Shaping Houses: integrating the physical and socio-cultural in the domestic architecture of Ancient Sicily

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This dissertation is submitted for the degree of Doctor of Philosophy.

This dissertation is the result of my own work and includes nothing which is the outcome of work done in collaboration except as declared in the Preface and specified in the text.

It is not substantially the same as any that I have submitted, or is being concurrently submitted, for a degree or diploma or other qualification at the University of Cambridge or any similar institution except as declared in the Preface and specified in the text. I further state that no substantial part of my dissertation has already been submitted, or is being concurrently submitted, for any such degree, diploma or other qualification at the University of Cambridge or similar institution except as declared in the Preface and specified in the text.

It does not exceed the prescribed word limit for the relevant Degree Committee.

Abstract

In this thesis I explore how physical and socio-cultural factors interact to shape domestic architecture by analysing the form, layout, and construction of houses from Sicily dating from the Neolithic to the end of the Hellenistic period. This time range encompasses two primary domestic building traditions: typically single-spaced round houses that dominate from the Neolithic through to the end of the Late Bronze Age, and multiple-spaced rectilinear structures that characterise the Archaic period onwards. As such the domestic architecture of Sicily provides the opportunity to study not only two distinct ways of building, but also the dynamics within them and the changes that occurred as one evolved into the other during the Early Iron Age: a period of transition that is often studied in isolation or only in relation to the earlier or later context, rather than as an integral part of this island's history.

A critical analysis of building techniques and materials in the context of available resources and their material properties, alongside local environmental conditions, reveals correlations between the choice of materials, construction techniques, and topographical and climatic conditions, as well as the form taken by the building as a whole. Comparative analyses were also carried out of house size, form, and degree of subdivision within and between the building traditions. The picture presented shows an increase in total size and subdivision (despite the relatively stable size range of individual spaces within the houses) from the Neolithic to the Hellenistic period and implies a developing desire for options to separate people and activities. Finally, close diagrammatic studies of the layout and spatial organisation of the houses bring to light the structuring of these domestic spaces: the use of architectural features and artefacts to provide a sense of division in single-spaced buildings; greater layers of access and control of movement incorporated into the larger, rectilinear houses with their multiple spaces; and the arrangement of these to allow for the lighting of interior rooms. Combined with the results above, these reveal patterns in the development of building traditions on Sicily and how they relate to, encompass, and entangle the dynamic socio-cultural and physical parameters that make up the wider landscapes they are a part of: notions of identity and its formation and transmission, social structure and stratification, topography and climate, and material structural properties. Altogether this allows for the development of a deeper and more holistic understanding of the relationship between building and living, of how physical and socio-cultural parameters integrate and influence the

construction of houses, and how these all come together in the building traditions that are both shaped by us and shape us.

Contents

Acknowledgements

When I was first struck by the inspiration and desire to undertake a PhD, I was sat under the sweltering Mediterranean summer sun considering the ancient house I had chosen to write my undergraduate dissertation on. Back then I could not have imagined the journey that moment of inspiration would take me on, a journey that has been exciting, meandering, and often uphill, and one that I could not have completed without the help and support of a number of individuals and institutions. I first have to thank the Arts and Humanities Research Council without whose generous financial support I would have been unable to embark upon my PhD in the first place, let alone finish it. The support of the Division of Archaeology and Lucy Cavendish College, University of Cambridge, allowed me to visit the wonderful island of Sicily and walk through the houses at the heart of this study. The staff at the museums and archaeological sites of Sicily spurred me on with their enthusiasm for, and dedication to, their history, in particular those at Aidone (Morgantina), Himera, and Solunto.

My supervisors, John Robb and Kate Spence, with their gentle, and occasionally not so gentle (but certainly deserved!), prodding coaxed me out of my comfort zone, and this thesis into being. Without their unwavering support, advice, and guidance I am sure I would have lost my way long ago. The girls of the Lucy/Hughes Boat Club (you know who you are), always there with unquestioning friendship and copious amounts of coffee, made Cambridge a home. My parents, Paul and Linda, and sister Pippa, have given me complete support and love, both at home and abroad, and I cannot thank them enough. Finally, my partner Tom, who has been by my side almost every step of the way, taking on the unenviable task of proof reading and listening to my rambling ideas, as well as making sure I escaped my desk every now and again, thank you.

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Chapter One

Introduction

Archaeology captures the imagination through the connection it offers us to our past. For me this is encapsulated in the house, the spaces in which people lived and most often carried out their daily routines and the activities of life: sleeping, interacting, producing, consuming, reproducing, and more. Because of this, the physical aspects of houses — the walls, roofs, doorways — are interwoven into the fabric of how we live our lives. The study of ancient domestic architecture therefore creates the opportunity to gain an insight into how people once lived that goes beyond the monumental buildings and burial sites that so frequently form the basis of our understanding of ancient cultures and societies. This insight can help us piece together the processes that went into the creation of domestic spaces, deepening our understanding of the daily lives of their inhabitants and the role houses played in the wider social and physical context within which they were constructed.

Because of this, ancient and modern vernacular (built without new technologies) domestic architecture has become an increasingly popular object of study, not just for archaeologists, but also anthropologists, sociologists, and architects and structural engineers. But often this interest looks at such buildings from a primarily functional (technological use, typically with an eye towards sustainability: e.g. Zhai and Previtali 2010; Alp 1991) or social view (as reflective of household and community wide relationships, structures, and beliefs: e.g. Nevett 1994; 1999; Gregory and Urry 1985). In doing so such studies can gain an important insight into specific aspects of the house, but they also miss how these fit into the wider picture and why particular building solutions, plans, and designs were selected by those building and living in these spaces. This project is about the way domestic space is constructed, why houses take the form they do. It considers how we look at domestic architecture and aims to make that view a holistic one, seeing the house as both physical and social space.

From this view houses appear as the result of interactions between various parameters, or factors, that can be roughly divided into the following three categories: material/technological, environmental, and socio-cultural. The first refers to the construction materials and technologies available to the builders of houses, while environmental includes factors such as local climate and weather conditions, and the topography/geography of the region. These create the physical parameters within which a house must be built if it is to remain standing and meet the basic requirement of providing shelter suitable for human survival. The socio-cultural requirements and influences tied into domestic architecture include those concerning ideas of privacy, identity, wealth and status, and the functions the domestic space has to perform and provide for. It is the interactions between these various factors that determine the physical responses embodied in domestic architecture, and so in this way the act of building and the act of living are intricately wound up in the houses we construct. Houses are not simply a method of providing shelter, nor are they shells containing social and cultural activities, they are structures that respond to their surroundings, built to meet physical, environmental, social, cultural, political, and economic needs, and more. In turn these structures create the built environment within which, and in relation to, we develop, interact, and live. By studying the surviving remains of ancient houses, the developments, continuities, and changes seen in house form, construction, and layout, it should be possible to explore how the physical requirements of the building interrelate, affect, react, and correspond to those of the socio-cultural sphere, and so unpick the decision-making and construction processes that led to the different types of houses we find.

Research Questions and Aims

Why were the myriad examples of ancient houses built the way they were? The overriding aim of this thesis is to explore the relationship and interactions between the physical and socio-cultural parameters, the interrelated factors of building and living, within the construction of domestic architecture so as to answer this question. In order to achieve this it is necessary to develop a series of secondary questions to help structure the approach to, and navigation of, what is an extremely large element of human material culture, one that crosses societies, landscapes, and timescales. I have built these questions, and my approach towards answering them, from the ground up: the archaeological record providing the known elements of domestic architecture — materials, construction techniques, size, layout, form, artefacts, decoration, and more. Even where excavation has only revealed foundations or post-holes, and a few finds and features, these still provide a wealth of information concerning the essentials of the house’s form, construction, and layout. These are what we will be asking questions of, and from which can be built up the theoretical principles that governed the socio-cultural factors and their interaction with the physical parameters, and so the shaping of the house.

So, to rephrase the question above in light of this: what can we learn about how and why different houses were built as they were, the relationship between the physical and socio-cultural reflected in them, from their construction and the form and layout they take? To answer this we need to determine the parameters within which the houses were built, and how these have affected the design and construction choices made by the people creating and living in them. Within these wider questions and themes I take a closer look at the relationship between the available materials, technologies, and construction techniques utilised by the builders of houses and how these may have influenced form, size, and plan. I also examine the layout and spatial organisation of houses; asking how the degree of subdivision within domestic buildings evolves alongside the shape and size of spaces (both of the whole house and individual spaces within it), and what we can determine may be the influencing factors within this relationship. Are similar influences also apparent in the spatial organisation of domestic spaces, and to what extent do these appear to relate to socio-cultural parameters, such as ideas of privacy, identity, and the role of the house in showing position/status within and in relation to the wider community? And what can we read from the archaeological remains regarding the interaction of these factors with physical parameters such as structural integrity, lighting, and the properties of different forms and construction techniques? The answers to these questions allow for a discussion of the nature of the relationship between building and living, and the development of an understanding of the ways in which the influencing physical and socio-cultural parameters interact in the shaping of the house.

Introducing the case study: Sicily

The Mediterranean is a good place to start the exploration of the integration of the physical and socio-cultural in domestic architecture as here have been excavated large quantities of archaeological material relating to house construction. It is a part of the world in which people have been moving about and founding new settlements for thousands of years, all the while leaving a trail of material culture behind them. Grove and Rackham (2001) have shown that generally the Mediterranean climate has changed little since c. 2400 BC meaning that for many periods providing archaeological evidence for domestic architecture we are able to approximately recreate past climatic conditions from an understanding of the current state and any geological changes that have occurred in the intervening centuries. From this wider area the central Mediterranean island of Sicily has been selected as the case study for this thesis.

Sicily and its smaller satellite islands represent an enclosed geographical area, giving distinct boundaries to the study that are not arbitrary in relation to the past political geography of the region, as modern borders can be, but are defined by physical factors, in this case the sea. Archaeological excavations across the island have produced examples of domestic architecture dating back to the Neolithic period, while numerous houses are also known from the Bronze Age right through to the historic periods of the Archaic, Classical, and Hellenistic. It is this temporal range from which houses are studied; the dividing line being the incorporation of the island into the Roman administrative system towards the end of the 2nd century BC, after which point there are fewer known examples of domestic architecture, save from a handful of large city sites such as Lilybaeum, Solunto, and Agrigento. By studying houses from this wide time period it is possible to build up a picture of the long-term patterns and developments within the domestic architecture of Sicily. This allows the exploration of interactions between physical and socio-cultural parameters within different forms of house design, construction, and layout, and how these interactions and the influencing factors, and so the houses themselves, can develop and evolve alongside the societies that built and lived in them.

With this case study as a basis it will be possible to lay the foundations for the investigation of domestic architecture from other regions, societies, and eras from a more holistic point of view, taking into account both the physical and socio-cultural factors.

Outline of the thesis

I begin my exploration of the themes raised by the questions above in Chapter Two where I discuss the various approaches that have been taken towards the study of domestic architecture within the existing body of literature, how these studies have viewed houses, and what interpretations and conclusions they allow us to draw about the role, construction, and our relationship with domestic buildings. These fall into two broad categories. The first approach houses as social spaces; put forward by the likes of Bourdieu (1972), Blier (1987), and Ingold (2000), they concern the study of the house as a dwelling place, often focussing upon the social aspects of living in the built environment, and how people create domestic spaces in relation to societal structure, material culture, and the formation, re-enforcement, and re-working of meaning. Another group of academics, including Glassie (1975), Alexander (1977), and Hillier and Hansen (1984), attempt to ‘read’ the social logic or language of built spaces much as we would a written text. We also find studies that focus more specifically upon particular societies and examples of domestic architecture, using surviving literary sources (where available) and artefact associations to interpret archaeological material. As this thesis works primarily within the Mediterranean world it is from this area of research that many of the approaches reviewed will be drawn; extending from the more text-based archaeological interpretations of Gardener in 1901 through to recent studies by Nevett (e.g. 1994; 1999) and Westgate (e.g. 2007a; 2015) who temper literary evidence with interpretations based on the wider social significance attached to finds and architectural features. Although often taking different views and understandings of the factors and elements involved, these are all theories that aim to help us understand the human relationship with, and understanding of, the material world.

The second category encompasses those studies that see houses primarily as a form of technology. They typically concern the role of the house in providing shelter, climate control, and other environmental responses built into their structure. Many examples of these studies utilise scientifically-based methods to measure quantifiable elements of domestic architecture, including the effect on internal temperature and humidity (e.g. Shanthi Priya et al. 2012) and the efficiency of particular architectural features actively associated with climate control (e.g. wind towers in Alp 1991, 810–812). As this project looks at houses as the result of interactions between physical and socio-cultural factors it is useful to consider both wider groups of approaches to the study of domestic architecture and to take elements from each in the construction of a holistic theoretical framework within which to explore these interactions.

As at the root of this exploration is the archaeological material itself, it is necessary to clearly describe the wider physical and historical context of the study and to mark out how information concerning house size and form, construction materials and techniques, subdivision and layout will be collected, organised, presented, and analysed in order to ensure a clear and consistent investigation. Therefore an overview of environmental and socio-cultural aspects of Sicily's history and the methodology followed throughout the exploration of the island's houses are laid out in Chapter Three. This includes details concerning terminology, selection criteria, fieldwork- and desk-based data collection strategies (including recording, standardisation, and calculation of data), the presentation of this data and its limitations and considerations taken into account, and details of the various forms of analysis undertaken and how these help to answer the questions central to this study.

Chapters Four, Five, Six, and Seven form the main body of the thesis in which a detailed analysis and exploration of the collected domestic architecture data, in particular ground plans, is carried out. Chapter Four begins by looking at the patterns seen in the form and total size of houses across Sicily, discussing the interrelation of these architectural features with construction materials and methods and why they may have been chosen by their builders and inhabitants. In Chapter Five I expand upon this and undertake a more detailed exploration of the physical spaces within the house, the degree and forms of subdivision utilised, and how the number of spaces incorporated varies with shape and size. This is achieved through the use of graphs in order to effectively compare the different types of houses included in the study and identify any trends, the results then being examined alongside the archaeological data to determine what the possible interacting physical and socio-cultural influencing factors were. Chapter Six focuses upon the layout and spatial organisation of the spaces that make up the house, considering the different ways in which space can be divided and how the spatial relationships between different areas of the house affect movement and access, both physical and visual, the responses to the physical parameters, and what this suggests about the socio-cultural factors embedded in domestic architecture. Chapter Seven directly builds upon this, adding the analysis of view-sheds and inter-visibility to the examination of four chronological case studies in order to explore in greater detail issues of spatial interaction.

The final part of the thesis, Chapters Eight and Nine, brings these analyses together. In Chapter Eight I discuss the building traditions of Sicily and what this study has revealed about the physical and socio-cultural parameters that shaped them, how such factors came to form these building traditions, and the dynamics and changes that occurred within and between them. Chapter Nine then takes a wider look at the question of how differing parameters interact and integrate within the construction of domestic architecture more generally, and how we can use the archaeological remains of houses to broaden our understanding of the ancient world. It is also interesting to take a look at the wider implications of this view of domestic architecture and how it may be useful beyond the world of archaeology.

Chapter Two

Approaches to the Study of Domestic Architecture

The house is an entity that the majority of humanity is familiar with; it is the place where many of us spend a lot of our time and plays a large role not only in meeting our physical need of shelter, but also in fulfilling social and cultural requirements. It is therefore unsurprising that domestic space has attracted academic attention and been the subject of many discussions and research projects. However, there is no single methodology or approach towards the study of domestic architecture; archaeologists, anthropologists, ethnologists, architectural historians, modern architects, and others have developed their own ways of investigating the particular aspects of houses that interest them. Furthermore, it is entirely possible for two studies of the same culture to produce different conclusions if the questions asked and approaches followed were different (Blier 2006, 234). In order to explore the interactions between physical and socio-cultural parameters in the construction of domestic architecture a theoretical framework needs to be developed that allows for the more holistic approach required. To achieve this I review different methodologies developed for interpreting and understanding domestic built space. This process is divided into two main sections: archaeological and anthropological approaches (those that often see houses from a more socio-cultural viewpoint), and studies of houses as technology, in particular from a structural and environmental point of view.

Archaeological and Anthropological Approaches

Archaeological and anthropological studies of domestic architecture concern the make-up of the house itself, the act of building, the role the house played within society, and the inhabitants' relationship with it. These academic areas are large and encompass a wide range of sometimes contradictory, or actively reactive, theories. I begin by discussing work focusing upon the relationship between people and the houses they build and inhabit, before moving on to review methods looking at architecture from a more syntactical point of view, and finishing with an overview of the approaches taken specifically within the world of Mediterranean archaeology.

People and their houses

In 1994 Johnson described the student of vernacular architecture working ‘through the building, fitting the pieces together, trying to understand each piece by creating a narrative that explains all the various anomalies that can be seen and acts as a commentary on any plans and sections’, taking into account the surrounding cultural history and landscape (172–174). This is essentially what an archaeologist attempts as they work through the fragments left in the material record; we want to tell the story of how, why, and when the feature came to be there in the form we find it and what this can tell us about how people lived in the past. By taking into account the surrounding cultural history and physical landscape, as well as the ‘pieces’ of the building, we gain a fuller narrative of the house and understanding of how it relates to the world in which it was constructed. But there are many ways to undertake the creation of this narrative.

The ‘dramaturgical analogy’ (Goffman 1959; 1963), a branch of sociology known as ‘ethnomethodology’ (Garfinkel 1967), treats social life as analogous to a ‘drama’, with individuals seen as ‘actors’ and buildings as ‘theatres’ providing ‘stages’ for this drama. While allowing built spaces to influence and play a role in ‘dramas’, this implies they are containers for social life that can only be fully understood in terms of the activities they contain; without ‘actors’ populating them they are empty shells. As Grahame points out, this view, despite being potentially useful in the discussion of encounters within ‘settings’ (Goffman’s aim when developing the theory), is unsatisfactory when applied to archaeological material as it ‘renders built space meaningless’ (2000, 1), or at least difficult to interpret, once the ‘actors’ that occupied it are removed. The complexity and diversity of domestic architecture, let alone built space in general, suggests that buildings cannot be meaningless, but instead are both functional and meaningful. The approaches to built space discussed in this section explore how they shape us as much as how we shape them, thereby allowing for the incorporation of meaning into the fabric of domestic architecture and our actions in and in relation to it.

Seeing houses as a dialectic exchange between physical and socio-cultural parameters also means considering them as material culture. At their most simple material culture are the things, objects, which people have made. They are corporeal and physical. But the idea of a ‘culture’ suggests something more. It stems from the origin of studying ‘things’ within archaeology and anthropology; until the 1960s they were regarded as reflective of ethnic identities, the diffusion of ideas, invasion, migration, social change, and technological knowledge (Tilley et al. 2006, 1–2). As such, artefacts were used to help identify and classify different cultures. Over the next two decades the understanding of objects and their relationship with humanity deepened under the influence of structural and structural-Marxist ideas. Material culture came to signify a dialectic exchange between people and objects incorporating symbolism and meaning, relating both conscious and unconscious structures of thought, reflecting and shaping relationships with culture and society, history and tradition, the way things are experienced (Tilley et al. 2006, 4). Objects are a part of the world we are born into; encounters with them within an environment, society, which already attaches meaning to them can therefore play a role in the development of the subject (the person). Material things retain an unpredictable range of latent possibilities; they express past acts, intentions, and interpretations, as well as inviting new, and perhaps unexpected, responses (Keane 2006, 199–201). For Chesson the house is 'a dynamic type of material culture', its erection involving a series of decisions regarding construction materials and methods in relation to economic, political, religious, and social networks, beliefs, and worldviews (2012, 45). It is as a form of material culture that many methodologies within the fields of archaeology and anthropology approach domestic architecture.

As material culture, houses are expressively linked to both the physical world and the socio-cultural context of the people who build and live in them; in order to fully understand the house it is necessary to look at both of these aspects — building and living. Tied into this concept are ideas and understandings of practice — ways of being in built spaces, of defining space, privacy, access, and identity. Bourdieu's *Outline of a Theory of Practice* (1972) and his concept of *habitus* with the incorporation of wider social and cultural elements of cosmology, status, and ritual laid the foundations for the exploration of the house through the experience of space. Bourdieu describes *habitus* as 'a system of durable, transposable dispositions, functioning as principles of the generation and structuring practices and representations objectively 'regulated' without in any way being the product of obedience to rule, objectively adapted to their goals without presupposing a conscious aiming at ends' — the practices unconsciously learnt as we encounter and experience the world that shape the way we view and deal with unforeseen circumstances, and ever-changing situations (1972, 72), the wider world and our relationship to it and the other people within it. *Habitus* is thereby governed by historical tradition and the material environment (Tilly 2006, 65). The house, being the space in which we grow and learn, is the locus for the objectification of the generative schemes that produce *habitus*; by creating spaces, living in, and re-encountering them the underlying provision of the society and culture are re-enforced (Bourdieu 1972, 89). Therefore it is possible to trace socio-cultural ideas through domestic buildings. But, as the archaeological record shows, domestic spaces evolve and change over time. When changes are seen in the physical structuring of domestic spaces it is likely that changes are also occurring in the socio-cultural traditions of the inhabitants. This implies that *habitus* is not static, but open to mutations, adaptations, and changes. As worldviews, beliefs, and social structures change and new ideas and technologies are discovered, adopted, and adapted, the way in which people relate to and use items of material culture and their associated meanings, and so the *habitus* generated though encountering them, will also adapt and change.

Bourdieu explored *habitus* and its relationship to the construction and layout of the house through the domestic architecture of the Kabyle, a Berber group from northern Algeria. He recognised that the Kabyle house was ordered according to their social and cultural beliefs, in particular a set of homogenous opposites concerning the roles of men and women, imbedded in their *habitus* (Bourdieu 1972, 89–91). In Kabyle society men are linked to protective virtues, while women are seen as both sacred and charged with maleficent forces. This opposition is reproduced spatially both at a wider community level, between the external male spaces of the fields and assembly place and the internal female house, and within the house itself. The interior of the Kabyle house is separated into two parts by a low wall. The larger is reserved for human use with a hearth and loom facing the door (weaving being one of the principal activities performed in the house) — this area, being slightly higher, is lighter and where activities such as cooking and entertaining guests take place (the place of honour being in front of the loom which represents 'all protection'). This is the male area, although the presence of the loom and cooking equipment remind one that the house as a whole is a female space. The second part is more closely associated with women and is further divided by a loft creating a separate space from that occupied by animals below. This is a darker area, the partition and loft blocking much of the light entering through the doorway. Water jars are stored here and 'natural' activities (sleep, sex, birth) are assigned to this space. All of the actions performed in a house structured in this way are qualified symbolically, each practice becoming invested with an objective meaning through symbolic manipulations of body experience.

Bourdieu's work influenced a number of archaeologists and anthropologists. In the 1980s Blier explored the meaning of architecture within the Batammaliba of Togo and the Benin Republic. In doing so she produced a similar picture to Bourdieu of the way architecture was endowed with meaning through metaphor, and how these meanings were reinforced by the ritualistic way domestic spaces were both constructed and used (Blier 1987). Following Lebeuf, Blier saw the significance of architecture as being grounded in the experiences and intellectual explanations of its makers and users (Lebeuf 1965, 497–499), and therefore looked at each building as an active organism comprising interactions between numerous independent systems and parts (Blier 1987, 2). Her methodology included investigations of observable phenomena, comparative analysis of structure, context, and style, recordings of ceremonies and rituals held as a part of the construction process, examinations of building process, technology, and the use of architecture in both everyday and special events, and finally interviews with the Batammaliba, photography, and drawings (Blier 1987, 10). This allowed Blier to develop an understanding of Batammaliba architecture from the view of those whom used and built it, revealing much about the houses themselves and the cosmology they reflected.

Bourdieu and Blier's methodologies are rooted in anthropological study, examining architecture in process and talking with its occupants to understand their use of, and symbolism identified with, a building (Blier 1987, 2). This, however, has not prevented this approach from being usefully applied to past societies and archaeological examples of domestic architecture. In *Architecture and Order: Approaches to Social Space* (1994a), Parker Pearson and Richards expand upon and refine two decades of exploration of social space, stating that our relationship with the built environment is rooted in experience (1994b, 2). As Gregory and Urry describe, 'spatial structure is now seen not merely as an arena in which social life unfolds, but rather as a medium through which relations are produced and reproduced' (1985, 3). Space, or places, are categorised and named; they have stories, history, experiences, and values attached to them, they are a 'cultural artefact' (Parker Pearson and Richards 1994b, 4–5), a translation of the practices of everyday life — physical proximity, privacy, social homogeneity, race relations, housing styles, income, and community (Perin 1997, 210). The house is presented as a space in which symbolism and function commingle and conjoin (Parker Pearson and Richards 1994b, 6–7). Archaeological houses offer no living inhabitants to interview and from whom to build up an understanding of practices. In order to allow for the possibility that ancient houses were formed in relation to *habitus* different from those of the archaeologists interpreting them, Parker Pearson and Richards use the distribution of finds, microscopic analysis, and the way architecture influences movement to produce a possible recreation of the social space of the house and the meaning attributed to it (1994b, 4; 1994c, 41–53).

As a case study they select the exceptionally well preserved Neolithic houses of Skara Brae in the Orkney Islands. These houses (Fig. 2.1) maintain a consistency of design temporally suggesting a continuity of social and cultural ideology and organisation. A single entrance, frequently off-set to the right, opens onto a central stone-built hearth, on either side of which is a rectangular ‘box-bed’, the one on the right typically being larger. The building as a whole is aligned on a north-west/south-east axis, this orientation being a spatial reference to key points in the annual cycle. The off-set entrance means the right-hand side of the interior is better lit than the left and is where the larger box-bed is found; to reach the left side of the house one is directed by the spatial arrangement to turn right and walk around the hearth. Charcoal spreads were found to the left of the hearth suggesting this was where it was cleaned from, while high levels of phosphate indicate food preparation. Altogether this implies that the right-hand side of the house was the more public area, a space with connotations of status, while the left was the centre of domestic activities and therefore likely to have been associated with women (Parker Pearson and Richards 1994c, 41–47).

Archaeologists and anthropologists like Bourdieu, Blier, Parker Pearson, and Richards have set a precedent for the exploration of domestic architecture that acknowledges both the functional and symbolic aspects of these spaces, how experiences of them shape our relationship with, and understanding of, the built environment, and in particular how ideology, cosmology, and wider cultural traditions and practices can shape houses and how they are lived in. Ingold (2013) takes this further and explicitly focuses on the process of ‘making’, how raw materials are transformed into something like a house and the relationship humanity has, and develops with, these materials and the making process.

To fully understand Ingold’s approach it is first necessary to understand what he means by the term ‘making’: ‘making’ is seen as a process of growth out of raw materials.

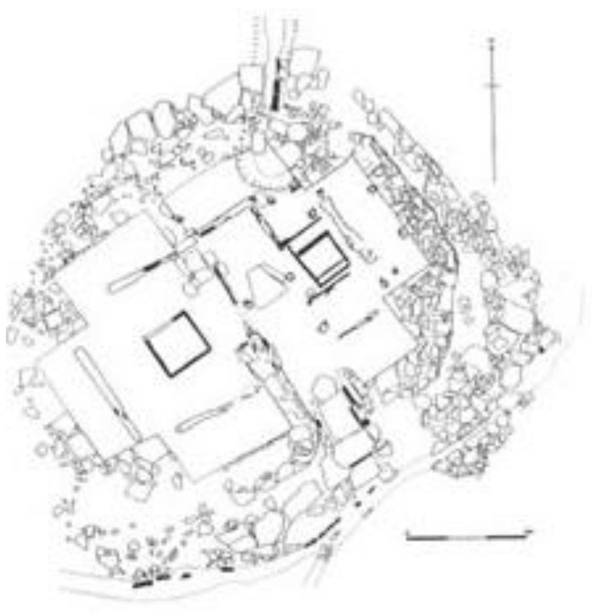

Fig. 2.1 House 1, Skara Brae (Richards 1990, Fig. 5.2, 117).

The maker is a participant amongst a world of active materials; they cannot impose their design upon these materials, they can only intervene and influence the direction taken — 'corresponding' with the materials (2013, 21–28). The craftsman 'thinks through making' (Ingold 2013, 6), allowing knowledge to grow from practical and observational engagements with the beings and things around us (Dormer 1994, 100). With this view the generation of things should be understood as a process of morphogenesis in which form is ever emergent (Simondon 2005, 41–42). This understanding of the 'making' process could also be ascribed to the structures such as nests, warrens, and dams produced by animals, but Ingold states that human making is different through a distinction between design and execution. 'A beaver is the executor of a design that has evolved alongside beavers through natural selection. Human beings are the authors of their own designs, constructed through a self-conscious decision process.' A house is therefore made rather than constructed. Likewise a stone can become a hammer merely because in the mind hammer-like qualities have been given to it (Ingold 2000, 174–175). The forms people build, in their imagination or on the ground, arise within the specific relational contexts of their practical engagement with their surroundings. This form is continually evolving alongside the relationships with the human and non-human components of their environment (Ingold 2000, 186), the actions of dwelling occurring at a series of tempos or rhythms generating the 'taskscape' we inhabit (Ingold 1993, 153–156).

With this understanding of 'making' Ingold takes a closer look at the processes involved, using the construction of medieval cathedrals as a case study. These buildings are pieced together by skilled masons and carpenters who learnt on the job through watching, listening, and experimenting, problems being solved on site as and when they arose (Ingold 2013, 51–53). Geometry was used, but this was a practical form of measurement and drawing formed by a tactile knowledge of line and surface; the closest anyone got to an architectural plan were pre-cut templates, a plumb line, and string. Each stone was shaped and, if necessary, re-shaped to fit the space prepared for it by the previous ones. This approach to wall building is also seen at Mycenae in Greece; 'in building the Cyclopean wall, the choice of the appropriate block of stone was determined by the gap left by the previous in the sequence of action rather than, or at least as much by, any preconceived mental plan' (Malafouris 2004, 60). It is highly likely that domestic buildings both in the early Greek and medieval worlds were constructed in a similar manner with the builders' interactions with the materials actively shaping the form and construction of these structures.

These archaeological and anthropological approaches show domestic architecture to be a dynamic and active part of human existence, our contact with and experience of houses not only linked to the continuing shaping of our built environment, but also our *habitus* and practices within wider society. A culture's cosmology, traditions, and practices serve as a basis for the organisation not only of society, but also the dwelling and the inhabitants that reside there (Khambatta 1989, 257). As a result houses are often built and used along lines of orientation and opposition, as was seen in the houses of the Kabyle and at Skara Brae, forming points of transition and control, thereby reflecting and enforcing wider social traditions and practices (Parker Pearson and Richards 1994b, 17–24). '...the ways in which a society builds its houses is never arbitrary; rather it is culturally and socially dictated by the choices of the builders and owners of the houses' (Izzet 2001, 41). In this view the house is constructed cultural space, embodying and expressing principles of order and classification (Parker Pearson and Richards 1994c, 40).

The language of space

Habitus necessitates the presence of shared cultural traditions and understandings of cosmology, behaviour, and place. Some academics have started exploring the underlying shared 'constants' of domestic architecture as a linguist would a language, seeing buildings as the physical manifestation of an unspoken language: rules for how a house is thought and so designed and constructed. As with *habitus*, these rules are generally presented as unconscious, the designer/builder learning them through their own interactions with space. There are three principal proponents of this view. The first two, Glassie and Alexander, have developed their own distinct, yet similar, methodologies based upon the idea of a language for housing, developing a set of rules that if followed create a house that meets both physical and social requirements. Any differences in the rules or language indicate differing social, cultural, and environmental requirements. The other methodology discussed here was put forward by Hillier and Hansen and explores the language of space in a more mathematical way, seeking to produce a numerical approach to retrieving and analysing the meaning and rules of space.

Glassie wanted to construct a way of studying artefacts, in this case 18th century Middle Virginian houses, which did not rely upon vocal information (books, letters, etc.), but instead gained information from silent sources: the artefacts themselves (Glassie 1975, 10–12). To achieve this he turned to Chomsky's work on linguistic structure and developed a systematic model that accounts for the design ability of an idealised maker — an artefactural 'grammar' (Glassie 1975, 17) — giving an outline of the rules for how a house is thought, the architectural 'competence' of the designer. These rules are unconsciously learnt through the designer's interaction with space as he grows up. They begin with the formation of the base structure and sequentially move through the massing and piercing of space up to the roofing of the whole (Glassie 1975, 21–36). All the buildings in Glassie's study area followed the same set of rules, but they are not identical; the underlying generative rules allow for a great range of surface variation depending upon the needs of the building. Glassie uses this model to classify the houses into defined types through diagrams showing exact measurements of systematic interrelation and typological tolerance, as well as a complex structural description of each house — this enumeration provides a summary and can be used as a basis for architectural comparisons (Glassie 1975, 43–49).

In contrast, Alexander sets out to prescribe the ideal way of building, yet his solution is similar to the rules for competence produced by Glassie. Alexander calls his rules 'the timeless way', a method of constructing buildings that are 'alive' (1977, 3–8), that, for want of a better phrase, just feel right. This is the 'quality', the central root criterion of life which all buildings should aim to have, but that cannot be named (Alexander 1977, 19). Every place is given its character by patterns of events repeatedly happening there. These are interlocked with patterns in the space (Alexander 1977, 55, 75). Each pattern is a rule describing what you have to do to generate the entity it defines. A system of these patterns forms a language; the pattern language allows its users to create an infinite variety of three dimensional combinations of patterns — buildings. This language is common to a group of people, although varying between different societies and cultures (Alexander 1977, 276), and is typically unconscious, but possible to use consciously. One begins with the larger patterns, those that define a region or community, and then moves, one pattern at a time, to the smallest, the individual construction methods (Alexander et al. 1977, xix–xxxiv). And so living space can be created. Of course, space is not static. To account for the possibility the building will be altered, both in form and use, Alexander includes a process of repair by which a building changes according to the real events happening there. The pattern language for that particular building changes and so the structures it defines. In this sense no building is ever truly completed (Alexander 1977, 475–480).

Like Glassie, Hillier and Hansen set out to understand the rules behind the patterns, forms, and relationships seen in architecture, but unlike Glassie their work has more widely influenced studies of architectural spaces. This is perhaps due to the fact that they approach generative rules by attempting to map out the social logic of space, aiming to develop a way to read the syntax, the basis of the language, of space from which abstract descriptions can be retrieved (Hillier and Hansen 1984, 51). This allows for greater variety in the underlying generative rules, and so ease of application to different situations. Space syntax theory is built upon the understanding of how the syntaxes determining individual elements constituting a sentence, or in this case a building or settlement, must be arranged in order to make it intelligible — they govern the organisation of space rather than explicitly giving it meaning (Grahame 2000, 25). As demonstrated with the example of how a cloud of midges can be formed by the simple rule that each individual midge must have other midges filling at least half of its vision, Hillier and Hansen show that 'local rules', through their shaping of local spatial 'events', produce a coherent global form that due to the lack of global rules is one of many possible outcomes given the local rules (1984, 34–36). What restricts the number of possible outcomes, and so creates the recognisable global patterns we see in buildings and settlements, is the inclusion of human involvement and the retrieval and re-embodiment of descriptions of 'spatial events': individuals encountering reality and interpreting it as a prerequisite for future action. Because many individuals encounter the same reality descriptions tend to converge, with future actions therefore conforming and creating normative ways of doing and being (Grahame 2000, 26).

Hillier and Hansen have developed a series of tools to read and analyse space syntax. The most useful of these for archaeologists is a process called access analysis. Access analysis permits 'the representation, quantification and interpretation of spatial configuration in buildings and settlements' (Hillier et al. 1987, 363). All that is required is a well preserved ground plan. The process begins with the creation of an 'access map', a diagram detailing all of the spaces within a building and how they are linked. This starts from the exterior and moves on to the space/spaces directly accessible from here, then those accessible from these spaces, and sequentially until all the spaces and possible routes through the structure are displayed. Access maps allow for the visual exploration of the relationship between spaces, possible patterns of movement, and hierarchies of discontinuity, or layers of access, within the building. Hiller and Hansen also provide a number of calculations, including for control values (how controlling or controlled a space is of access) and relatively asymmetry (the accessibility of space in relation to the house as a whole), that use access maps as a basis to explore in a numerical manner various elements of the syntaxes and logic underlying the ordering of space (Hillier and Hansen 1984; Grahame 2000, 33–35). When combined with further information from finds distribution, decoration, and architectural features, access analysis can allow the formation of hypothesise concerning how domestic spaces were used and the role they played in the house as a whole. Such approaches have proven successful in DeLaine's exploration of the construction and use of Roman apartments at Ostia (DeLaine

2004), in Romonou's investigations of residential structures in Bronze Age Crete (Romonou 2007), and in Westgate's examination of Classical and Hellenistic houses on Crete (Westgate 2007b).

However, there are some drawbacks to the use of access analysis in an archaeological context that should be addressed. Firstly, there are issues of what constitutes a single space. Hillier et al. (1984) put forward two ways of dealing with this: the first considers any area enclosed by a boundary as a single space, the second allows for bounded spaces, like corridors, that could be described as several conjoined spaces to be treated as such by dividing the space into the minimum number of available convex spaces (this was originally postulated for examining settlement rather than building space, but Grahame demonstrates how it can be utilised for the latter: 2000, 31–32). Which approach is selected depends upon the nature of the ground plans and the questions being asked of them. For example, the latter makes more sense when discussing structures in relation to lines of sight or single-spaced buildings, while the former is better applied to large multiple-spaced structures and the relationships between bounded spaces. While this means that it is possible to utilise access analysis for a wide range of building forms, it does make it difficult to compare buildings that require differing approaches, such as single-spaced and multiple-spaced houses. To effectively use access analysis in a study such as this, which features a wide range of house forms, it is necessary to be selective and make sure it is appropriate to the particular buildings and the questions being asked of them. Brown (1990, 94–95) has criticised access maps as creating 'dimensionless spaces' by not taking into account architectural factors such as size. Grahame, however, argues that this is part of the strength of access analysis: it allows for an understanding of spatial relations to be developed before considering the effects of physical dimensions (2000, 33).

The idea of the encountering, re-invention, and learning to 'think the language of reality' (Hillier and Hansen 1984, 206) is not dissimilar to the learning and reproduction of practices seen in Bourdieu's *habitus*. This implies that the underlying structures of built space and the practices associated with and in relation to them are entangled. Therefore it may be possible to utilise the tools developed by Hillier and Hansen to read and analyse space syntax alongside Bourdieu's theory of practice. This may strike some as an odd assertion to make: Hillier and Hansen build upon structuralist ideas, Bourdieu worked within post-structuralism. In theory the two should not mesh. But if we move beyond the labels of archaeological theory and compare these approaches in relation to the questions being asked here, it is possible to suggest that they are looking at the same socio-cultural relationships and structuring elements of built space at different levels. Space syntax looks at the underlying spatial structure, how it is formed, and the rules that govern this. It allows for the creation of abstract descriptions of spatial hierarchies and structures, and the analysis of how these influence relationships between spaces, the control of access, and movement. *Habitus* is concerned with the meaning of, and practices associated with, spatial structure and their relationship with how space is encountered and navigated — the underlying meanings, social cues, and cosmologies attached to the structure and its spatial organisation. By overlaying understandings of *habitus* and practice on the description of social structural space developed through space syntax theory it should be possible to gain a deeper understanding of the role and meaning of architectural features and the relationship between building and living.

While Glassie, Alexander, and Hillier and Hansen approach the study of built space in differing manners, they all share the basic premise that for built spaces to be intelligible and meaningful to those who build and live in them, they must be constructed with an underlying shared understanding of the language of architecture. Their methodologies also all provide for variation both within the buildings produced by a single artefactural grammar/pattern language/space syntax, and between different versions of these spatial languages. Where these approaches most clearly differ is in the presentation of the processes for the thinking and construction of houses. For Glassie and Alexander this is more linear with people learning spatial languages through their interactions with existing spaces then reproducing these in the construction of new ones by following of a set progression of actions and decisions. In contrast, the process described through Hiller and Hansen's space syntax theory is more dialectic, allowing for differences in interpretation between the makers and future 'experiencers' of built spaces and so feedback from, and a more active role and interaction with, the materials and shaping parameters of each act of building. While this allows for a set building sequence to be followed, it also creates the potential for a more organic way of making such as that described by Ingold. For me it is this latter, wider, understanding of built space and our relationship with it, alongside those of *habitus* and how this and space syntax can be traced archaeologically (as demonstrated by Parker Pearson and Richards, and Grahame) that I believe may best help us to explore the roles and interactions of the physical and socio-cultural parameters in the shaping of domestic architecture.

The study of domestic architecture in the Classical Mediterranean

While the houses of the Mediterranean may not catch the public's imagination in the same way temples and theatres do, the many examples of domestic architecture revealed during ongoing exploration of the region's past cities and settlements have attracted a wide range of academic attention. This falls into three broad, and often overlapping, categories: what can be learnt from the surviving literary sources, social and cultural aspects of living in built spaces, and the development of the form of the house, in particular the production of typologies and classifications of houses and the spaces within them.

Many of the earliest studies are concerned with the latter and the development of the 'Greek house' (that seen to characterise the Classical and Hellenistic periods), often basing interpretations on the writings of the 1st century BC Roman architect Vitruvius. One of Vitruvius' *Ten Books on Architecture* (Book VI) is dedicated to the 'Greek house'. Vitruvius describes a building centred upon a courtyard or peristyle with a deeper recess, colonnade, or porch at the back called the *pastas* or *prostas* (VI.vii.1). At the beginning of the 20th century Gardner (1901) applied these terms to architectural elements he identified in the houses of Classical Delos, laying the foundations for the classification of houses across the Greek world. Over the next century, with the excavation of sites such as Olynthos and Eretria, these terms and idea of the Vitruvian 'Greek house' came to be frequently applied to and used to classify examples of domestic architecture in the Mediterranean, particularly the Aegean. But using Vitruvius, and in particular the terms *pastas* and *prostas*, is beset by problems. The houses these terms are often applied to date to the Classical period, nearly four hundred years before the Roman was writing. We cannot be sure that housing of this period was what he had in mind, indeed it appears more likely that he was thinking of contemporary houses in Sicily and Southern Italy (Graham 1966, 16; Tsakirgis 1989a, 279) — regions long associated with Greek peoples. While it is possible that some of the later houses included in this study could be considered amongst those that influenced Vitruvius, his definition of the *pastas/prostas* is rather vague — he states that the deepened recess was called either, yet each term has come to mean a distinct architectural feature in modern classifications. While in itself this is not necessarily a problem, the fact that these terms have been used differently by different people means that what constitutes a *pastas* or *prostas* house is inconsistent (for example contrast the *pastas* identified at Olynthos with those at Eretria: Robinson and Graham 1938; Krause 1977). Due to these irregularities I avoid using such terms and classifications in my work, and instead use explicitly architectural labels.

As well as Vitruvius, classical archaeologists and historians have the surviving corpus of literary texts and inscriptions, dating back to c. 800 BC, from which further information can be extracted. The availability of such evidence has led many to attempt to directly link what texts say about domestic life to the material record. While it is possible that access to contemporary voices enables us to gain an insight more along the lines of that presented by Bourdieu and Blier, there are a number of factors and limitations it is important to take into account when utilising ancient literary sources for the study of domestic architecture. The majority of surviving texts come from Athens (Nevett 1999, 4). Athens was only one of the many different polities that made up the 'Greek' world — while shared cultural traditions and histories mean it is likely that in many areas the various settlements were similar, these written sources cannot be taken as fully representative. In addition, many authors were members of the male elite, the main corpus of texts therefore reflecting a limited social and economic range. Such authors appear to have been more interested in relating political and philosophical discussions than describing details of domestic life and how and why their houses were built as they were. As a result we only have fleeting glimpses into the Mediterranean domestic world, but this has not prevented a number of theories being extrapolated and applied to the archaeological record. For example: Fyffe 1936; Pesando 1987; even Hoepfner and Schwandner (1994) in their seminal work on the organisation of urban space in the Classical Greek world, fall into the 'methodological trap' of using archaeology to illustrate hypothesise derived from readings of textual evidence (Nevett 1999, 27).

Authors such as Lysias, Aristotle, and Xenophon give an insight into the architectural features of the houses where they set discussions of the household and domestic life. However, these are brief and often vague, being written for an audience that was expected to have a clear understanding of the house, specifically that of the literary elite, and typically focus on the contrasting roles of men and women in the Athenian household (Morris 1998, 212). Such texts have given rise to the idea of the spatial segregation of the sexes. References are found to the *gunaikonitis* (e.g. Lysias 1.9 and Xenophon *Oikonomikos* 9.5), an area of the house assumed to have been reserved for women and thought to have been typically situated on an upper floor or forming a separate area of the ground floor. This space is often referred to in opposition to the male part of the house, the *andronitis* (Nevett 1994, 99–100). Despite the fact that we are given no real idea of what the *gunaikonitis* and *andronitis* actually were (Nevett 1999, 18), a number of archaeological studies, including Walker (1983), have attempted to identify them in excavated houses. Sites such as Olynthos (Robinson and Graham 1938), Halieis (Ault 1994, 88; Boyd and Rudolph 1978), and Eretria (Reber 1989) among others (including Athens; Morris 1998, 214) have all produced evidence for the *andron*, a dining room which from literary and iconographic sources (in particular painted pottery) appears to have been associated with men and the *symposium*. Yet thus far archaeologists have been unable to identify an area of the house that can be said to have been exclusively associated with women, or indeed men (Morris 1998, 196; Antonaccio 2000, 527). Again we find potential problems arising from the use of ancient terminology of which we do not have a full understanding. As is clear from Whitley's overview of Classical housing in Greece, while many domestic structures share many features at this time, they are far from homogenous both in overall form and types of internal spaces (2001, 319–328).

Arguably the most successful studies of Classical houses are those that, while utilising the available written documents, firmly base their exploration on the material evidence. Within the world of classical archaeology this approach has been spearheaded by Cahill, Morris, Westgate, and Nevett. Cahill was one of the first to present a detailed discussion of domestic archaeological material (Nevett 1999, 28). His statistical analysis of the houses at Olynthos brought to light the variability of domestic organisation in the settlement and the wider spatial zoning of Olynthos as a whole (Cahill 1991; 2002). Morris (e.g. 1998; 1999) explores questions of gender, slavery, and domestic space in Archaic and Classical Greece by comparing and contrasting the literary and material evidence to help place the evolution of gender and slave identities within their wider context. Westgate expands upon this, looking at the development of the segmented and increasingly specialised houses of central and western Greece in the 8th to 4th centuries BC in relation to wider social changes. In the introduction of new patterns in the use of space she sees the 'need for physical boundaries and architecturally specialized rooms' which 'intensified as the size and heterogeneity of communities increased, and stronger cues in the built environment were needed to ensure that behavioural conventions were observed' (Westgate 2015, 47). Developments in domestic architecture are shown to be directly related to developments in wider socio-cultural patterns, understandings, and relationships. Nevett uses the ethnographic parallel of the traditional Islamic house to show a similar relationship: many Islamic houses and those built during the 5th to 3rd centuries BC in Greece are inward-looking, centred on a courtyard. In Islamic culture there is a concern to protect the privacy of the household, in particular of women; it is possible, and the written evidence generally supports this, that similar concerns were held in Greek society. In the Islamic house this is achieved by creating spaces next to the entrance where male guests are entertained; they never enter the main house and so never risk coming into contact with the women, who are free to move about the rest of the building (Nevett 1994, 105–107). In the 'Greek' house the *andron* was usually entered directly from the courtyard, or via a small anteroom, with no need to pass through any other rooms. Contact between the women of the house and visiting males could be avoided simply by scheduling. It is possible that, as in the Islamic house, women had a relatively free degree of movement (Nevett 1994, 107–109).

Nevett (1999) further investigates the relationship between house and society by combining the plans of the extensively excavated residential area of Olynthos with artefact assemblages for each space within the houses and the iconography on painted pottery depicting households and household activities to create a framework within which to interpret the archaeological record. By detailing where certain artefacts were found and combining this information with the uses and people associated with them in the images on pottery, Nevett enables the mapping of domestic spaces, how they were used, and by whom. This map agrees with her earlier description of spatial use and suggests that distinctions were more strongly drawn between members of the household and outsiders, particularly female family members and male guests, rather than between men and women generally (Nevett 1999, 173–174). But, as Nevett acknowledges, continuing excavation and increasing data mean her model will need modification (1999, 174). It also relies heavily on the site and finds under investigation being particularly well recorded; unfortunately this is not often the case for many sites excavated in the earlier years of archaeology and means that we can only use finds distribution at more recently excavated or particularly well recorded sites. A number of archaeologists, including Tsakirgis (i.e. 1990) and Trümper (2007) have also used architectural features and finds to unpick uses and social relations within houses, and so have begun integrating physical and socio-cultural attributes of domestic spaces in their approaches.

Other recent studies have centred upon the move from the single- or double-spaced apsidal and oval houses that characterise the Early Iron Age to the multi-roomed rectilinear form that emerges in the 8th century BC at sites such as Zagora on Andros (Lang 2007, 187–188). Alongside these have been carried out investigations of the structure of the settlement as a whole and the placement of domestic buildings within it and in relation to one another and other built features (e.g. Lang 1996; Boyd and Jameson 1981; Cahill 1991). The conclusion typically drawn is that this change was motivated by the development of the *polis*, or city state, and the growth, both spatially and demographically, of settlements into urban centres with increasing pressure placed on the available resources and space: rectilinear buildings more easily conglomerate than oval or apsidal ones (Hall 2007, 73–74), while the presence of several rooms 'permitted spatial segregation and different internal communication structures' and so social differentiation (Lang 2007, 188).

So far this discussion would imply that before the 10th century BC there were no houses in the Mediterranean, but of course this was not the case. Within Mediterranean archaeology there has long been a divide between those who study the historic world and those studying the prehistoric. Classical studies build upon the antiquarians that began the discipline, while the development of the study of prehistory in the Mediterranean has been more in line with that elsewhere in Europe and so the approaches explored in the preceding sections. This is in part due to the heavy reliance upon text-based sources in the historic periods providing the framework within which to interpret archaeological material (however, as has been seen, great steps have been made in recent decades towards the development of a more critical use of literary sources allowing artefacts to speak for themselves). This dichotomy is also the result of colonially-influenced opinions and histories (see van Dommelen 1997, 305–308) that saw 'Greek' culture and society as influencing and replacing earlier practices across the Mediterranean, particularly in places such as Sicily, and thereby providing a convenient ending or beginning point for periods under study, as well as shaping interpretations of interactions between 'Greeks' and the communities they came into contact with (Baitinger and Hodos 2016, 16). This creates an artificial gap in our understanding of material culture such as houses: it is difficult to compare buildings across the Bronze Age, Early Iron Age, and Archaic periods, to identify continuities and changes, when the theoretical frameworks they have been interpreted within give little room for dialogue. Yet, as Leighton states, 'an understanding of the latter period will be influenced by an assessment of the preceding, if not *vice versa*' (2000, 16). Post-colonial theory is now bridging this gap and forcing archaeologists to reconsider the relationship between prehistory and history, bringing the study of the former into direct contact with the latter.

Van Dommelen has been one of the key figures in the application of post-colonial theory to the archaeology of the Mediterranean. It is built upon the understanding that potential divides and groups in society, via class, gender, ethnicity etc., change and differ depending upon the situation and occasion. Therefore people living and interacting in colonial situations 'recurrently need to (re)define their social positions, thus contributing to an articulation of the local indigenous situation in the wider colonial context' (van Dommelen 1997, 309). The local community plays an active role in this (see Dietler 1996). It has often been viewed that the indigenous population of Sicily when the earliest Greek settlements were founded here in the mid. 8th century BC, began to adopt 'Greek' ways of building and being, becoming 'Hellenised'; a view that is now generally criticised for its uni-directional assumptions (Leighton 1999, 220–221), and that it assumes 'Greek' culture to be arriving fully formed (which was far from the case). Instead, what occurs where two or more cultures meet is not the simple take-over of one by another, nor the combination of two complete cultures, but rather the re-workings of both in relation to one another and so the development of their identities through the adoption, adaptation, utilisation, and abandonment of various elements of each (Hodos 2006, 17–18). Identities are constantly changing, especially through contact with other groups (Baitinger and Hodos 2016, 15).

A good example of the application of post-colonial theory is Doonan's 2001 paper on Middle Bronze Age domestic architecture and settlement planning in Sicily and the Aeolian Islands, and the role these have in the structuring of social interactions. Doonan analyses the relationship between social behaviour and domestic architecture, revealing links between the development of formally defined exterior household spaces and the planning of public spaces and defensive structures, and increasing contact and exchange with Mycenaean peoples from the Eastern Mediterranean. These innovations serve to structure interactions between members of the community and outsiders (rather than within the community — the distribution of activities implying continuity from the Early Bronze Age in terms of social structure; Doonan 2001, 183). It is also observed that developments in domestic architecture and settlement planning vary, 'reflecting a variety of processes specific to local conditions' (Doonan 2001, 159). Changes do not occur wholesale, but piecemeal as different settlements and communities adopted and adapted innovations at their own pace and in relation to their own specific circumstances.

By utilising post-colonial understandings of interactions taking place in relation to the movement and settlement of peoples across the Mediterranean, it is hoped that a more subtle, and complete, picture of any changes taking place in Sicily's domestic architecture can be developed, one that allows the gap between prehistoric and historic on the island to be bridged.

Houses as Technology

While archaeologists, anthropologists, and historians have taken many approaches towards the study of domestic architecture, most focus on the socio-cultural factors affecting house design, only briefly discussing functional and technological influences. In order to take a more detailed look at these elements of house design and construction it is necessary to briefly step outside of the world of archaeology.

Houses and the environment

Traditionally technology has been seen as a way of meeting practical needs. In the mid. 20th century this meant incorporating features such as air conditioning, heating, and lighting into architectural design to artificially create comfortable living environments (e.g. Banham 1969). But since the 1980s growing fears over the impact humanity is having on the environment and our reliance on fossil fuels for energy have sparked an interest in developing more 'sustainable' ways of building. A number of architectural engineers, including those discussed below, have turned for inspiration to vernacular buildings — those built without the input of a professionally trained architect and reliance upon mechanical heating, lighting, and cooling devices. Many of the structures and technologies brought to light in the exploration of these buildings could provide comparative ethnographic parallels for archaeological examples.

All of the studies reviewed here follow a similar methodology and structure. An overview of the region is given, including a bioclimatic analysis detailing factors such as temperature and humidity. This is often followed by a description of the plan of the building, its orientation in relation to the sun and prevailing wind directions, the materials the structure is made from and their thermal properties, and any architectural features such as wind catchers, courtyards, wall thicknesses, and ventilation holes deemed important. It is then related how such architectural elements are considered appropriate responses to the climate. In many studies (including Bouillot 2008, Cardinale et al. 2013, and Shanthi Priya et al. 2012) further analysis is undertaken by measuring internal and external temperatures, humidity levels, and wind velocity or air movement over a period of time, typically a full day, to determine the extent to which a stable internal environment is maintained in contrast to the changing external one. In their study of vernacular buildings in India, Shanthi Priya et al. (2012) showed that there was 10°C less variation internally than externally. A similar pattern was seen with humidity. The method of ventilating the building, a wind catcher over a courtyard with various semi-open spaces, meant that no matter the external wind speed, internal air movement remained around 1.5–2 m/s (Shanthi Priya et al. 2012, 57–60). It was concluded that all of these factors helped to create a comfortable living environment within a climate otherwise not conducive to comfort.

Many of these studies are undertaken in relative isolation from the rest of the architectural field, let alone anthropological studies, often appearing in a handful of journals including *Energy and Building* and *Building and Environment*. While a detailed insight is gained into the physical properties of the buildings, elements such as social and political factors are often ignored or assumed, thereby leaving many questions unanswered. For example, how do different cultures define ‘comfort’? It is entirely possible that people residing in a hot and arid climate are ‘comfortable’ living with higher interior temperatures than people living in England. Likewise, a group living above the Arctic Circle may be ‘comfortable’ in lower temperatures. This is not directly addressed in these studies, yet in order to effectively adapt and apply such solutions elsewhere, it is important to judge the effectiveness of architectural climate control by taking into account the standards of those who build and live in these spaces. By disregarding social and cultural factors the fact that one society’s solution to a particular climatic condition may be culturally, socially, or even physically, unacceptable in another is missed. Furthermore, the architectural forms observed in these studies may not be the only solutions to that particular climatic condition, merely those that that worked within that culture’s wider socio-cultural context.

Despite the fact that many of these studies approach their subjects in similar ways, asking the same questions, and more often than not coming up with the same answers, there is little reference in one paper to the buildings studied in another, even though they are generally concerned with the same geographical regions — typically the Mediterranean or desert areas (Vellinga 2013, 575). As a result, little credit is given to the variation that can be found within vernacular architectural traditions in any one region, let alone across the globe. It could be said that these studies select buildings to ‘illustrate certain points or arguments that apparently apply to all vernacular traditions in the region concerned, regardless of the distances in time, space, and cultural context that may in actual fact separate them’ (Vellinga 2013, 582): those buildings that do not fit are disregarded and so we are presented with a homogenised view of vernacular architectural traditions.

Nowhere is this homogenisation more apparent than in one of the few articles that attempts to investigate climate control in ancient buildings. Zhai and Previtali (2010) aim to use these structures to develop a computer model that calculates optimal building construction for different climatic zones. These zones cover the entire inhabited world and are combined with the authors’ ‘cultural heritage’ map for the distribution of vernacular traditions based upon language families, to produce 114 ‘vernacular regions’ (Zhai and Previtali 2010, 358–359). The authors state that ‘most vernacular dwellings are single room structures’ (Zhai and Previtali 2010, 361). While there are indeed many such examples in the archaeological record, they are not the only form found — what about the complex multi-roomed structures excavated in Assyria, Crete, and China, to name a few? These are also often considered as vernacular, and certainly did not make use of the modern technologies the authors aim to bypass. Temporal changes in the ‘vernacular regions’ are not considered, instead general architectural elements and materials seen as reflective of responses to the climate are taken and fed into the computer model. Zhai and Previtali claim that one of the goals of this model is to ‘demonstrate a methodology that can be used...to quickly distinguish between vernacular traditions precipitated by climate and those carried on by cultural traditions (Zhai and Previtali 2010, 358). While it is true that there are elements of building design that more strongly correlate to environmental or cultural factors, it is misleading to view them as separate entities. The climate is a parameter within which a population has to work to construct buildings that are both culturally and climatically suitable: there is not one building solution to a climatic condition, but many, the successful being that which best fits both the environmental and socio-cultural needs of the inhabitants.

It is clear that these studies are frequently general in their understanding and treatment of vernacular buildings, the relative isolation of the field meaning that socio-cultural factors are often ignored with architectural design choices not being considered within the wider cultural context. But there is still value in such research: the strict methodological approach to the measurement of architectural elements and their properties such as thermal retention, air movement, and how this affects the internal environment, can be utilised in my own recording and interpretations. They also show that the form, materials, and features incorporated into buildings can and do have an impact on the internal environment — physical considerations likely to have been taken into account during construction. The results discussed by the authors, and what these imply about environmental responses in buildings, could greatly increase our understanding of vernacular architecture if better incorporated into studies of the social, cultural, and economic elements of domestic space. That this is possible is displayed in the research completed by Bouillot (2008), Ozay (2005), and Özdeniz et al. (1998), which by placing houses in their wider context produce work that reveals far more about the thought processes behind particular design choices.

Houses as social technology

By viewing technology not only as meeting physical needs but also as a part of the wider material world entangled and embedded in social experiences is created the notion of ‘social technology’. This looks at technological objects and processes in terms of their role within social and cultural interactions, influences on behaviour, and the social requirements for such objects and processes to take place and be made. By exploring the wider context and implications of the incorporation of technologies such as air conditioning or wind catchers into the house we gain a view of their role beyond their cooling properties. These features could have links to status — they may cost more or require greater skills to build and so only certain households are able to afford them. Likewise, where someone sits or works in relation to the device can be related to their social position. Such technologies can also influence behaviours: people may move around the house in a way that brings them more frequently into proximity with the air conditioning unit/wind catcher, while the lowering of the internal temperature could allow the inhabitants to work longer into the heat of the day thus increasing the number of working hours. The manufacturing/construction process of these technologies and how they fit into the wider workings of the settlement and society can also be considered. Furthermore, it is possible to consider the house as a whole as social technology.

In his analysis of traditional Chinese houses Bouillot describes the basis for their layout in the 'magic square' of the Tao principal of Lao-tseu. The square relates to the Ming t'ang, a Calendar House in which Space and Time are identified through the division of the square into nine where the centre is the Time pivot around which are the four seasons. This is physically manifested in a courtyard surrounded by four wings (Bouillot 2008, 288). This cultural belief system accounts for the decision to build around a central courtyard in much the same way the houses at Skara Brae are seen to be constructed along lines of orientation and organised in relation to social and cosmological considerations (Parker Pearson and Richards 1994b, 17–19). Yet the exact form of the courtyard varies depending on the local climate: narrower, low courtyards give the best protection against winter winds in Bei Shuzha where temperatures often fall below zero, while the larger and more open courtyards at Xiao Qi allow breezes to enter in the hot summer and sunlight in the cooler winter (Bouillot 2008, 289–292).

Ozay shows how different political rulers, and the changing social and cultural factors and expectations brought with them, affected architectural design since the mid. AD 1500s in Northern Cyprus. Three periods are identified: Ottoman (1571–1878), British (1878–1960), and Modern (1960–present) (Ozay 2005, 842). In the hot and relatively dry climate of Cyprus an outdoor shaded space is often incorporated into architectural design. This not only provides a sheltered area in which to sit and work during the day, but also protects the rooms behind from solar insolation. During the Ottoman period the introduction of Islam brought with it a concern for privacy and so this shaded space took the form of an enclosed courtyard. In the British period, society, despite being divided by class, became more open, the line between public and private space blurring. As a result British colonial architecture exchanges the courtyard for verandas and balconies, spaces looking out onto the street so that the occupants could both see and be seen. All of these architectural features are appropriate to the climate, but answer differing social concerns. The modern period is presented by Ozay as one in which the utilisation of mechanical technologies has caused the builders of Northern Cyprus to neglect the climatic knowledge of their forebears and produce houses that are less comfortable as those surviving from the Ottoman and British periods (Ozay 2005, 843–848).

At Harran in southeast Turkey local domestic architecture comes in the form of clay or mud brick 'bee-hive' shaped houses. Although their study focuses on the design elements that help to control climate within these structures, Özdeniz et al. give the social and historical context: the people of Harran were originally nomadic, only staying in the town for short periods of time and building houses quickly over the course of a single day. We are also informed that the number of rooms incorporated into a house is determined by the income level of the owners, their family size, and occupational necessities (Özdeniz et al. 1998, 478–481). Simple mud mortar is used to bind the bricks, which are recycled from older buildings, so that they can be easily assembled and disassembled when the household decides to move on.

Like those discussed in the preceding section, each of these studies has the aim of exploring environmentally sustainable ways of building. Yet by taking into account the wider social, cultural, political, and historical context they produce a richer and more nuanced picture of these houses and the climatic solutions incorporated into them, in particular the relationship between these contexts and why specific solutions were chosen.

Imagine a local climate and environment that necessitate the collection and storage of rainwater. Defining the household's status may mean that this needs to be done independently rather than communally, and so a cistern is built into the house. The exact construction of the cistern will relate to the available materials, technologies, and local geology, while its location will be dependent upon the layout of the building and any functional and cultural associations attached to it. Each 'piece' of the domestic space, the physical form and internal layout, is influenced by a complex combination of factors. Technology itself can be considered as a social process invoking accepted social representations of how things should be done (e.g. Lemonnier 1992). If we follow Pfaffenberger's idea of a 'universal conception of human technological activity, in which complex social structures, nonverbal activity systems, advanced linguistic communication, the ritual coordination of labour, advanced artefact manufacture, the linkage of phenomenally diverse social and non-social actors, and the social use of diverse artefacts are recognised as parts of a single complex that is simultaneously adaptive and expressive' (1992, 513), we must not simply consider houses as a way to meet needs, but as a part of a more complex whole that includes social, economic, cultural, and political factors, environmental constraints, manufacturing methods, available materials and technologies (Giannitrapani 2012, 69; Procelli 2005). This method looks at a technology from a variety of view points, determining how each has affected its formation, use, development, and impact upon human experiences.

Back in the world of Mediterranean archaeology, this view of technology in relation to the house has in recent years begun to take root and be explored. A number of studies of Neolithic and Early Bronze Age houses in southern Italy (including those carried out by Shaffer at Acconia (1985; 1999), Ammerman et al. at Piana di Curinga (1988), and McConnell and Peterson at La Muculufa (McConnell 1992, 31–33)) have used lithic elements, fire-hardened daub, and impressions of wattle, posts, and other organic matter, to develop an understanding of how these structures were built and the labour involved in their erection. Some have further utilised this information to undertake reconstructions of ancient buildings, thus providing data concerning probable construction methods, tool usage, labour, and repair and maintenance (e.g. Speciale and Caruso 2016). The success of such attempts is dependent on well-enough preserved archaeological remains to provide the necessary information to create a reconstruction.

Expanding this approach is 'architectural energetics', a method of studying architecture through the perspective of the costs generated by its construction (based on a variety of measures, from experimental archaeology and anthropological observation to reports of international institutions supporting agricultural and architectural projects in developing countries) where energy is measured terms of the time invested in the building project and expressed in work hours per person. The labour pool required for tasks and its impact on specific architectural features, as well as social, cultural, technological, geographical (geological and topographical), and archaeological factors are taken into account allowing social considerations to be related to construction and an estimate of the time spent erecting a building to be formed (Devolder 2015, 242; 2017, 59–61; Abrams and Bolland 1999, 264–269). Architectural energetics was pioneered in New World archaeology by Abrams (e.g. 1984; 1989), but more recent work has seen it applied to structures across the globe, including the Mediterranean (e.g. DeLaine 1997 and Brysbaert 2015) where Devolder (2015; 2017) in particular has successfully utilised it for the study of Minoan architecture revealing differences in the nature and availability of the labour pool for high-cost and low-cost building projects and how these relate to the choice of materials and construction techniques.

This has been built upon by Fitzjohn, who has sought to introduce Ingold’s ideas of ‘taskscape’ to our understanding of activities such as construction. Fitzjohn uses archaeological evidence from the buildings of Megara Hyblaea in Sicily to calculate the temporal costs of constructing different types of buildings, including houses, in order to ‘reconstruct the activities that took place within and outside the city walls’ (2013, 626–627). By taking into account the agricultural seasons and the likely annual distribution of labour, the person-days involved in quarrying, transporting, processing, and building with stone, and the different ways in which these activities could have been carried out (were ‘beasts of burden’ utilised? how many people could have been involved and how would this have altered construction timescales? how were the necessary skills learnt and passed on?), Fitzjohn creates a reconstruction of the entire process of building a house within its wider physical, technological, and socio-cultural landscape.

The Process of Building

As this thesis looks in detail at the relationship between the physical and socio-cultural factors influencing the construction of domestic architecture it is useful to set out a rough description of the process of building. The dialectic nature of these interactions makes it difficult to fully describe them without resorting to simplifying the decision-making process to a linear progression, when in reality it is more circular. I will try my best to avoid over-simplification, but as a result the model for building set out here is likely to also appear somewhat circular in its description, despite the fact that I intend to follow the process of construction (i.e. ‘foundations up’) in its development.

An element of house construction only briefly touched upon in this study, primarily due to the fact that it is often difficult to deduce from the archaeological record, is the reasoning behind the construction of a new house. A wide range of factors could have prompted this initial decision: the inhabitants have founded a new settlement (as a result of any number of wider events and decisions); the previous house was destroyed or had become too resource demanding or economically expensive to maintain or repair (perhaps by fire, ritually, as a result of attack, due to age, or by earthquake, flood, or some other natural disaster); it may be a newly formed household (perhaps as the result of a marriage) setting up home; or maybe the requirements or make-up of a pre-existing household had changed necessitating a change in their physical surroundings. Which of these reasons, or indeed a combination, motivated the construction of the house will have had an impact on the entire construction process.

Site selection and the spatiality of house construction involve a series of complex interactions between socio-cultural and physical parameters (Robb 2007, 83). Wider regional politics and factors such as the need, or not, for a strategic position (whether defensive or along communication routes), and the availability of resources such as water, agricultural land, and building materials, will influence the choice of location for the settlement itself. Where within, or in relation to, the settlement the house is built is a combination of responses to a wide range of factors including topography, and if it is necessary to build on a steeper gradient, what labour resources and technologies are available. The status and wealth of the household, social hierarchy, and kinship links may mean that it is more desirable, or necessary, to build the house in a particular location or area of the settlement. Cosmology can also play a part: for the Batammaliba houses are ideally erected on the foundations of an earlier house belonging to a family or village member as such sites are said to be free of dangerous powers and benefit from the build up of years of fertilisation in the surrounding soil (Blier 1987, 22–23). If the settlement is an older one, open space may be limited; any new builds must be confined to remaining spaces, built on the outskirts of the settlement, or take advantage of abandoned pre-existing buildings either through demolition or incorporation. Which of these routes is followed is again related to the wealth or status of the household, and the desirability linked to any particular region of the settlement. The ground area the house is intended to cover will also influence the choice of building site, while the nature of the available space within the pre-existing urban layout can likewise shape the house and its footprint. Through a complex consideration and weighing up of these factors a building site will be chosen.

The choice of building materials is a result of a combination of availability, both of the materials and the labour required to obtain and work them, the role to be played by the material, the level of technological understanding and ability reached by the society, wealth and status (and therefore access to particular materials, technologies, and labour), building tradition, the requirements of the house — does it need to be a long-lived, low maintenance, or adaptable structure? are multiple storeys necessary? (these factors themselves are influenced by the parameters enforced by building tradition, status, and cultural expectations and understandings of domestic architecture, as well as the activities, economic, social, and otherwise, carried out by the household), and suitability to the surrounding climatic and environmental conditions. For example, above it was seen that the houses of Harran were built from layers of stone bonded by a simple mud mortar as this enabled the nomadic community to quickly assemble and disassemble them (Özdeniz et al. 1998, 479). Materials and technologies in turn affect structural elements of the building such as the techniques and labour required (which themselves influence the length of time construction will take to complete — also affected by the size and complexity of the structure as a whole and the role of building in wider cycles of settlement activity and social organisation and so the availability of labour: Fitzjohn 2013, 633–637 with further references), its form, the size of individual spaces, the need for and placement of load bearing supports, and the longevity of the building and how often it needs maintenance and repairs.

As has been seen, the form and size taken by the house are related in part to the materials (and how they are best incorporated into a stable structure) and building site selected for its construction, as well as the labour and time available, and the influencing parameters entailed in these. At Du Jia in China the steep slope meant the house was constructed on a platform and split into two levels in order to accommodate the gradient (Bouillot 2008, 294). This also allowed run-off from the extensive rainfall experienced in the region to pass beneath the house. House form is also strongly influenced by the society's building traditions and expectations of domestic architecture: should they be round or square, does there need to be the potential for expansion or subdivision? Form also influences the positioning of supporting posts and walls — which themselves are necessitated by the size of the building and affected both by the materials being used and the desire for open or closed internal spaces. The total size of the house can be seen as the result of a combination of many influencing parameters: as well as urban and geographical topography, labour and time, factors such as wealth and status, and how these should be displayed (both directly related to the procuring of labour, particularly with specialised skills), the amount of space desired, or required, for individuals and the various domestic activities to be carried out and incorporated into the house (tying into ideas of personal, private, and public space).

The builder of a house also has to consider its layout and spatial organisation. The necessity for supporting posts, columns, or walls in larger houses means that the internal space will need to be divided to a certain extent. The position of these features is partly shaped by structural factors (shape of the building, form of the roof, length of timbers, etc.), but also the need, or not, to control movement or divide spaces inherent in the inhabitants' *habitus* and understanding of domestic life — which likewise influence the form of support chosen. Traditional belief systems and cosmologies may influence lines of orientation and division within the structure, such as those witnessed at Skara Brae (Parker Pearson and

Richards 1994c, 41–47), while social structure may encourage equality and regular interactions, or stratification and a concern for privacy, or indeed anything in-between. This wider socio-cultural context will influence whether a house is more open, accessible, and encouraging of interactions between inhabitants, and inhabitants and guests or passersby, or whether it is highly segregated from the rest of the settlement with layers of access and interactions more closely controlled. These are also likely to reflect the status of the household and its individual members, both within the house and wider society, and the activities they carry out (which may be deemed to take place communally or separated off, thus promoting the influence of function). Domestic settings are dialectically structured by the systems of activities they are designed to frame (Rapoport 1990). It should also be remembered that the layout of the house, as shown by Grahame (2000) in his use of space syntax to explore Pompeian houses, can help define and re-enforce identity and relative status. The variation witnessed in traditional Chinese housing across different local climates by Bouillot (2008) reveals weather and climatic conditions can also influence the laying out of the house. The arrangement of rooms and how they are intended to be used can be affected by the need, or not, to light them; the sun being the most readily available light source. Temperature control and wind direction and strength may also be influencing factors, particularly in more extreme hot or cold climates (such as in the incorporation of cooling courtyards identified by Alp in desert architecture; 1991, 810) or where goods susceptible to temperature variations, such as food, need to be processed and stored. The house's spatial organisation not only has to answer socio-cultural needs, but also meet the requirements of function and human physical comfort wherever possible.

The final areas of house construction to be considered are those of decoration and built-in features. Decoration is one of the few aspects of house design that can be considered to be almost solely responding to socio-cultural parameters. Decoration by its nature is often considered non-essential embellishment; it frequently adds nothing to the building's solutions to the physical parameters. It can, however, be essential to displaying the household's wealth or status, and distinguishing areas of the house from one another. Whether or not decoration is a part of the building repertoire will be a result of wider societal expectations and building traditions. Some societies may even require specific architectural features associated with receiving and entertaining guests.

Certain domestic activities may require built-in features such as water supply and bath fixtures in rooms used for bathing, ovens or hearths for cooking (the presence of the latter can also be related to the need for light and heating and so the climatic conditions, as well as creating a focal point within the domestic space, a factor that can be linked to socio-cultural traditions), and features necessary for any economic activities the household undertake (for example presses and mills for processing foodstuffs, or furnaces for metalworking). All of these factors can also influence the layout and spatial organisation of the house. Which features, if any, are incorporated into the house depends upon wider cultural traditions, and wealth and social status. For example, all households require access to water, but how this is achieved depends upon things like; the distance from a water source such as a spring, river, or lake, the availability of resources to transport water from these to the house, whether it necessary to collect rainwater or dig wells, whether social status is linked to having a private supply of water and the corresponding status of the household. All of these will determine whether or not features such as cisterns, wells, and water butts are incorporated into the structure of the house.

As Alexander stated, no building is ever truly completed (1977, 475–480). Circumstances, and therefore the surrounding parameters, change over time, and so the requirements of the house will also change. Perhaps the family has expanded, or contracted in size, increased, or decreased in wealth, the socio-cultural associations with particular forms of decoration, architectural features, and layouts adjusting with wider trends — all of these can lead to the perceived need to alter both the physical fabric of the house and the ways in which it is lived in. The house will then be re-worked, re-shaped, re-built in relation to the new parameters, or even abandoned completely for a new, more suitable structure.

The process of designing and building a house involves a complex series of interactions between various influencing factors and restrictive parameters through which the physical form of the house emerges. These dialectic and reflexive processes vary in the construction of each individual house alongside the exact parameters within which it is being built. It should also be considered that the builder or designer of a house may not consciously work out solutions to the various physical and socio-cultural parameters affecting the building they are creating. Following Ingold, it is likely, particularly in relation to many archaeological and vernacular examples, that thought and planning processes were carried out subconsciously, creating solutions and designs as problems and needs arose and only in conscious relation to personal priorities, which may not necessarily directly reflect all of those factors which were addressed during the construction of the house.

Summary

In domestic architecture research there is often a dichotomy between that focusing upon social and cultural aspects of the household, how the space is lived in, and the functional elements of the building itself. Archaeologists and anthropologists in general view houses as symbolic and meaningful structures that can provide information on social practices (Bourdieu, Blier, Parker Pearson and Richards, Nevett), with some (including Alexander, Hillier and Hansen, and Grahame) approaching this from a more ‘language’ or social patterning based angle. Those scholars with more architectural focuses see vernacular housing as a source of information about sustainable building designs and technologies (Cardinale et al., Zhai and Previtali, Shanthi Priya). In the last few decades these boundaries have begun to blur, with some architects (Bouillot, Ozay, and Özdeniz et al.) incorporating the wider context of the houses they are studying into their investigations, while a number of Mediterranean archaeologists (such as Fitzjohn, Shaffer, and Ammerman) utilise practical, scientific, and technological data in their explorations of domestic buildings.

The house is not simply a social phenomenon, nor a purely functional structure; it is a physical, technological, manifestation of a peoples’ response to environmental, social, cultural, and economic requirements, parameters, and conditions. These responses are shaped by a practical logic: the pattern language, rules, *habitus* by which people understand the physical features of their world and the society within which they live, the embodying of practical architectural features that can also have symbolic socio-cultural meaning. In order to gain this holistic view of archaeological houses and an understanding of how the various influencing factors interact to shape them, it is necessary to develop a working model that utilises and brings together aspects from the various views and studies of domestic architecture outlined above.

The notion of *habitus* and the ways in which we interact with and learn about the material world can be seen to form the backbone of this understanding of domestic architecture, providing a basis from which to develop and explore in more detail a theoretical framework within which to study the houses of ancient Sicily. When we talk about *habitus* it is important not to focus solely on symbolic built space, but to also maintain sight of the mechanics of the house and the practical engagement with the surroundings and materials that is the building process (Ingold 2000, 186), and to integrate these into our understanding of the practices of living in built space. The house is an interaction between socio-cultural ideas and the functional factors of the material world: as well as helping form and display identity, social distinctions and status, the house has a number of more functional jobs, arguably the most important being to provide adequate shelter. The technological aspects of construction and the properties of materials, and the local environmental conditions form the physical parameters within which the house is built, the physical possibilities of the built space. These possibilities, although placing constraints upon the building, can still be numerous and the same materials and available technologies can be utilised and combined in a number of ways to answer certain environmental conditions. Social logic, the *habitus* of the builders and inhabitants (which can vary widely from society to society and across time, and is built from traditions, world views, and social structure) dictates which of these many physical possibilities are chosen during the design and construction of a particular domestic space that will as best as possible meet both the physical and socio-cultural needs of the inhabitants. Thus the requirements of lived-in space can shape built space. This relationship between building and living is dialectic; one cannot talk about building space without also considering how the built space would be lived in. As Hiedegger describes: ‘we do build and have built because we dwell’ (1971, 146).

Practical logic and building traditions

Cultural tradition, or more specifically building tradition, is a factor that runs through many of the interactions and decisions involved in the construction of a house, and therefore can be seen to play an important role in the formation and shaping of domestic architecture. It is possible to argue that building tradition binds together the responses to socio-cultural and physical parameters, providing a concept through which it is possible to observe the house as a whole and a solution to the dichotomy seen in domestic architecture studies. For the socio-cultural factors of the physical attributes of domestic buildings to truly reflect notions of identity, privacy, status etc. it is necessary that they form part of a wider shared building tradition and cultural understanding of what a house should be; otherwise how would the various households that make up a settlement know what particular architectural features meant or reflected socio-culturally, how would they know how to behave in these spaces? It is not the presence of a closed doorway that disinclines an individual to pass through it, but rather the association of a closed doorway with the knowledge that beyond it is a private space in relation to that individual’s relative status and relationship with the household. Houses are not isolated items (Johnson 1994, 172).

Access to similar materials and technologies, the presence of similar physical parameters and shared cultural traditions promotes the creation of domestic buildings with similar attributes (houses being built in a particular way because they 'fit into and made use of a familiar repertory of tools, techniques, and skills'; Robb 2007, 84) and orderings of space that become local tradition as each new house builds upon and utilises existing knowledge and experience. These traditions can be persistent, becoming a defining and highly recognisable element of the house design and form of a particular culture or region: thus forming an identifiable building tradition. In some societies, such as the Batammaliba (Blier 1987), this is further formalised with architects, masons, or individuals specialising in building practices actively continuing and passing on ways of building and the methods and rituals associated with them. A building tradition can be defined as a collection of architectural solutions to the surrounding physical and socio-cultural parameters, ways of creating and ordering built spaces, that are common to a group, whether within a settlement or wider region or culture — a shared understanding of the house and the ways in which it is built and lived in (a similar definition is drawn by Sokolova (2011) in relation to shtetl houses in Podolia). Through this commonality a building tradition, which one can learn simply by living in and experiencing the built environment (see Bourdieu 1972, and Ingold 2000, 186, on 'dwelling'), enables people to apply, read, and understand meaning embedded in architecture, to know how to behave within these ordered spaces — the syntax of which it may be possible to unpick through the use of Hillier and Hansen's access analysis. Identities and social structure are thereby bound up with building tradition, encouraging the smooth continuation of socio-cultural life within these buildings and the wider settlement. In this way building tradition can become one of the socio-cultural parameters of house construction itself.

Within this understanding of building tradition is entangled the notion that cultural ideas, and through extension cosmology and world views, can influence the layout, design, and use-patterns of a house (as discussed by Bourdieu (1972) in his description of the Kabyle house, Parker Pearson and Richards (1994c) in relation to the Neolithic houses of Skara Brae, and concerning orientation in Bouillot's (2008) exploration of vernacular Chinese housing). These beliefs and cosmologies are encountered, re-enforced, and to a certain extent re-worked with each act of building and living. As a part of this re-creation of domestic space and its symbolic meaning is also the re-creation of the methods, materials, and physical responses to environmental and climatic conditions. Physical responses can become interwoven in the socio-cultural landscape, with practical solutions to the local environmental and climatic conditions and ways in which to build with the available material resources being utilised at a conscious level because that is the way in which houses should be built, rather than any direct link to the original problems they were solving. Thus these elements of domestic architecture and their relationship to living are incorporated into a building tradition.

By adhering to expectations and working within a recognised building tradition, the builders and inhabitants of houses display their conformation to the norms of their society, their understanding of their place and role within it, confirming their own cultural identity, both to themselves and the wider community. Variations in construction, use of materials and techniques, and spatial organisation represent variations in the conditions, status, and activities of and within the household. This links identity and its formation and reinforcement, particularly in relation to status and role, to domestic architecture. The formation of identity takes place in much the same way as Bourdieu's *habitus* (1972, 72). In fact it is possible to identify *habitus* with identity as the practices that make up an individual's *habitus* are dependent upon such things as social, economic, and familial relationships, and so are reflective of the group to which an individual belongs or identifies — things that help construct one's identity. The homogeneity of *habitus* within a group (say a tribe, social class, or household) is what causes practices, and identities, to be immediately intelligible; they share systems of internalised structures, perception, conception, and action (Bourdieu 1972, 78–86) that can be linked to a wider cultural tradition.

The dialectic relationship between the way in which houses are built and how they are lived in, and so building traditions, is not static; the technological, material, and environmental factors, and the socio-cultural and ideological practices and *habitus* entailed in the construction and use of domestic spaces evolve and develop over time in relation to the wider context within which the buildings are situated. There are many situations and processes under which changes occur in these factors, from alterations in the local environment and availability of resources, to political upheaval. One that is particularly pertinent to the investigation of Sicily is the movement of peoples and the subsequent interactions and exchanges between different cultures and the adoptions and adaptations that follow. These encounters necessitate the re-defining of the identities and social understandings and relationships of those involved, and imply the re-defining of domestic spaces will also be taking place. It is therefore important to look at any changes in the *habitus* and building traditions of Sicily in the light of post-colonial theory, considering long-term trends and how understandings of domestic spaces are being re-worked. This will also help frame further questions concerning the nature of changes in domestic architecture.

When we excavate and attempt to piece together the archaeological remains of a house, we are exploring a combination of responses to physical and socio-cultural factors that have come together to create this particular form of domestic space. Through the encountering, interpreting, and re-creation and re-working of these physical spaces and the practices carried out in and through them, physical and socio-cultural solutions and understandings become entangled in a building tradition. Because building traditions are underlain by shared practices, or *habitus*, and structural syntaxes, it is possible to unpick them through the examination of the material remains of houses and develop an understanding of the shaping of the house that combines both its social and functional aspects.

Chapter Three

Context and Methodology

With a framework for understanding and interpreting domestic architecture in place, it is now possible to undertake a review of the case study and from there develop a methodology for the exploration of the interactions between physical and socio-cultural parameters in the shaping of the houses of Sicily.

Sicily: An Environmental and Historical Review

In order to be able to unpick the influencing physical and socio-cultural parameters in Sicilian domestic architecture it is necessary to have an understanding of the wider environmental (that is geographical, geological, climatic, and ecological) and historical (specifically related to human activity) context of the island.

Fig. 3.1 The location of Sicily within the Mediterranean Sea (Google Maps).

The physical parameters

Encompassing some 25,711km^2 (geography.about.com), the central island of Sicily is the largest in the Mediterranean Sea (Fig. 3.1). It is separated from the North African coast by c.150km of open water at the closest point (Leighton 1999, 15) and the south-western tip of Italy by the Straits of Messina, which narrow to just 3.2km. This proximity has led many to view the island as an extension of the Italian peninsula, and while the northeast coast does share many geological similarities with the mountainous terrain of the Calabrian Apennines, Sicily itself features a wide and varied landscape, from coastal plains to mountain plateaus and fertile river valleys. The west and northwest of the island is underlain with sedimentary rocks, frequently limestone, which in places weathers into clay (Velde 1995). The east, centred on and dominated by the volcano Mt Etna (which at 3340m asl is Europe's largest; Agnesi et al. 1997, 44), more commonly features volcanic basalt and metamorphic rocks, while the Plain of Catania, from which Mt Etna rises, consists of alluvial deposits. The south-eastern Hyblaean Plateau is formed primarily from limestone (for a more detailed description of the geology of Sicily see Agnesi et al. 1997). The landscape of the central, southern, and western areas is characterised by plains, rolling hills (reaching c.500m asl), and valleys, while outcrops of higher mountains are found in the north (Fig. 3.2. Leighton 1999, 4). The location of the island near the boundary between the Eurasian and African tectonic plates means this region frequently witnesses seismic activity. Although most events are small enough that they are barely noticeable, Sicily has been known to suffer from major earthquakes in the past: in 1905 and 1908 earthquakes measuring over 7 on the Richter Scale devastated the island (data available at earthquaketrack.com), while there is historical evidence for similar sizes events from earlier periods. Mt Etna has been active at varying degrees of intensity over a long period of time, sending lava streams down its flanks during eruptions with the potential to

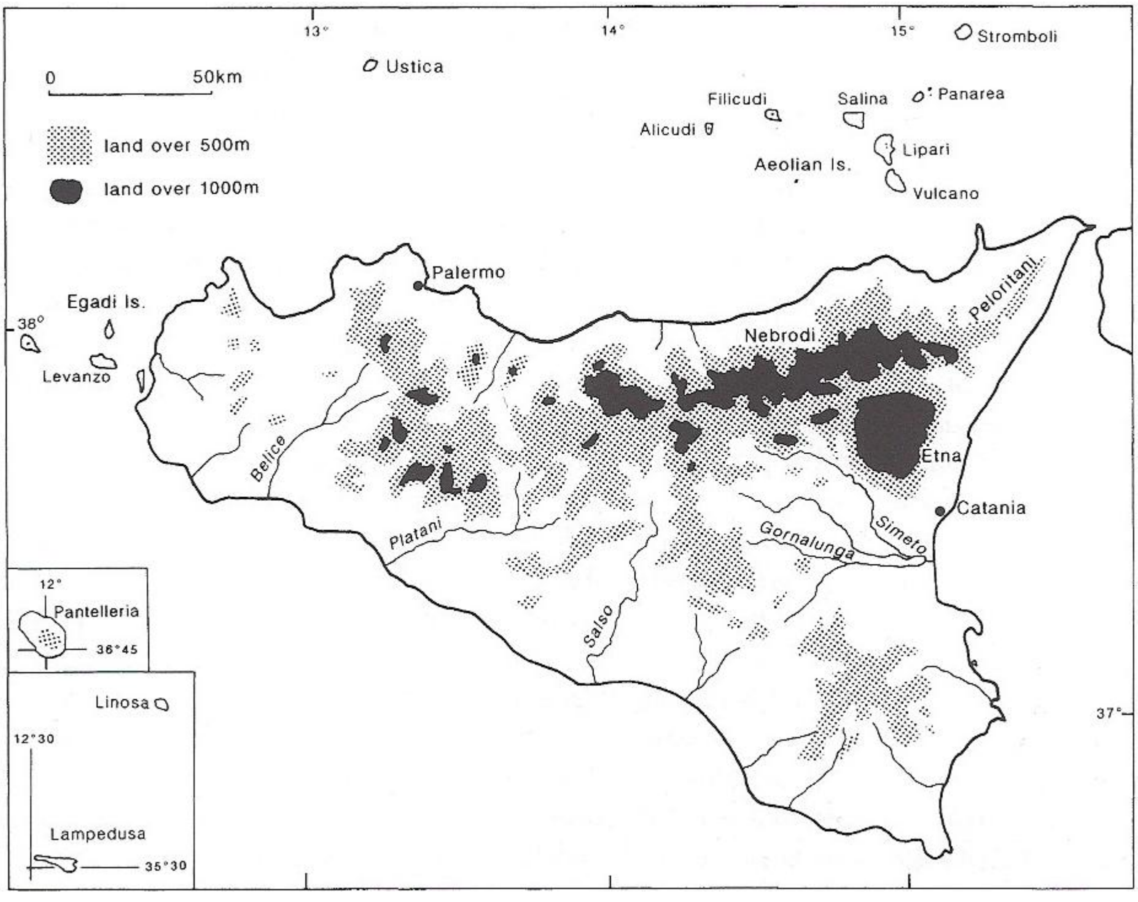

Fig. 3.2 Map detailing the land elevation and principal rivers of Sicily (Leighton 1999, fig. 1, 3).

reach settlements on the upper slopes (Branca and Del Carlo 2004), while tephra have been found in Sicilian lake deposits (Sadori and Narcisi 2001, 659–660).

Since c.2400 BC the climate of the Mediterranean has remained relatively stable (there is evidence for some fluctuation; see Sadori et al. 2016; 2013, 1980–1981) with arid, dry summers occasionally punctuated with thunderstorms, followed by a cooler rainy season through autumn and into winter, and in some regions stretching on into early spring (Hemple 1990). Prior to c.2400 BC it appears that the climate shifted between more humid and arid phases (Agnesi et al. 1997, 53), but to what extent this occurred in Sicily is difficult to reconstruct due to the poor nature of pollen survival on the island (although recent studies of lake deposits are beginning to provide regional pictures; e.g. Calò et al. 2012). The relatively stable nature of the Mediterranean climate over recent millennia means that it is possible to utilise historical climatic and meteorological records when compiling an approximate overview of the likely environmental conditions within which our archaeological houses were built. Sicily, with its varied landscape, witnesses a range of weather and climate patterns. The exact temperatures reached and the amount of precipitation varies with the terrain — average annual rainfall sits around 735mm, but the northern slopes of the Sicilian Appennines can witness up to 1300mm per year, while the peak of Mt Etna receives up to 2000mm (Agnesi et al. 1997, 45–46). It is not unheard of for the higher peaks to receive this as snow in the winter. The coastal regions, in contrast, can stay relatively mild throughout winter (weather stations along the southern coast record average temperatures between 5°C and 15°C from December to February; Calò et al. 2012 after Osservatorio delle Acque, della Regione Siciliana), but the whole island experiences high temperatures during the summer months, in places exceeding 42°C (Agnesi et al. 1997, 46).

That many areas do receive appreciable quantities of precipitation means that Sicily is crisscrossed by rivers (Agnesi et al. 1997, 43–45). While some of these are present and flowing all year round, including the Salso, Belice, and Gornalunga depicted in Fig. 3.2, many are seasonal, fed by winter rains and spring melt water, and running dry or at a greatly reduced capacity through the more arid summer. Scattered across the island are also found springs, both year-round and seasonal, providing pockets of water-rich land and feeding the rivers and their tributaries. While there are still swathes of the island that do not have a regular water supply beyond the seasonal rains, the presence of these rivers, springs, and occasional lakes means that the view of Sicily covered by arid grasslands cultivated by the modern-day landscape can be misleading: mixed oak woodland with ash, beech, pine, hazel, and wild olive (Calò et al. 2012; Costantini 1989; Sadori and Narcisi 2001; Sadori et al.

2013) likely filled the valleys. Even today after years of deforestation and agriculture there are areas that are remarkably green, river valleys are still lined by reeds, and the fertile volcanic soils of Mt Etna provide an excellent basis for the growth of a wide variety of flora, both natural and cultivated, adapted to the varying landscapes and bio-climates of the island (Brullo et al. 1995; 1996).

That Sicily was likely more forested than we find it today suggests that timber, including trees such as the oak, ash, and beech mentioned above, would have been available for building purposes. Reeds and grasses useful for thatching would also have been widely accessible (for example the common reeds found surrounding Lago di Pergusa; Termine and Sadori 2005; Calvo et al. 1995). Geological survey has shown that stone types suitable for construction, especially limestone, were present in many areas, as was clay, another potentially important building material (Agnesi et al. 1997). These material resources were, if not readily available, present and accessible in most parts of Sicily. Therefore it is timber and other plant materials, clay, and stone that we can expect to find being utilised in the construction of domestic architecture. The structural properties of these materials, and the technologies and methods required for building with them, would have influenced house construction.

In Sicily the local climatic and environmental conditions meant buildings had to withstand rainfall, which at times could be very heavy, and provide as thermally stable an environment as possible in the face of hot summers and cooler winters. Evans (2003, 88) has shown that human thermal comfort zones typically range between 18°C and 28°C. Although we cannot assume that this was exactly the case for ancient Sicilians, it is a much narrower range than is seen in the temperatures experienced on Sicily and so it is likely that some form of climate control would have been built into their houses. Likewise, the local terrain would have to be taken into account. Flat areas, such as coastal plateaus, allowed for the erection of buildings without much initial ground preparation, but the slopes, sometimes relatively steep, that characterise much of inland and north Sicily necessitated a more complex approach that could involve terracing to provide a level base to build upon. The nature of the local geology — was the ground sandy, clayey, liable to flooding or saturation? — would also have affected the design and construction choices made during the building process. Altogether these factors form some of the major physical parameters that may have shaped domestic architecture on Sicily.

The human story

Our knowledge regarding the history of Sicily is based upon two principal sources: archaeological material, and literary and epigraphic texts — the latter only available for the later periods of the study, with most dating from the 6th century BC onwards, the former including cemeteries, caves, sanctuaries, and settlements. A brief historical and archaeological chronology of the human occupation of Sicily within the wider Mediterranean context is given in Table 3.1, while Fig. 3.3 shows the locations and dates of the sites with examples of domestic architecture discussed in this thesis.

Its location in the centre of the Mediterranean, within reach of both the Italian mainland and the North African coast, means that Sicily has long been a point where different peoples met, and settled. Leighton claims that ‘there was probably no period in prehistory during which the island was out of touch with surrounding regions and when at least small groups of people did not arrive from contiguous areas and sometimes from more distant parts’ (1999, 6).

The earliest confirmed evidence for the presence of humans on Sicily comes in the form of stone tools, faunal assemblages showing evidence of butchering, and occasional cave art dated to the Upper Palaeolithic (Leighton 1999, 22–24). But it is not until the Neolithic, towards the end of the 6th millennium BC, that we start to find remains of domestic architecture. This does not mean that prior to this the inhabitants of Sicily did not build houses, but rather reflects the fact that older settlements, particularly if made from perishable materials such as wood, are less likely to survive in the archaeological record. For this reason this study begins in the Neolithic period. This is a time of cultural development following the adoption of an agricultural lifestyle. Communities formed territories centred on permanent settlements that interacted and exchanged goods and ideas with links developing, as evident in shared material culture and the movement of goods such as obsidian and stone axes, between the Aeolian islands, Malta, southern Italy, and Tunisia (Nicoletti 1997; Leighton 1992). There is little evidence for social hierarchies and inequalities; the remains of Neolithic sites of scattered homesteads and later larger agglomerations (often with surrounding ditches) suggest a collective culture of ‘tribal’ groups without internal differences in wealth (Leighton 1999, 57).

The Copper Age, with characteristics of ‘local originality, diversity, and a propensity for innovation’ can be seen as a period of development and change between the Late Neolithic and the Early Bronze Age in which a ‘more articulated social order’ and ‘status concerns’ emerged (Leighton 1999, 88). This can be said to be reflected in the development

Date	**Period**	**Sicily**	**Archaeological Sites included in study**	**Elsewhere in the Mediterranean**
6000 BC	Neolithic	Evidence for exchange within the Central Mediterranean.	Mandria Piano Vento Rinicedda, Salina	Widespread formation of farming societies.
3500 BC	Copper Age	Evidence for continued links with the surrounding regions. Propensity for local diversity.	Casa Sollima Piano Vento Rinollo Hill Serro Brigadier, Salina Tornambé	'Beaker' phenomenon widespread in northern and central Europe. Beginning of Pre-Palatial in the Aegean.
2500 BC	Early Bronze Age	Inter-regional exchange. Castelluccio and Capo Graziano cultures.	Branco Grande Case Bastione Capo Graziano, Filicudi La Muculufa Lipari Manfria Monte Racello Mursia, Pantelleria Piano del Porto, Filicudi Santi Croci Tornambé	Proto-Palatial period and later Minoan palaces.
1500 BC	Middle Bronze Age	Evidence for links with the Aegean. Thapsos and Milazzese cultures.	Cannatello Faraglioni, Ustica Madre Chiesa di Gaffe Milazzo Monte Castellazzo Mursia, Pantelleria Punta Milazzese, Panarea Thapsos	Mycenaean palaces.
1200 BC	Late Bronze Age	Continuity into the early part of the period. Pantalica culture.	Lipari Portella, Salina Sabucina Thapsos	Collapse of the Mycenaean palaces c.1200 BC.

900 BC	Early Iron Age	Links with southern Italy and the eastern Mediterranean. Regional variation. Foundation of Greek settlements, primarily in the eastern part of the island.	Megara Hyblaea Monte San Mauro Morgantina Naxos Sabucina Syracuse	Emergence of proto-Greek societies and the beginning of the Greek settlement of regions outside of the Aegean. Emergence of proto-Etruscan and -Latin cultures.
700 BC	Archaic	Foundation of further Greek settlements. Foundation of Phoenician settlements, primarily in the western part of the island.	Agrigento Himera Megara Hyblaea Mendolito Monte Iudica Monte Polizzo Monte San Mauro Naxos Selinunte	Development of the Greek *polis*. Expansion of Phoenician influence and settlement in the western Mediterranean. Development of the Italic city-states.
480 BC	Classical	Dominance of the tyrants of Syracuse and Gela. Phoenician presence in the west.	Gela Himera Morgantina Naxos Selinunte	Persian invasions of Greece. Dominance of Athens. Peloponnesian War.
320 BC	Hellenistic	Continuance of the power of the tyrants in the eastern and southern region of Sicily and Phoenician power in the west. Towards the end of the period beginning to feel the influence of Rome.	Herakleia Minoa Megara Hyblaea Monte Iato Morgantina Solunto	Emergence of the Hellenistic kingdoms following the death of Alexander the Great in 323 BC. Expansion of Rome and Roman influence.

Table 3.1 Timeline showing the wider context of, and settlements included in, this study of Sicilian domestic architecture (calendar dates are approximate with transitions between periods likely occurring at different rates across the Mediterranean).

Fig. 3.3 Map of sites with examples of domestic architecture included in this study (after Regione_Siciliana_map-blank).

of more elaborate funerary rituals and chamber tombs (which may have reinforced ancestral lineages) across the western Mediterranean (Leighton 1999, 89–90, 97–99); a link also seen in the arrival of Bell Beakers, and potentially peoples, from the European mainland in Sicily, particularly the north-western regions, during the Late Copper Age (Tusa 1996). Greece and the Aegean are entering the Pre-Palatial period with the increasing social complexity and emergence of small-scale chiefdoms entailed in this (Pullen 2008, 24–30).

The Bronze Age (divided into Early, Middle, and Late) witnesses a degree of centralisation, social stratification, and craft specialisation, including an increase in the range of metal products found (Procelli 1996) and the adoption of the wheel for pottery production (Leighton 1999, 174). However, this is on a much smaller scale than the institutionalised hierarchies, centralised power, and controlled craft specialisation seen in the Proto-Palatial and Palatial Minoan and Mycenaean cultures of the eastern Mediterranean (see Shelmerdine 2008). The inhabitants of Bronze Age Sicily did have contact with these societies: Middle Helladic and Late Helladic I pottery dating to the second quarter of the 2nd millennium BC has been found at Monte Grande, while imports from the later Helladic periods, including metal and ornamental items, and imitations of such goods, have been found at further Sicilian sites (Castellana 1997; Bernabò Brea and Cavalier 1991b, 210–215; Jones and Vagnetti 1991). The expansion of the central Mediterranean inter-regional network, of which Sicily, especially its eastern areas (Tusa 1994, 121), had long been a part, took place from the Early Bronze Age. Trading links and external contacts ‘stimulated the local economy, while encouraging the emergence of socially stratified communities’ which can be said to be reflected in the presence of settlements of varying size and complexity (Leighton 2000, 18), the variety of wealth displayed in burials such as those excavated at Pantalica (Leighton 1996; 1999, 147, 181–183), and the fact that 84% of the final contexts of Mycenaean ceramics in Sicily are funerary (Blake 2008, 12; Mederos Martín 1999, 253–255). Although it should be noted that the actual quantity of known imported Mycenaean vessels is not high (Blake 2008, 9–11), suggesting that contact was not necessarily direct nor as frequent as sometimes proposed. However, a concern for control of lines of communication and potential trade routes can be seen in the locating of Bronze Age settlements (Fig. 3.3) — coastal sites are often built on promontories near river mouths with easy access to the sea and frequently natural harbours. Inland sites, for which there is less evidence, appear to occupy defensible hill tops overlooking river valleys, thus dominating both the easiest routes through the mountainous interior and out to the coast and the most fertile agricultural lands (Leighton 2000, 26).

Around 1200 BC contact with the eastern Mediterranean declined following the collapse of the Mycenaean palatial system (see Deger-Jalkotzy 2008). As a result, during the Late Bronze Age and the beginning of the Early Iron Age, it is likely that Sicily's links focused more within the western Mediterranean, particularly with nearby southern Italy. It is possible that the more stratified social structure, supported by elite access to external sources of power, broke down with this shift. Indeed, communities appear less hierarchical, more diverse in structure and architecture, and more concerned with social roles based on age, gender, and skill in crafts than prestige goods and wealth-based social status (Procelli 1997, 513; Leighton 1999, 188–189). These traditions persisted throughout this period with settlement patterns suggesting a more decentralised world (Leighton 2000, 15, 18).

During the later part of the Early Iron Age, Sicilian society and culture yet again underwent a series of changes and developments. These are a part of wider developments within the Mediterranean, with one precipitating factor being the renewal of contacts with the eastern Mediterranean, in particular peoples from the developing Greek *poleis* of the Aegean (Hodos 2006, 3–4). Towards the end of the 9th century BC communities on the Greek mainland show an increase in order and regulation, both in settlement and cemetery organisation and in the networks between different regions. By the end of the 8th century BC these communities were growing in size and complexity, and starting to re-emerge on the Mediterranean stage; Pithekoussai, an island near the Bay of Naples, is thus far the earliest known Greek settlement in the west, dating to the first half of the 8th century BC (Osborne 1996, 51, 70–136).

According to the Athenian historian Thucydides (6.3–7) the first Hellenic (Greek) settlement in Sicily was Naxos, founded by Chalkidians from the island of Euboea shortly before 733 BC (Osborne 1996, 121). This date, and that for the other settlements described by the author, is calculated on the basis of Thucydides' temporal references to other events for which we have a known calendar date. This, combined with the fact that he was writing around three hundred years after the events concerned and was himself relying on other sources and folk traditions, means that the dates given for the foundation of the Sicilian Greek settlements are far from set in stone. In fact, if we follow Eusebius (another Greek author) the foundation of Naxos moves forward to 737 BC. Despite the discrepancies in the written sources regarding a precise date, the archaeological record does support the presence of a settlement at Naxos from the 3rd quarter of the 8th century BC (Osborne 1996, 121), exactly the period in which both Thucydides and Eusebius place it. Syracuse was supposedly founded shortly after Naxos, with Megara Hyblaea also inhabited before the end of the century, although it is difficult to confirm this ordering; all three have produced materials confirming a late 8th century occupation date. These earliest Greek settlements are on the eastern coast of Sicily, that first encountered when travelling from the Aegean, and featured safe harbours, arable land, and access both inland and to the shipping routes passing through the Straits of Messina (Hodos 2006, 89). But contact between Sicily and the Early Iron Age civilisations of the eastern Mediterranean did not begin with these new foundations; evidence for trade and exchange can be traced from the first half of the 8th century BC in the form of imported pottery (Procelli 1997, 515–518). At a similar time, or perhaps slightly later, Phoenicians, likely arriving from the coast of North Africa as well as the eastern Mediterranean, started settling the western part of the island, the earliest evidence coming from Motya and dating to c.720–710 BC (Falsone 1988).

We should not think of the Early Iron Age as a period where external influences begin to dominate and alter the local populations of Sicily and their cultures, but rather as the beginning of a period characterised by exchange, and interaction and reaction. Across the island, and in particular the coastal regions where the first Greek and Phoenician settlements were founded, new interrelations and the exchange of goods and ideas were taking place. Further inland, Sicilian communities continuously occupied many sites throughout this period, typically positioned along river valleys with their easy communication routes (Hodos 2006, 99). How friendly interactions were must have varied, and indeed their extent is often difficult to determine from the archaeological record. It is possible that local and ‘Greek’ peoples lived side-by-side in some settlements (Procelli 1997, 518–519), while others may have had little direct contact. The parties involved were certainly required to redefine their positions and identities in relation to the new contacts, experiences, and myriad levels of interaction, exchange, and re-workings of social constructs, ideals, and roles brought about within an active ‘colonial’ environment (van Dommelen 1997). It is likely that this wider historical context influenced the development of the settlements and cultures of both the indigenous and ‘Greek’ peoples on Sicily, and even those back in the ‘Greek’ homeland (Hodos 2006, 17). It can be suggested that the redefinition of identity, role, and status taking place in the Early Iron Age influenced, and perhaps actively encouraged, the increase in social stratification and specialisation, and therefore inequalities, entangled in the emergence of the *polis*, the city state, that would come to dominate much of the Mediterranean, including Sicily, in the following centuries. This is evident in the development of increasingly urbanised settlements, the introduction of coinage, within the literary sources[1], and indeed the adoption of writing itself. These developments did not occur uniformly across the island, but piecemeal as different settlements adopted, adapted, and reacted in different ways to the unique circumstances surrounding their own place within the wider developments occurring (Hodos 2006, 112). Indeed it has been shown that developments in architecture, settlement structure, funerary practices, and material culture associated with 'colonial' interactions in Sicily occurred later at settlements further inland, such as Morgantina, than in coastal regions (Leighton 2000). The Early Iron Age is therefore a dynamic transition period on Sicily between two very different social structures, concepts, and collections of material culture — houses included.

During the Archaic period, from the 7th century to c.480 BC, the changes and developments seen in the Early Iron Age are compounded and expanded with settlements beginning to exhibit the urban characteristics we associate with those of the Classical and Hellenistic Mediterranean. Further new foundations emerge across Sicily, some (including Gela, Selinunte, and Himera) the endeavour of the older 'Greek' settlements (Eusebius; Thucydides 6.2–5; corroborated by archaeological evidence, Osborne 1996, 121), thus spreading the network of close interaction and exchange further across the island (Antonaccio 1997, 170–171). The development of what we today recognise as the 'town' was taking place: settlements were becoming increasingly formalised with public and residential areas, and spaces for religious and funerary rites and activities, beginning to be marked out (Whitley 2001, 174). This is a new phenomenon in Sicily, one that corresponds to similar developments taking place across the Mediterranean and can be seen to reflect increasing divisions between activities, and statuses, and the desire to categorise and control these. This is further displayed in the adoption and recording of formal governing systems and laws such as that concerning the office of *kosmos* from the temple of Apollo at Dreros on Crete dating to c.650 BC, and hence considered to be one of the earliest inscribed laws to survive from the 'Greek' world (Hall 2007, 135; Whitley 2001, 188–189; ML 2/Fornara 11).

The urbanisation and formalisation of settlements and architectural structures that began in the Archaic period is accentuated during the Classical, c.480 to 350 BC. Many settlements, gaining increasing levels of wealth through the agricultural exploitation of Sicily's fertile interior and river valleys and the adoption of a market based economy

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[1] Including Thucydides and Herodotus who both discuss systems of governance and mention the presence of various clearly defined social statuses by the end of the Archaic period, e.g. the citizens, free country-folk, and helots (slaves of the state) of Sparta (Her. 6.58).

facilitated by the introduction of coinage in the late Archaic (Westgate 2015, 78), undertook re-developments of the urban landscape. Irregular Archaic town plans were enhanced or even overlain with regular grid systems, further mediating and structuring the use of space. This wealth attracted peoples from all over the Mediterranean creating, in the larger cities at least, a fluid, multi-ethnic society (Hornblower 1991, 54). But wealth is rarely equally distributed and the Classical period is no exception: it witnessed huge leaps in social inequality with divisions based not only on wealth, but also gender, age, occupation, and status — whether you were a citizen, free, or slave (for a discussion of social differentiation in the city and house see Westgate 2007a, 234–235; 2015, 81, 86–89). It is through these factors that an individual would have identified themselves and known their place in wider society. The Classical is also an era of tyrants (although other forms of governance were found, from monarchies to oligarchies, and an experiment in Athens called democracy) and their internal and external conflicts, both with other populations on Sicily and overseas powers including Carthage and Athens.[2] Large scale building projects were carried out by ruling powers — many of the iconic buildings of Sicily, including the temples at Agrigento, date to this period. As well as the famous theatres and temples, bath complexes and gymnasia were constructed; public fountains, council buildings, workshops, and granaries surrounded the agora, the heart of the town. These are seen as hallmarks of the Classical city (Whitley 2001, 319) and show that these settlements were, for the most part, cohesive bodies with the social structure, wealth, and labour force to undertake not only these public building projects, but also in many cases an active economic and political role beyond their territories.

Hellenistic Sicily was firmly integrated in the wider Mediterranean world; its position as the step between Africa and Europe meant it continued to be as busy and multi-cultural as ever, if not more so. These diverse links, yet geographical independence, caused the island to forge ‘its own distinct identity with its own idiosyncrasies and regional differences’ (Wilson 2013, 79 after Braudel 1972). The east was dominated by the kingdom of Hieron II centred on Syracuse. His long reign (from c. 270 to 215 BC) saw a period of remarkable peace and prosperity (and extensive building projects including the large Syracusan theatre and the Great Altar of Hieron; Wilson 2013, 80). The Punic influence of Carthage dominated the west, which by the second half of the 3rd century BC was embroiled in the Punic Wars with Rome which by their end would lead to the incorporation of the entire island into the Roman sphere. Despite these wars and the allying of Syracuse with Rome, the Hellenistic period in

[2] As reported by a number of ancient authors including Diodorus and Thucydides.

Sicily, particularly in the east, generally saw a flowering of architectural and decorative arts best displayed in the monumental architecture of Syracuse and the extensive houses of the wealthy at sites like Morgantina with their columns, fountains, and mosaics. For the less fortunate settlements caught up in the Punic Wars, the end of the Hellenistic period saw urban decline: part of Agrigento's population was sold into slavery, the settlement taking until the first quarter of the 2nd century BC to return to its former prosperity (Polybius. 1.19.14–15; Diodorus Sic. 23.9.1). This was a clearly stratified society with status displayed through wealth, occupation, and political standing and social position, acting not just at the level of the individual or household, but also at that of the city-state.

Sicily, from the Neolithic up until the Hellenistic period, houses a dynamic and changing human landscape: from relatively egalitarian societies living in small interacting communities, through increasing socio-economic links, specialisation, and stratification, to urbanised settlements and communities with complex social hierarchies, inequalities, identities, and economic and political systems. It is within this wider historical context that the houses explored within this thesis were constructed and lived in.

Methodology

In order to explore and develop a greater understanding of the relationship and interactions between physical and socio-cultural parameters in the construction of domestic architecture and building traditions, it is necessary to interrogate a number of factors, from materials to spatial organisation, and how they all fit together. As this means dealing with large quantities and a wide range of data, it is particularly important to follow a clear methodology for its collection, analysis, and presentation. This is outlined below, detailing the terminology used, the criteria for site selection and how data were collected and recorded, any potential limitations and considerations taken into account when working with this data, and the series of analyses carried out so as to be able to best answer the research questions.

Terminology

As was seen in the case of the *pastas* and *prostas*, the terminology used in relation to domestic architecture can cause confusion if not used consistently or clearly defined. While I cannot ensure that every study concerning houses uses the same terms in the same way, I can ensure that the way I use architectural and house-based terminology is clearly defined. In general I avoid using labels drawn from ancient sources, such as *pastas*, *prostas*, and *oikos*, and instead describe architectural features, noting similarities to those in other houses where they occur and grouping such together on the basis of these defined features where useful. It is not only labels and terminology taken from ancient sources that have to be carefully used and clearly defined, but also those that at first appear much more familiar: house and household, terms encountered repeatedly throughout this thesis.

A house is a physical structure within and around which the daily activities of life (sleeping, reproducing, small-scale storage, preparation and consumption of food, household crafts etc.) take place, where individuals base themselves and ‘live’. While this may appear straightforward, the term house can be ambiguous — does it simply mean the building, or does it include any ancillary structures and outdoor spaces that could be associated with it (Spence 2015, 85)? For the purposes of this study and clarity in relation to the archaeological record, I define the ‘house’ as the physical building itself and anything within its built space. This means a garden or enclosure within which a building is situated would not be a part of the house, but a part of the wider ‘domestic area’ linked to it. A courtyard, however, being incorporated into the building, would be considered a part of the house. The nature of the archaeological record in Sicily (and indeed archaeological sites in general), means often there is only limited evidence for the activities that took place within ancient buildings. It is possible that different sized structures within a single settlement had different uses (as suggested by Doonan at Manfria; 2001, 169). Therefore, this project archaeologically defines a ‘house’ as a building for which there is no evidence for specialisation of function that would remove it from the domestic sphere of activities and use: for example, excavation revealing evidence for metal-working though the presence of slag, furnaces, moulds, and other tools and materials associated with this activity, but not day-to-day domestic life such as ceramics linked to food preparation and consumption.

‘Household’, following Spence (2015, 85), is here defined as a group of people, biologically related or not, residing in the same house. These are the inhabitants of the building.

Site Selection and Data Collection

Some 40 sites are included in this study, the locations and dates of which can be seen in Fig. 3.3 and Table 3.1 above. This is far from an exhaustive list of archaeological sites featuring domestic architecture on Sicily and its surrounding islands, but due to wide variations in the standards of excavation, publication, and preservation it has been necessary to produce a set of criteria for inclusion. Sites must feature at least one house which must be datable through ceramic chronologies, scientific dating (e.g. radiocarbon), or historical sources, ideally corroborated by a second of these methods. At least the foundations of the building must be preserved so that the general form, layout, and orientation can be determined. For houses selected for closer analysis it is essential that scale plans are available or can be produced, with information regarding construction materials and techniques accessible to allow a hypothesis of the original form and construction of the building to be proposed. In addition it is useful if information is available on local environmental conditions, occupation history, and overall settlement structure and the location of individual houses within it. All of this information and data must have been well published or obtainable during fieldwork visits to the site.

At the desk and in the field

Data collection fell into two categories: that carried out at a desk, obtaining information from books, articles, and reports concerning excavations of domestic architecture at Sicilian sites; and that carried out on site, looking at the houses themselves. As a starting point were used texts focusing upon Sicilian and domestic archaeology from which further texts, journal articles, and excavation reports were found. In addition searches were carried out in libraries and various online journal databases in order to provide further and more recent information and archaeological plans and scale drawings. Altogether this allowed for the assembly of a list of sites and houses to be more closely studied during this project.

Once this overview of the available information had been obtained it was possible to create a series of spreadsheets into which the data necessary for the analyses detailed below could be collated. The first spreadsheet, ‘Houses’, contains general details of the houses including size, form, construction materials and methods, and architectural details. The second spreadsheet, ‘Individual Dimensions’, records specific dimensions of the spaces, doorways, and windows that making up individual houses. Placing this information in a separate spreadsheet enables this technical data to be more easily accessible and readily extracted for closer examination. These spreadsheets and the assembled data can be seen in their entirety in Appendix I. A list of the observations recorded is displayed in Table 3.2. It should be noted that for each house not all the information is always available — where this is the case the cell is left blank. For some sites detailed data about individual houses is not available, typically due to being unpublished or unrecorded. In these cases general information regarding the domestic architecture of the site as a whole is entered under the settlement and specification of ‘General’, so that despite the absence of building-specific data, site-wide comparisons can be made and the overall picture and patterns expanded.

Houses	Individual Dimensions
House Name/No. Site Date Location/Situation within site Form Orientation — Absolute Orientation — Relative Total Size No. of Internal Spaces Materials — Walls Materials — Floors Materials — Roof Construction — Walls Construction — Floors Construction — Roof Hearth (yes/no, where) Storage (what/where) Other Built-In Features (what/where) Other Finds (what/where)	House Name/No. Site Date Total Size No. of Internal Spaces Dimensions of Internal Spaces Dimensions of Courtyard/s Width of Doorways Dimensions of Windows

Table 3.2 List of headings for the observations recorded during data collection.

Where houses do not have individual measurements available, or the ground plan is not well enough preserved to enable this data to be obtained, they are not included in the 'Individual Dimensions' spreadsheet. Where a question mark (?) is given next to a particular piece of data this indicates that its category or measurement is uncertain and may have to be revised at a later date should more information become available.

Once information collected from written sources had been inputted into the spreadsheets it was possible to detect any gaps in the dataset and use these as indicators for elements to target during fieldwork visits to sites. Even where settlements and their houses are well published, for example Morgantina and Megara Hyblaea, fieldwork visits were carried out where possible to corroborate the publications, pick up any further details or unpublished houses, and gain a better understanding of the place of the houses within the wider settlement, and the settlement within the wider landscape. General observations were made, as well as comments on historical and geographical context, taken both from personal observations and information available at the site. For each house data were recorded concerning construction materials and methods, architectural features, finds and decoration, and any other potentially relevant information following the standardisations set out for the spreadsheets below. Where plans were available these were photographed, while sketches were made to help elucidate notes. Photographs were taken of all houses and any other structures, as well as the surrounding landscape in order to provide a visual record, with each image file, its orientation, and what it showed being recorded.

Spreadsheet specifics

Each of the observations recorded in both spreadsheets were collected following the specifications described here.

The ‘Houses’ spreadsheet begins with ‘House Name/No.’. This is the name or identification number given to the structure by the excavators or, where no formal identification is given or known, my own designation (typically the site name plus a number). These are maintained consistently throughout the study to avoid any confusion and allow for the ease of referral. Alongside this is the heading of ‘Site’, wherein is given the name of the site at which this particular structure was excavated. Where the site is known by two names, both are given. The final heading in terms of general identification is that of ‘Date’. The date categories are divided into periods: Neolithic, Copper Age, Early Bronze Age, Middle Bronze Age, Late Bronze Age, Early Iron Age, Archaic, Classical, and Hellenistic (the calendar divisions for these can be found in Table 3.1). For some sites closer dating is possible allowing dates to be given in terms of centuries (e.g. 6th century BC), or even specific ranges such as 250–150 BC. In general I have tried to give the most precise, but reliable (corroborated by as many factors as possible: e.g. radiocarbon dating and ceramic typologies), date available for each domestic structure, although this does mean that some buildings are more precisely dated than others.

The next heading is ‘Location/Situation Within Site’. Here is given a concise description of the location and situation of the building both within the settlement and the local geography. The settlement-based information includes where within the site the house is located and its relationship to other structures in the vicinity — is it a part of the cluster, isolated, or within a defined ‘town-plan’? Where specific excavation areas are known these are given to further aid the locating of the building on maps and plans. Geographical details highlight elements such as altitude and topography that may have affected the construction of the house. This information is gathered from excavations reports, articles, maps, and on-site observations.

‘Form’ is defined in this study as the physical shape taken by the structure. The categories are displayed in Fig. 3.4 and are as follows. The *circular* form is close to a perfect circle, although a degree of deviation is allowed. *Oval* is more elongated in shape so that its length is greater than its width. The *elliptical* form is also elongated but more egg-shaped than *oval*, the width at one end being narrower than the other. *Extended circle* features two parallel walls joined by semicircular walls. The *apsidal* form consists of two parallel walls joined by a semicircular one at one end and a straight wall or opening at the other. The term

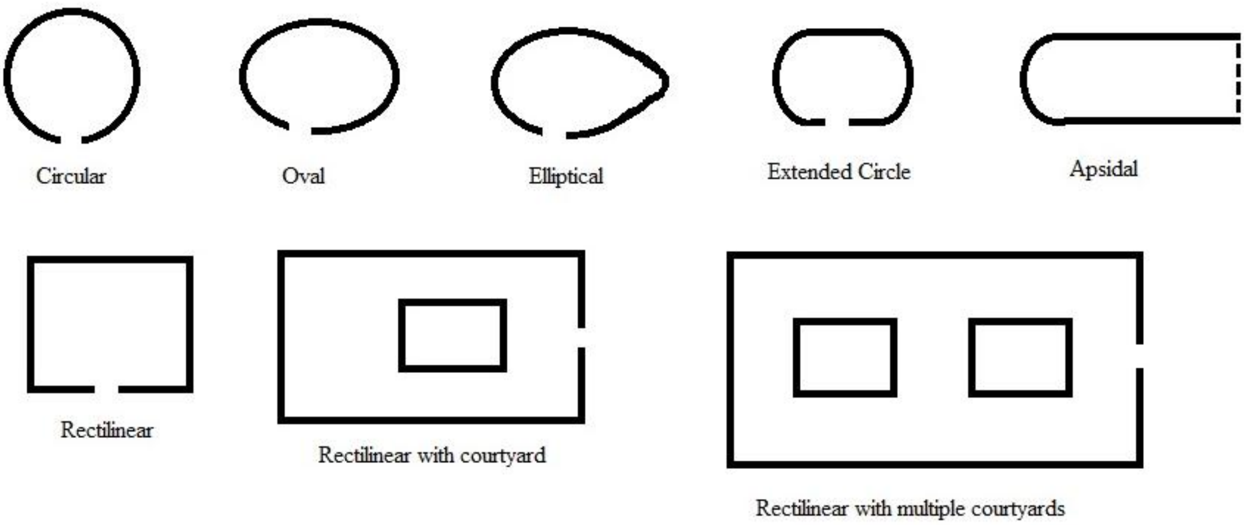

Fig. 3.4 The variety of basic forms taken by domestic architecture on Sicily. Some houses had multiple entrances, thus indicating differing spatial organisation, but here one is shown for simplicity.

rectilinear is used for any polygonal shape with straight walls joining at corners regardless of the exact shape (square, rectangular, trapezoidal etc.). *Rectilinear with courtyard* refers to buildings of the rectilinear form with the incorporation of an un-roofed space within its walls. Likewise *rectilinear with multiple courtyards* houses include more than one un-roofed space. In addition to these descriptions are added further details of form: *with enclosure* (a demarked area within which the house is situated), *with annex* (and shape of annex if known), and individual space/s with separate access. For the courtyards further information is given if available concerning their position and shape if not rectangular. It is also noted if the structure has more than one external entrance. Where the building is only partially preserved or excavated this is recorded and a suggestion for the complete form given based upon the surviving plan.

The next two headings concern the orientation of the house. 'Orientation — absolute' is given in points of the compass. The positions of the entrance/s to the house, the courtyard (if present), and the main axis are recorded, as is the overall general orientation of the building should this be clear; for example, all of the rooms being situated to the north of a courtyard and opening to the south. For houses whose plans did not feature compass points orientation was recorded on site (where accessible) using a compass. 'Orientation — relative' describes the situation of the structure in relation to the local topography and surrounding settlement features. This includes where the main entrance of the house leads onto, perhaps a main thoroughfare or particular street, and the position of the house, or not, within an enclosure or *insula* and in relation to adjacent structures. If the local topography is not flat it is recorded whether the house is built with the slope, running parallel to it or not, and whether the entrance is facing into or away from the gradient.

'Total Size' gives the overall dimensions of the building. For rectilinear structures this is recorded as 'length x width' in meters to two decimal places — the format for all of the measurements included in the database. For rounded structures the total size is often given as a measurement of the building's diameter, although in a few examples, particularly those of elliptical, apsidal, and extended circle forms, a 'length x width' measurement was found to be more useful. Where a house is situated within a demarked enclosure, and measurements are known, both the total size of the building and the enclosure are recorded. Some dimensions are those explicitly stated in archaeological reports and journal articles and corroborated by site visits wherever possible. Dimensions are, however, primarily taken from scale plans (those without scales were discarded unless it was possible to confirm their accuracy by taking recordings on site) by measuring from external wall to external wall to the nearest half millimeter then scaling the resulting figure up to full size in meters to two decimal places. While this provides data serviceable within the parameters of this investigation, as it was not possible to corroborate all measurements taken from plans and archaeological reports on site, a degree of inaccuracy is likely present in the figures calculated. Measurements taken on site, also external wall to external wall, were recorded to the nearest centimeter.

Alongside 'Total Size' is recorded 'No. of Internal Spaces'. Internal spaces are defined as those within the structural area of the building identified by an external wall. Where it is difficult to determine from the archaeological remains exactly how many spaces made up the house a range is given, often accompanied by a question mark to indicate that this is an approximation. Where a courtyard is present this is noted as the number plus courtyard. For example: 6 plus courtyard.

As well as 'Materials — Walls' there are two further materials headings for 'Floors' and 'Roof'. Within them are listed the materials found during archaeological excavation that were utilised in the construction of each of these elements of the building. This information is generally sourced from publications and expanded upon with observations taken during fieldwork. Thatched roofs are the exception to this as it is often the absence of roofing material that suggests thatch was used. 'Roof' also includes the structure that supported it if independent from the walls — post-holes indicating the use of timber posts and beams. In the 'Walls' section where stone is used a brief description of the type and the level of working is given — the latter is determined by the presence, or lack thereof, of evidence for shaping and can be divided as follows: un-worked, roughly shaped (evidence for working in for the form of tool cut marks), shaped (cut to leave angular faces and linear edges), ashlar (fully and regularly shaped). Here is also recorded the average width of the walls of the structure, although if there is a wide range the maximum and minimum are given. For 'Floors', if different materials were used in different spaces, where each is found is listed in brackets next to the floor type. Under the 'Construction' headings a brief description of how these materials are used is given: foundations, coursed (regular/irregular), superstructure, ground preparation, the laying of floors, the presence and size of post-holes etc. This section of the spreadsheet creates the opportunity to explore some of the basic technological aspects of house construction.

The final four headings in this spreadsheet allow the recording of other features and finds associated with the domestic environment. Under the 'Hearth' heading is recorded whether a hearth was identified during excavation, and if so the details of its positioning and construction, if known. 'Storage' includes any evidence for the storage of goods and materials within the house, from pits to *pithoi* and other vessels — these are not necessarily built-in features. The location is also given if known. The heading 'Other Built-In Features' allows for the recording of any further architectural features, including benches, cisterns, stair bases, decorative elements, columns/colonnades, and ovens, among others. Location, materials, and construction are also given. The final heading is 'Other Finds' and covers the movable objects found during excavation. These are listed along with their location, if known, and vary from millstones to cooking wares, stone tools to jewellery. Together these features and finds may help with the reconstruction of how certain spaces may have been used and allow us to develop an understanding of the kind of activities carried out.

The secondary spreadsheet, 'Individual Dimensions', was created for the express purpose of clearly and accessibly recording individual measurements and dimensions. The first five headings can also be found in the 'Houses' spreadsheet and detail the name or number of the building, the site it is from, its date, total size, and number of internal spaces. These serve to link the two spreadsheets and make it possible to examine this data without having to refer back to the 'Houses' spreadsheet. Under the heading 'Dimensions of Internal Spaces' are recorded the measurements of each of the spaces that make up the house. Being internal measurements, these are the floor area of the space not including the walls. Otherwise the process for recording measurements is the same as that given for 'Total Size'. For some examples of single-spaced houses this information was not available and so the known total size is recorded so that a representative spread of earlier houses is included in the analysis. Each measurement is labelled with the number assigned to the space on its archaeological plan. In ‘Dimensions of Courtyard/s’ are recorded both the size of the open area of any courtyards and the total size of a courtyard plus a colonnade or peristyle where these features are present. When more than one courtyard is incorporated into the building these are differentiated either by their assigned number, or their position (N/S/E/W etc.) within the house. ‘Width of Doorways’ are recorded alongside the spaces they link. In many cases the location of doorways were clear both on site and on scale plans due to a gap in the walls with linear edges, but where this was not the case the probable locations put forward by the excavators, corroborated by on-site examination where possible, were used. If a doorway still proves to be difficult to locate it is noted that this feature is unknown by a question mark (?). Where no doorway widths are known the cell is left empty. ‘Dimensions of Windows’, where present, are recorded both of the width and height, and the height the window is positioned above the floor, as well as the room in which it is found.

The sites

Table 3.3 gives an overview of the data collected and displayed in Tables 1 and 2, Appendix I. Each of the 40 sites has provided enough information regarding their domestic architecture to develop a general picture of the houses constructed there, if not one or more individual houses surviving and recorded in a complete enough state to allow a closer analysis. As can be seen in Fig. 3.3, these sites are scattered across Sicily and its surrounding islands, both on the coast and further inland, and date to all of the periods covered by this study. No single site features houses dating from every period, although many do contain houses from multiple periods. Others, while being occupied at that time, may not have had well-enough preserved domestic architectural remains to meet the site selection criteria. For example, houses dating from the Early Iron Age, Classical, and Hellenistic are included from Morgantina, but not the Archaic; despite the fact that excavation has revealed Archaic buildings (see Antonaccio 1997), domestic remains are not well-enough preserved from this period for the purposes of this study. A similar situation is found at Monte Iato where subsequent building activity means houses of the Archaic and Classical periods only survive in fragmentary form (Russenberger 2008, 13–15; Isler 2012, 118–119).

Site Name (*visited)	**Occupation Date/s**	**No. of Houses Included in Study**
Agrigento*	Archaic	2
Branco Grande	Early Bronze Age	1
Cannatello	Middle Bronze Age	3
Capo Graziano, Filicudi	Early Bronze Age	1
Casa Sollima	Copper Age	1
Case Bastione	Early Bronze Age	1
Faraglioni, Ustica	Middle Bronze Age	7
Gela*	Classical	3
Herakleia Minoa*	Classical	3
Himera*	Archaic Classical	1 7
La Muculufa	Early Bronze Age	5
Lipari	Early Bronze Age Middle Bronze Age Late Bronze Age	1 1 2
Madre Chiesa di Gaffe	Middle Bronze Age	1
Mandria	Neolithic	1
Manfria	Early Bronze Age	1
Megara Hyblaea*	Early Iron Age Archaic Hellenistic	2 5 4
Mendolito	Archaic	1
Milazzo	Middle Bronze Age	1
Monte Castellazzo	Middle Bronze Age Early Iron Age	1 1
Monte Iato*	Hellenistic	2
Monte Iudica	Archaic	1
Monte Polizzo	Archaic	1
Monte Racello	Early Bronze Age	1
Monte San Mauro	Early Iron Age Archaic	2 4
Morgantina*	Early Iron Age (Cittadella) Classical (Serra Orlando) Hellenistic (Serra Orlando)	4 1 6
Mursia, Pantelleria	Early Bronze Age Middle Bronze Age	2 1
Naxos*	Early Iron Age Archaic Classical	5 1 13
Piano del Porto, Filicudi	Early Bronze Age	1
Piano Vento	Neolithic Copper Age	1 1
Polizzello	Early Iron Age	1
Punta Milazzese, Panarea	Middle Bronze Age	2
Rinollo Hill	Copper Age	2
Sabucina	Late Bronze Age Early Iron Age	1 1
Salina	Neolithic Copper Age Late Bronze Age	1 1 1
Santi Croci	Early Bronze Age	3

Selinunte*	Archaic Classical	1 1
Solunto*	Classical Hellenistic	2 9
Syracuse*	Early Iron Age	2
Thapsos*	Middle Bronze Age Late Bronze Age	4 1
Tornambé	Copper Age Early Bronze Age	1 1

Table 3.3 Overview of the data (where houses have been listed as 'general' they have been counted as 1 house here).

Limitations and considerations

An examination of the data and the map of site locations (Fig. 3.3) reveals a number of potential gaps and limitations that it is useful to briefly explore and account for here. Firstly, it is clear that for many of the houses, with a few exceptions such as the Early Iron Age structures at Morgantina, there is little information on the exact location of excavated finds. This is primarily due to the recording techniques and priorities of the original excavators, many of whom were working in the earlier decades of the 20th century, if not before; many publications tended to be 'superficial', giving little evidence for stratigraphy or context (Doonan 2001, 161). While a list of finds from a house gives us an idea of the sorts of activities carried out in and around these spaces, without knowing what part of the building they came from, and taking into account depositional and post-depositional factors (see Morris 2005, 95–102, 117–122), it is almost impossible to start mapping out activity areas in the manner undertaken by Nevett at Olynthos (1999). This led me to the decision to not pursue an investigation of household objects, but instead to focus attention on the elements of domestic architecture for which there is more consistent information — form, layout and spatial organisation, materials, and construction techniques — using the available finds to add an extra layer of depth where they are well recorded.

Staying with excavation techniques and potentially absent information, it is possible that organic and soil-based features, in particular post-holes, were missed during excavation where methodologies and recording were less systematic and comprehensive. Unfortunately all that can be done in such cases is to take this into account when looking at plans and reading reports and note when it appears unlikely that a particular space could have been roofed without supporting posts.

The map of archaeological sites included in this study (Fig. 3.3) shows that their distribution across Sicily is not even. The largest concentration of sites is along the southern coast, particularly in its centre. Some are dotted along the eastern coast, with others spread across the interior, largely between Agrigento on the south central coast and Mount Etna to the northeast, with a handful to the west. The majority of the surrounding islands have also provided at least one site. There are, however, very few sites included from the northern and western coasts, nor the northern interior of the island. The latter region is mountainous and a lack of sites here may reflect both settlement patterns and the fact that such areas are less easily accessible and hence any archaeological sites less likely to be encountered and so investigated. It is worth noting though that surveys of the Troina and Messina regions have revealed no Neolithic sites at high altitudes (Robb 2007, 113; Cavalier 1971). While it is clear that different periods of Sicily's history likely did see variations in site density and distribution, which would influence the overall distribution patterns seen, it is still unlikely that so many areas were uninhabited for so much of it. Instead it must be considered that the distribution of archaeologically investigated sites is uneven: bias in excavation and site selection are the most probable cause of the major distribution differences seen here. For example, the south and south-eastern areas of the island were subject to relatively intensive survey and excavation by Orsi (based at the Syracuse Museum of Archaeology that now bears his name) in the late 19th and early 20th centuries.

There is probably also bias in the types of sites selected. Many early archaeologists were inspired by ancient texts and so set out looking for the settlements mentioned in them. As a result throughout much of the early 20th century there was a propensity to excavate sites, including Naxos, Syracuse, and Megara Hyblaea, referred to by authors such as Thucydides and Diodorus. This also means that many of the sites from the later periods are decidedly 'urban' rather than rural in character, being active enough in the politics and events of the wider Mediterranean to be deemed worth mentioning by ancient authors. It is perhaps unsurprising then that some of the best excavated sites from these periods are those that also feature large scale public buildings and temples like Agrigento, Selinunte, and Syracuse. This is particularly apparent in the Early Iron Age where many of the sites excavated from this period are the early 'Greek' settlements of the eastern coast rather than settlements further west or inland. The 'urban' sites also make extensive use of stone for city walls and public buildings, a material that survives much better than mud brick and wattle-and-daub (other common building materials) and so are simply more likely to be preserved and found than sites where stone was less utilised. This bias may also run into the type of houses published from these settlements — those that are larger and more richly decorated were often seen as of more interest to the public and so likely to garner future funds. It is possible then that the smallest houses from the later sites may not be fully published, or even identified as houses.

However, there are also long-running excavations carried out by universities and local archaeological services at sites such as Morgantina, Thapsos, Sabucina, Megara Hyblaea, and Monte Iato that have provided extensive evidence for domestic architecture, while continuing efforts are opening up the range of sites investigated.

Geographical distribution is not the only factor to take into consideration; the temporal distribution of sites is also uneven. This is due both to preservation and bias in site selection. Older settlements are statistically less likely to be preserved than those dating from later periods: they are often built over or destroyed by later settlements and agricultural activities, or, particularly if stone was not a primary building material, have been re-absorbed into the natural landscape, leaving little archaeological trace to be found. So there are far fewer sites included in this study from the Neolithic and Copper Age than there are from the Archaic, Classical, and Hellenistic in part because more later settlements have survived to be excavated. The other factor is selectivity on the part of past archaeologists. We have already seen that sites mentioned in ancient texts and those of an ‘urban’ nature gained more attention. These date to the Archaic period onwards and, due to their more densely populated nature, typically provide greater numbers of excavated houses per settlement than earlier sites. So it is that in this study there are included more houses suitable to closer analysis post-dating the Early Iron Age than pre-dating it, despite the fact that the latter covers a considerably longer period of time.

These limitations in the dataset do not mean that useful investigations of the domestic architecture of Sicily cannot be carried out; it is still possible to answer the questions required to explore the relationship between building and living in these houses. But these considerations must be born in mind during the analyses and when drawing conclusions, particularly in relation to the Early Iron Age and later periods where we are dealing in general with urban sites rather than rural, smaller scale settlements.

Analysis

As this investigation interrogates a number of aspects of domestic architecture, drawing upon the wide-ranging dataset outlined above and archaeological plans to create overviews of building traditions as a whole, it is necessary to carry out a series of analyses making use of several different approaches, from detailed investigations of the links between material, builder, and building, to structural overviews, comparative graphs, and access analysis.

Plans, graphs, and calculations

A picture of the wider developments and changes in Sicilian domestic building traditions is gained by arranging the data collected for each period concerning form and construction in timelines and tables (Fig. 4.1 and Table. 7.1). From these it is possible to exact patterns, trends, and correlations for further investigation. I begin by examining in detail the relationships between building materials, methods, and form so as to develop an understanding of the physical factors involved in constructing these houses — it is important to fully appreciate how different materials and technologies work architecturally before unpicking their interactions with socio-cultural factors. The buildings that characterise each period are described; their size, shape, and basic construction details. The materials used are compared to the methods utilised to construct with them and their corresponding structural properties, allowing for the determination of how the materials and technologies available to work them influenced the way they were used. This is further expanded by considering these correlations in relation to wider elements of the building; form and size, and environmental conditions including climate, resource availability, and topography. Changes seen in the materials and methods utilised, and the forms and sizes taken by the houses of Sicily are considered in relation to the wider historical context by comparing developments over time. The implications of these changes on the actively interacting socio-cultural and physical parameters provide a basis for further exploration.

Next I examine the internal makeup of the houses, exploring the relationships between size, number of internal spaces, and the sizes of individual spaces, and how these develop and change over time. This is completed by utilising the detailed measurements for total size and individual spaces recorded in the secondary spreadsheet (Table 2, Appendix I). From these are calculated the average and median total and individual space sizes for each period (the average to gain a comprehensively inclusive result and the median to provide more representative figures from a dataset including a handful of much larger than average houses), which are then presented graphically in order to track changes and trends within periods and over time: scatter and bar graphs allow the analysed data to be visually presented, compared, and interpreted.

Graphs are also used to analyse and display some of the finer details of relationships between house size and number of spaces, the area of courtyards and total house size, as well as the spatial nature of individual rooms. These graphs allow the extraction and description of patterns and relationships between these various factors: correlations between the total size of a house and the degree to which it is subdivided, between subdivision and the form taken by the building, and trends in the size of individual spaces alongside those of total house size and form. Once these relationships have been clearly identified and defined they are discussed in conjunction with the analyses of form and construction and what these suggest about the wider socio-cultural factors entailed and the practices, or *habitus*, entangled in these architectural spaces.

All of this information feeds into the final stage of analysis, of which the spatial organisation of the houses is the focus. This is where archaeological plans come to the fore. Plans, when viewed alongside the information gained from the preceding analyses, enable us to look at the house as a whole and take into account the relationships between spaces. In Chapter Two the possibility was raised that the contrasting nature of single-spaced and multiple-spaced houses would mean that it would not necessarily be possible to utilise the same means of spatial analysis for both. The state of the archaeological record in Sicily, with the exact location of finds often unrecorded, particularly in the later larger structures, has prompted the adoption of two differing approaches to the closer analysis of the spatial organisation of single- or two-spaced houses, and those made up of many discrete spaces. For the former, an approach like that taken by Parker Pearson and Richards (1994c, 41–47) in their analysis of the organisation and practices built into the houses at Skara Brae is utilised. The few examples of well excavated and recorded houses with find locations and built-in features (hearths, pits etc.) identified are selected for spatial analysis. The internal areas of the building are divided based upon finds assemblages and features associated with particular activities, such as food preparation and storage, allowing for the mapping of potential use patterns. This is done in conjunction with architectural features, including posts and changes in flooring, that can be seen to indicate spatial divides, in order to build up a picture of how space was likely organised and negotiated. It is important to consider how both the physical factors, such as the structural parameters revealed initially, as well as use, influenced the layout and organisation of the space.

In addition to the consideration of use patterns where finds recording allows, multiple-roomed structures have the scope to be further investigated through the creation and analysis of access maps. Access maps, following the approach refined for archaeological building examples by Grahame (2000), are created for nine houses dating from the Archaic to the Hellenistic period. A small circle with a cross through it demarks the exterior of the building, while circles represent each unit or space; rooms, corridors, courtyards. I further indicate un-roofed spaces with circles with dotted outlines. These are linked together by lines where the architecture permits permeability: doors, colonnades, etc. (Grahame 2000, 29).

Peristyles represent a perplexing architectural feature when it comes to access analysis; they are a single unified, bounded space that also contains a series of colonnades and an open area. In theory this means that they can either be depicted as multiple or single spaces within an access map. Following Grahame (2000, 41) who states that a peristyle influenced the flow of interaction (and movement) within a space rather than the access to that space itself, it has been decided for the purposes of this study to treat peristyles as single spaces when creating access maps.

To make the diagram clearer it is 'justified'. This involves selecting a root space, in this case the exterior, and arranging the remaining spaces in a hierarchy according to how many removes they are from the root space (Hillier and Hansen 1984, 106, 149). All of the spaces which can be directly accessed from the exterior form a row above the root, those that can be accessed from these spaces on the level above and so on. This gives a clear indication of the routes in and around a building, the general connectivity and position within the house of each space (Grahame 2000, 32), and ideas of how movement and access were controlled. An access map which features a large number of similar relations, typified by a 'star' or 'candelabra' arrangement, is said to be more *symmetrical* and, with fewer boundaries to be crossed in the negotiation of the built space, is generally more accessible. In this case control of access is 'non-distributed' as it is necessary to pass through a single space to access the others — movement is focused on a node. In contrast an *asymmetric* arrangement, in which more boundaries have to be crossed to reach the deepest spaces, typically takes a more linear arrangement and is therefore less accessible with a 'distributed' configuration in which each space exerts control over access to those adjoining it (Grahame 2000, 34, 44–45). Examples of both are shown in Fig. 3.5. Most buildings are made up of a combination of these spatial configurations, with one often more dominant that the other. Access maps are combined with the analysis of the architectural features, any finds and decoration, and the layout (from the original plans) to begin to piece together how the physical space may have related to the practices of those inhabiting it. This should enable us to bring out how notions such as

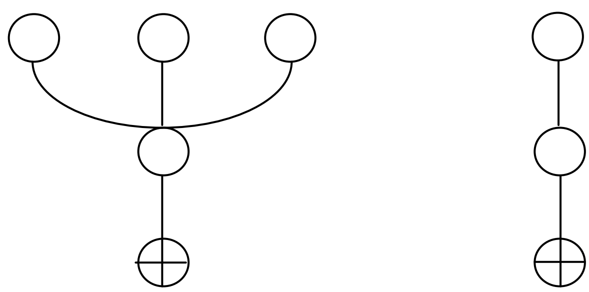

Fig. 3.5 Simple symmetric and non-distributed (left), and asymmetric and distributed (right), spatial arrangements.

identity definition and social stratification were built into the architecture of the house.

A further layer is added to our understanding of spatial organisation by considering inter-visibility and the physical parameter of lighting. The latter is achieved by creating colour-coded plans detailing space depth from a natural light source (door, window, or courtyard); the greater the number of removes a space is from a light source the darker colour it is shaded. These plans allow the mapping of light onto the house and so create a visual depiction of how well lit individual spaces were likely to have been. Similar plans are then created to reveal lines of sight and levels of inter-visibility between spaces with darker areas being those most visible and lighter those most withdrawn from view. From this information it is possible to determine whether or not the layout of the house has been influenced by a need to light, or keep dark, particular spaces, and whether view-sheds are actively being controlled.

By bringing the results of these analyses together it should be possible to develop an understanding of the different influencing physical and socio-cultural parameters and how they interact within the construction of domestic architecture, creating a picture of the building traditions found on Sicily from the Neolithic to the Hellenistic and the ways in which these develop and evolve alongside the influencing parameters. From this information a more detailed discussion can be undertaken of how these parameters interact in the formation of built space, how and why they vary and change, the wider place of the house within society, and the relationship between building and living.

Chapter Four

From Round to Rectilinear

From the Neolithic to the Hellenistic era, many changes take place in Sicilian domestic building traditions, and therefore the interactions between the physical and socio-cultural parameters within which they are formed. This is particularly apparent in size and shape: houses go from small, rounded structures, some just c.2.50m in diameter (at Neolithic Piano Vento; Castellana 1985–1986; 1987a), to large rectilinear complexes encompassing hundreds of square meters and multiple storeys (Peristyle House 1 at Hellenistic Monte Iato covers c.762m^2 on the ground floor alone; Nevett 1999, 140–141). These changes did not happen overnight; they can be traced in gradual increments with alterations, introductions, and abandonments of architectural features and building forms eventually leading to the construction of houses that, outwardly at least, appear vastly different to those with which we began. In this chapter I explore the processes and developments involved in the move from round to rectilinear domestic architecture on Sicily and what they suggest about the changing perceptions of, and approaches towards, house construction and domestic space. The form of the house is inextricably tied up with the materials, construction techniques, and size of the structure: by unpicking these elements it is possible to map out some of the physical parameters active in shaping the house, providing a basis from which to expand into a consideration of how these interact with the wider socio-cultural context.

The forms taken by ancient Sicilian houses, defined and presented in Chapter Three (Fig. 3.4), fall into two distinct groups: those that are rounded with no sharp angles or corners — the curvilinear buildings; and those that typically make use of straight lines and corners, in many cases at right angles — the rectilinear buildings. The apsidal form can be seen as a transitional shape, making use of both rounded walls and, in some cases, right-angled corners, although this distinction depends on the exact construction of the building. This division is reflected temporally (Fig. 4.1); the rounded structures being the earliest in date with rectilinear forms introduced much later. At this point the rounded form gradually disappears from the construction repertoire so that by the end of the Early Iron Age it is all but absent from the archaeological record. To understand exactly what is taking place it is necessary to take a closer look at the houses and building traditions themselves.

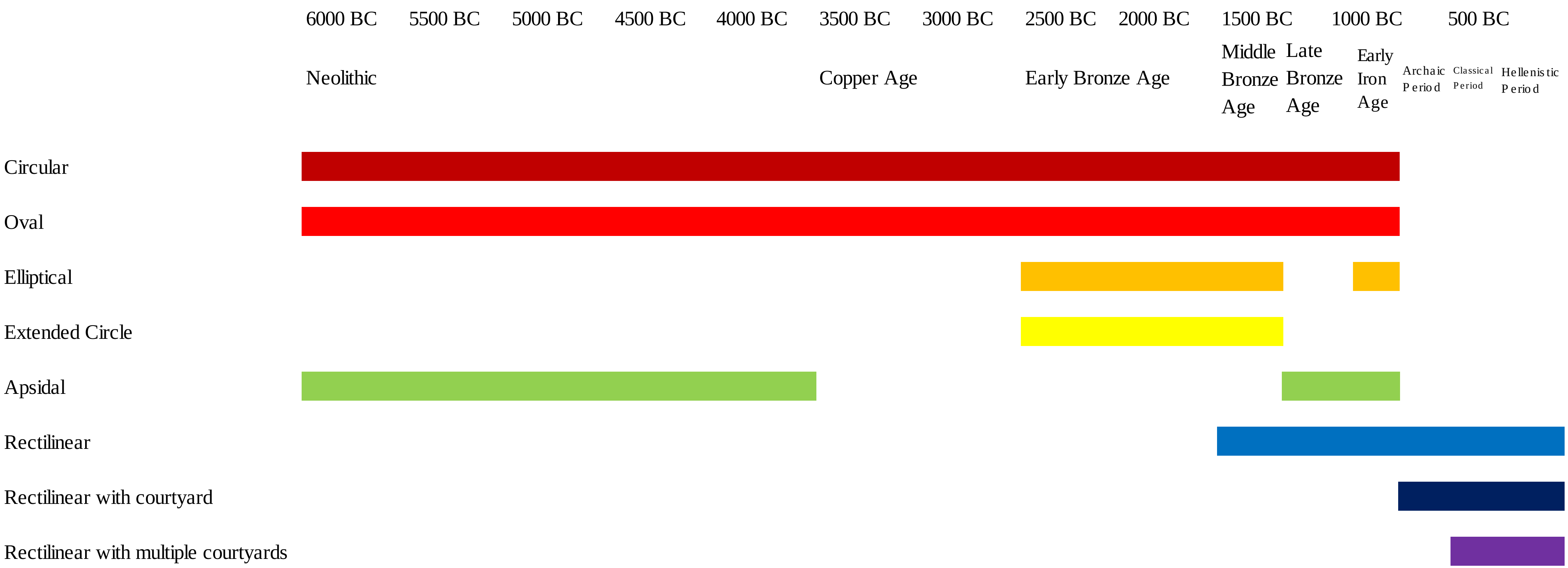

Fig. 4.1 Timeline displaying the presence of different house forms in Sicily throughout the period of study.

Early Days and Round Beginnings

The round tradition of building is the earliest thus far found on Sicily and remains the primary form of domestic architecture on the island through to the end of the Bronze Age. Through these early periods the exact form taken by houses varies, sometimes even within the same settlement, between oval, elliptical, circular, apsidal, and extended circle. Alongside this is seen variety in size, from just 2.00m to over 8.00m in diameter. It is persistence of the rounded building tradition in Sicily, and yet the variability found within it, explored here.

The Neolithic and Copper Age

Most Neolithic settlements appear to be formed of small clusters of houses or groups of dispersed dwellings (Robb 2007, 91). At the southern coastal site of Piano Vento several small circular structures, dated to 5226–4941 cal. BC, have been excavated with diameters of 2.50–3.00m (Castellana 1985–1986; Leighton 1999, 71). On the nearby island of Salina there is evidence for oval Neolithic buildings of a similar size, c.3.50 x 2.50m (Wilson 1996, 83) (it is possible that the smallest structures were primarily used for individual activities such as storage, however, that all of the buildings found at Piano Vento and on Salina are of a similar size, and the lack of evidence for specialised activities, implies that some at least were houses). In contrast, at Mandria, a hill-top settlement inland from Piano Vento, a stone-built compound reaching 20.00 x 12.00m (Fig. 4.2) has been recorded (La Rosa 1987). It is not clear whether the entirety of this apsidal building was used for living purposes as only one of the two spaces revealed evidence for domestic installations such as hearths (Leighton 1999, 71). Even if only this space made up the ‘house’ part of the compound, it would still have left a roofed lived-in area of c.10.70 x 7.50m, much larger than those excavated at Piano Vento and on Salina.

Throughout the Copper Age circular and oval forms continue to take precedence in the archaeological record. The smallest surviving houses are just 2.00–2.50m in diameter and are again found at Piano Vento (Leighton 1999, 100). The largest thus far known, excavated at Rinollo Hill not far from Piano Vento and Tornambé further inland, reached c.7.40m, c.6.80m, and c.8.00m and c.10.00m in diameter (Speciale and Caruso 2016; Giannitrapani and Ianni 2011); the former situated within an enclosure covering an area of approximately 33.60 x 27.60m (Castellana 1988). Another oval structure (Fig. 4.3), also potentially part of an enclosure, dated to 4th/3rd millennium BC has been uncovered at Casa Sollima, near Troina, measuring c.10.50 x 6.00m (Sturt et al. 2007). These larger buildings are more

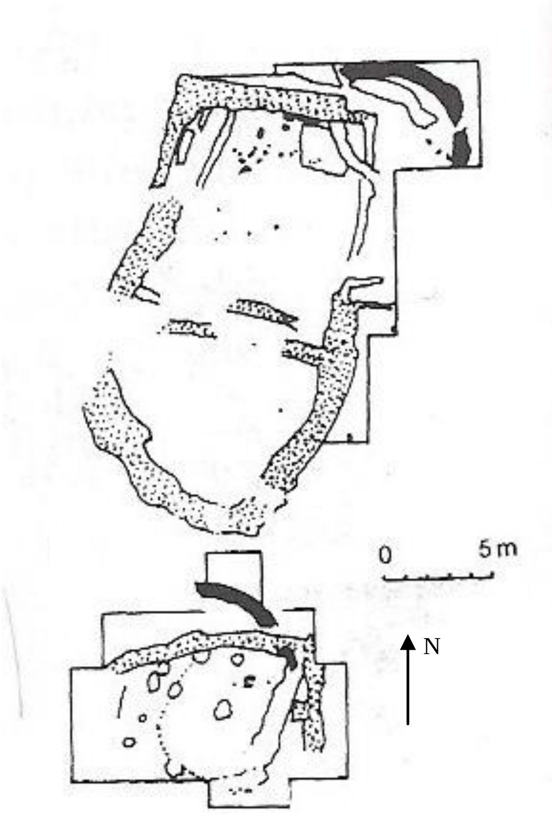

Fig. 4.2 Neolithic apsidal structure at Mandria (Leighton 1999, Fig. 33. F, 68 after La Rosa 1987).

comparable in size to that found at Mandria, suggesting that they were not uncommon during both the Neolithic and the Copper Ages, and strengthening the possibility that the variation seen between settlements from these early periods was a relatively common aspect of the built environment.

The building forms utilised in these early periods on Sicily are variations on the same ‘rounded’ theme. This implies that the builders of these structures were working within the same tradition and understanding of how domestic space should be physically manifested. This shared building tradition is also seen in the methods and materials utilised. Wall foundations are constructed from un-worked or roughly shaped stone and support a timber and wattle-and-daub superstructure — thinner wooden members or branches, wattles, woven around supporting stakes or posts and coated in a daub of clay and a binder, such as straw or animal hair, as a form of thick plaster (Shaffer 1993, 59). Walls can also be supported by staking the posts directly into the ground; this is seen in a couple of cases including the Neolithic and Copper Age houses on Salina (Bernabò Brea and Cavalier 1991a, 136), but means that the timber and wattle-and-daub can come into contact with ground moisture and rainfall runoff. Parts of Sicily do receive significant amounts of precipitation (Grove and Rackham 2001, fig. 7.6a, 122; Agnesi et al. 1997, 45–46), and can experience heavy

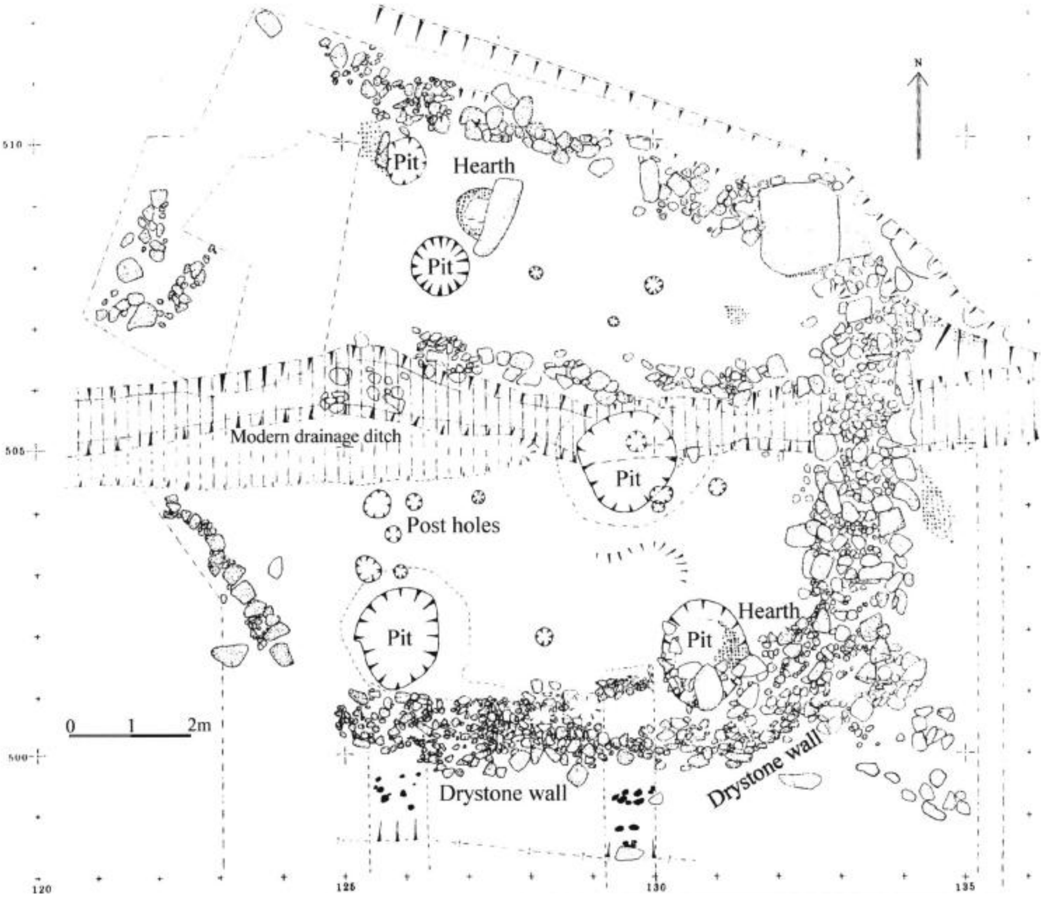

Fig. 4.3 Copper Age Casa Sollima (Sturt et al. 2007, Fig. 6.3, 49).

thunderstorms. By constructing foundations from stone and incorporating the base of posts into them, timber and clay are better protected from water damage. The clearest example of this is seen at Casa Sollima where the wattle-and-daub superstructure sat above rubble foundation walls with the posts likely fitted into them (Sturt et al. 2007, 50). Buildings constructed in this way would have had increased longevity in comparison to those with direct contact between wooden elements and the earth. The posts within the walls, sometimes with additional posts located inside the building (indicated by the presence of post-holes), supported the roof, which itself was most likely covered with thatch — a factor deduced from the lack of evidence for other roofing materials found during excavation. Floors are often sunken just below ground level and formed from the cut into the soil or bedrock, and left as compacted earth or else finished with plaster.

The Early and Middle Bronze Ages

This is the period during which the rounded house form in all its variations begins to fully dominate the archaeological record. The increased variety of shapes across Sicily and its neighbouring islands perhaps reflects the greater number of houses known from the Early and

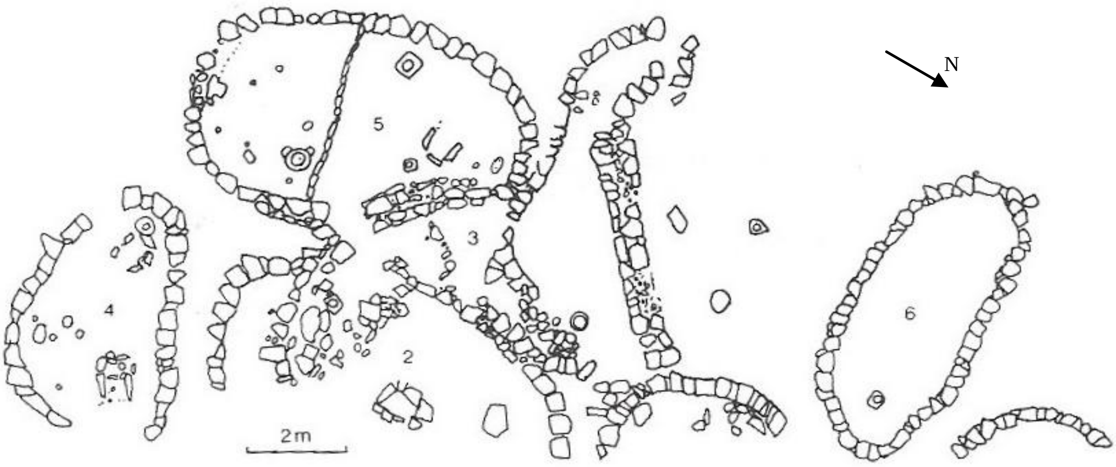

Fig. 4.4 Zone A, Early Bronze Age Mursia, Pantelleria (Tozzi 1968, tav. 1).

Middle Bronze Ages, and hence the likelihood that a wider range of examples will be found. The Early Bronze Age, particularly in the island settlements, sees irregularity in exact form within each settlement — the houses at Mursia on Pantelleria vary from oval through a more elliptical shape to extended circle (Fig. 4.4). By the end of the Middle Bronze Age, exemplified at sites such as Thapsos and La Muculufa, buildings reach 8.00m in diameter and are more regularly round, incorporating smoother curves and greater consistency between buildings. McConnell suggests that 'the need to support a roof on a frame of beams across a wide area required a significant degree of planning, planning that involved geometrical concepts and tools, such as string for a radius and maybe even a rudimentary unit of measurement' (1992, 35). It appears that the methodology for constructing rounded buildings is developing, with even the possibility of individuals beginning to specialise in building activities.

Continuity from the Copper Age is seen in the building materials and techniques utilised, with the majority of foundations, and sometimes parts of the lower walls, built from un-worked or roughly shaped stone (usually that most readily available) in irregular courses. Moving through the Early and Middle Bronze Ages stone is more often roughly shaped than un-worked, indicating that the wall construction process has developed from selecting stones that fit together to intentionally altering the shape to make them fit. Both processes involve a degree of skill, but roughly shaped stones require more time to prepare, an element of fore-planning, and can result in walls that are structurally more stable with their more even distribution of load amongst the individual components of the wall. The houses for which roughly shaped stones are used are typically those featuring a stone socle rising above the foundations (see Table 1, Appendix I). It is possible that part of the reason for the greater expenditure of effort in the processing of stones was that the stone section of the walls needed to extend higher above ground level and therefore be more stable.

During the Early Bronze Age, and becoming increasingly common throughout the Middle Bronze Age, low benches begin to be constructed along the interior of the wall. The houses including benches are also often those with a stone socle: this is particularly clear in Hut 2 at La Muculufa (Fig. 4.5), and can also be seen at Madre Chiesa di Gaffe (Castellana 1987b) and Thapsos (Voza 1981, 676–677), among other sites. They are typically built from earth and coated in stone or a clay/terracotta plaster (see La Muculufa; McConnell 1992, 29). The exact role of these benches is unclear, but the need to support such a feature could partly explain the presence of a stone socle. A superstructure of wattle-and-daub surmounts the socle, the timber frame again fitting into the stone wall and, often alongside further posts within the building, supporting the wooden roof structure. As in the earlier periods the floor is either left as compacted earth or covered with a layer of clay-based plaster, which at some sites is also used to coat the interior of the stone socle. The building tradition discerned in the Neolithic and Copper Age on Sicily is beginning to evolve.

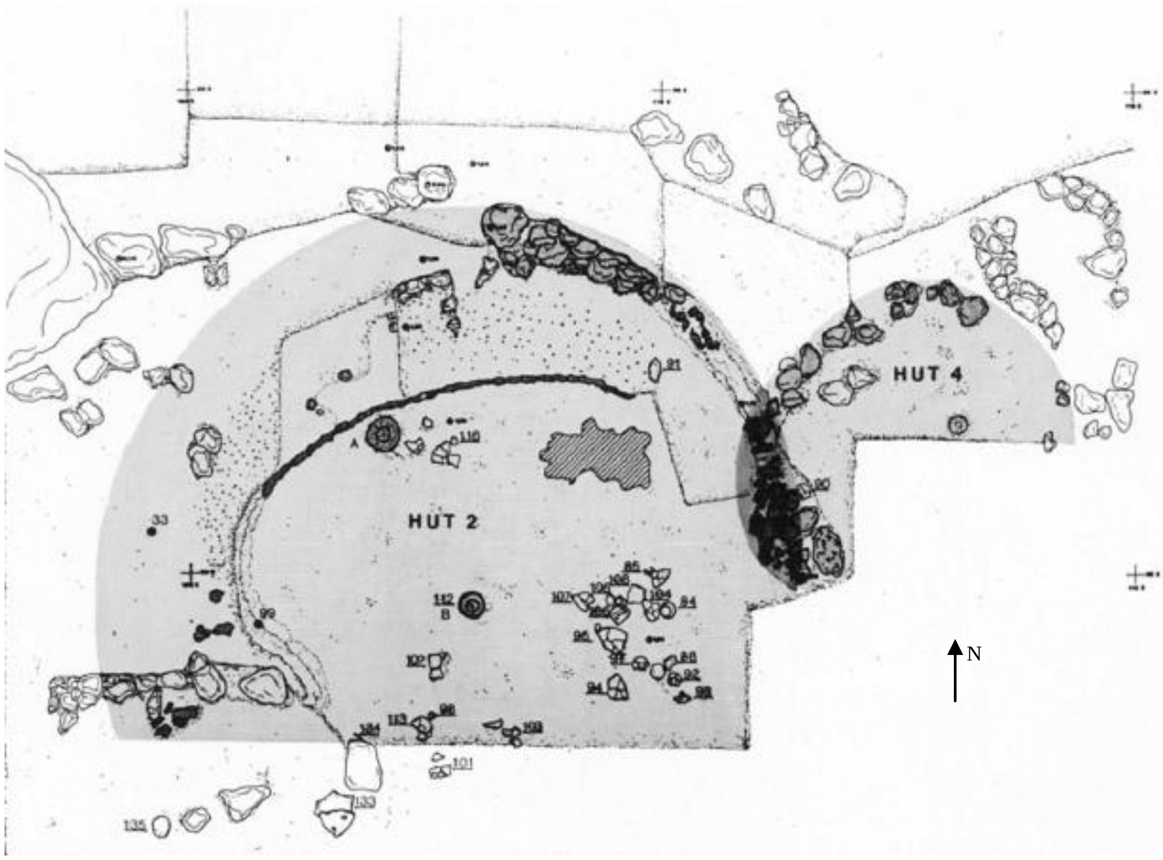

Fig. 4.5 Huts 2 and 4 at La Muculufa, Early Bronze Age (McConnell 1992, fig. 4, 27).

The largest known domestic structures from the Early Bronze Age are those excavated at La Muculufa in central south Sicily. The two complete houses unearthed measured c.6.60 x 4.60m and c.8.00m in diameter (Fig. 4.6) and were respectively extended circle and circular in form (McConnell 1992). This meant up to c.50m^2 of internal living space and so more room for people (inhabitants and guests), storage facilities, and activity areas — pottery, grinding stones, and tools were found associated with both houses. Similar sized (diameters between 6.00 and 7.50m) elliptical structures were constructed on the hill at Sante Croci and contained evidence for food processing and textile production in the presence of ceramics, grinding stones, flint and bone tools, and spindle whorls (Orsi 1926). While much smaller dwellings are still found, including the c.2.50m diameter oval structures on the island of Lipari (Ciabatti 1978), the majority of domestic buildings dating to the Early Bronze Age, such as those at Capo Graziano on Filicudi (Fig. 4.8) and Manfria on the southern coast, sit somewhere in-between with diameters ranging from 3.70 to 5.50m.

Variation in size is also found within the settlements themselves: the small structures at Lipari sit alongside others up to c.4.50m in diameter, giving nearly four times the internal area. It is possible that households incorporated several of these smaller structures alongside

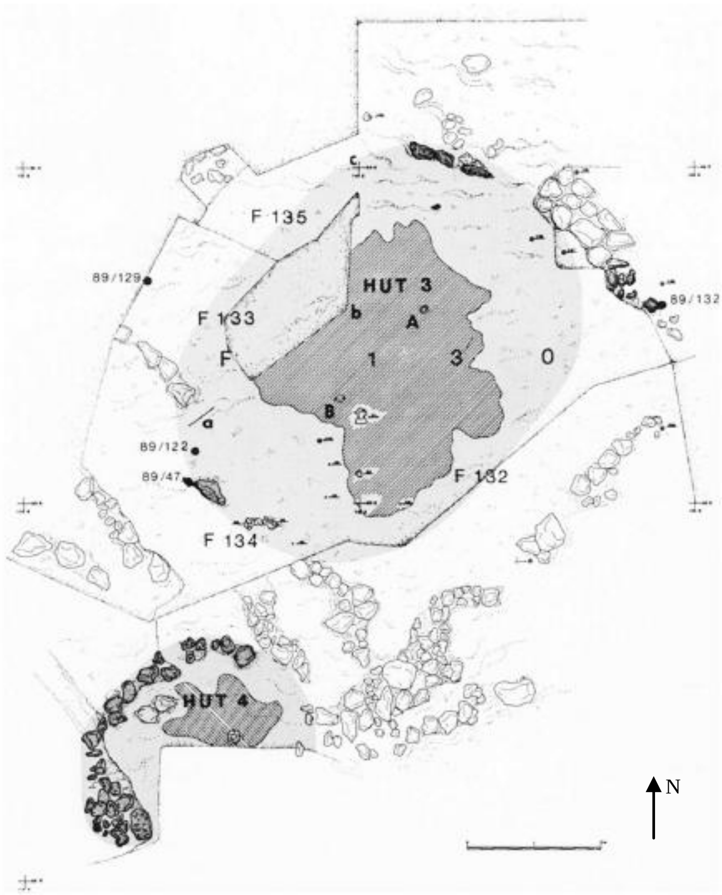

Fig. 4.6 Hut 3 (lower) and Hut 4, La Muculufa, Early Bronze Age (McConnell 1992, fig. 6, 29).

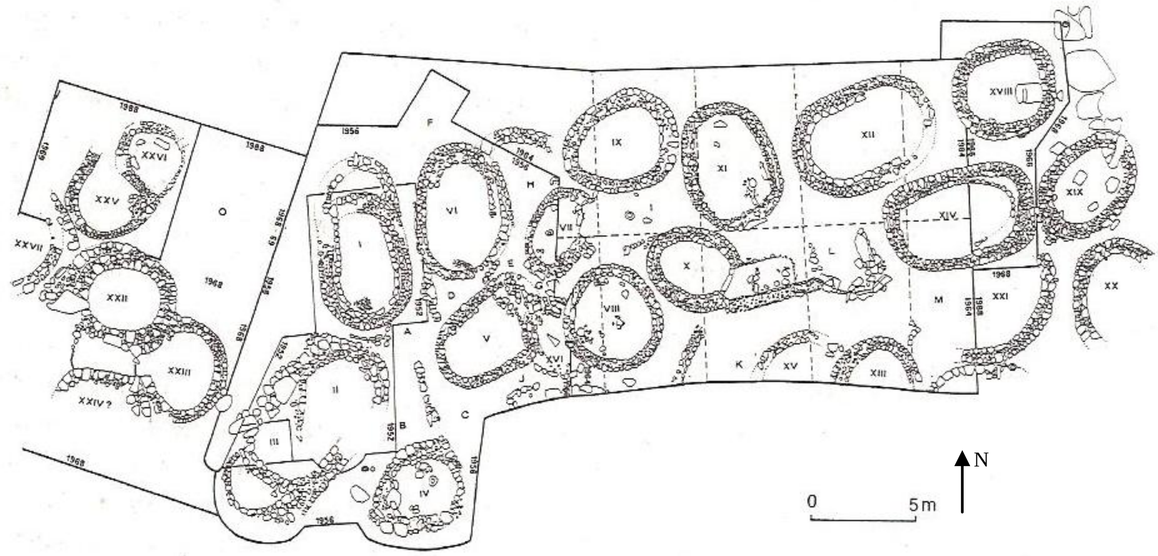

Fig. 4.8 Capo Graziano, Filicudi, end Early Bronze Age (Leighton 1999, Fig. 62, 132 after Bernabò Brea and Cavalier 1991b).

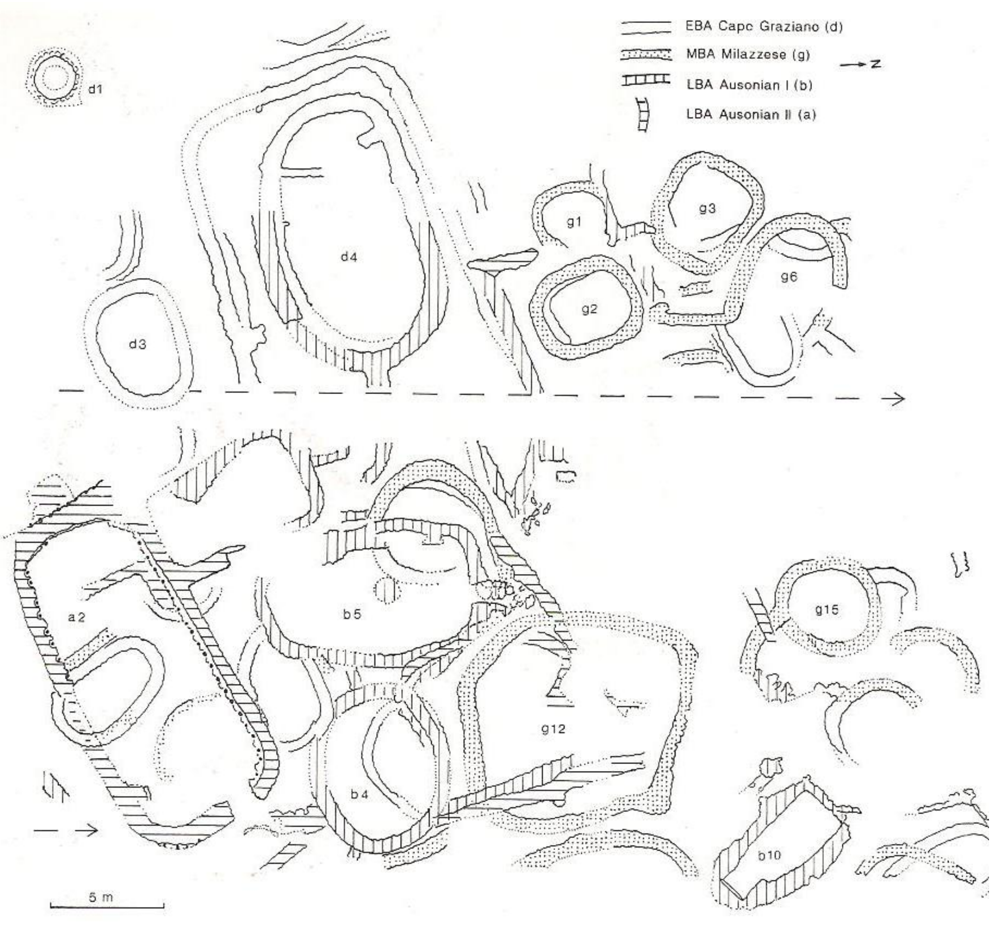

Fig. 4.7 Lipari acropolis (Leighton 1999, Fig. 81, 160 after Bernabò Brea and Cavalier 1980, Atlante 2).

the larger buildings as they are closely spaced and may well have shared external areas (Fig. 4.7). This suggests a degree of variation in the requirements placed upon the domestic space by the socio-cultural parameters created by the inhabitants of each structure; a larger internal area could indicate that the household was also larger, or of a higher economic or social status, the activities carried out there and by the occupants necessitating and allowing for a larger dwelling size (see Chapter Five for a detailed exploration of the implications of house size).

In the Middle Bronze Age these trends continue. The largest known house from this period, the circular Hut 1 at Thapsos, features a diameter of c.8.00–8.25m giving an area of approximately $53m^2$ (Fig. 4.9). Many contemporary buildings at Thapsos and Cannatello, located on the central southern coast, sit between 6.00 and 8.00m in diameter and are also circular in shape (Voza 1972; Wilson 1996, 89), demonstrating that houses of this form are not exceptional. Hut 1 at Madre Chiesa di Gaffe is one of the smallest surviving examples of Middle Bronze Age domestic architecture with a diameter of c.4.80m (McConnell 1992, 38), which is still larger than many of those from the preceding periods.

While examples of quadrangular buildings dating back to the Neolithic are found as close as mainland Italy, the curvilinear form is not a phenomenon restricted to Sicily. A handful of the Neolithic sites excavated in southern and central Italy contain rounded structures ranging in size from those comparable to the huts at Piano Vento to larger structures including the apsidal buildings measuring c.10.00 x 5.00m at Catignano (Grifoni Cremonesi 1987). Variety in size within a single settlement can be seen at Pianaccio del

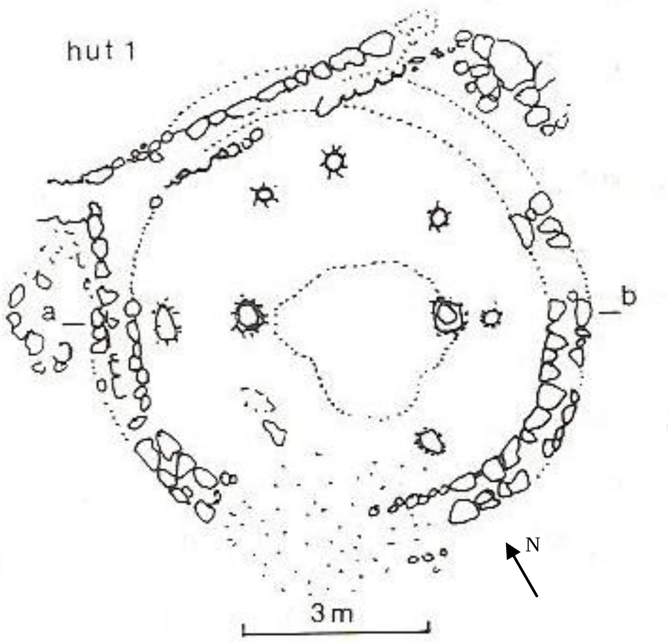

Fig. 4.9 Hut 1, Thapsos, Middle Bronze Age Phase 1 (Leighton 1999, Fig. 75, 151 after Voza 1972).

Tortoreto where the smallest structures measure just 1.20m in diameter and the largest c.5.00m (Grifoni Cremonesi 1987).

Further north, circular and elliptical buildings defined by post-holes and channels cut into the ground, and in some places lines of stones, have been excavated at the Neolithic/Copper Age settlement at Poggio Olivastro (Bulgarelli et al. 2003, 804). At Acquarossa a series of Early Iron Age circular and oval huts have been identified ranging between c.3.00 x 2.00m and 9.50 x 2.50m in size. The bases of these structures are dug into the soil, while extensive remains of daub indicate upper sections were of wattle-and-daub (Rystedt 2001, 24–26). The Late Bronze Age houses excavated at Sorgenti della Nova in Viterbo are elliptical in shape with cut foundations into which the upright timbers of the wall were placed, while a series of post within the body of the building supported the roof (Catacchio and Domanico 2001, 341–342). Slightly later oval houses have been identified at Campassini near Monteriggioni measuring c.8.00 x 4.50m with posts supported by stones running around the interior of the wattle-and-daub wall (Bartoloni 2001, 361). All of these structures make use of timber and wattle-and-daub as their primary building materials, often incorporating stonework as a foundation and partially sunken floors; characteristics also seen in Sicily. This similarity demonstrated in both form and construction suggests that these regions shared and worked, to a certain extent, within a common building tradition that can perhaps be accounted for by a degree of contact and interaction, and so the development and maintenance of shared cultural traits (Leighton 1999, 3).

There are a number of practical reasons why some of these early Mediterranean dwellings were at least partially sunken. Digging is a relatively simple activity that can be carried out with basic and easily obtained and produced tools, such as the digging sticks preserved at La Draga in Spain (Bosch et al. 2004). As these houses are rarely sunken deeper than 0.50m, it is easier, and perhaps safer, to dig a hole than to build a tall free-standing structure, a task necessitating a greater degree of skill and technological understanding (Bernabò Brea and Cavalier 1991a, 136). However, not everywhere is digging a suitable construction solution. The ground itself is a major influencing factor: too soft or damp and the structure becomes unstable, too hard and rocky and a large expenditure of energy and labour is required to excavate to any kind of depth. But as long as the ground selected is firm and not liable to flooding, and that the hole excavated is not too steeply cut (thereby reducing the possibility of collapse), these pits provided a stable foundation for the construction of a less extensive, and therefore less complex, superstructure than that required for a free-standing house.

In many Sicilian cases topography is likely to have been one of the main reasons digging was chosen. A number of sunken structures, including those at Mursia, La Muculufa, and Capo Graziano, are located on hillsides. It is difficult to construct a building on a slope, but by cutting a terrace a flat surface is created. It is possible to then incorporate the cut into the wall, thus saving labour and providing a stable base for the superstructure. Steps, such as those excavated at Mursia, negotiate the difference in height where necessary (Da Vinci et al. 2011–2012, 34). Should the building site be on the opposite side of the slope from prevailing winds, cutting into the slope can also provide shelter. This brings us to another advantage of sunken dwellings: the ground acts as an insulator. Earth takes longer to heat up than air, thus remaining at a lower temperature during hotter periods. Likewise it also takes longer to cool, retaining heat better than the surrounding air and reradiating this once the temperature drops and keeping the sunken structure warmer during colder periods (Zhai and Previtali 2010, 360–361). The deepest structures thus far known from Sicily were excavated on the island of Salina where some oval houses were cut c.0.80m into the tufa rock (Bernabò Brea and Cavalier 1991a, 136). This depth would have provided a degree of climate control, but not to the same extent as more fully underground houses (as seen at Petra in Jordan and in the Sahand Mountains in Iran; Alkaff et al. 2016, 696). It appears that in Sicily topographical factors were the primary influence for sunken houses, with climate control a useful result of this way of building.

Why round?

As building traditions incorporate solutions to both socio-cultural and physical parameters, the utilisation of the same pool of technological and material resources — wood and clay to produce a timber superstructure with wattle-and-daub walls — suggests that at least part of the reason these houses are round is the practicality of building with these particular materials and the techniques they require. While such materials and methods are not the only way that round buildings can be built (there is nothing preventing the arrangement of stones or mud bricks into a circle), it is useful to take a closer look at the practicalities of wattle-and-daub.

Let us think of the wattle-and-daub walls of these houses as a form of wicker basket. The woven fabric is supported by a framework of vertical timber ‘stakes’, the arrangement of which helps determine the final form (Ellen 2009). We could attempt to create a perfectly square or rectangular basket, but while the materials commonly used for wattle (including hazel, willow, and branches, saplings, or split sections of larger timbers; McConnell 1992, 31–32; Ammerman and Shaffer 1981, 431–432; Ammerman et al. 1988, 127) are relatively flexible in relation to timber in general, if you try to bend these around a square 90° angle it creates a stress focal point and can lead to fractures. To avoid this it is necessary to use particularly narrow, up to 0.50–0.75cm (indicated by modern wicker baskets), and flexible materials such as willow withies, reeds, or grasses for the production of baskets, and these are stronger if wound around a curved, rather than squared, corner stake, and can take some effort to weave (Ingold 2013, 22). When scaled up to the construction of a house the problem is amplified. It is possible to get a tight bend by using the more flexible, and hence narrower, materials chosen for basket construction as wattles, but this limits the strength of the wall and means the construction process takes longer (even something the size of a basket can take many hours to complete[1]).

This is perhaps one of the reasons why the builders of wattle-and-daub walls frequently seem to have chosen to use larger materials for wattles. The 'wattle' impressions in the daub excavated at La Muculufa measure between 1cm and 10cm in diameter (Peterson 1992, 31–32), the majority having diameters between 1cm and 5cm. Likewise, the impressions seen in the daub fragments from Piana di Curinga in Calabria range in size from just under 1cm to over 20cm; the smaller being used for wattles, the larger making up the support structure (Ammerman and Shaffer 1981, 431–432). At Casa Sollima large quantities of daub impressions with a diameter of between 0.50cm and 2.50cm have been found, although the construction technique employed here appears to have involved the close packing of thin wattles between larger woven ones, perhaps to create a more regular surface for the application of daub (Sturt et al. 2007, 51–52). Wattles with a diameter of between 1cm and 5cm appear to have been those most commonly selected. This is much thicker than those normally utilised for basketry; while such wattles were stronger, they also had a lower range of flexibility.

To build a structurally sound continuous wall from wattle-and-daub, and such a structure is stronger when the wattle is layered evenly around the whole rather than built up in sections (see reconstructions including The Roundhouse Project and Castell Henllys; Bennett 2010), it is necessary to change direction by bending the wattle within its structural tolerance. With larger wattles this naturally creates a rounded wall, the degree of bend employed and the positioning of the structural stakes determining the exact curvature: the materials and the builders' interactions with them influencing the form taken (as Ingold

[1]Butcher (1993, 105) describes a basket woven from juniper and pine roots taking 10 hours to complete.

describes in relation to the weaving of a basket; 2000, 342). Interestingly, the curved nature of this continuous wall and the additional strength provided by the thicker wattles makes it structurally sound. While the posts support the vertical pressure of the roof and anchor the walls in place, the lateral stresses are evenly distributed within the round structure of the woven wattle. This means that the walls effectively support themselves; the balance of forces pushing in and out reducing the risk of collapse (Dietz 1982, 53). Doorways can be incorporated by firmly anchoring the wattles to their upright posts and lintels, thus drawing the walls together in a complete ring. The use of daub may also have influenced the decision to build round: by rounding out corners the daub is less likely to crack while drying (Shaffer 1983, 416). It is possible that this was a contributing factor in the use of rounded corners in some early, more quadrangular, wattle-and-daub buildings such as the structure excavated at Capo Alfiere in Calabria (Morter 2010, 45).

In order to build fully rectilinear wattle-and-daub structures it is necessary to construct panelled walls. But to avoid structural weaknesses these must be fitted together with larger, supportive, timbers between them. Here the wattle-and-daub is a filling between and attached, typically by tying, to the timber frame, rather than being an integrated, self-supporting element of the structure. This form of building is most familiar in the timber-framed buildings of Tudor England, but there is also extensive evidence for more or less rectilinear and 'long house' buildings dating back to the Neolithic in Italy that make use of wattle-and-daub in this fashion (for example at Balsignano, Ripa Tetta, and Piana di Curinga, although the lack of post-holes or clear foundations observed at the latter makes an exact reconstruction difficult; Fiorentino et al. 2003; Tozzi 1985; Ammerman et al. 1988). Within the archaeological record of Sicily this form of construction is seen in linear partition walls such as that dividing the Early Iron Age apsidal Hut 31 at Morgantina (Fig. 6.1, walls h, g, and possibly f), with it appearing that the stone foundations, and likely the wattles, were not tied into the external wall. It is possible that the rectilinear end of the structure was finished in a similar manner. Examples of fully panelled construction for external walls have so far only been found in the 'long house' of trench 16W at Morgantina (Leighton 2012), and so it is primarily within the rounded tradition that this study remains for the time being.

The question now remains as to why wattle-and-daub was chosen as one of the main construction materials for early Sicilian domestic architecture in the first place? There were two primary contributing factors: availability and accessibility. The main constituents of wattle-and-daub, timber and clay, would have been widely available and relatively easy to access and obtain in many regions of the island. Approximately one tenth of the volume of clay (see below) would be required of timber, sticks, and reeds for the frame (Stevanovic 1997, 362). As was shown in Chapter Three, in the past Sicily was more wooded than much of the island appears today (Calò et al. 2012; Costantini 1989). Timber for posts, narrower branches and saplings for wattles, and grasses and sedges for cordage, should not have been hard to come by, particularly along the river valleys that crisscross the island. The quantities of timber suitable for structural use may have been slightly more restricted as it requires trees reaching a certain level of maturity; the choice of timber depended on the available trees and the role they were expected to play, e.g. supporting posts (Petrequin 1996). The only way to get an idea of the size of timbers used is by looking at the diameters of the post-holes uncovered during archaeological investigation. The majority measure between c.0.10m and c.0.30m indicating that the trees these timbers came from had been growing for at least 10 years.[2]

Many of the river valley environments of Sicily are also conducive to the formation of clay; erosion and weathering by rivers and rainwater causes the breakdown of exposed rocks and the formation of clay minerals which are then deposited in beds (Velde 1995). As a result such soils are widely distributed on Sicily. It is likely that settlements were often located close to clay sources as the production of daub required large quantities of the material; it has been suggested that around 7000kg worth of daub was needed for a building measuring c.4.50 x 3.50m (Shaffer 1985, 85; Ammerman et al. 1988, 126), although this ratio is likely to vary depending upon the height of the walls constructed. In Acconia on the mainland, settlements were found to be between 0.1km and 0.5km from the nearest clay deposit (Shaffer 1985, Table 2, 84). Clay can be excavated with simple tools, such as the digging sticks encountered earlier and in later periods the picks depicted on a votive tablet from Corinth,[3] and easily divided into manageable loads to be carried in baskets to the building site where it would be mixed with water (sites were on average located 270m from the nearest water source; Robb 2007, Table 6, 81) to make it malleable, and small stones, straw, or animal hair to act as a temper. While being thin means wattle-and-daub lacks the thermal mass potential of a thick layer of thatch, which is much better at preventing heat loss or gain and probably played an important role in maintaining a comfortable interior temperature[4] (Niroumand et al. 2013, 229), when tempered it provides a partially waterproof layer that

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[2] Based on the growth rate of holm oak, a common tree found in the Mediterranean (Ibàñez et al. 1999, 37).
[3] 630–610 BC, ID No. F 871, Staatliche Museen zu Berlin.
[4] The U-value (thermal conductivity — the lower the value the slower heat moves through the material) of thatch is around 0.3 and wattle-and-daub 1.69–2.03 (Baker 2011, Table 2; media.claspinfo.org , engineeringtoolbox.com; greenspec.ac.uk).

helps to protect the wattles and timber support structure (Timberlake 1981, 239; Kruger 2014, 886).

In environments where accessible stone is plentiful (for example river beds or rocky beaches), particularly in the immediate vicinity, it is not unusual to find domestic structures making greater use of this material in their construction (Morter 2010, 48–50). Many of the Aeolian islands, including Filicudi and Lipari, do not have their own sources of clay and had to import that used for pottery production (Bernabò Brea and Cavalier 1991a; Ciabatti 1978). The houses excavated here only make a small use of clay in their construction, if they used it at all. Stone, in contrast, being a readily available resource on these volcanic islands, forms the primary building material for walls. Builders at Naxos use local Etna basalt rather than the limestone found outside of Sicily's volcanic plateau. It appears then that the availability and accessibility of raw materials can play a large role in the decision whether or not to utilise them.

Variations on the rounded theme

Although houses of the rounded tradition in Sicily generally used similar building materials and techniques, the differing sizes and shapes revealed in the archaeological record would have entailed slightly different approaches to their construction. Firstly, larger buildings require additional structural support: an individual space cannot be wider than the maximum distance a single timber beam can span without further beams and supporting columns or posts. Exactly what this maximum is varies with the type of wood, its physical properties, and the dimensions of the beam that can be cut from it. By locating post-holes in relation to one another and the walls of the house it is possible to determine the maximum distance ancient builders were comfortable spanning. The extended circle house at Bronze Age Milazzo and the apsidal Hut 31 at Early Iron Age Morgantina (Figs. 6.2 and 6.1) have post-holes running down the central axis with the potential for longitudinal spans (likely for the ridge beam of the roof) between 5.00m and 6.00m. The vast majority of spans seen in Sicily are, however, between 3.00m and 4.00m, agreeing with MacDonald's span range for softwood timber of c.2.00–6.00m (1997, 36) and suggesting that while greater distances could physically be spanned, this was the range generally worked within by the builders.

Exactly what types of wood were used is difficult to determine from the archaeological record, but as we have seen holm oak and a number of other evergreen broadleaves were present, as well as species of conifer, including pine, and deciduous trees such as beech (Grove and Rackham 2001, Table 4.ii, 52; Da Vinci et al. 2011–2012, 48;

Sadori and Narcisi 2001; Sadori et al. 2013). It is likely that those locally available were utilised. While it is unlikely that a house would immediately collapse should timbers longer than 6.00m be used as beams, these would be under greater stresses from the weight of the roof, more likely to bend under their own weight, and as a result fail under smaller loads than shorter, better supported beams. It must also be considered that timbers suitable for roof construction (wide enough to be adequately strong and rigid) may not consistently reach over 6.00m in length, or that longer, heavier timbers may have placed too much weight on the supporting posts and walls to be structurally practical. Different tree species have different structural properties, oak for example is well known for its strength, while conifer species are more flexible (MacDonald 1997, 192); the type of timber available will therefore have also influenced how it was used and the form of the supporting structure. It is possible that the beams spanning post-free spaces were actually slightly shorter than the distance between the walls: collar beams, or ring beams/tension rings for circular structures, positioned part way up the rafters, doweled or tied into place, pull the roof together and prevent it spreading (Fig. 4.10. Gopi 2010, 152–154; Bennett 2010, 26). In order to create spaces larger than a single beam or collar/ring beam is capable of spanning, typically c.4.00m judging by most Sicilian cases, it is necessary to include posts or columns within the space itself.

The oval houses at Early Bronze Age Capo Graziano on Filicudi reach up to 6.00m in length but average c.3.50m in width (Fig. 4.8). The latter is a distance that could be easily spanned with a single beam. Indeed, these houses do not feature internal post-holes for the placement of vertical timbers, suggesting that the roof was supported by beams crossing the width of the building. The elongation of the space into an oval enabled the builders to create houses larger than those of a circular form with a diameter of 3.50m without breaking up the internal space with additional vertical features. It could be argued that where elongated

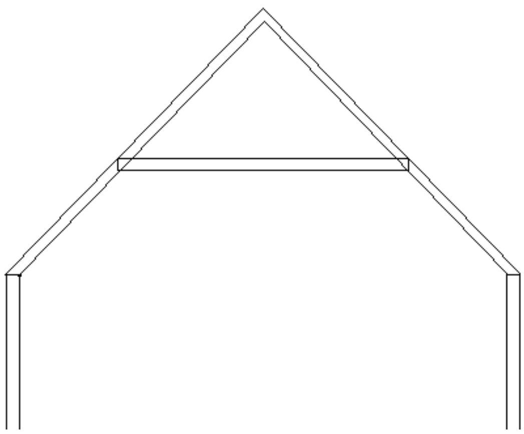


Fig. 4.10 Simplified diagram showing the use of a collar beam to span the roof space.

structures are constructed with walls providing the primary support structure, such as the oval houses at Rinollo, Lipari, and Punta Milazzese, and the elliptical buildings at Mursia, one of the influencing factors was the desire for more space without the necessity of additional posts.

Many larger structures, such as those excavated at Manfria, Milazzo, Thapsos, and La Muculufa, do feature internal post-holes. These vary in diameter from c.0.10m (Hut 3 lower, La Muculufa) up to c.0.40m (Milazzo), with Manfria, Thapsos (Hut 1), and Hut 2 at La Muculufa in the middle with post-holes measuring c.0.20m (Manfria and Thapsos) and c.0.30m (La Muculufa). The positioning of these upright timbers is dependent upon the form of the building and so the roof being constructed: whether it is one continuous conical structure or pitched with a ridge running along the centre. Conical roofs could be supported by a ring of posts running parallel to the walls, as in Hut 1 at Thapsos (Fig. 4.9). Such an arrangement left the centre of the domestic space open for other uses, in this case the locating of a hearth. Early Bronze Age Hut 2 at La Muculufa (Fig. 4.5) potentially supports the apex of its roof with a central post, which could explain why a larger timber was used here — it was the sole load-bearing support outside of the walls. The focal point of the space was this post, activities and movement had to be undertaken around it. Narrower timbers could be used at Thapsos because the load of the roof was shared between a greater number of posts. More elongated forms, such as apsidal and extended circle, require a more linear arrangement of posts, typically running down the centre of the building as is seen in Hut 1 at Milazzo (Fig. 6.2), to support the roof which, as a result, would likely have featured a ridge, and in the case

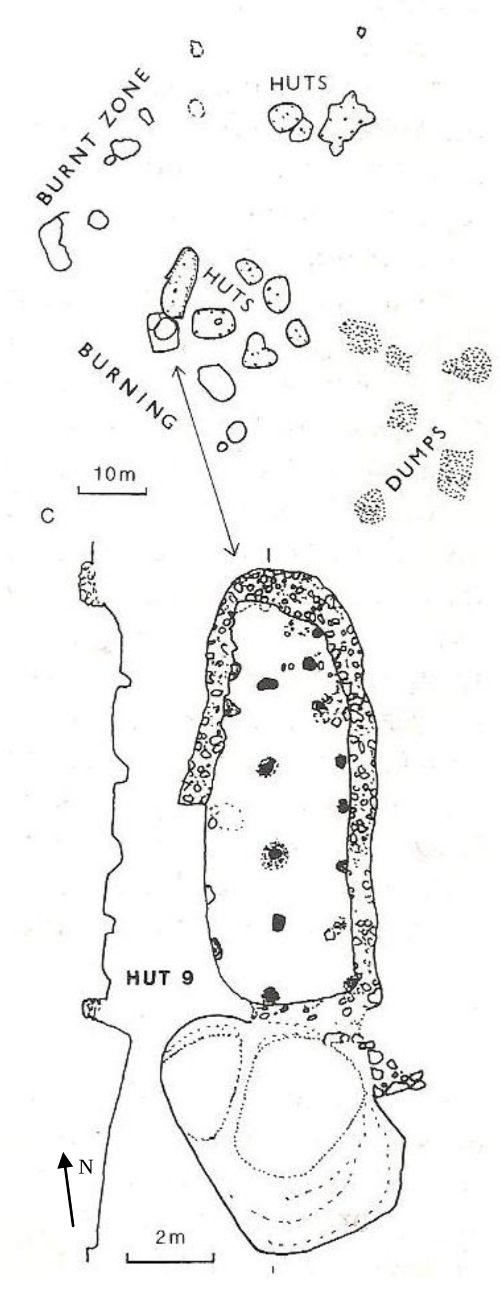


Fig. 4.11 Hut 9, Manfria, Early Bronze Age (Leighton 1999, Fig. 54.C after Orlandini 1962).

of apsidal structures, a gable at the rectilinear end. At La Muculufa the extended circle Hut 3 (lower) (Fig. 4.6) features two post-holes facing one another across the centre of the structure (c.2.00m apart) that probably define the radii around which the two ends of the roof were built (McConnell 1992, 30). The roof of the Early Bronze Age apsidal Hut 9 at Manfria[5] (Fig. 4.11) was supported by three lines of posts; two running along the inside of the walls and a third down the centre of the building. The size and form taken by the building directly affects the choices available to the builder with regards to the necessity and positioning of upright timbers to support the roof.

Other factors that can affect the exact rounded form taken by houses include the local topography and the nature of the space available. A number of the sites occupied across Neolithic and Bronze Age Sicily and the surrounding islands were located on slopes of varying gradients and show evidence for terracing, both natural and shaped by humans. This would have placed restrictions on the size and shape of building that could be constructed without extensive ground works. Likewise, trying to fit a new house in amongst pre-existing dwellings and tracks across the settlement may mean that the form ideally used has to be altered. Examples of the latter can be seen at Punta Milazzese on Panarea where some of the oval houses feature straighter sections of wall in order to avoid contact with adjacent buildings (Fig. 4.12). The former can perhaps be seen in the more elongated forms at sites such as Capo Graziano and Mursia (in particular zone B; Ardesia et al. 2006, 300) where the buildings are arranged along terraces and as a result are often elongated and closely spaced in

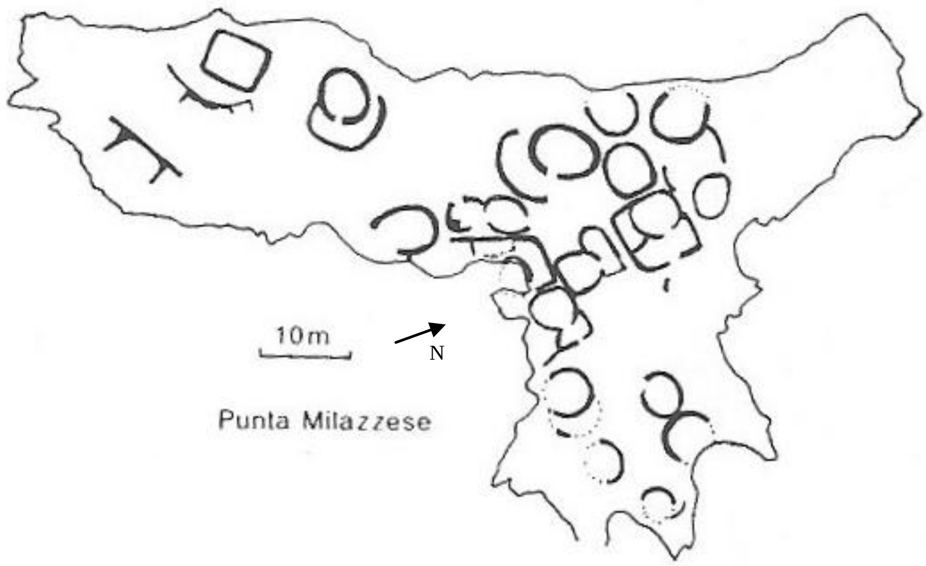


Fig. 4.12 Punta Milazzese, Panarea, Middle Bronze Age (Leighton 1999, Fig. 79.A, 158 after Bernabò Brea and Cavalier 1968, Cartina di Panarea).

[5] It is debated whether or not Hut 9 at Manfria was a residential building, but it gives an idea of the construction methods utilised for this form.

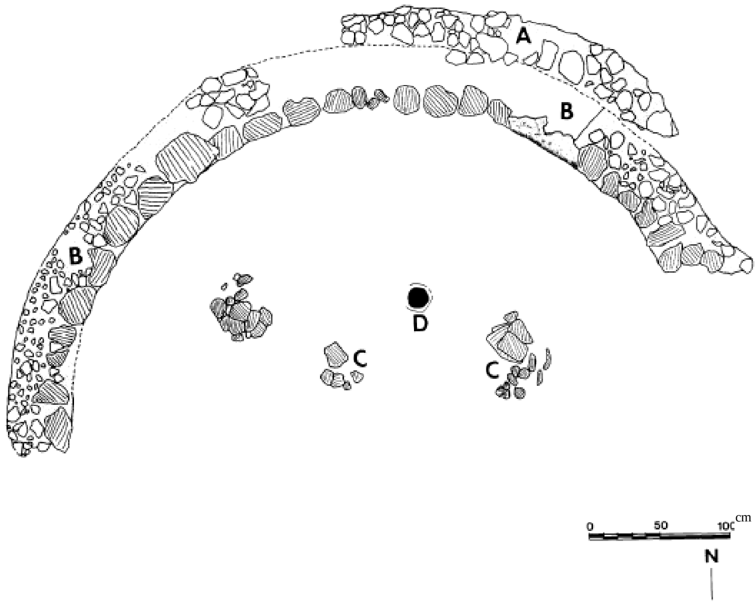


Fig. 4.13 Hut 1, Madre Chiesa di Gaffe, Middle Bronze Age (McConnell 1992, fig. 16, 38).

order to fit on the more level areas. This building form also reduced the amount of ground preparation required before construction could begin and therefore the labour costs involved (Devolder 2017, 63). In contrast, many sites where the topography is flatter and the settlement less densely built up (notably at coastal or river plain sites including Piano Vento, Thapsos, and Cannatello) feature more regularly round or oval structures.

The types and quantities of timber available, and the size of the posts, beams, and rafters that can be made from them, can also influence the form of the house. If only softer woods or smaller trees are locally available, or timber suitable for structural use is limited, the builders may have to erect a house in which the walls bear the entire load of the roof, or can make do with only one or two interior load-bearing posts, such as the post-less oval houses at Capo Graziano, or the circular Hut 1 at Madre Chiesa di Gaffe (Fig. 4.13) where potentially just two off-centre posts were utilised. By reducing the maximum width of the house the builders reduced the amount of timber required: firstly in terms of the number of posts necessary, and secondly because a thatched roof needs a pitch of around 45° to shed water properly (Adkins and Adkins 1995, 132). For every 1.00m wider a building becomes an additional 0.50m is added to the distance from the base of the roof to its apex.[6] Assuming the ancient Sicilians built their roofs in this manner, the wider the building the higher the apex of the roof and hence the taller any vertical posts need to be. This additional space

[6] Taking the roof cross-section as two right-angled triangles, using the rules of trigonometry a house measuring 4.00m in width with a roof at 45° will have an apex 2.00m above its base, one measuring 5.00m in width will have an apex 2.50m above its base, 6.00m with a 3.00m apex, and so on.

meant more volume to heat in winter and cooler temperatures in summer with warm air rising into the upper part of the building (Ozdeniz 1998, 482; Zhai and Previtali 2010, 360).

Houses in these early periods of Sicily's history, despite variations in exact form and size, all fit within the rounded tradition of building. The locally and readily available materials selected for construction help to shape this process and the final form. The nature of the materials used — wattle-and-daub, timber, and thatch — would have necessitated regular maintenance (allowing for the transition of knowledge and skills) and limited the life-span of the building to approximately 20 to 30 years (Bennett 2010; Ammerman et al. 1988). This fits the understanding of Neolithic and Bronze Age social structure as relatively fluid, architecture based on the modularity of small separate houses with households dissolving with the death or dissolution of the social group that it defined; socially houses did not need to last more than a generation and it would have been a waste of resources to erect more durable forms of architecture (Robb 2007, 84–85, 89–90).

The Late Bronze Age to the Early Iron Age: a period of transition

The period encompassing the Late Bronze Age to the end of the Early Iron Age in Sicily, from c.1200 BC to the late 8th century BC, witnesses some of the greatest developments and changes in domestic architecture during the period under study. True rectilinear architecture begins to appear, seemingly prompting the decline in the utilisation the rounded form that has dominated the island since the Neolithic (Fig. 4.1). The construction of these houses, both round and rectilinear, and how and why changes occurred is the subject of this section. Included in this transition period are the earliest settlements founded by the developing 'Greek' *poleis*. The final part of this section will explore the houses at these early foundations and how they compare architecturally with those elsewhere on the island.

The first rectilinear buildings — the curious case of Thapsos

The first truly rectilinear buildings actually appear on Sicily much earlier than the Early Iron Age: towards the end of the Middle Bronze Age structures with defined corners replace circular houses as the principal buildings at Thapsos (Fig. 4.15 andFig. 4.14). From the surviving remains it is difficult to determine the extent of the excavated buildings, but it appears that most of the structures were formed of adjoining rectangular spaces between 7.50m and10.00m long and around 6.00m wide, and centred around open cobbled areas. In some cases these spaces are interlinked, suggesting they formed a series of integrated

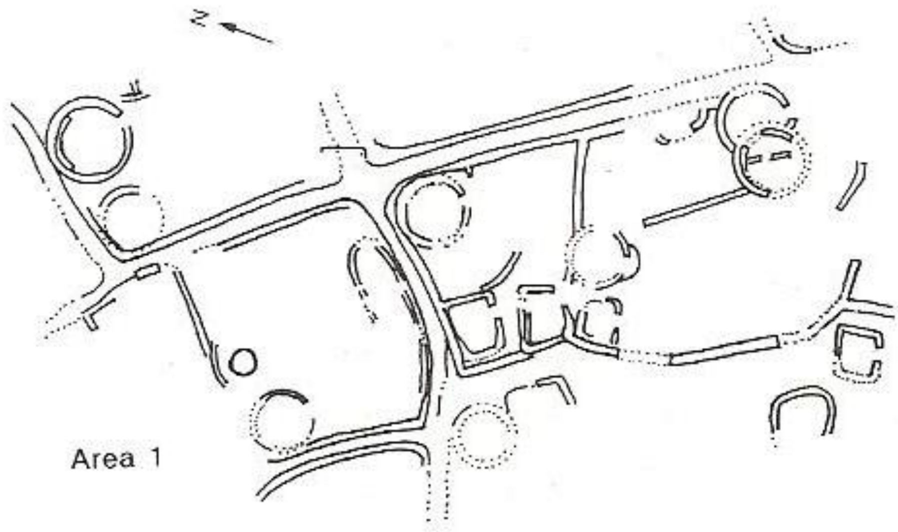


Fig. 4.15 Middle Bronze Age Phase 1 enclosures at Thapsos (Leighton 1999, Fig. 75, 151 after Voza 1985, Tav. CXX).

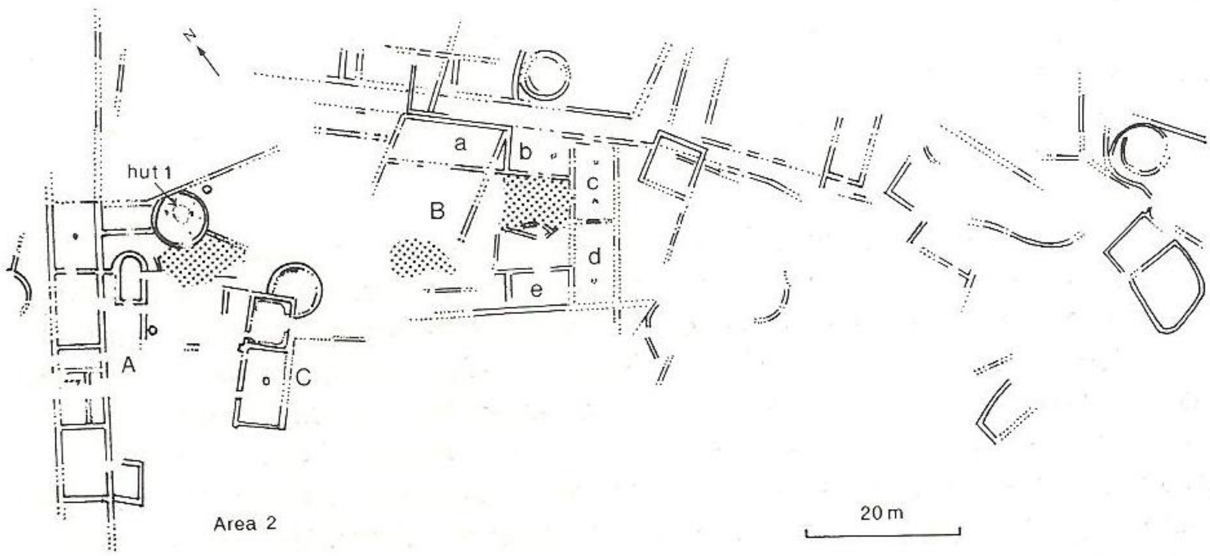


Fig. 4.14 Thapsos, Middle Bronze Age Phase 2; end MBA/beginning LBA (Leighton 1999, Fig. 75, 151 after Voza 1985, Tav. CXX).

complexes (labelled A, B, and C on Fig. 4.14. Leighton 1999, 152) arranged along pebble-paved streets (Voza 1972). This form of architecture and settlement layout is very different from anything previously seen in Sicily, or indeed the central Mediterranean (Doonan 2001, 176); visually complex B looks closer to the courtyard houses that would emerge in the Archaic period (although given its preservation it is difficult to state this was a 'courtyard house'). Tusa suggests this structural model indicates 'the existence of some degree of planning, even embryonic forms of urbanism' (1999, 176), implying extensive social cohesion as well as the desire to clearly demark different spaces within the settlement. But social cohesion and settlement planning do not necessarily bring about the move to rectilinear architecture. Communal organisation and labour can also be seen in the construction of fortification walls at sites such as Mursia, Lipari, and Piano Vento, and terraces at settlements including La Muculufa (McConnell and Bevan 1999, 199), where the houses were round. The presence of enclosures and networks of pathways at some settlements reveals that the division of land, the beginning of a more 'urban' settlement layout (Leighton 1999, 153; Tusa 1999, 176), was not a new phenomenon either. So why is it that during the latter part of the Middle Bronze Age Thapsos witnesses such a break from traditional architecture?

There is one other settlement known to have undergone similar transformations in Sicily at the same time as Thapsos: Cannatello on the south-western coast. Here circular houses measuring up to c.8.00m in diameter were superseded by elongated rectilinear buildings (Fiorentino 1993–1994, 719). Considering the similarities between these two sites might shed some light on the situation. Both have produced large quantities of local 'Thapsos' style pottery alongside Mycenaean and Cypriot imports, particularly *amphorae* (Fiorentino 1993–1994, 719; Wilson 1996, 89), suggesting that these coastal settlements may have acted as trading centres and an entry-point for goods arriving from the eastern Mediterranean. Could it be possible that part of the reason both settlements developed rectilinear architecture at this time was linked to the contacts and interactions they had with other cultures whose building traditions included rectilinear multiple-roomed houses with 'walls of a stone base and plastered mud brick superstructure reinforced with a wooden framework' (Crowley 2008, 266)? While many authors point out the similarities between the buildings at Thapsos and those of the Aegean (including Fiorentino 1993–1994, Holloway 1981, 85–86, 1991, 34–35, and Voza 1985) and link these to contact with this region, Tusa (1999, 175–176) goes as far to see the adoption of new building forms, the emergence of funerary architecture and rituals relatable to those of the Aegean, and the presence of imported goods, as 'signs of acculturation', the adoption of cultural elements and traits of one society by another. But this is a difficult process to trace archaeologically, particularly where the record is as fragmentary as it is for Middle and Late Bronze Age Sicily. 'Urbanisation' in itself is not necessarily a clear indication of ethnic or civic identity (Antonaccio 1997, 188). Blake (2008) has argued for a more minimalist position on interactions between Mycenaean and Italic peoples based on ceramic evidence, with little Eastern influence on other aspects of life and instead greater focus on intra- and interregional interaction (demonstrated in Blake 2013). What likely occurred was a combination of external influences and local socio-cultural developments, partly in response to these influences, resulting in the adaptation of existing settlement and domestic structures. But unfortunately there is no firm evidence for why these changes took place. What can, however, be seen at Thapsos and Cannatello is evidence for the interaction of two societies, at least on an economic level via the exchange of goods, and the resulting development of an individual cultural style, the ‘Thapsos culture’ (best demonstrated in the ceramic record), that takes elements from the material culture of both. External social-economic stimuli can lead to changing architectural traditions and would fit the situation here (Doonan 2001, 162; Table 1, 163).

From the 16th century BC there is a move towards densely clustered structures and the architectural definition of space, both domestic through enclosures or courtyard-like spaces, and at a settlement level through the erection of large, potentially defensive, walls at many coastal sites (explored in detail by Doonan; 2001). This corresponds to the appearance of Mycenaean pottery on the Aeolian Islands (Mee 2008, 380–381) and in the *necropoli* of south-eastern Sicily (Blake 2008, 5), and, Doonan states, reflects heightened levels of interaction, the creation of opportunities for social competition, and the establishment of more formal relationships with non-locals (2001, 160–161, 170, 172). Despite this, the rectilinear buildings at Thapsos and Cannatello at present appear to be an isolated phenomenon (Tusa 1994, 167), one that did not survive beyond the beginning of the Early Iron Age and does not have any clear links with the later widespread development and adoption of rectilinear architecture.

The latter part of the Middle Bronze Age saw the height of the Thapsos culture and rectilinear building activity at the site. Through the Late Bronze Age the evidence tails off — only Complex C has been dated to this period (Leighton 1999, 152; Voza 1985, 666). This roughly corresponds with the destruction of the Mycenaean palaces and the subsequent decline of its civilisation and influence throughout the 12th and 11th centuries BC (Deger-Jalkotzy 2008, 392). This would appear to support the idea that the growth, development, and decline of Thapsos was in some way connected to links with the Aegean and the exchange networks formed between the eastern and western Mediterranean. The finer details of the Thapsos phenomenon remain an enigma, leaving many unanswered questions concerning the status of the settlement, its interaction with the Aegean world, and why this affected architecture here in the way it did without further ramifications across Sicily as a whole.

The last round houses

Elsewhere on Sicily a large degree of continuity is seen in the construction of the majority of domestic structures. Throughout the end of the Middle and the Late Bronze Age, despite the fewer known archaeological sites, there is still some variation in the form and size taken by rounded dwellings on Sicily. While the largest, seen on Lipari (Bernabò Brea and Cavalier 1980) and at Sabucina, still measure c.7.00m in diameter (only slightly smaller than their predecessors), the size of the smallest has reduced to c.3.50m, also at Sabucina (Orlandini 1965). As in the preceding periods, the houses at Lipari are oval in form. At Sabucina, and Portella on the island of Salina, houses are more circular. Some of the structures at Lipari and Sabucina have annexes attached to them, increasing the domestic floor area and providing a separate space. Varying household requirements, such as number of inhabitants, status, and activity-related spatial needs, influence the initial size of, and perceived need to expand, domestic architecture.

Construction methods and materials also indicate continuity from the Middle Bronze Age. Foundations and the lower sections of walls are built up in irregular courses of roughly shaped stone. At Sabucina and Portella (Bernabò Brea and Cavalier 1968), where the steeper topography means terraces are often cut into the slope, the stone section of wall, surviving to c.1.60m in places at Sabucina (Orlandini 1965; Mollo Mezzena 1993), not only provides a waterproof layer, but also helps retain and support the soil behind it. Interestingly, at Sabucina the lengths of walls not required to fulfil any retaining role instead make use of bedding trenches with post-holes (Orlandini 1965) and were likely built up in wattle-and-daub. This suggests that the ability of a stone wall to retain and protect against ground moisture was the primary motivation for its use here. At Faraglioni low benches hug the interior wall of many spaces (Mannino 1982). Floors continue to be of rock or beaten earth. The presence of post-holes shows that the superstructure was of timber, as does the thick deposit of ash and charcoal seen at Sabucina (Orlandini 1965). The publications, somewhat limited in a number of cases, do not explicitly state what materials were used for the construction of the upper parts of these buildings, at most sites (Sabucina’s clearly timber-framed sections of wall being an exception) only the stone foundations and socles survive, which makes it difficult to determine whether or not wattle-and-daub was used. It is possible that the walls were built in stone up to their full height and that they supported the roof without the timber lacing necessary for wattle-and-daub structures.

As Sicily enters the Early Iron Age the number and diversity of known round structures reduces. At Monte San Mauro are found the last known examples of elliptical houses, while circular and oval structures are still seen at Monte Castellazzo and Polizzello, ranging in size from c.2.25m to c.3.40m in diameter (Hodos 2006, 99–101). The houses at Monte San Mauro are fairly large, measuring c.7.00m in diameter with a bench running along the internal edge of the wall (Spigo 1980–1981). Ortygia (a small island just metres from the coast at Syracuse) is also the site of Early Iron Age houses of the rounded tradition, although these are only partially preserved due to extensive building works in subsequent periods, just leaving sections of curved stone foundations and internal benches (Orsi 1918, 429–432). The form and incorporation of a low internal bench imply that houses at Monte San Mauro and Ortygia, and likely also Monte Castellazzo and Polizzello, followed the same building tradition that has been seen throughout the preceding Bronze Age. The well excavated and published site on the Cittadella Hill of Morgantina overlooking the plain of Catania and the upper reaches of the Gela Valley (Childs 1979, 377) provides us with the greatest detail on the construction of Early Iron Age houses of the rounded tradition.

Excavations have uncovered a number of houses dispersed across the summit and slopes of the hill, all of which appear to be apsidal in form, and of which Hut 31 (Fig. 6.1) is the best preserved. The topography means that, as at many other sloped sites encountered in Sicily, the builders cut a flat platform into the hill which was then incorporated into the building; the floor and the bottom c.0.80m of the wall on the uphill side being formed by the cut (Leighton 1993, 41). Hut 31 measures c.18.75 x 4.50m, giving an internal area equivalent to a circular structure with a diameter of c.10.36m, and is hence larger than any of the circular, oval, or elliptical houses known from this period. The lower sections of the walls are built up in irregular courses from un-worked stone with vertical holes indicating they were timber laced. The large quantities of daub recovered during excavation suggest that the upper parts of the walls were of wattle-and-daub (Leighton 1993, 42). Interestingly, at the rectilinear end of Hut 31 there is no evidence for the presence of a structural wall beyond two post-holes — it is possible that this end of the building was either left open or closed by an unincorporated wall constructed from perishable materials (Leighton 1993, 41). The main walls of the house therefore formed a ‘horseshoe’ shape without any integrated corners, hence the decision to place this apsidal form within the rounded tradition. As well as the timber posts incorporated into the walls, the roof of Hut 31 was supported by a line of three posts running down the centre of the building; it is likely that the roof was thatched and gabled (Leighton 1993, 42).

The arrival of the Greeks

Towards the end of the Early Iron Age the first true rectilinear buildings outside of Thapsos and Cannatello begin to appear. In general these are found at settlements founded by peoples from the Greek world — a statistic that may reflect the settlements targeted by archaeologists and could change with further excavation. One of the few indigenous sites to have produced clear evidence for rectilinear buildings dating to the Early Iron Age is Sabucina, overlooking the Salso River (there is also possible evidence for rectilinear structures, some of which potentially include multiple rooms, at Scirinda, Lentini, Dessueri, and Piano Vento; Castellana 1992; Wilson 1988, 114; Panvini 1994; 1997; Castellana 1994, 737), and even here it has been suggested that these houses may reflect early Greek, or a mixture of indigenous and Greek, designs (Mollo Mezzena 1993). At Sabucina continuity from the Late Bronze Age is seen in the rock-cut floors and walls of roughly shaped stone in irregular courses laced with timber to support the roof structure (Mollo Mezzena 1993). This is a similar construction method to that seen in the apsidal houses of Morgantina. It seems that, despite the change in form, many of the same building materials and techniques were utilised in these early indigenous rectilinear structures, suggesting continuity from the rounded tradition and the possibility that the transition between building traditions was a gradual altering of building elements rather that an abrupt shift.

The earliest houses thus far identified by the excavators as belonging to the Greek settlement at Naxos date to between 735 and 710/700 BC (Lentini and Whitbread 2012, 311, 313). Despite being truncated in places by later structures, there is one thing glaringly obvious about these three buildings: they are apsidal in form (Fig. 4.16). At least one of these structures (f), which reach c.11.00 x 3.00–4.00m, had multiple internal spaces divided by

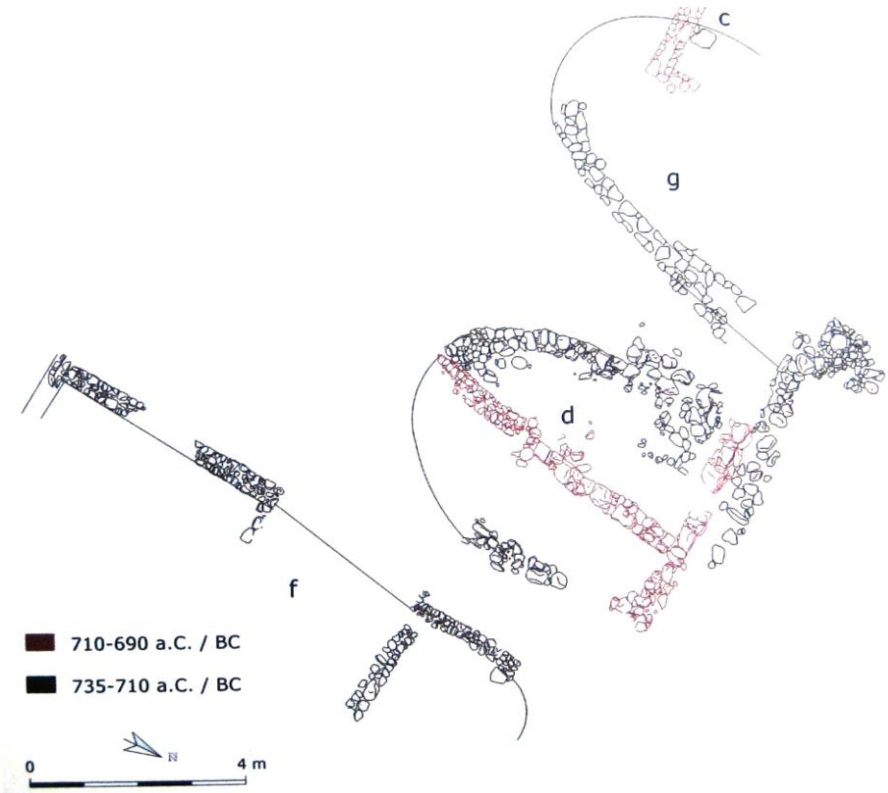


Fig. 4.16 Early Iron Age apsidal buildings at Naxos (plan available at the site, source: Parco Archeologico di Naxos).

partitions. All of the houses feature lower sections of walls built primarily from small un-worked local stones (basalt) in irregular courses, possibly with timber posts in the case of house g (Lentini and Whitbread 2012, 311). Unfortunately, any other details of materials and construction methods have long since been lost. But what makes these houses worthy of closer attention is the fact that, if they do indeed date to the Greek occupation of Naxos rather than a slightly earlier period, they are the only example thus far known in Sicily of the rounded tradition being used at a Greek 'colonial' site (Lentini and Whitbread 2012, 311). We cannot determine who actually built and lived in these apsidal dwellings; it is possible that the local population and the new settlers lived alongside one another with pre-existing Bronze Age/Early Iron Age building traditions continuing for a time. Procelli (1997, 518–519) suggests, on the basis of funerary evidence (ritual and grave goods), that indigenous people were present in Greek settlements (and likely *vice versa*), particularly in the form of women married to legitimise land ownership and alliances, and craftsmen and labourers.

It should also be remembered that the Greeks did not bring the rectilinear form to Sicily as a ready packaged building tradition. In the eastern Mediterranean house forms were undergoing changes very similar to those seen in Sicily: a combination of round and rectilinear shapes also existed in Early Iron Age Greece, and, as demonstrated by the houses excavated at Nichoria (Nevett 2010) and on Euboea (where the settlers of Naxos supposedly came from; Lentini and Whitbread 2012, 311), the apsidal form was far from unknown. Conglomerations of rectilinear units appear in the Aegean during the 8th century BC (corresponding to the earliest 'Greek' settlements in Sicily) at sites such as Thorikos in Attica (Hall 2007, 74), but it is not until the 7th century BC that multiple-spaced rectilinear structures become the dominant feature of the domestic landscape (Whitley 2001, 171). The apsidal buildings at Naxos reflect the continuing simultaneous evolution of house forms both in Sicily and Greece, and can be seen to emphasise the fact that the forms that develop in Sicily throughout the following periods are the result of a combination of changing cultural and social influences, of which the interaction and possible integration of indigenous and Greek populations was a part.

At the other early Greek settlement sites of Megara Hyblaea and Syracuse the earliest known houses are small and rectilinear, measuring c.4.00 x 4.00m (Vallet et al. 1976; Pelagatti 1982). This is much smaller than contemporary houses elsewhere in Sicily. Despite this, some do include physical internal divisions (for example House 5 at Naxos (Fig. 4.17) which measures c.3.50 x 7.50m and contains two internal spaces), or show evidence for the addition of rooms during the building's lifetime, as at Megara Hyblaea (Donner 1997, 149).

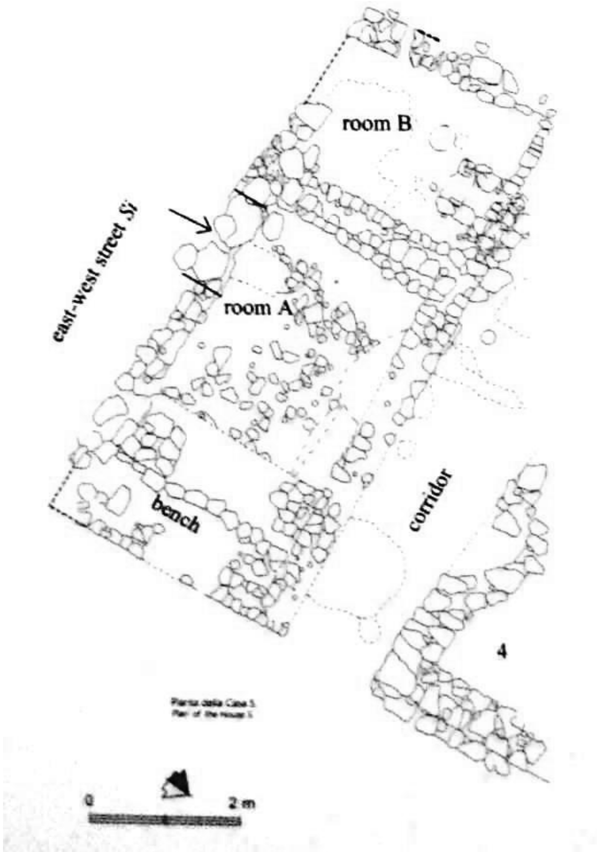


Fig. 4.17 House 5, Naxos, late 8th century BC (plan available at the site, source: Parco Archeologico di Naxos).

Both circumstances, internal division and extension, suggest that the adoption of the rectilinear form is related to a desire to physically divide spaces. At Megara Hyblaea the houses are situated in the northern or central area of c.100–120m^2 enclosures (Donner 1997, 149). Those at Syracuse also appear to have been within an enclosure (Pelagatti 1982). As well as indicating land division between different households, the use of lots and enclosures at these sites has been seen by some as a precursor to the full urban layout, that is of streets, *insulae*, and areas reserved for specific functions such as the agora (Donner 1997, 157–158). While the division of land into lots for individual households implies a degree of planning and social cohesion (van Dommelen 2005, 151–154), the evidence for several different grid plans at Megara Hyblaea (Osborne 1996, 240) and that the known surviving houses from this period amount to approximately 14 in number (and these are not densely distributed; Hall 2007, 108), indicates that, at least to begin with, this planning did not extend comprehensively across the entire site. In fact, it is likely that the first phase of the Greek settlements' history involved a small number of settlers (and possibly indigenous locals) who were 'reinforced by a steady trickle of newcomers' constructing a series of scattered houses, with a more formal plan and designated public spaces developing from the 7th century BC alongside an increase in population (Hall 2007, 107–109). It may be possible to link the continuing development of what we now call an ‘urban’ settlement layout to the processes of (re)defining social positions and identities for both the settlers and original local population within the context of the new settlement, with the reworking of various elements of the cultures involved resulting in new identities and new settlement plans (van Dommelen 1997, 309). That the grid plan appears in the Aegean from the 6th century BC, almost a century after it is seen in Sicily and around the same time many ‘indigenous’ Sicilian sites adopted it, implies that this process of (re)defining identities and relationships was indeed an influential element in Mediterranean settlement development (Baitinger and Hodos 2016, 23).

The foundations, and sometimes lower sections of the walls, of the houses at these early Greek settlements are typically constructed from roughly shaped stone. Above this the upper part of the wall is often built from mud brick, as far as can be determined from the presence of compacted clayey materials at sites including Herakleia Minoa and Syracuse, (Vallet et al. 1976; Pelagatti 1982). These were sun-dried and had less resistance to moisture than the fired bricks that would be used in the Roman period; often only traces survive in the archaeological record which can be difficult to identify and record. As with the wattle-and-daub structures, stone foundations and socles help prevent groundwater damaging the walls. Strong right-angled corners are produced by alternating the direction of bricks, and stones, at the point of the corner itself, hence distributing the weight of the wall, and any loads it bears, around and through the corner. The resources required for the production of mud bricks and daub are essentially the same: clay, water, and tempering materials such as straw, animal hair, and small stones or gravel (Malacrino 2010, 48); there are multiple ways of utilising these particular resources for the construction of domestic buildings. However, mud bricks do reflect a greater investment of time and labour; once the ‘daub’ mixture has been made, it has to be shaped (typically in wooden moulds) and left to dry. Further factors, such as the availability of timber (a necessity for the construction of wattle-and-daub walls, but not those of mud brick) or existing building traditions, will have influenced the decision as to which method to adopt. Interestingly, as far as can currently be determined, mud bricks are a new phenomenon in Sicily. The existing Sicilian population had not previously known how, or chosen, to produce mud bricks, but they (alongside wattle-and-daub) do have an extensive history of use in the Aegean (Ainian 2001, 140–141; Crowley 2008, 266). This implies that the presence of mud bricks at early Greek foundations in Sicily is due to the settlers utilising the construction methods of the building traditions of the Aegean, those they would have known and experienced in the settlements they came from.

Reign of the Rectilinear

The 7th and 6th centuries BC witnessed the proliferation of new settlements along Sicily's north and south coasts, all of which have produced evidence for rectilinear domestic structures. But the rectilinear tradition does not remain a coastal phenomenon; by the beginning of the 6th century BC the houses constructed at Monte San Mauro, just south of Caltagirone, were thoroughly rectilinear (Spigo 1979; Belvedere 2000; Cordsen 1995, 109–111), while elsewhere all houses excavated dating from the Archaic period onwards thus far appear to also have been rectilinear in form. Throughout the Archaic and into the Classical period Sicily's settlements became increasingly 'urbanised'; they developed the planned layouts, monumental architecture, and infrastructure that characterise the cities of the Classical and Hellenistic periods (see van Dommelen 2005). The formalisation of settlement space and layout, and the increased level of management that comes alongside the infrastructure such as drainage, roads, and public cisterns needed to support an increasing population (Westgate 2015, 49–50), provides the context for the houses explored here.

As we move through these later periods it is important to remember that, as Fitzjohn discusses (2007, 219–223), rectilinear houses built at settlements where occupation can be traced back prior to the arrival of Greek settlers do not represent a wholesale adoption of 'Greek' building traditions, but are instead the result of correspondence and interaction between different groups of people through a process of (re)defining identity, place, and space. Indeed, at this time 'Greek' identity itself was coalescing, with shared and differing traits and practices forming at each settlement (Baitinger and Hodos 2016, 18). That the rectilinear form appears to be universally used across the island after the Early Iron Age implies that, despite variations in the level of direct contact, correspondence and interaction between the interior and 'Greek' coastal settlements must have been particularly active, potentially following intra-regional networks like those described by Blake in pre-Roman west-central Italy (Blake 2013); 'as the different cultures of Sicily continued to interact, their modes of collaboration and competition coalesced into commonly shared and understood forms' (Baitinger and Hodos 2016, 23). The changes seen in building traditions were a part of wider developments taking place in social organisation and the definition of space.

Materials and methods

All of the excavated rectilinear houses use stone, either shaped or roughly shaped and frequently with a rubble fill, as foundations (Table 1, Appendix I). It is possible that mud bricks continued to be used across Sicily for wall construction despite the fact that in general

Fig. 4.18 Mud brick walls in House IIb, Herakleia Minoa (author, August 2015).

there is little evidence to confirm this. At Herakleia Minoa the late 4th century BC houses IIa and IIb (De Miro 1979, 717–720) do feature surviving mud brick walls, and even here the effect of water infiltration can be seen in the agglomeration of the bricks. These walls are built upon a fairly regularly coursed stone socle, that both protects the bricks from ground moisture and acts as a retaining walls against the slope of the hill, then coated with a layer of plaster (Fig. 4.18). This further helped to protect the mud bricks from erosion and general wear and tear.

At many sites it is clear that the primary wall construction material was increasingly stone, particularly during the Classical and Hellenistic periods. Stone was accessible at many settlements: outcrops of limestone are common across Sicily meaning it rarely had to be transported great distances. At Morgantina many of the buildings were constructed from stone obtained from the Serra Orlando Ridge itself (where the settlement was re-focussed in the mid. 5th century BC; Antonaccio 1997, 167), with some even built in their own quarries (Sjöqvist 1960, 130). The quality of construction varies from roughly shaped stones in irregular courses with a rubble fill to more regular carefully shaped masonry. In some cases it is clear that the choice of construction relates to the use of the wall: retaining and load bearing walls were always more solidly built (for examples those at the steep hillside settlement of Solunto on the northern coast of Sicily; Fig. 4.20), but walls added at a later date, for example to subdivide a pre-existing space or block up a doorway, were often less carefully constructed and clearly not expected to play a structural role (see the House of the

Fig. 4.20 Detail of retaining wall construction at Solunto (author, August 2015).

Fig. 4.19 Detail of the blocked up doorway between rooms 2 and 3 of Phase 2 of the House of the Official, Morgantina (author, September 2014).

Official at Morgantina; Fig. 4.19). When covered with plaster it would have been difficult to tell the difference from the original sections of walls.

In contrast to the earlier wattle-and-daub and timber-laced stone structures, the main load bearing element of these mud brick and stone built houses was the wall itself. It is likely that timber was now primarily used for the construction of the roof frame and any internal upper floor structures, as well as scaffolding (see DeLaine 1997, 91–92 for a discussion of Roman scaffolding and timber). The more worked a stone is the more time it takes to prepare, but also the easier the laying of the wall is as the builder is dealing with flat edges rather than an assortment of angles, shapes, and sizes. The more skilled part of building a stone wall has shifted from construction to preparation. Stone offers increased longevity in comparison to wattle-and-daub and mud brick due to its greater resistance to erosion. This is reflected in the evidence for some stone houses, including many of those excavated at Morgantina, Monte Iato, and Solunto, being continuously occupied for over one hundred years, often undergoing alterations during this time and suggesting that adaptability was a desirable quality of rectilinear architecture. The House of the Official at Morgantina was divided into two houses in c.200 BC (Stillwell 1963, 167–168), while Peristyle House E2 at Monte Iato had a bath complex added to its north-east corner. This implies that domestic buildings were seen as a material culture worth investing in beyond the scope of a single generation, society perhaps now viewing the household as a more fixed unit and the house as the locus of this and its status.

The rectilinear form is more suitable for the new material which, potentially from the beginning of the 6th century BC at Monte San Mauro (Belvedere 2000, 59; Spigo 1980, 157–159; Spigo 1980–1981), and certainly by the 4th century BC elsewhere, became increasingly common for roofing: tiles. It is not, however, possible to link the adoption of roof tiles to the adoption of the rectilinear form — roof tiles post-date the spread of rectilinear houses by around two hundred years. The earliest known tiles date to the first half of the 7th century BC and are found almost exclusively in association with temples both in Sicily and Greece (Wikander 1990). It is therefore likely that many early rectilinear buildings continued to utilise thatch as a roof covering. But it is possible that the move to rectilinear architecture paved the way for the later development and adoption of the roof tile.

The principal types of roof tile found throughout the Mediterranean are terracotta, large, and flat, such as the Corinthian and Hybrid tiles, or slightly concave, as is seen in Laconian tiles (Malacrino 2010, 88). These are much better suited to flat roof surfaces and therefore likely designed for them. It is more difficult to tile a round roof than it is a rectangular, gabled one. A round roof requires convex tiles made specifically to match the curvature of the roof superstructure — this can be done but they have to be produced for each individual building as the curvature of the tile is dependent upon and varies with the diameter and height of the building. Thin tiles or slices of stone can be used to cover round roofs, but these have to be relatively narrow in order to allow for the contouring of the roof, and there appears to be little evidence for their use in the ancient Mediterranean.

The standardised size and shape of terracotta tiles suggests a formalised manufacturing process and would have made them easier to mass produce, and therefore more readily accessible; the clay being shaped in pre-prepared moulds and fired en-masse in kilns. Another reason for the widespread adoption of the tile could be that terracotta has a greater longevity than organic materials: fire-hardened clay is extremely durable (hence its overwhelming presence at archaeological sites from the Archaic period onwards), and so tiled roofs required less maintenance and frequent replacement than roofs covered with thatch. This made tiles more suited to the needs of a society that expected domestic buildings to survive for multiple generations. But the fact that they are not found in clear association with every house excavated from the Classical and Hellenistic periods on Sicily implies that thatch was potentially still utilised by some of the population. As was noted in Chapter Three, the record of known excavated houses is likely to be somewhat biased towards more urban environments and larger buildings, meaning in many cases we are dealing with the average and above sections of the population in terms of status and wealth. As the earliest roof tiles were used on temples (Wikander 1990) and only later become more common in domestic architecture, it is possible to argue that roof tiles were seen, at least initially, as a status symbol and were adopted as such, with increasing numbers using them as production technologies and techniques improved (the simplification — smaller pan and separate pan and cover tiles — and later standardisation of design) thereby decreasing production times, reducing costs, and easing handling (Wikander 1990, 289; Winter 2002, 227). If this was the case then it suggests the Archaic and Classical periods witnessed a degree of social stratification with inequalities reflected architecturally.

Adopting terracotta tiles as a roofing material also had wider impacts on the structure. A thatched roof is an incredibly efficient thermal insulator; it prevents the warm air rising in the interior of the house from escaping and the heat of the sun from heavily influencing the internal temperature. A roof covered with terracotta tiles, in contrast, has inferior insulating properties, although if an attic space is incorporated this can help mediate diurnal temperature variations (Anna-Maria 2009, 1097). Stone walls, with their high thermal mass, provided fairly good insulating properties to the building, helping to keep them cool in the summer and warm in the winter, as well as storing heat during the day and re-releasing it at night (Alp 1991, 810).[7] The thicker the wall the greater its insulating properties. That a combination of the two most thermally efficient material technologies, thatch and thick stone walls, does not appear to be widely found in Classical and Hellenistic settlements suggests that the association of terracotta tiles with status, or the reduction of maintenance, was more important to the inhabitants than the environmental gain of thatch.

[7] The U-value of thatch is around 0.3, terracotta roof tiles 0.85, limestone 1.26–1.33, and wattle-and-daub 1.69–2.03 (Baker 2011, Table 2. media.claspinfo.org; engineeringtoolbox.com; greenspec.ac.uk).

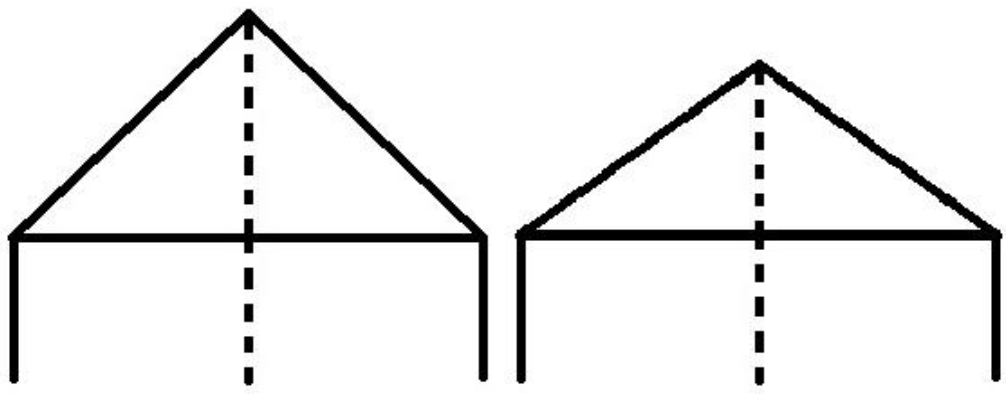


Fig. 4.21 The left house has a roof with a pitch of 45°, and the right with 35°.

As has been seen, thatched roofs require a pitch of approximately 45° in order to shed water effectively. Tiled roofs, however, only require a pitch of around 35° (Watkin 2005, 24). This will have had two main impacts upon the roof structure. Firstly, for a house of the same width, a shallower pitch meant that the roof did not need to be as high and so needed shorter lengths of timber for its rafters and any supporting posts (Fig. 4.21). Secondly, the reduced height and gradient also meant that each face of the roof was smaller in area than the equivalent face of a thatched roof, thus reducing the quantity of both roofing material and battens required, the area presented to the wind and so the loads on the building in comparison to a roof with a greater pitch. Together this means that houses that used terracotta roof tiles likely had a smaller roof, in terms of overall height and area, and therefore slightly less internal roof space than those that used thatch.

Variations on the rectilinear theme

Within the rectilinear building tradition there is much less variability of form than was found in the rounded tradition; the basic rectangular or square shape, typically with right-angled corners, is found right across Sicily. Where differences in exact form are found it is often due to topography and the wider urban landscape. For example, the layout of the road system at Megara Hyblaea, with its two slightly different orientations centring on the agora (Fig. 4.23), means that rather than being fully rectangular, some of the *insulae* are more trapezoidal in shape. As a result a number of the houses, such as 49,19, are also trapezoidal (Fig. 4.22). It is also possible for the size and form of houses to be influenced by the presence of existing structures through the process of in-filling (Spence 2004, 146). Solunto is greatly shaped by its topography. Perched on a high stepped plateau above the northern coastal plain and surrounding river valleys, a series of deep terraces cut into the steep slope allow the streets of Solunto to follow a grid plan. The topography is such that many of the houses were

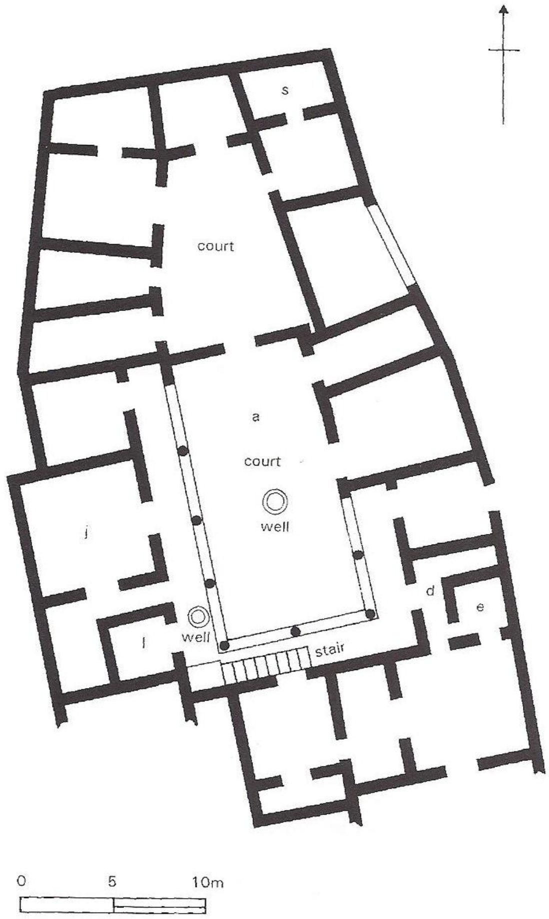


Fig. 4.23 The excavated area of Megara Hyblaea (plan available at the site, source: Soprintendenza BB.CC.AA. di Siracusa).

Fig. 4.22 House 49,19, Megara Hyblaea (Nevett 1999, fig. 52, 146).

built over several levels in order to cover the desired floor area (Wolf 2003; Milone 2013, 48; for example the 'Gymnasium' House, Fig. 4.24). Elsewhere in the settlement, the curve of some of the roads as they snake their way up the slope has led to the corners of the end houses being rounded or even cut off, as is seen where the Via Agora meets the Via Delle Terme (Fig. 4.25).

From the Archaic period houses across Sicily begin to incorporate a new architectural element; the courtyard. Some of the largest houses from the Hellenistic contain two internal outdoor spaces embellished with colonnades to form peristyles. Even the smaller structures feature two or three rooms along one or two sides of a courtyard, although in the case of Casas 1, 3, and 4 at Monte San Mauro (Belvedere 2000, figs. 1 and 2; Fig. 4.26) there does not appear to have been a courtyard included in the building. It is possible that many of the smallest domestic buildings were not necessarily recognised as such during excavation as many one or two-spaced structures are often identified as shops or workshops rather than domestic spaces, even if they do not include features and finds that would indicate these activities. If this is the case, the courtyard is still an important feature of domestic architecture

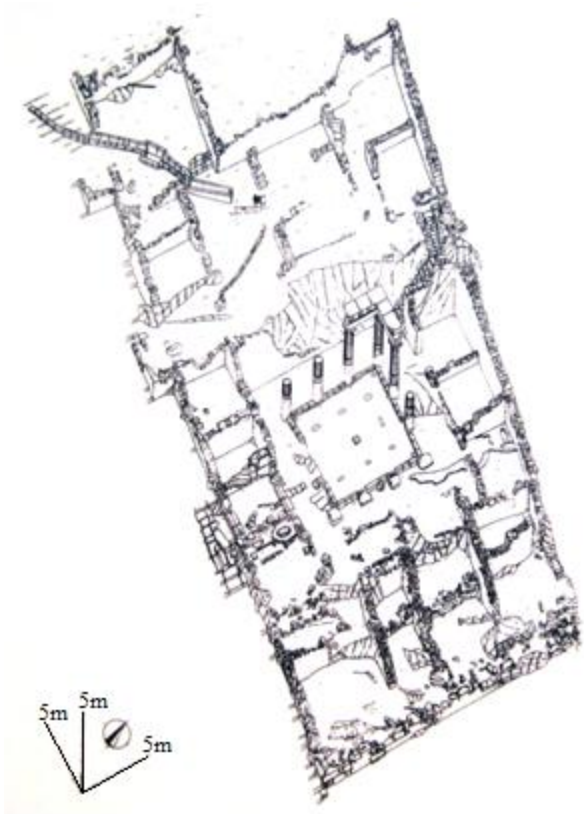


Fig. 4.24 The 'Gymnasium' House, Solunto (plan available at the site, source: Parco archeologico di Solunto).

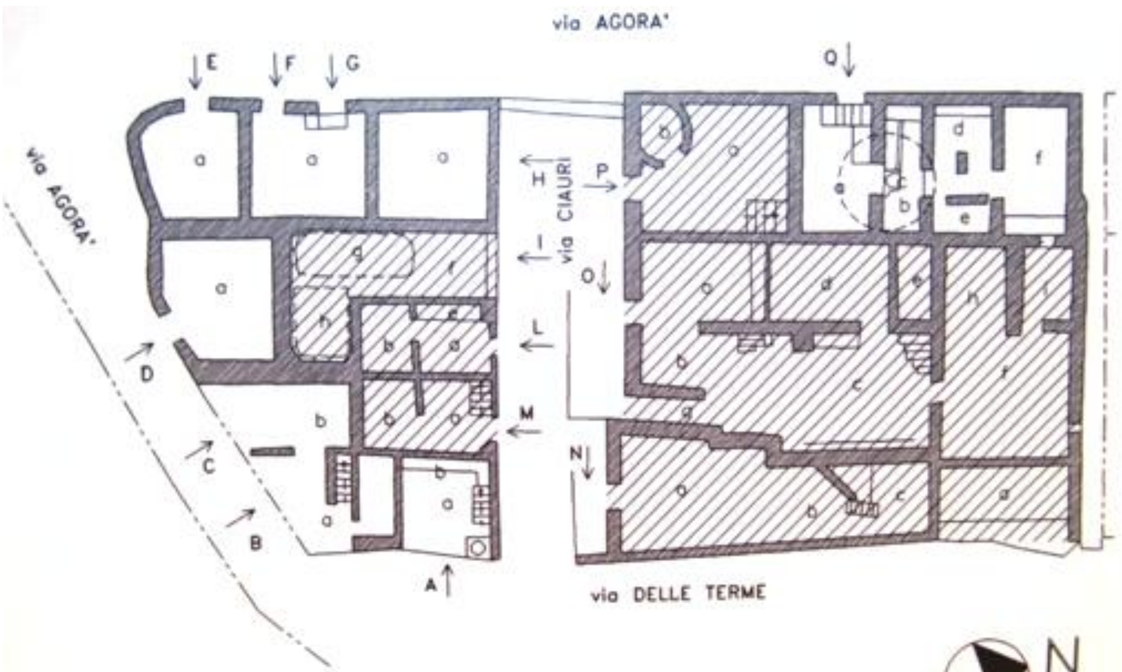


Fig. 4.25 The Thermae District, Solunto (plan available at the site, source: Parco archeologico di Solunto).

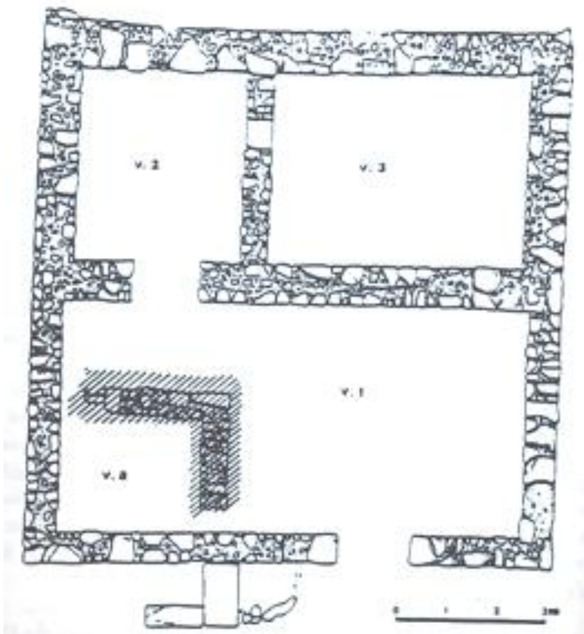


Fig. 4.26 Casa 1, Monte San Mauro (Spigo 1979, fig. 2, 21).

from the Archaic period onwards, but is only fully incorporated once houses reach a certain size, seemingly c.100m^2 according the available data (Table 1, Appendix I), although there are a few smaller exceptions.

The move from round to rectilinear domestic architecture in Sicily is not a linear progression, but rather a meandering path involving changes in the ways materials are used and the construction methods and technologies utilised. From round wattle-and-daub buildings where the primary support structure is the timber frame and the exact form varies structure to structure, to more regular stone rectilinear houses where the walls are the main load-bearing element; this shift occurs piecemeal with different changes taking place at different rates in different areas of the island throughout the Early Iron Age. These developments are tied up with alterations in the ideas and requirements surrounding the role of the house, particularly an increasing desire for adaptability, longevity, and the formalisation of the space. The form taken by a house is the result of a combination of physical and socio-cultural factors. Firstly, the available materials, their physical properties, and the methods required to build with them. The decision as to which of these are selected is influenced by factors such as climate (a physical factor), the level of skill and labour available, and existing building traditions (socio-cultural factors). Further details of the form and construction of domestic buildings are shaped by ideas of wealth and status, expected length of occupation, structural requirements, as well as more external factors such as topography and available space. As these influencing factors fluctuate, change, evolve, and develop, so does the form taken by domestic spaces.

Chapter Five

The Subdivided House

Among the wider developments taking place within the move from round to rectilinear forms of domestic architecture on Sicily was the progressive increase in the size of the largest houses constructed. Alongside this can also be seen an increase in the number of internal spaces they include; many of the earliest houses are formed of just one, contrasting with houses from the Classical and Hellenistic periods where it is not uncommon to find houses with eight or more rooms, while some, such as the House of the Arched Cistern at Morgantina, contain nearly thirty (this particular house has twenty-seven rooms plus two peristyle courtyards). Over the course of this chapter both of these factors and their relationship with the construction and the socio-cultural elements of the house will be explored in more detail.

The Number and Size of Spaces

Size has already been touched upon in relation to construction methods and form, but this by no means revealed the whole story. House size data collected from archaeological reports and plans allows the exploration of some of the patterns in the development of domestic architecture in Sicily and the relationship between size, form, and subdivision. By examining the evolution of average total house size from the Neolithic to Hellenistic, and the range and variety of sizes in relation to the number of spaces found within the house and the sizes these take, I hope to further develop our understanding of the various factors that influenced these aspects of the physical domestic space and their role in its construction. Such an understanding will lay the foundations for the exploration of domestic spatial organisation, and so the interaction of the physical and socio-cultural parameters in the construction and living-in of houses in Sicily.

There is one factor that must be taken into account when considering house size and subdivision: upper floors. A number of Sicilian houses from the Archaic periods onwards feature stair bases and therefore must have contained at least a utilised roof space, if not a second storey. Unfortunately these houses are rarely preserved to a great enough height to reveal much about this additional domestic space, other than it existed. Therefore the analyses below show the minimum total area and number of spaces, but it should be born in mind that this additional space will have added an extra dimension to the living-in of these houses (as has been shown by Spence (2004) for the houses at Amarna). It is not only the later houses included in this study for which it is possible that we are missing additional living space: it is entirely possible that, like the Kabyle house (Bourdieu 1972, 89–91), the earlier single-spaced round houses incorporated platforms built into the roof space, thus providing further living or storage areas that we are unable to trace archaeologically. Again, as this cannot be confirmed, the figures calculated here represent the minimum living area presented by these structures.

Size matters

Fig. 5.1 shows the average total size of houses for each period. It is immediately clear that up until the end of the Early Iron Age, some 5000 years, the average house size in Sicily stays fairly stable: around 36m^2, equivalent to a building with a diameter of c.6.85m. These are the periods dominated by the rounded tradition of building (although the Early Iron Age also included rectilinear architecture). Bearing in mind the potential excavation bias towards larger urban structures throughout the later periods, the Archaic sees a huge leap with the average total house size rising to 141m^2, four times larger than the preceding millennia: a comparatively quick and dramatic shift. This continues in the Classical period, but it is the Hellenistic which sees the construction of the largest houses, pushing the average up to

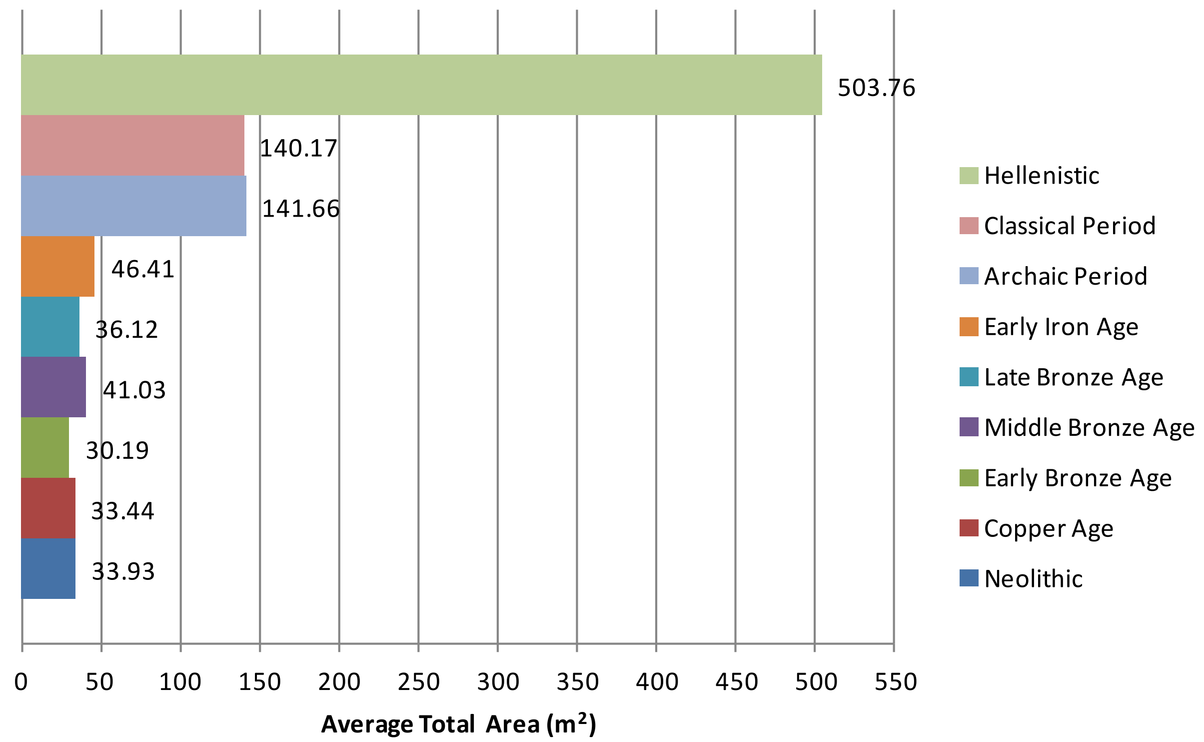


Fig. 5.1 Average total area (m^2) covered by houses during each period.
Sample size: Neolithic – 4; CA – 6, EBA – 19, MBA – 17, LBA – 6, EIA – 11, Archaic – 12, Classical – 23, Hellenistic – 18.

c.500m². The move to the fully rectilinear form, and the apparent abandonment of round buildings for domestic purposes, correlates with this dramatic shift in the average size of the houses excavated in Sicily. A transition occurred in the overriding building regimes between the Bronze Age and the beginning of the historic period in the Early Iron Age.

Alongside this larger step change are smaller scale variations within individual periods, most likely linked to finer-grained dynamics within the social history of Sicily. Despite the wider building traditions of round and rectilinear, there is variety in the form of the houses within the same period, and even on occasion between contemporary buildings at the same settlement (for example, at Early Bronze Age Lipari). This variety is also evident in house size. Fig. 5.2 shows the maximum, minimum, and median size of the houses known thus far from each period. Both the smallest and largest domestic buildings see some variation throughout the earlier periods. During the Neolithic the smallest structures measure

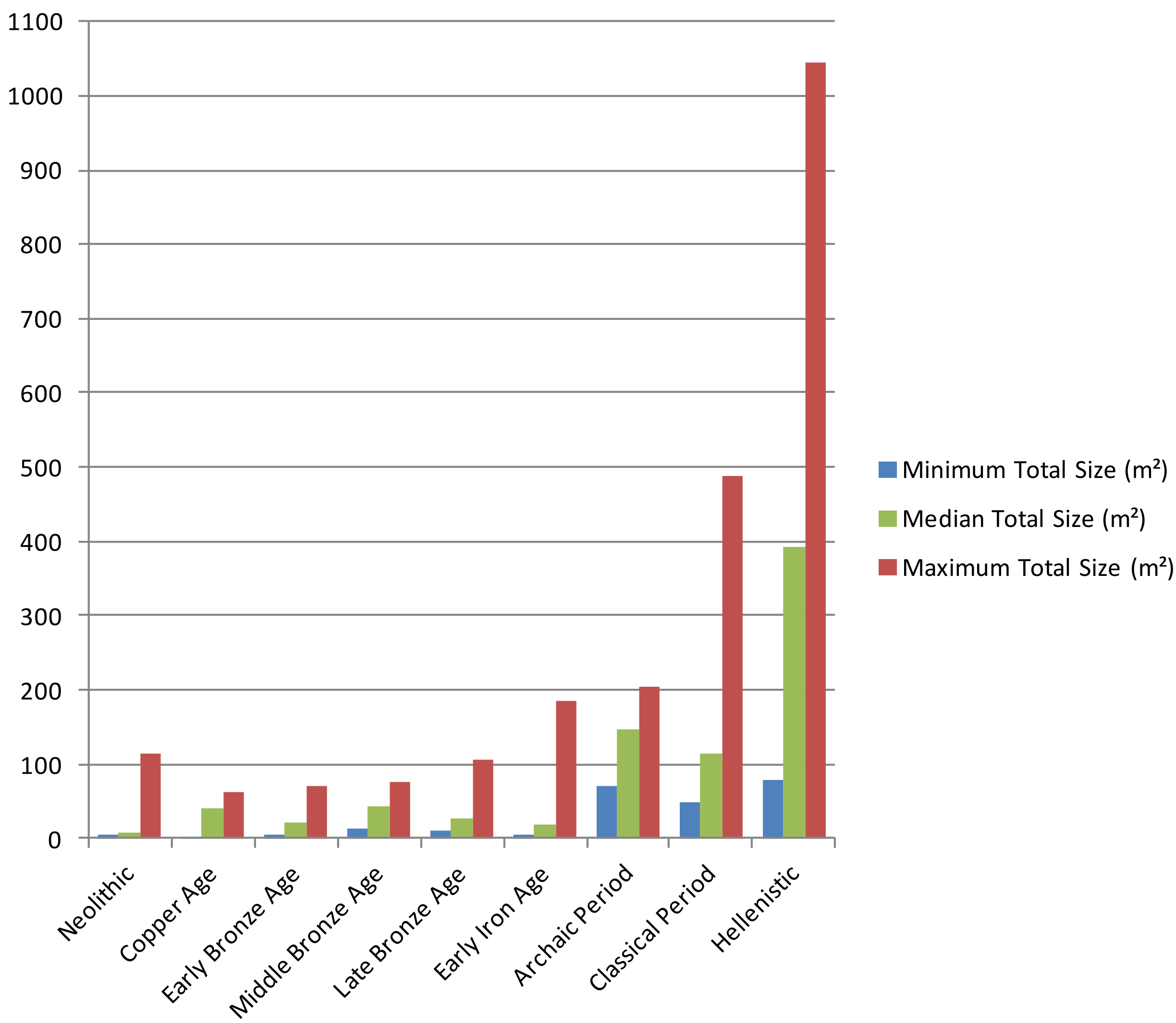


Fig. 5.2 Graph showing the minimum, median, and maximum sizes (m²) reached by domestic buildings in each period. Sample size: as Fig. 5.1.

just c.2.50m in diameter (4.91m^2) and were excavated at Piano Vento (Castellana 1985–1986; 1987a). In contrast, the compounds at Mandria included a roofed area of at least c.10.00 x 11.50m (115m^2), but as most houses at this time were much smaller the median remains low. Similar contrasting sizes can also be seen in the Copper, Bronze, and Early Iron Ages suggesting that this range is typical rather than due to one or two anomalies within the archaeological record. It is interesting to note that the Early Iron Age and Middle Bronze Age see the highest average house sizes for these periods, but for different reasons. The Early Iron Age features a handful of larger houses excavated at Morgantina, whereas the largest houses of the Middle Bronze Age are in general smaller than those of the Copper and Early Bronze Ages: what increases the average is the fact that the smallest known houses (c.4.00–4.80m in diameter at Punta Milazzese on Panarea and at Madre Chiesa di Gaffe; McConnell 1992, 38) are larger than those of the surrounding periods, and that more of the houses found cover a larger area (hence a median of 42m^2 in comparison to 21m^2 in the Early Bronze Age and 19m^2 in the Early Iron Age).

From the Archaic period onwards, the area encompassed by the largest dwellings, and the number of these found, increases. The 6th century BC saw many houses over 100m^2, with some, such as House 1 at Monte Iudica and Houses 1 and 2 near the Temple of Zeus at Agrigento (Fig. 5.3) reaching c.200m^2. These houses are either purely rectilinear in form or

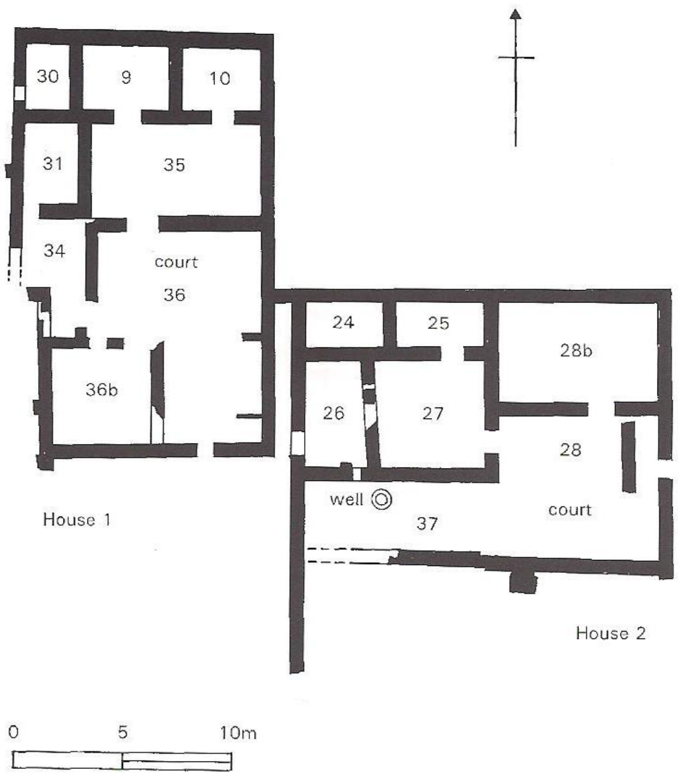


Fig. 5.3 Houses 1 and 2, Agrigento (Nevett 1999, fig. 46, 136).

include a courtyard, which is typically located on one side of the roofed area and often contains the entrance to the house — as can be seen at Megara Hyblaea and Agrigento. Although there are potential biases in the available data (see Chapter Three), it also appears that the Archaic period witnessed an increase in the size of the smallest houses identified; houses 63,2 and 33,30 at Megara Hyblaea (Fig. 5.4) cover around four times the roofed area of the Early Iron Age rectilinear structures (c.13.00 x 5.00m in comparison to c.4.00 x 4.00m) with an even larger footprint (c.14.00 x 12.00m) when the courtyards are taken into account. It should, however, be noted that the combined area of the earlier houses at Megara Hyblaea and Syracuse and their surrounding enclosures is not much less than the Archaic domestic structures; here the houses were expanded to fill what was originally the enclosure and hence the household itself is not necessarily taking up any more space.

Throughout the Classical period smaller houses, of a comparable size to those found at Archaic Megara Hyblaea, continue to be built; many of those excavated at Gela cover c.100–180m^2 (Table 2, Appendix I), with the smallest (excavated at Naxos) comparable in size to the larger houses built in the rounded tradition. Yet the maximum size of houses constructed at this time is much bigger: House 14 in *insula* C4 at Naxos (Fig. 5.5) measures c.19.50 x 18.60m, covering an area of well over 300m^2, while House VI 5 at Himera extends for 486m^2. This variation in size is seen even within individual settlements and *insulae* — House 14 is constructed alongside houses (9, 11, 12, and 13) measuring c.9.20 x 5.50m (Wilson 1996, 79). The median for the Classical period is 113m^2, much smaller than the

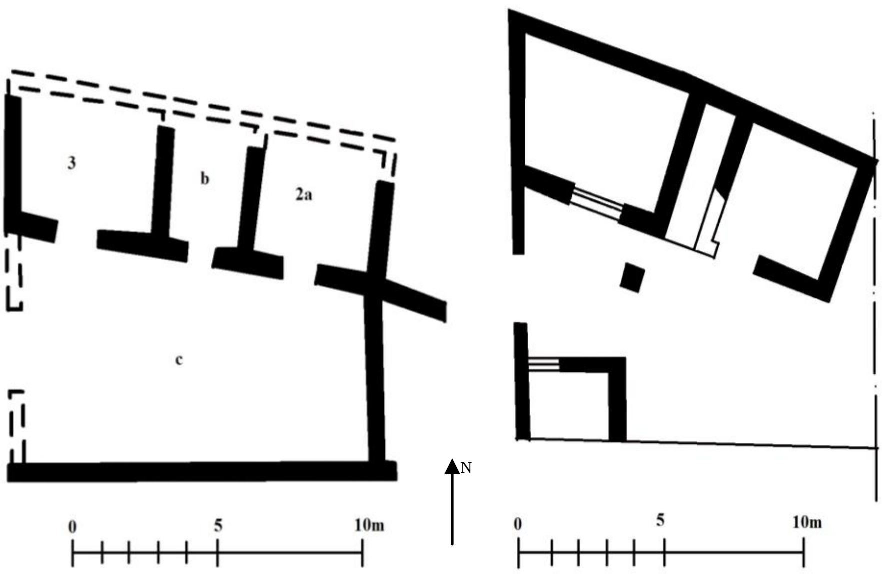


Fig. 5.4 Houses 63,2 (left) and 33,30 (right), Megara Hyblaea (based on information available at the site, source: Soprintendenza BB.CC.AA. di Siracusa).

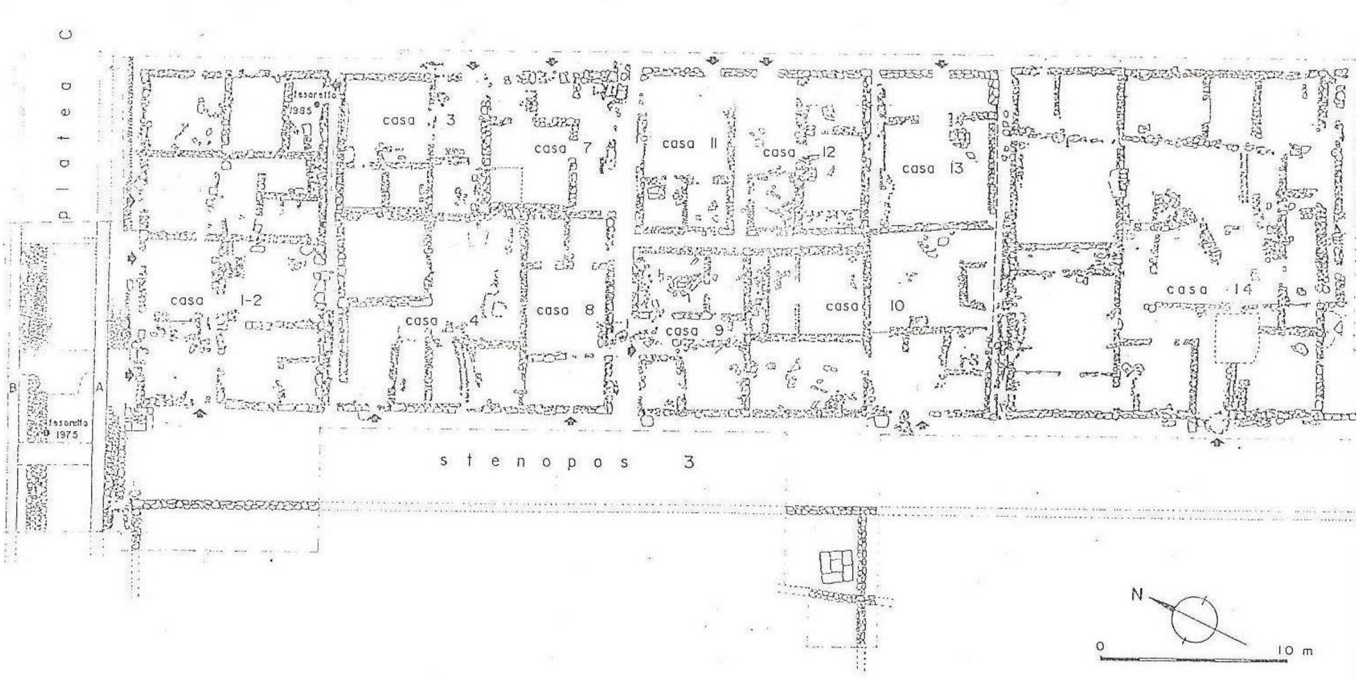
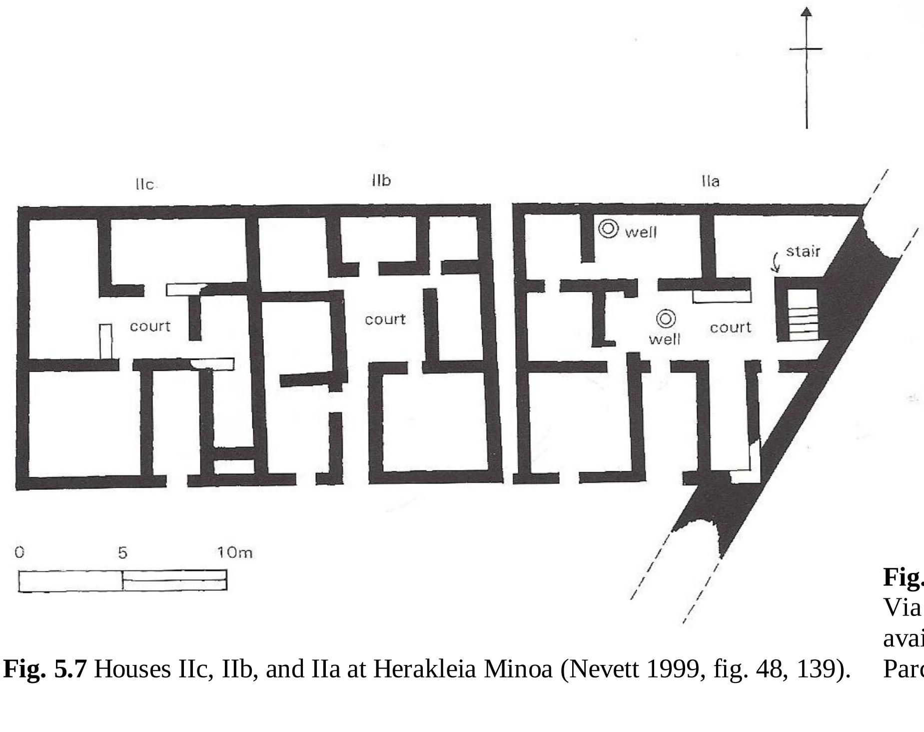


Fig. 5.5 *Insula* C4, houses 1–14, Naxos (Lentini 1993–1994, fig. 3, 1006).



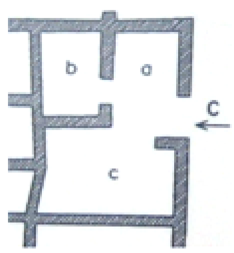


Fig. 5.6 House C south on the Via Natoli, Solunto (plan available at the site, source: Parco archeologico di Solunto).

Fig. 5.7 Houses IIc, IIb, and IIa at Herakleia Minoa (Nevett 1999, fig. 48, 139).

largest houses at this time implying that while the biggest houses were getting bigger, the majority were of a more modest scale.

But it is the Hellenistic period that saw the widest range of house sizes. Some of the largest excavated in Sicily so far include Peristyle House I at Monte Iato which covers an area of c.762m^2 (Fig. 6.3) on the ground floor alone (a stair base indicates the presence of an upper floor), and House 49,19 (Fig. 4.22) at Megara Hyblaea approaching 1000m^2. It is the presence of such large houses that has brought the average total size up to c.503m^2. But this does not, however, mean that the size of the smallest also increased; Houses IIc and IIb at Herakleia Minoa (Fig. 5.7) both measure c.14.00 x 11.50m (161m^2), while House C south on the Via Natoli at Solunto (Fig. 5.6) covers just 10.50 x 7.40m (77.70m^2). It is likely that even smaller domestic structures did exist but have not been identified during excavation or published. Therefore it is particularly useful to also consider the median Hellenistic house size: 392m^2. This figure is more representative of the period, but still larger than the maximum house size of all but the Classical period.

The overriding pattern witnessed in the later periods, encompassing just under 1000 years, is one of a widening gap between the smallest and largest houses constructed across Sicily. This coincided with the widespread and seemingly wholesale adoption of the rectilinear form for domestic buildings.

The subdivision and expansion of domestic spaces

Alongside trends in the overall size of the houses of ancient Sicily, it is also important to look at the changes taking place within their physical makeup. First let us look at the relationship between the total size of each house and the number of individual spaces within it (Fig. 5.8). There is a dense cluster of houses with one, occasionally two, spaces that are all at the lower end of the scale in terms of total size, up to c.60m^2. These houses predominately date from the Neolithic through to the Early Iron Age, and therefore the rounded building tradition. Once houses reach over this area, it is not unsual to find that they contain up to five spaces, with those approaching 200m^2 featuring up to ten. Houses with two and three spaces range in date from the Middle Bronze Age right up until the end of the Hellenistic period. This suggests that such houses were a not uncommon part of the residential landscape of Sicilian settlements, regardless of building tradition. However, houses with four or more spaces date exclusively to the Archaic period onwards implying that this increase in subdivision could be linked to the wider developments taking place in domestic architecture at this time, in particular the adoption of the rectilinear form. Together these groups at the

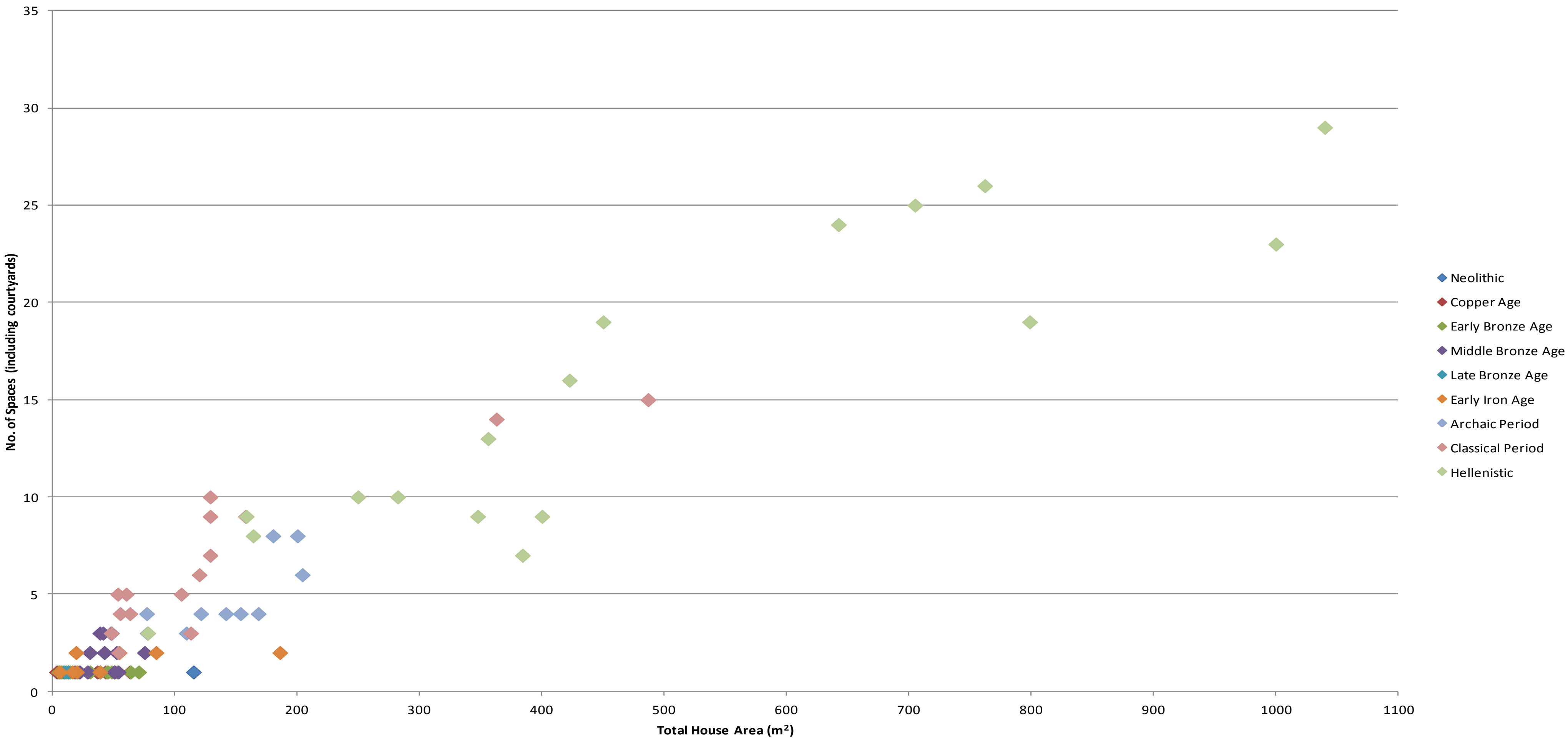


Fig. 5.8 Graph to show the relationship between total house area and number of internal spaces.

lower end of the size scale form a cluster in which can be seen a generally equal progression in the increase in total size and subdivision, with the expansion of the domestic space typically meaning the addition of one or two individual spaces.

Between 250m^2 and 450m^2 the range of total size and number of internal spaces (all houses dating to the Classical and Hellenistic periods) becomes more dispersed with a continuing trend for larger houses being more subdivided (although three Hellenistic houses cover areas of c.400m^2 with seven and nine spaces in contrast to the thirteen to fifteen of others of a similar size). These houses show a more decided increase in the maximum number of spaces found within each. All of the houses measuring over 600m^2 include nineteen or more internal spaces and date exclusively to the Hellenistic period. These form the third cluster on the scatter diagram. They are fewer in number (perhaps due to the fact that larger houses required greater economic status to construct — an idea explored below) and despite containing a relatively narrow range of number of internal spaces, do range widely in total size.

This can perhaps be linked to the incorporation of multiple large courtyards: the largest houses, House 49,19 at Megara Hyblaea and the House of the Arched Cistern at Morgantina, both include two courtyards. Fig. 5.9 compares the area covered by the house as a whole with the area encompassed purely by courtyards and their associated peristyles (where present). Those in House 49,19 measure 69.36m^2 and 220.72m^2, while in the House of the Arched Cistern the courtyards cover 151.30m^2 and 115.50m^2, and represent the houses with the largest courtyard areas, along with Phase 1 of the House of the Official at Morgantina, on the graph. These courtyards alone occupy a greater area than many earlier houses and can perhaps be seen as at least partly responsible for the plateau in the number of individual spaces in the larger houses of the Hellenistic period. This graph shows that in general, as houses got larger, they typically incorporated larger outdoor spaces, sometimes within multiple courtyards. Smaller houses had smaller courtyards, and in a handful of cases, no internal outdoor space at all.

But if we look at Fig. 5.10 it can be seen that the ratio between the total area of the house and that of its courtyard/s could and did vary. Some houses in the Archaic and Classical periods feature courtyards nearly as large, if not larger, than the roofed area of the house (the courtyard of House 33,30 at Megara Hyblaea covers 92m^2 of the building's total 168m^2 — over 55%), while others, such as House IIb at Herakleia Minoa, incorporated a courtyard covering closer to 10% of the ground plan (16m^2 of 158m^2). This suggests that the exact size of a courtyard, particularly in relation to the overall building, or indeed the

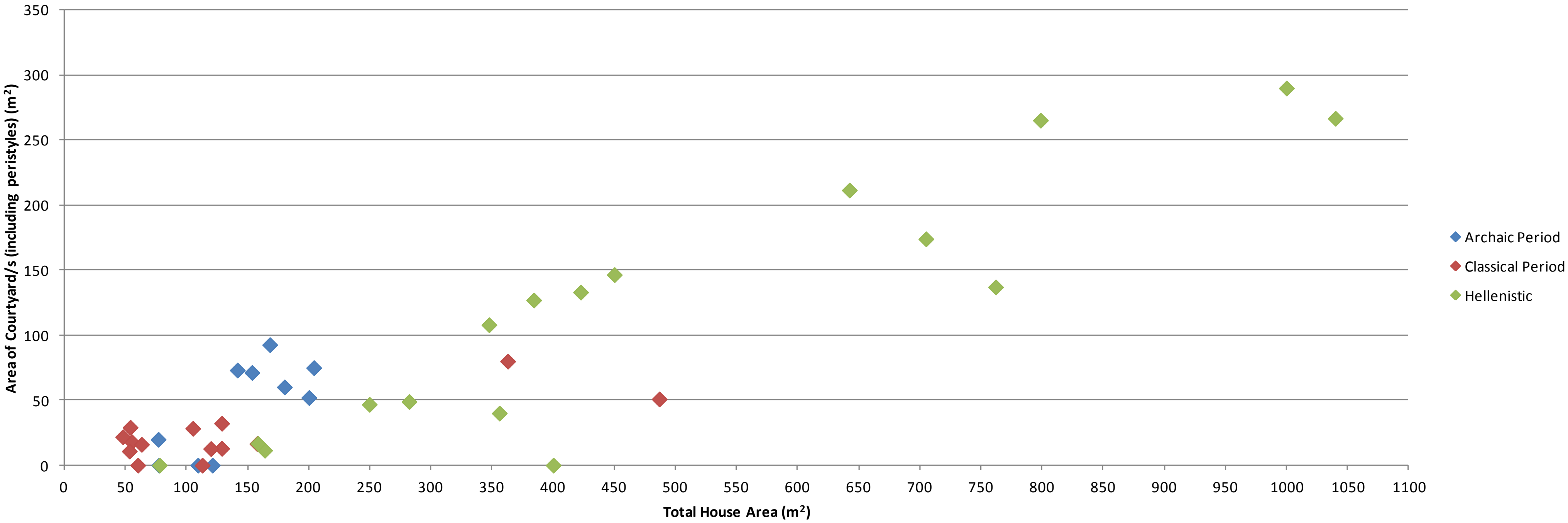


Fig. 5.9 Graph to show the areas covered by courtyards within houses from the Archaic, Classical, and Hellenistic periods.

decision to incorporate one at all, was also affected by other factors that could include intended use (both of the roofed and open areas) and status. In contrast, during the Hellenistic period the area occupied by courtyards never exceeds 35% of the total area. Once houses reach over 400m^2 in size (all dating to the Hellenistic period) internal outdoor space typically covers between 25 and 33% of the ground plan, suggesting that once a house had reached this size outdoor spaces measuring closer to 50% of the total area were considered too large, even if divided between two courtyards. Indeed, only four of the houses included in this study feature outdoor space exceeding 200m^2, even when house size extended beyond 600m^2; the largest individual courtyard being that of House 49,19 at Megara Hyblaea (220m^2), which, when added to the second courtyard, created a total outdoor space of 290m^2, or 29% of the total area. This gives the impression of a more modular construction of these larger houses with a ratio of roughly 2:1 in roofed to un-roofed area, raising questions concerning the role of the courtyard within the wider spatial organisation of the house. This will be explored in its own right in the following chapter.

Altogether this data suggest that the greater the total area of the house, the more spaces it contains. This in turn implies that rather than being scaled up versions of the smallest houses, larger buildings are made up of more internal spaces that may not actually be any bigger than those found in the smaller houses. This can be explored via Fig. 5.11 which shows the average size of the individual internal spaces making up the houses excavated on

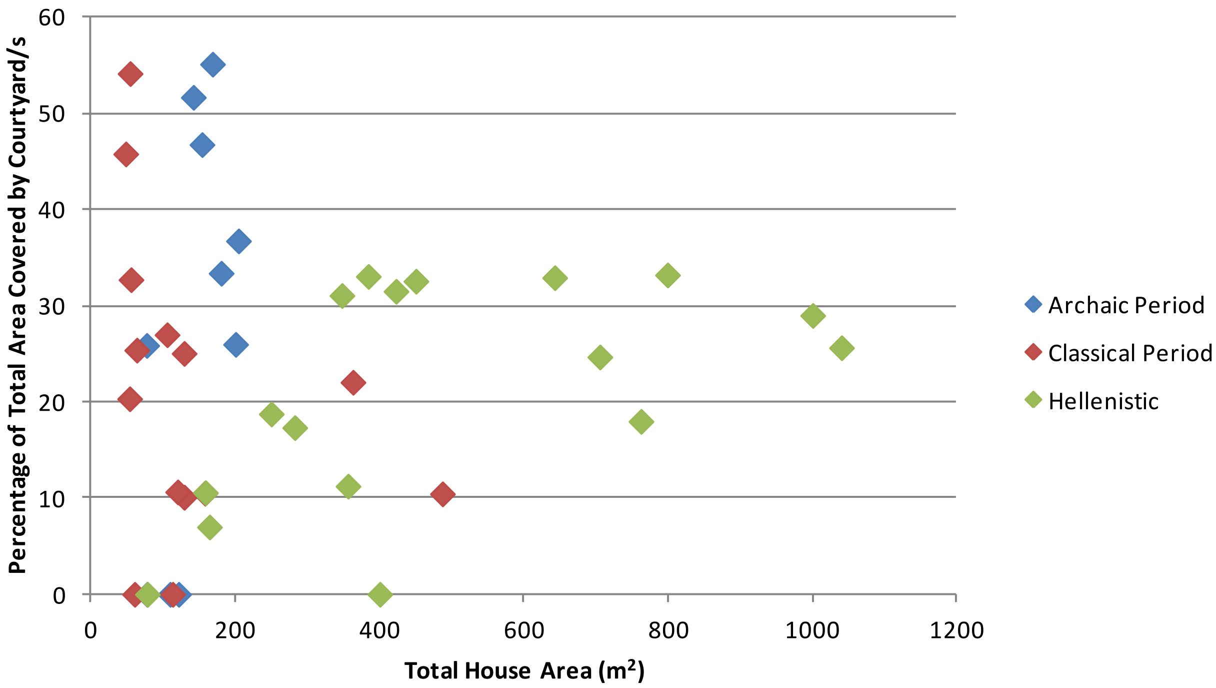


Fig. 5.10 Graph to show the percentage of house area occupied by courtyard/s.

Sicily from each period. There is far less variation in the average area of individual spaces than there is in the total size of the houses: the largest spaces, dating to the Copper Age measure on average 32.62m^2, while the smallest, dating to the Classical period, average 12.62m^2. This is far closer than the total area averages for these periods: 33.44m^2 for the single-spaced structures of the Copper Age compared to 140.17m^2 in the Classical. If anything it can be said that there is a general trend towards a reduction in the size of individual spaces; the average area sits between approximately 20m^2 and 30m^2 up until the end of the Early Iron Age, before dropping firmly below 20m^2 through the Archaic, Classical, and Hellenistic periods. Therefore the increase in overall house size correlates with both an increase in the number of internal spaces and the reduction in size of these spaces.

This correlation means that, in general, no individual space, even within the largest Hellenistic buildings, is larger than the biggest singled-spaced houses constructed from the Neolithic through to the end of the Early Iron Age. In other words, it is possible to say that as well as being more subdivided, these larger houses can also be seen as agglomerations of smaller spaces and expansions of the original single-spaced building. Into this equation also comes the question of spans explored in the preceding chapter. It was shown that the

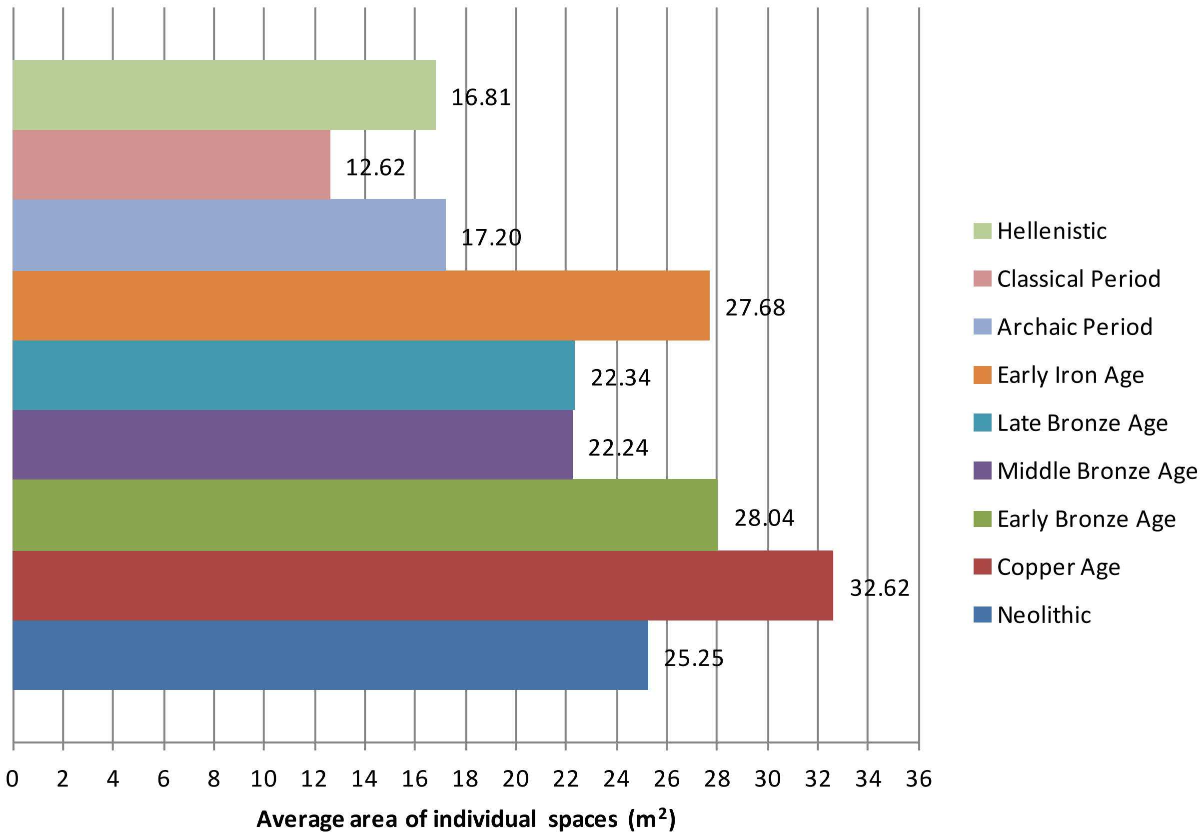


Fig. 5.11 Graph to show the average size of individual roofed spaces within Sicilian houses.
Sample size: Neolithic – 5, CA – 6, EBA – 18, MBA – 20, LBA – 5, EIA – 12, Archaic – 41, Classical – 89, Hellenistic – 233.

maximum distance spanned with a single timber beam in the houses excavated in Sicily was around 6.00m, while more often spans sat between 3.00m and 4.00m. Where this distance was exceeded by the size of the room, columns or posts were required to provide additional support for further beams. But in the later houses this does not appear to have been an architectural solution utilised: none of the internal roofed spaces identified (excluding peristyles and colonnades) include firm evidence for posts. Indeed, none of the rooms are wider than a single beam was capable of spanning; a conscious decision has been made to not break up individual spaces with columns and posts and instead create smaller, open spaces where walls provide the primary support for the ceiling or roof beams. In Fig. 5.12 the spaces with the greatest width and length date to the earlier periods, while many of the rooms in the later houses measure between c.2.50 x 2.50m and c.6.00 x 5.00m. More extended rooms with lengths up to 9.00m but widths often below 5.00m — a distance that could be spanned wall to wall by a single beam — created larger spaces without the need for additional supports. Corridor spaces are those with a greater length, up to 12.00m, but a much narrower width, often 2.00m or less. These spaces are typically found in buildings with more rooms. The divisive point in time where we see both the dramatic increase in overall size and the drop in the size of the average internal space is at the transition between the Early Iron Age and Archaic period, also the point in Sicily's history where the rounded tradition of domestic architecture, after dominating for the greater part of the time encompassed by this study, begins to fully give way to the rectilinear. It does indeed seem then that these changes in size and subdivision are related in one way or another to the adoption of the rectilinear form, and

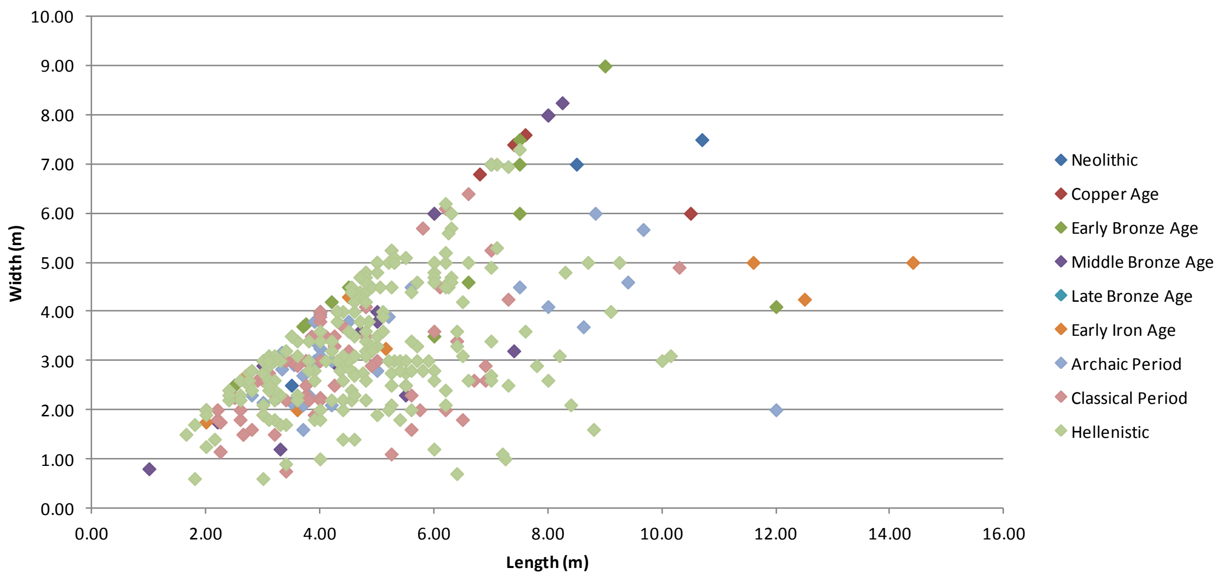


Fig. 5.12 Graph to show the length and width of individual roofed spaces during each period of study. Sample size: Neolithic – 5, CA – 6, EBA – 18, MBA – 20, LBA – 5, EIA – 12, Archaic – 41, Classical – 88, Hellenistic – 227.

suggests that the relatively short space of time that makes up the Early Iron Age, Archaic, Classical, and Hellenistic periods must have been particularly dynamic in terms of shifting building parameters.

Why rectilinear?

The increase in the number of individual spaces within the house corresponding to the adoption and development of the rectilinear form suggests that one of the motivating factors behind this move may be the development of an increasing desire to formalise space, that is to allow for the physical separation of people and activities, and not necessarily the assignation of specific functions to spaces. An adaptable building form makes this more achievable; in this section I hope to show that the rectilinear form offers greater adaptability than its rounded counterpart and so if the inhabitants required a more easily dividable domestic space with the ability to be altered, they would be likely to adopt a more rectilinear form.

Some of the earliest examples of houses with multiple spaces in fact follow the rounded tradition of building; at Bronze Age Punta Milazzese, Lipari, and Sabucina have been excavated buildings with spaces identified as annexes (Bernabò Brea and Cavalier 1968; 1980; Mollo Mezzena 1993). These are directly connected to their oval (circular at Sabucina) house. If a closer look is taken at Hut 2 at Punta Milazzese (Fig. 5.13) it can be seen that the foundations were built first following an oval curve creating a structure c.4.50m in diameter, and then extended out around the building and back to the oval structure to leave a building roughly square in shape with rounded corners measuring c.7.00 x 7.50m. This is clear from the junctions where the oval and rectilinear sections of walling abut. The wall that divides the annex into two was likely added later as it is not tied into either the walls of the house or the annex. It is also possible that the annex itself was constructed after the oval part of the building. Unfortunately it is difficult to determine the location of the entrance to Hut 2, but the doorway between the oval house and the annex is clear. That the annex is accessed directly from the original part of the building shows that this space was incorporated within the house as a whole. If the annex was constructed in front of the original entrance to the hut and a new entrance built into the annex (assuming the annex was a later addition) this would give the annex an active role within the building as the inhabitants, and any visitors, would have to pass through it to reach the main space of the house. The roof would either have needed to have been extended to cover the new space — meaning less headroom in the annex — or the building as a whole re-roofed to accommodate the extra space. If the whole

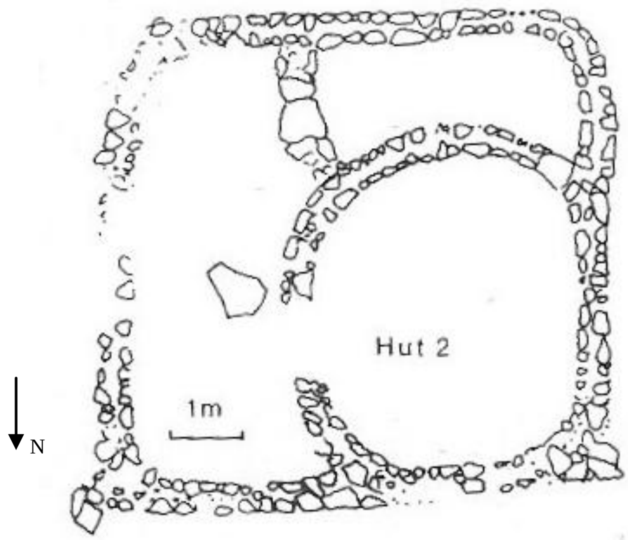


Fig. 5.13 Hut 2, Punta Milazzese, Panarea (Leighton 1999, Fig. 79.A, 158 after Bernabò Brea and Cavalier 1968, Cartina di Panarea).

structure is contemporary, then Hut 2 could have been roofed over in its entirety from the beginning.

Although not identified as annexes, but rather as multi-roomed structures, it is useful to compare the houses at Punta Milazzese with those excavated at Faraglioni on the island of Ustica (Fig. 5.14). Roughly circular or oval components form the basis of these structures, with linear walls, but still no true corners, at junctions between buildings and linking individual spaces together (Tusa 1999, 179). As at Punta Milazzese it is possible to roughly determine separate instances of building, and so likely structures, from the integration, or lack thereof, of the stone foundations and surviving socle at wall junctions, as is shown in the archaeological drawings. Divisions between individual structures can be seen where walls abut but are not bonded together. It appears that the spaces that make up each house were laid out as a whole: the walls (some of which possibly delineate an enclosure/courtyard space) flow into one another and hence were likely built at the same time. These houses are slightly more complex than Hut 2 at Punta Milazzese, but both show the desire for separate spaces altering the form of the building, creating structures that make greater use of straight lines, with curves for changes in direction. These curves mean the creation of irregularly shaped spaces and angles. In these early multi-roomed houses we are perhaps seeing the beginnings of the need for physically divided domestic space and the utilisation of linear stretches of walling to achieve this, the technicalities of which are worked out in the following centuries. As such this reveals an ongoing transition process between the rounded and rectilinear building traditions that began long before the fully rectilinear form emerges.

Fig. 5.14 Faraglioni, Ustica (Tusa 1999, fig. 26, 178).

Let us return to Hut 31 at Morgantina (Fig. 6.1). In Chapter Four it was established that this apsidal building was part of the rounded tradition, but it also bears evidence for the move towards adaptability and formalisation of physical spaces that would come to characterise the rectilinear form. The house is divided into two internal spaces, (A) c.12.50 x 4.25m and (B) c.4.75 x 4.25m, by a wall running across the width of the building (Leighton 1993, 37). Hut 31 differs from the houses with annexes in the fact that the division of space is internal rather than additional; no extra roofed area or living space is produced in the construction of the partition wall. This suggests that both rooms A and B are fully integrated parts of the house, despite their physical division.

This is not a feature unique to Hut 31; both Hut 29 and the building uncovered in Trench 16 West at Morgantina, have produced evidence for dividing walls (Leighton 1993, 26, 28), while many of the earliest rectilinear structures also feature multiple internal spaces. But other than the few houses already encountered, multi-roomed round buildings are rarely found in the archaeological record, and those that are are often more elongated in shape, such as the extended circle Hut 1 at Milazzo (Levi et al. 2003, 896) and the elliptical Hut 5 at Mursia on the island of Pantelleria (Doonan 2001, 171; Tozzi 1978). The extended circle, apsidal, and often elliptical forms feature parallel sections of walling; when a partition is incorporated into the structure it creates a right angle on either side of where it meets the external wall. The defining difference between curvilinear and rectilinear buildings is not so much that one has straight walls and the other curved — it has already been seen that rounded structures could, and did, incorporate linear stretches of wall — but rather that one makes use of a curve to change direction, and the other, corners, typically at 90°. That we first find true corners and right angles within domestic architecture in Sicily in relation to partition walls and multi-roomed structures, including those at Thapsos, implies that the development of this defining architectural feature of the rectilinear form is related to the development of a socio-cultural need to physically divide domestic space.

Round structures can be just as easily subdivided as their rectilinear counterparts; it is simply a case of building another wall. Yet when they are they do not always provide as much usable space. In Fig. 5.15 two buildings, one circular and one rectangular, have been hypothetically, and very basically, divided into three similarly sized internal spaces. It is only along the centre-line of the circular house that any right angles are formed. Where the partition walls meet the external wall on one side the angles are acute, less that 90°, as a result of the curvature of this wall. In larger circular buildings this is not always problem, their size means that the curvature of the wall is gradual enough that the corners created are not overly acute. However, not all the houses within the rounded tradition are perfectly circular nor large; many are oval or elliptical and therefore often less regular in shape making any internal space created by subdivision in turn less regular. The more acute the angle, the greater the depth and narrowness it can create, meaning that this part of the space is more difficult to effectively utilise for domestic activities. In contrast, the angles produced at the meeting of walls subdividing the rectangular building are uniformly 90°. That is not to say that it is not possible to produce a wide range of angles within a rectilinear structure, but archaeologically it is rare to find corners much beyond 10° either side of the right angle and these can normally be explained by the building having to fit the local topography or within pre-existing urban structures. By incorporating right-angled corners much more, if not all, of the area of the subdivided space can be easily utilised, the angles here do not restrict access.

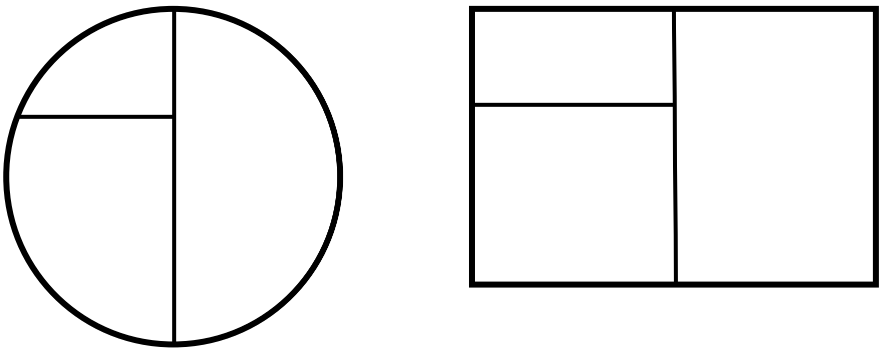


Fig. 5.15 Subdivision of round and rectilinear forms.

So if a household wants to build a domestic space which they can physically internally divide, the most efficient form for the house to take, in terms of area of useful space, is rectilinear.

While that might sound straightforward and sensible to our modern minds, this view of space was not necessarily the case for all past societies — creating the greatest area of usable or easily accessible internal space may not always have been high on the list of domestic priorities. So the fact that we do find subdivision more closely associated with rectilinear structures, rather than rounded ones, implies that awkward corners and the lack of directionality they bring were considered undesirable by the inhabitants. This raises the idea of mental comfort within a space: the size (whether a space creates the feeling of exposure or confinement) and shape (whether a space needs to be accessible) affect how the inhabitants use and relate to a space. It is possible then that the acute and irregular corners produced by subdividing houses of the rounded tradition made the inhabitants feel uncomfortable or did not facilitate the new functionality required of the subdivided space, thus promoting the rectilinear form and its more accessible and efficient creation of divided space.

Related to this, rectilinear buildings also tessellate much better than rounded ones. This may sound like an obvious point, and it is, but it is also a very important one. Should the inhabitants require additional space, perhaps due to the expansion of the household, an increase in wealth or status, or the alteration of the functional demands placed upon the building by household activities, extensions to the physical structure are needed. This may indicate that houses were beginning to be seen as longer-term structural investments (also suggested by the adoption of stone as a primary building material): incorporating the possibility of later alteration into the initial build suggests that the inhabitants were accounting for the possibility of changes right from the beginning, and hence intended to occupy the same structure for an extended period of time rather than building anew should circumstances change. As has been seen, this can be met by constructing an annex, but such additions can be difficult to fully incorporate structurally into an existing round building due to their curved nature. It is much easier, however, to add an extension to a rectilinear building, particularly in relation to its roofing. Rectilinear buildings can be covered by a number of different roof forms: hipped (with sloped rafters running down from a central ridge to each face of the building), gabled (with at least one end wall extending up to the ridge), and, possibly the simplest, a flat roof (although this has an increased risk of leaking during heavy rain). The form's ability to tessellate means that additional spaces can be directly incorporated into the existing house without compromising the structural integrity of the building as a whole: the gabled end of the roof can be extended by adding length to the ridge beam, while the parallel alignment of rafters means that should the addition be to a sloped side of the roof, assuming the extension is full-height, simpler angular joins and cuts into the existing roof can be made.

Tessellation is also a useful property where land within the settlement is at a premium; if buildings are able to fit together more efficiently, without the odd corners and intermediate spaces necessarily left between round structures (see Capo Graziano or Lipari, Figs. 4.7 and 4.8), then a greater density of buildings can be achieved. This is perhaps one of the reasons that the inhabitants of Faraglioni, where the settlement area is enclosed by a massive perimeter wall (Mannino 1982) and residential structures appear huddled in limited areas (Holloway and Lukesh 2001, 21), utilised linear stretches of walls, particularly along boundaries between individual houses. Tessellating built spaces, whether entire houses or within a single building, can reduce the material costs of construction as these spaces can share walls. Agglomerations of rooms and buildings can also have an impact on the internal environment: instead of each house or individual space being surrounded by an exterior wall, spaces share one or more walls with another interior space. This allows for the control of air movement between spaces and the creation of spaces with differing internal environments: ‘stacked’ spaces build up a buffer to the external environment, in particular diurnal temperature changes, much in the way a cavity wall does in a modern house, and so the most interior spaces experience a more consistent climate.

Thus it appears that the move to constructing rectilinear houses after an extensive history of round dwellings in Sicily was at least in part motivated by a growing desire for the option to formalise and divide domestic space within an adaptable physical structure. This change was not a sudden one, but can be traced back into the rounded tradition of building as far as the Middle Bronze Age.

The Socio-Cultural Factors of Expansion and Subdivision

While these physical, practical, factors influenced the form taken by domestic architecture and the patterns witnessed in the relationship between form and subdivision, often the driving force behind the changes witnessed, particularly in size and degree of subdivision, are socio-cultural factors and their interaction with the above physical parameters. Right through the period under study there is variation in the houses constructed, particularly in terms of size, even between contemporary structures despite the fact that these tend to have been constructed within the same building tradition. This can be explained by the notion that while the builders were clearly following the same construction traditions with the technological and material resources available to them, each building was individually defined dependent upon the specific needs of the inhabitants or household: their socio-cultural parameters. A number of theories have been put forward to explain the differences seen in domestic architecture; in order to reconstruct the socio-cultural parameters of the size and subdivision of houses in Sicily it is necessary to discuss these and compare them to the evidence seen in the archaeological record. As a wide range of periods and house forms are being studied it is possible that the overriding socio-cultural influences also varied over time.

One of the simplest theories concerns the size of the household, the number of inhabitants, directly affecting the size of the house. For example, if a house only had to provide shelter and space for the activities of one or two individuals it would only need to include a small internal area. In contrast, if the house had to provide shelter for a larger household, perhaps made up of a family of three generations, then it would need to be bigger simply to provide enough physical space for the inhabitants and the activities they carry out. The possible relationship between dwelling floor area and number of inhabitants, according to Naroll (1962, 588), can be roughly estimated as the number of inhabitants being around one-tenth of the floor area (although others have subsequently suggested that this may be closer to one-fifth for some societies; see Peterson and Shelach 2012, Table 5, 276). This would imply that the smallest houses in this study, those at Neolithic Piano Vento, were only occupied by one, maybe two individuals, while the larger curvilinear buildings, including those at the Middle Bronze Age settlement of Thapsos, could potentially have housed five or so inhabitants. But the fact that there are variations in the estimates given by different researchers promotes a degree of uncertainty and means that this method can only be used to calculate a very rough approximation of the number of inhabitants. When it comes to comparing household size across time periods and cultures, despite the fact that it likely does have some impact upon house size, such a simple calculation does not take into account possible differences in the perception and role of domestic buildings and how much space should be allowed per inhabitant; i.e. that society's concept of 'personal space'. The largest rectilinear houses, following this theory, could have been inhabited by between 100 and 200 people. This seems an incredibly large number for a single residential unit, regardless of its area, and one that is not supported by any of the contemporary literary sources (including Aristotle's *Politics,* 1253b–1255b; Dem. 27.24, 26; 47.55–56; Xen. *Oec.* 9.5) even if we take into account that the household at this time could include the immediate and extended family, servants and slaves, and occasionally other hangers-on. But if we consider that a house from

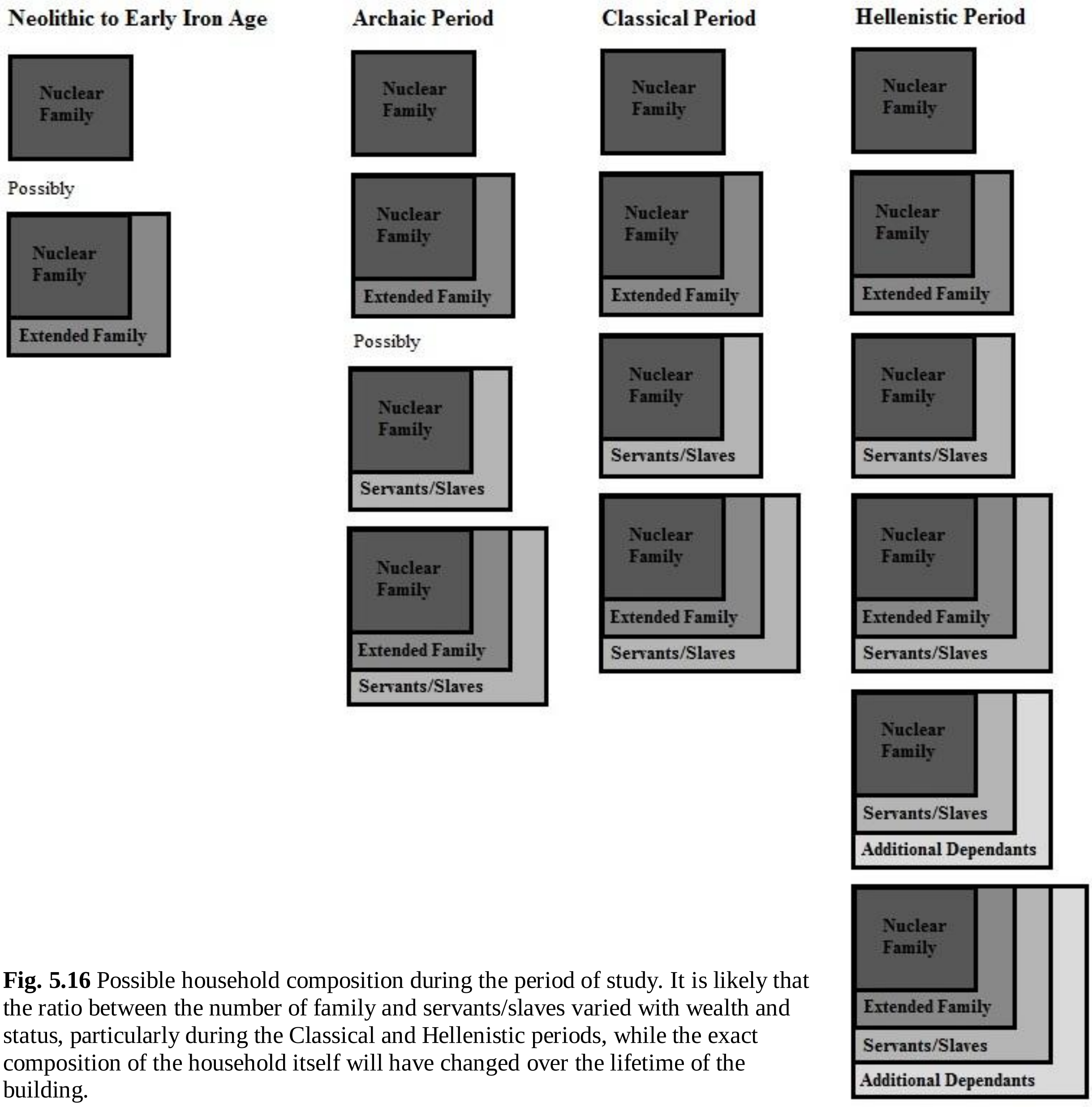


Fig. 5.16 Possible household composition during the period of study. It is likely that the ratio between the number of family and servants/slaves varied with wealth and status, particularly during the Classical and Hellenistic periods, while the exact composition of the household itself will have changed over the lifetime of the building.

say the Early Bronze Age contained a nuclear family and a Classical house a family (potentially extended) plus servants/slaves, then both in terms of the household and its total size there are more inhabitants residing within the Classical house. Therefore it can be said that the larger rectilinear Sicilian houses likely contained more inhabitants than the earlier rounded dwellings, and indeed smaller rectilinear properties, but this relationship is not linear: a larger house did not necessarily contain a proportionally larger household and it is likely that household size varied even between buildings of the same size and in relation to factors other than house size (Fig. 5.16).

So if it appears unlikely that household size can be directly or consistently linked to house size, other factors must also be at work in the variations seen in Sicily. Flannery (2002, 421) has suggested that one of the reasons for the construction of a larger house was the desire to store goods and foodstuffs at an individual household level. Although his reasoning for this desire (that communities reached such a size that they no longer knew, and therefore trusted, all of their neighbours) is difficult to extract from the archaeological record due to the fact that settlement and population size, and on occasion even which buildings are contemporary, are often hard to reconstruct, there does appear to be a correlation between the larger houses dating to the Bronze Age and greater evidence for storage. Due to the use of ceramic containers and pits, storage is one of the activities that is more easily traceable in the archaeological record. While there is evidence for storage taking place inside the smaller houses excavated across Sicily, the buildings with greater recorded quantities of storage wares and, in the case of Casa Sollima (Sturt et al. 2007, fig.6.3, 49), possible storage pits, are also the larger structures. All of the houses with clearly identifiable evidence for the presence of internal storage measure over $12m^2$ in area (the smallest being some of the Middle Bronze Age structures at Punta Milazzese on Panarea), with the majority around or over $37m^2$ — larger than the average for Neolithic, Early, and Late Bronze Ages (Fig. 5.1).

This relationship is particularly evident during the Middle Bronze Age, which also sees an increase in the average size of the houses constructed: nearly all of the Middle Bronze Age houses excavated in Sicily, and admittedly this is not a huge number, include more archaeological evidence for the inclusion of domestic installations and the presence of a variety of household activities such as cooking and craft production (Table 1, Appendix I). Where hearths have been found these are fixed features: the hearth in Hut 3 at Mursia on the island of Pantelleria is formed from a terracotta slab set into the floor (Tozzi 1978), while at Thapsos pebbles were added to the baked clay (Voza 1972) to provide a base for the fire that could also act as a cooking surface. As well as a hearth, Hut 1 at Milazzo contained storage vessels, including *pithoi*, pottery associated with food preparation and consumption, and spindle whorls indicating that wool processing was taking place (Levi et al. 2003, 897). This corresponds to the development of craft specialisation, the initial emergence of which appears to have taken place as early as the mid. second millennium BC, the end of the Early Bronze Age, and to have increasingly developed from there (La Rosa and D’Agata 1988). From the Archaic period onwards, where the average house size is much greater, evidence for storage and domestic activities such as food preparation and weaving in the form of jars, *pithoi*, and loom weights among other artefacts, were found during the excavation of many of the houses.

There is a further question that should be considered in relation to the inclusion of activities such as storage within the domestic space: could this have promoted an increase in subdivision? It could be proposed that the incorporation of specific activities into the domestic sphere may have led to the development of a desire to demark the spaces to which these activities could be attached or confined. The annex attached to Hut 2 at Punta Milazzese was found to contain primarily storage wares (Bernabò Brea and Cavalier 1968), while Room B in Hut 31 at Morgantina featured pits and *pithoi*, although storage wares, including *pithoi*, were also found associated with a paved area in Room A (Leighton 1993, 44–48) suggesting two distinct areas of the house used for the storage of potentially different goods. In general it is more difficult to assign function to the spaces that make up the later rectilinear houses (this is partly due to excavators in the past not always recording precise finds locations), but in a few cases it has been possible to identify areas that were likely used for storage purposes. Casa 2 at Monte San Mauro and a house excavated at Monte Iudica, both dating to the 6th century BC, include spaces with a concentration of pottery fragments from *pithoi* and *amphorae* as well as other ceramic vessels (Cordsen 1995, 113; Wilson 1996, 75). Altogether the evidence from Sicily implies that the increase in size, and also potentially one of the reasons behind the move towards more subdivided domestic buildings, is linked to the incorporation into the domestic sphere of further activities, of which storage is one of the most archaeologically visible.

It is also possible that ideas of social and economic status were reflected in domestic architecture. It has been suggested that the bringing of activities such as storage into the house and the possibility of surpluses and the opportunity to use them to directly support and advance the household encourages competition, while variety in size and storage capacity could indicate some degree of economic and social differentiation (Banning 2010). Doonan (2001, 181) suggests that within settlements with greater exchange roles this may have ‘promoted the importance of accumulation in competition for status’. Greater social or economic prowess, either in the form of increased wealth or personal position, would allow for the acquisition and consumption of resources and additional, potentially skilled, labour and therefore the construction of a larger or better built and maintained house — essentially the larger your house, the more visible and important you were, socially and economically, within the community, and vice versa. In addition, wealthier households had the potential to be larger: economically and socially they are able to support extended family members and other dependents, as well as employ or purchase servants and slaves (Fig. 5.16) — the number of which itself would have depended upon household wealth, status, and economic activity (Morris 2005, 114). Such a model of social structure and behaviour is not necessarily correct for every society; if this is the case we would expect to see differences in house size, and possibly further elements such as materials, construction quality, and decoration, between contemporary houses of the same settlement.

In the earliest periods on Sicily, up to the Middle Bronze Age, variation in house size within settlements is often small (with a few exceptions such as Early Bronze Age Lipari), perhaps within a meter (Table 2, Appendix I). During the Middle to Late Bronze Ages sites such as Lipari, Punta Milazzese, Thapsos, and Sabucina produced houses with diameters that vary by over 1.00m, even 2.00m or 3.00m: at Sabucina houses have been excavated that measure c.3.50m in diameter alongside some measuring up to 7.00m. This increased variability in size corresponds to the increase in evidence for the incorporation of storage and other activities; this would support Banning's suggestion that these can be linked to house size and productive economic status. But beyond size, there appears to be very little difference in the construction and finishing of houses within these earlier settlements — many make use of the same materials and methods with little to distinguish them from one another in terms of the quality of construction. It is likely that the houses dating to these earlier periods were constructed incrementally by a small group, probably linked by kinship, and so shaped specifically to their needs rather than as a sign of power or status through the utilisation of specialised skills and extensive labour (Robb 2007). While there is clearly some form of differentiation happening towards the end of the Bronze Age in terms of the size and economic status of households, it does not appear to be an overriding influence on domestic architecture.

However, much greater variety, both in terms of size and construction (particularly decoration and quality of execution), is seen within Sicilian settlements from the Archaic period onwards. The range of house sizes at Classical Naxos has already been discussed (Fig. 5.5), and a similar variation in size can also be seen in the houses of Hellenistic Megara Hyblaea, Morgantina, and Solunto (the settlements for which we have the greatest number of excavated houses and hence a more representative dataset). This range in house size is present despite the fact that in general the layout of many Archaic and later settlements centred upon regular *insulae*, or blocks, delimited by the settlement's street plan. In itself this implies that all is not equal between the households occupying these *insulae*.

The introduction of a market based economy, the development of specialisation, and the shift towards an increasingly stratified society produced a socio-economic environment where it was possible to buy the construction and decoration of your house. In the increase of the median house size in the Greek world between 800 and 300 BC (based on a database including structures from Himera and Megara Hyblaea), Morris sees an increase in standards of living that is linked to economic output and ideological developments (2005, 107–108, Fig. 5.1, 116, 123). At Classical Selinunte many of the houses measuring c.200m^2 contain evidence for plastered walls and floors, some even with *opus signinum* (crushed terracotta fragments bonded with mortar), and stuccoed decorative elements. Likewise many of the similar-sized houses at Himera exhibited pilasters and decorative cornices, as well as fine ceramics associated with drinking (Table 1, Appendix I). During the Hellenistic period the larger houses excavated (best exemplified at Monte Iato (Fig. 5.17), Megara Hyblaea, Solunto, and Morgantina) feature extensive evidence for decoration in the form of painted plaster, columns, *opus signinum*, and even some mosaic floors (Table 1, Appendix I). These features involved specialised skills, particularly for the carving of stone and the production and application of plaster and stucco, and so would likely have been more costly. Yet they did not necessarily add much to the capabilities of the house to meet the physical parameters and so can be associated with the socio-cultural factors embedded in these buildings. It is possible that some of these highly decorated spaces were utilised to reflect, or even enhance, status and perhaps played a role in the more public social, and to a certain extent political, life of at least some of the house's inhabitants (Westgate 2015, 85). The increased specialisation and complexity of Sicilian societies in the latter part of the period of study, particularly economically and politically (see Westgate 2015), created the potential for the accumulation of wealth and status, and so the necessity to indicate this status physically and formally in order to visibly build, define, and contrast, status. Constructing increasingly large and elaborate houses is one way of achieving this (Nevett 1999, 162).

That larger houses in the Classical and Hellenistic periods do contain more features indicative of greater wealth and status, contrasting with the smaller buildings that often lack these, suggests that by this time Sicilian society has developed a hierarchy, both social and economic, which has to be negotiated by the residents of any settlement and can be reflected through domestic architecture. This is a development that can be seen taking place across the Mediterranean throughout the Classical and Hellenistic periods: the houses of the short-lived North Hill residential area of Olynthos in northern Greece share walls across the roughly equally divided *insulae*, suggesting they were built contemporaneously to a similar (if not the same) plan, yet there is also extensive evidence, both architecturally and decoratively, for the remodelling and differentiation of domestic spaces during the buildings' lifetimes (Cahill 2002; Robinson and Graham 1938). These houses are generally inward looking; there is little evidence for exterior windows, the passerby would only have got a sense of the wealth and status of a household from the expanse of the exterior wall. The investment in architectural

Fig. 5.17 Painted plaster and *opus signinum* flooring in Peristyle House 1 at Monte Iato (author, August 2015).

display is made internally. While settlement-wide differences in status would still have been apparent, it was those that entered the house, social contemporaries, dependents, the people the household regularly interacted with, who were the object of displays of wealth. Such displays allowed the comparison of statuses and the development of an understanding of households' positions in the social hierarchy. This association with status and wealth can be linked to the increased longevity, and so investment, built into these larger stone rectilinear houses: in a society where the status of the household is tied up with and displayed through material culture, things that can be physically passed from generation to generation, longer and greater investments in these things makes practical sense. In the case of the house, if it is expected to act as a long-term investment it needs to be able to be altered and adapted to suit the circumstances, status, and roles of the household at any one time. The easily subdivided and expandable rectilinear form allows for this.

Following from this, it is possible that domestic architecture could be used by the inhabitants to help negotiate issues and the definition of identity within the house itself. In fact, Grahame goes so far as to claim that the creation of identity 'is architecture's primary function' (2000, 19). A single-roomed house does not leave much space for privacy; even if curtains are hung to visually separate an area, these are still a permeable barrier audibly and physically. The more spaces incorporated into the house, the more opportunities are available for the physical separation of groups, individuals, and the activities they carry out, if and when necessary (Westgate 2015, 80, 70–71), particularly if the number of inhabitants is not proportionally related to the size of the building. Creating the option for this separation suggests that the delimiting of space is linked to the definition of identities within the household and domestic space, with the potential for certain individuals being allowed access, or confined, to certain spaces either on a permanent basis or in relation to wider household cycles of daily activity and special occasions. For example, it would be possible for guests to be kept separate from certain members of the household, to keep guests from more private rooms, or for servants and slaves (if they are present) to be distinguished from the rest of the household through the physical separation of their living quarters and when and where they are expected to carry out their tasks. The increase in the degree of subdivision witnessed within houses from the Early Iron Age onwards in Sicily would have allowed for greater opportunities for separation and demonstrations of inequality, and can be linked to an increase in the importance attached to the idea of privacy, as well as the degree of social stratification within both the household and wider community. That the larger Hellenistic households appear to have been made up of a variety of peoples with differing identities, from the immediate family to servants, slaves, and additional dependants (Fig. 5.16), supports this. That being said, there is nothing to indicate that should the need arise, the household would not be able to assemble in one place at one time: the majority of houses contain at least one room measuring over 4.00 x 4.00m, and so larger than the average for the Archaic, Classical and Hellenistic periods, while many courtyards (where present) are even larger (Table 2, Appendix I) and could have acted as gathering places.

It is clear that it is not a simple case of one socio-cultural factor being responsible for design and construction choices, but rather a combination of many interacting factors, and this combination could, and did, vary and change. The domestic architecture of Sicily from the Neolithic to the Hellenistic period suggests that the social structure of the communities inhabiting the island evolves from one where there was little hierarchical distinction between and within households, where houses were typically open single-spaced structures, to a much more heavily stratified society with increased concerns and awareness of privacy and identity that were built into houses through the use of subdivision. This reflects the increase in the different types and statuses of the people present within any one domestic building, with the identities of people of different ages, gender, wealth, and dependence being mirrored in the physical nature of the spaces they inhabit. This development is a gradual one that can be first identified in the Middle Bronze Age in the increasing incorporation of activities such as storage into the house. The balance of socio-cultural parameters has shifted, redefining the responses to and interactions with the physical parameters and so the form taken by the house.

This exploration of the patterns seen within the size and subdivision of domestic architecture on the island of Sicily has revealed interesting relationships regarding the total size and subdivision of the houses, and the size individual spaces take. In general it has been possible to detect two distinct phases: an earlier period encompassing the Neolithic to the Early Iron Age where houses typically include just one or two internal spaces and cover an area rarely exceeding $50m^2$, and a later period from the Archaic up to the end of the Hellenistic where total house size increases but the average size of individual spaces decreases with more rooms being incorporated into the building. This also corresponds to the move from round to rectilinear architecture, potentially due to the greater ease with which rectilinear buildings can be subdivided and the further potential for adaptation that the form brings. The changes witnessed in the size, form, and number of spaces within these houses can be linked to alterations in the socio-cultural parameters of the household, with an increasing desire to incorporate activities such as storage into the building, and a developing need for the option to separate activities and people, particularly in relation to privacy and identity, seemingly among the main driving factors. It also appears that status and wealth played an increasingly active role in house formation: differentiation being displayed through size, spatial division, and high investment construction, or lack thereof — this is an architecture of inequality. These socio-cultural factors worked within the wider physical parameters, with fixed elements such as the spans the available materials and technologies are capable of reaching, and the need to create physically comfortable spaces, affecting construction right through Sicily's history.

Chapter Six

Spatial Organisation

The dynamic interactions between the physical and evolving socio-cultural parameters within which domestic spaces are built shaped the evolution of house architecture. In Sicily the shifting socio-cultural parameters prompted the development of larger, rectilinear, multiple-spaced houses from smaller, rounded, typically single-spaced dwellings through adjustments in the inhabitants' understanding of social and economic status, privacy, and identity formation and definition. I now explore these changes in further detail by taking a closer look at the interactions between socio-cultural factors and the physical form of the house in its spatial organisation and layout. This should allow us to determine to what extent the apparent increasing formalisation of domestic space affected the overall design of the house and to trace the impacts of this beyond the size and number of spaces within the building.

The Layout of the House

The specific element of the interaction of the physical and socio-cultural parameters to be explored here lies in the arrangement of the spaces within the house in relation to one another and the questions this generates: how were individual spaces accessed — from a central space or via others? Could the arrangement of the spaces within the house be used to control the movement and access of individuals? How do architectural features such as columns, posts, and built-in hearths and storage relate to the building's spatial organisation and the inhabitants' movement through and use of the spaces? To what extent did visibility play a role in the organisation of spaces, and what does this add to our understanding of the socio-cultural factors at play? And in the case of houses with only one internal space, did this mean that there was no form of internal spatial division? What does this tell us about the changes taking place? It is with these latter questions and the earlier houses that I begin, before moving on to discuss spatial arrangement within multi-roomed examples of domestic architecture, and the developments that have occurred to bring us from one to the other.

Division and spatial organisation in houses of the rounded tradition

Many of the houses encountered in Sicily built following the rounded tradition feature just one or two internal spaces. Just because these houses may not have had extensive physical internal divisions does not necessarily mean that there was no perceived division of space, but instead that, if it did occur, it was through the utilisation and demarking of certain areas for particular activities, rather than visual and physical barriers. So by looking at the distribution of finds and features it should be possible to determine whether or not the inhabitants of the round, single-spaced dwellings that dominate the earliest periods did indeed choose to subdivide their domestic spaces. This is an approach that has been successfully applied to archaeological houses by Parker Pearson and Richards (1994c, 41–47). Through their study of the spatial arrangement of built-in features, finds, and micro and chemical soil analyses they were able to develop and recreate an understanding of the spatial meaning and use pattern of the Neolithic houses excavated at Skara Brae in the Orkney Islands. Unfortunately, as has already been encountered, many of the houses on Sicily were excavated at a time when recording methods were not as thorough as they are today, with the exact location of many finds going unpublished, if not unrecorded. Therefore, in order to take a closer look at the question of division within many of our single- or two-spaced houses it is necessary to focus upon the built-in features such as hearths and storage facilities, and those structures for which we do have more detailed records. One of the best recorded, and preserved, houses of the rounded tradition is the Early Iron Age Hut 31 (Fig. 6.1) at Morgantina.

Hut 31 is one of a number of structures dating to the Early Iron Age found on the Cittadella Hill of Morgantina forming a settlement of either single or loosely clustered dwellings dotted across the hilltop and its slopes, their positions and alignments dependent upon the local terrain (Leighton 1993, 134–136, 138). This north–south aligned house is apsidal in form and divided into two spaces measuring c.12.50 x 4.75m (Room A) and c.4.50 x 4.75m (Room B) by a wall running across its width pierced by a doorway measuring c.0.80m. During excavation a series of features and finds, including post-holes, hearths, an oven, *pithoi*, and pits, were uncovered from which it is possible to develop an understanding of the building's spatial organisation. Unfortunately, however, the location of the entrance to the building has not been preserved, although two possibilities have been put forward: in the centre of the west wall of Room A, and in the southern wall of Room B. Similar buildings have been excavated on Lipari from the same period which appear to have entrances positioned in the narrow walls (Leighton 1999, fig. 81 building a2, 160), so it is possible that this is the more likely location of the entrance to Hut 31.

The floor in Room A was divided into two levels, with a height difference of 0.30–0.40m, by a step running lengthways just east of the central axis (Leighton 1993, 38–39). The

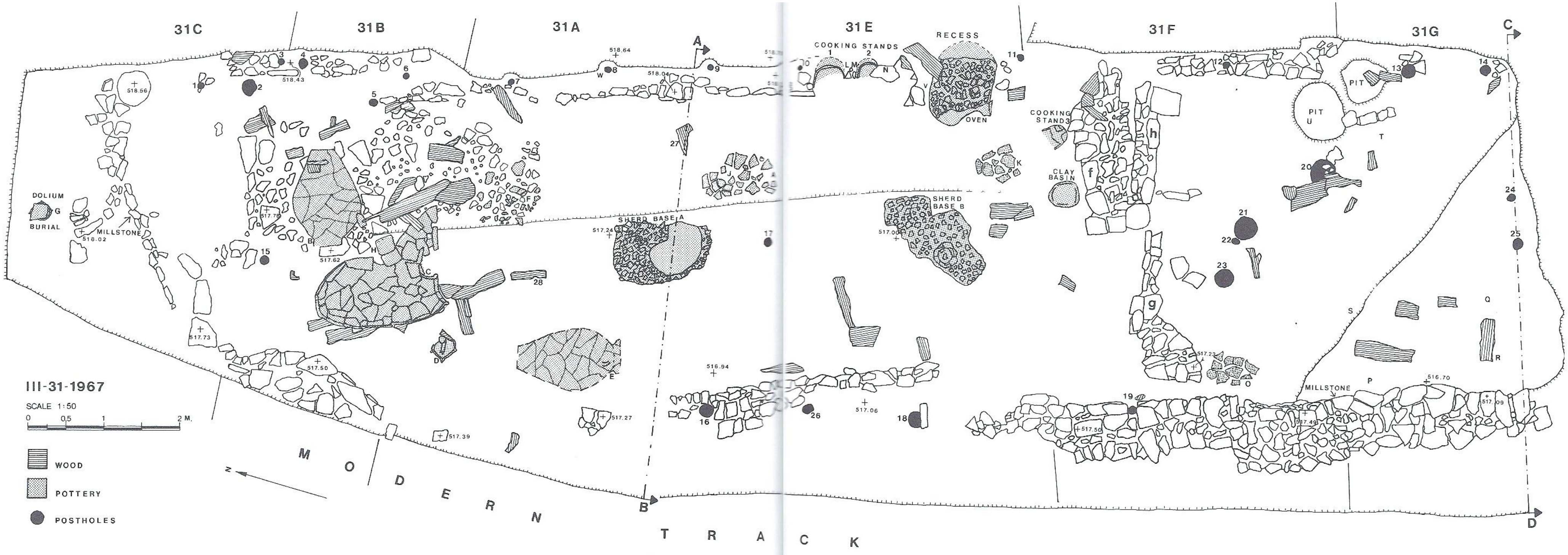


Fig. 6.1 Hut 31, Morgantina (Leighton 1993, fig. 18, 38–39).

central axis itself is defined by a row of three post-holes (15, 17, and 22/23 on the plan), the timbers of which would have supported the ridge beam of the roof. On the upper level, a bench runs along the eastern wall (which is cut into the hillside) interrupted at the southern end by two cooking stands and an oven (identified by extensive signs of burning within a chamber cut into the wall). Adjacent to these features, but on the lower level, in the centre of the room width-ways was a layer of ceramic sherds (sherd base B) that appears to have formed the base of a hearth. These features, together with a shallow clay basin, suggest this part of Room A was used for cooking and food preparation (Leighton 1993, 40–41). North of this area, in the centre of the upper level, were found three small *pithoi*, beyond which were a series of flat stones forming a pavement upon which larger *pithoi* were placed (Leighton 1993, 39). The presence of these large and difficult to move vessels implies that this area was set aside for storage. There is a gap between the *pithoi* and the wall of the apse, which Leighton has suggested could have been used for the storage of perishable items as there is little else to indicate use in this particular area (1993, 46). In the centre of Room A, and therefore on the lower floor level, is another sherd base (sherd base A), this time consisting of both a layer of sherds and burnt clay. It is c.2.00m north of sherd base B with one of the central post-holes directly in-between (Leighton 1993, 39–49). Unlike sherd base B, A is relatively isolated within the domestic space, uncluttered, and therefore more readily accessible from all sides. The remainder of the lower level is relatively open, save the presence of a single *pithos* and a few ceramics.

The floor of Room B was uneven, sloping down from a diagonal line running northwest–southeast towards the southeast corner of the hut. A bench along the east wall, which appears to be a continuation of that excavated in Room A, ends with three large stones arranged in a semicircle (to what purpose is unknown) and two pits. These, judging by their ammoniac smell and greenish-yellow, greasy soil, once contained organic materials (Leighton 1993, 43). In the western part of the room were two further *pithoi*, while the space also produced loom weights, a mould, and a deer antler suggesting an area associated with both storage and craft production (Leighton 1993, 48; Allen 1970, 375).

The archaeological remains reveal that the interior spaces of Hut 31 were in general highly inter-visible, with only a few areas, such as behind the *pithoi* and in the corners immediately next to the dividing wall, where it would be difficult to perceive what others were doing or be seen yourself. However, it is also clear that this house did contain distinct areas defined by the presence of built-in features, both architectural (the step in floor level and posts) and related to specific domestic activities (food preparation in the form of sherd base B, the oven, and cooking stands, and storage with the *pithoi* on the pavement and pits in Room B). Movement around Room A is centred upon the area surrounding sherd base A — the inhabitants would have to pass through it to access nearly all areas of the hut. The presence of the hearth also suggests that this could have been a gathering place, a node or focal point for interactions within the domestic space. From this area it was possible to move and see directly to the food preparation area of sherd base B and the oven and cooking stands, as well as the paved storage area and the space in the apse at the opposite end of the room. Depending upon the location of the entrance to Hut 31, Room B was either an intermediary space between the outside and interior of the house where activities requiring light or those not desired within the main inhabited area, could be carried out, or a more secluded space that could only be accessed from Room A.

In both situations is seen a house with a readily accessible internal area with a large degree of inter-visibility between clearly defined areas that make up the domestic space, particularly within the larger Room A. This openness meant there was a high likelihood of encounters and interactions between the inhabitants, with everyone inside the building probably aware of where the other occupants were and what they were doing. The posts and variations in floor level serve as guides to movement around the space and help structure the organisation of the inhabitants' use of it without dramatically blocking lines of sight or the infiltration of light. Sherd bases A and B are not separated by anything more than one of the central posts and a 2.00m gap, yet when we look at the plan of Hut 31 these feel like separate spaces due to the fact it would be necessary to go around the post in order to move from one to the other. The associations of features related to food preparation and storage create distinct zones within the house that further the structuring of its spatial organisation without the need for physical barriers. Hut 31 represents a form of domestic architecture which allowed for frequent interaction and exchanges between inhabitants despite the differentiated areas of the space; spatial organisation is based upon activities and movement, rather than restrictions of access.

A similar form of spatial organisation has been identified in Hut 1 at Bronze Age Milazzo (Fig. 6.2), the only fully preserved and excavated example of domestic architecture from the coastal site. Here the surviving built-in features and artefacts have allowed the excavators to study comprehensively the distribution of finds and so suggest a reconstruction of the location of particular domestic activities. While it is possible to argue that the use of terms such as 'cucina' (kitchen) and 'dispensa' (pantry) to label the identified spaces is too evocative of modern domestic spaces and notions of house functionalism, this study is useful for looking at the spatial organisation of the building. This elongated extended circular house was, like Hut 31, built by terracing into the slope of the hill it is situated upon. Here the likely entrance was in the longer wall, the extended circle form meaning that a doorway was more easily incorporated into a linear section of wall. Two large post-holes placed c.2.00m from each apsidal end would have supported the central ridge beam of the roof. Low walls in the north-western apse (it is unclear whether these were always low or had an upper section made of a more perishable material), crossing where the parallel stretch of external wall begins, divide the internal area into two, possibly three, spaces (Levi et al. 2003, 896). South of this dividing wall was found a hearth near which, in the area the excavators have identified as 'cucina', were ceramics associated with food production, some of which appeared to have been burnt suggesting they were used on or near the hearth. Also adjacent to the hearth were found 'fine' ceramics likely used for the consumption of food and drink, indicating that the hearth may not only have served for cooking purposes, but also as a focal point within the domestic space. The areas designated 'usi domestici' (domestic uses) were characterised by the presence of spindles, while the north-western apse space contained trays, pots, and *dolii* (*pithoi*), perhaps forming a storage area (Levi et al. 2003, 897). In this house activity and

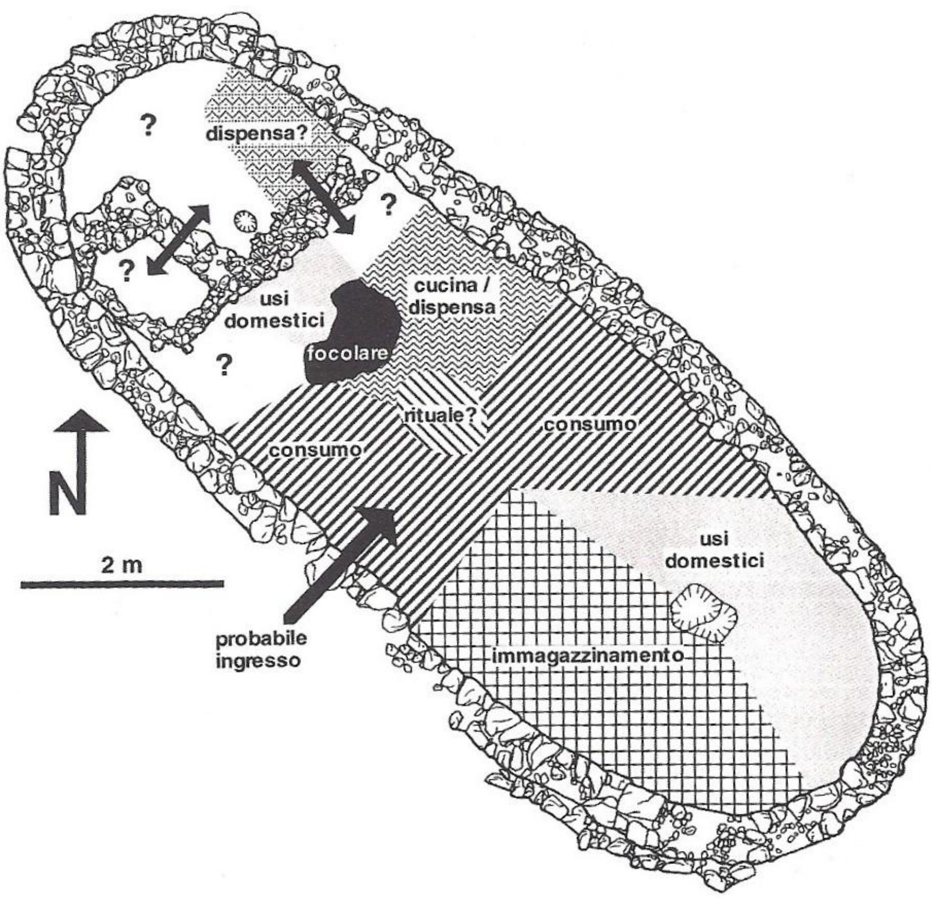


Fig. 6.2 Hut 1, Milazzo (Levi et al. 2003, fig. 1, 896).

movement seem to be focussed upon the hearth with the central area of the space being visually open and just the large southern post physically breaking-up this end of the building. The north-western apse is more enclosed, with the second post and dividing walls in close proximity, blocking some lines of sight and demarking this area from the rest of the house. Like Room B in Hut 31 at Morgantina, this was a space partially distanced from the central area of the house with its hearth focus (sherd base A in the case of Hut 31) and the inter-visibility and high likelihood of interactions it offered. While the zoning here is not quite as distinct as that seen in Hut 31, it does appear that this open domestic space was subject to the designation of particular activities to particular areas.

Both of these examples, and the fact that there is evidence for the incorporation of similar architectural features and finds within many of the excavated single- and two-spaced houses of Bronze Age and Early Iron Age Sicily (Table 1, Appendix I) even if the exact locations are not recorded, suggest that there was clear spatial organisation within such structures. This was not a layout bounded and directed by walls and the blocking of lines of sight, but one that was built into the architecture of the domestic space through the positioning of fixed features such as posts, steps, benches, and hearths, and their spatial relationship with activity areas as seen in the distribution of storage wares, food preparation equipment, and tools associated with crafts. These would have guided movement around the space, the visually open nature of which allowed, and even encouraged, interaction between the inhabitants. While there is openness in single- and two-spaced houses, there is also a structuring of space, how it was used and navigated, that implies the inhabitants had a distinct understanding of what domestic space should be and the role of the house.

Multi-roomed houses and the formalisation of space: function

The more highly subdivided houses encountered in the preceding chapter clearly make use of a different form of spatial organisation than that seen in the single- and two-spaced dwellings exemplified by Hut 31 at Morgantina. But in order to understand fully where these differences lie, and what they reveal about the changing interactions between the physical and socio-cultural parameters within the inhabitant's understanding of domestic space, it is necessary to take a closer look at the arrangement of individual spaces, layers of access and movement within the house, and how questions of use of space relate to the possibility of increasing formalisation identified earlier. I select a few well excavated and preserved buildings from the Archaic, Classical, and Hellenistic periods which cover the range of sizes and degrees of subdivision encountered for closer analysis. Like the earlier houses, the level of detail recorded during excavation and in publications does not always allow for an in-depth study of finds distribution, meaning that again the main elements used to explore spatial organisation will be the ground plan and built-in or fixed architectural features. This will give us a series of comparable snapshots into the spatial organisation of domestic architecture in Sicily throughout these periods. This section is concerned with the identification of the use of space and activity areas, while the following takes a closer look at questions of spatial organisation and access.

The modern Western understanding of domestic space, with our houses containing multiple rooms each with its own specific function such as ‘kitchen’, ‘bathroom’, ‘reception room’, and ‘master bedroom’, can prompt us to attempt to assign similarly specific functions and labels to the spaces of ancient houses. But, as has been seen, what is true for one society may not necessarily be the case for, or applicable to, another. If the increase in subdivision meant a corresponding increase in the separation of particular activities we would expect to see this clearly reflected in the archaeological record through the placement of fixed objects and features such as *pithoi*, hearths, and other domestic elements associated with particular functions and activities.

There is some evidence for the association of particular features, and so activities, with certain spaces within the more highly subdivided houses of the Archaic, Classical, and Hellenistic periods of Sicily. In the 6th century BC Casa 2 at Monte San Mauro, Room 8 contains *pithoi* along its eastern wall, and a hearth and ceramic vessels to the west of the entrance suggesting that this space was primarily used for food processing and storage (Cordsen 1995, 113), with a further spatial division (although not visual) between these activities (Belvedere 2000, 59–60) in a manner similar to that seen at Early Iron Age Morgantina. A similar arrangement can be seen in Casa 4 at Monte San Mauro (Belvedere 2000, 59) and a house at Monte Iudica where *pithoi* and *amphorae* were found in the same room (Wilson 1996, 75). Some of the later houses, such as those dating to the 3rd century BC at Monte Iato, include rooms with links to bathing in the form of ‘bath tubs’ and the provision for the collection, heating, and drainage of water (these can be seen in spaces 20 and 21 of Peristyle House 1; Fig. 6.3). But these are only a few examples out of the many houses excavated on Sicily. From the Classical period decoration in the form of *opus signinum* floors and painted plaster walls is found in a number of houses, including Peristyle House 1 at Monte Iato (Westgate 2000, 423–424). Often some spaces are more richly decorated than others; while this does not strictly inform us as to the use of these particular spaces, it does imply the differentiation of status or role of spaces within the house. Of course decoration

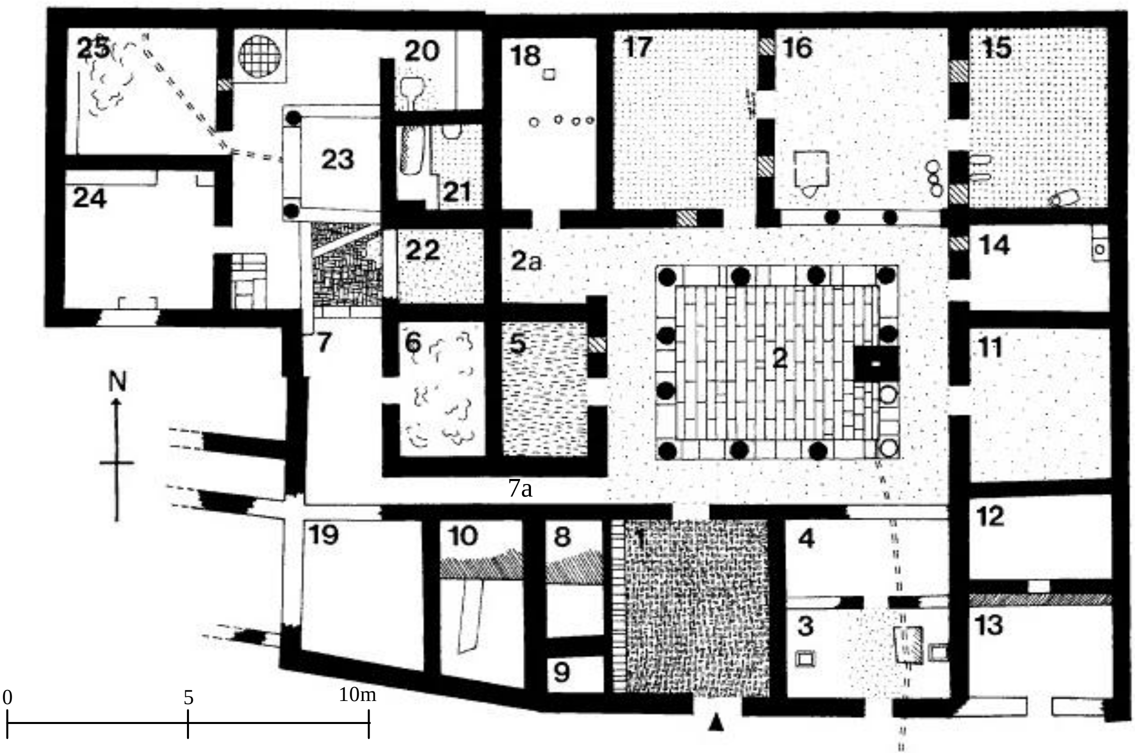


Fig. 6.3 Peristyle House 1, Monte Iato (after Isler 1990, fig. 3, 57 in Westgate 2000, fig. 21, 423).

does not prevent the space being utilised for multiple purposes. This, alongside the frequently mixed nature of the finds distribution, implies that the use of at least some of the spaces within many-roomed rectilinear houses was flexible, a factor that also allows for the incorporation of more functional spaces if they were required (Nevett 1999, 68).

As is demonstrated by Bourdieu (1972) and in the spatial patterning recognised at Skara Brae by Parker Pearson and Richards (1994c, 41–47), for example the hearth appearing to always be scraped out from the same side, people tend to follow patterns of behaviour in relation to the built environments they inhabit. It is possible then that the ways in which spaces were typically used within a house were fairly stable day-to-day, the inhabitants following their own *habitus*. But these would have varied from house to house and throughout the life-cycle of the household as the seasons changed and the demographic of the inhabitants altered — some rooms may be more suited to summer or winter, day or evening, use or activities, while the arrival of children or the marriage of a child may necessitate a re-ordering of activities and space use (Gallant 1991, 11–33; Cahill 2002, 161; Rapoport 1990, 13). The incorporation of more spaces does not necessarily mean that each had a specific function, but rather, as was suggested in Chapter Five, that there were more opportunities for the division or moving of activities should it be deemed necessary by the inhabitants (Westgate 2015, 80, 70–71).

This is reflected in the changing patterns seen in the incorporation of hearths within the house and the use of braziers for heating and cooking. A hearth was a fixed feature often with a base of pebbles, stone, or clay, although sometimes placed directly on the floor, upon which a fire could be built up. In contrast, a brazier was a portable item made from terracotta or a metal such as bronze with a stand and fire-pan, open or closed with holes pierced in it, which contained the fuel. Both could be used for cooking and heating — the form of a brazier indicates its probable use; cylindrical for concentrated heating for cooking, while broader ones were better for heating a space (Tsakirgis 2007, 228). Hearths are encountered regularly in the archaeological record up until the end of the Early Iron Age, but become much rarer from the Archaic period onwards with those that have been found in Sicily often associated with the few spaces that have indications of cooking and storage activities such as Room A in the 'Pastas House' at Naxos and Room 8 in Casa 2 at Monte San Mauro (Belvedere 2000). It is likely that portable braziers were used for heating and cooking in the later houses that do not feature hearths: braziers have been found in many domestic contexts, frequently in multiples suggesting that the household owned and used several at a time (Tsakirgis 2007, 228).

Braziers have also been found in earlier contexts, including Hut 3 (Lower) at La Muculufa (McConnell 1995, 111–113), but the shift to them being the more commonly used method of heating can perhaps be linked to the increased subdivision of the domestic space also witnessed from the Archaic period. Rather than having multiple hearths in different rooms and the necessity of having several lit at once if people are moving between them, portable braziers allowed every room to be heated without the waste of resources entailed by lighting multiple hearths. It has been suggested that charcoal was the main fuel used in a brazier; this is a more efficient producer of heat and emitted less smoke and fumes than the wood or dung likely used in a hearth (Olson 1991, 412; Tsakirgis 2007, 231). Tsakirgis (2007, 229) has linked the presence of braziers and their portable nature to the flexible use of space; they allowed activities associated with heating (e.g. cooking) to be carried out in any part of the house as well as providing the potential for warmth in every space — something not possible if only one or two rooms in multiple-spaced houses included hearths.

Multi-roomed houses and the formalisation of space: access and spatial organisation

So it appears that despite being more physically subdivided, space within later houses on Sicily was relatively flexible in terms of use — activities could be moved to different rooms dependent upon the needs of the inhabitants, the walls allowing for the physical separation of these wherever they were taking place. But the degree of subdivision within these houses suggests that there was some form of control of space and layout.

The physical division of space, as opposed to the visually open division seen in houses such as Hut 31 at Morgantina, means it is possible to bring into play another form of spatial analysis: access analysis. Following the methodology laid out in Chapter Three, access maps were created for nine examples of domestic architecture dating from the Archaic to the Hellenistic. Beginning in the Archaic period with some of the smallest houses excavated from this, and indeed the subsequent periods: those with up to five internal spaces.

House 63,2 at Megara Hyblaea (Fig. 6.4) is typical of those excavated at the site from this period. It contains three rooms opening onto a courtyard to the south, which itself is enclosed by the external wall of the building. Each of the rooms can only be accessed directly from the courtyard; in order to move between them the inhabitants had to pass through this space. This can be clearly seen in the access map for this house which is highly 'non-distributed'. While the rooms allowed for seclusion and the separation of people and activities, the courtyard acted as a node for movement and would have been the most likely place for interactions to take place. People in the courtyard would have had easy access to all areas of the house with the view between each of the rooms and the courtyard (when doors were left open) being uninterrupted, but there being no lines of sight between the individual rooms themselves. A similar spatial organisation can be seen in the smaller houses occupying *insula* C4 at Classical Naxos (Fig. 5.5), a flat coastal site, and in many of the smaller houses at terraced Hellenistic Solunto including House C on the Via Natoli (Fig. 5.6). Houses 8, 11,

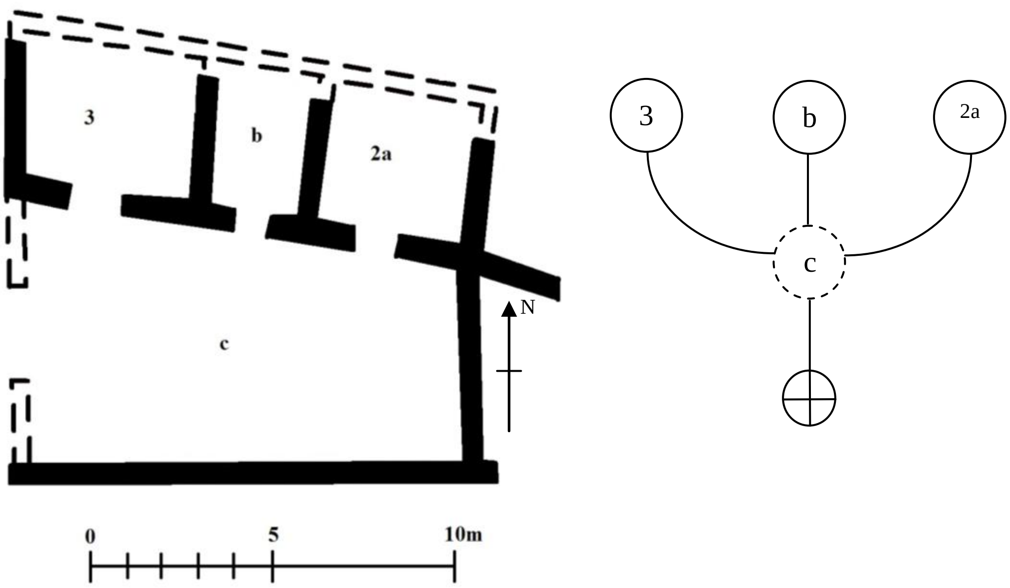


Fig. 6.4 House 63,2, Megara Hyblaea (based on information available at the site, source: Soprintendenza BB.CC.AA. di Siracusa), and its access map.

and 12 each contain two or three rooms none of which are interconnected, but, as in House 63,2, are all accessed from a courtyard. It is interesting to note that in the case of all of these houses, except 8 at Naxos and some at Solunto, the entrance leads directly into the courtyard, making the rooms more secluded from the exterior and meaning that anyone entering the building has to first pass through this more open, accessible, and easily viewed area.

House 2 near the Temple of Zeus at Agrigento (Fig. 6.5) has been dated to between the late 6th and 4th centuries BC, measures c.204m^2, and contains five rooms and an L-shaped courtyard; thus sitting towards the upper end of the scale for house size and subdivision in the Archaic period, but similar in scale and form to those immediately surrounding it. The entrance to the house leads directly into the courtyard, but running behind it is a row of stones, which, if they represent foundations, means that a wall would have blocked the view from the street into the interior. The further end of the courtyard, labelled space '37' by the excavators, contains a well and cistern indicating that the collection and storage of water was one of the household's concerns. From the courtyard are accessed the two largest roofed spaces of House 2: 27 and 28b. Room 28b is a single space unconnected to any others, but from 27 can be accessed 25 and 26, which may have led into 24 (the location of the entrance to this particular space is not clear). Its access map reveals that the spatial organisation of House 2 is slightly more complicated than that of the less subdivided House 63,2 at Megara Hyblaea. The courtyard here also acts as the primary node for movement between the largest

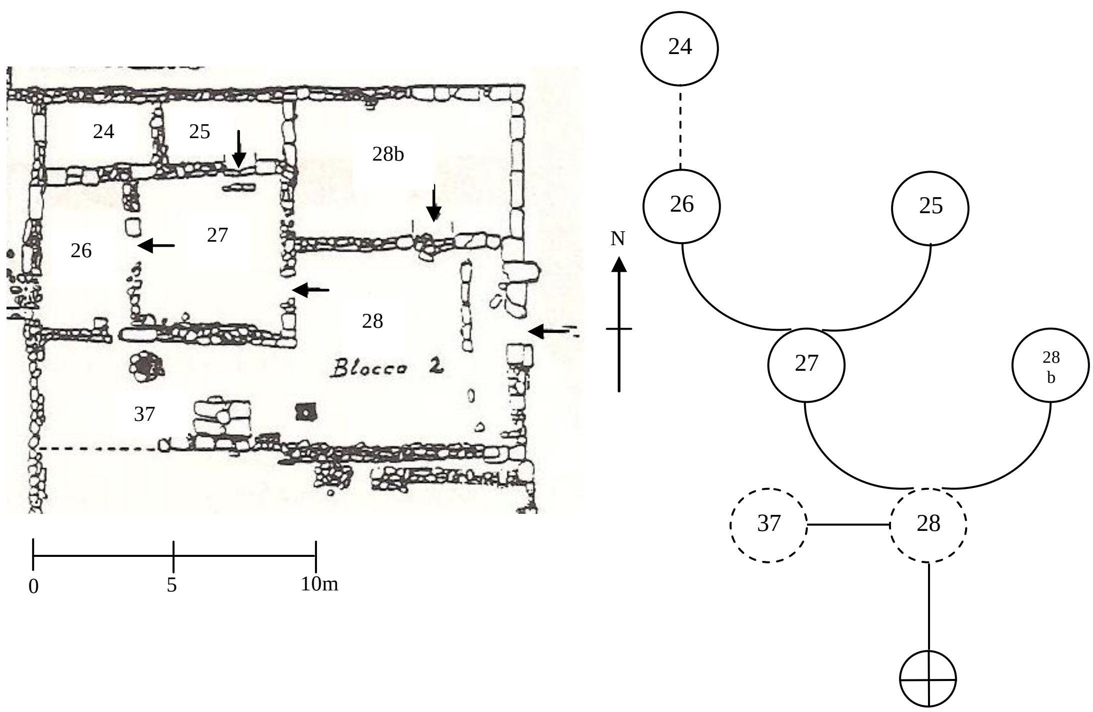


Fig. 6.5 House 2, Agrigento (after Cordsen 1995, fig. 8, 115), and its access map (doorways identified on site and marked by arrows).

spaces of the house and was likely an area in which encounters frequently took place, but room 27 plays a more prominent role in movement around the roofed part of the building, controlling access to three of the four other indoor spaces that make up the house. This creates a domestic space with multiple levels of access, as is displayed by the more extended form of its access map, combining elements of the 'distributed/asymmetric' and 'non-distributed/symmetric' configurations. Rooms 25, 26, and 24 would have been relatively secluded from the rest of the house — the inhabitants would have had to pass back though room 27 to reach any other areas of the building. This could suggest that this higher level of subdivision was perhaps motivated by a concern for privacy; sequences of boundaries create a 'hierarchy of discontinuity' (Grahame 2000, 13). The additional secluded spaces allowed the inhabitants to remove themselves from visual proximity to others, a factor also reflected in the fact that doors are not directly aligned thereby shortening lines of sight between spaces. The presence of the wall blocking the view into the house from the street strengthens this idea and would have further separated the house from the surrounding settlement and the view of passersby; it was necessary to physically enter the house and turn around the end of the wall before obtaining any kind of view into the building.

With the step-up in subdivision identified in houses of the Classical period it will be interesting to see what effect the presence of an increasing number of internal spaces has upon spatial organisation and layout. House IIb at Herakleia Minoa (Fig. 6.8) and the House of Empolemos at Morgantina (Fig. 6.7) are some of the best preserved Classical houses giving us a clear idea of their layout and spatial organisation, and represent the medium size from this period.

Both House IIb and the House of Empolemos are situated on sloping terrain, with that at Morgantina being steep enough that the House of Empolemos was terraced into the hillside of the Serra Orlando ridge, and are focused upon a central courtyard around which the roofed spaces of the house are arranged. This contrasts with the smaller, less subdivided buildings, like those at contemporary Naxos, where the rooms are placed on just one or two sides of the courtyard. The paved nature of the courtyard of House IIb, as opposed to the beaten earth floors of the other spaces, indicates that despite being small enough to be roofed over, some form of weatherproofing was deemed necessary making it likely that this was an open area (Nevett 1999, 139). As with the smaller, less subdivided houses, the access maps (Fig. 6.6) reveal that the courtyard acted as the principal node for movement around the house with the majority of the rooms being accessible from this space. The central location of the courtyards means that they are not the first space to be entered when arriving at the house; an

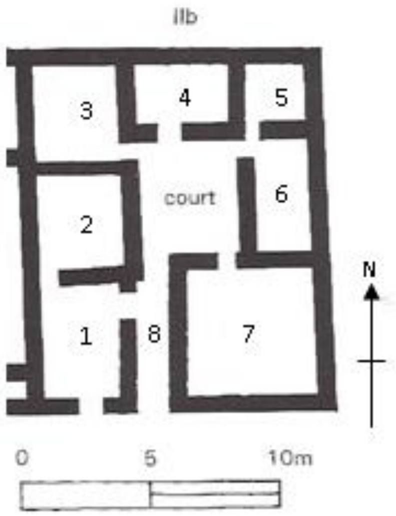


Fig. 6.6 House IIb, Herakleia Minoa (after Nevett 1999, fig. 48, 139).

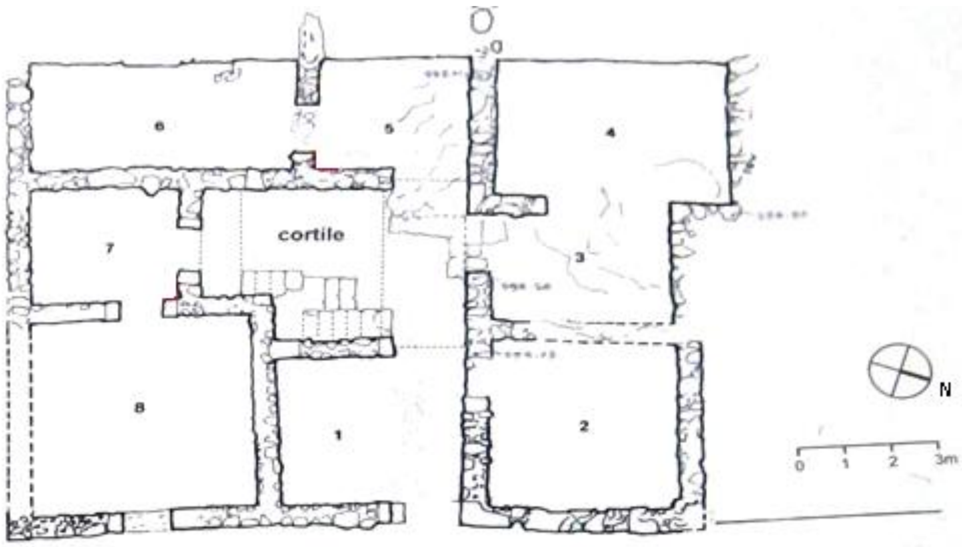


Fig. 6.8 House of Empolemos, Morgantina (plan available at the site, source: the Aidone Regional Museum).

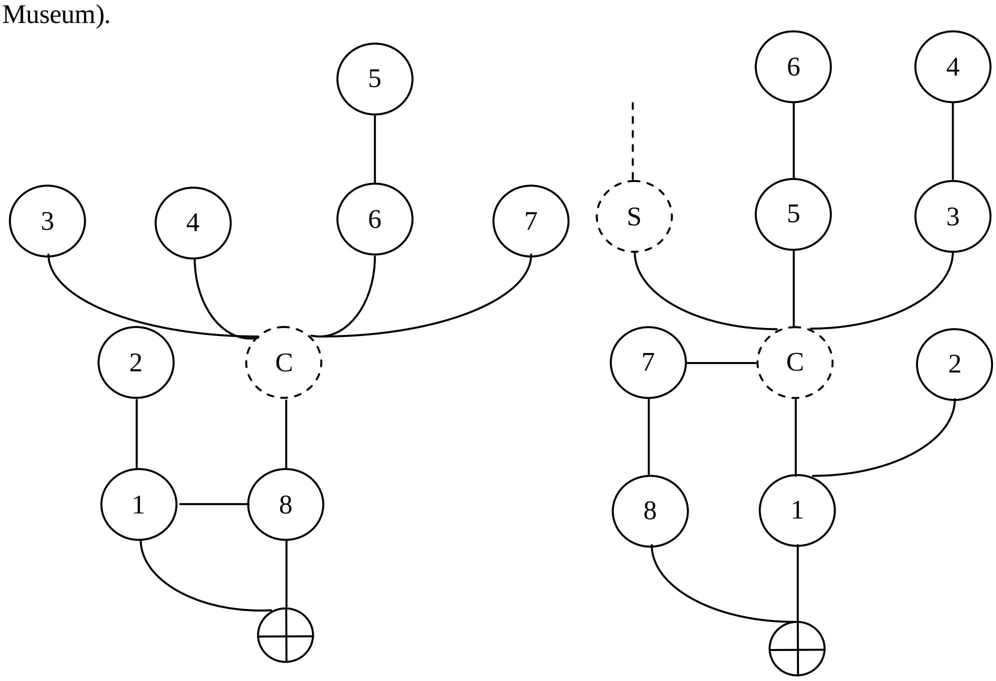


Fig. 6.7 Access maps for House IIb at Herakleia Minoa (left) and the House of Empolemos at Morgantina (right).

intermediary corridor or room must be passed through first thus removing the courtyard from direct contact with the outside world. Both houses have two entrances, the secondary of which it has been postulated could have led to shops or workshops (De Miro 1979, 718). This was not necessarily the case for all houses of this size; many, including House IIc at Herakleia Minoa, continue to feature just one street entrance. The more elongated, asymmetric, form of the access maps reflects the fact that there are rooms at a greater depth from the street entrances; these spaces (5 in House IIb, and 4 and 6 in the House of Empolemos) were the most isolated in the house and cannot be directly entered from the courtyard. The courtyard of the House of Empolemos features a stair base suggesting that the building had a second storey and so more rooms above those seen on the ground floor. These would have been separated from the goings-on downstairs, but without the walls surviving to their original height it is difficult to postulate more regarding the layout of this area of the house other than it was likely more secluded, perhaps with a greater restriction of access.

One of the largest houses thus far known from the Classical period is House 14 at Naxos (Fig. 6.9), neighbour to some of the smaller houses discussed above from *insula* C4. Despite being over twice the size of the House of Empolemos and House IIb, House 14 follows a similar layout with a central, possibly peristyle, courtyard surrounded by a series of rooms. The poorly persevered remains mean we are unable to identify the location of some

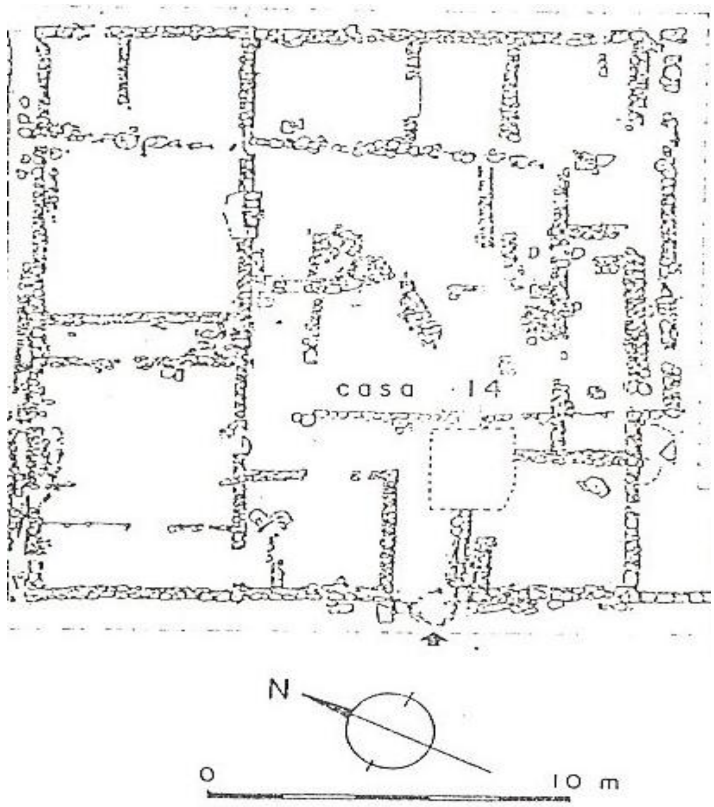


Fig. 6.9 House 14, *insula* C4, Naxos (Lentini 1993–1994, fig. 3, 1006).

walls and doorways and so makes the formation of an access map difficult, but a useful insight can still be gained into its spatial organisation. As in the smaller central courtyard houses, House 14 is entered via a corridor space leading into the courtyard area. From here it is possible to access a series of rooms. It appears that many of those that open directly onto the courtyard also lead into another, and in some cases two further spaces, creating parts of the house that are more secluded. The courtyard again acts as the node for movement between these spaces, but the series of rooms opening off of it meant it was possible to carry out activities and move between linked spaces without being in direct view of the courtyard. The variety of length to width ratios seen in the individual spaces of this house (from c.2.80 x 1.60m to c.5.25 x 5.25m, as well as some long and narrow spaces at c.1.10 x 5.25m) imply that as well as access and visual horizons being controlled, spaces may have been utilised for different purposes or by different members of the household, in which case access to, or how one used, certain areas could have fed into identity definition and formation.

As has been seen, the Hellenistic period continues to produce houses comparable to the smaller rectilinear structures from the preceding periods. House VII at Solunto (Fig. 6.10) covers an area of c.16.30 x 17.30m and features nine rooms arranged around three sides of a courtyard. The presence of a well or cistern reflects the lack of surface water and need to collect rainwater at Solunto. Like the central courtyard houses of Herakleia Minoa and the

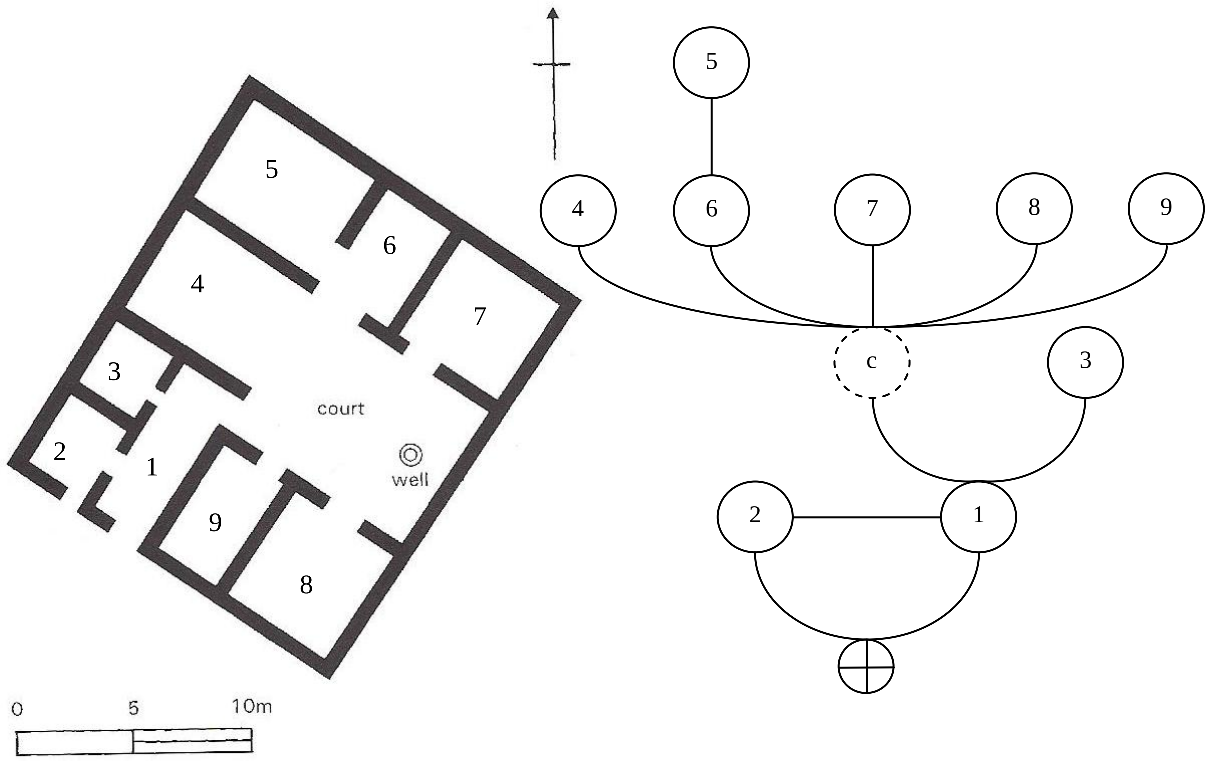


Fig. 6.10 House VII, Solunto (Nevett 1999, fig. 50, 143), and its access map.

House of Empolemos at Morgantina, the courtyard of House VII is removed from direct contact with the street, here by a short dog-legged corridor, and the building features a secondary entrance into what has been interpreted as a shop (Italia and Lima 1987). Indeed, the access map for House VII is very similar to those of Houses IIb and Empolemos; the courtyard continues to act as a central node for movement about the main part of the house, the non-distributed nature of the arrangement of these spaces meaning that interactions were likely to take place here as individuals had to traverse this space to access the majority of the others in the building. The doorways to the rooms surrounding the courtyard are roughly opposite meaning that there was a degree of inter-visibility between spaces. Space 4 is interesting in that it is fully open onto the courtyard: it is possible it formed an extension of the open area, perhaps even being left unroofed. Space 5 is the most secluded, being accessed from 6. Overall it appears that the same basic spatial organisation adopted in the larger Archaic houses and expanded upon in the Classical period, with a non distributed arrangement focused on a central courtyard (removed from direct contact with the exterior by a entrance room or corridor) from which the majority of the domestic space can be accessed, and a small number of more asymmetric suites of secluded rooms, continues to be found in houses of a similar size during the Hellenistic period.

The Hellenistic also saw the construction of some particularly large houses with many internal spaces and multiple courtyards or peristyles. One such, which is particularly well preserved due to being built into the hillside (the back walls survive to over four meters high; Nevett 1999, 140), is Peristyle House 1 at Monte Iato (Fig. 6.3). This house is about twice the size of House 14 at Naxos and features over twenty rooms arranged around a full and partial peristyle courtyard. Three doorways can be seen at the front of the house, two of which lead into sets of two rooms unconnected to the rest of the building and possibly formed a dye-working complex (Dalcher 1994, 17). While their incorporation into the physical building suggests these workshops were a part of the wider domestic complex, perhaps providing an income, that they are not directly accessible from the residential part of the building clearly indicates that the activities taking place here were decidedly separate from those of the household. This contrasts to the shop spaces identified in some of the smaller houses where a further doorway led into the main part of the house. Peristyle House 1 is entered via a series of steps into space 1 and then on into the central peristyle courtyard that gave the house its name. The doors leading in and out of space 1 are not fully aligned making it difficult to see directly into the interior of the house from the entrance. The necessity to climb steps to reach

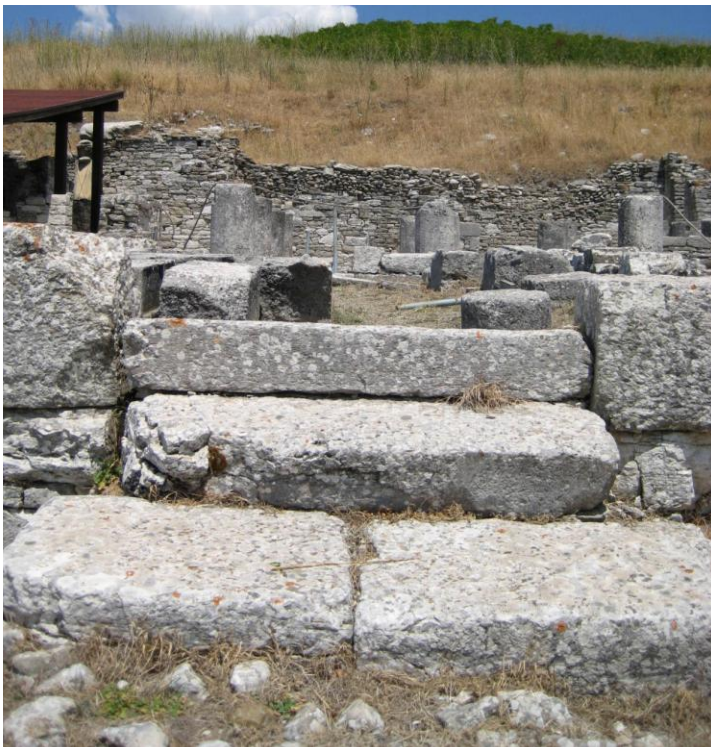


Fig. 6.11 Looking north through the entrance to Peristyle House 1, Monte Iato (author, August 2015).

this in the first place would also have reduced the visibility of the interior from the street (Fig. 6.11).

Its access map (Fig. 6.12) reveals that the ground floor of Peristyle House 1 has two distinctive areas each centred around one of the courtyards (spaces 2 and 23). The first is focussed upon the full peristyle courtyard (2), from which can be accessed a series of rooms, the majority of which are only accessible from the peristyle. The central courtyard forms the main node for moving around this part of the house. Room 15 is the only space that one has to pass through another in order to enter (the space 2a that leads into room 18 reflects an extension of the northern colonnade of the peristyle), but the doorways between rooms 17, 16, and 15 meant that these spaces were closely linked and formed a suite allowing the inhabitants to easily move between them. These particular spaces (as well as 5 and 14) also include a feature rarely surviving in the archaeological record: windows. These were large, c.0.75m wide and at least 1.00m tall in room 15, and positioned c.1.20m high in the wall; it would have been possible to look through them into the adjacent room making this area of the house relatively visually open (none of the doors and windows directly align restricting the view somewhat), although shutters (holes for fittings can be seen in the sills) would have allowed for lines of sight and light/ventilation to be cut off if deemed necessary. Many of the spaces in this area of the house, including 15 and 17, featured *opus signinum* floors and have been proposed as spaces in which guests could be received (Westgate 2000, 423).

The second courtyard, a partial peristyle with its own set of surrounding rooms, is more secluded, being removed from the entrance and the first courtyard by a narrow, dog-legged, corridor (spaces 7a and 7). Here all the rooms, with the possible exception of 21, open directly onto the courtyard making this the focus of movement and interaction in this area. This part of the house, as can be seen in its depth from the exterior in the access map, was less accessible and would likely have been reserved for the household, rather than frequented by guests and visitors. This area, except for the well preserved painted plaster and *opus signinum* in room 21, which from the presence of bath-like installations and furnace in room 22 has been identified as a bathroom, was less richly decorated and appears to have formed an area of the house associated with domestic activities (Wilson 1996, 108). The peristyle features a stair base that would have led to a second storey. The locating of the stairs here would suggest that the upper floor of the house was a more private area, those climbing the stairs would first have had to pass through the main peristyle, the dog-legged corridor, and second courtyard — in the access map the stairs are one of the deepest spaces from the

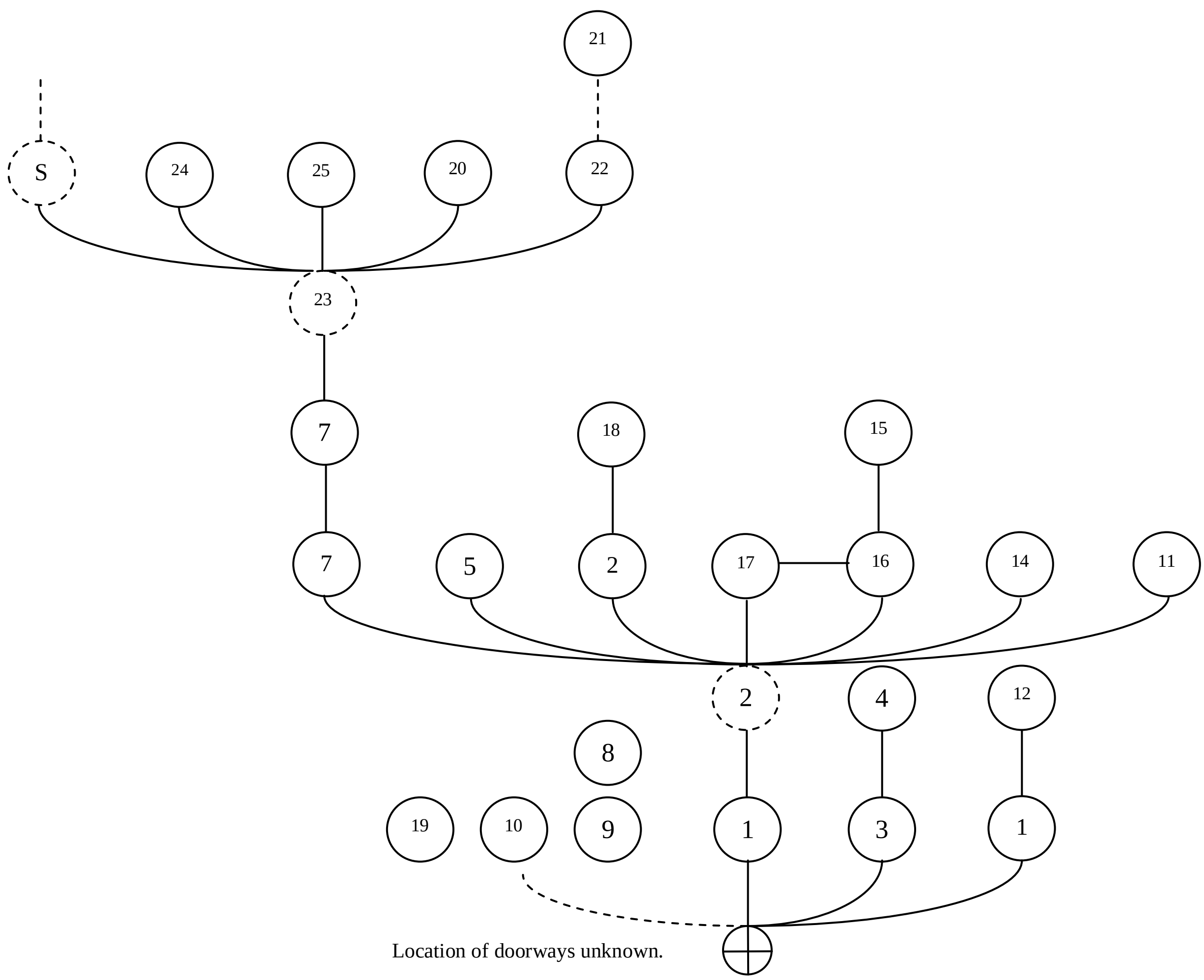


Fig. 6.12 Access map for Peristyle House 1, Monte Iato (plan given in Fig. 6.3).

entrance. Interestingly, fragments of tessellated mosaic and relief plaster painted with marbling have been found in rooms 16 and 17 that appear to have fallen from the upper floor. Westgate (2000, 424–425) suggests this indicates the presence of reception rooms on the upper floor that would have allowed for the use of different rooms in different seasons, the upper floors receiving more light, and the differentiation of guests; close friends and privileged visitors being allowed access to the more lavish and secluded spaces in the house. It is possible then that these layers of access and differentiated spaces reflect a heightened need to differentiate people and activities.

This two- (or three- if we take into account upper floors) fold form of domestic spatial organisation is not unique to Peristyle House 1, but is also found in the contemporary large houses excavated at Monte Iato and, indeed, right across Hellenistic Sicily. Some of the best preserved examples for comparison have been excavated at Morgantina. The House of the Doric Capital (Fig. 6.13) may only have one courtyard, but, as in Peristyle House 1, a corridor, with clear fittings for a door, led from here into a second, more enclosed part of the house with stairs leading to the upper floor. Tsakirgis (1995, 133–134) has suggested that the presence here of a cistern and artefacts associated with food preparation indicate a more service use for this area of the house, which also lacks the painted plaster and stucco of the rooms surrounding the peristyle. A second, smaller, entrance meant this area could be accessed independently suggesting that those entering the house could be differentiated by the route they took. Altogether this and the upper floor would have been a much more private

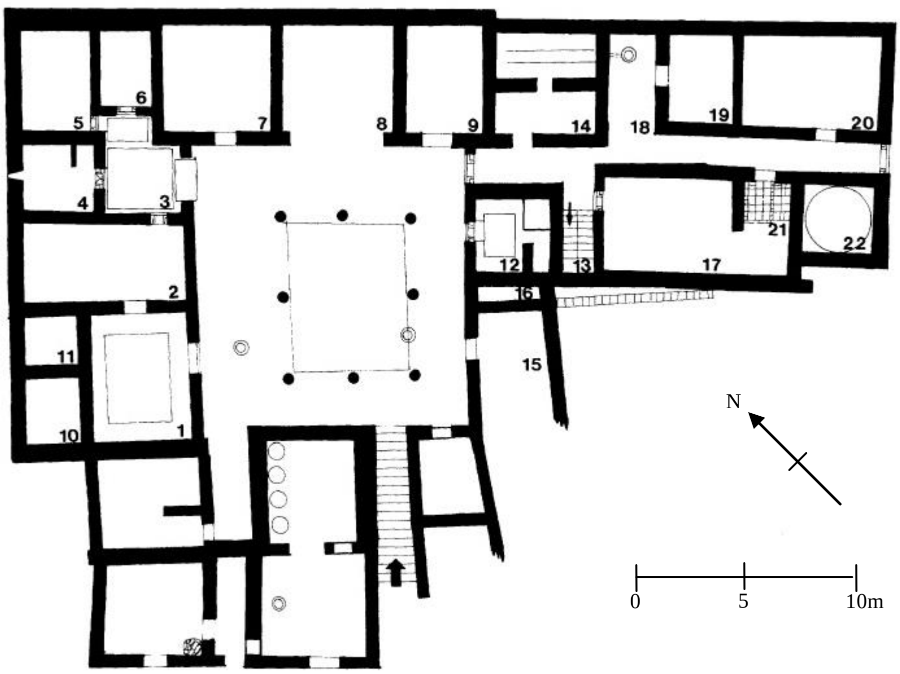


Fig. 6.13 The House of the Doric Capital, Morgantina (Tsakirgis 1990, fig. 1, 426).

area of the house (Westgate 2000, 420), with access, as is demonstrated by the presence of doors, being controlled and even restricted.

The final house, also from the Hellenistic period, I look at in more detail is the House of the Official at Morgantina. Systematic excavation and the identification of different types of wall construction has allowed us to trace changes in the building's form and layout during its lifetime — reflecting changes that must have taken place in the socio-cultural parameters of those inhabiting it. The first occupation phase (Fig. 6.14) of the House of the Official dates from c.250 BC until the late 3rd century BC (Stillwell 1963, 168). The house is entered via a double doorway and down a step into an entrance room from which it is possible to move on to a single space to the north, a suite of three rooms to the south, and a narrow corridor via the colonnade directly ahead. This corridor (1a), as is displayed in the house's access map (Fig. 6.15), acted as a link between two distinct areas of the house: that centred upon a peristyle courtyard to the south, and the northern part with one, possibly two open courtyard areas surrounded by a series of rooms.

The southern part of the house is much more accessible — it can be entered both from the linking corridor and via the suite of rooms opening off the entrance space 1. This accessibility is also reflected in the extent of permeability seen: only one space, 5, is a 'dead end space', all of the rest feature at least two doorways. This means that there were many possible routes around this part of the house, and that there was a lesser degree of control exerted over movement than has been encountered in many of the other domestic structures explored; the configuration is 'distributed'. While the peristyle would still have been the focal point of the southern part of the house, it would not always have acted as the primary node for access and movement and it would have been possible for the inhabitants to avoid one another if they so desired. The southern area of the house is also that in which was found the greatest evidence for decoration: limestone columns for the colonnade and entrance to room 2, and floors of *opus signinum*, often enhanced with the insertion of *tesserae*. These factors led the excavators to suggest the sourthern peristyle and its surrounding rooms were a more public area where guests were entertained and business carried out (Stillwell 1963, 166; Tsakirgis 1988, 212–216).

This contrasts with the layout and spatial organisation of the northern part of the House of the Official. This area can only be accessed via the narrow corridor 1a which leads directly into the northern courtyard. Only two rooms open off this space; the small, probably storage-related space 24, and the extended space 10 occupying the entire west side of the courtyard. This room contained wares associated with the preparation of food, which, along

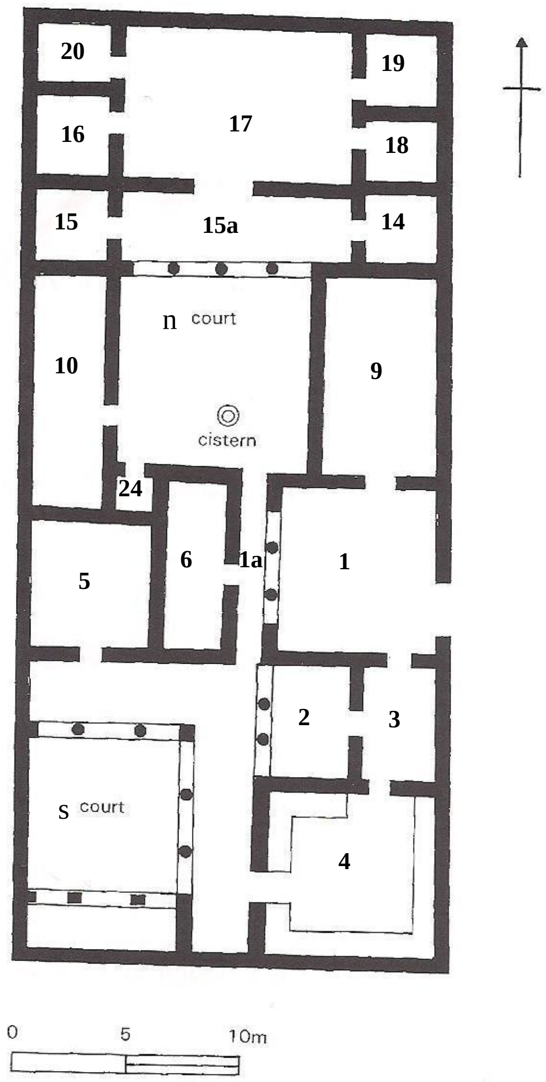


Fig. 6.15 House of the Official, Morgantina, Phase 1 (Nevett 1999, fig. 53, 149).

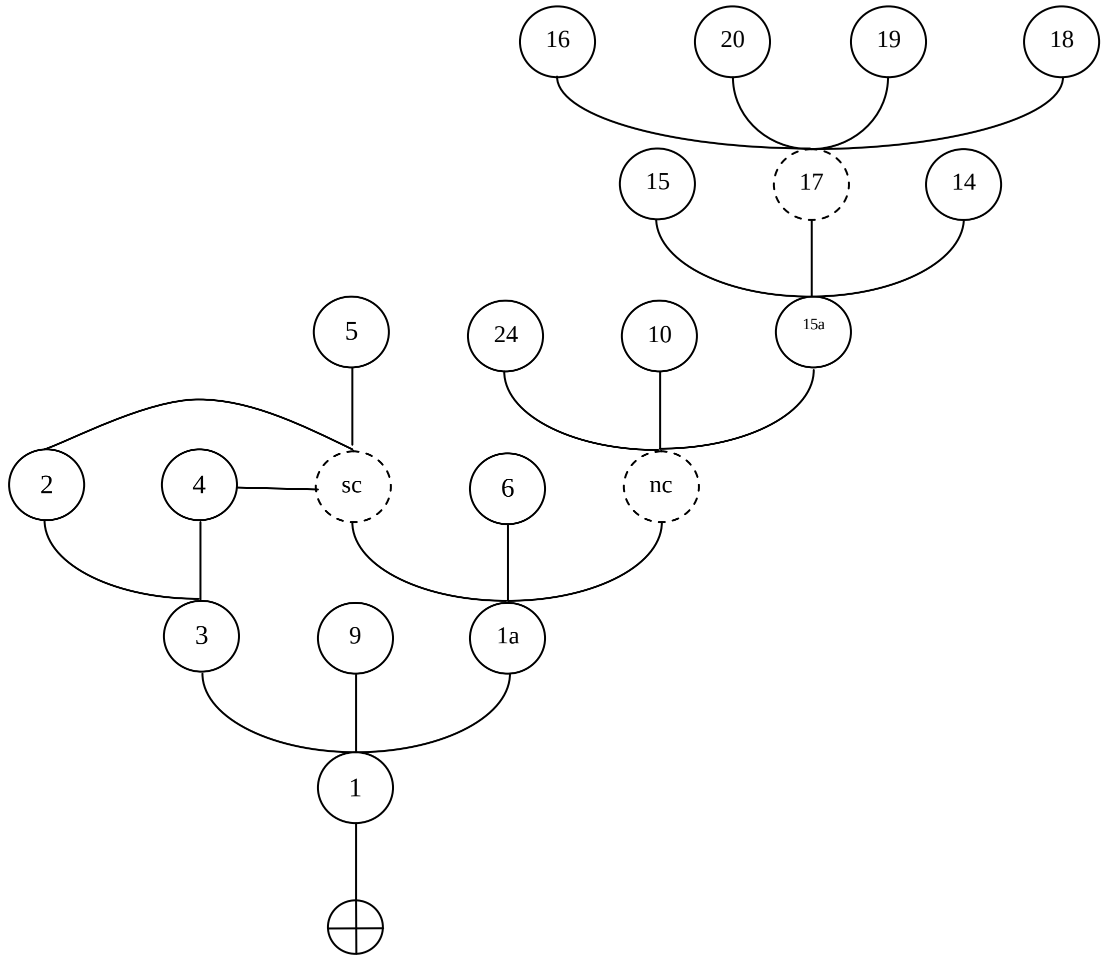


Fig. 6.14 Access map for the House of the Official, Morgantina, Phase 1.

with the presence of a cistern in the courtyard, has led Tsakirgis (1988, 212–216) to suggest this part of the house served as a domestic area. This identification is supported by the reduced presence of decoration implying this was an area less frequented by guests and others from outside the household. The north courtyard, the colonnaded corridor 15a, and space 17 (which is of such a size that it is possible it formed a third courtyard; Tsakirgis 1988, 221) form a series of contiguous nodes from which all of the rooms that make up this part of the house can be accessed. None of the individual rooms is directly linked to its neighbours meaning that these central spaces both controlled and facilitated movement between them. Despite the more restricted nature of movement and access in comparison to the southern part of the house, there is a large degree of visual openness, with encounters likely to occur often as the inhabitants negotiated the central spaces. Access to the northern part of the House of the Official is more controlled, indicating a concern for privacy in its separation from the southern part of the house and the outside world, but within this area, while the division of space allowed for the physical separation of people and activities, the inhabitants would have been relatively free to interact.

A similar layout and spatial organisation can be seen in the House of the Arched Cistern (Fig. 6.16), also at Morgantina. Likewise the house is entered via a hall-like space from which it is possible to turn either north or south. A wide doorway up a series of steps leads into the southern part of the house which is centred upon a large, almost complete, peristyle courtyard. But, as in the southern part of the house of the Official, many of the rooms here are interconnected thus reducing the level of control the peristyle exerted over

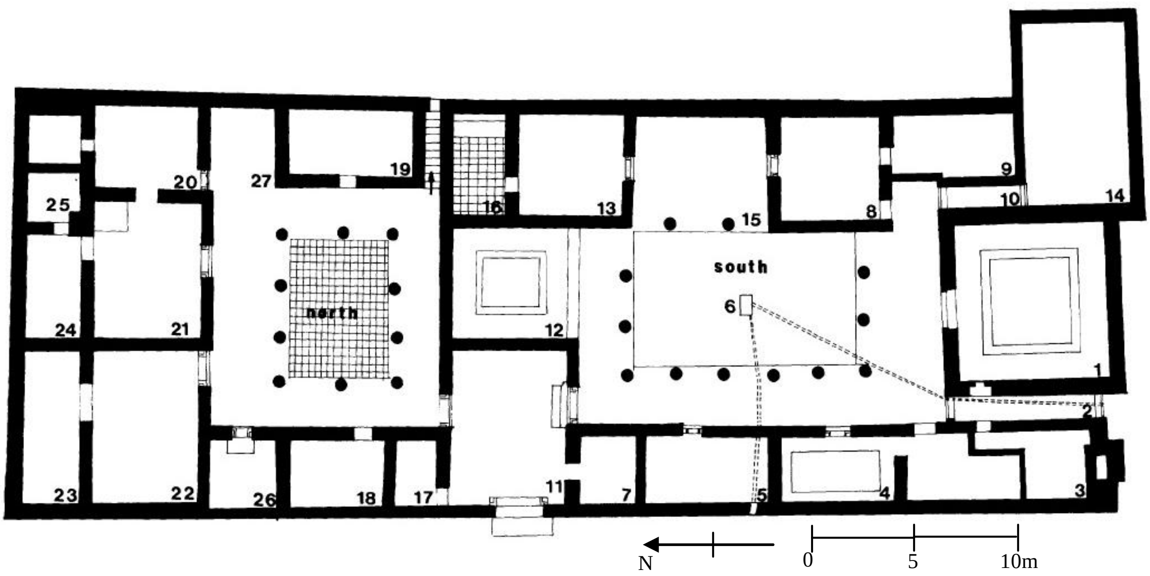


Fig. 6.16 House of the Arched Cistern, Morgantina (Tsakirgis 1990, fig. 7, 429).

movement in this part of the house, particularly the eastern side along which it was possible to walk without entering the main body of the courtyard at all. It is this part of the house which also includes the most archaeological evidence for decoration: mosaics have been uncovered in rooms 1, 3, 4, and 12, while in the remaining rooms *opus signinum* was used and during the house’s lifetime a fountain was incorporated into the courtyard. In contrast the northern part of the House of the Arched Cistern features floors of tiles, beaten earth, and occasionally *opus signinum*, leading to the suggestion that the southern part of the house was more public, used for entertaining etc., while the northern represented the area in which day-to-day tasks were carried out (Westgate 2000, 416). The northern part of the house is also centred upon a peristyle courtyard, but here most of the rooms are accessed only from the peristyle, although the north-eastern corner does feature a suite of five interconnected rooms. These would have formed the most secluded part of the house and could only be entered via the adjacent rooms 20 and 21, and so anyone moving between them and the rest of the house would still have had to pass through the peristyle.

Around 200 BC, following what appears to have been a fire, the House of the Official underwent a series of alterations, namely its division into two separate houses (Fig. 6.18) (Stillwell 1963, 167–168). This can be clearly traced in the presence of blocked up doorways and new walls identified as such through differences in masonry: the new sections of walling typically use only roughly worked stone in irregular courses in contrast to the earlier, neater, chain masonry (Fig. 4.19). The division is made by the construction of a wall across space 1 and the creation of a new entrance for the northern house in this space — corridor 8 on the ground plan.

In the South House efforts appear to have been made by the household (which may or may not be associated with that which occupied the house during Phase 1) to restrict movement: the linking doorways between rooms 2 and 3, and 1 and 3 have been blocked up meaning that the peristyle courtyard now acts as the primary access and movement node (Fig. 6.17). The entrance space 1 controlled access to both room 6 and the upper floor (reached by steps in space 1 that may also have been present in Phase 1), and so was also an important space in terms of control of movement. Interestingly a second street entrance has been added, but rather than opening onto a room that could have been a shop, as in the House of Empolemos, which then acts as a buffer between the street and the main part of the house, this door leads directly into the peristyle. Which was used as the principal entrance is unclear. The original, the larger of the two, would have given easy access to the upper floor, the new, access to the ground floor rooms; perhaps these entrances were used dependent upon the

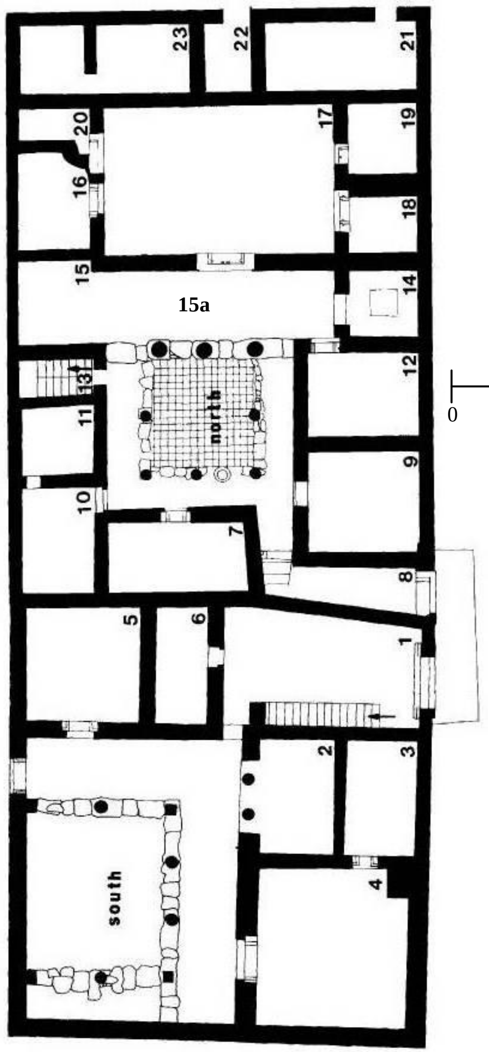


Fig. 6.18 House of the Official, Morgantina, Phase 2 (Tsakirgis 1990, fig. 9, 431).

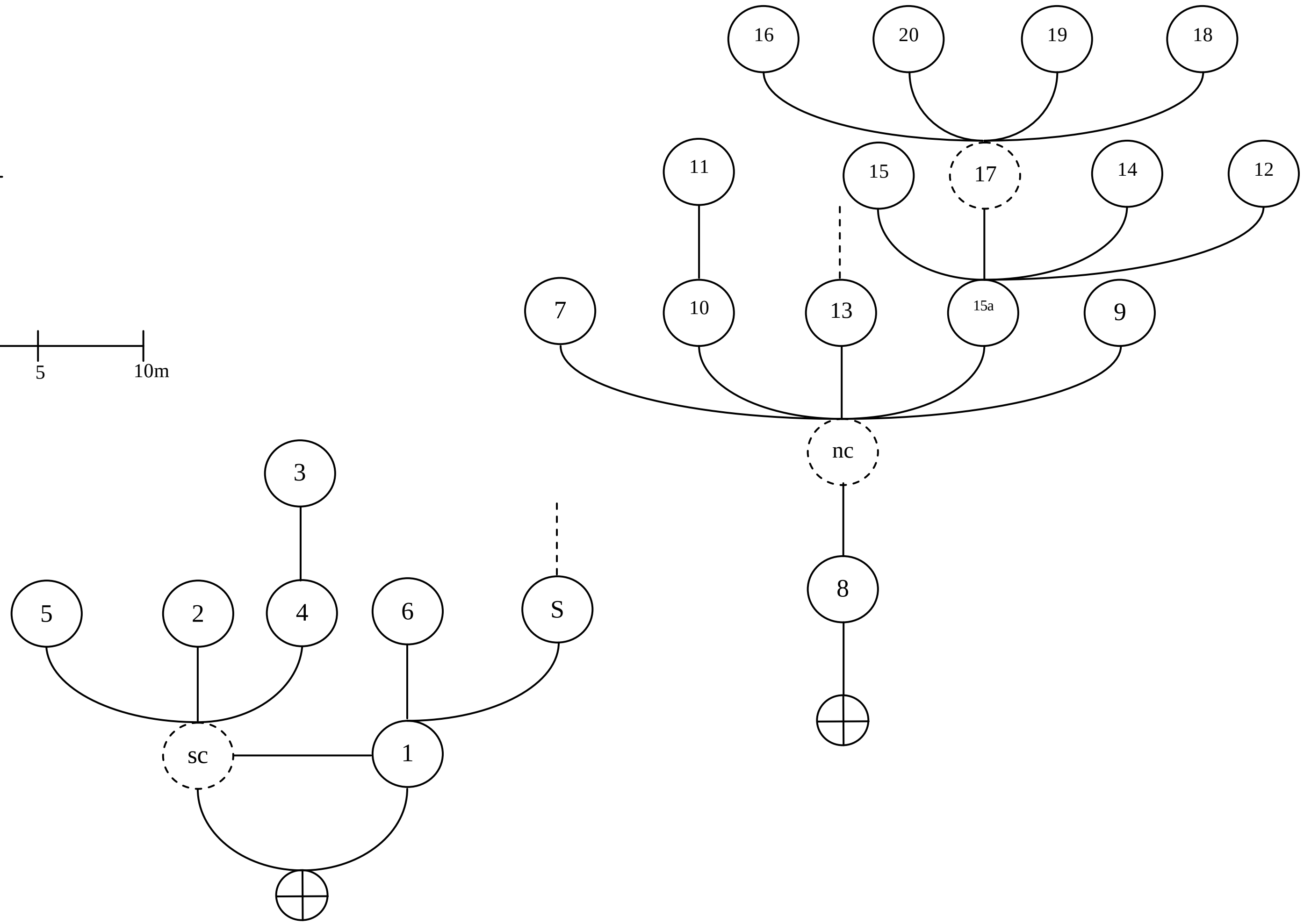


Fig. 6.17 Access maps for the House of the Official, Morgantina, Phase 2: South House (left), and North House (right).

direction the inhabitant was coming from and where they were going, the position they held, and their purpose in entering or leaving the building.

In general the spatial organisation of the North House appears to have not overtly changed with its separation from the southern part of the House of the Official. The newly built dividing wall across the original space 1 means the building is entered via an irregularly shaped dog-legged corridor leading directly into the courtyard. This has been transformed into a full peristyle by the addition of three colonnades extending from the original colonnaded corridor 15a. This peristyle, as can be clearly seen in the access map for the North House (Fig. 6.17), acts as a point of control for access and movement about the southern part of the house. The northern-most part of the North House can only be accessed via the double door from the colonnade 15a, beyond which space 17, as in Phase 1, controls direct access to the four rooms in this area. Again we see a pattern where access is restricted, or at least controlled, moving between the focal points of the house, but movement and physical and visual interactions across these spaces (the peristyle courtyard with colonnade 15a, and space 17) and between the rooms that surround them (only two of which give access to further spaces; 10 into 11, and the staircase 13 leading to the upper storey) would likely have occurred frequently as the inhabitants went about their daily routines. Only from rooms 11 and 12 would it not have been possible to look directly out onto a main thoroughfare through the house.

In Chapter Five it was postulated that the increase in subdivision seen in domestic architecture from the Archaic period onwards reflected an increase in the inhabitants' concern for privacy and the degree of hierarchical distinctions and social stratification. Having taken a closer look at the layout and spatial organisation of a variety of houses from the Archaic, Classical, and Hellenistic periods — some small, some large, some with only a few internal spaces, others with many — it would indeed appear that the formalisation of space through the creation of the option for physically and visually dividing peoples and activities, and the ability to control movement and access, did take place. A concern for privacy is often seen in the relationship between the house and the outside world. A number of the structures encountered, particularly those from the Classical and Hellenistic periods, include entrances leading into dog-legged corridors or hall-like spaces — these make it difficult, if not impossible, to see directly into the interior of the house from outside. Entrances can be offset from the doorways behind them, the thresholds of which frequently show evidence for the presence of doors allowing any direct lines of sight to be broken, or, as in House 2 at Agrigento, a screen wall can prevent passersby seeing directly into the house's courtyard.

The walls surrounding these houses and their courtyards, the use of entrance corridors and halls in larger houses and the distancing of the main rooms from the exterior by locating the courtyard between them in the smaller houses, the fact that second entrances tend to lead to shop or workshop spaces apart from the principal rooms, and the clear evidence for the presence of doors reveal a set boundary between inside and outside the domestic space.

Within the house itself are found varying levels of access and seclusion; these can be best seen in the access maps (brought together in Fig. 6.19). In the smaller houses, such as 63,2 at Megara Hyblaea, the incorporation of separate, unconnected, rooms allowed for the division of people and activities even though the total roofed area of the house was comparable to some of the larger rounded houses with visually open interiors. Many of the houses explored here exhibit strong tendencies towards symmetry and non-distribution in their configuration, with the courtyards that characterise many of the rectilinear houses across Sicily acting as nodes for movement and interaction, as well as visual encounters, and controlling access to the rooms of the house. These rooms, typically single spaces or just two or three conjoined, are the crux of the issue of the formalisation of space — their spatial organisation allowing for the separation of people and activities when it was deemed necessary, as well as for the gathering of the household. That relatively few spaces have been identified in the archaeological record to which specific functions can be assigned implies that this formalisation was not a functionalistic one, but that the use of individual spaces may have varied depending upon factors, both socio-cultural and physical, such as time of day, time of year, the weather, who else was present and what their role was in, or relationship to, the household, and what activities needed to be carried out. This ties in with the idea of division within the domestic space being linked to notions of identity formation and definition.

The clearest manifestation of this is found in the layout of the larger houses with multiple courtyards, all of which date to the Hellenistic period. In many of the houses excavated at Morgantina, including the House of the Official and the House of the Arched Cistern discussed above, and Peristyle House 1 at Monte Iato, each courtyard was clearly differentiated. One was surrounded by rooms featuring greater quantities of decoration and characterised by a slightly more interlinked access map with elements of distribution allowing for a comparatively fluid degree of movement. The other featured less discernible decoration, although the quality of finishing was not necessarily any less, and the incorporation of practical features such as cisterns and the presence of storage and cooking wares. The access maps for these areas typically show movement to be more controlled, with

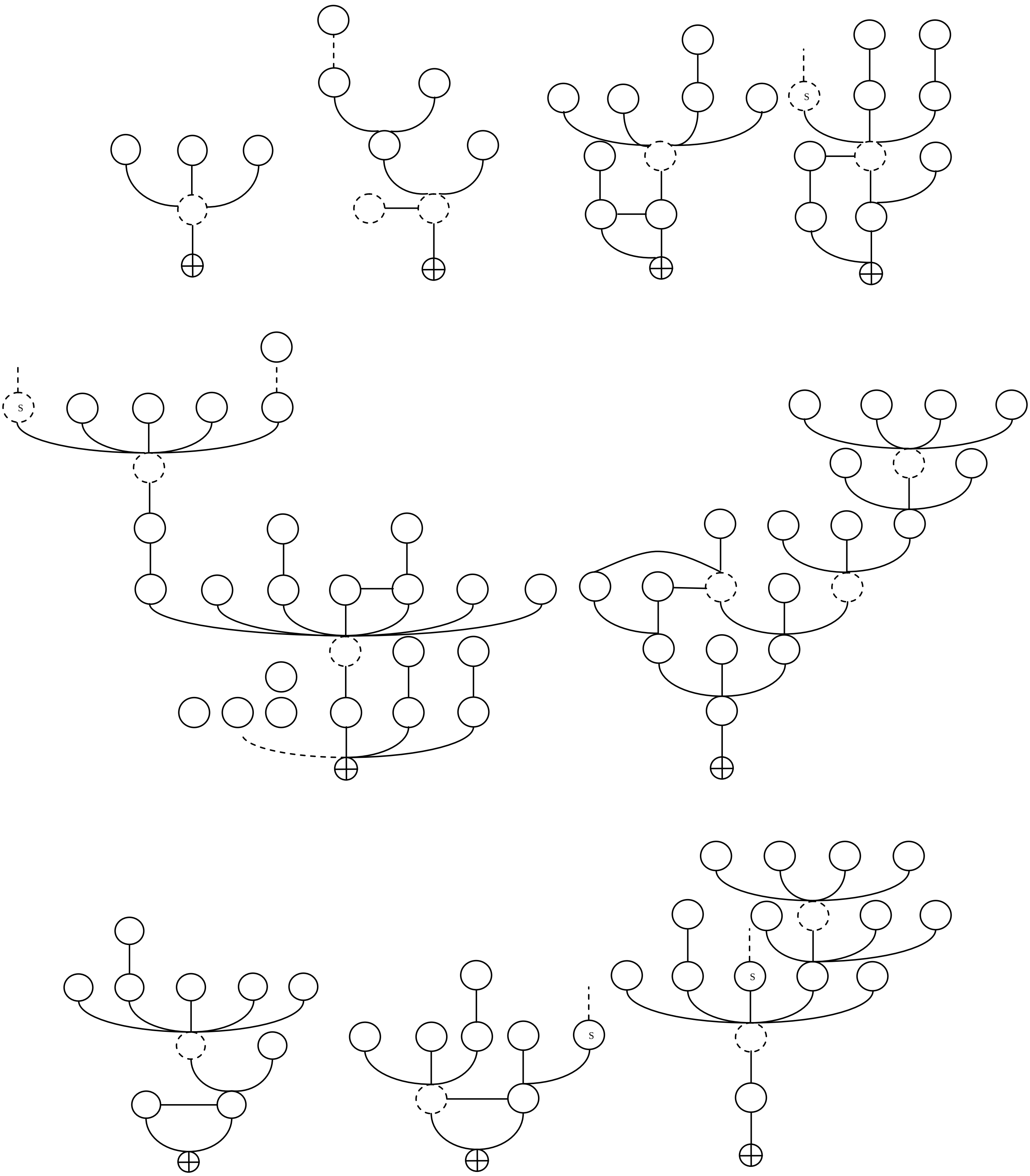


Fig. 6.19 Comparison of access maps. Top row from left to right: 63,2, Megara Hyblaea (Archaic); House 2, Agrigento (Archaic); House IIb,Herakleia Minoa (Classical); House of Empolemos, Morgantina (Classical). Middle row: Peristyle House 1, Monte Iato (Hellenistic); House of the Official, Morgantina, Phase 1 (Hellenistic). Bottom row: House VII, Solunto (Hellenistic); House of the Official, Morgantina, Phase 2, South House; North House (Hellenistic).

fewer options in terms of routes between spaces. Altogether it appears that the domestic architecture of these buildings reflects a desire to physically separate a more open, perhaps public area, where the household displayed its social and economic status, from one where the day-to-day tasks of domestic life could be carried out. That we also find this distinction in medium-sized houses of the Hellenistic period, where there was seemingly neither the space nor wealth to construct a multi-courtyard building, with the inhabitants instead making use of corridors off which similar spaces or suites of rooms were built (the back ones of which would have been more secluded), implies that the option for separation and differentiation was an important part of domestic architecture. Not only does this reveal a concern for the privacy of the domestic world, but also information about the role the house could play in wider social interactions and the construction and display of identity, not simply between members and non-members of the household, but between individuals within the household.

The nodes seen in the access maps helped control access to the areas of the house beyond them: restrictions placed on movement routes meant the household could more easily control who passed through and beyond these nodes and when. The nodes identified in Sicilian houses typically come in two forms: courtyards/peristyles and corridors. The former were visually open meaning that individuals could easily view what others in the area were doing and through which doors they pass, as well as serving as gathering places. The latter were spatially restricted, discouraging easy access and easier to physically and visually block off. This form of spatial organisation is a phenomenon that matured in the largest houses of the Hellenistic period, but that can be seen emerging in the smallest houses of the Archaic and developing though the increasing large and subdivided buildings of this and the Classical periods. The smaller houses, including the earliest dwellings known from Megara Hyblaea, may just use the courtyard, but others, such as House IIb at Herakleia Minoa, combine the two with an entrance corridor (or in some cases hall) leading to a courtyard. Here entry into the house is physically and visually restricted, beyond which movement around the house is more visually open, but still controlled through the necessity of having to pass through the courtyard in order to move between rooms. In the largest houses are found more complex combinations of these two forms of nodes. In the House of the Official, for example, the entrance hall and corridor 1a restrict access to the remainder of the house, particularly the northern area. Beyond this corridor, the north courtyard, colonnade 15a, and space 17 control access sequentially through this part of the house by creating a series of restriction points. This pattern, typified in the access maps by a candelabra configuration of spaces, is found in all of the houses examined. The incorporation of layers of access and hierarchies of discontinuity into the spatial organisation of the house creates architectural opportunities for differentiation and separation. That these are more complex and deeper in the larger, and likely wealthier, houses of the Hellenistic period can be linked to the possibility of such houses playing host to a wider range of social groups: the greater layers of access and differentiation of architectural features such as decoration being reflective of, and necessary for, sign-posting social stratification and inequalities in the presence of a household made up of the family, servants, and slaves, and visited by various guests, petitioners etc. of various relative statuses.

The incorporation of such measures into the fabric of the domestic architecture of Archaic, Classical, and Hellenistic Sicily shows that privacy, social and economic stratification, and identity (likely in relation to these), both between the household and the outside world and within the house and the household, were throughout these periods becoming increasingly influential socio-cultural parameters in the formation of domestic spaces.

Enclosures and Courtyards

Throughout this discussion courtyards have repeatedly appeared as influential elements of domestic architecture during the Archaic, Classical, and Hellenistic periods: the incorporation of multiple large courtyards seems to be linked to the dramatic increase in the size of the largest houses, while the majority of the houses known from the Archaic period onwards, regardless of size, feature courtyards taking up between 10 and 55% of the total area of the house. In all of the houses discussed that contain courtyards they generally play a distinctive role in the control of movement and access within the building. In contrast, the earlier, round, houses encountered were often surrounded by an open space or located within an enclosure. So how does the move from open external or enclosure spaces to internal courtyards relate to the wider changes explored above and in the preceding chapters?

External privacy

There are clear differences between an enclosure and a courtyard: the first was typically surrounded by a low wall or fence and encompassed the house, and so was in full view to those passing by; the second is contained within the house itself, surrounded by the rooms or walls of the house, which in width and construction match those of the rest of the building (see the various courtyard house plans above), and were thus likely full height, hiding this area from view. It is possible then to argue that the move from building within enclosures or open spaces to the incorporation of courtyards was related to the changing ideas of privacy and the definition of domestic space identified above.

It has already been seen that houses with just one or two internal spaces were visually open, allowing high levels of interaction between the inhabitants despite the fact that there clearly could be, and was, spatial differentiation. This can also been seen in the construction of enclosures at sites such as Early Bronze Age Piano del Porto on the island of Filicudi (Bernabò Brea and Cavalier 1991b), Middle Bronze Age Thapsos (Fig. 4.14), and Faraglioni on Ustica (De Angelis 2007, 178). By demarking an area of land around the house the inhabitants were deliberately separating themselves physically from neighbouring houses. But unless enclosure walls reached head-height, which appears unlikely, there would still have been visual links between the external areas directly associated with the house and those not. That an outdoor space was deemed necessary implies there were household activities that had to be carried out outside of the house; perhaps the keeping of livestock or crafts requiring light for their effective completion. An enclosure increased the area associated with an individual building or household, and allowed the inhabitants to carry out these tasks in their own space as well as interact and communicate with the rest of the settlement.

However, there are many sites across Sicily dating from the Neolithic through to the end of the Early Iron Age which have not produced definitive evidence for the presence of enclosures. But this does not necessarily mean that these houses did not have any outside space associated with them — it is possible that an area could have been fenced off without it leaving much of an archaeological trace or being identified by the excavators. Neither does it mean that the inhabitants did not make use of an outdoor area at all: at Early Bronze Age Manfria hearths were found outside of the huts along with evidence for food preparation and flint working (Orlandini 1962, 73; Orsi 1901), while at Capo Graziano on Filicudi it appears that groups of huts shared a communal paved area (Bernabò Brea and Cavalier 1991b). Thus it appears likely that where enclosures are not present, the household still utilised the area immediately surrounding the house for activities requiring outdoor space. Although this could result in communal and shared spaces between houses, and certainly would have meant a high likelihood of regular interactions between the settlement’s inhabitants as they carried out day-to-day tasks, by a household using the space adjacent to their house, being physically and visually present within it both in person and through their things such as hearths and livestock, they would have created a space directly associated with their house, albeit with more blurred boundaries than if they had constructed a fence or wall.

Interestingly, many of the earliest rectilinear houses (which typically did not include a courtyard and were often a similar size, if not smaller, than many of the round houses from Sicily) constructed at the first ‘Greek’ settlements, including Megara Hyblaea and Syracuse, were situated within enclosures generally measuring between c.100m^2 and 120m^2 (Donner 1997, 146). As these houses were redeveloped and expanded they would eventually consume the area of the enclosure with an open space being left to form of an internal courtyard. This suggests that the enclosure was not an architectural feature limited or specific to houses and settlements of the rounded tradition, but was a useful tool to demark the area associated with, or belonging to, an individual household regardless of house form. As well as providing an immediate outdoor area for the household’s use that was separated from the rest of the settlement, these particular enclosures also allowed for the extension of the roofed domestic space, perhaps reflecting the desire for adaptability that was a feature of rectilinear architecture.

But from the Archaic period it is extremely unusual to find enclosures associated with the domestic architecture of Sicily’s settlements. Buildings containing three or more individual spaces are frequently arranged around an internal courtyard (see Table 1, Appendix I). It follows from the increasing concern for privacy and the distinction of the house from its neighbours identified in their overall layout and spatial organisation, that the adoption of the courtyard was also related to this: instead of a house situated within an external space, houses are constructed with external spaces incorporated into them. The earliest courtyards show this evolution particularly clearly: with rooms on just one or two sides of the courtyard they are in many ways open spaces that have been walled into the building, directly connecting them to the house and distancing them from the surrounding settlement. The central courtyards, with rooms on two or more sides, found in the larger houses constructed from the Classical period onwards, reveal its full incorporation into the structure of the house. By its nature, a courtyard enclosed on all sides was visually separated from the outside world and hence formed an fully internal outdoor area in which activities that required natural light or the open air could be carried out hidden from the view of passersby — it was a private outdoor space that not only facilitated the performance of these activities, but allowed the household to directly control, both physically and visually, how it was used, and who entered it. It should also be considered that courtyard spaces, as nodes for movement and encounters, facilitated the gathering of the household as a unit and subset of the wider settlement, becoming centres of sociality and co-presence within the subdivided domestic space.

In the case of some of the largest houses, two courtyards, or peristyles, are included, while it is possible that some houses, for example the House of the Official explored earlier, may even have had three internal outdoor spaces. It was shown that when this is the case one courtyard is typically better decorated, often with stuccoed columns, *opus signinum* or mosaic flooring, and painted plaster covering the walls, and has been interpreted as a more public area of the house. The other shows evidence for more 'domestic' activities such as food preparation, craft production, and storage in the presence of cisterns and ceramic materials, with less fine architectural finishing. A courtyard in this area makes sense — it provided a private outdoor space for these day-to-day activities. But why the need for an additional courtyard where seemingly such tasks were not necessarily carried out? A corridor or roofed hall space could just as easily provide a node between the rooms of this area of the house. The answer may again lie in the importance prescribed to privacy, but this time in relation to the lighting of the house.

Lighting

The presence of terracotta lamps, often in large quantities, and the likelihood that objects such as torches were also used (but rarely survive in the archaeological record), shows that lighting interior spaces was a real concern of the inhabitants of Archaic and later Sicily (Parisinou 2007, 213; Jantzen and Tölle 1968, 83–88). These would have provided enough light to negotiate indoor spaces and carry out some tasks, but the most efficient provider of light, during the day at least, was the sun. The single- or two-spaced houses characterising the Neolithic, Copper, Bronze Ages would have been primarily naturally lit through their entrances, while evidence from Early Iron Age architectural models suggests apertures high in the walls may have also allowed further lighting and ventilation (Parisinou 2007, 214). However, doorways of subdivided spaces do not always open onto the exterior. Modern Western houses incorporate large outward looking windows in order to allow as much natural light to enter as possible, saving the energy resources (today electricity rather than the oil used in the houses of ancient Sicily) required to artificially light a space. But while such an architectural response works within the physical parameters, it is inappropriate if you want to maintain the privacy of your house; even if such windows were screened sound would still be able to pass through allowing those outside to overhear conversations taking place within the building. An internal courtyard, however, allows for the incorporation of doors and windows into the walls bounding this space without compromising the external privacy of the building.

Fig. 6.20 Details of the windows of rooms 15 and 14 of Peristyle House 1, Monte Iato (author, August 2015).

Walls rarely survive to great enough heights to preserve the position of windows, if they were present, and so in many cases it cannot be firmly stated that they were used. Fortunately, as has been discussed in relation to lines of sight, windows can be conclusively identified in Peristyle House 1 at Monte Iato. Fig. 6.20 shows two of the seven windows known from the house. These open either directly onto the central peristyle or the space 16, which itself is divided from the peristyle by only the two columns seen in Fig. 6.20 and so would have been well lit during the day. The House of the Doric Capital at Morgantina may provide evidence for a different type of window: high up in the outside walls of the more secluded north-eastern rooms have been identified what could be small windows (information available at the site, source: Soprintendenza Beni Culturali e Ambientali di Enna). The size and position of these holes suggests that they were more likely utilised for ventilation purposes than lighting, allowing for the movement of air around these spaces which did not directly open onto the courtyard. However, the bright sun of Sicily would still have meant that these windows, despite their small size, would have partially lit the spaces below (Cammarano et al. 2015) while maintaining a greater degree of privacy than larger windows.

Beyond Sicily there are also a few examples of windows in domestic architecture. Some of the 4th century BC houses from Priene include small, high windows like those identified at Morgantina (Schede 1964, 96), while at Delos, and possibly also Eretria, a number of houses include windows closer in size and position to those found at Monte Iato

(Gardner 1901, 298; Reber 2010, 110). These windows tend to be found in rooms opening onto a courtyard or peristyle and so made these spaces visually and physically relatively accessible (Trümper 2007, 326), as well as well lit. The typical state of preservation of houses in Sicily, and indeed the Mediterranean in general, often with only foundations remaining or partial sections of walling standing to any great height, means that it is possible that windows were a more common architectural feature than the surviving remains would imply.

The arrangement of rooms in relation to the courtyard may be linked to the necessity attached to lighting interior spaces. This is a factor that can be more readily examined than the presence of windows. Fig. 6.21 shows the plans of the houses explored above with the spaces colour-coded to indicate their space depth from the nearest source of natural light (via doors, windows, courtyards): those spaces that receive direct sunlight are white, with rooms moving through increasingly darker shades of grey as they get further from the light source. Peristyles represent a transitional space in terms of lighting as depending upon the time of day, and indeed year, these covered outdoor spaces can either be shaded or directly lit. To reflect this, such spaces are differentiated from the open area of the courtyard by being coloured the lightest shade of grey, while the more enclosed spaces opening off of them are slightly darker.

These coded plans show that individual spaces are rarely more than two removes from an open external space such as a courtyard, peristyle, or the exterior of the building. While the width and orientation of doors and windows varies, and so the amount of light allowed directly from one space into the next, it appears that most rooms would have received at least some natural light during the day, with only a handful of rooms, such as the suite in the north-east corner of the House of the Arched Cistern, likely being quite dark and more reliant upon artificial lighting. When rooms open off one another light is quickly dissipated. But the arrangement of rooms opening onto a central courtyard or peristyle identified during the access analysis of these houses and that appears to be the dominant form of spatial arrangement, particularly in larger houses, allows more spaces to be naturally lit than in a house of the same size with the same number of rooms all arranged on one side of the open space. It is likely that better lit rooms were utilised for activities, such as weaving, that specifically required it. Those that were naturally darker, and possibly cooler (dependent upon the degree of ventilation and factors such as storey — lower floors would have been cooler with warm air rising — and whether or not this part of the building was sunken), due to their position within the house may have been used for activities such as storage or sleeping where this would have been an advantage, or at the least not a problem. Such a

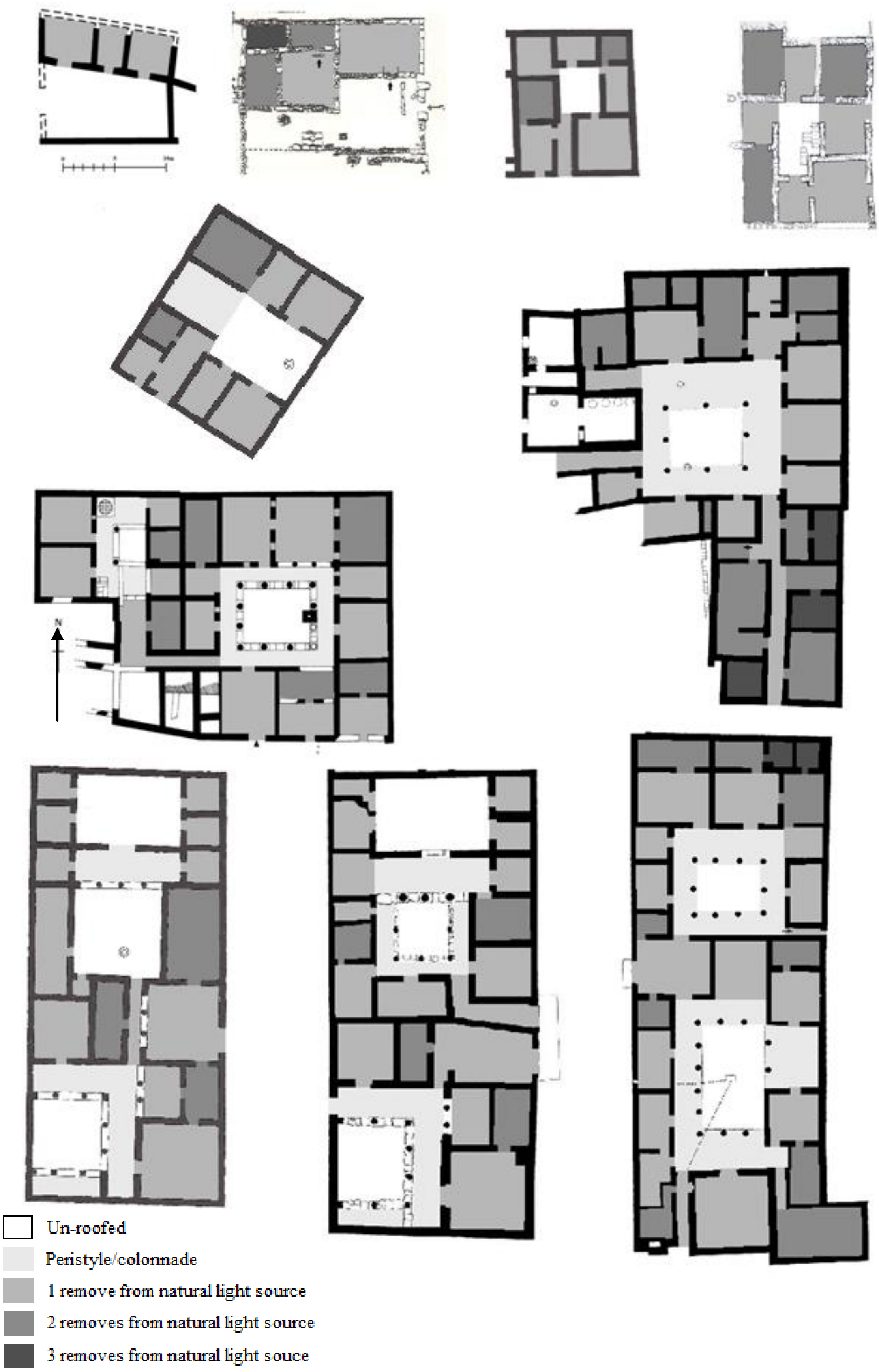


Fig. 6.21 House plans colour-coded to display space depth from a natural direct light source.
Top row: 63,2, Megara Hyblaea; House 2, Agrigento; House IIb, Herakleia Minoa; House of Empolemos, Morgantina.
Middle row: House VII, Solunto; Peristyle House 1, Monte Iato; House of the Doric Capital, Morgantina.
Bottom row: House of the Official, Morgantina, Phase 1; House of the Official, Morgantina, Phase 2; House of the Arched Cistern, Morgantina.

spatial arrangement has also been identified in Bronze Age Minoan architecture (Hitchcock 2000, 127–128) and in Early Iron Age and early Archaic houses in Greece and the Aegean (Parisinou 2007, 217–218 with further references). It would seem then that the perceived need to light the house may well have played a role in the development of the central and multiple courtyard and peristyle houses: allowing for the aforementioned increased ideas of privacy and the formalisation of space in the creation of differentiated areas of the house, the centring of each area on a courtyard meant rooms rarely had to be built more than two removes from direct natural light and hence were relatively well lit.

By extension courtyards and windows also facilitated ventilation. Although courtyards and the apertures opening onto them are sheltered by the surrounding walls from the worst of the wind, they still allow for a degree of air movement through the building (Bouillot 2008; Parisinou 2007, 213). Overnight cool air pools in a courtyard; this can then be drawn into the spaces surrounding it during the following morning (Alp 1991, 810), the cycle of warm air rising promoting air movement about the building. Courtyards and peristyles can also be said to have been built with the aim of creating shade as well as providing light. As the sun moved across the sky there was always an area of the peristyle that was in shade, and, depending upon the height of its southern wall, it is likely that some areas of an open courtyard were shaded for much of the day. These features provided the inhabitants with shelter from the sun and reduced the internal temperature, at the same time as being well lit. A peristyle also provided shelter from rain, allowing activities to continue outside even if the weather turned.

The Socio-Cultural Implications of Sicilian Domestic Spatial Organisation

It has become increasingly clear that over the course of Sicily's history, particularly through the Bronze Age, Early Iron Age, and into the historic periods of the Archaic, Classical, and Hellenistic, there are wide ranging changes taking place in the perceptions and understanding of privacy, social structure, identity formation, and how this is reflected in, or rather interrelates with, domestic architecture. By taking a closer look at the spatial organisation of Sicilian houses it has been possible to unpick another layer of the lives and preoccupations of the inhabitants of these buildings and how they used physical aspects of the built environment to help structure daily activities, how this, and so the architectural responses themselves, changed over time, and the ways in which these responses also took into account the overriding physical parameters of the materials, technologies, and environments in which they were built.

The earliest houses known from Sicily typically fall into the following category: rounded form with one or occasionally two internal spaces giving a structurally and visually open interior. Houses of this type are found right up until the end of the Early Iron Age. The vertical supporting posts of the roof, where present within the main body of the house, provide a form of internal division, directing movement and activity around them, but the lack of dividing walls means that spatial organisation is demarked by activity areas and the locating of installations associated with particular functions. This is clearly seen in Hut 31 at Early Iron Age Morgantina where the presence of hearths, an oven, *pithoi*, and storage pits indicated that certain areas were used for and assigned particular functions. It is possible this form of spatial organisation also helped structure the social as well as functional lives of the inhabitants; complex spatial symbolism can develop without physical boundaries (Morris 1999, 309–310). Some activities (cooking, weaving, metal working, etc.) and locations within the domestic space (for example, by the entrance or near the hearth) could have been carried out by or linked to peoples of certain genders, ages, or social statuses. The area and its associated function which inhabitants or guests primarily occupied within the house would have served to reinforce social and status roles, and therefore identities. That these activities were not visually separated implies that there were not huge divides socially; interactions would have been common, a factor supported by the general homogeneity seen between houses of the same settlement with size and construction varying little — status was perhaps based more on activities, as is seen in the organisation of the house, rather than any form of display of domestic wealth and economic position.

This visual openness is also seen in the exterior of these houses: it appears likely that the immediate area surrounding the building was directly associated with and utilised by the household. In some cases this area is physically separated from the rest of the settlement by an enclosure wall or fence, others may have been more open with intermediary spaces acting as neutral, communal, zones between houses. Looking at the houses in their wider context there is variation in settlement layout. Some sites, including Morgantina, are formed of a loose collection of buildings, the steep topography of the Cittadella Hill making it difficult to construct directly adjacent houses without extensive terracing. Other sites, such as Faraglioni, exhibit a much more compact settlement layout with houses frequently abutting one another. This proximity perhaps explains the presence of delimited enclosure and courtyard-like spaces as separate households lay claim to patches of land in an environment where open spaces are at a greater premium (Doonan 1995, 65). This suggests a greater concern for differentiation between households and between residents and non-residents (supported by the presence of fortification walls — which at Faraglioni were extensive and frequently strengthened; Holloway and Lukesh 1995, 11) than at more open settlements (Doonan 2001, 167, 174; McConnell and Bevan 1999, 201). The locating of houses and their associated exterior areas would have shaped pathways and routes around settlements in their early days, with these routes then influencing where future structures were built. Unfortunately many sites are only partially excavated, or are difficult to chronologically deconstruct (large sites may in fact be agglomerations of rebuilding phases; Doonan 2001, 167), making it difficult to see if there is an overriding trend in settlement layout on Sicily and its surrounding islands. It is, however, possible to suggest that the open nature of the external areas of houses and the possibility of regular interactions as the settlement's inhabitants carry out their daily activities (implying that society and social ties were built upon these regular encounters, helping mould them into a single community; Grahame 2000, 75), alongside each household having its own roughly equitable place within the settlement and the division that houses create between inside and outside (Robb 2007, 87), indicates a relatively unstratified society in terms of wealth and status, but one in which the households and their activities could be, and were, differentiated. This raises the possibility that the interior of the house, with its visual openness but distinct zones reflects the wider settlement and social structure.

This is a very interesting idea, and one that suggests that as Sicily moved into the Archaic period wider changes were taking place than those witnessed in domestic architecture and socio-cultural factors at a household level. The earliest rectilinear houses, despite making use of a different form and construction, actually appear in general spatial organisation not vastly different from round enclosure houses: at sites such as Early Iron Age/early Archaic Megara Hyblaea and Syracuse houses with one or two internal spaces were situated in enclosures and so would have been relatively accessible allowing interactions between households 'over the fence'. But as the Archaic period progressed domestic spatial organisation and the construction of the house in relation to those surrounding it become increasingly inward-looking: the three or four spaces incorporated into many houses at this time typically featured unaligned doorways, making it difficult to see directly into any of the internal spaces without first fully entering the building (see Belvedere 2000).

The development of the courtyard house, in which the outdoor area associated with the household is internalised, and visual and often physical access to the building restricted, suggests an increasing concern for household privacy and distinction prompted the need for further, physical and visual, separation of households from one another (Westgate 2007a, 234). Privacy is a factor that has arisen frequently in relation to Classical and Hellenistic houses but is rarely defined; begging the question of what is privacy? Perhaps we can find the answer in the clear demonstration of layers of access built into the houses more often associated with ‘privacy’. Control of movement and access implies that the concern for privacy is linked to the desire to control interactions, to be able to divide people, and so create spaces where one has the opportunity to be alone, where personal space can be expanded. By moving the open, outdoor spaces of the domestic unit inside the house itself, the inhabitants were taking and exerting greater control over space. The courtyard both provided a node within the house in which the household could interact and create social bonds, solidifying themselves as a unit in comparison to non-members as the more open houses of the preceding periods encouraged, but at the same time restricted access to the other areas of the building, thus reinforcing hierarchical statuses and identities. Indeed, where courtyards are incorporated into the domestic architecture repertoire elsewhere in the world, for example in Han Dynasty China (see the *mingqi*, or house models, deposited as grave goods; Guo 2010) and Ottoman Northern Cyprus (Ozay 2005, 843–848), they are often associated with hierarchical social structures where the integrity of the household and the division of people and activities are a defining socio-cultural aspect. So it would seem that the development of the courtyard house is directly related to the development of these elements within the wider society.

Much greater variation is seen in the range of sizes and the levels of finishing and decoration in rectilinear houses; the displays of wealth and status encompassed revealing a more highly stratified society than that previously witnessed. Closer analysis of the internal spatial organisation of houses from the Archaic period onwards reflects this stratification and suggests complex architectural structures and control of access were a part of the social system and helped to define collective and individual identity and place within it. The layout of the courtyard houses is centred upon a series of nodes, typically the courtyard itself or a corridor, that control access into further areas or rooms and act as points of interaction. Within each layer of access, particularly surrounding courtyards, the house was often relatively open in terms of movement and visual links, encouraging encounters between the inhabitants. Yet the passage between layers was often architecturally restricted, providing opportunities for inequalities to be enforced. The use of decoration further differentiates spaces, particularly during the Hellenistic period (see Trümper 2007 on decoration and differentiation at Hellenistic Delos). This pattern of spatial organisation can be most clearly seen in the largest houses surviving in the archaeological record. While these structures would not have been the residences of the average inhabitant of Sicily (indeed it has been argued that elaborate houses allowed wealthier social groups to differentiate themselves from less well-off inhabitants; Nevett 1999, 162), they give a picture closer to the ideal its society may have been aiming for and the communal understanding of domestic architecture; Spence argues that architecture tends to be constrained by economic limitations and that it is only in the larger houses of the elite (in hierarchical societies) that the ideal form of a dwelling can be ascertained (2004, 130–131). Smaller courtyard houses follow many of the same spatial patterns and principals, but with compromises drawn in terms of the number of available options for the division of people and activities, often incorporating just one or two nodes and likely requiring temporal and situational changes in practices depending upon the activities being carried out at any one time (see Spence 2015 for a discussion of the role of compromise in the formation of domestic spaces). Differentiated areas, the access to which is controlled or restricted, build upon the concern for privacy identified in the inward-looking nature of the external architecture of the building. It suggests that a need was felt for the option to be able to further separate people and activities — layers of access and the control of movement they produce would have helped define and reinforce inequalities and identity, status, and role, both within the household and in relation to it through the development of differences in practices and relations with the built space.

This overview begs the question of what prompted the shift from a more open domestic architecture and social structure to one that included greater differentiation. To begin to formulate an answer to this question it is necessary to look at the wider changes taking place at the end of the Early Iron Age that could have prompted a reaction within the domestic sphere. As we have seen, during the 8th century BC contact increased between Sicily and the Greek and Phoenician settlements of the eastern Mediterranean (Leighton 1999, 223–225; Hodos 2006, 89). Exactly what form this contact first took, whether it was based on trade, gift exchange, or exploration, is difficult to determine, but it is know that in the second half of the century the first ‘Greek’ settlements were founded on the eastern coast of the island. Van Dommelen (1997) has shown that the act of ‘colonization’ involved the interaction of various different parties and that in such situations people living and interacting in areas where new settlements have been founded and new peoples have arrived requires all parties to re-define their social positions, identities, and understandings. It is possible then that the demographic changes occurring during the Early Iron Age and into the Archaic period may be linked to the developments seen in the changes identified in domestic architecture, in particular those related to privacy, access, and identity formation. Perhaps the interaction with differing peoples and cultures, the alterations in trade and exchange these brought, and the re-defining of the cultural and social identities and understandings of wealth and status of those involved prompted the development of a new form of domestic architecture in which these factors were better expressed and reinforced. If this is the case then it would mean that the form taken by the house was part of much wider patterns and socio-cultural developments.

If we look at the settlement plans of Morgantina, Herakleia Minoa, Megara Hyblaea, Solunto, Selinunte, Himera, Monte Iato, Agrigento and many others (a few of which are displayed in Fig. 6.22) from the Archaic period and into the Classical and Hellenistic it is possible to detect a number of common factors and developments within the spatial organisation of the settlements as a whole. Just from these basic (and incomplete) plans it can be seen that these settlements have clearly defined areas set aside for different elements of their day-to-day functioning: residential quarters, a public area in the form of an agora with accompanying temples, *stoae*, and administrative buildings and granaries, public cisterns and aqueducts, sanctuaries dedicated to religious activities, and *necropoli*, typically located on the outskirts of the settlement, reserved for the dead. These settlement features began to appear in the archaeological record in the Archaic period and became a common feature of the urban environment during the Classical. And not just in Sicily: these developments are a part of a long-term Mediterranean-wide phenomenon. They required social cohesion, centralised planning, and some form of collective identity (the formation of which would have been spatially invested, negotiated, and defined in the public buildings and areas of the settlement; Grahame 2000, 86–87), and suggest a nucleation of regional resources and the construction of formalised interactions and social structure (for an overview of the planning involved just in the provision of water supplies in Sicily see Burns 1974) — these developed concurrently with the re-defining of socio-cultural values and understandings taking place at this time. Alongside this came an increase in the size and density of settlements and perceived need for physical boundaries and the architectural mapping of appropriate behaviour (as identified in Early Iron Age to Classical Greece; Westgate 2015, 78). More explicit barriers are required to indicate hierarchies and ‘personal territory’ in more socially complex communities than those with little hierarchical ranking or crowding where the utilisation of more subtle signs are enough (Rapoport 1979; 1990). Thus it would appear that the development of the courtyard house corresponds to the increasing formalisation of the urban landscape, and indeed institutions, of the wider settlement (see Lang 2007 for an overview of the social and settlement developments in Archaic Greece).

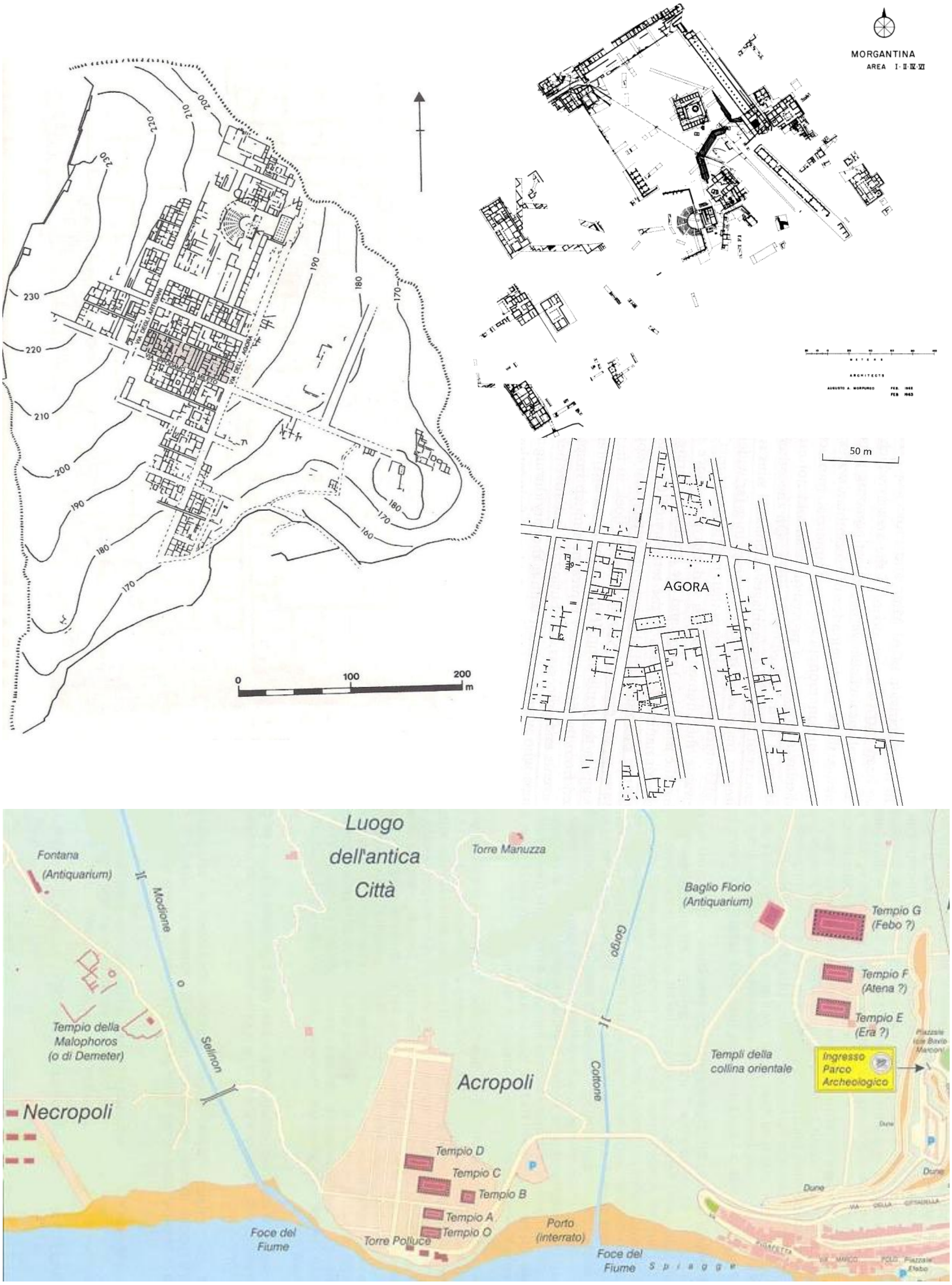


Fig. 6.22 Settlement plans for (clockwise from top left): Solunto (Hollegaard Olsen 1995, fig. 12, 237); Morgantina (Sjoqvist 1964, fig. 1, plate 41); Megara Hyblaea (Hall 2007, map 5.2, 109); Selinunte (Parco archeologico di Selinunte).

Within this complex infrastructure of authorities, interactions, cultural identity, and wider urban planning the household would have had to further re-define itself: 'new social interaction was transformed into new spatial organisation' (Lang 2007, 193). The courtyard house, with its clear boundaries, layers of access, and opportunities for display not only defined the inhabitants' place within the urban and social landscape, but also helped them to negotiate and understand it. As well as architecture channelling people's movements and interactions, at a more symbolic level it functions as a 'system of signs that cue appropriate behavioural responses in particular situations' (Westgate 2015, 49). This statement can be equally applied to the house and the wider urban landscape: domestic architecture is another level of access, status, identity, and physical space within the built environment. Both Lysias (1.4, 25, 36) and Demosthenes (18.123) make clear that the crossing of the threshold of a house without permission (in Athens at least) was an act of *hubris* (Morris 1999, 307).

By creating bounded and differentiated spaces, layering access, and controlling privacy the inhabitants of courtyard houses re-defined and re-enforced social distinctions and identities, allowing for both the flexible use of space and potential division and interaction of people and activities necessitated by the increasing complexity of household social structure. The development of this form of domestic architecture took place alongside changes occurring in the wider settlement and socio-cultural landscape. When one looks back through the domestic architecture of Sicily it is possible to see that this was an on-going process of defining and re-defining, with the form taken by houses constantly being adjusted in relation to not only the immediate socio-cultural concerns of the household, but also through their relationship with and understanding of the wider community, settlement, and cultural landscape in which they moved.

Chapter Seven

Case Studies in Spatial Interaction

Utilising the understanding of the physical and socio-cultural elements entangled in the construction of Sicilian domestic architecture, in this chapter I take four houses from differing chronological periods as case studies for closer analysis with the aim of exploring the structuring of spatial interactions both within them and between the spaces that form them. To achieve this I use two analyses familiar from the preceding chapter — the mapping of movement and potential activity areas based on finds and, in particular, architectural features, and access analysis — with the addition of the demarking of view-sheds from doorways and thresholds to reveal the inter-visibility of the spaces making up the house.

View-sheds are marked out by drawing lines extending from opposite corners of each doorway across the domestic space until they intercept a wall, thereby breaking the line of sight. The space between the two resulting lines is viewable from this doorway and reveals the areas inter-visible through it (typically forming an angular hourglass shape). Where the view-shed extends into another space lines from the edges of the doorway to those of the further space and through into it reveal the area viewable from the first doorway. In order to make the interpretation of the inter-visibility analysis clearer colour-coding is used: white indicates spaces that can only be viewed from within the room they are a part of; areas coloured in the lightest shade of grey can be viewed from within and through one doorway, and thus have a low level of inter-visibility; increasingly dark areas reflect increasing levels of inter-visibility to almost black denoting regions of very high inter-visibility. The quantification and interpretation of the significance of view-sheds relies on taking into account the form of the building being studied: for example, single-spaced houses, such as Hut 3 (lower) at La Muculufa (Fig. 7.1), will be coloured only white and the lightest shade of grey, yet the nature of their spatial organisation means the entire domestic space is incredibly inter-visible. Calibration is required by directly comparing the number of discrete spaces within the house to the level of visibility of each. As ground plans form the basis of these analyses any potential upper storeys, loft, or roof spaces will not be included, but where definitive proof for the existence of such spaces is available they will be taken into account in the discussion of the results.

Combining access analysis and view-shed mapping in the close reading of individual houses reveals further aspects of the human experience of built space, allowing an insight into if and how these examples of domestic architecture control visibility, its relationship to the physical structure and the control of movement and access, the roles spaces played and the activities carried out in them, and thereby the spatial interactions of those living in these structures.

Early Bronze Age La Muculufa — Hut 3 (lower)

Hut 3 (lower) is constructed on a level terrace partially dug out of the hillside at La Muculufa (McConnell 1995, 16). Its extended circle extent is delimited by a terracotta floor and the stones forming stretches of its wall foundations and socle allowing the reconstruction of Hut 3 (lower) as covering an area of roughly 6.60 x 4.60m (McConnell 1992, 30). Post-holes (A and B in Fig. 7.1) positioned c. 2.00m apart and measuring c.0.10m in diameter and c.0.15m in depth, housed upright timbers supporting the ridge beam of the roof and define the radii around which the semicircular ends of the building and its roof were laid out (McConnell 1995, 16). Judging by the extensive fragments of fire-hardened daub found during excavation (Peterson 1992, 31), the superstructure of Hut 3 Lower was likely formed of wattle-and-daub supported by a timber frame.

In Fig. 7.1 it can be seen that post-holes A and B, and therefore the upright timbers they would have supported, demarking the central axis of Hut 3 (lower) divide its interior into three more-or-less equal segments perpendicular to this axis that can be further divided by the central axis itself (marked by dashed lines on the plan). This arrangement of posts both spread the weight of the roof throughout the structure (it is likely that the timbers of the wall and the construction of the roof also helped this) and leaves the centre of the house open (in contrast to the use of a central supporting post). It can be proposed, as was suggested in Chapter Six, that such architectural features, while primarily structural in nature and thereby inextricably tied up in the physics of the building, also served to provide visual and physical signposts to the division of the domestic space and to help structure movements and activities within it. The subsequent construction of Hut 3 (upper) means little survived of the domestic assemblage of Hut 3 (lower) making it difficult to determine whether or not defined activity areas such as those found in Hut 31 at Morgantina did indeed utilise or follow the placement of posts A and B. However, it is possible to state that the inhabitants of Hut 3 (lower) would have had to walk around these two posts in order to navigate their way through the house, thereby structuring route-ways within the domestic space. It is also possible that these posts

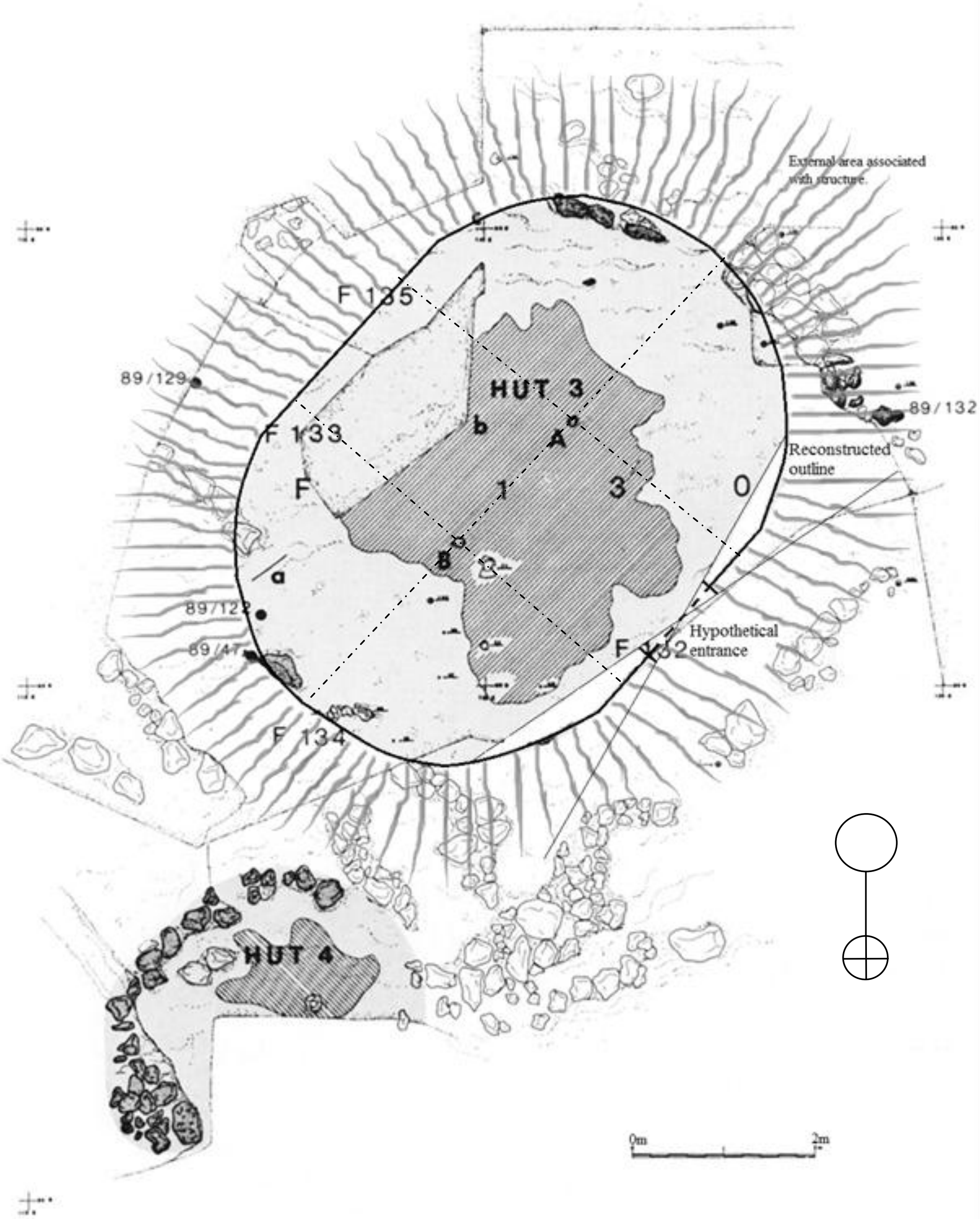


Fig. 7.1 Hut 3 (lower), La Muculufa, showing sphere of activity and hypothetical view-shed (after McConnell 1992, Fig. 6, 29) with access map.

could have provided a base for the erection of temporary perishable dividers such as curtains or screens — an important consideration when we look at the view-sheds within this house.

The entrance to Hut 3 (lower) does not survive, but based upon similar Bronze Age structures, such as Hut 1 at Milazzo (Levi et al. 2003; Fig. 6.2), it is probable that it would have been placed in one of the straight sections of walling, most likely that facing towards the south and away from the slope of the hill. With this in mind, a hypothetical entrance has been added to Fig. 7.1 in the south-eastern linear wall of the building. With this in place it is possible to insert a view-shed (marked by solid lines) for this doorway (if in reality the entrance was in a different location, while this would affect movement around the house, due to its single-spaced nature it is unlikely to change the result of the view-shed analysis in a major manner). From the entrance it is possible to see almost the entire interior of Hut 3 (lower). The only areas an individual would not be able to directly view are narrow sections immediately adjacent to the entrance and blocked by the upright supporting posts, and they would not have to move or turn much in order to see these areas. This reinforces how open the interior of the house had the potential to be (if additional perishable or temporary dividers were not used): there is a very high level of inter-visibility across the house with only the upright posts providing any form of permanent interruption to lines of sight. The inhabitants of Hut 3 (lower) would have always been able to see other occupants of the space and be aware of their position and the activities they were carrying out. As in Hut 31 at Morgantina and Hut 1 at Milazzo, these high levels of visibility would have meant that interactions would have been frequent, informal, and un-enclosed by extensive physical boundaries, with activity areas instead likely structuring spatial organisation. Indeed, such a built environment actively encourages regular interactions and the bonding this promotes, tying together the household as a homogenous unit.

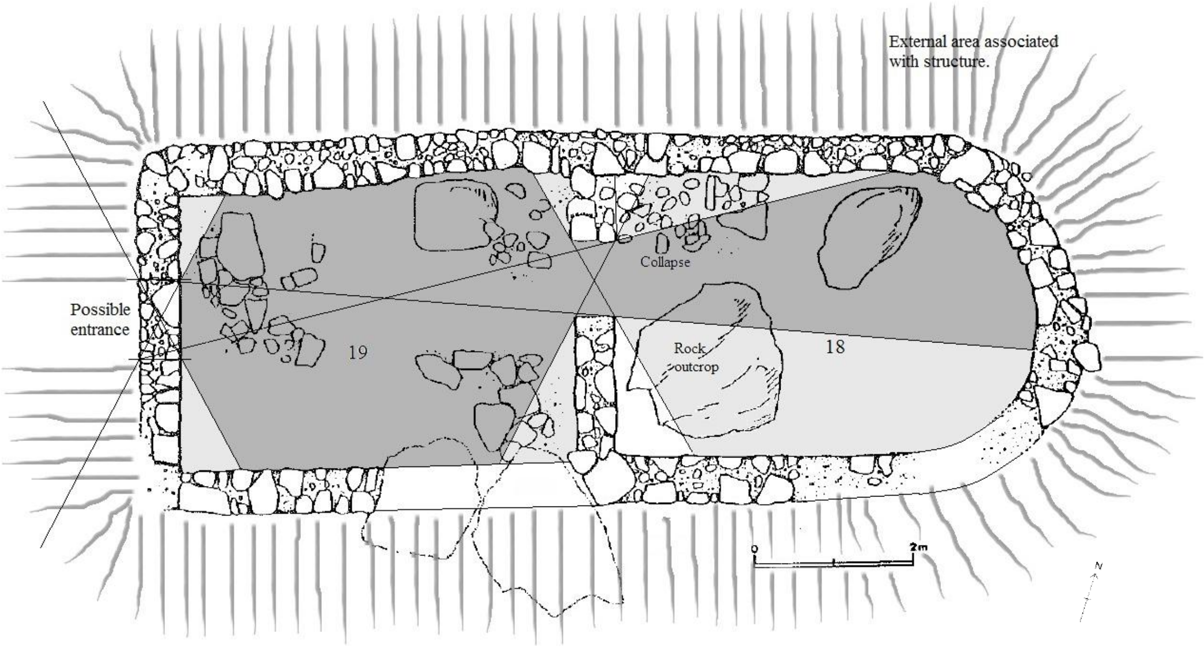
But this does not mean that the inhabitants of Hut 3 (lower) isolated themselves from the rest of the settlement. As the view-shed reveals, there was extensive inter-visibility between the exterior of the house and the interior. This is further supported by the access map which shows that, due to the fact it has just one interior space, this house, once entered (entry could be easily controlled by closing off the entrance), is highly accessible. Additionally the presence of possible grinding stones and a brazier deposited along the exterior of the wall socle suggest that some activities, including the preparation of food, may have taken place outside. As was seen in the preceding chapter, the utilisation of the area surrounding the house by its inhabitants extended their sphere of direct influence (displayed in the lines radiating from the building in Fig. 7.1) and placed them in a position of high potential for interactions with members of the settlement outside the immediate household unit. The extent of the external area associated with Hut 3 (lower) is difficult to determine and probably varied over time depending on the activities being carried out both by the resident household and those of the adjacent structures. Regular interactions in these more neutral spaces surrounding houses would have served to integrate individual household units within the wider settlement community of La Muculufa. Here we can place the scale of interactions on a linear measure from those in entirely neutral locations away from domestic buildings, those between a household and others in the immediate surroundings of their house, to within the domestic space itself.

Early Iron Age Monte San Mauro — Apsidal Building

The apsidal building excavated on the south-east side of the third of the five hills that form the settlement of Monte San Mauro dates from the end of the Early Iron Age and may have been occupied into the Archaic period (Spigo 1980, 150–151). As has been seen, it took longer for interactions with the new ‘Greek’ settlements of the coast to occur and intensify with inland sites, thereby allowing for the persistence of the rounded tradition of building as the inhabitants had fewer stimuli prompting re-definitions of identity and practices, and by extension their built environment. However, change was coming to Monte San Mauro: while this apsidal building utilises many of the same building materials and methods (stone foundations with a wattle-and-daub or mud brick superstructure supporting a thatched roof with a floor of beaten earth; Valenti 1992) as the earlier houses from the site, the apsidal form with incorporated internal divisions is new and suggests that the move towards more rectilinear and highly subdivided architecture had begun.

The apsidal building (Fig. 7.2) is aligned with its main axis running roughly east-west and measures c.11.80 x 4.60m. The interior is divided by a transverse wall into two spaces — a rectilinear one to the west (19) measuring c.3.50 x 4.80m, and an apsidal one to the east (18) measuring c.3.25 x 5.15m (Spigo 1980, 148) — linked by a doorway in the partition wall. The house itself appears to have been accessed via an entrance in the short, western side of room 19. Although this cannot be confirmed with any certainty (Spigo 1980, 148), it would correspond to reconstructions of other apsidal buildings, i.e. at Lipari (Leighton 1999, fig. 81, building a2, 160). The lack of post-holes should not be surprising as the width of the building, averaging c.4.60m, is such that it could have been spanned by the timbers and technologies available to the builders (see Chapter Four). It is therefore likely that this house’s roof featured a gable at the rectilinear end and a curved section over the apse, all supported by tie-beams crossing the width of the building.

As at Hut 3 (lower), it appears highly likely that the household of Monte San Mauro’s apsidal building utilised the open area surrounding the house for activities requiring daylight or external space, thereby increasing the probability of regular interactions with other inhabitants of the settlement and suggesting openness between households. But its access



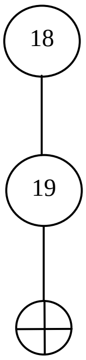


Fig. 7.2 Apsidal Building, Monte San Mauro, showing sphere of activity and inter-visibility view-sheds (after Spigo 1980, fig. 9, 152) with access map.

map implies that movement and encounters had the potential to be more controlled in this building than at Early Bronze Age La Muculufa. While the lack of internal supporting posts means that the individual spaces making up the house were open, the division of the building by a transverse wall creates two physically separate areas of domestic space. These two spaces give the access map a more elongated form with room 19 directly controlling access to room 18 beyond it. Moreover, it was necessary to cross the entire length of room 19 in order to enter room 18. Room 18 is therefore more restricted of access and further from the exterior of the house, giving it the potential to be a more private space than 19, which, as the controlling space, would likely have witnessed more frequent encounters and interactions as the inhabitants and any visitors navigated the building.

The view-sheds in Fig. 7.2 immediately reveal more complex visual spatial interaction within the apsidal building than was seen in Hut 3 (lower). From the entrance it was possible to see almost the entirety of room 19, marking this space as highly visible as well as accessible. It is also possible to see into the back of room 18 from the entrance, although the southern part of this space, a narrow strip along part of the northern wall, and those areas directly behind the dividing wall, were hidden from view from the exterior. From the threshold between rooms 18 and 19 it was possible to see almost the whole of both spaces. The only areas left white on the diagram are those immediately adjacent to the dividing wall in room 18, which would have been viewable solely from within room itself making these areas as the least visible in the house. The view-sheds of Fig. 7.2 therefore reveal that the two internal spaces of Monte San Mauro's apsidal building exhibit a relatively high degree of potential inter-visibility with both spaces visible from one another and the exterior, but not in their entirety at any one time.

The mapping of the view-shed across room 18 shows that it would have been possible for the inhabitants of the house to remove themselves from the potential view from the exterior, and even from that of those in the first room (19), by moving into the southern area of the space or to by the dividing wall. This spatial arrangement reduced the likelihood of incidental encounters, giving individuals more control over where they could be seen and by whom, and thereby further structuring interactions both between members of the household and non-members, and within the household. As has been seen over the course of the preceding chapters, this can indicate the spatial differentiation of people, their relative statuses, and the activities they carry out and the spaces within which they occur. However, that fact that this house is only formed of two spaces, and the clear potential for inter-visibility and easy access between the spaces, and between the building and the external area, shown in the view-sheds and access map, demonstrate that this differentiation is not reflective of the fuller social stratification exemplified by the increasingly subdivided houses that would characterise the domestic architecture of Sicily in the Archaic and later periods.

What emerges more clearly from the study of the apsidal building at Monte San Mauro is the use of architecture to actively structure space, movement, and visibility, creating physical interactions and relationships between built spaces that then influences the interactions and encounters that take place within them, and therefore the relationships between those involved. As we move on to consider houses featuring greater physical spatial complexity and control of access and movement (as was shown in the access analyses of Chapter Six) we can also expect to witness greater manipulation of view-sheds and spatial interactions between individual spaces and those occupying them.

Archaic Monte San Mauro — Casa 4

For the next case study we remain at the settlement of Monte San Mauro, but move firmly into the Archaic period and the rectilinear form of domestic architecture. Casa 4 (Fig. 7.3) is one of four excavated Archaic domestic structures arranged along the slope of the hill directly to the north and north-east of the apsidal building (Belvedere 2000, 58). Part of the south-eastern wall of Casa 4 adjoins the north-western wall of Casa 3, while directly connected along the entire length of the house's south-western wall is a linear arrangement of two interconnected rooms that have been identified by the excavators as a warehouse based upon the presence of numerous *pithoi* that perhaps stored the settlement's agricultural surpluses (Spigo 1979, 25–28). The discovery of a threshold in the wall between room 5 of the warehouse and room 17 of Casa 4 suggests that when originally built these two structures formed one entity that was later divided into the present separate buildings by the filling-in of this doorway (Spigo 1980, 163). Whether the warehouse continued to be associated with Casa 4 after this is difficult to determine, but it is possible that the household living here, at least in its first incarnation, held an additional status or role within the community linked to agriculture and the storage of foodstuffs. It is interesting to note that Casa 4 is thus far the largest house (by c.11.00m^2) to be excavated at Monte San Mauro.

Casa 4 measures c.10.67 x 11.34m and is orientated towards the south-east. Its interior is divided into four rooms with dimensions of c.9.67 x 5.67m (11), c.3.33 x 3.17m (17), c.3.00 x 3.00m (20), and c.1.60 x 3.70m (21), the three smaller spaces being located behind the larger room 11. Floors are of beaten earth while the walls are constructed from roughly shaped stone and supported the tiled, and therefore gabled, roof, as is shown by the extensive terracotta tile fragments uncovered during excavation (Spigo 1980, 157–159). That many of these came from room 11 suggests that despite its size (which is towards the upper end of that timber beams are capable to spanning[1]) was not a courtyard, but a roofed space (Spigo 1980, 158).

Fig. 7.3 immediately reveals that Casa 4 incorporates more complex spatial organisation and interaction within its internal structure. As it does not appear to feature an internal courtyard, it is likely that, as in the earlier houses discussed, its inhabitants utilised the area outside of their door for activities requiring daylight or open air. This is more certain if the warehouse continued to be a part of the wider domestic complex in the second phase of

[1] Unfortunately illegal excavation has removed some of the deposit from this space meaning it cannot be confirmed that supporting posts, however unlikely based on similar houses excavated elsewhere in Sicily at this time, were not present.

the building's history as it would have been necessary to leave the house and pass through this external area in order to enter the warehouse. Exactly how far the influence of the household and their activities spread is difficult to approximate, but the fact that Casa 3 also opened towards the south would have allowed to occupants of Casa 4 to utilise the space along Casa 3's west wall without entering into direct view of the interior of Casa 3.

The dashed line in the south-west corner of room 11, directly to the west of the entrance, indicates an area of burning and is where a *solén* with *opaion* was found in the roof collapse. Alongside the presence of millstones, this suggests this area was used for cooking and food processing (Belvedere 2000, 59). Its position by the entrance would have created the potential for additional lighting and ventilation, useful when cooking or attempting to control the draw of a hearth. Across the entrance from this cooking area were found the remains of

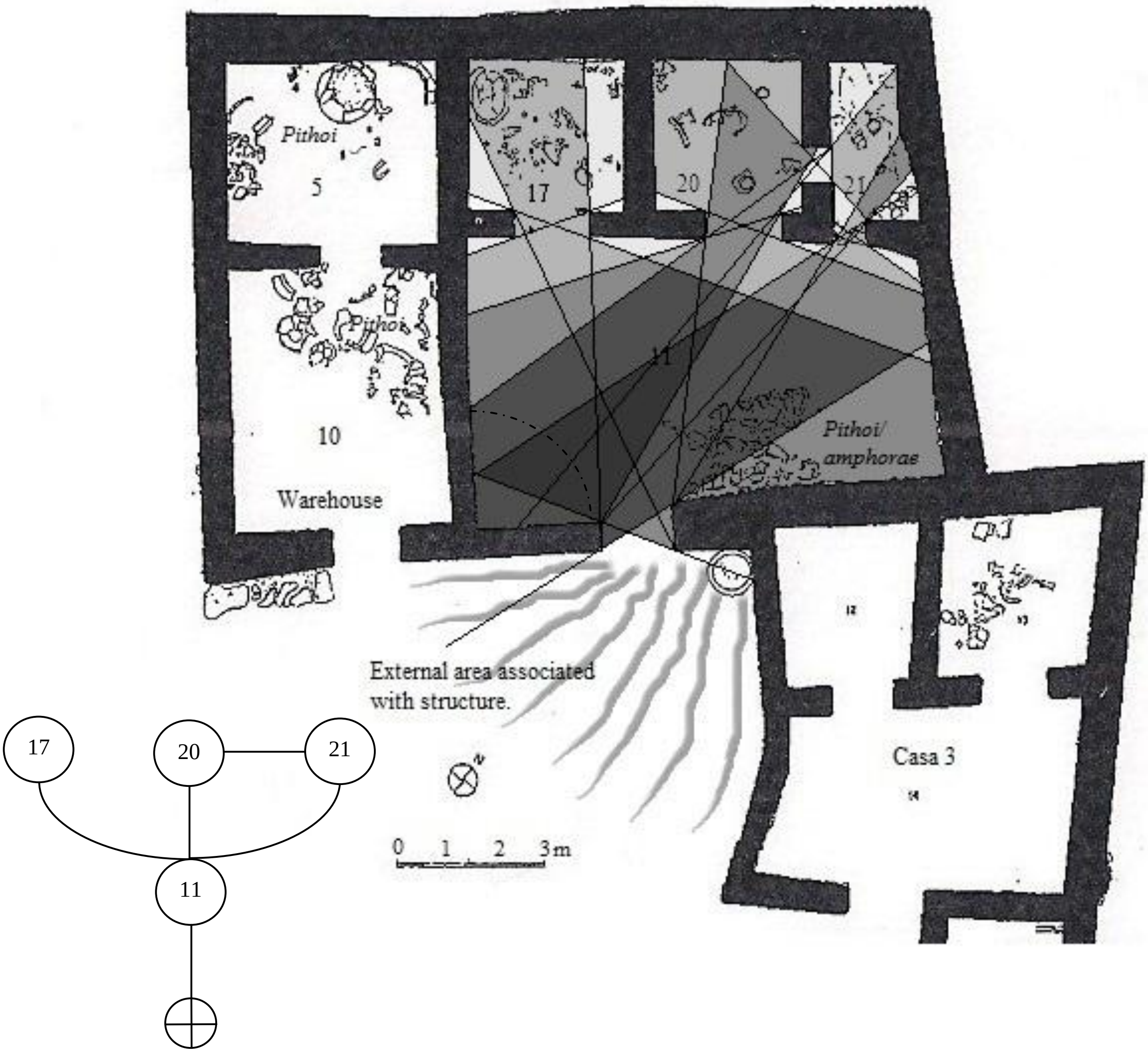


Fig. 7.3 Casa 4, Monte San Mauro, showing sphere of activity, view-sheds and inter-visibility (after Belvedere 2000, fig. 2, 64), and accompanying access map.

several *amphorae* and *pithoi*, indicating storage of foodstuffs was also being carried out in this space (Belvedere 2000, 59). Room 17 was found to house loom weights and a clay basin, while craters and table wares were uncovered in rooms 20 and 21. As Belvedere (2000, 59) states, this does not mean we should be considering rooms 20 and 21 as formal dining rooms (or *andrones*), but rather that such artefacts were probably stored here, as well as having the potential for use when required. As has been seen in many contemporary houses across Sicily (see Chapter Six), this Archaic house did feature some activity based division with a space where food preparation and storage can clearly be defined within room 11. But it is unlikely, particularly when we take into account its size, that room 11 was used solely for this purpose, while the co-presence of a clay basin and loom weights in room 17 can be seen to suggest that bathing and weaving (or the storage of a loom) took place in the same space (but probably at different times). Therefore we can state that the spaces of Casa 4 featured the fixing of activities, such as the locating of large storage vessels and cooking over a hearth, that necessitated more permanent activity areas, but at the same time allowed for the relatively flexible use of these and the remainder of the house.

At first view the access map of Casa 4 (Fig. 7.3) is similar in form to those of the Archaic houses excavated at Megara Hyblaea (Fig. 6.4): the entrance leads directly into a front space (room 11) which controls access into the remaining rooms of the house. But unlike the Houses 63,2 and 33,30 at Megara Hyblaea this front, controlling space is not a courtyard but a large roofed room. In Chapter Six it was postulated that the courtyard developed in part as a response to the increasingly populous, spatially restricted, and defined nature of Mediterranean urban settlements at this time. While the houses excavated thus far at Monte San Mauro often adjoin, there seems to have been external space left open in front of them. If there was less pressure on land within the settlement then it is possible that the households of Monte San Mauro did not feel the need to actively demark or incorporate an external area into the house proper. Room 11, as is suggested by the finds distribution, may have had a similar role and use pattern to the spaces within single- and two-roomed houses with a variety of activities taking place around a handful of fixed features depending on the time and needs of the inhabitants. The additional rooms behind this space indicate the increasing desire for the option to separate people and the activities they carry out when deemed necessary, suggesting that a concern for privacy, and social stratification, is developing at Monte San Mauro.

Rooms 20 and 21 form a small suite. They are inter-accessible allowing the inhabitants to move between these spaces without having to enter room 11. This is a feature not often found in the Archaic houses of Sicily, even in the larger 'Pastas' House at Naxos the rooms open onto the corridor or courtyard rather than one another. This means Casa 4 features slightly more scope for flexible movement and less direct control by a single space. However, room 11 does entirely control access and movement between the exterior and interior spaces. Casa 4 therefore shows increasing concern for controlling entry to the domestic space, but a relatively open level of interaction and movement within it with room 11 being the focal point that controlled access to the other spaces.

The greater number of rooms and doorways in Casa 4 creates the potential for greater complexity of inter-visibility with the possibility of being able to be seen from multiple locations. The view-sheds marked on Fig. 7.3 show that from the entrance of Casa 4 it was possible to see into all of the rooms of the house. It is important to note, however, that while lines of sight have not been intentionally blocked, you cannot see the entirety of all of the spaces, room 21 in particular presents only a narrow view due to the acuteness of the angle; it is possible to remove oneself from the view of the entrance in all of the spaces. There is structuring of space and visibility. Room 11 is the most inter-visible space in Casa 4 with the darkest section in the middle to south-west area of the room being viewable from every doorway and space, including the entrance. This area roughly corresponds to that where burning and evidence for food preparation was found, suggesting that this was a communal activity, or at least one that was not considered particularly private in nature. In contrast, the area to the east of the entrance where *pithoi* and *amphorae* were found was, while still highly visible, viewable primarily only from within the house. The high degree of inter-visibility of room 11 in general reveals it to be a spatially open space with a high likelihood of regular visual and physical interaction. Room 17 is the least inter-visible space being only viewable from room 11 and the entrance, and even then it was possible to move to the sides so as to only be visible from room 11. Rooms 20 and 21 exhibit greater inter-visibility due to the linking doorway between them, although the back north-western corner of room 21 and its opposite corner in room 20 would be hidden from view. Room 20 can be seen into from a large part of room 11, while it would have been necessary to be in the south and south-eastern part of room 11 to see into 21. Rooms 17 and 21 contain the spaces of the house with the least inter-visibility where it was possible to be seen only from the adjacent space, or one of the adjacent spaces in the case of room 21: these were the most private spaces of Casa 4.

All of the rooms of Casa 4 exhibit a relative degree of inter-visibility, but it was always possible to move out of the line of sight of the entrance. However, there were no sizeable spaces where there was the potential to be seen solely from within the room itself:

this was only possible behind the dividing wall between rooms 11 and 17, and this is really too small an area for an individual to inhabit with ease.

The spatial arrangement of Casa 4, with its three rooms opening off the controlling front room 11, means that movement around the house was predominantly focused upon room 11, with the linking door between rooms 20 and 21 creating a small suite. The view-sheds show that inter-visibility, like access, between rooms 11 and 17, 20, and 21 was high thereby encouraging frequent encounters and interactions between these spaces, with room 11 being particularly visible. Yet it was always possible to remove oneself for the view of the entrance, this view-shed allowing for the structuring and restricting of interactions between ‘inside’ and ‘outside’. The incorporation of multiple internal spaces, and the fact that they are not entirely, or at all in case of room 17 in relation to 20 and 21, inter-visible supports the notion raised throughout this thesis of subdivision being linked to a perceived need to build the option for separation into domestic architecture.

Hellenistic Morgantina — The House of the Doric Capital

The final case study takes us into the Hellenistic period and to the long-lived settlement of Morgantina. The House of the Doric Capital takes its name from the find of a Doric capital during excavation. It dates to the 3rd century BC and remained occupied into the 1st (Tsakirgis 1990, 427) with some alterations taking place in the 2nd century BC, as evidenced by the presence of blocked up doorways and the construction of dividing walls (Westgate 2000, 421) (it is the final plan we are concerned with here). The house is situated at the junction of *stenopos* east 2 and *plateia* B overlooking the *agora* to the west. Morgantina by this time had been rebuilt on the Serra Orlando ridge with a strict grid system that provided boundaries to construction works and meant where streets ran along steeper sections of the ridge terraces had to be dug into the slope to create level space for buildings. The House of the Doric Capital is one such building: it sits above the buildings to the west and has to be entered via a series of steps, in fact the slope is such that *stenopos* east 2 runs at first floor level meaning the east wall of the house is also a retaining wall. It should perhaps be unsurprising then that these sections of walling are of large stone blocks, typically laid in irregular courses with smaller stones in-between. Other walls are similarly built but with smaller stones forming the structural core. Many of the floors were paved with *opus signinum*, some with *tesserae* inserts (Westgate 2000, 419–421), while the roof, as had become increasingly common over the preceding centuries, was most likely tiled.

The House of the Doric Capital is primarily arranged around a central peristyle courtyard and is rectilinear in form, shaped from two rectangular adjoining blocks covering a total area of at least 700m^2. The full extent of the house is difficult to gage as some of the western most spaces have been lost to erosion, but it is likely that it originally extended over the shops below and adjoining on the western side. In its present state the House of the Doric Capital contains twenty four spaces plus a long corridor and the peristyle courtyard. These range in size from the likely storage-related room 16 at c.0.60 x 3.00m, to room 1 covering c.6.00 x 4.60m in area. The house had two entrances, one leading from the stairs to the west and another entering at ground floor level to the south. It is likely that the main door sat at the top of the stairs; while this meant that visitors would then step directly into the peristyle, the staircase, which it appears did not open onto or lead anywhere else, would have created an extended transitional space between the street and the house proper that is strongly associated with it. A stair base in room 13 reveals the presence of an upper floor and the fact that the house incorporated a greater area than we can reconstruct from the surviving floor plan, but

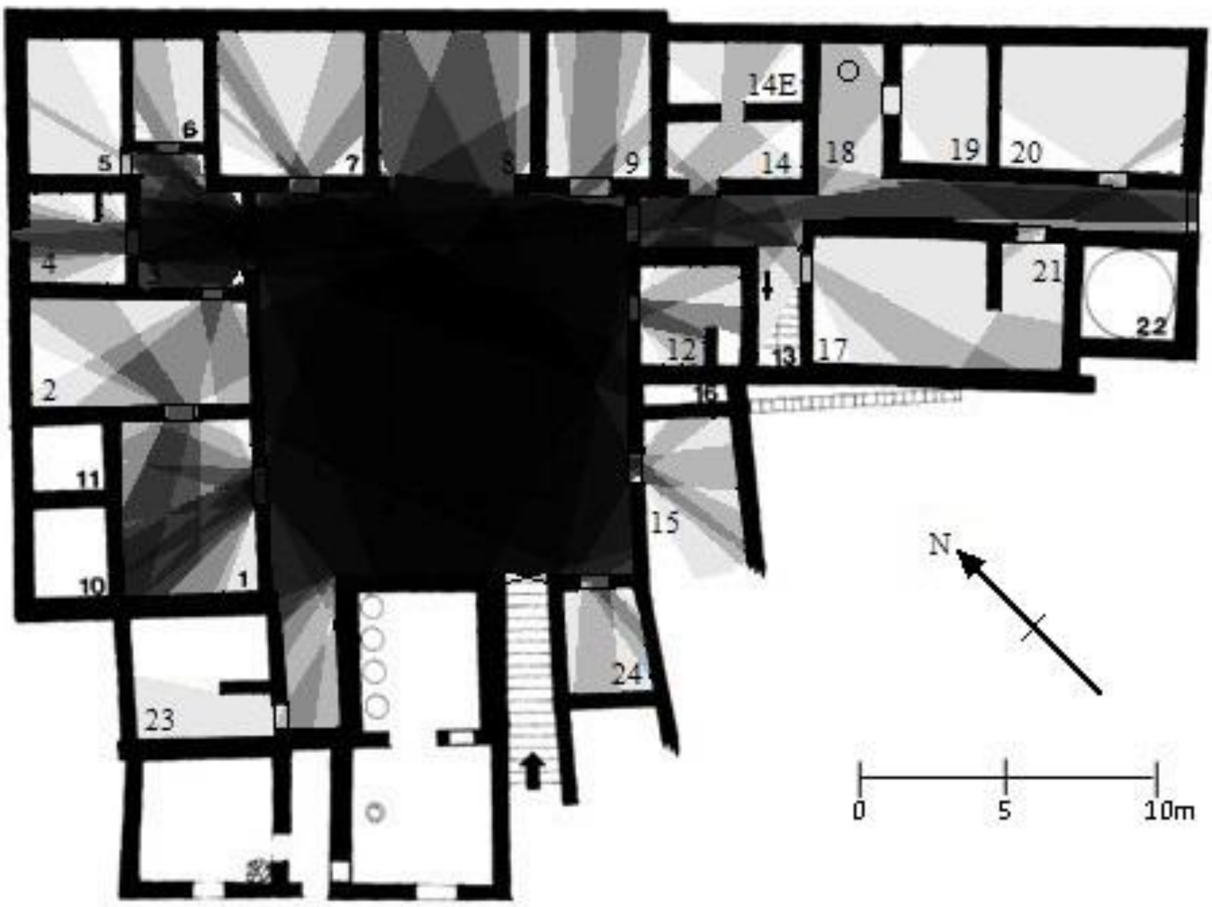


Fig. 7.4 The House of the Doric Capital, Morgantina, showing view-sheds and levels of inter-visibility (after Tsakirgis 1990, fig. 1, 426).

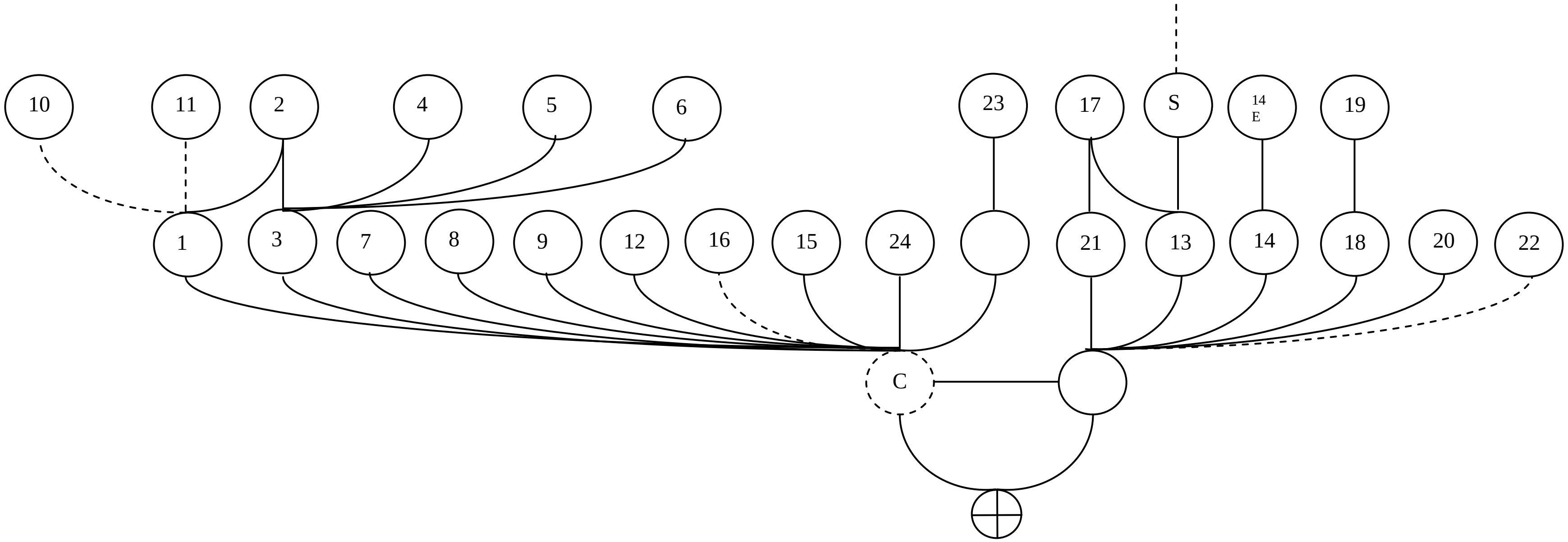


Fig. 7.5 Access Map for the House of the Doric Capital.

although sections of walling do survive to great heights, we cannot with any certainty determine the extent of this additional storey. The apparent lack of decoration from this upper floor implies, in contrast to Peristyle House 1 at Monte Iato, that the upper rooms were not used for receiving guests (Westgate 2000, 420).

The use of decoration, in particular the choice of floor surface and finishing, and the link this had with the intended use and status of a space have been discussed by Tsakirgis (1989b; 1990) and Westgate (2000) and so it serves here to give a brief overview. As has been found across Hellenistic Morgantina, the floors of the House of the Doric Capital are primarily constructed in *opus signinum*. White *tesserae* inserts are used to incorporate additional decoration and in some floors, such as of the north-eastern colonnade of the peristyle, they are arranged in patterns (in this case a lattice). Westgate believes this is because the rooms opening off this colonnade were the most important in the house, being highly decorated with relief plaster, marbling, and cornices on the walls, and more elaborate patterning in the floor. In contrast the pavements of the rooms opening onto the southern corridor are much simpler and plainer (Tsakirgis 1990, 427–428; Westgate 2000, 419–421). Altogether this suggests that the inhabitants of the House of the Doric Capital utilised decoration to help indicate the use and status of rooms, extending to the related status of household members and guests within the space and helping to indicate who had access where with the clearest distinction being drawn between a more highly decorated, perhaps public area, and a plainer collection of spaces more closely associated with service uses (Westgate 2000, 426).

Three cisterns, two in the peristyle and one at the eastern end of the corridor space 18, have been found in the House of the Doric Capital. It is likely that the locating of these was strongly related to the practicalities of collecting rainwater: it is not unusual to find cisterns in the more highly decorated courtyards suggesting the need for water outweighed the fact that collecting water could be considered a more domestic service task. The cisterns in the peristyle would have stored water from the colonnade roof, while that in space 18 appears to have been connected to a drain running across room 14E (Tsakirgis 1995, 134) and was perhaps related to water-requiring activities in this space. While it is difficult to recreate exactly how the household utilised these resources, it is possible that water was drawn from whichever cistern was most convenient for the task at hand.

The access map for the House of the Doric Capital (Fig. 7.5) is just three levels deep and therefore less extended than many of those for contemporary houses of a similar size (see Fig. 6.19). This is primarily due to the fact that the House of the Doric Capital contains a second entrance which, in contrast to most other multiple-entranced houses, leads not into another space in the same area of the house, but into a second set of rooms (in this case associated with a more private or service area) which in other houses are positioned at the greatest depth from the exterior. If this second entrance were not present the access map for this house would take on a similar form to that of Peristyle House 1 at Monte Iato. While this suggests that the internal spatial organisation of the House of the Doric Capital is not unusual, it is necessary to ask why a second entrance leading to this particular part of the house was considered necessary. The answer may lie in the location of the building within Morgantina's topography and urban landscape. The contours of the hill the house is built into, the form of the road winding up from the agora, and the gain in elevation seen across these mean that the 'service/domestic' area, rather than being constructed alongside the rest of the house, is set back. Instead of producing the rectangular form seen in the House of the Official and the House of the Arched Cistern with a central entrance giving access to both halves of the building, the House of the Doric Capital takes an irregular polygonal shape with the 'service/domestic' wing not adjacent to, and therefore directly accessible from, the main entrance. Anyone entering this part of the house via the main entrance would have to cross the entire length of the peristyle. Such a spatial arrangement creates the opportunity for people to access the principal and higher status rooms of the house. A second entrance to the south bypasses the issues of topography on this corner and allows the household and their servants/slaves to come and go without having to pass through the peristyle — greater control can be exerted over who has access where.

As this suggests, and is clear from the access map, there are two distinct areas of the House of the Doric Capital: one centred on the peristyle courtyard and another centred on the long southern corridor. Both act as nodes controlling access from the exterior into the house and movement between the spaces beyond them. They also form a linear arrangement of nodes linking the two halves of the house which it is necessary to pass through in order to move from a room in one to a room in the other. The peristyle courtyard is a highly controlling space giving access to the majority of the rooms in this area of the house, many of which are dead-end spaces that cannot be accessed from elsewhere. There are, however, two sets of inter-linked rooms off the north colonnade which are further linked together via room 2. In these the rooms 1 and 3 act as secondary nodes controlling access and movement along the northern side of the house and between the rooms that make up the most secluded areas of the peristyle section. There is some distribution of control with a series of nodes in the form of the peristyle and intermediary rooms channelling movement and therefore incidental encounters. More structured interactions would take place in the more highly controlled spaces. In the southern part of the house only the rooms 14 and 14E, and 21 and 17 (although it could be argued that room 21 is an extension of room 17) form suites; the other two linear spatial arrangements (rooms 18 and 19, and 13 and 17) are corridor/room combinations. Other than the adjoining spaces 13 (and the stairs from this space), 21, and 17 it is always necessary to pass back through the corridor in order to move between rooms. Here the non-distributed spatial arrangement means the corridor is the primary controlling spatial element. The upper floor would have been the most secluded part of the building.

It can be argued then that the southern half of the House of the Doric Capital exhibits greater control of access, movement, and spatial interaction, while in the northern-most suite of rooms it was possible to move between spaces without entering the courtyard. However, it would always have been necessary to enter either the peristyle or the southern corridor when moving between the two areas of the house or when entering or leaving the building. As in the other Hellenistic houses analysed in Chapter Six, in the House of the Doric Capital control and access are centred on a series of focal nodes from which it is possible to move between a number of further spaces with relative ease thereby creating layers of access and spatial interaction within the building.

Because of the number of visually interacting spaces in the House of the Doric Capital the lines used to demark individual view-sheds and guide the colour-coding have been removed from Fig. 7.4 in order to maintain the integrity of the inter-visibility mapping, which can become obscured when there are many crossing view-shed lines. This, however, does not mean view-sheds can no longer be traced on the diagram. Spaces where it is unknown where the entrances were have been left unincorporated into the view-shed mapping for the time being. These are all single, dead-end rooms and so would only have increased the visibility of the rooms seen from them by a level. Room 16 is very small and probably opened onto the peristyle. Room 22 would likely have been viewable from the southern corridor, room 19, and the second entrance (assuming it opened onto the corridor), while rooms 10 and 11 would have been visible from room 1, partially from room 2, into the peristyle, and potentially the rooms opposite.

From the entrance of the House of the Doric Capital is was possible to see into the courtyard and beyond the peristyle into many of the surrounding spaces, but due to the nature of the extended staircase leading to the doorway it would not have been possible to see into the house from the street. Despite the fact that, unlike many contemporary Hellenistic houses, the House of the Doric Capital did not have an intermediary room between the entrance and courtyard, it was still visually removed from the exterior. The peristyle courtyard was a very highly visible region of the house — there are no areas within it where you cannot be seen. It also exhibits a high degree of inter-visibility and maintained views into all of the rooms opening off it, and even into some of those beyond. The eastern colonnade is the most visible place in the house being within the view-shed not only of the rest of the courtyard, but also the surrounding rooms, the spaces beyond room 3, and the long southern corridor. This corresponds with the fact that this was likely to be a frequently traversed space as people moved between the two distinct regions of the building.

The access map revealed room 3 to act as a secondary node within the house controlling movement and access to a further set of rooms. As a result room 3 is also a highly inter-visible space. The same applies to the southern corridor and to a certain extent room 1, both spaces giving access to other rooms meaning that it is possible to view them from a variety of spaces within the house. Room 2, in contrast, although it is a linking space, because it does not open onto the courtyard, which with its high level of inter-visibility transports view-sheds across this part of the house, is actually visually more secluded. Spaces opening directly onto the courtyard are in general submitted to higher levels of inter-visibility than those opening onto a secondary space. Room 4 is one of the few exceptions to this: because its position aligns with the eastern colonnade, room 4 holds a view right across the length of the house and so is directly visible from the southern corridor and the second street entrance at the end of it, should the door between the peristyle and the corridor be left open. Interestingly this alignment corresponds with the small window in room 4. Because of its height in the wall this window itself would not have been directly visible, but it does raise the question as to whether its locating was intentional rather than simply coincidental, perhaps associated with ventilation and the movement of air around the house? Room 8 is the most inter-visible dead-end space in the House of the Doric Capital. This is primarily due to its wide entrance that allows greater a spread across the room of any view-sheds converging here and its central position where it is possible to see into, and be seen from, many of the other spaces opening onto the peristyle. The other rooms in the area all feature gradients of visibility within them with spaces where it would have been possible to be seen from multiple places within the house, and areas where it was possible to move out of direct lines of sight, or at least only be in view from the adjacent room. Rooms 5 and 23 are the most secluded in terms of visual permeability; both are removed by several spaces from the peristyle and feature entrances that are unaligned with it thereby cutting off lines of sight.

This part of the House of the Doric Capital with its focus on the central peristyle courtyard has been interpreted as a place where guests could be entertained and business carried out, it was the part of the house where the inhabitants exhibited their perceived status in contrast to outsiders. The open lines of sight and high levels of inter-visibility identified here would have allowed the household to keep an eye on the goings-on in this part of the building; it would have been very difficult to move about the peristyle area without the other inhabitants, or guests, being aware of it. In the most visible areas of the house it may even have been possible to be observed without being aware of it yourself. Yet the option for seclusion is also built into these spaces through the incorporation of more removed rooms: spatial organisation and interaction are not completely open here; indeed there is nowhere, even in the peristyle, where it was possible to see into all of the spaces in this section of the house.

The second area of the House of the Doric Capital with its corridor node presents a different picture. The narrow nature of this corridor and the positioning of the doorways along it (never directly aligned or opposite one another) means that all of the rooms here contain spaces visible at most from three other rooms or corridor spaces, but more frequently just one or two. There is greater control and restriction of lines of sight and inter-visibility along the southern corridor than there is surrounding the peristyle; individuals would have been able to easily remove themselves from the view of others. Although this is largely due to the more acute angles of the corridor layout (if the rooms were in the same positions but surrounding a second courtyard they would be more inter-visible), we can perhaps also link the lower levels of inter-visibility here to the more domestic and private nature of this part of the house where the occupants would primarily have been members of the household. That the stairs to the upper floor are found in one of the most visually inaccessible areas of the house implies that the upper floor was indeed a much more private part of the house, access to which was controlled through the need to pass through the southern corridor to reach these steps making it difficult to approach them without being seen; lines of sight are being manipulated along the corridor spaces to allow for both surveillance and the blocking of visual access where required.

The peristyle courtyard of the House of the Doric Capital is both physically and visually controlling with high levels of inter-visibility between with the surrounding rooms. It can be said that there are elements of distributed access and visibility in this part of the house. The southern corridor directly controls access and movement and is a highly visible space in its own right, but there is less inter-visibility between surrounding the spaces. Access and visibility here exhibit more non-distributed characteristics. It is hoped that view-shed and inter-visibility analysis of further Hellenistic houses, particularly those with multiple courtyards, will enable the development of a deeper understanding of the role visibility and the controlling of lines of sight played within these houses and any differences between them and the spaces they incorporate.

The combined analysis of access maps, view-sheds and the levels of inter-visibility they expose, alongside potential activity areas and indications of use where available, has revealed an additional level of detail about physical and visual spatial interaction and organisation within these four examples of the domestic architecture of ancient Sicily. By undertaking a brief comparative exploration of the results of these analyses it is possible to begin to bring together a picture of the wider developments within the shaping of spatial interactions throughout Sicily's history.

While La Muculufa's Hut 3 (lower) and the apsidal building at Monte San Mauro may not be shaded very dark in comparison to spaces within the later houses studied here, when we take into account the fact that they contain just one and two spaces it is clear that they exhibit high degrees of internal inter-visibility. It was possible to see much, if not nearly all in the case of Hut 3 (lower), of the interior from any place within the structure, and even from the entrance and by extension the external area beyond it associated with the household. These two houses are visually open and easily accessible due to the lack of subdivision with the principal controlling element of both movement and visual permeability being the entrance. Encounters would have been frequent, and like the visual interactions, relatively unstructured with differentiation of space, and potentially individuals and their status (see Chapter Six), being primarily achieved through activity rather than physical spatial aspects.

That is not to say that there are no differences between the single-spaced Hut 3 (lower) and the two-spaced apsidal building. Due to the division of the house by a partition wall there is more structuring of the internal space of the apsidal building with greater control being extended over both visual and physical access; lines of sight are intentionally blocked by the partition wall, particularly from the entrance into the second space. Altogether this creates the potential for greater physical differentiation and reflects the emergence within Sicilian building traditions of spatial stratification and the constructing of architecture that allows for, and even encourages, privacy and separation.

This is expanded upon in Casa 4. The greater levels of subdivision, and hence spatial differentiation, and potentially use judging by the surviving finds and their distribution, reveal a more complex form of spatial interaction, one that balances more visually and accessibly open spaces with those that are more secluded. It is in this house that we first see a more non-distributed spatial arrangement with the front room acting as a focal node for the control of access and movement, as well as inter-visibility through the controlling of lines of sight between the exterior and interior rooms. At the same time as creating the potential for more structured visual and physical interactions and encounters, the inhabitants also have the option to remove themselves from view. There is active spatial stratification taking place. However, Casa 4 is still a far cry from the complexity and variety of spatial control that would come to characterise the larger houses of the Classical and Hellenistic periods.

The large number of spaces incorporated into the House of the Doric Capital lends itself to even greater levels of spatial complexity. This creates the potential for spaces with high levels of inter-visibility. But rather than being essentially open spaces like that forming the entirety of Hut 3 (lower), there is evidence for this being actively shaped and controlled through the positioning of doorways and the physical structuring of the domestic space: the peristyle courtyard enables a higher degree of inter-visibility between the rooms surrounding it, thereby becoming a highly visible space itself, while along the southern corridor view-sheds are actively restricted despite the high visibility of the corridor itself. Within rooms there is often a gradient of visibility with some parts of the space being more visually accessible than others; there are very few rooms within the House of the Doric Capital where it is not possible to remove oneself at least from the view of any other than the directly adjacent space. Beyond this, ranges in the general visibility of rooms as entire entities can also be seen with some spaces, such as room 8, being overall far more open and inter-visible than others, for example room 23, where view-sheds are much more restricted. The access map for the House of the Doric Capital has already indicated the presence of hierarchies of discontinuity and layers of access, but this suggests that there was also a hierarchy, or at least differentiation, within the visual accessibility of the rooms of the house, with there even being variation between spaces that within the access map appear to hold a similar position and therefore status.

The relationship between the incorporation of multiple spaces and increasing levels of social and structural stratification has already been established. What we see in addition here is that the greater spatial complexity this entails and the resulting, or perhaps necessity for, greater control of access and movement also incorporated greater exploitation and control of inter-visibility and the presence of a variety of visual and physical spatial interactions. This contrasts with earlier, or rather less subdivided, houses where there is less variation seen in the degrees of visibility within and between spaces, suggesting a lesser degree of spatial, and by extension social, stratification. Interestingly the view-shed analysis of the southern corridor area of the House of the Doric Capital does not look dissimilar to Casa 4, or if we break it down further, to the two-space combination of the apsidal building: a more highly visible space giving access to less inter-visible rooms with very little internal inter-visibility gradient. This perhaps encapsulates the above hypothesis: it can be argued that the highly subdivided houses of the Hellenistic with their structurally different spaces create the potential for variety and differentiation of space, to create spaces with different levels of inter-visibility, and therefore privacy, and so the potential to both separate people and activities and bring them together as and when the household requires. Perhaps then, as well as thinking of such houses as highly stratified with control being exerted over spatial interactions (visual, physical, and in terms of the encounters taking place within them), we should also consider that they present an architecture of opportunity.

This overview only begins to scrape the surface and it will be necessary to analyse spatial interactions within further examples of Sicily's domestic buildings before a more complete understanding of these developments and patterns can be formed. Suffice to say, there are many questions concerning the nature of the relationship between spatial organisation and physical and visual interaction, as well as how these link to the wider physical, settlement, and socio-cultural landscape they are a part of, still to be answered.

Chapter Eight

Building and Living in Ancient Sicily

Exploring the domestic architecture of ancient Sicily has permitted the investigation of a wide range of physical and socio-cultural parameters within which these houses were built, revealing an equally wide range of ways in which they interact and influence the form taken by the building. These interactions are complex and dialectic; variations in the influencing parameters leading to variations in physical house forms, constructions, and layouts as differing physical and socio-cultural priorities and traditions shape the requirements of domestic spaces.

Shaping Domestic Architecture

By studying these interactions it is possible to gain a deeper understanding of and insight into the shaping of domestic architecture, one that does not simply concern the technicalities of how materials are used, but takes into account the complex dialogue occurring between the physical world and the socio-cultural aspects of human relations with it. In following this understanding further questions have been raised regarding the wider role played by the house and its understanding within society, as well as the deeper nature of the interactions between the physical and socio-cultural parameters that go beyond the conscious actions involved in building. It is possible to bring these interactions together and explore the place of the house through the analytical context of building tradition.

The building traditions of Sicily

Two principal building traditions have been identified in Sicily: the rounded, which is found from the Neolithic up until the end of the Early Iron Age, and the rectilinear, which begins on the island in the Early Iron Age and becomes the dominant tradition from the Archaic period onwards. The shift from one to the other is not sudden, instead different elements of the building traditions change, develop, are adopted, and abandoned, over an extended period of time either side of the Early Iron Age. Table 8.1 gives a chronology of the major changes in Sicilian domestic architecture highlighted throughout this thesis.

Across Sicily and its surrounding islands, from the Neolithic to the end of the Hellenistic period, the inhabitants primarily made use of locally available and accessible material resources in the construction of their houses, thus reducing the time and labour

	Form	Subdivision (no. of spaces; average size of individual spaces)	Total Size (min-max)	Materials and Construction	Spatial Organisation
Neolithic **c.6000 BC**	Circular Apsidal Oval	1 plus enclosure (in some cases) 25m^2	5–115m^2	Wattle-and-daub walls woven in the round. Stone foundations and/or socle, or cut into the ground. Un-worked or roughly shaped stone in irregular courses. Earth or plaster floors, sometimes sunken. Roofs likely thatched, supported by timber posts.	Single open physical space with architectural and function specific features guiding movement and activity. Surrounded by enclosure or open space. Frequent interactions/encounters.
Copper Age **c.3500 BC**	Circular Oval	1 plus enclosure (in some cases) 30m^2	3–63m^2	Wattle-and-daub walls woven in the round. Stone foundations and/or socle, or cut into the ground. Un-worked or roughly shaped stone in irregular courses. Earth or plaster floors, sometimes sunken. Roofs likely thatched, supported by timber posts.	Single open physical space with architectural and function specific features guiding movement and activity. Surrounded by enclosure or open space. Frequent interactions/encounters.
Early Bronze Age **c. 2500 BC**	Circular Extended Circle Oval Elliptical	1 plus enclosure (in some cases) 24m^2	5–64m^2	Wattle-and-daub walls woven in the round. Stone/rubble/gravel foundations and/or socle, or cut into the ground. Un-worked or roughly shaped stone in irregular courses. Earth, stone, plaster, or clay floors, sometime sunken. Roofs likely thatched, supported by timber posts.	Single open physical space with architectural and function specific features guiding movement and activity. Surrounded by enclosure or open space. Frequent interactions/encounters.

	Form	Subdivision (no. of spaces; average size of individual spaces)	Total Size (min-max)	Materials and Construction	Spatial Organisation
Middle Bronze Age **c.1500 BC**	Circular Extended Circle Apsidal Oval Rectilinear	1–3 plus enclosure (in some cases) 27m^2	13–50m^2	Walls of roughly shaped stone in irregular courses. Wattle-and-daub walls woven in the round. Foundations and/or socle of un-worked stone. Internal surface sometimes coated with clay/plaster. Earth or plaster floors. Roofs likely thatched, supported by timber posts.	Open physical spaces with architectural and function specific features guiding movement and activity. Some physical division, possibly for use. Surrounded by enclosure or open space. Frequent interactions/encounters.
Late Bronze Age **c.1200 BC**	Circular Apsidal Oval	1 plus enclosure (in some cases) 22m^2	10–105m^2	Foundations of un-worked or roughly shaped stone. Walls of roughly shaped stone in irregular and occasionally regular courses, sometimes with timber posts and a wattle-and-daub superstructure woven in the round. Earth or rock floors, sometimes sunken. Roofs likely thatched, supported by timber posts.	Single open physical space with architectural and function specific features guiding movement and activity. Surrounded by enclosure or open space. Frequent interactions/encounters.
Early Iron Age **c.900 BC**	Circular Apsidal Oval Elliptical Rectilinear	1–2 plus enclosure (in some cases) 21m^2	6–84m^2	Un-worked or roughly shaped stone in irregular courses, some timber laced with wattle-and-daub superstructure woven in the round. Some cut into slope. Mud brick walls on roughly shaped stone foundations. Earth, stone paving, rock, or plaster floors, sometimes sunken. Roofs likely thatched, supported by timber posts.	Open physical spaces with architectural and function specific features guiding movement and activity. Some physical division, possibly for use. Surrounded by enclosure or open space. Frequent interactions/encounters.

	Form	Subdivision (no. of spaces; average size of individual spaces)	Total Size (min-max)	Materials and Construction	Spatial Organisation
Archaic **c.700 BC**	Rectilinear Rectilinear with Courtyard	3–7 many plus courtyard $16m^2$	$69–204m^2$	Walls of roughly shaped stone in irregular or semi-regular courses. Facing stones with roughly shaped/un-worked fill. Some mud brick walls. Earth or stone paving floors. Roofs tiled or thatched. Supported primarily by walls.	Rooms off one or two sides of a courtyard. Typically non-distributed arrangement with the courtyard a node for movement/encounters. Options for seclusion and division of activities. Some use-specific spaces.
Classical **c.480 BC**	Rectilinear Rectilinear with Courtyard Rectilinear with Central Courtyard	1–13 many plus courtyard $12m^2$	$48–363m^2$	Walls of shaped and roughly shaped stone in semi-regular or regular courses. Facing stones with roughly shaped/un-worked fill. Some mud brick walls. Terraced sites with retaining walls. Interior surfaces sometimes coated with plaster or stucco. Earth, plaster, or *opus signinum* floors. Roofs tiled or possibly thatched, supported by walls.	Central courtyard with rooms/suites radiating. Combination of non- and distributed arrangement: control of access/movement/interactions. Layers of access. Options for seclusion and division of activities. Some use-specific spaces.
Hellenistic **c.320 BC**	Rectilinear Rectilinear with Courtyard Rectilinear with Central Courtyard Rectilinear with Peristyle Courtyard Rectilinear with multiple Courtyards/Peristyles	3–27 many plus courtyard/s $17m^2$	78–$1040m^2$	Walls of shaped and roughly shaped stone in semi-regular or regular courses. Facing stones with roughly shaped/un-worked fill. Chain masonry. Some mud brick walls. Terraced sites with retaining walls. Interior surfaces sometimes coated with plaster or stucco and painted. Earth, rock, stone paving, terracotta paving, *mosaic*, or *opus signinum* floors. Roofs tiled or possibly thatched, supported by walls.	Multiple courtyards/peristyles with rooms/suites radiating. Differentiation of areas, some use specific spaces. Combination of non- and distributed arrangement: control of access/movement/interactions. Layers of access. Options for seclusion and division of activities.

Table 8.1 Table showing architectural changes and developments seen in Sicilian houses from the Neolithic to the end of the Hellenistic.

required to obtain and transport materials. These resources include wood and other forms of vegetation, clay, and stone. It is hence these materials that most often constitute the archaeological remains of domestic architecture. The satellite islands often having no, or only limited, clay beds made greater use of stone. The choice of building materials and their physical properties directly influence how they can be used and so the form taken by, and structure of, the building they are utilised within.

Topography also had to be taken into account in the construction of many houses of both building traditions across Sicily. The mountainous nature of much of the island's interior and northern coast means flat land is often at a premium. Many settlements dealt with this by constructing terraces, thereby creating level areas upon which to build. The nature of the slope and the terraces built into it can be seen to influence the orientation and construction of houses: for example, at Morgantina the Early Iron Age structures and the terraces they are built on are arranged parallel to the slope (Leighton 1993), thus reducing the amount of earth needing removal and so the labour involved. Elsewhere, as at Solunto, houses are arranged over several terraced levels, again reducing the labour involved in their construction, as well as the maximum height required of retaining walls, and so the risk of collapse. At Hellenistic Morgantina many of the houses constructed on the Serra Orlando ridge were built upon the flat land created by quarrying for the very stones from which the houses were built (Sjöqvist 1960, 130–135), a decision that also reduced the labour and time required to move the stone any great distance. The wider urban topography of the settlement can also affect the form taken by new buildings. At Solunto (for example in the Thermae District) and Megara Hyblaea are buildings (including House 49,19) with irregular shapes that can be ascribed to the pre-existing road layout, while at Punta Milazzese (Fig. 4.16) several of the oval houses feature straighter sections of wall where they abut one another. It is also possible then to suggest that the property of tessellation was one of the influencing factors in the adoption of the rectilinear form and the development of this building tradition, particularly in more densely built up environments.

Many of the earliest houses in Sicily are constructed from wattle-and-daub which produces a strong and stable structure when woven in a ring — many such buildings in Sicily are rounded in form (although quadrangular panelled construction also produces stable buildings and was utilised in many other regions of Italy). This forms the first building tradition encountered on the island; that characterised by the lack of angular corners, and typically containing just one, occasionally two internal spaces. Often the foundations and lower sections of walling of these houses were built in stone (typically un-worked or roughly shaped), a solution to the Sicilian climate where heavy rainfall could be expected during the winter months and summer storms; stone sections helped protect the daub from ground water and run-off and the timbers from rotting and splitting caused by repeated wetting and drying. Likewise a roof with overhanging eaves would also have helped protect walls and shed water. Even so, buildings erected from these materials would have required regular maintenance and had a limited lifespan.

Roofs were supported by the timbers incorporated into the walls and, in the case of larger buildings, posts within the internal space. It seems likely that the primary roofing material from the Neolithic to at least the early Archaic period was thatch, which would have provided the main thermal insulation of the building. Terracotta tiles (which have a lower thermal mass and require an attic-like air space to provide reasonable insulation; Anna-Maria 2009, 1097) were adopted for many houses during the later Archaic, Classical, and Hellenistic periods. Which roofing material was used would have determined the construction of the roof itself: thatched roofs require a pitch of around 45° to effectively shed water, whereas tiled roofs can be shallower, around 35° (Watkin 2005, 24), and therefore require less timber for their construction.

Many of the Sicilian houses known from the Archaic period onwards, all constructed following the rectilinear building tradition (characterised by angular corners), utilised stone as their primary building material, although there is some evidence (such as the houses excavated at Herakleia Minoa) for the use of mud brick above a stone socle. Thick stone walls, like thatch, have a high thermal mass, allowing them to absorb heat during the day and re-radiate it out at night, thereby helping to maintain a more consistent internal temperature. While some of the earliest houses built in this way were small and included just one or two spaces like the rounded buildings, the vast majority cover much larger areas and feature a high degree of internal subdivision; some Hellenistic houses cover c.1000m^2 and contain nearly 30 rooms, two storeys, and several courtyards or peristyles. The rectilinear property of tessellation means these structures are more efficiently divided and expanded, allowing both for the number of rooms seen and for changes to be easily incorporated during the building's lifetime. This implies that these houses were expected to stand and be lived in long enough that such changes may be necessary, a factor also reflected in the increasingly widespread utilisation of stone — a much more durable building material than wattle-and-daub. It seems that during the Classical and Hellenistic periods houses came to be seen as investments in terms of wealth and status.

As was shown in Chapter Four, a built space can only be as wide as the distance the timber beams used to support the roof or floor above are capable of spanning whilst remaining structurally sound. This means that spaces can reach a maximum width of approximately 6.00m (given the timber available and the largest spans seen in the houses of Sicily) unless addition beams and upright supports in the form of posts, columns, or walls are incorporated. Whether posts or supporting walls were chosen if a larger house was required (which in itself was linked to ideas of suitable space to household size ratios, function and the provision for particular activities, status, and display) was dependent upon understandings of domestic space and the role it was expect to play in wider social interactions and the control of movement and visual accessibility. For example; using posts created a large, visually open, space that encouraged frequent interactions, with the posts serving to provide some structure to movement, and activity areas, such as those identified in Hut 31 at Morgantina, dividing the domestic space functionally but not physically. In contrast, the utilisation of supporting walls blocked lines of sight and created a series of individual spaces thus allowing the separation of people and activities. The former seems to reflect a society in which social status is formed through activity and role, and is found in houses of the rounded tradition, while the latter indicated a greater degree of social stratification, both of people and the activities they carry out, and is a feature of the rectilinear tradition.

The larger rectilinear houses characterising the Classical and Hellenistic periods reveal a complex relationship between layout and spatial organisation reflective of the more complex society and urban environment in which they were built. These houses feature a focal node, or series of nodes, in the form of courtyards or corridors that create layers of access and control movement through the building. In doing so they provide for the division of people and activities, and the creation of areas within the houses with greater levels of privacy, thereby allowing for the formalisation of space and interactions, and the formation and reinforcement of identity and social stratification and status architecturally. Also seen is a clear concern for privacy and distinction from the rest of the settlement, connected to ideas of individual and collective identity. These factors can be explored in greater detail through a particular architectural feature of the rectilinear tradition: the courtyard.

In Chapter Six it was shown that the courtyard can be seen as an internal version of the enclosures and open spaces utilised for domestic activities found to be surrounding many pre-Archaic houses excavated on the island, the walls and eaves of the house providing shade and shelter where necessary. These spaces were visually, and sometimes physically, open to other members of the community, allowing casual interactions between the household and passersby. As the city-state, or *polis*, developed and urban space formalised, it appears that strictly defining and delimiting one's identity and space, and so the notion of privacy, became an important part of the complex social landscape. In response to this the domestic landscape also became increasingly formalised: the outdoor area of the domestic unit was walled off (seen in the Archaic houses of Megara Hyblaea) creating an incorporated outdoor space that was no longer physically and visually accessible without entering the house itself, thereby allowing the inhabitants to maintain their privacy whilst undertaking outdoor activities and identifying members of the household as a distinct unit within the wider settlement. Street entrances often led directly into these early courtyards meaning that, like enclosures, they were a space that had to be passed through before entering the main roofed area of the building.

During the Classical period the location of the courtyard within the larger, increasingly subdivided, houses shifts from the entrance to the centre (as, for example, in House 14 at Naxos), with smaller structures often featuring rooms along two or three of the courtyard's sides. This shift more fully incorporated the courtyard into the fabric of the house: the removal of the courtyard from contact with the exterior through the presence of an entrance hall or corridor made it a more private space in terms of its relationship with the street, while in arranging the rooms, and so the house as a whole, around it, the courtyard became a focal point within the building. The analysis of the spatial organisation of courtyard houses carried out in Chapter Six revealed that arranging rooms around a courtyard meant most were rarely more than two removes from this open space. This can be seen as a response to the need to light the house: the enclosed nature of the courtyard allowed daylight to enter the building through large apertures (both doors and windows) without compromising the need for privacy that promoted the development of this space in the first place. This arrangement also meant that the courtyard acted as a node for movement about, and gatherings within, the house; the inhabitants had to pass through the courtyard to reach most other areas of the building. This served to control and formalise access and encounters, and so aspects of identity formation and reaffirmation. From the beginning of the Hellenistic period some courtyards were embellished with colonnades and peristyles. It is likely that these features developed from similar structures constructed of wooden poles and awnings whose primary purpose would have been to provide shade. Peristyles likewise provided covered areas through which to walk or work avoiding the hot sun or heavy rain, but they also channelled routes around the courtyard, rather than across it — thus further controlling movement and encounters.

The courtyard formed the basic unit for house expansion. The largest houses, those of the highly stratified society of Hellenistic Sicily, are centred upon two, possibly three in the case of the House of the Official at Morgantina, courtyards with their surrounding rooms, each typically with their own characteristics dependent upon the intended use of that area (likely to be seen by visitors, or more 'domestic' where daily tasks were carried out). Peristyles, in contrast to courtyards without colonnades, are frequently associated with areas accessed by guests due to the increased presence of decoration in the form of painted wall plaster and *opus signinum* and *mosaic* floors, as well as the columns themselves which were often coated in *stucco*, if not made from finely finished limestone or marble. Such features involved hiring, and paying, additional specialist craftsmen beyond the labourers necessary for the construction and maintenance of such buildings. In light of this it is possible to link the presence of a peristyle courtyard to displays of wealth and status, with the colonnades serving to direct and restrict the movement of guests in this part of the building and so the impression they gain of the house and its household, and their status and identity in comparison. From an internal external space walled off from the rest of the settlement, the courtyard has become the node of the house and an axis for movement, a space that is recreated throughout domestic space and is clearly central to the Hellenistic Sicilian understanding of domestic architecture and building tradition.

In such houses as these it appears that the process of building, and therefore the recreation of building tradition, has been formalised through the development of roles specialising in this activity: masons, architects, and the myriad of skilled tradesmen associated with the creation of the built environment. But these are not roles that are found in every society, nor associated with every building tradition. This suggests that there are different modes of building, ways of people coming together, or not, to physically create domestic spaces. The majority of the urban houses of Classical and Hellenistic Sicily, and likely many of those dating to the latter part of the Archaic period, would have been built by a number of individuals specialising in construction, for whom planning, building, and decorating houses increasingly provided a livelihood and enabled them to support their own households. The mosaics at Hellenistic sites such as Morgantina and workshops at Solunto indicate that craft specialisation was far from uncommon, while a number of texts, including Aristotle on the shaping of the house in relation to his discussion of 'sciences of causes' (*Met*. 3.996b), and inscriptions from across the Mediterranean, admittedly most often in relation to monumental building projects (see the Parthenon *stele* which records expenditure on the building's construction; Dinsmoor 1913), attest to the presence of specialist architects, masons, and sculptors. This contrasts with the way in which many of the earlier and smaller dwellings on the island would likely have been constructed: these less structurally complex buildings were probably the result of a communal building effort by the household with additional help sourced from extended family and the surrounding community, potentially on the understanding that the favour will be returned (Devolder 2017, 63). These differing modes of building reflect the differences in encompassing social structure that have been identified in relation to the evolving building traditions of Sicily: communal building efforts, which required a group of more experienced persons to take the lead during the construction process, suggest a degree of craft specialisation within a more egalitarian social structure. How such a building project could have been carried out at the early 'Greek' settlement of Megara Hyblaea is explored by Fitzjohn (2013). In contrast, the high degree of specialisation necessary for the construction of houses like those excavated at Hellenistic Morgantina and Monte Iato, as well as the fact one person is employing another, speaks of a more highly stratified society with a greater importance placed upon personal wealth and status.

Within the more communal mode of building the household are directly involved in the shaping of the house, both physically through their collection and manipulation of materials, and socio-culturally through their influencing of the layout and organisation of the domestic space. There is a close tie between the acts of building and living in these structures. The communal nature of the building project would also have served to reinforce social bonds and relative positions and statuses, perhaps with an element of exchange or obligation in the form of labour. As house construction was not the only activity undertaken by the individuals involved, building projects would have had to be fitted around and incorporated into the wider cycle of activities within the settlement, particularly those concerning agriculture (Robb 2007, 83). How such activities could structure the year can be seen in Hesiod's *The Works and Days*. It is highly likely that building work would have been carried out in the quieter periods of the agricultural season, potentially with the aim of being completed before having to return to the fields (Devolder 2017, 63); late summer, and to a lesser extent late winter/early spring, have been suggested as appropriate times to build in the Mediterranean based on analogies from Greek construction projects at Delphi and Eleusis (Fitzjohn 2013, 630–631; Osborne 1987, 14–15). While the differing parameters surrounding each household and act of building mean that each house will contain its own variations within the wider building tradition, in general it can be said that building in this manner was conservative. Any single individual may help with the erection and maintenance of several houses during their lifetime, both for themselves, relatives, and other members of the community, but this is unlikely to be a large number (Robb 2007, 85). Techniques and methods are passed from generation to generation through watching, listening, and participating as and when the opportunity arises (Ingold 2013, 1; Fitzjohn 2013, 636; Devolder 2017, 63). As a result it is likely that there was a slow pace of innovation and change within the wider building tradition. This is reflected in the archaeological record of Bronze Age Sicily (a period encompassing some 1500 years) and the rounded tradition of building where, despite variations in their exact form, houses generally make use of the same materials and techniques, and rarely exhibit individualistic features.

By employing specialists in the commissioning of a house, the household, while likely being consulted during the building process and thereby directing the shaping of the house, are not actually physically involved in its construction. This more 'hands-off' approach to house construction can be associated with the formalisation identified in the increasingly large and more structurally complex buildings of the Archaic and later periods in Sicily. The exploration of the spatial organisation and layout of these houses undertaken in Chapter Six revealed the increasing presence of the structuring of interactions, movement, and the formation of identities, and common signposts for behaviour within the architectural fabric of the building. All of these ensured that, despite not being directly involved in the physical building aspect of house creation, the household, through their knowledge and understanding of the wider roles of domestic architecture and the building tradition they were working within, would have been able to settle easily into the living aspect.

With specialist builders it is possible that some construction work could be carried out all year round — although this is also dependent upon wider environmental factors such as seasonal weather conditions, the number of daylight hours, and the temporal cycles of factors necessary to construction including the felling and seasoning of timber. For larger building projects (especially public buildings and structures such as temples and fortification walls), or work that did not require specialised skills and could be easily taught and picked up (e.g. the transportation of materials), it is likely that additional labour was supplied during the quieter agricultural seasons by those working in this sector; there would still have been periods of greater and quieter building activity. More people being permanently engaged in activities related to building and the development of improved masonry techniques, and technologies, such as terracotta roof tiles, necessitated the formal organisation of elements of the building process, including quarrying and tile manufacture in the case of these examples. So in the commissioning of houses and the development of specialisation we are witnessing the formalisation of the building industry. Interestingly, as long as houses continued to be constructed within the wider building tradition, thus allowing domestic spaces to be understood, this mode of building can be seen as less conservative than acts of communal building. Specialisation offers more opportunities for innovation: a builder, mason, painter, will undertake many commissions throughout their career and so have the opportunity to be creative, make small changes in the process, style, and finishing of their work. Likewise the more highly stratified social structure with its displays of wealth and status encourages competition, not simply between households, but also between craftsmen. Thus it should not be surprising to find advances in decorative and construction techniques taking places throughout the Archaic, Classical, and Hellenistic periods — such as the development of *opus signinum*, pebble mosaics, and then terracotta mosaics, and the adoption of ashlar masonry in the place of roughly shaped stone walls — as craftsmen and their clients continuously aim to outdo others and display their ability, and wealth and status.

Variation and change

Across the island, the wider socio-cultural, and environmental (although this was a less fluctuating factor in Sicily during the periods studied), context within which houses are built is not static. As house design is actively shaped by this context it follows that building tradition is also not static; instead evolving alongside and reacting to external developments and changes, hence the variation in house design and modes of building seen on Sicily. Beyond this, the view and understanding of a particular building tradition can also change as the worldviews and understandings, links to and requirements of the past develop and change in the present. For example, old farm buildings can be re-interpreted to fit a modern ideology of a 'traditional' past and so influence new building traditions (Johnson 1992, 53). This notion opens further interesting points regarding the role of ancient Sicilian domestic architecture in later societies, both Roman (particularly with regards to Vitruvius' work on 'Greek' architecture) and modern, but sadly this is a topic that will have to be left to a later date with greater room for discourse.

The case study of Sicily has shown that variations in building parameters lead to variations both between individual houses and in building traditions, while similarities lead to similarities in building traditions. It is possible to see this at work even within relatively small geographical areas: while the vast majority of houses excavated from contemporary time periods on the island follow the same basic building tradition, variations are seen in the exact form and construction where there were variations in the surrounding parameters, in particular physical ones concerning topography (for example the need to construct terraces and retaining walls at hillside sites) and resources availability (such as primarily stone construction instead of wattle-and-daub on islands without clay sources). The inhabitants of these settlements are working from the same, or a very similar, building tradition and understanding of what a house should be, within which they make adjustments and compromises in relation to the particular circumstances within which they are building.

Looking slightly further afield to the Italian mainland, these variations become wider. While many southern Italian settlements and societies share many material cultural similarities to the peoples of Sicily, the interactions and exchanges they experience, and so the details and complexities of their societies, are different, while the exact quantities and types of resources and environmental conditions vary with the landscape. Here peoples have developed their own, similar, but differing, building traditions. During the Neolithic the Sicilian evidence shows house construction to be generally round in form, but while this is also found in some areas of the mainland (at settlements such as Catignano, Pianaccio del Tortoreto, and Poggio Olivastro; Grifoni Cremonesi 1987; Bulgarelli et al. 2003, 804), the majority of settlements, including those of Balsignano, Ripa Tetta, and Piana di Curinga (Fiorentino et al. 2003; Tozzi 1985; Ammerman et al. 1988) utilised more rectilinear forms. Both make use of the same construction materials, clay and timber, to create wattle-and-daub structural elements; the former in a continuous ring around upright posts (as on Sicily), the latter in panels between supporting uprights. These settlements, and the wider regions surrounding them, each experience differing physical and socio-cultural parameters and therefore have developed differing building traditions — where rectilinear structures were erected perhaps these better fitted the settlement landscape or more closely reflected socio-cultural worldviews and understandings of how domestic space should be used and arranged, maybe the available technologies, skills, and labour encouraged panelled construction (the wattle elements of panels could be made in sections allowing modular construction, whereas the ring form required the whole to be built at the same time).

Interactions with the people and things that make up one’s surroundings help to form and reinforce identity. It follows then that should the people with whom one is interacting change, or new peoples or material things be introduced to our sphere of knowledge, then identities will have to be re-evaluated and adjusted to take these new experiences into account. The socio-cultural parameters therefore change, prompting further changes in the wider scope of behaviour, ideology, worldview, and the built environment, including houses and building traditions. In Sicily it is clear (following van Dommelen’s discussion of ‘colonial’ interactions: 1997; 2005) that from the Early Iron Age and maturing throughout the

Archaic and Classical periods increasing interactions with and the movements of peoples from across the Mediterranean, in particular the eastern regions of Greece, the Aegean, and the Levant, as well as Phoenicians from North Africa, led to adjustments in the understanding of status, wealth, display, and the position and role of the household and individuals in wider society.

'Colonial' interactions and developments are not the only encounters, and variable factors that can bring about changes in socio-cultural parameters that prompt changes in domestic architecture, building tradition, and the elements of day to day life interwoven within it (Fig. 8.1). Such developments and adjustments can also be prompted through and as the result of exploration, trade, and historical, scientific, technological, and artistic discoveries and advancements, as well as through natural and unnatural variations in factors such as demography. All of these, either singly or together as a part of wider developments, alter people's understanding of the world around them, their relationship with it and one another, and so their identities. Alterations in material culture, through the adoption and adaption of new ideas, materials, and technologies, and the associations of socio-cultural factors such as status, wealth, and role with them, including domestic architecture, are a natural part of this process.

These developments may often appear widespread and wholesale. But a closer look at the archaeological record (overviewed in Table 8.1) and the continuity seen in many regions from the Bronze Age into the Early Iron Age (Hodos 2006, 99–101), reveals the move towards the rectilinear architectural traditions that would characterise the Classical and Hellenistic periods on the island happened in a more piecemeal way. Different settlements and groups of people developed, encountered, exchanged, and adjusted and adopted goods, technologies, worldviews, and ideas at different times and in different ways — a degree of selectivity and choice is present in this process (Hodos 2006, 15) with the spread of new ideas depending upon 'the perceived consistency of the new idea with existing ideological and technological contexts' (Doonan 2001, 161).

That the Early Iron Age/Archaic transition is a period in Sicily that allowed for extensive and widespread developments in the form, construction, and organisation of domestic architecture, as well as the development of the city-state both in Sicily and across much of the Mediterranean, can be explained by the concurrent occurrence of many of the above contributors to change. The interactions and movements of peoples, the foundation of new settlements, and so the exchange of ideas and cultural understandings, as well as material goods, all encouraged the re-evaluation and adjustment of social traditions and understandings and formations of identity. The increasing movement of peoples and goods caused increases in the population of many settlements, particularly those with control over trade routes. This shifted the demographics of these settlements and prompted increasing social complexity and stratification in the face of denser living conditions and developing concerns of status, place, and maintaining household integrity and privacy. Concurrently, and as a part of this, increasingly urbanised settlement structures developed with greater differentiation and formalisation of the built environment governed with equally increasing formality (Westgate 2015). Steps forward in craft specialisation and building technologies, as well as the increased formalisation of roles associated with a more hierarchical society, encouraged competition and so rapid developments in the manufacturing and processing of building materials, construction technologies and methods, and the finishing and decoration of the resultant buildings. All of these came together as a part of wider trends and dynamics to influence changes in the way in which the spaces people lived in were built and used. And so we find a period where not only domestic architecture, but also the surrounding urban and socio-cultural environment underwent a series of dramatic and comparatively rapid developments.

While all of this goes a way to explaining why changes occur in building traditions, it only begins to answer questions concerning the dynamics of these changes. The longevity of building traditions in general is a factor that is difficult to discuss in relation to Sicily and its surrounding islands alone: the factors that can lead to changes are particularly focused by the island's central Mediterranean location and its subsequent role in interaction, trade, and movement of peoples throughout history. It is entirely possible that in more secluded parts of the world building traditions were more static or less open to the wider contextual variations and developments that led to large-scale changes in the ways its inhabitants built and lived. As it is clear that the longevity of a building tradition is directly related to its wider situation and context, it is useful to discuss the different types of change that can occur and the dynamics within these.

Firstly, it is important to recognise that different types of changes take place at different levels within the wider building tradition and at different paces. It is possible that these can be linked to the different features that make up the house and whether they are more strongly associated with more static or changeable parameters. The divide between the two can be seen to lie along that between the physical and socio-cultural parameters — although this should not be viewed as a strict divide, but rather a scale of susceptibility to change (Fig. 8.1).

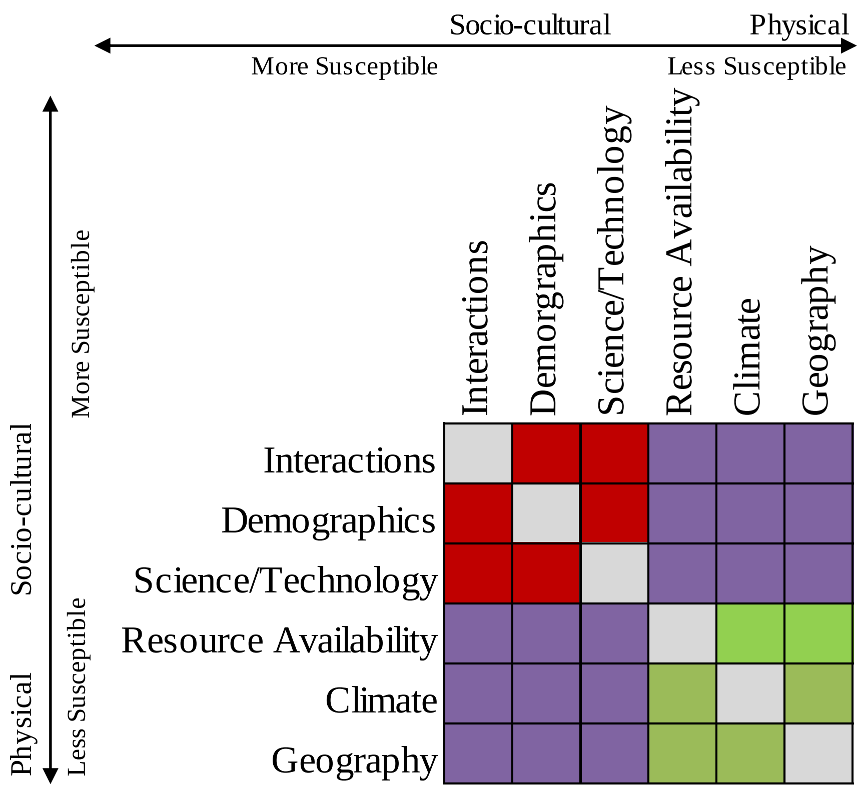


Fig. 8.1 Simplified diagram showing the relationships between factors causing change in building traditions. Susceptibility to change is a sliding scale; some factors under certain circumstances will become more or less susceptible.

The physical parameters are those generally beyond human influence: resource availability, climate, geography. Changes in climate and prevailing weather conditions (such as increasing/decreasing precipitation levels), geography (for example the silting up and shifting of rivers), and ecology (typically as a result of either of the former) can have far ranging effects on many areas of human life, from farming and diet to ideology and worldview. Environmental changes are often long-term and slow paced; this means that tracing potential responses to such changes in domestic architecture can be difficult. That ancient houses excavated across the world from many different time periods are seen to be responding to the surrounding physical parameters demonstrates that environmental changes are incorporated into new forms of domestic architecture, but as these changes typically take place over many generations the responses are likewise slow to take full form and become subsumed in building traditions. Faster moving environmental changes, including extensive droughts, the shifting of river courses, and volcanic eruptions and seismic events, more often prompt the re-location of a settlement, with the houses of the old one simply being abandoned. For example, the port settlements of Herakleion and Naukratis on the Canopic branch of the Nile fell into decline and were eventually abandoned as this branch of the river shifted rendering these sites no longer economically viable (Stanley et al. 2004), while the settlement of Akrotiri on the island of Santorini was buried during a volcanic eruption and remained abandoned for centuries (Forsyth 1997; Palyvou 2005).

Socio-cultural factors and changes within them are strongly tied up in human experiences and interactions with one another and the surrounding world, and so have the potential to evolve at a faster pace. Within the Sicilian houses studied here it can be seen that the same material resources (stone, wood, clay) are selected throughout the periods studied, with only the way in which they are used changing. This change only clearly, and definitively, occurs with the shift to the rectilinear form, a shift that has been seen to have been prompted by the desire to subdivide domestic space and incorporate longevity and adaptability. This is first witnessed in early multiple-spaced houses such as Hut 2 at Punta Milazzese and Hut 31 at Morgantina (both built in the same manner — stone foundations/socle with a wattle-and-daub superstructure — as the single-spaced dwellings that dominated the Copper and Bronze Ages), and then consolidated in the stone-built houses of the Archaic period. Architectural features and elements of the house more closely associated with the physical parameters, such as the choice of construction materials, can be argued to be less susceptible to change than features such as layout and spatial organisation that have been shown to be more strongly influenced by socio-cultural factors. 'In the absence of strong social or cultural impetuses, architectural forms can persist over long time spans' (Doonan 2001, 162).

If we return to Table 8.1 and compare the two principal building traditions seen on Sicily and the degree of variation found within them, it can be seen that there is a greater range of material usage and layout within the later tradition. This does not mean that the building tradition is unstable or only loosely followed across the island, but rather is an example of certain architectural developments as part of the emergence of a new building tradition opening up further building possibilities within the parameters of the tradition. In Sicily this can be seen in the adoption of the rectilinear form of building. Its initial development was linked to the form's ability to be easily subdivided and innate property of tessellation that made it a particularly suitable building solution for a society that was becoming increasingly stratified, concerned with privacy, and living in denser settlements. But this architectural development also created the opportunity for easy expansion, adaptation and alteration, and modular construction, all of which create opportunities for the rapid development of further features associated with this form of building: the various combinations of courtyard, colonnade, peristyle, and surrounding room arrangements found being an example. While the incorporation, or not, of these features may outwardly appear to differentiate houses, they are, however, all still constructed within the same overriding building tradition with the same socio-cultural understanding of domestic architecture, ways of organising space, and following the same ways of building and living.

Identity and domestic architecture

The question of identity and *habitus* formation and consolidation identified in Chapter Two has arisen throughout this discussion of Sicilian building traditions and can be seen working at several levels in association with domestic architecture. Firstly, within the house and the household itself. This is identity at the level of the individual, influenced by and affecting the relationships between, and behaviours and role of each member of the household. Individuals may be associated with or carry out particular domestic activities such as food preparation and craft production — if these are physically fixed within the domestic space their role and identity will be in part formed and enforced through this activity-based spatial association. This form of identity formation was encountered in houses such as Hut 31 at Early Iron Age Morgantina where an area featured cooking stands, an oven, hearth, and ceramics related to food preparation and consumption, and the service areas with wells, storage and food preparation ceramics in contrast to the better decorated rooms making up the different areas of houses including the Hellenistic House of the Official at Morgantina and Peristyle House 1 at Monte Iato. These architectural features linked those frequently based or working in these spaces to the relative identity afforded by the *habitus* and practices created by the activities carried out in them.

Likewise it is possible that particular areas or rooms within the house had certain statuses, roles, or positions linked to them due to the physical nature of the space. For example, the area close to a hearth would have been warmer and therefore more desirable in colder climes, while a raised dais or platform would have lifted the height of anyone on it above the rest of the occupants of the space. Such architectural features and uses of space create oppositions within the house, and hence opportunities for inequality and identity demarcation, and have been identified in Bourdieu’s Kabyle house (1972, 89–91), the houses of Skara Brae (Parker Pearson and Richards 1994c, 41–47), and the domestic complexes excavated at Amarna in Egypt (Spence 2015, 88–89). In houses of the rounded tradition on Sicily this is most likely to have occurred in relation to hearths and can be argued to have been expanded upon at Neolithic Casa Solima and the Early Iron Age Huts 29 and 31 at Morgantina that included two hearths potentially with different purposes (cooking versus a heat/light providing focal point) and so *habitus* and identity associations. In Hut 31 the change in floor level could have also contributed to *habitus* spatial divisions and signposts. In houses with multiple internal spaces identity can be shaped through the utilisation and control of visual, aural, and physical access, movement, and interactions. In the highly subdivided, rectilinear, examples of Sicilian housing layers of access create hierarchies of discontinuity within the domestic space and the opportunity for the physical division of people and activities and so the enforcing of inequalities. Stricter control of who was allowed access where and when added another layer of *habitus* and identity differentiation to those produced through activity and status based spatial associations and is reflective of a more hierarchical social structure.

Above this level of identity is that of the household as a unit: although there may be a strict hierarchy within the household, this does not preclude domestic units from developing a sense of community in relation to persons who are not members of the household. The exact form this communal identity and relationship takes is dependent upon the relative statuses of the individuals involved, the nature of the society they are a part of, and so the various relationships formed between those belonging to the household and those not. And this can vary from individual to individual dependent on their specific relationship within and to the household in question. Through regular interactions and the carrying out of activities and tasks within the domestic sphere, social ties are built up between the members of a household that are rooted in the physical domestic space. On Sicily the fact that houses of the rounded tradition typically only contained one or two internal spaces meant it was possible for the inhabitants to be continuously aware of what others in the space were doing and regularly interact and bond. The more subdivided houses of the rectilinear tradition did not prevent the gathering of the household; it was possible to assemble in one space if necessary, while the presence of nodes within the access maps of these buildings indicates not only the control of movement, but also the enabling of interactions; it is likely that inhabitants would have regularly encountered one another in node spaces such as courtyards as they go about their day, thus building up social ties.

These ties and their grounding in the house are further heightened by the contrast constructed between them and others from outside the household. The distinction between the household and a guest, visitor, or stranger, can be made architecturally through many of the same devices utilised in the construction of individual identity. The control or restriction of a guest's access and movement within the house, and where they are placed in relation to its inhabitants and architectural features such as the hearth, can not only separate certain individuals and areas of the building, thereby demonstrating that they are not a member of the household and their relative status to it, but also allow for the creation of a particular view, both literally and metaphorically, of the house and household they are visiting. The latter is linked to the idea of display and is most clearly seen in the larger Sicilian houses of the Hellenistic period in their use of decoration to differentiate spaces to which guests have access and those more closely reserved for the household. Access can be further employed in the role of distinction through the permeability of the exterior of the house: the ease of access into the building, whether or not it is open, there is a transitional area (such as a viewable garden or enclosure), or more strictly separated from the rest of the settlement (e.g. the blank exterior wall presented by most Sicilian houses from the Archaic period onwards, with blocking walls, halls, off-set doorways, and dog-legged corridors further removing the interior of the house from the outside world) will affect the form of the relationship taken between guest and host and so the relative identities of each. In the case of the first two, both of which are found from the Neolithic to the Early Iron Age in the settlements of Sicily, the distinction is smaller with regular interactions likely to occur between the household and outsiders in the external areas of the domestic unit, reflecting the more fluid, egalitarian nature of society at this time. In the latter there is a much greater degree of separation between household and outsiders, the structure being visually and physically divided from the rest of the settlement, despite the generally close proximity of houses to one another, thus promoting a closely knit household identity in comparison to non-members.

This level of identity can be seen to directly lead into the wider place of the house, and household, within the settlement and society. By conforming to local building traditions, or not, households create and state their place, or not, within the wider socio-cultural identity of the settlement and society as a whole. But as has been seen, particularly in later settlements of the Classical and Hellenistic periods, there is still variation in the exact form taken by individual houses. Architectural factors such as size, materials, decoration, and quality of construction and state of repair can be utilised and seen to indicate status, thus creating another layer of identity and role in relation to other houses and households. For example, in Classical Naxos different sized houses are found within the same *insula*, and at Hellenistic Morgantina and Solunto size, decoration, and the incorporation and form of architectural features such as peristyles, and activity specific features including workshops, cisterns, and *pithoi* varies widely between houses. Those passing and visiting the house will be able to read and deduce elements of the inhabitant’s identity from the building they live in and compare and contrast it with their own. Similarly the positioning of the house within the settlement can also confer and reflect identity: particular regions of a settlement may be associated with specific kinship groups (it is possible this was the case at settlements such as Manfria (Fig. 4.11) and Punta Milazzese (Fig. 4.12) where loosely grouped houses are seen), the wealthy, or poor, those involved in a particular type of craft production or work (the District of the Craftsmen at Solunto has been so named for its extensive evidence for the presence of shops and workshops in the form of bread ovens, tanks, and benches), while some, such as the Jewish ghettos of many 18th and 19th century European cities, become linked to specific cultural, ethnic, or religious groups. By being placed within such areas of a settlement the house, and so its household, can gain this element of identity.

It has been possible to build up a greater understanding of the relationship and interactions between the physical and socio-cultural parameters, building and living, within the construction of the domestic architecture of ancient Sicily. These relationships and interactions are dialectic and dynamic with factors from topography and resource availability, to social structure, identity formation, and household composition all influencing the construction of the domestic space, from the choice of building materials and methods, to shape, size, and spatial organisation. While each house and the way in which it is lived in is unique, shared cultural experiences, understandings, and interactions with existing built environments encourages the development of building traditions that bring together solutions to the physical and socio-cultural parameters, and in turn help to shape future acts of building that will be understandable within the wider built and socio-cultural landscape. As neither the physical world, nor the socio-cultural environment in which we live are static, both the physical and socio-cultural parameters themselves evolve and change, leading to variations and changes in houses and the building traditions that shape them.

Chapter Nine

Conclusion

By utilising the archaeological remains of houses from across Sicily and its surrounding islands to extract information on materials and construction methods, shape, size, and layout, it has been possible to determine many of the physical and socio-cultural parameters within which they were built. Through this, the relationship between the available materials, technologies, and construction techniques utilised by the builders, and how these influenced form, size, and plan was explored. An examination of layout and spatial organisation allowed the analysis of how the degree of subdivision and the locating of individual spaces within the domestic building evolved alongside shape and size, both of the whole house and individual spaces, and enabled this information to be further linked to construction materials and methods, and practical concerns such as lighting. It was also possible to take a closer look at the role played by factors such as privacy, identity formation, social structure, and status in the shaping of the house, in particular its spatial organisation. These analyses allowed a detailed picture to be created of how physical and socio-cultural parameters interacted in the shaping of Sicilian domestic architecture, how they came together in building traditions, and the nature of the forces behind many of the changes seen in these houses and building traditions. In short, they enabled the development of an understanding of the relationship between building and living and through this how ancient houses came to be built the way they were.

Towards an Understanding of the Interactions between Physical and Socio-Cultural Parameters in House Construction

The relationships and interactions between the various parameters involved in the shaping of domestic architecture are dialectic, a continually adjusting feedback loop of influences shaping our construction of, and relationship with, the built environment. This study has shown that each element of a house, its location, size, shape, construction, layout and spatial organisation, the incorporation of particular built-in features, is a physical solution to the surrounding building parameters. The interaction and integration of these parameters cannot be expressed theoretically in a linear manner without losing the dialectic quality of the subconscious elements of house creation. Therefore, even when discussing a single architectural feature, it is often necessary to refer back and forth between various influencing parameters. It is necessary then to consider the shaping of houses as a series of concurrent exchanges, both consciously and subconsciously, within the design and construction process through and in relation to the wider environment — the physical and social world in which the builders and inhabitants of houses live — that come together to form the architectural features and wider built landscape of the house. These physical solutions represent a compromise finely balanced between all of the possible building solutions to each of the influencing parameters. While the parameters are a combination of physical and socio-cultural factors, it is important to remember that the building solutions applied in any instance of house construction are themselves a product of human intervention and interaction with them. Such an understanding of the shaping of domestic architecture allows for both the similarities seen in house construction across wide temporal and geographical spaces, and the fact that no single house is ever exactly the same.

The physical parameters act throughout the whole construction process, from the physical capabilities of the available materials, through structural restrictions and the form of the building, to the wider climatic conditions the building has to withstand and provide shelter from, and so in the combination of the choice of materials, the way they are used, and the incorporation of any climate specific architectural features into the fabric of the building. These are ever-present and long-term parameters whose incorporation into the building becomes entangled in building tradition, the understanding and expectation of a house by those who build and live in it. Playing a typically more dynamic and changeable role are the socio-cultural parameters. These, in conjunction with the physical parameters, shape the layout and form of the building, how its spaces are organised and relate to one another, and are closely tied to identity formation and re-enforcement, and social values and concerns. Variations in these parameters, and so the buildings they shape, occur at several levels: within a settlement or society (reflective of social structure, identity, and household variation with each having its own particular set of socio-cultural parameters); short-term variations in household demographics and status that can cause alterations to existing buildings or the necessity to construct a new house; and over time as societies, identities, and cultural traditions themselves evolve and change thereby leading to changes in building traditions.

That we live in a fluid, dynamic, and changeable world, both physically (biologically, geologically, and climatically) and directly in relation to human activities, means that the evolution, development, and change of the socio-cultural and physical parameters within which houses are built, and indeed the wider built environment, is inevitable. Changes in domestic architecture result from human interactions with and responses to these changing parameters, with adjustments in the factors involved in cultural tradition and identity formation and reinforcement, and the wider physical environment all dialectically feeding back into the process of building and living. Which changes survive and become a part of the reworked building tradition can be compared to biological evolution: mutations are continually occurring in the DNA of all living creatures, those that are not useful or indeed counterproductive to the organism's survival and reproduction tend to die out relatively quickly, but those that help the organism to further adapt to its environment and encourage survival and reproduction are passed on, in some cases leading to the evolution of a creature that, although traceably linked to those that came before it and those descended from the same organisms, is its own distinct entity — a new species. So the alterations in domestic architecture that allow the house's inhabitants to successfully create and reproduce identity and *habitus* suitable to the changing wider socio-cultural context, and provide a physically suitable and as comfortable a living environment as possible, will be incorporated into the next generation of houses and potentially the development of new distinct building traditions.

This suggests that the variation seen in building traditions at any one time across the world is inevitable: different environmental regions, from deserts to marshes and deltas, coastal plateaus to alpine peaks, humid rainforest to frozen tundra, with all their variations in climate, topography, and resource availability, added to the different courses human history and cultural tradition has taken across these, means that the parameters shaping building traditions in any one place at any one time will be different from those in any other place. Variations in building parameters mean a high likelihood of variations in domestic architecture. Likewise, similarities in building parameters can lead to similarities in construction and form. Thus throughout the archaeological record are found a wide range of house forms, from the courtyard houses of the Mediterranean to the long houses of Northern Europe, which in many cases share a number of architectural features with many other examples of domestic buildings. These dialectic and shifting parameters are all a part of the relationship between building and living, one cannot fully understand it without considering both the physical and socio-cultural aspects, they are entwined in the houses we build and live in through our creation of building traditions.

Building Higher

Throughout this thesis I have sought to unpick the archaeological remains of domestic architecture in order to reveal the physical and socio-cultural parameters that shaped these buildings, and the nature of the interactions entailed. This was approached through the utilisation of structural analyses, numerical investigations and graphical analyses, finds distribution, and view-shed and access analysis, alongside an in-depth discussion and exploration of the socio-cultural factors involved and revealed in these. I believe this multi-facetted approach enabled a more holistic investigation and fuller image of houses and building traditions, making it possible to recreate and envision some of the *habitus* entangled in the built environment. If the hope of the reader was that a ‘one analysis fits all’ approach towards the study of domestic architecture would be provided, then this thesis has sadly failed to deliver. But that was never the point, the hope was rather to draw together various different approaches to the unpicking of domestic buildings so as to be able to present a wider view of the way houses come into being, to show how it is necessary to consider a range of factors, from climate, topography, and material properties to cosmologies and understandings of privacy, identity formation, and social structure, before a more complete picture of a house can be gained. While I found access analysis, the creation of graphs comparing data such as total house size verses number of spaces, and shaded plans (both for light-depth and inter-visibility) particularly useful for the exploration of layout and spatial organisation, especially in relation to the later houses studied, others may find that finds distribution and the mapping of activity areas is more helpful depending on the exact nature of the houses and archaeological remains being investigated — this was certainly a useful exercise for the close reading of Hut 31 at Morgantina where access analysis would have missed the further division of Room A by posts, hearths, and changes in floor height.

By covering a large time scale, some five thousand years from the Neolithic to the end of the Hellenistic period, it was possible to explore not only a range of house forms and constructions, but to also investigate the developments that occurred in building traditions during this time, the nature of the changes, and how they fitted into the wider socio-cultural context. However, such a large time period also meant that while some close analysis of individual houses was carried out, many observations, despite being based on data from specific sites, are to a certain extent generalised. But I do not feel that this is hugely detrimental to the overall study, the aim of which was to gain a better understanding of the relationship between building and living. By revealing the nature of the interactions at play in the shaping of domestic spaces, how both physical and socio-cultural factors influence the form taken by a house, and how through their encountering, re-working, and reproduction of them the inhabitants and builders create dynamic building traditions, this has been achieved. It does mean, however, that this study falls victim to an age old problem in archaeology: the uneven distribution of sites raised in Chapter Three. While this had little impact on the conclusions drawn, the nature of the archaeological record with its greater quantity of well preserved houses dating to the later periods has resulted in a bias in the level of analysis carried out, particularly in relation to spatial organisation, towards the Archaic, Classical, and Hellenistic periods. Only a handful of sites, (Early Iron Age Morgantina, Early Bronze Age La Muculufa, Copper Age Casa Solima) provided similarly well preserved, excavated, and published houses from the earlier periods. Many excavated Archaic and later houses come from urban settlements: while the nature of the house shaping process should be no different for rural settlements, it would have been interesting to compare and contrast examples of such habitations with those from the larger sites included in the study to gain a fuller picture of domestic architecture across the range of Sicilian settlements and determining the extent to which the differing parameters entailed by a more rural location caused differences in building construction and form. Hopefully these problems will lessen with future excavation and research.

So where to now? It would be very interesting to take the understanding of domestic architecture developed here into a much closer analysis and study of single settlements. Such a study would look at individual houses and unpick their specific building parameters through the examination of construction materials and methods, form, layout and spatial organisation as carried out in this thesis. In addition could be undertaken a more in-depth analysis of further house and site specific environmental factors. These would include position in and relation to the rest of the settlement, topography, and climate and prevailing weather conditions (wind direction, average monthly precipitation and the form this takes, seasonality, and temperature ranges). It should also be possible to investigate in more detail the sources of construction materials — were they obtained locally or brought from further afield? When combined with understandings of construction techniques and timescales a taskscape, such as that created by Fitzjohn for some of the buildings at Megara Hyblaea (2013), can be pieced together for the erection of the house and architectural energetics considered in more detail.

Another direction would be to begin looking at wider trends in certain aspects of domestic architecture. I found the development of the courtyard house in Sicily and the implications entailed in the physical accommodation of this space and the socio-cultural reasoning and impact of its incorporation into the fabric of the building, particularly fascinating. Many examples of courtyard houses have been brought to light during excavations across the Mediterranean dating to the Archaic, Classical, and Hellenistic periods. It would be beneficial to our wider understanding of socio-cultural and settlement developments and trends in domestic architecture and building traditions throughout these periods to compare and contrast how variations and similarities in the surrounding parameters of these particular structures have influenced the development of this house form. Such an investigation may also take us a step closer to further unpicking the wider changes taking place and explain in more detail why the courtyard house developed concurrently at many sites across the Mediterranean region, a question I was only able to touch upon here. Similarly, many Sicilian settlements constructed on hill sites utilised terraces as a way of creating a level area to build upon. It would be interesting to take a look at various examples, both across the island and the wider Mediterranean, and beyond, to determine what techniques and materials were utilised and why at different sites and in different periods, how approaches and methods changed over time, and how these were a suitable response to the local topography, geology, and climate. Close analyses, and even experimental archaeology, could also be carried out concerning the placement and use of hearths within the domestic space, their heating capacity, and potential links to physical parameters such as thermal comfort and lighting, and socio-cultural issues of status, bonding, and cosmology. In doing so it should be possible to gain a greater understanding of these particular architectural features and their place within the building process and structure of the house.

It is hoped that this thesis will hold significance for others undertaking the investigation of domestic architecture beyond the immediate scope of the archaeology involved. Although the gap between the disciplines is reducing, there is still a dichotomy between the work and approaches carried out by Classical archaeologists and those focusing upon earlier periods of history. I felt that by including both areas in this study the understanding of the houses from each was enriched and allowed for the discussion of much longer term trends. This is clear in the move towards urbanism that could be seen to be already happening in Sicily in the densely occupied fortified settlement of Faraglioni and the route-ways between the enclosures of Thapsos, before the arrival of the Greeks in the Early Iron Age, which then added another layer of interactions, adjustments, and re-workings of identity and the domestic landscape that would ultimately lead to the development of the rectilinear domestic building tradition. It is hoped that by successfully examining houses from both pre-historic and historic settlements this thesis may encourage further discussion of such longer-term trends and developments, and better understandings of the wider contexts within which we as archaeologists work.

Moving outside of the Mediterranean and its unique archaeology and history of excavation, the significance of this thesis comes in the form of the model set out for the interaction of the influencing parameters within the construction of houses, the understanding of how they shape domestic architecture, and the theories developed concerning building tradition and identity formation, and how these develop and change. These can be applied to any examples of domestic architecture — they do not rely on a pre-existing knowledge of specifics regarding socio-cultural context, but instead build up an understanding of the socio-cultural factors and their interactions with the physical parameters from the archaeological material; the buildings themselves. The understanding of building traditions as the integrated responses to physical and socio-cultural parameters, and how these evolve and develop is particularly useful when examining periods characterised by dynamism and change and so transitions between building traditions. Additional information from texts and iconography, ethnographical parallels, and anthropological investigations can be used to develop a framework for interpreting this where such sources are available. It would be incredibly interesting to see investigations of different ways of building and living.

As this study has drawn upon architectural sources and information, taking influence from the scientific approaches of investigations of responses to climatic conditions in vernacular architecture, it is also hoped that the holistic approach to, and understanding of, such buildings developed here will be of use to these investigations. By taking into account not only the specific architectural features relevant to climate control, but also how it is built, the materials used, and its place within the wider structure, both physically and socio-culturally, it should be possible to not only extract the elements of the house that make them suitable to their surrounding environment, but also what makes them work as a part of the house as a whole. With this information available such 'sustainable' building solutions can be utilised and incorporated into modern housing with a greater understanding of the wider impact they may have not only on the internal physical environment, but also the socio-cultural landscape essential to the household's living-in requirements. It is necessary to maintain the relationship between building and living for houses to continue to be understandable, comfortable, and on a level with our *habitus*, even as this changes and evolves.

The relationship between building and living can be argued to be at the heart of the house, the interactions between the surrounding physical and socio-cultural parameters shaping the form it takes and the ways in which it is used and inhabited. By looking at houses from this point of view it has been possible to bring together structural knowledge and cultural understandings, architectural details and designs, and notions of identity and social structure, thereby enabling us to understand houses not only as providers of shelter, or theatres for human interactions and activities, but as an active and dynamic form of material culture, a social technology, and a wider reflection of our relationships with both the physical and socio-cultural landscapes. This view offers a starting point for a wider and more detailed exploration of houses across the world, an exploration that promises to provide great insight into the lives and practices of those who inhabit them, their relationship with the built environment, and the entanglement of physical and socio-cultural interwoven into it.

Appendix II

House Data

Table 1 ‘Houses’ Spreadsheet

House Name/No.	Site	Date	Location/Situation Within Site	Form	Orientation - absolute	Orientation - relative	Total Size	No. of Internal Spaces	Materials - Walls
Mid. Neolithic Hut	Piano Vento	Mid. Neolithic	Gently sloping hillock 192m asl. Closely spaced.	Circular.			c.2.50-3.00m Ø	1	Un-worked stone. Daub.
Neolithic Hut	Mandria	Mid. Neolithic	Gently sloping hill top. Fairly closely spaced.	Apsidal.			c.20.00x12.00m Possibly c.10.00x11.50m	2	Stone.
Neolithic Hut	Salina	End 5th millennium BC	Rinicedda plataeu, c.40m asl.	Oval.			c.3.50x2.50m	1	Volcanic tufa.
General	Salina	Early Copper Age	Serro Brigadier ridge, c.50-55m asl.	Oval.					Volcanic tufa. Stone.
General	Piano Vento	Copper Age	Gently sloping hillock 192m asl. Closely spaced.	Circular.			c.2.00-2.50m Ø	1	
Rinollo Hut 1	Rinollo Hill	Copper Age	Within an enclosure along with Hut 2.	Oval with enclosure.			c.6.80m Ø Enclosure c.33.60x27.60m	1	Timber. Daub.
Rinollo Hut 2	Rinollo Hill	Copper Age	Within an enclosure along with Hut 1.	Oval with enclosure.			c.7.40m Ø Enclosure c.33.60x27.60m	1	Timber. Daub.
Casa Sollima Hut	Casa Sollima	4th/3rd millennium BC	Head of the Troina valley on a gently sloping plateau c.650m asl.	Oval with enclosure?			c.10.50x6.00m. Enclosure c.13.00x10.00m	1	Un-worked stone rubble. Wattle-and-daub.
Hut 1	Tornambé	Late Copper Age/Early Bronze Age	One of a number of structures occupying a wide saddle between two rocky ridges. Connected by a thick wall to a smaller circular structure measuring c.4.50m Ø.	Circular.		Towards the valley.	c.8.00m Ø	1 or 2.	Un-worked limestone. Wattle-and-daub

Materials - Floors	Materials - Roof	Construction - Walls	Construction - Floors	Construction - Roof	Hearth	Storage	Other Built-In Features	Other Finds
Plaster. Pebbles.	Thatch?	Daub with stones in the packing.	Fire-hardened plaster and pebbles.			5 clay-lined pits.		
Plaster. Earth.		c.1.30m wide.	Beaten earth.	Post-holes likely.	Rectangular end.	Likely in the apsidal end.	Alcoves and domestic features-rectangular end.	Pottery.
Volcanic tufa.		Cut down into the volcanic rock to a depth of c.0.80m.	Cut into the volcanic rock to a depth of c.0.80m.					Obsidian. Pottery. Grinding stones.
Volcanic tufa.		Cut into the volcanic rock to a depth of c.0.40m. Perimeter of stones surrounding upper edge of pit.	Cut into the volcanic rock to a depth of c.0.40m.					
	Timber.			Central post-holes.				
Plaster.								
Plaster.								
	Thatch? Timber.	Rubble foundations to c.1.50m with posts and a wattle-and-daub superstructure. c.0.70-1.70m wide?		Post-holes, posts also likely in walls. Pitched - likely gabled.	2 1^{st}: Centre of N wall, possibly external: c.0.80m Ø 2^{nd}: SE corner.	5 pits, 2 near N hearth, 3 in main area alongside walls.		Pottery associated with milk and cheese processing. Archaeobotanical evidence for barley, wheat, and legumes.
Earth.	Timber. Thatch?	Double row of un-worked limestone blocks with small stone fill. Stone laced - 2 post-holes. Wattle-and-daub superstructure. c.1.5m wide. c.1.10-1.20m high.	Beaten earth.	Post-holes within walls and at least 3 inside the structure with Ø of c.0.50m. Height likely c.5.80m.	2 1st - in front of bench. 2nd - centre of the hut.		Possible dividing wall near entrance. Stone bench beginning at partition wall and leaning against outside wall.	

House Name/No.	Site	Date	Location/Situation Within Site	Form	Orientation - absolute	Orientation - relative	Total Size	No. of Internal Spaces	Materials - Walls
Hut 1	Case Bastione	Early Bronze Age	Plateau along the Morello Valley.	Oval.			c.12.00x4.00m		Stone. Wattle-and-daub.
Hut on Monte Racello	Monte Racello	Early Bronze Age		Circular?			c.3.00m Ø	1	Roughly shaped stone.
General	Mursia, Pantelleria	Early Bronze Age/Mid. Bronze Age	Natural terrace above W shore.	Elliptical/Extended circle.		Generally parallel to the terrace.	c.5.00-9.00m in length.	1-2.	Volcanic stone. Clay.
Hut D10	Mursia, Pantelleria	Early Bronze Age	Zone D. Natural terrace above W shore.	Extended circle.	NE-SW.	Close to further hut structures.	c.13.00x5.40m	1	Roughly shaped stone. Clay.
General	Lipari	Early Bronze Age	Acropolis, areas I-III.	Oval.	Mixed.		c.2.50-4.50m Ø	1	Roughly shaped stone. Clay.
General	Santi Croci	Early Bronze Age	Spur of the Sante Croci hill.	Elliptical.			c.6.00-7.50m Ø	1	
Hut 2	Santi Croci	Early Bronze Age	Spur of the Sante Croci hill.	Elliptical.			c.7.50x7.00m	1	
Hut 3	Santi Croci	Early Bronze Age	Spur of the Sante Croci hill.	Elliptical.			c.7.50x6.00m	1	
Hut 1	La Muculufa	Early Bronze Age/End 3rd millennium BC	Lower terrace (level area filled in behind a terrace wall formed of an outcrop of bedrock) of the rocky SE slope of the La Muculufa crest, F10-F60. c.300m asl.			Terraces roughly at right-angles to the slope.		1	Gravel. Wattle-and-daub.

Materials - Floors	**Materials - Roof**	**Construction - Walls**	**Construction - Floors**	**Construction - Roof**	**Hearth**	**Storage**	**Other Built-In Features**	**Other Finds**
Clay. Stone.	Timber. Thatch?	Stone foundations with a wattle-and-daub superstructure.	Sunken, cut 0.50-0.60m into the ground, levelled, and paved.	Post-holes arranged around the perimeter of the wall (possibly within the wall?).	2 Clay base.		Oven - western apse.	Pottery. Loom weights.
		Stone foundations, single course deep?					Low bench.	
Earth. Stone.	Stone?	Large stones occasionally bonded with clay. Partitions, where present, one stone thick and cemented with clay.	Sunken, cut into the ground and paved. Sometimes on two levels if partition present.	Possibly corbelled.	Terracotta slab. c.0.50m Ø	Globular storage vessels.	Stone cists.	Food preparation ceramics - cups, bowls, jugs. Mortars, grinders, millstones. Obsidian tools and domestic implements. Animal bones.
Earth.		Large stones occasionally bonded with clay.	Sunken, cut into the ground.				Possible low bench.	
		Foundations of roughly shaped stone			Central flagstone (at least one hut). c.1.00m Ø			
					Yes.	Storage vessels.		Pottery. Grinding stones. Flint and bone tools. Spindle-whorls. Terracotta horns.
Gravel. Terracotta.		Gravel foundations, wattle-and-daub superstructure.	Gravel foundations over which was laid a clay surface.					

House Name/No.	Site	Date	Location/Situation Within Site	Form	Orientation - absolute	Orientation - relative	Total Size	No. of Internal Spaces	Materials - Walls
Hut 2	La Muculufa	Early Bronze Age/End 3rd millennium BC	Upper terrace of the rocky SE slope of the La Muculufa crest, F80. c.300m asl.	Circular.		Terraces roughly at right-angles to the slope. Parallel to terrace.	c.8.00m Ø	1	Stone. Gypsum. Wattle-and-daub.
Hut 3 Lower	La Muculufa	Early Bronze Age/End 3rd millennium BC	Upper terrace of the rocky SE slope of the La Muculufa crest, NE of Hut 2. c.300m asl. Level area partially dug into the hillside.	Extended circle.		Terraces roughly at right-angles to the slope. Parallel to terrace.	c.6.60x4.60m	1	Stone. Wattle-and-daub.
Hut 3 Upper	La Muculufa	Early Bronze Age/End 3rd millennium BC	Upper terrace of the rocky SE slope of the La Muculufa crest, NE of Hut 2. c.300m asl. Above and likely following the plan of Hut 3 Lower.	Extended circle.		Terraces roughly at right-angles to the slope.		1	Stone. Wattle-and-daub.

Materials - Floors	**Materials - Roof**	**Construction - Walls**	**Construction - Floors**	**Construction - Roof**	**Hearth**	**Storage**	**Other Built-In Features**	**Other Finds**
Earth. Clay.	Timber.	Stone socle packed with gypsum. Foundations possibly make use of the remains of Hut 4 along one side. Wattle-and-daub superstructure. c.0.30m wide.	Sunken, cut into the ground. Clay surface on a stone *vespaion*.	Post-hole, c.0.30m Ø, 0.24m deep. N side of hut.		4 *pithoi*. 19 jars.	Low bench - along the inside of wall forming the internal space into an ellipse. Constructed from earth with bits of gypsum sprinkled on the surface, 0.07m thick terracotta interior edge. c.0.16m high and up to 0.85m wide. Terracotta element – centre: 0.23m Ø, reaching 0.085m deep - base of ceramic vessel? Post pad?	Ceramics - c.150 separate vessels including incised ware, at least 38 chalice vases and 20 pitchers, bowls, cups, *corni fittili*. Bone awls and flint tools. Spindle-whorls. Shell necklace.
Terracotta.	Timber.	Stone foundations and socle.		2 post-holes, c.0.13m and 0.08-0.10m Ø, c.0.15m deep define the radii of the apses and the roof.				Rounded cobbles (grinding stones?) - exterior of socle. Ceramics incl. half a dozen pedestal bowls, 2-3 dippers, 2-3 jugs/pitchers, cooking pot. *Corni fittili* - exterior of socle. Bone/stone tools. Brazier - exterior of socle.
		c.0.70m wide.						Ceramics. Bone/stone tools. Spindle-whorls. Grinding stone.

House Name/No.	Site	Date	Location/Situation Within Site	Form	Orientation - absolute	Orientation - relative	Total Size	No. of Internal Spaces	Materials - Walls
Hut 4	La Muculufa	Early Bronze Age/End 3rd millennium BC. Slightly earlier than other upper terrace huts.	Upper terrace of the rocky SE slope of the La Muculufa crest, directly E and slightly overlapped by Hut 2. F71. c.300m asl.			Terraces roughly at right-angles to the slope.	At least c.3.00x2.40m	1	Stone.
General	Piano del Porto, Filicudi	Early Bronze Age	Coastal Plain.	Oval, some with small enclosures.					Un-worked local beach stones. Clay.
General	Branco Grande	Early Bronze Age	In rows on a low spur of a sandy shore. Terraces with walls to help prevent erosion.	Elliptical.			c.3.70-4.20m Ø	1	Roughly shaped stone. Wattle-and-daub.
General	Manfria	Early Bronze Age	2 groups of huts.	Elliptical.			c.3.75-5.00m Ø	1	Wattle-and-daub.
General	Capo Graziano, Filicudi	End Early Bronze Age	Shelf and terraces on the W slope of Montagnola. Open outdoor space 17x7m paved with potsherds and small stones	Oval.	Mixed.	Huts closely spaced.	c.5.00-6.00mx3.50m	1	Roughly shaped and un-worked stone.
Apsidal Hut	Mursia, Pantelleria	Mid. Bronze Age	Zone A. Natural terrace above W shore.	Apsidal.					
General	Punta Milazzese, Panarea	Mid. Bronze Age	Promontory with a series of three ridges. Most excavated huts on the first.	Oval with annex - more or less rectangular in shape with rounded edges.		Shape of some huts altered to fit in amongst others.	c.4.00-7.00m Ø	1-3.	Roughly shaped stone.

Materials - Floors	**Materials - Roof**	**Construction - Walls**	**Construction - Floors**	**Construction - Roof**	**Hearth**	**Storage**	**Other Built-In Features**	**Other Finds**
Clay/terracotta		Layer of stones serving as foundations. c.0.30m wide.	Clay fired to terracotta (during construction or destruction?).				Circular depression c.0.17m Ø, 0.10m deep - centre.	
					In the larger huts.			Pottery.
		Foundations formed of 2 rows of stones. Wattle-and-daub superstructure.			Yes.			Plain pottery. Flint tools.
Plaster.	Timber.	Wattle-and-daub superstructure.	Sunken, cut into the ground and plastered with a mixture of calcite and sand.	1 central and 4-5 perimeter post-holes.	Outside of the huts.			Some containing ceramics, grinding equipment, and bone.
Earth.		Dry-laid stone blocks obliquely placed. c.0.50m wide.	Sunken, cut into the ground.		Outside of the hut.	Large closed-form vessels.		Plain pottery, cups, bowls. Some imported Mycenaean pottery. Faunal remains.
					Terracotta slab set into floor.		Stone bench.	
		Built up in irregular courses with stones of differing sizes.				Storage wares - annexes.	Thresholds slightly raised compared to the exterior ground level.	Pottery - annexes. Grinding stones/mortars. Mycenaean pottery.

House Name/No.	Site	Date	Location/Situation Within Site	Form	Orientation - absolute	Orientation - relative	Total Size	No. of Internal Spaces	Materials - Walls
Hut 2	Punta Milazzese, Panarea	Mid. Bronze Age	Ridge on a promontory.	Oval with annex - more or less rectangular in shape with rounded edges.			c.6.50x6.30m	3	Roughly shaped stone.
Hut 1	Madre Chiesa di Gaffe	Mid. Bronze Age	Level ground cut into the hillside. In an enclosure with 2 further structures.	Circular.			c.4.80m Ø	1	Un-worked stone. Wattle-and-daub.
Monte Castellazzo Hut	Monte Castellazzo	Mid. Bronze Age	Belice river valley.	Circular.				1	Un-worked stone.
Hut 1	Milazzo	Bronze Age	Between two modern roads.	Extended circle.	Main axis NW-SE. Entrance SW.		c.10.75x4.40m	2 or 3.	Roughly shaped stone.
General	Cannatello	Mid. Bronze Age Phase 1	River plain.	Circular.	Entrance S.		c.8.00m Ø	1	Stone. Clay.
Hut 2	Cannatello	Mid. Bronze Age Phase 1	River plain.	Circular	Entrance S.		c.8.00m Ø	1	
Hut 1	Thapsos	Mid. Bronze Age Phase 1	Area 2, adjacent to a thoroughfare. Gently sloping ground.	Circular.	Entrance SW.	Entrance facing away from thoroughfare.	c.8.25m Ø	1	Roughly shaped stone. Small stones. Plaster.
Hut 4	Thapsos	Mid. Bronze Age Phase 1	Area 2, adjacent to a thoroughfare. Gently sloping ground.	Circular	Entrance SE.		c.7.00m Ø	1	Roughly shaped stone. Small stones. Earth.
General	Thapsos	Mid. Bronze Age Phase 1	Area 1. Gently sloping ground on the W side of the peninsular.	Circular within enclosure. Some with separate rectangular spaces/annexes.	Entrance S.	Often in a corner of the enclosure.	c.6.00-8.00m Ø Enclosure c.350m^2.	1-3.	Roughly shaped stone. Small stones. Plaster.

Materials - Floors	**Materials - Roof**	**Construction - Walls**	**Construction - Floors**	**Construction - Roof**	**Hearth**	**Storage**	**Other Built-In Features**	**Other Finds**
		Built up in irregular courses with stones of differing sizes.				Storage wares - annexes.	Thresholds slightly raised compared to the exterior ground level.	Pottery - annexes. Grinding stones/mortars.
	Timber.	Un-worked stone socle. Wattle-and-daub superstructure. c.0.40m wide.		Post-holes.			Low bench c.0.45m wide of stone and terracotta.	Pottery.
		Stone foundations.			Small stones - centre.		Low bench of stone.	
	Timber.	Stone foundations. Roughly shaped stone with rubble fill. c.0.90m wide.		Two post-holes (c.0.20m and c.0.40m Ø) c.2.00m from each apse end.	Centre towards the N end of the building. c.0.60m Ø	*Pithoi/dollii.*		Pottery, storage and food preparation and consumption. Spindle-whorls.
		Stone walls lined with clay on the interior.						
Plaster.	Thatch? Timber.	Stone blocks fitted with smaller stones. Internal wall coated with plaster. c.0.75m wide.	Covered with a layer of plaster.	Post-holes (c.0.20m Ø) following the line of the wall.	Baked clay and pebbles - centre.	Storage wares.	2 stone plinths.	Pottery.
Earth.	Thatch? Timber.	Roughly shaped stone fitted with smaller stones and a rubble/earth fill. c.0.60m wide.					Low bench, c.0.40m wide.	Pottery.
Plaster.	Thatch? Timber.	Stone blocks fitted with smaller stones. Internal wall coated with plaster. c.0.50-0.60m wide.	Covered with a layer of plaster.		Baked clay and pebbles - centre.	Storage wares.	Low benches, c.0.40m wide.	Pottery, some Mycenaean.

House Name/No.	Site	Date	Location/Situation Within Site	Form	Orientation - absolute	Orientation - relative	Total Size	No. of Internal Spaces	Materials - Walls
General	Cannatello	Mid. Bronze Age Phase 2	River plain.	Rectilinear.					Stone.
General	Thapsos	Mid. Bronze Age Phase 2	Area 2. Gently sloping ground on the W side of the peninsular.	Rectilinear with possible courtyard areas.				Multiple.	Stone.
House 1 (Room 6a)	Faraglioni, Ustica	Mid. Bronze Age, Period 1	W wall under street I.	Apsidal.	E-W.	Parallel to contemporary structures.	c.3.50x6.25m	1	Stone.
General	Faraglioni, Ustica	Mid. Bronze Age, Period 2	Beside the sea cliffs of Ustica's E coast. Huts constructed over 2 terraces grouped around open spaces. Roads.	Circular/oval with rectilinear elements. Enclosures.		Generally aligned and parallel to one another and the streets.		1-2 plus enclosure/ courtyard	Stone. Daub.
House G/C	Faraglioni, Ustica	Mid. Bronze Age, Period 2	Between street I and the fortification wall, adjacent to Houses 7 and F/E/B.	Oval with enclosure/ courtyard.	NE-SW.	Parallel to adjacent houses off street I.	c.4.25x12.25m	1 plus enclosure/ courtyard	Stone. Daub.
House F/E/B	Faraglioni, Ustica	Mid. Bronze Age, Period 2	Between street I and the fortification wall, directly adjoining the S side of House G/C.	Oval with L-shaped enclosure/courtyard.	NE-SW.	Parallel to adjacent houses off street I.	c.3.80x12.60m	2 plus courtyard	Stone. Daub.
House 6 (Rooms 10 and 11)	Faraglioni, Ustica	Mid. Bronze Age, Period 2	At the corner of streets I and H opposite House 7 and adjacent to the fortification wall.	Oval with enclosure/courtyard.	NE-SW.	Aligned parallel and alongside adjacent houses and streets.	c.6.70-5.90x11.90m	1 plus enclosure/ courtyard.	Roughly shaped stone.

Materials - Floors	**Materials - Roof**	**Construction - Walls**	**Construction - Floors**	**Construction - Roof**	**Hearth**	**Storage**	**Other Built-In Features**	**Other Finds**
								Pottery, including Thapsos and LH IIIA and IIIB wares.
Cobble (court)								Pottery.
Earth.	Timber. Thatch.	Un-worked stone placed two courses wide. Coated/sealed with daub. c.0.50m thick.	Beaten earth.	Possibly conical.			Internal bench.	
Earth. Rubble.	Timber. Thatch.	Un-worked stone two courses wide. Coated/sealed with daub. c.0.40-0.50m thick. Thresholds slightly raised compared to the surrounding pavements and streets. Lintels likely made from wood.	Beaten earth surface on top of a rubble fill packed with ceramics, stone, and refuse.	Possibly conical.	Yes in some. Terracotta slab set into the floor.	Storage ceramics.	Low benches/sleeping platforms - single row of stones laid flat along one wall terminating just after turning the corner. Typically protrude c.0.30-0.40m and rise to c.0.30m	Millstones. Ceramics associated with food production and consumption. Stone moulds.
Earth. Rubble.	Timber. Thatch.	Un-worked stone placed two courses wide. Coated/sealed with daub. c.0.40-0.50m thick.	Beaten earth surface on top of a rubble fill packed with ceramics, stone, and refuse.	Possibly conical.			Bench along W wall.	Grindstone - against the S wall.
Earth. Rubble.	Timber. Thatch.	Un-worked stone placed two courses wide. Coated/sealed with daub. c.0.40-0.50m thick.	Beaten earth surface on top of a rubble fill packed with ceramics, stone, and refuse.	Possibly conical.			Bench - W wall of Room B.	Grindstone - against the N wall of Room B.
Earth. Rubble.	Timber. Thatch.	Un-worked stone placed two courses wide. Coated/sealed with daub. c.0.45m thick.	Beaten earth surface on top of a rubble fill packed with ceramics, stone, and refuse.	Possibly conical.	Portable circular slab in the centre of Room 10.		Bench along W wall.	

House Name/No.	Site	Date	Location/Situation Within Site	Form	Orientation - absolute	Orientation - relative	Total Size	No. of Internal Spaces	Materials - Walls
House 7 (Rooms 1 and 8)	Faraglioni, Ustica	Mid. Bronze Age, Period 2	At the corner of streets I and H opposite House 6 and adjacent to the fortification wall.	Oval with enclosure/courtyard.	NE-SW.	Aligned parallel and alongside adjacent houses and streets.	c.3.80-4.70x9.90	1 plus enclosure/ courtyard.	Roughly shaped stone.
House 8 (Rooms 2 and 3)	Faraglioni, Ustica	Mid. Bronze Age, Period 2	Area 3, adjacent to and W of street I and a small paved area.	Quadrangular with rounded corners and apsidal enclosure/courtyard.	Roughly NW-SE.	Parallel to Street I.	c.3.00-3.70x9.00m	1 plus enclosure/ courtyard.	Roughly shaped stone.
General	Lipari	Mid.-Late Bronze Age	Acropolis, areas I-III.	Oval, some with annexes. Larger buildings apsidal?	Mixed.		c.4.00-7.00m Ø	1-2	Roughly shaped stone.
Apsidal Hut	Lipari	Mid.-Late Bronze Age	Acropolis, areas I-III.	Apsidal.	E-W axial alignment?	Entrance to the NE (of E wall?). W half built into the slope.	15.00x7.00m		Roughly shaped stone. Timber.
General	Sabucina	Mid.-Late Bronze Age	Sloping ground below the summit of hill overlooking the Salso river.	Circular, some with semi-circular or rectangular annexes.		With topography.	c.3.50-7.00m Ø	1-2.	Roughly shaped stone. Timber.
General	Portella, Salina	Mid.-Late Bronze Age	In a line along a steep slope overlooking the shore.	Circular.		Set against the slope.	c.4.00m Ø	1	Rock. Roughly shaped stone.

Materials - Floors	**Materials - Roof**	**Construction - Walls**	**Construction - Floors**	**Construction - Roof**	**Hearth**	**Storage**	**Other Built-In Features**	**Other Finds**
Earth. Rubble.	Timber. Thatch.	Un-worked stone placed two courses wide. Coated/sealed with daub. c.0.45m thick.	Beaten earth surface on top of a rubble fill packed with ceramics, stone, and refuse.	Possibly conical.			Bench along W wall.	Grindstone.
Earth. Rubble.	Timber. Thatch.	Un-worked stone placed two courses wide. Coated/sealed with daub. c.0.45m thick. Threshold slightly raised compared to the surrounding pavements and streets.	Beaten earth surface on top of a rubble fill packed with ceramics, stone, and refuse.	Possibly conical.				Grindstone - against the E wall.
		Roughly shaped stone foundations.						
	Timber. Thatch.	Roughly shaped stone in irregular courses with grooves for timber posts.		Supported by timber posts. Likely gabled.				Stone slabs outside the door.
Bedrock.	Thatch? Timber.	Stone walls built against the slope in regular courses. Bedding trenches with post-holes.	Cut into the bedrock.	Supported by timber posts.		Storage jars.		Coarse ware. Millstones. Stone moulds.
Rock.		Cut into the slope with roughly shaped stone in fairly irregular courses.	Cut into the bedrock.			Storage jars.		Pottery. Mycenaean ceramics and beads.

House Name/No.	Site	Date	Location/Situation Within Site	Form	Orientation - absolute	Orientation - relative	Total Size	No. of Internal Spaces	Materials - Walls
Complex C	Thapsos	Late Bronze Age/Early Iron Age	Area 2. Gently sloping ground on the W side of the peninsular.	Rectilinear.			c.17.00m in length.	2	Stone.
General	Sabucina	Early Iron Age	Sloping ground below the summit of hill overlooking the Salso river.	Rectilinear.					Roughly shaped stone. Timber.
General	Syracuse	Early Iron Age	Ortygia near the Athenaion.	Curved - partially preserved.					Stone.
Hut 31	Morgantina	Early Iron Age/Mid. 9th century BC	Area III, Trench 31. W side of the Cittadella hill c.517m asl and c.60m below the summit.	Apsidal.	Main axis N-S. Entrance W or S.	With topography, along slope. Entrance at right-angle to slope or away from it.	c.18.75x4.50m	2	Un-worked limestone. Broken volcanic millstones. Timber. Wattle-and-daub.
Trench 2 Hut	Morgantina	Early Iron Age/Mid. 9th century BC	Area III, Trench 2, Probe A/F. Near the summit of the Cittadella hill c.568m asl.	Partially excavated, apsidal?					Un-worked limestone.

Materials - Floors	Materials - Roof	Construction - Walls	Construction - Floors	Construction - Roof	Hearth	Storage	Other Built-In Features	Other Finds
						Storage jars - one end of space.	Low bench.	Pottery - with storage jars. Loom weights - opposite end. Deer antler - opposite end. Millstones - opposite end.
Bedrock.	Timber.	Timber-laced stone courses.	Cut into the bedrock.	Supported by timber posts.		Storage jars.		Coarse ware. Millstones. Stone moulds.
						Storage jars.	Internal benches.	Coarse ware. Painted ware.
Earth. Limestone on part of upper step.	Thatch? Timber.	Bottom of E wall formed by cut into the slope. Un-worked stone in courses laced with timber posts between 0.10 and 0.14m Ø (some a little larger) spaced 1.10-1.35m apart. Wattle-and-daub superstructure. c.0.75m wide.	Cut into slope. Pavement with flat-side of stones facing up.	3 post-holes (c.0.15m Ø) running down the centre of the room plus posts in the walls. Pitched - single or gabled.	2 Sherd base A - centre Room A, layers of clay and sherds: c.1.25x0.75m Sherd base B - centre S end of Room A, layer of sherds: c.1.50x0.60m	*Pithoi* - pavement, bench, and lower step in Room A, and in Room B. 2 pits c.0.70m Ø - Room B.	Low bench along E wall. Oven and cooking stands - SE corner of Room A. Recess - behind the oven. Step running the length of Room A c. 0.30-0.40m high. Slope in Room B.	Clay basin - next to cooking stands. Spindle whorls - on bench and in Room B. Deer antler and mould - Room B. Vessels associated with food consumption - near oven and the in the lower part of Room B.
Earth.	Thatch? Timber.	c.0.70m wide.	Compacted soil.	3 post-holes excavated.	West of wall A - layer of clay. c.1.00m	*Pithos* - near the hearth.		Earth.

House Name/No.	Site	Date	Location/Situation Within Site	Form	Orientation - absolute	Orientation - relative	Total Size	No. of Internal Spaces	Materials - Walls
Trench 16 West Hut	Morgantina	Early Iron Age/Mid. 9th century BC	Area III, Trench 16 West. Platform on the NE side of the Cittadella hill just below the summit. c.567m asl.	Rectilinear.	Main axis NE-SW.	With topography, along slope.	c.27.50x6.75m	2	Un-worked limestone. Timber. Clay. Wattle-and daub.
Hut 29	Morgantina	Early Iron Age/Mid. 9th century BC Phase 1	Area III, Trench 29. Lower platform on the E side of the Cittadella hill c.535m asl.	Partially excavated, apsidal?	Main axis E-W.	With topography, along slope.	At least 5.00x10.00m	Possibly 2 - cut in rock leading to post-hole g a partition base?	Un-worked limestone. Timber.
		Phase 2	Area III, Trench 29. Lower platform on the E side of the Cittadella hill c.535m asl.	Partially excavated, apsidal?	Main axis E-W.	With topography, along slope.	At least 5.00x10.00m	Possibly 2 - wall w and post-holes l, t, and u could be partitions	Un-worked limestone. Timber.

Materials - Floors	Materials - Roof	Construction - Walls	Construction - Floors	Construction - Roof	Hearth	Storage	Other Built-In Features	Other Finds
Earth. Plaster.	Thatch? Timber.	Bottom of SE wall formed by cut into the slope. Post-holes cut 1.25m apart into the bedrock support a timber-laced stone wall built up in courses with the flattest sides facing into the building. Interior side of wall coated in clay. Dividing wall - later addition constructed on bedrock from large stones central post. Upper sections wattle-and-daub. c.0.50m wide, W wall up to 0.80m.	Cut into slope. Fine-grained beaten earth/plaster over the top of the cut floor.	Post-holes plus posts in the walls. Pitched - likely gabled.	Centre of N room, to the N of the oven.	*Pithoi* and other storage vessels - 1 N end of hut, 1 next to the oven, many jars in the vicinity of the stoves.	Low bench along E wall constructed from long blocks placed end to end. Platform c.1.25x1.15m and c. 0.08m high - NE area cut out of the bedrock. Heart-shaped feature - middle of the floor 0.36m deep with steeply cut sides.	Oven and stoves - centre of E wall of N room. Ceramics associated with food production and consumption - mainly N room, but also some in the S.
Earth.	Thatch? Timber.	Timber-laced stone courses with post-holes cut into the bedrock, placed against cut for S wall. Wall M - loose rubble.	Cut into the slope.	2 central post-holes plus posts in the walls.	Yes?			
Earth.	Thatch? Timber.	Timber-laced stone courses with post-holes cut into the bedrock, placed against cut for S wall. Wall M - loose rubble.	Cut into the slope.	2 central post-holes plus posts in the walls.	Central 0.50x0.80m. Possible 2nd area of burning between centre and post-hole k.	*Pithos* - against the S wall.		Millstones - centre near the hearth. Cooking stands - against the S wall.

House Name/No.	Site	Date	Location/Situation Within Site	Form	Orientation - absolute	Orientation - relative	Total Size	No. of Internal Spaces	Materials - Walls
Curvilinear Building f	Naxos	Beg. of the last 1/4 of the 8th century BC	Near the later strada Si under *insula* A11.	Apsidal.	Main axis N-S.	Parallel to two further curved structures.	c.11.00x3-4.00m	3	Un-worked local basalt.
Curvilinear Building g	Naxos	Beg. of the last 1/4 of the 8th century BC	Near the later strada Si under *insula* A11.	Apsidal.	Main axis N-S.	Parallel to two further curved structures.	At least 5.00m long.		Un-worked local basalt.
Curvilinear Building d	Naxos	Beg. of the last 1/4 of the 8th century BC	Near the later strada Si under *insula* A11.	Apsidal/Oval.	Main axis N-S.	Parallel to two further curved structures.	At least 4.80m long.		Un-worked local basalt.
General	Megara Hyblaea	Late 8th century BC	N plateau of the coastal plain.	Rectilinear within enclosure.	Facing S with the building typically in the N part of enclosure.		Enclosure c. 100-120m^2. House c.4.00x4.00m	1-2	Roughly shaped limestone. Mud bricks.
House 23,10	Megara Hyblaea	Late 8th century BC	W part of lot 6.	Rectilinear within enclosure.	Facing S and situated c.2.90m to the W of the median axis in the N part of enclosure.	Parallel to the lot.	c.4.50x4.30m	1	Roughly shaped limestone.
General	Syracuse	Late 8th century BC		Rectilinear within enclosure.			c.4.00x4.00m		Roughly shaped stone. Mud bricks.
House 5	Naxos	Late 8th century BC	N of strada Si.	Rectilinear.	Main axis E-W. Entrance W.	Separated from adjacent structures by narrow 'corridors'. Entrance onto strada Si.	c.6.75x2.80m	2	Local stone.

Materials - Floors	**Materials - Roof**	**Construction - Walls**	**Construction - Floors**	**Construction - Roof**	**Hearth**	**Storage**	**Other Built-In Features**	**Other Finds**
		Small un-worked rounded stones in irregular courses. Dividing walls not tied to the external ones. c.0.25m wide. Partition wall c.0.30m wide.						
	Timber.	Double row of rounded stones in irregular courses. Possibly timber-laced. c.0.37m wide.		Post within walls. Possible porch indicated by post-hole outside of N wall.		*Pithos*.		Late sub-geometric ceramic fragments from Greece. Also some local wares in the vicinity.
		c.0.38m wide.						
	Thatch.	Roughly shaped stone foundations with a mud-brick superstructure.					Internal bench.	
		Roughly shaped stone foundations - some stones large. Dry-stone for at least the lower sections.						
	Thatch.						Internal bench.	
	Clay.	Roughly shaped stone for the facing with rubble fill. Dividing walls tied in.		Likely a flat roof built from clay.			Internal bench - along the E wall of room A.	

House Name/No.	Site	Date	Location/Situation Within Site	Form	Orientation - absolute	Orientation - relative	Total Size	No. of Internal Spaces	Materials - Walls
General	Naxos	Late 8th century BC		Rectilinear.			c.4.00x4.00m		Roughly shaped stone. Mud bricks.
General	Polizzello	Early Iron Age		Circular			c.2.70m Ø	1	
General	Monte San Mauro	8th-Early 7th century BC	Spread over 5 summits of the Heraean hills.	Elliptical.			c.7.00m Ø	1	
General	Monte Castellazzo	7th century BC		Oval. Circular.		Open around a courtyard with hearths.		1	
Apsidal Building	Monte San Mauro	Mid. 7th-Early 6th century BC	To the S of excavated Archaic houses.	Apsidal.	Roughly E-W. Entrance W?	Apse to the E.	c.11.80x4.60m	2	Stone. Wattle-and-daub or mud brick.
General	Megara Hyblaea	Mid. 7th century BC		Rectilinear with courtyard.	Facing S, a few E. Courtyard typically to the S.		c. 69.00m^2	2-3	Roughly shaped limestone.
House 58,17	Megara Hyblaea	7th century BC	E of the road D1.	Rectilinear with courtyard.	Facing S. Entrance W.	Entrance W onto road D1.	c.11.50x12.30 m	3 plus courtyard	
House 63,2	Megara Hyblaea	7th century BC	Towards S end of D1. W part of lot 17.	Rectilinear with courtyard.	Facing S. Entrance W.	Entrance W onto road D1.	c.13.00x11.80 m	3 plus courtyard	Limestone.
House 33,30	Megara Hyblaea	End 7th century BC	E of the road D4. W part of lot 16.	Rectilinear with courtyard.	Facing S.	Entrance W onto road D4.	c.14.00x12.00 m	3 plus courtyard	Limestone.
Pastas' House (Casa 1 and Casa 2)	Naxos	Mid. 7th century BC-6th century BC	On street Se.	Rectilinear with courtyard. Multiple entrances.	Entrance S. 2nd entrance E. Courtyard NE corner.	Entrance onto street Se. 2nd entrance behind houses.	c.16.00x12.50 m	7? plus courtyard	Stone.

Materials - Floors	**Materials - Roof**	**Construction - Walls**	**Construction - Floors**	**Construction - Roof**	**Hearth**	**Storage**	**Other Built-In Features**	**Other Finds**
	Thatch.	Roughly shaped stone foundations with a mud-brick superstructure.					Internal bench.	
						Pithoi.	Internal bench.	Pottery. Traces of metal working.
					Outside.			Greek and Sicilian pottery.
Earth.	Thatch.	Stone foundations with wattle-and-daub or mud brick superstructure.	Probably beaten earth.					Lava mill stone - NW side. Some ferrous slag - NW side. Ceramics.
	Thatch?	Roughly shaped stone in irregular courses.					Well - courtyard.	
	Thatch?							
	Thatch?	Large roughly shaped stones in semi-regular courses with small stones in the packing. N wall - roughly shaped stones in irregular courses.					Squared pillar in the courtyard - support for an extended roof?	
Earth.			Beaten earth.		Fireplace - centre Room 2A.	*Pithos* - courtyard. *Amphorae* - courtyard.	Internal bench - ante-Room 1A. Semi-circular bench - against E wall of Room 2A	Ceramics - Room 1A Ceramics relating to food preparation - Room B and Room 2A.

House Name/No.	Site	Date	Location/Situation Within Site	Form	Orientation - absolute	Orientation - relative	Total Size	No. of Internal Spaces	Materials - Walls
General	Himera	Late 7th/6th century BC	E of the Himera river in the Lower Town.	Rectilinear.	Generally NE-SW and NW-SE.	Aligned to northern edge of the hill.			Roughly shaped stone. Pebbles. Mud bricks.
Casa 1	Monte San Mauro	6th century BC	Narrow ridge, hill 3.	Rectilinear.	Entrance SSW.	With topography.	c.10.20x10.70 m	3	Roughly shaped stone.
Casa 2	Monte San Mauro	6th century BC	Narrow ridge, hill 3.	Rectilinear with courtyard?	Entrance S. Possible courtyard E.	With topography.	c.9.23x8.31m	3 plus possible courtyard	Roughly shaped stone.
Casa 3	Monte San Mauro	6th century BC	Narrow ridge, hill 3.	Rectilinear.	Entrance SSW.	With topography. Adjoining Casa 4.	c.8.30x9.30m	3	Roughly shaped stone.
Casa 4	Monte San Mauro	6th century BC	Narrow ridge, hill 3.	Rectilinear.	Entrance SSW.	With topography. Adjoining Casa 3.	c.10.67x11.34 m	4	Roughly shaped stone.
General	Megara Hyblaea	6th century BC		Rectilinear with courtyard.	Facing S, a few E. Courtyard to the S.				Shaped limestone.

Materials - Floors	**Materials - Roof**	**Construction - Walls**	**Construction - Floors**	**Construction - Roof**	**Hearth**	**Storage**	**Other Built-In Features**	**Other Finds**
Earth.	Thatch.	Socle of roughly shaped stone in irregular courses topped with mud brick. c.0.30m wide.	Beaten earth.			Pits.		Proto-Corinthian pottery.
Earth.	Terracotta tiles.	Roughly shaped stone in irregular courses. c.0.80m wide.	Beaten earth.	Tiled and gabled.		*Pithoi*.		Terracotta cooking bases. Loom weights. Ceramics. Terracotta 'bath tubs'.
Earth.	Terracotta tiles.	Roughly shaped stone in irregular courses.	Beaten earth.	Tiled and gabled.	Room 8, W of entrance.	2 *Pithoi* - Room 8, along E wall. One patched with lead. *Stamnos* - Room 8, W of *pithoi*.		7 terracotta *arule* - Room 8. Clay basin, millstone, and pottery - Room 8, W of entrance.
Earth.	Terracotta tiles.	Roughly shaped stone in irregular courses.	Beaten earth.	Tiled and gabled.		*Pithos* - Room 13.		Black-figure crater - Room 14. Loom weights - Room 12.
Earth.	Terracotta tiles.	Roughly shaped stone in irregular courses.	Beaten earth.	Tiled and gabled.	Room 11 - area of burning in SW corner and *opaion* in roof collapse.	*Amphorae* and *pithoi* - Room 11, E of entrance.		2 small millstones - Room 11. Clay basin - Room 17. Loom weights - Room 17. Craters - Rooms 20 and 21.
Stone.	Terracotta tiles. Thatch?	Shaped stones in irregular courses.	Some courtyards paved.				Well - courtyard.	

House Name/No.	**Site**	**Date**	**Location/Situation Within Site**	**Form**	**Orientation - absolute**	**Orientation - relative**	**Total Size**	**No. of Internal Spaces**	**Materials - Walls**
Monte Iudica House	Monte Iudica	6th century BC	Hill-top c.542m asl.	Rectilinear.				6?	Stone.
House 1	Monte Polizzo	Mid. 6th century BC - c.525 BC	Lower slopes.	Rectilinear.			c.200m^2	6	Roughly shaped stone.
House 1/Blocco 1	Agrigento/ Akragas	Late 6th-4th century BC	Blocco 1, to the W of *stenopos* 2 near the Temple of Zeus.	Rectilinear with central L-shaped courtyard. Individual space with separate access.	Main axis N-S. Entrance S. Courtyard to the S.	*Insulae*, but houses not of even size and positioning.	c.18.00x10.00 m	4 plus courtyard Possibly 6 or 7	Shaped stone.
House 2(D)/Blocco 2	Agrigento/ Akragas	Late 6th-4th century BC	Blocco 2, directly W of *stenopos* 2 near the Temple of Zeus.	Rectilinear with central L-shaped courtyard.	Main axis E-W. Entrance E. Courtyard to the S.	Entrance onto *stenopos* 2. Slightly further S within the *insula* than the adjacent House 1.	c.12.00x17.00 m	5 plus courtyard	Shaped stone.
General	Mendolito	6th-early 5th century BC		Rectilinear.					Basalt rubble.

Materials - Floors	**Materials - Roof**	**Construction - Walls**	**Construction - Floors**	**Construction - Roof**	**Hearth**	**Storage**	**Other Built-In Features**	**Other Finds**
						3 *Pithoi* and an *amphora* - same room.	Internal bench - room with *pithoi*.	Local and imported pottery.
								Ceramics relating to food preparation and consumption.
		Roughly shaped stone, larger ones used for facing and sometimes traversing the whole wall, smaller stones in the packing and fill. Foundations cut into the rock face. c.0.45m wide.						
		Foundations cut into rock face and filled with rubble. Roughly shaped stone, larger ones used for facing and sometimes traversing the whole wall, smaller stones in the packing and fill. c.0.45m wide.					Screen wall behind the main entrance to block the view in the courtyard? Possible groove. Well - back part of the courtyard.	
								Local and imported pottery.

House Name/No.	**Site**	**Date**	**Location/Situation Within Site**	**Form**	**Orientation - absolute**	**Orientation - relative**	**Total Size**	**No. of Internal Spaces**	**Materials - Walls**
General	Selinus/ Selinunte	6th/5th century BC	*Insula* to the E of the agora.	Rectilinear with courtyard.			Lots c.15.00x15.00 m		Shaped stone.
General, *Insulae I-III*	Himera	5th century BC	Coastal plateau. Residential areas divided into regular *insulae*.	Rectilinear with courtyard.	Mixed.	*Insulae* divided into 2 rows by an E-W *ambitus*.	c. 200m^2		Shaped stone.
South Building, Block 1, Phase IIA	Himera	Late 6th/Early 5th century BC	Block 1, *Insula* II, N row of houses. Divided into North Building and South Building by E-W corridor and from the blocks to the E and W by *ambiti* A1 and A3.	Rectilinear with courtyard and two possible entrances.	First entrance N. Possible 2nd entrance E.	First entrance onto the E-W corridor. 2nd entrance possibly onto the A1 *ambitus*. S wall slightly out of line with those of the blocks either side.	c.8.30x15.50m	8 plus courtyard	Shaped limestone. Pebbles. Mud bricks?

Materials - Floors	**Materials - Roof**	**Construction - Walls**	**Construction - Floors**	**Construction - Roof**	**Hearth**	**Storage**	**Other Built-In Features**	**Other Finds**
		Larger shaped stones in regular courses for facades. Some walls of roughly shaped stone in semi-regular courses with smaller stones/rubble in the fill.			Yes - in some.		Cisterns. Thresholds show features for door fittings.	
		Masonry.					Stair bases. Pilasters and cornices.	Local and imported pottery for drinking, food preparation, consumption, and storage. Metal fittings from furniture.
	Terracotta roof tiles.	Shaped stone cut on the facing edges with a pebble fill. Some walls make use of larger pebbles. Some narrower dividing walls surmounted by mud brick (Room 4). c.0.35-0.50m wide.	Prepared with fill from earlier periods characterised by trubo.	Tiled.			Quadrangular platform built from stone slabs and pebbles - Room 4, centre of W wall, c.0.75x1.25m. Wedge-shaped platform in NE corner of Room 35, possibly a cooking surface. Step linking Rooms 6a and 35. Room 4a-b possibly an extension of the courtyard.	Ceramics.

House Name/No.	**Site**	**Date**	**Location/Situation Within Site**	**Form**	**Orientation - absolute**	**Orientation - relative**	**Total Size**	**No. of Internal Spaces**	**Materials - Walls**
South Building, Block 1, Phase IIB	Himera	5th century BC	Block 1, *Insula* II, N row of houses. Divided into North Building and South Building by E-W corridor and from the blocks to the E and W by *ambiti* A1 and A3.	Rectilinear with courtyard and two possible entrances.	First entrance N. Possible 2nd entrance E.	First entrance onto the E-W corridor. 2nd entrance possibly onto the A1 *ambitus*. S wall slightly out of line with those of the blocks either side.	c.8.30x15.50m	9 plus courtyard	Shaped limestone. Pebbles. Mud bricks?
North Building, Block 1	Himera	5th century BC	Block 1, *Insula* II, N row of houses. Divided into North Building and South Building by E-W corridor.	Rectilinear with two entrances.	Main entrance N. 2nd entrance S.	Main entrance onto strada 1. 2nd entrance onto E-W corridor.	c.16.10x7.00m	3	Shaped limestone. Pebbles.

Materials - Floors	Materials - Roof	Construction - Walls	Construction - Floors	Construction - Roof	Hearth	Storage	Other Built-In Features	Other Finds
Tiles - courtyard. Stone slabs - courtyard.	Terracotta roof tiles.	Shaped stone cut on the facing edges with a pebble fill. Some make use of larger pebbles. Some of the narrower dividing walls surmounted by mud brick (Room 4). c.0.35-0.50m wide.	Prepared with fill from earlier periods characterised by trubo. Courtyard paved with flat tiles and stone slabs.	Tiled.			Quadrangular platform built from stone slabs and pebbles - Room 4, centre of W wall, c.0.75x1.25m. Wedge-shaped platform in NE corner of Room 35, possibly a cooking surface. Step linking Rooms 6a and 35. Room 4a-b possibly an extension of the courtyard.	Ceramics.
Trubo.	Terracotta roof tiles.	Shaped limestone cut on the facing edge with a fill of pebbles and earth. Front wall external facing cut and positioned in a regular manner, other facing and walls more roughly shaped and incorporating medium to large pebbles. c.0.55-0.60m wide. Two large blocks at the SE and SW corners.	Levelled with fill from earlier periods then topped with compacted trubo.	Tiled.			Step linking rooms 33 and 38, and 33 and 1.	Ceramics - in all rooms. Kitchen and table wares - Room 33. Cups and Bowls - Room 38 Lamps - Room 33. 21 Loom weights - Room 33.

House Name/No.	**Site**	**Date**	**Location/Situation Within Site**	**Form**	**Orientation - absolute**	**Orientation - relative**	**Total Size**	**No. of Internal Spaces**	**Materials - Walls**
Block 9, *Insula* II	Himera	5th century BC	Centre of the S row of houses of *insula* II.	Rectilinear with courtyard.	Courtyard to the N. Entrance S.	Entrance onto strada 2. Slightly extends into blocks 10 and 8 on either side.			Stone.
House VI 5, *Insula* II	Himera	5th century BC	N row of houses of *Insula* II.	Rectilinear with central courtyard.	Entrance N.	Entrance onto strada 2.	c.15.60x31.20 m	14 plus courtyard	Shaped stone. Mud bricks.

Materials - Floors	**Materials - Roof**	**Construction - Walls**	**Construction - Floors**	**Construction - Roof**	**Hearth**	**Storage**	**Other Built-In Features**	**Other Finds**
		Stones cut on the facing edge with pebbles and un-worked stones in fill. Larger stones, often fully shaped, used at corners and for doorways.						
Trubo - 30, most others. Cobbles - courtyard, room 36. Terracotta tiles - rooms 37, 38.	Terracotta roof tiles.	N external wall onto strada 2 - fully shaped stone in regular courses. Shaped stone in courses forming a socle likely surmounted by mud bricks.	Compacted trubo then polished. Cobbled. Tiles laid to support storage vessels.	Tiled.		*Pithoi* - rooms 36 (1), 33, C (W area), 38, 30, 29. *Amphorae* - rooms 36, 33, 32 (2), C (7, W area), 37, 38, 30, 29, 28. *Lekane* - room 37. General storage vessels - rooms 37, 38, 30, 29, 28, 40, 41. Possible that the high no. of storage vessels relates to the siege of Himera.		Food preparation ceramics - rooms 36, 33, 32, C, 30, 29, 40, 41, 42, 43, 44. Millstone - room 33. Food consumption ceramics - rooms 36, 32, C, 30 (largest no. from the house), 29, 28, 40, 42, 43, 44. *Arule* - rooms 36 (SW corner), 30. Miniatures - room 36 (SW corner). Loom weights - room 40 (4). Lamps - room 36 (3, SW corner), C (16), 37, 38, 30 (11), 29, 28, 40, 41, 42, 43, 44. *Louterion* - rooms 32, 30. Coins - 30 (1), 43, 44.

House Name/No.	Site	Date	Location/Situation Within Site	Form	Orientation - absolute	Orientation - relative	Total Size	No. of Internal Spaces	Materials - Walls
General, *Insula XII*	Himera	5th century BC	Coastal plateau. Residential areas divided into regular *insulae*.	Rectilinear with central courtyard.		*Insulae*.			Stone.
General, *Insulae XV-XVI* (South Quarter)	Himera	5th century BC	Coastal plateau. Residential areas divided into regular *insulae*.	Rectilinear with courtyard.	Mixed.	*Insulae*.			Stones and pebbles.
House 3	Naxos	5th century BC	*Isolato* 4, separated from other houses by an *ambitus.*	Rectilinear	Entrance E.	*Insulae.*	c.7.50x8.00m	5	
House 4	Naxos	5th century BC	*Isolato* 4, separated from other houses by an *ambitus.*	Rectilinear with courtyard.	Entrance W.	*Insulae.*	c.10.50x10.00 m	4 plus courtyard	
House 8	Naxos	5th century BC	*Isolato* 4, separated from other houses by an *ambitus.*	Rectilinear with courtyard?	Entrance W.	*Insulae.*	c.11.00x5.00m	3 plus courtyard	
House 9	Naxos	5th century BC	*Isolato* 4, separated from other houses by an *ambitus.*	Rectilinear with possible open corridor space.	Entrance N.	*Insulae.*	c.9.00x5.90m	4 plus open corridor?	
House 10	Naxos	5th century BC	*Isolato* 4, separated from other houses by an *ambitus.*	Rectilinear with corner courtyard.	Entrance W.	*Insulae.*	c.9.60x13.40m	6 plus courtyard	
House 11	Naxos	5th century BC	*Isolato* 4, separated from other houses by an *ambitus.*	Rectilinear with courtyard.	Entrance E.	*Insulae.*	c.9.00x5.30m	2 plus courtyard	
House 12	Naxos	5th century BC	*Isolato* 4, separated from other houses by an *ambitus.*	Rectilinear with courtyard.	Entrance E.	*Insulae.*	c.9.00x7.00m	3 plus courtyard	
House 13	Naxos	5th century BC	*Isolato* 4, separated from other houses by an *ambitus.*	Rectilinear with courtyard.	Entrance E.	*Insulae.*	c.8.40x6.40m	1 plus courtyard	

Materials - Floors	**Materials - Roof**	**Construction - Walls**	**Construction - Floors**	**Construction - Roof**	**Hearth**	**Storage**	**Other Built-In Features**	**Other Finds**
		Stones shaped on facing edge laid in fairly regular courses with larger stones at the base and smaller un-worked stones in the fill.					Some wide street entrances suggest that carts were passing in and out of the courtyards.	
		Roughly shaped stone with small, un-worked stones in the fill; some walls incorporate large boulders and small, un-worked pebbles; some more solid walls of large shaped blocks in regular courses.					Cisterns - in courtyards. Drainage channels of terracotta tiles.	

House Name/No.	**Site**	**Date**	**Location/Situation Within Site**	**Form**	**Orientation - absolute**	**Orientation - relative**	**Total Size**	**No. of Internal Spaces**	**Materials - Walls**
House 14	Naxos	5th century BC	*Isolato* 4, separated from other houses by an *ambitus*.	Rectilinear with central courtyard.	Entrance W.	Entrance on to *stenopos* 3. *Insula*.	c.19.50x18.60 m	13? plus courtyard	Etna basalt.
House A6/7	Naxos	5th century BC	SW corner of *insula* A6/7.	Rectilinear with central courtyard. Multiple entrances.		SW corner of *insula* A6/7. Entrances onto *plateia* B.		6? plus courtyard	Etna basalt.
House B6	Naxos	5th century BC	NW corner of *insula* B7.	Rectilinear with central courtyard. Multiple entrances.		NW corner of *insula* B6. Entrances onto *plateia* B and *stenpos* 6.		6? plus courtyard	Etna basalt.
General	Naxos	5th century BC	*Isolato* 4, separated from other houses by an *ambitus*.	Rectilinear.	Mixed.	*Insulae*.	c.9.20x5.50m		Etna basalt.
General	Naxos	5th century BC	*Insula* B2/1, adjacent to the SW gate to the city.	Rectilinear.		*Insulae*. Houses divided by a narrow alleyway.			Etna basalt.
Insula A (Houses I and II)	Gela	5th century BC	Between *stenpos* I and II.	Rectilinear with courtyard.	Unclear, poorly preserved.	*Insula* to the W of *stenopos* II.	I: c.11.30x10.00 m II: c.8.90x10.40m	2-3? in each plus courtyard	Shaped stone. Un-worked stone.
BI	Gela	5th century BC	Corner of Street II.	Rectilinear with courtyard. 2 possible shops.	Courtyard in SW corner.	Entrance on to Street II. *Insula*.	c.11.40x10.50 m	3 plus courtyard and 2 shops?	Shaped stone.
General	Gela	5th century BC	Blocks A and B.	Rectilinear with courtyard.	Courtyard to the S.		100-180m^2.	3? plus courtyard	Shaped stone.

Materials - Floors	Materials - Roof	Construction - Walls	Construction - Floors	Construction - Roof	Hearth	Storage	Other Built-In Features	Other Finds
							Limestone threshold leading into house.	
		Roughly shaped stones with smaller stone/rubble fill.						
		Roughly shaped stones with smaller stone/rubble fill.						
		Roughly shaped stones in fairly regular courses with larger stones in places, particularly corners, smaller stones in fill.					Some thresholds of large flat stones.	
		N walls large shaped rectilinear stone blocks placed upright with smaller roughly shaped or un-worked stones in between. Some dividing walls only smaller stones.						
		Large shaped stones. Smaller stones in later alterations.						
							Light wells? - between properties.	

House Name/No.	**Site**	**Date**	**Location/Situation Within Site**	**Form**	**Orientation - absolute**	**Orientation - relative**	**Total Size**	**No. of Internal Spaces**	**Materials - Walls**
House of Empolemos	Morgantina	4th century BC	Near the corner of *plateia* A and *stenopos* 9 W.	Rectilinear with central courtyard.	Entrance E.		At least c.10.50 deep x c.15.00m	8 plus courtyard	Shaped limestone. Rubble.
General	Selinus/ Selinunte	Early 4th-Early 3rd century BC		Rectilinear with central and corner courtyards.		Within *insulae*.	<c.200m^2		Stone. Plaster. Stucco.
House IIc	Herakleia Minoa	Late 4th/Early 3rd century BC	Area S of the theatre. Partially terraced into the slope.	Rectilinear with central courtyard.	Entrance S.	Between two streets, within *insulae*.	c.14.00x11.70 m	7 plus courtyard	Stone. Stucco.
House IIb	Herakleia Minoa	Late 4th/Early 3rd century BC	Area S of the theatre. Partially terraced into the slope.	Rectilinear with central courtyard. 2 entrances.	Entrance S.	Between two streets, within *insulae*.	c.14.00x11.30 m	8 plus courtyard	Stone. Stucco/plaster. Mud brick.

Materials - Floors	**Materials - Roof**	**Construction - Walls**	**Construction - Floors**	**Construction - Roof**	**Hearth**	**Storage**	**Other Built-In Features**	**Other Finds**
		House cut into the slope, retaining W wall constructed from large blocks in irregular courses with smaller stones in the packing. Remaining walls - roughly-shaped rubble masonry with larger stones at corners and doorways.					Staircase - courtyard against the E wall.	
Cocciopesto/ *Opus signinum*. Earth. Mortar/plaster.		Larger shaped stones in regular courses for facade walls, others of roughly shaped stone in semi-regular courses with a smaller stone/rubble fill.	*Opus signium* of crushed terracotta fragments bonded with mortar. Beaten earth. Mortar/plaster laid to produce a smooth flat surface.		Yes - in 5 houses.	*Pithoi*.	Stair base. Cisterns. Stuccoed decorative elements. Pillars. Bread ovens. Stables?	Bath tubs. Loom weights.
Mosaic (fallen from upper floors). Earth (ground floor rooms). Stone (courtyard).		Mixed sized roughly shaped stones in semi-regular courses.	*Tesserae* laid into mortar. Beaten earth. Paving.				Fallen masonry indicates upper floor.	
Mosaic (fallen from upper floors). Earth (ground floor rooms). Stone (courtyard).		Mixed sized shaped stones in semi-regular courses, mud brick upper sections. Large stone door lintels. Coated with plaster.	*Tesserae* laid into mortar. Beaten earth. Paving.				Fallen masonry indicates upper floor.	

House Name/No.	**Site**	**Date**	**Location/Situation Within Site**	**Form**	**Orientation - absolute**	**Orientation - relative**	**Total Size**	**No. of Internal Spaces**	**Materials - Walls**
House IIa	Herakleia Minoa	Late 4th/Early 3rd century BC	Area S of the theatre. Partially terraced into the slope.	Rectilinear with central courtyard. 2 entrances. E end partially destroyed by later fortification wall.	Entrance S.	Between two streets, within *insulae*. Divided from House IIb by a narrow *ambitus*.	c.14.00x16.70 m?	9? plus courtyard	Stone. Stucco. Mud brick.
The Thermae District	Solunto	4th/3rd century BC	Terraced into a steep hillside.	Rectilinear with central courtyard. Rooms spread over several levels due to slope.	Mixed.	In the bend between the Via delle Therme and the Via dell'Agora.			Stone.
House VII	Solunto	4th/2nd century BC?	Terraced into a steep hillside.	Rectilinear with central courtyard. 2 entrances.	All entrances SW.	With topography.	c.17.30x16.30 m	9 plus courtyard	

Materials - Floors	**Materials - Roof**	**Construction - Walls**	**Construction - Floors**	**Construction - Roof**	**Hearth**	**Storage**	**Other Built-In Features**	**Other Finds**
Mosaic (fallen from upper floors). Earth (ground floor rooms). Stone (courtyard).		Roughly shaped stone of varying sizes in irregular/semi-regular courses. Larger, better finished stones for doorways. More solid construction for N retaining wall. Upper parts potentially of mud brick. Coated with plaster.	*Tesserae* laid into mortar. Beaten earth. Paving.				Stair base - centre of E side of house. Well/cistern - centre of courtyard.	Domestic shrine.
		Roughly shaped stone in fairly regular courses.					Stairs leading between different levels and storeys. Cisterns.	
							Main entrance via a dog-leg corridor. Cistern/well - centre SE end of courtyard.	

House Name/No.	Site	Date	Location/Situation Within Site	Form	Orientation - absolute	Orientation - relative	Total Size	No. of Internal Spaces	Materials - Walls
Peristyle House 1	Monte Iato	300-200 BC	Terraced into the hillside above the Temple of Aphrodite.	Rectilinear with central peristyle courtyard. 2 entrances? plus 2 entrances to isolated area.	Main entrance S. 2nd and all other entrances also S. Main spaces facing S.	With topography, facing onto the open space immediately in front of the temple.	c.29.00x24.00 m plus a further c.11.00x6.00m in the NW corner.	25 plus peristyle courtyard Space 23 includes a mini-peristyle.	Worked limestone. Plaster.
Peristyle House E2	Monte Iato	3rd-2nd century BC	Terraced into the hillside towards the eastern gate of the city.	Rectilinear with 2 central peristyle courtyards. Potentially 2 or more entrances.	Main entrance S. Other entrances also S, some may be to shops.	With topography with the main east-west road to the S.	Not fully excavated, c.30.00x15.00 plus bath house area in current state.	17? plus 2 peristyle courtyards	Worked limestone. Plaster.

Materials - Floors	Materials - Roof	Construction - Walls	Construction - Floors	Construction - Roof	Hearth	Storage	Other Built-In Features	Other Finds
Cocciopesto/ *opus signinum* Stone (space 23, centre of the courtyard).	Terracotta roof tiles.	Worked stone in more-or-less regular courses with larger blocks in the facing and at corners and doorways. Smaller stones in the packing and fill. Coated in plaster and painted. c.0.80m wide.	*Opus signium* of crushed terracotta fragments bonded with mortar. Stone paving.	Tiled. Likely pitched.	No.		Stair base - upper storey. The steps untied to wall - later addition? Main entrance up steps via a vestibule with un-aligned doorways. Thresholds with fittings for doors. Dye-working complex - isolated area SE corner of house. Doric columns - lower story. Ionic columns - upper storey. Cistern - centre of the E colonnade. Drainage. Stucco cornices. Windows - rooms 14, 15, 16, 17. All facing inwards and contain fittings for frames and shutters.	
Opus signinum. Stone (part of the E courtyard).	Terracotta roof tiles.	Shaped limestone in irregular courses with smaller stones in the packing. Larger stones used in doorways and at corners. Rubble fill. Faced with plaster. c.0.75m wide.	*Opus signium* of crushed terracotta fragments bonded with mortar. Stone paving.	Tiled. Likely pitched.	No.		Thresholds contain features for door fittings. Bath area including a rounded 'sauna' room. Columns - stone. Drains and holes - cisterns?	

House Name/No.	**Site**	**Date**	**Location/Situation Within Site**	**Form**	**Orientation - absolute**	**Orientation - relative**	**Total Size**	**No. of Internal Spaces**	**Materials - Walls**
House 22,23	Megara Hyblaea	Hellenistic/ 3rd century BC	E edges of the W-most *insula* bordering the N-S road C1.	Rectilinear with 2 courtyards. Multiple entrances.		Within *insulae*.	Not fully excavated.	At least 16 plus 2 courtyard	Limestone. Plaster.
House 23,24	Megara Hyblaea	Hellenistic/ 3rd century BC	Near the E gate to the S of the road leading to it. Shops opening onto the agora.	Rectilinear with central courtyard and colonnade. Possibly entrances along the E edge. Main entrance W.	Colonnade and main rooms to the N.	Within irregular *insulae*, at the N end.	c.38.00x27.50 m	19 plus courtyard and colonnade	Limestone.
House 30,11	Megara Hyblaea	Hellenistic/ 3rd century BC	At the junction of roads C1 and B.	Rectilinear with central courtyard. 3 entrances.	All entrances E. Main entrance that in the centre of E wall?	Within *insulae*.	c.16.70x20.80 m	8 plus courtyard	Worked limestone.
House 49,19	Megara Hyblaea	Hellenistic/ 3rd century BC	Just S of the agora in the central excavated *insula*.	Rectilinear with 2 courtyards.	Main axis N-S. Main entrance E. 2nd entrance (into N part of house) E.	Within *insulae*.	c.1000m^2 (roughly 25.00x41.00m - trapezoidal in shape)	At least 21 plus a courtyard and a semi-peristyle courtyard.	Worked limestone.

Materials - Floors	**Materials - Roof**	**Construction - Walls**	**Construction - Floors**	**Construction - Roof**	**Hearth**	**Storage**	**Other Built-In Features**	**Other Finds**
Opus signinum.	Terracotta roof tiles.	N parts of the house contain walls of larger, shaped blocks. S, small, un-worked stone with large upright blocks every so often. Foundations of roughly shaped stone. Coated in painted plaster.	*Opus signium* of crushed terracotta fragments bonded with mortar.	Tiled. Likely pitched.			Rooms with direct access to the street may have been shops. Well/cistern - W courtyard.	
Opus signinum.	Terracotta roof tiles.	Primarily built of large blocks in regular courses, although in some places smaller un-worked stones are used.	*Opus signium* of crushed terracotta fragments bonded with mortar.				Thresholds feature fittings for doors. E colonnade of wooden columns. Stair base - room d. 2 wells - SW corner of the courtyard near the entrance. Southern-most 11 rooms likely shops.	
Opus signinum.			*Opus signium* of crushed terracotta fragments bonded with mortar.		No.		Stair base - along the N wall of the courtyard. Well - NE area of the courtyard.	
Opus signinum (rooms j, d, e, l). Stone (room s).		Exterior walls of large blocks in regular courses. Some dividing walls are of smaller roughly shaped stones (added later?).	*Opus signium* made from crushed terracotta fragments bonded with mortar. Stone paving.		No.		Thresholds - fittings for doors. 2 wells - centre of peristyle courtyard; S end of W colonnade. Stair base - centre of the S colonnade to the SW corner, crossing doorway.	

House Name/No.	Site	Date	Location/Situation Within Site	Form	Orientation - absolute	Orientation - relative	Total Size	No. of Internal Spaces	Materials - Walls
Houses on the W side of the Via dell'Agora	Solunto	Hellenistic	Running along the W side of the street. Terraced into the hillside.	Rectilinear, likely with peristyle courtyards.	Entrances E onto the street.	Within *insulae*.			Shaped stone. Bedrock. Plaster.
The 'Gymnasium ' House	Solunto	Hellenistic, 3rd century BC	SW corner of the *insula* between the Via Cavallaro and Via Ippodamo da Mileto.	Rectilinear with peristyle courtyard and courtyard. Terraced over three levels.	Main entrance S. 2nd entrance S. N-S axis on each of the three levels, house as a whole on an E-W axis.	Within insulae. Terraced into the hillside with topography.		22? plus peristyle courtyard and courtyard.	Worked stone. Bedrock. Plaster.

Materials - Floors	Materials - Roof	Construction - Walls	Construction - Floors	Construction - Roof	Hearth	Storage	Other Built-In Features	Other Finds
		Shaped stone in fairly regular courses with smaller stones in the packing. Bedrock incorporated. Some coated with painted plaster.					Rooms opening directly onto the street may have been shops. Stairs give access to upper floors and rooms up the slope.	
Opus signinum. Mosaic.		Worked stone in regular courses with smaller stones cut on the facing edge in the packing. Bedrock incorporated. Coated with painted plaster. Main floor c. 4.00m above shop floor. Upper floor c. 5.70m above main floor. Full height of the building potentially 15m above the Via dell'Agora.	*Opus signinum* of crushed terracotta fragments bonded with mortar. *Mosaic* with white *tesserae*.				4 rooms opening directly onto the Via dell'Agora likely to have been shops, room extended above. Raised 2ndary rooms accessible by stairs at back. Double height peristyle with 4 Doric columns per side on the lower level and Ionic on the upper. Balustrade between upper columns. Thresholds - door fittings. Stairs - NW corner of peristyle. Drainage channel across upper courtyard to a cistern.	

House Name/No.	Site	Date	Location/Situation Within Site	Form	Orientation - absolute	Orientation - relative	Total Size	No. of Internal Spaces	Materials - Walls
House opposite the 'Gymnasium' House	Solunto	Hellenisitic	Opposite the 'Gymnasium'.	Rectilinear with peristyle courtyard. Spread over several levels.		With topography.			Stone.
District of the Craftsmen - General	Solunto	Hellenistic	To the W of the Via degli Artigiani.	Rectilinear with courtyards. Spread over several levels.	Entrances to the E.	Within *insulae*. With topography.			Stone. Bedrock. Plaster.
District of the Craftsmen: Northern-most excavated House	Solunto	Hellenistic	To the W of the Via degli Artigiani.	Rectilinear with possible courtyard. 2 entrances. Spread over several levels.	Entrance E.	Within *insulae*. With topography.	c.20.00x20.00 m	9, but 1 or 2 potentially courtyards.	
District of the Craftsmen: House N of the Via Natoli	Solunto	Hellenistic	To the W of the Via degli Artigiani.	Rectilinear with possible courtyard. 2 entrances. Spread over several levels.	Entrances E and S.	Within *insulae*. With topography.	c.16.40x21.70 m	12 plus possible courtyard.	
District of the Craftsmen: House C S of the Via Natoli	Solunto	Hellenistic	To the W of the Via degli Artigiani.	Rectilinear.	Entrance N.	Entrance N onto Via Natoli. With topography.	c.10.50x7.40m	3, 1 potentially a courtyard.	

Materials - Floors	**Materials - Roof**	**Construction - Walls**	**Construction - Floors**	**Construction - Roof**	**Hearth**	**Storage**	**Other Built-In Features**	**Other Finds**
Opus signinum. *Tesserae*. Terracotta tiles (centre of the courtyard).		Roughly shaped stone in irregular courses with smaller stones in the packing. Some parts of walls include large upright stones.	*Opus signinum* of crushed terracotta fragments bonded with mortar with *tesserae* inserted. Tiles and *tesserae* laid into mortar.				Doric columns - peristyle. Off-centre doorways lead from the street through and anteroom into the peristyle. Thresholds show features for door fittings.	
		Roughly shaped stones of differing sizes in fairly regular courses. Bedrock incorporated. Some walls at least coated in plaster.				*Pithos.*	Ovens. Tanks. Benches. Stairs leading to upper levels. Doorways and thresholds show features for door fittings.	

House Name/No.	**Site**	**Date**	**Location/Situation Within Site**	**Form**	**Orientation - absolute**	**Orientation - relative**	**Total Size**	**No. of Internal Spaces**	**Materials - Walls**
District of the Craftsmen: House A S of the Via Natoli	Solunto	Hellenistic	To the W of the Via degli Artigiani.	Rectilinear with possible courtyard. Spread over several levels.	Entrance E.	Within *insulae*. With topography.	c.16.20x15.40 m	9 plus courtyard.	
House off Via Salinas	Solunto	Hellenistic	2nd house down from the crossroads.	Rectilinear with a central peristyle courtyard. Spread over several levels.	Entrance to the N.	Within *insulae*. With topography.			Stone. Plaster.
House of the Arched Cistern	Morgantina	c.250-200 BC Phase 1	*Insula* 3, top of hill W of the agora.	Rectilinear with 2 peristyle courtyards. 2 entrances.	Main axis N-S. Main entrance centre of W wall.	Main entrance onto *stenopos* West 4.	c.20.00x52.00 m	27 plus 2 peristyle courtyards.	Shaped limestone. Rubble. Plaster.

Materials - Floors	**Materials - Roof**	**Construction - Walls**	**Construction - Floors**	**Construction - Roof**	**Hearth**	**Storage**	**Other Built-In Features**	**Other Finds**
Opus signinum.		Shaped and roughly shaped stone in fairly regular courses with more evenly sized stones crossing the width of the wall. Larger, and sometimes upright, stones for doorways. Coated in a layer of plaster.	*Opus signium* of crushed terracotta fragments bonded with mortar.				Columns - peristyle. Cistern and drainage - beneath the courtyard with overflow channel running into a 2nd cistern further downhill to the E.	
Mosaic (N and S colonnades of S courtyard, rooms 1, 3, 4, 12). Terracotta tiles (centre of N courtyard, room 16). Earth (rooms 22 and 23). *Opus signinum* (remaining spaces).		Shaped large stones in courses with chain masonry and smaller stones in the packing. Interior sides covered with plaster.	*Opus signium* of crushed terracotta fragments bonded with mortar with *tesserae* inserted. Tiles and *tesserae* laid into mortar.		No.		Cistern with an arch of stone voussoires to support the W wall of room 1. Wall just inside the main entrance to block the view into the building. Columns of stuccoed brick and limestone with stone Doric capitals. Steps down into the house and up to the S part.	

House Name/No.	**Site**	**Date**	**Location/Situation Within Site**	**Form**	**Orientation - absolute**	**Orientation - relative**	**Total Size**	**No. of Internal Spaces**	**Materials - Walls**
House of the Arched Cistern	Morgantina	Phase 2	*Insula* 3, top of hill W of the agora.	Rectilinear. 3 entrances.	Main axis N-S. Main entrance centre of W wall.	Main entrance on to *stenopos* West 4.		27 plus 2 peristyle courtyards - N now full peristyle.	Shaped limestone. Rubble. Plaster.
House of the Antefixes	Morgantina	Mid. 3rd century-early 2nd century BC Phase 1	*Insula* 3, top of hill W of the agora.	Rectilinear with courtyard. 2 entrances.	Main entrance N part of NE wall.				Worked limestone.
		Early 2nd-1st century BC Phase 2	*Insula* 3, top of hill W of the agora.	Rectilinear with 2 courtyards. 2 entrances.	Main entrance N part of NE wall.				Worked limestone.

Materials - Floors	Materials - Roof	Construction - Walls	Construction - Floors	Construction - Roof	Hearth	Storage	Other Built-In Features	Other Finds
Mosaic (N and S colonnades of S courtyard, rooms 1, 3, 4, 12). Terracotta tiles (centre of N courtyard, room 16). Earth (rooms 22 and 23). Basalt tiles (S end of room 3). *Opus signinum* (remaining spaces).		Walls added between N columns - rubble construction. Shaped large stones in courses with chain masonry and smaller stones in the packing. Interior sides covered with plaster.	*Opus signium* of crushed terracotta fragments bonded with mortar with *tesserae* inserted. Tiles and *tesserae* laid into mortar.		No.	*Pithos* - NW corner of N courtyard.	Cistern with an arch of stone voussoires to support the W wall of room 1. Wall just inside the main entrance to block the view into the building. Columns of stuccoed brick and limestone with stone Doric capitals. Fountain - S courtyard. Stair leading to alley on the E side of house. Steps down into the house and up to the S part.	Stone basin - room 3.
	Terracotta tiles.	Worked stone in irregular courses with smaller stones in the packing.		Tiles with antefixes. Pitched - likely gabled.	No.		Cistern - N courtyard, off-centre.	
	Terracotta tiles.	Worked stone in irregular courses with smaller stone in the packing.		Tiles with antefixes. Pitched - likely gabled.	No.		Cistern added with E courtyard during remodelling.	

House Name/No.	Site	Date	Location/Situation Within Site	Form	Orientation - absolute	Orientation - relative	Total Size	No. of Internal Spaces	Materials - Walls
House of the Doric Capital	Morgantina	3rd-2nd century BC Phase 1	On, and terraced into, the hill E of the agora between *stenopoi* E 1 and 2 and the junction between *stenopos*E 2 and *plateia* B.	Rectilinear with central peristyle courtyard. 2 entrances.	Stair entrance to courtyard from W. 2nd entrance S.	Stair entrance from the agora. 2nd entrance along the terrace.	c.20.60x21.60 plus c.13.00x20.00 m c.704.96m^2 Exact size approx. due to erosion.	Exact no. unknown due to erosion, at least 23 plus peristyle courtyard.	Worked limestone. Plaster.
		2nd century BC Phase 2	On, and terraced into, the hill E of the agora between *stenopoi* E 1 and 2 and the junction between *stenopos*E 2 and *plateia* B.	Rectilinear with central peristyle courtyard. 2 entrances.	Stair entrance to courtyard from W. 2nd entrance S.	Stair entrance from the agora. 2nd entrance along the terrace.	c.20.60x21.60 plus c.13.00x20.00 m c.704.96m^2 Exact size approx. Due to erosion.	Exact no. unknown due to erosion, at least 24. Blocked-up doorways indicate alterations.	Worked limestone. Plaster.
House of the Silver Hoard	Morgantina	3rd-2nd century BC	On the E hill directly across *plateia* B from the House of the Doric Capital.	Rectilinear with central courtyard.	Main axis N-S. Entrance S.	Entrance on to *plateia* B.		6 plus courtyard.	Worked limestone.

Materials - Floors	**Materials - Roof**	**Construction - Walls**	**Construction - Floors**	**Construction - Roof**	**Hearth**	**Storage**	**Other Built-In Features**	**Other Finds**
Opus signinum with white *tesserae*.		Building terraced into slope, N and E retaining walls - large blocks in irregular courses with smaller stones in the packing. Coated on the internal side with plaster. Some dividing walls constructed from smaller, roughly worked stones in courses.	Cut into bedrock with *opus signium*, of crushed terracotta fragments bonded with mortar, laid on top with *tesserae* inserted, often in patterns.		No.		Columns of limestone with Doric stone capitals. Stucco mouldings. Possible windows - N-most rooms. Cisterns – 2 in peristyle, 1 space 18. Staircase - space 13.	
Opus signinum with white *tesserae*.		Building terraced into slope, N and E retaining walls - large blocks in irregular courses with smaller stones in the packing. Coated on the internal side with plaster. Some dividing walls constructed from smaller, roughly worked stones in courses.	Cut into bedrock with *opus signium*, of crushed terracotta fragments bonded with mortar, laid on top with *tesserae* inserted, often in patterns.		No.		Columns of limestone with Doric stone capitals. Stucco mouldings. Possible windows - N-most rooms. Cisterns – 2 in peristyle, 1 space 18. Staircase - space 13.	
Earth.		Worked stone in irregular courses with smaller stone in the packing.	Compacted soil.		No.		Cistern.	Hoard of silver *denarii* and gold jewellery - cistern.

House Name/No.	**Site**	**Date**	**Location/Situation Within Site**	**Form**	**Orientation - absolute**	**Orientation - relative**	**Total Size**	**No. of Internal Spaces**	**Materials - Walls**
House of Ganymede	Morgantina	Mid. 3rd-early 2nd century BC. Phase 1	Terrace on the E hill, S side of *stenpos* E 2.	Rectilinear with central peristyle courtyard. 2 entrances.	Main axis N-S. Main entrance W. 2nd entrance S.		c.21.20x30.30 m	23 plus peristyle courtyard.	Worked limestone. Stucco.
		Phase 2	Terrace on the E hill, S side of *stenpos* E 2.	Rectilinear with central peristyle courtyard. 2 entrances.	Main axis N-S. Main entrance W. 2nd entrance S.		c.21.20x30.30 m	23 plus 2 peristyle courtyards.	Worked limestone. Stucco.

Materials - Floors	**Materials - Roof**	**Construction - Walls**	**Construction - Floors**	**Construction - Roof**	**Hearth**	**Storage**	**Other Built-In Features**	**Other Finds**
Opus signinum with white *tesserae* (peristyles). Terracotta tiles (courtyard). *Mosaic* (rooms 1, 2, 14).		Worked stone in irregular courses with smaller stone in the packing.	*Opus signium* of crushed terracotta fragments bonded with mortar with *tesserae* inserted. Tiles laid in a herringbone pattern. *Tesserae* laid into mortar.		No.		Columns of stuccoed brick and limestone with Doric stone capitals. Frescoes - rooms with mosaics. Stair base - NE part of house. Large cisterns - courtyard and SW corner.	
Opus signinum with white *tesserae* (peristyles). Terracotta tiles (courtyard). *Mosaic* (rooms 1, 2, 14).		Worked stone in irregular courses with smaller stone in the packing.	*Opus signium* of crushed terracotta fragments bonded with mortar with *tesserae* inserted. Tiles laid in a herringbone pattern. *Tesserae* laid into mortar.		No.		Columns of stuccoed brick and limestone with Doric stone capitals. Frescoes - rooms with mosaics. Stair base - NE part of house. Large cisterns - courtyard and SW corner. Courtyard divided by a wall with another joining it blocking the view into the interior. Both sides of the house remain in communication.	

House Name/No.	**Site**	**Date**	**Location/Situation Within Site**	**Form**	**Orientation - absolute**	**Orientation - relative**	**Total Size**	**No. of Internal Spaces**	**Materials - Walls**
House of the Official	Morgantina	c.250 BC Phase 1	Near the S wall of Morgantina in a slight hollow.	Rectilinear with a peristyle courtyard and 2 courtyards?	Main axis N-S. Entrance E.		c.41.60x19.20 m	19 plus courtyard and peristyle courtyard.	Limestone.
		c.200-150 BC Phase 2 South House	Near the S wall of Morgantina in a slight hollow.	Rectilinear with central peristyle courtyard.	Main entrance E. 2nd entrance W.		c.20.00x19.20 m	6 plus peristyle courtyard.	Limestone.
		c.200-150 BC Phase 2 North House	Near the S wall of Morgantina in a slight hollow.	Rectilinear with peristyle courtyard and courtyard?.	Main axis N-S. Entrance E.		c.22.00x19.20 m	14 plus peristyle courtyard.	Limestone.

Materials - Floors	**Materials - Roof**	**Construction - Walls**	**Construction - Floors**	**Construction - Roof**	**Hearth**	**Storage**	**Other Built-In Features**	**Other Finds**
Opus signinum (rooms 2, 3, 5 at least).		Large worked stone blocks with smaller stones in the packing. Chain masonry at intervals. c.0.75m wide.	*Opus signium* of crushed terracotta fragments bonded with mortar.		No.		Columns of stuccoed semi-circular brick and limestone capitals. Steps down from the main entrance. Stair base - room 1. Cistern - CN. Doors indicated by cuts in the thresholds.	
Opus signinum (rooms 2, 3, 5 at least).		Large worked stone blocks with smaller stones in the packing. Chain masonry at intervals. New walls of small roughly worked stone in courses. c.0.75m wide.	*Opus signium* of crushed terracotta fragments bonded with mortar.		No.		Columns of stuccoed semi-circular brick and limestone capitals. Steps down from the main entrance. Stair base - room 1.	
Mosiac (room 14). *Opus siginum*. Terracotta tiles.		Large worked stone blocks with smaller stones in the packing. Chain masonry at intervals. New walls of small roughly worked stone in courses. c.0.75m wide.	*Tesserae* laid into mortar. *Opus signium* of crushed terracotta fragments bonded with mortar.		No.		Columns of stuccoed semi-circular brick and limestone capitals. Steps down from the main entrance. Cistern - CN. Doors indicated by cuts in the thresholds.	Vessels relating to food preparation - room 10.

Table 2 'Individual Dimensions' Spreadsheet.

House Name/No.	Site	Date	Total Size	No. of Internal Spaces	Dimensions of Internal Spaces	Dimensions of Courtyard/s	Width of Doorways	Dimensions of Windows
Mid. Neolithic Hut	Piano Vento	Mid. Neolithic	c.2.50-3.00m Ø	1	c.2.50-3.00m Ø			
Neolithic Hut	Mandria	Mid. Neolithic	c.20.00x12.00m Possibly c.10.00x11.50m	2	c.10.70x7.50m c.7.00x8.50m			
Neolithic Hut	Salina	End 5th millennium BC	c.3.50x2.50m	1	c.3.50x2.50m			
General	Piano Vento	Copper Age	c.2.00-2.50m Ø	1	c.2.00-2.50m Ø			
Rinollo Hut 1	Rinollo Hill	Copper Age	c.6.80m Ø	1	c.6.80m Ø			
Rinollo Hut 2	Rinollo Hill	Copper Age	c.7.40m Ø	1	c.7.40m Ø			
Casa Solima Hut	Casa Solima	4th/3rd millennium BC	c.10.50x6.00m.	1	c.10.50x6.00m			
Hut 1	Tornambé	Late Copper Age/Early Bronze Age	c.8.00m Ø	1 or 2	c.7.60m Ø			
Monte Racello Hut	Monte Racello	Early Bronze Age	c.3.00m Ø	1	c.3.00m Ø			
Hut D10	Mursia, Pantelleria	Early Bronze Age	c.13.00x5.40m	1	c.12.00x4.10m			
General	Lipari	Early Bronze Age	c.2.50-4.50m Ø	1	c.2.50-4.50m Ø			
General	Santi Croci	Early Bronze Age	c.6.00-7.50m Ø	1	c.6.00-7.50m Ø			
Hut 2	Santi Croci	Early Bronze Age	c.7.50x7.00m	1	c.7.50x7.00m			
Hut 3	Santi Croci	Early Bronze Age	c.7.50x6.00m	1	c.7.50x6.00m			
Hut 2	La Muculufa	Early Bronze Age/End 3rd millennium BC	c.8.00m Ø	1	c.8.00m Ø			

House Name/No.	Site	Date	Total Size	No. of Internal Spaces	Dimensions of Internal Spaces	Dimensions of Courtyard/s	Width of Doorways	Dimensions of Windows
Hut 3 Lower	La Muculufa	Early Bronze Age/End 3rd millennium BC	c.6.60x4.60m	1	c.6.60x4.60m			
General	Branco Grande	Early Bronze Age	c.3.70-4.20m Ø	1	c.3.70-4.20m Ø			
General	Manfria	Early Bronze Age	c.3.75-5.00m Ø	1	c.3.75-5.00m Ø			
General	Capo Graziano, Filicudi	End Early Bronze Age	c.5.00-6.00mx3.50m	1	c.5.00-6.00x3.50m			
Hut 2	Punta Milazzese, Panarea	Mid. Bronze Age	c.6.50x6.30m	3	Main oval space: c.4.00m Ø Larger annex space: c.2.30x5.50m Smaller annex space: c.3.30x1.20m		Main entrance: ? Larger annex space-main oval space: c.1.00m	
Hut 1	Madre Chiesa di Gaffe	Mid. Bronze Age	c.4.80m Ø	1	c.4.80m Ø			
Hut 1	Thapsos	Mid. Bronze Age	c.8.25m Ø	1	c.8.25m Ø		c.2.25m? max.	
Hut 4	Thapsos	Mid. Bronze Age Phase 1	c.7.00m Ø	1	c.7.00m Ø			
Hut 2	Cannatello	Mid. Bronze Age Phase 1	c.8.00m Ø	1	c.8.00m Ø			
Hut 1	Milazzo	Bronze Age	c.10.75x4.40m	2-3	SW/main room: c.7.40x3.20m NW room: c.2.20x1.75m Inset space: c.1.00x.0.80m			
House 1 (Room 6a)	Faraglioni, Ustica	Mid. Bronze Age, Period 1	c.3.50x6.25m	1	c.2.50x5.50m			
House G/C	Faraglioni, Ustica	Mid. Bronze Age, Period 2	c.4.25x12.25m	1 plus enclosure/ courtyard	Room C: c.3.60x4.70m	Room G: c.3.70x4.50m	Main entrance: 0.80m G-C: unknown	

House Name/No.	**Site**	**Date**	**Total Size**	**No. of Internal Spaces**	**Dimensions of Internal Spaces**	**Dimensions of Courtyard/s**	**Width of Doorways**	**Dimensions of Windows**
House F/E/B	Faraglioni, Ustica	Mid. Bronze Age, Period 2	c.3.80x12.60m	2 plus enclosure/ courtyard	Room E: c.2.25x3.25m Room B: c.2.90x4.30m	Room F: c.3.30x3.00m + c.1.10x4.00m		
House 6	Faraglioni, Ustica	Mid. Bronze Age, Period 2	c.6.70-5.90x11.90m	1 plus enclosure/ courtyard	Room 10: c.5.00x4.00m	Room 11: c.4.30x5.50m		
House 7	Faraglioni, Ustica	Mid. Bronze Age, Period 2	c.3.80-4.70x9.90	1 plus enclosure/ courtyard	Room 1: c.3.80x5.00m	Room 8: c.2.90x3.00m	Main entrance: unknown 1-8: c.0.85m	
House 8	Faraglioni, Ustica	Mid. Bronze Age, Period 2	c.3.00-3.70x9.00m	1 plus enclosure/ courtyard	Room 2: c.2.90x3.00m	Room 3: c.2.30x4.30m	3-2: c.0.80m	
General	Lipari	Mid.-Late Bronze Age	c.4.00-7.00m Ø	1	c.4.00-7.00m Ø			
General	Sabucina	Mid.-Late Bronze Age	c.3.50-7.00m Ø	1	c.3.50-7.00m Ø			
General	Portella, Salina	Mid.-Late Bronze Age	c.4.00m Ø	1	c.4.00m Ø			
Hut 31	Morgantina	Early Iron Age/Mid. 9th century BC	c.18.75x4.50m	2	Room A: c.12.50x4.25m Room B: c.4.25x4.75m		Main entrance: unknown A-B: c.0.80m	
Trench 16 West Hut	Morgantina	Early Iron Age/Mid. 9th century BC	c.27.50x6.75m	2	S Room: c.11.60x5.00m N Room: c.14.40x5.00m			
House 23,10	Megara Hyblaea	Late 8th century BC	c.4.50x4.30m	1	c.4.50x4.30m			
House 5	Naxos	Late 8th century BC	c.6.75x2.80m	2	Room A: c.3.60x2.00m Room B: c.1.75x2.00m		Main entrance: c.0.90m B-A: ?	
General	Megara Hyblaea	Late 8th century BC	c.4.00x4.00m	1	c.4.00x4.00m			
General	Polizzello	Early Iron Age	c.2.70m Ø	1	c.2.70m Ø			
General	Monte San Mauro	8th-Early 7th century BC	c.7.00m Ø	1	c.7.00m Ø			

House Name/No.	Site	Date	Total Size	No. of Internal Spaces	Dimensions of Internal Spaces	Dimensions of Courtyard/s	Width of Doorways	Dimensions of Windows
Apsidal Building	Monte San Mauro	Mid. 7th-Early 6th century BC	c.11.80x4.60m	2	19: c.3.50x4.80m 18: c.3.25x5.15m		Main entrance: ? 19-18: c.1.00m?	
House 58,17	Megara Hyblaea	7th century BC	c.11.50x12.30m	3 plus courtyard	b: c.4.00x3.25m 17a: c.3.90x2.90m c: c.3.60x4.50m	C: c.6.50x11.25m	Main entrance: ? C-b: c.1.50m C-17a: c.1.25m C-c: c.1.50m	
House 63,2	Megara Hyblaea	7th century BC	c.13.00x11.80m	3 plus courtyard	3: c.4.50x3.80m b: c.2.30x3.80m 2a: c.3.90x3.80m	C: c.11.50x6.20m	Main entrance: c.2.40m C-3: c.1.90m C-b: c.0.80m C-2a: c.1.10m	
House 33,30	Megara Hyblaea	End 7th century BC	c.14.00x12.00	3 plus courtyard	1: c.4.80x4.10m 2: c.4.00x3.95m 3: c.2.80x2.30m	C: c.11.30x8.20m? (irregular in shape)	Main entrance: c.2.30m C-1: c.1.80m C-2: c.1.50m C-3: c.1.10m	
Pastas' House (Casa 1 and Casa 2)	Naxos	Mid. 7th century BC-6th century BC	c.16.00x12.50m	6-7 plus courtyard	Entrance hall/'archaic alley': c.2.80x5.00or12.20m Room 1A: c.3.00x3.75m Room 1A anteroom(?): c.2.15x3.50m Room B: c.3.00x3.75m Room C: c.3.00x3.90m Corridor D: c.2.00x12.00or8.10m Room 2A: c. 5.60x4.50m	C: c.8.00or5.90x6.50m	Main entrance: c.1.60m 2nd entrance: c.1.56m C-Corridor D: c.2.00m and c.1.50m Corridor D/anteroom-1A: c.2.30m Corridor D-B: c.1.60m Corridor D-C: c.2.10m C-2A: unknown	
Casa 1	Monte San Mauro	6th century BC	c.10.20x10.70m	3	V1: c.4.60x9.40m V2: c.3.90x3.40m V3: c.3.90x5.20m		Main entrance: c.1.50m V1-V2: c.1.30m V1-V3: c.1.30m	

House Name/No.	**Site**	**Date**	**Total Size**	**No. of Internal Spaces**	**Dimensions of Internal Spaces**	**Dimensions of Courtyard/s**	**Width of Doorways**	**Dimensions of Windows**
Casa 2	Monte San Mauro	6th century BC	c.9.23x8.31m	3 plus courtyard	8(A2): c.8.62x3.69m 7(B2): c.3.54x2.92m 9(C2): c.3.54x2.92m	C(6): c.3.23x6.15m	Main entrance: c.1.23m 8(A2)-7(B2): c.1.08m 8(A2)-9(C2): c.1.30m Entrance to C(6): unknown.	
Casa 3	Monte San Mauro	6th century BC	c.8.30x9.30m	3	14: c.6.00x8.83m 12: c.2.83x3.33m 13: c.3.07x3.33m		Main entrance: c.1.50m 14-12: c.1.25m 14-13: c.1.33m	
Casa 4	Monte San Mauro	6th century BC	c.10.67x11.34m	4	11: c.9.67x5.67m 17: c.3.33x3.17m 20: c.3.00x3.00m 21: c.1.60x3.70m		Main entrance: c.1.42m 11-17: c.1.50m 11-20: c.1.58m 20-21: c.0.75m 11-21: c.0.67m	
House 1/ Blocco 1	Agrigento/ Akragas	Late 6th-4th century BC	c.18.00x10.00m	4-7? plus courtyard	Room 36b: c.4.40x4.80m Room 35: c.4.10x8.00m Room 10: c.3.00x3.80m Room 9: c.3.00x4.20m Room 34: c.3.10x4.00m Room 31: c.3.70x2.70m Room 36: c.3.00x2.15m	C: c.60.15m^2	Main entrance: c.0.60m C-36b: c.0.90 & c.1.70m C-35: c.1.15m 35-10: c.1.05m 35- 9: c.1.30m C-34: unclear 34-31: c.1.00m Exterior-36: c.0.70m	

House Name/No.	Site	Date	Total Size	No. of Internal Spaces	Dimensions of Internal Spaces	Dimensions of Courtyard/s	Width of Doorways	Dimensions of Windows
House 2 (D)/Blocco 2	Agrigento/ Akragas	Late 6th-4th century BC	c.12.00x17.00m	5 plus courtyard	Room 28b: c.4.50x7.50m Room 27: c.5.00x5.00m Room 26: c.5.00x3.00m Room 25: c.2.10x4.20m Room 24: c.2.10x3.70m	C: c.75.00m^2	Main entrance: c.1.00m C-28b: c.1.50m C-27: c.0.90m 27-26: c.1.00m 27-25: c.1.05m Into 24: unclear	
South Building, Block 1, Phase IIA	Himera	Late 6th/Early 5th century BC	c.8.30x15.50m	8 plus courtyard	Room 4: c.2.30x3.75m Room 4a-b: c.2.65x1.50m Room 5: c.2.25x1.75m Room 6: c.2.25x2.50m Room 6a: c.2.25x1.15m Room 34a: c.2.75x3.10m Room 34-35: c.7.30x4.25m Room 36: c.3.75x3.00m	C: c.2.00x6.50m	Entrance-4: c.1.75m 4-C: c.1.00m C-4a-b: c.1.50m 2nd entrance-C: unclear C-5: c.0.75m C-6: c.1.00m C-34/35: c.1.30m 34/35-6a: c.0.70m 34/35-34a: unknown 34/35-36: c.0.70m	
South Building, Block 1, Phase IIB	Himera	5th century BC	c.8.30x15.50m	9 plus courtyard	Room 4: c.2.30x3.75m Room 4a-b: c.2.65x1.50m Room 5: c.2.25x1.75m Room 6: c.2.25x2.50m Room 6a: c.2.25x1.15m Room 34a: c.2.75x3.10m Room 34: c.3.50x4.25m Room 35: c.3.30x4.25m Room 36: c.3.75x3.00m	C: c.2.00x6.50m	Entrance-4: c.1.25m 4-C: c.1.00m C-4a-b: c.1.50m C-possible 2nd entrance: unclear C-5: c.0.75m C-6: c.1.00m C-34: c. unclear (possibly blocked in phase IIB) 35-6a: c.0.70m 34-34a: unknown 35-36: c.0.70m 35-34: unclear	

House Name/No.	**Site**	**Date**	**Total Size**	**No. of Internal Spaces**	**Dimensions of Internal Spaces**	**Dimensions of Courtyard/s**	**Width of Doorways**	**Dimensions of Windows**
North Building, Block 1	Himera	5th century BC	c.7.00x16.10m	3	Room 1: c.5.80x5.70m Room 33: c.5.80x5.70m Room 38: c.5.80x2.80m		Main entrance: c.2.80m 2nd entrance: c.1.40m 1-33: unclear 33-38: c.1.20m	
House VI 5, *Insula* II	Himera	5th century BC	c.15.60x31.20m	14 plus courtyard	Entrance corridor: c.6.20x2.00m Room 28: c.3.40x6.40m Room 29: c.2.60x6.70m Room 30: c.6.40x6.60m Room 32: c.4.40x3.70m Room 33: c.6.10x6.20m Room 36: c.6.10x4.50m Room 37: c.2.60x6.90m Room 38: c.1.80x6.50m Room 40: c.4.90x10.30m Room 41: c.3.50x4.80m Room 42: c.2.60x2.90m Room 43: c.3.60x2.90m Room 44: c.6.90x2.90m	C (39/35): c.5.30x9.60m	Main entrance: c.0.80m Entrance corridor-33: c.1.80m Entrance Corridor 36: c.1.40m 36-C: c.2.50m 33-32: c.1.00m C-32: c.2.20m C-37: unclear C-38: c.0.90m C-40: c.1.90m 32-28: c.1.10m 28-29: c.2.40m 29-30: c.1.60m 36-41: c.1.50m 41- 44?: c.0.80m 40-42: c.2.00m 40-43: c.1.40m 40-44: c.1.60m	
House 3	Naxos	5th century BC	c.7.50x8.00m	5	1: c.3.80x2.80m 2: c.2.75x2.75m 3: c.2.00x2.00m 4: c.2.00x2.00m 5: c.4.00x4.30m		Main entrance: c.1.00m 1-2: c.0.80m 1-5: c.1.80m 5-3: c.0.80m 5-4: c.0.80m	

House Name/No.	**Site**	**Date**	**Total Size**	**No. of Internal Spaces**	**Dimensions of Internal Spaces**	**Dimensions of Courtyard/s**	**Width of Doorways**	**Dimensions of Windows**
House 4	Naxos	5th century BC	c.10.50x10.00m	4 plus courtyard	Entrance corridor (1): c.3.50-5.25x2.20-4.50m (L-shaped) 2: c.4.00x4.00m 3: c.3.20x4.50m 4: c.3.20x1.50m	C: c.6.30x4.50m	Main entrance: c.0.90m 2nd entrance: c.1.20m Entrance corridor (1)-C: c.1.50m Entrance corridor (1)-4: c.1.30m C-2: c.2.00m C-3: c.1.30m	
House 8	Naxos	5th century BC	c.11.00x5.00m	3 plus courtyard	1: c.2.25x4.00m 2: c.2.20x1.80m 3: c.2.20x1.80m	C: c.4.50x4.00m	Main entrance: c.0.75m 1-C: c.1.00m C-2: c.0.80m C-3: c.1.00m	
House 9	Naxos	5th century BC	c.9.00x5.90m	4 plus open corridor?	1: c.3.00x3.40m 2: c.3.00x1.90m 3: c.3.40x3.00m 4: c.2.60x1.80m	OC: c.1.80x6.00m	Main entrance: c.1.20m OC-1: c.1.20m 1-2: c.1.20m OC-3: c.1.00m OC-4: c.0.80m	
House 10	Naxos	5th century BC	c.9.60x13.40m	6 plus courtyard	1: c.4.00x3.80m 2: c.3.60x6.00m 3: c.4.00x3.50m 4: c.4.00x2.20m 5: c.2.00x2.00m 6: c.2.00x2.00m	C: c.5.20x6.20m	Main entrance: c.1.20m 1-C: c.1.00m 1-2: c.0.80m 1-6: c.1.20m? 2-3: c.1.00m 3-4: c.1.20m C-5: c.0.80m	
House11	Naxos	5th century BC	c.9.00x5.30m	2 plus courtyard	1: c.2.20x2.00m 2: c.2.20x2.00m	C: c.5.20x4.20m	Main entrance: c.1.00m C-1: c.1.20m C-2: c.0.80m	

House Name/No.	Site	Date	Total Size	No. of Internal Spaces	Dimensions of Internal Spaces	Dimensions of Courtyard/s	Width of Doorways	Dimensions of Windows
House 12	Naxos	5th century BC	c.9.00x7.00m	3 plus courtyard	1: c.2.60x3.00m 2: c.5.00x3.00m 3: c.2.60x2.00m Corridor (c): c.3.40x0.75m	C: c.5.00x3.20m	Main entrance: c.1.20m 2nd entrance-Corridor (c): c.0.75m Corridor (c)-C: c.0.75m C-1: c.0.75m? C-2: c.1.10m C-3: c.1.20m	
House 13	Naxos	5th century BC	c.8.40x6.40m	1 plus courtyard	1: c.2.00x5.75m	C: c.5.20x5.60m	Main entrance: c.0.90m 1-C: c.1.50m	
House 14	Naxos	5th century BC	c.19.50x18.60m	13? plus courtyard	1: c.3.90x1.90m 2: c.3.50x3.85m 3: c.7.00x5.25m (possibly two spaces) 4: c.1.10x5.25m 5: c.5.25x5.25m 6: c.3.00x1.90m 7: c.3.50x3.00m 8: c.3.00x4.00m 9: c.3.40x2.20m 10: c.3.40x3.00m 11: c.2.80x1.60m 12: c.5.60x1.60m 13: c.4.00x3.90m	C: c.10.00x8.00m (possibly including a colonnade)	Main entrance: c.1.50m 2nd entrance?: c.0.75m 1-C: c.1.50m C-2: c.1.20m 2-3: c.1.20m C-3: c.1.00m 3-4: c.0.80m C-5: c.1.50m 5-7: c.1.00m 6-7: c.1.00m C-8: c.0.90m 9-9: c.1.20m C-9: c.0.70m C-10: c.0.80m 10-11: c.0.80m C-12: c.1.50m 1/C-13: ?	

House Name/No.	**Site**	**Date**	**Total Size**	**No. of Internal Spaces**	**Dimensions of Internal Spaces**	**Dimensions of Courtyard/s**	**Width of Doorways**	**Dimensions of Windows**
BI	Gela	5th century BC	c.11.40x10.50m	3 plus courtyard and 2 shops?	Room N of C: c.4.25x2.50m Room E of C: c.2.75x3.00m Room NE of C: c.4.25x2.50m NW shop: c.4.25x3.50m NE shop: c.4.25x3.50m	C: c.4.25x3.00m	Main entrance: c.0.75m C-N room: c.0.60m C-E room: c.0.75m E room-NE room: c.1.00m	
House of Empolemos	Morgantina	4th century BC	c.10.50 deep x c.15.00m	8 plus courtyard	1: c.3.00x4.00m 2: c.3.50x4.10m 3: c.2.20x3.80m 4: c.2.90x4.90m 5: c.2.30x3.20m 6: c.2.30x5.60m 7: c.2.40x3.20m 8: c.4.10x4.80m	C: c.16.57m^2	Main entrance: c.1.20m 2nd entrance (into 8): c.1.00m 1-C: c.1.50m 1-2: c.0.80m C-3: c.1.20m 3-4: c.2.60m C-5: c.1.60m 5-6: c.1.00m C-7: c.1.90m 7-8: c.0.90m	
House VII	Solunto	4th/2nd century BC?	c.17.30x16.30m	9 plus courtyard	1: c.3.30x3.00m 2: c.3.00x3.00m 3: c.7.00x2.70m 4: c.4.70x6.30m 5: 5.00x6.00m 6: c.5.00x3.30m 7: c.5.00x5.00m 8: c.5.30x3.00m 9: c.5.30x5.00m	C: c.6.70x7.30m	Main entrance: c.1.30m 2nd Entrance: c.1.00m 3-1: c.1.00m 3-2: c.0.75m 3-C: c.1.25m C-4: c.4.75m C-6: c.2.25m 6-5: c.1.75m C-7: c.1.50m C-8: c.1.75m C-9: c.1.25m	

House Name/No.	Site	Date	Total Size	No. of Internal Spaces	Dimensions of Internal Spaces	Dimensions of Courtyard/s	Width of Doorways	Dimensions of Windows
House IIc	Herakleia Minoa	Late 4th/Early 3rd century BC	c.14.00x11.70m	7 plus courtyard	1: c.5.25x2.50m 2: c.5.25x5.25m 3: c.7.00x3.40m 4: c.3.30x6.40m 5: c.3.30x2.30m 6: c.3.90x1.80m 7: c.0.60x1.80m	C: c.3.10x3.70m	Main entrance: c.1.00m 1-C: ? C-2: c.0.60m C-3: c.1.40m C-4: c.1.00m C-5: c.0.90m 5-6: c.0.70m Into 7: ?	
House IIb	Herakleia Minoa	Late 4th/Early 3rd century BC	c.14.00x11.30m	8 plus courtyard	1: c.3.00x4.40m 2: c.3.40x3.60m 3: c.3.40x3.80m 4: c.3.60x2.30m 5: c.2.40x2.40m 6: c.2.20x4.40m 7: c.5.00x5.00m 8 (entrance corridor): c.1.20x6.00m	C: c.3.80x4.40m	Main entrance: c.1.20m 2nd entrance-1: c.1.00m 8-1: c.1.10m 1-2: c.0.80m 8-C: c.1.00m C-3: c.0.70m C-4: c.1.00m C-6: c.0.80m 6-5: c.0.60m C-7: c.0.70m	

House Name/No.	Site	Date	Total Size	No. of Internal Spaces	Dimensions of Internal Spaces	Dimensions of Courtyard/s	Width of Doorways	Dimensions of Windows
District of the Craftsmen: Northern-most excavated house.	Solunto	Hellenistic	c.20.00x20.00m	9, 1 or 2 potentially courtyards	Entrance space a: c.1.70x3.40m b: c.5.70x6.30m C: c.5.60x4.40m Stairs and landing a-b: c.8.00x2.60m E: c.3.60x6.40m Room S of E: c.3.80x4.30m e: c.4.60x4.40m g/h: c.4.00x4.40m c(courtyard?): c.5.10x4.00m f(courtyard?): c.4.00x9.10m d: c.4.60x4.80m		Main entrance: c.1.50m 2nd entrance: c.1.60m a-B: c.1.70m a-C: c.1.70m a-b-E: c.2.50m E-Room S of E: c.1.20m E-c: c.4.00m c-e: c.1.40m c-d: c.1.70m c-f: c.3.20m f-g/h: c.1.00m	

House Name/No.	Site	Date	Total Size	No. of Internal Spaces	Dimensions of Internal Spaces	Dimensions of Courtyard/s	Width of Doorways	Dimensions of Windows
District of the Craftsmen: House N of the Via Natoli	Solunto	Hellenistic	c.16.40x21.70m	12 plus possible courtyard	Entrance hall: c.1.70x1.80m Ba: c.3.60x2.30m Ca: c.3.90x2.80m Cb: c.4.40x4.70m Stairs: c.4.00x1.80m b: c.3.50x5.00m Corridor Fa: c.1.80x3.40m + 7.50x2.40m + 2.20x5.20m (Z-shaped) Fb: c.4.80x4.80m Fc: c.2.30x2.60m Fe: c.2.20x3.20m Ea: c.4.60x5.70m Db: c.4.80x3.40m Dc: c.4.80x3.60m	Da: c.5.20x7.70m	Main entrance: c.1.80m 2nd entrance: c.1.50m Entrance hall-Ba: c.1.20m Entrance hall-Ca: c.1.00m Ca-Cb: c.0.90m b-Corridor Fa: c.2.40m Corridor Fa-Fb: c.1.10m Corridor Fa-Fe: c.1.00m Corridor Fa-Fc: c.0.90m b-Ea: c.1.60m b-Da: c.1.50m Da-Db: c.1.00m Da-Dc: c.1.40m	
District of the Craftsmen: House C S of the Via Natoli	Solunto	Hellenistic	c.10.50x7.40m	3, 1 potentially courtyard	a: c.5.40x3.00m b: c.4.35x2.80m c: c.4.00x3.40m		Main entrance: c.2.00m a-b: c.1.20m a-c: c.2.10m	

House Name/No.	Site	Date	Total Size	No. of Internal Spaces	Dimensions of Internal Spaces	Dimensions of Courtyard/s	Width of Doorways	Dimensions of Windows
District of the Craftsmen: House A S of the Via Natoli	Solunto	Hellenistic	c.16.20x15.40m	9 plus courtyard	c: c.2.20x2.00 + 5.00x2.40m (L-shaped) Staircase f: c.4.20x2.20m g: c.2.10x6.20m h: c.2.75x4.60m m: c.2.80x5.80m i: c.4.40x1.70 + 1.90x2.80m (L-shaped) n: c.2.40x2.80m o: c.3.10x4.60m p: c.3.00x3.80m q: c.3.20x4.20m	a: c.5.20x9.00m	Main entrance: c.2.00m a-c: c.1.00m Staircase f-g: c.1.00m g-h: c.1.30m m-i: c.1.20m m-n: c.1.20m o-n: c.1.00m m-p: c.2.20m p-q: c.1.80m	

House Name/No.	Site	Date	Total Size	No. of Internal Spaces	Dimensions of Internal Spaces	Dimensions of Courtyard/s	Width of Doorways	Dimensions of Windows
Peristyle House 1	Monte Iato	300-200 BC	c.29.00x24.00m plus a further c.11.00x6.00m in the NW corner.	25 plus peristyle courtyard. Space 23 includes a mini-peristyle.	1: c.6.00x5.00m Corridor linking C(2) and 7: c.1.00x7.25m 2a: c.2.50x2.75m 3: c.2.10x5.25m 4: c.2.75x5.25m 5: c.4.60x2.75m 6: c.4.60x2.75m Corridor 7: c.5.25x2.50m 8: c.4.00x2.00m 9: c.1.25x2.00m 10: c.5.50x2.75m 11: c.5.25x4.50m 12: c.2.85x4.50m 13: c.3.50x4.60m 14: c.3.00x4.50m 15: c.6.25x4.50m 16: c.6.25x5.60m 17: c.6.25x4.60m 18: c.5.90x3.00m 19: c.4.85x3.80m 20: c.2.75x2.75m 21: c.3.00x2.75m 22: c.2.50x2.75m 24: c.4.80x4.80m 25: c.4.40x4.80m	C(2): c.5.25x6.50m C(2) + peristyle: c8.25x11.00m 23: c.3.15x2.50m 23 + semi-peristyle: c.9.75x4.75m	Main entrance: c.1.50m 1-peristyle: c.1.25m Peristyle-2a: c.2.25m 2a-18: c.0.80m Street-3: c.0.90m 3-4: c.0.75m Peristyle-5: c.1.00m 6-7: c.1.00m Peristyle-11: c.1.00m 12-13: c.0.70m Street-13: c.1.00m Peristyle-14: c.0.90m 16-15: c.1.10m Peristyle-16: c.5.20m 16-17: c.1.00m Peristyle-17: c.1.00m 23-20: c.1.00m 22-21: ? 22-23: c.2.40m 23-24: c.0.90m 23-25: c.0.90m	c.1.20-1.37m above floor c.0.75m wide 14: c.0.83m tall 15: at least 1.00m tall

House Name/No.	Site	Date	Total Size	No. of Internal Spaces	Dimensions of Internal Spaces	Dimensions of Courtyard/s	Width of Doorways	Dimensions of Windows
Peristyle House E2	Monte Iato	3rd-2nd century BC	Not fully excavated, c.30.00x15.00 plus bath house area in current state.	17? plus 2 peristyle courtyards	1: c.5.00x5.00m 2: c.4.75x4.25m 3: c.4.75x4.25m 4: c.4.75x2.75m 5: c.10.00x3.00m 6: c.6.00x4.80m Remainder too fragmentary to tell.	W C: c.8.75x7.50m W C + peristyle: ? E C: c.6.25x4.25m E C + peristyle: c.9.25x8.75m (roughly trapezoidal in shape)	Entrance to 1: c.1.25m 1-5: c.1.00m Entrance to 2: c.1.25m Entrance to 3: c.0.90m EC-6: c.1.32m 3-EC: c.1.00m 4-?: c.1.00m 6-5: c.0.80m	
House 30,11	Megara Hyblaea	Hellenistic/3rd century BC	c.16.70x20.80m	8 plus courtyard	1: c.4.50x4.55m 2: c.2.20x4.55m 3: c.4.40x4.55m 4: c.2.40x4.55m 5: c.3.10x4.40m 6: c.1.90x5.00m 7: c.6.00x5.00m 8: c.5.00x4.80m	C: c.12.00x9.00m	N Entrance: c.1.50m C Entrance: c.1.20m S Entrance: c.1.40m C-1: c.1.00m 1-2: c.0.90m C-3: c.1.00m 3-4: c.1.40m C-5: c.0.90m C-7: c.1.20m C-7: c.1.30m C-6: ? C-8: c.0.90m	

House Name/No.	Site	Date	Total Size	No. of Internal Spaces	Dimensions of Internal Spaces	Dimensions of Courtyard/s	Width of Doorways	Dimensions of Windows
House 49,19	Megara Hyblaea	Hellenistic/3rd century BC	c.1000m^2	At least 21 plus courtyard and semi-peristyle courtyard	1: c.4.60x4.00m d: c.4.60x1.20 + 1.20x4.00m (L-shaped) e: c.2.20x2.60m 2: c.6.30x6.00m 3: c.2.80x6.00m 4: c.4.70x4.80m 5: c.4.60x1.40m l: c.3.00x3.00m 6: c.4.10x1.20 + 2.60x4.80m j: c.6.20x6.20m 7: c.4.60x4.20m 8: c.6.20x2.40m 9: c.6.60x5.00m 10: c.6.60x2.60m 11: c.6.00x2.60m 12: c.6.00x4.60m 13: c.5.40x2.80m 14: c.4.20x3.40m s: c.4.40x2.60m 15: c.4.30x4.00m 16: c.4.60x6.30m	CS: c.7.60x15.00m CS + peristyle: c.12.40x17.80m CN: c.6.80x10.20m	Main entrance: c.1.40m 2nd entrance?: c.1.80m 1-NC: c.1.60m NC-d: c.1.50m d-e: c.0.80m d-2: c.1.10m e-2: c.1.20m 3-2: c.2.20m 3-4: c.1.20m 4-5: c.1.60m NC-l: c.1.60m NC-6: c.1.60m 6-j: c.1.80m NC-j: c.1.80m NC-7: c.1.60m NC-SC: c.1.60m NC-8: c.2.00m NC-9: c.1.80m SC-10: c.1.40m SC-11: c.1.00m SC-12: c.2.00m 12-13: c.1.50m SC-14: c.1.80m SC-15: c.1.00m 15-s: c.1.00m SC-16: ?	

House Name/No.	Site	Date	Total Size	No. of Internal Spaces	Dimensions of Internal Spaces	Dimensions of Courtyard/s	Width of Doorways	Dimensions of Windows
House of the Arched Cistern	Morgantina	c.250-200 BC	c.20.00x52.00m	27 plus 2 peristyle courtyards	1: c.7.10x7.00m 2nd entrance corridor: c.1.10x7.20m 3: c.3.10x8.20m 4: c.3.00x5.20m 5: c.3.00x5.50m 7: c.3.10x2.60m 8: c.4.90x4.50m 9: c.2.80x5.60m 10: c.1.00x4.00m 14: c.8.30x4.80m 11: c.7.10x5.30m 12: c.5.10x5.30m 13: c.4.60x4.80m 15: c.5.20x6.20m 16: c.4.60x2.30m 17: c.3.00x1.95m 18: c.3.00x4.30m 19: c.3.00x5.70m 26: c.3.10x3.10m 27: c.3.60x3.10m 20: c.3.80x4.70m 21: c.6.20x5.00m 22: c.7.00x4.90m 23: c.7.00x2.60m 24: c.4.80x2.60m NE room: c.2.20x2.40m	CS: c.6.00x10.20m CS + peristyle: c.8.90x17.00m CN: c.6.40x4.50m CN + peristyle: c.11.00x10.50m	Main entrance: c.2.20m 2nd entrance: c.1.10m 11-7: c.0.80m 11-17: c.0.70m 11-CS: c.1.70m CS-12: c.5.10m CS-15: c.6.20m 15-13: c.1.00m 13-16: c.0.75m 15-8: c.1.00m CS-8: c.0.80m 8-9: c.0.80m CS-10: c.1.00m 10-14: c.1.00m CS-1: c.1.60m CS-2nd entrance corridor: c.1.00m CS-3: c.1.00m 3-4: c.0.80m CS-4: c.1.20m CS-5: c.0.80m 11-CN: c.1.50m CN-18: c.0.80m CN-26: c.0.90m CN-22: c.1.60m 22-23: c.1.80m CN-21: c.1.40m 21-24: c.1.10m 24-25: c.0.70m CN-27: c.3.10m 27-20: c.0.80m 20-NE room: c.0.50m CN-19: c.0.80m	

House Name/No.	Site	Date	Total Size	No. of Internal Spaces	Dimensions of Internal Spaces	Dimensions of Courtyard/s	Width of Doorways	Dimensions of Windows
House of Ganymede	Morgantina	Mid. 3rd-early 2nd century BC Phase 1	c.21.20x30.30m	23 plus peristyle courtyard	1: c.4.70x4.70m 2: c.2.60x2.60m 3: c.2.20x2.60m Corridor 4: c.6.40x0.70m 5: c.2.15x1.40m 6: c.2.40x3.20m 7: c.2.40x2.80m 8: c.2.60x2.75m 9: c.2.60x3.90m 10: c.2.60x3.10m 11: c.4.70x6.00m Corridor 12: c.5.20x2.00m Stairwell 13: c.0.90x3.40m 14: c.2.80x2.80m 15: c.1.70x3.30m 16: c.4.50x3.60m 17: c.6.20x5.20m 18: c.3.30x5.70m 19: c.2.10x3.00m 20: c.2.10x8.40m Entrance hall 21: c.2.70x4.60m 22: c.2.00x2.00m 23: c.2.00x1.90m	C: c.4.00x17.40m C + peristyle: c.9.20x23.00m	Main entrance: c.2.00m 2nd entrance: c.0.60m 21-C: c.4.70m 21-20?: c.0.60m 21-22: c.0.55m C-23: c.0.60m C-20: c.0.65m 20-19: c.0.60m 19-18: c.0.70m 18-17: c.1.50m C-17: c.2.50m 17-16: c.1.40m 16-15: c.0.60m C-14: c.0.90m C-12: c.2.00m 12-Stairwell 13: c.0.90m C-11: c.1.30m 11-10: c.1.00m 10-9: c.0.60m C-4: c.0.70m 4-5: c.0.80m C-2: c.0.80m C-1: c.1.10m 4-3: c.0.55m 5-6: c.0.70m 6-7: c.0.60m 7-8: c.0.55m	

House Name/No.	Site	Date	Total Size	No. of Internal Spaces	Dimensions of Internal Spaces	Dimensions of Courtyard/s	Width of Doorways	Dimensions of Windows
House of the Doric Capital	Morgantina	3rd-2nd century BC	c.20.60x21.60 plus c.13.00x20.00m c.704.96m^2 Exact size approx. due to erosion.	At least 24 plus peristyle courtyard	Entrance stair-way: c.8.80x1.60m N peristyle corridor: c.5.40x1.80m 23: c.4.20x4.80m 24: c.3.80x2.80m 1: c.6.00x4.60m 10: c.3.20x2.60m 11: c.2.30x2.40m 2: c.3.60x7.60m 3: c.4.00x3.60m 4: c.3.20x3.40m 5: c.4.80x3.20m 6: c.3.60x2.20m 7: c.5.00x5.20m 8: c.5.00x5.30m 9: c.5.10x3.60m 12: c.3.50x3.50m Stairs 13. c.4.40x1.40m 14: c.2.00x4.40m 14E: c.2.20x4.40m S Corridor: c.0.80-1.60x19.20m 15: c. at least 5.60x3.40m 16: c.0.60x3.00m 17: c.4.50x6.20m 18: c.4.80x2.20m 19: c.4.10x3.00m 20: c.4.20x6.50m 21: c.4.40x2.20m 22: c.3.20x3.40m	C: c.7.00x5.60m C + peristyle: c.13.60x12.80m	Main entrance: c.1.80m 2nd entrance: c.1.40m Entrance stairs to C + peristyle: c.1.40m N peristyle corridor -23: c.0.80m C-24: c.0.90m C-1: c.1.40m 1-2: c.1.10m 2-3: c.0.80m C-3: c.2.00m 3-4: c.0.90m 3-5: c.0.70m 3-6: c.0.90m C-7: c.1.00m C-8: c.4.40m C-9: c.1.20m C-12: c.0.90m C-15: c.1.00m C-S Corridor: c.1.40m S Corridor-14: c.1.00m 14-14E: c.0.70m 18-19: c.1.00m S Corridor-21: c.1.00m 21-17: c.2.00m S Corridor-20: c.1.00m	

House Name/No.	**Site**	**Date**	**Total Size**	**No. of Internal Spaces**	**Dimensions of Internal Spaces**	**Dimensions of Courtyard/s**	**Width of Doorways**	**Dimensions of Windows**
House of the Official	Morgantina	c.250 BC Phase 1	c.41.60x19.20m	16 plus courtyard, peristyle courtyard, and possible courtyard.	Room 1: c.7.00x7.00m Room 2: c.4.90x3.30m Room 3: c.4.90x3.20m Room 4: c.7.30x7.50m Room 5: c.5.50x5.10m Room 6: c.7.30x2.50m Room 9: c.8.70x5.00m Room 10: c.10.15x3.10m Colonnade 15a: c.2.90x7.80m Room 14: c.2.90x3.10m Room 15: c.3.00x3.10m Room16: c.3.20x3.10m Room 18: c.2.50x3.10m Room 19: c.3.00x3.10m Room 20: c.2.40x3.10m Room 24: c.1.50x1.65m	CS: c.7.30x10.00m CS + peristyle: c.10.00x12.70m CN: c.8.70x8.20m 17: c.6.70x10.00m	Main entrance: c.2.30m 1-9: c.1.30m 1- a: c.5.00m 1-3: c.1.00m a-6: c.0.95m 3-2: c.1.15m 3-4: c.1.00m 2-CS: c.4.90m 4-CS: c.1.30m 5-CS: c.1.00m 24-CN: c.0.85m 10-CN: c.0.95m CN-Colonnade e: c.7.80m Colonnade e-15: c.1.00m Colonnade e-14: c.1.00m Colonnade e-17: c.2.50m 17-16: c.1.00m 17-20: c.1.00m 17-18: c.1.00m 17-19: c.1.00m	

House Name/No.	Site	Date	Total Size	No. of Internal Spaces	Dimensions of Internal Spaces	Dimensions of Courtyard/s	Width of Doorways	Dimensions of Windows
House of the Official	Morgantina	c.200-150 BC Phase 2 South House	c.20.00x19.20m	6 plus peristyle courtyard	Room 1: c.5.00x9.25m Room 2: c.4.90x3.30m Room 3: c.4.90x3.20m Room 4: c.7.30x6.95m Room 5: c.5.50x5.10m Room 6: c.5.30x2.50m	CS: c.7.30x10.00m CS + peristyle: c.10.00x12.70m	Main entrance: c.2.30m 1-CS: c.0.95m a-6: c.0.95m 2-CS: c.3.30m 4-CS: c.1.80m 5-CS: c.1.00m 2nd entrance-CS: c.1.70m	
House of the Official	Morgantina	c.200-150 BC Phase 2 North House	c.22.00x19.20m	14 plus peristyle courtyard and possible courtyard	Room 7: c. 3.10x6.50m Space 8: c.2.00x5.60m Room 9: c.4.50x5.05m Room 10: c.4.80x3.10m Room 11: c.3.00x3.20m Room 12: c.3.90x5.10m Space 13: c.1.80x3.20m Colonnade 15a: c.2.90x7.80m Room 14: c.2.90x3.10m Room 15: c.3.00x3.10m Room16: c.4.60x3.10m Room 18: c.2.50x3.10m Room 19: c.3.00x3.10m Room 20: c.1.80x3.10m	CN: c.6.80x5.80m CN + peristyle: c.7.60x8.70m 17: c.6.70x10.00m	Main entrance: c.1.95m CN-9: c.1.00m 7-CN: c.1.00m 10-CN: c.0.95m 10-11: c.0.80m CN-13: c.0.80m Colonnade e-15: c.3.00m Colonnade e-14: c.1.15m Colonnade e-12: c.1.20m Colonnade e-17: c.2.50m 17-16: c.1.45m 17-20: c.1.50m 17-18: c.1.90m 17-19: c.1.00m	

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