher, N. and Whitley, J. (eds), *Building Communities: House, Settlement and Society in the Aegean and Beyond. Proceedings of a Conference Held at Cardiff University 17–21 April, 2001*. London: British School at Athens, 5–10.
- NEVETI, L. 2010. *Domestic Space in Classical Antiquity*. Cambridge: Cambridge University Press.
- PARISINOY, E. 2007. Lighting dark rooms: Some thoughts about the use of space in early Greek domestic architecture. In Westgate, R., Fisher, N. and Whitley, J. (eds), *Building Communities: House, Settlement and Society in the Aegean and Beyond. Proceedings of a Conference Held at Cardiff University 17–21 April, 2001*. London: British School at Athens, 213–223.
- PARKER, B.J. and Foster, C.P. 2012. *New Perspectives on Household Archaeology*. Winona Lake: Eisenbrauns.
- PASPALAS, S.A. 2014. A "Macedonian Bronze" juglet from Zagora, Andros. In Manakidou E. and Valavanis, P. (eds), *Εργασεν Και Εποίησεν. Essays on Greek Pottery and Iconography in Honour of Professor Michalis Tiverios*. Thessaloniki: University Studio Press, 527–540.
- PETRAKOS, B. 2013. Ζαγόρα Ανδρου. *Έργον* 48–51.
- PETRAKOS, B. Forthcoming. Ζαγόρα Ανδρου Αναφορά Εργασιών Έτους 2014. *Έργον*.
- PLUCKHAHN, T.J. 2010. Household archaeology in the southeastern United States: History, trends and challenges. *Journal of Archaeological Research* 18(4): 331–385.
- RAPP, R., Ross, E. and Bridenthal, R. 1979. Examining family history. *Feminist Studies* 5(1): 174–200.
- RIDER, B. 1916. *The Greek House: Its History and Development from the Neolithic Period to the Hellenistic Age*. Cambridge: Cambridge University Press.
- SANDERS, D. 1990. Behavioural conventions and archaeology: Methods for the analysis of ancient architecture. In Kent, S. (ed.), *Domestic Architecture and the Use of Space: An Interdisciplinary Cross-Cultural Study*. Cambridge: Cambridge University Press, 43–72.
- SEMPER, G. 2011. *The Four Elements of Architecture and Other Writings (1851)*. Trans. Malgrave, H.F. and Hermann, W. Cambridge: Cambridge University Press.
- SHERRATT, S. 2004. Feasting in Homeric Epic. *Hesperia* 73: 301–377.
- SNODGRASS, A. 1971. *The Dark Age of Greece: An Archaeological Survey of the Eleventh to the Eighth Centuries BC*. Edinburgh: Edinburgh University Press.
- SOUVATZI, S. 2008. *A Social Archaeology of Households in Neolithic Greece*. Cambridge: Cambridge University Press.
- SOUVATZI, S. 2012. Between the individual and the collective: Household as a social process in Neolithic Greece. In Parker, B.J. and Foster, C.P. (eds), *New Perspectives on Household Archaeology*. Winona Lake: Eisenbrauns, 15–43.
- TRINGHAM, R. 1991. Households with faces: The challenge of gender in prehistoric architectural remains. In Gero, J.M. and Conkey, M.W. (eds), *Engendering Archaeology: Women and Prehistory*. Oxford: Blackwell, 93–131.
- TSAKIRGIS, B. 2007. Fire and smoke: Hearths, braziers and chimneys in the Greek house. In Westgate, R., Fisher, N. and Whitley, J. (eds), *Building Communities: House, Settlement and Society in the Aegean and Beyond. Proceedings of a Conference Held at Cardiff University 17–21 April, 2001*. London: British School at Athens, 225–231.
- TSAKIRGIS, B. 2014. Greek houses, archaeology of. In Smith, C. (ed.), *Encyclopaedia of Global Archaeology*. New York: Springer, 3135–3147.
- VINK, M. 1997. Urbanization in Late and Sub-Geometric Greece: Abstract considerations and concrete case studies of Eretria and Zagora c. 700 BC. In Houby-Nielsen, S. and Rathje, A. (eds), *Acta Hyperborea 7: Urbanization in the Mediterranean in the 9th to 6th centuries BC*. Copenhagen: Museum Tusulanum Press, 111–137.
- WESTGATE, R. 2007. The Greek house and the ideology of citizenship. *World Archaeology* 39(2): 229–245.
- WILK, R. 1993. Altruism and self-interest: Towards an anthropological theory of decision making. *Research in Economic Anthropology* 14: 191–212.
- YASUR-LANDAU, A., Ebeling, J. and Mazow, L. 2011. *Household Archaeology in Ancient Israel and Beyond*. Leiden: Brill.