THE UNIVERSITY OF CHICAGO

PUBLIC WORKS AND PRIVATE WORK ON THE THRESHOLD OF COMPLEXITY: THE PRODUCTION AND USE OF SPACE AT LATE CHALCOLITHIC 1 TELL SUREZHA, IRAQ

A DISSERTATION SUBMITTED TO

THE FACULTY OF THE DIVISION OF THE HUMANITIES

IN CANDIDACY FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

DEPARTMENT OF NEAR EASTERN LANGUAGES AND CIVILIZATIONS

BY

SAMUEL LEE HARRIS

CHICAGO, ILLINOIS

JUNE 2021

For Melissa

TABLE OF CONTENTS

LIST OF FIGURES

ACKNOWLEDGMENTS

So many people have helped me in so many ways over my course of graduate study that it is impossible to fully acknowledge or properly thank them. First, I thank my parents for endless encouragement and support throughout the many years I have spent in school of one kind of another. Especially I thank my mother for her selfless dedication to my education and the remarkable role model she has provided, and my father for his regular check-ins and readiness to help. I am extraordinarily grateful to my siblings: Heather, Scott, Ben, Matt, and Rachel, for their love, friendship, texts, phone calls, and emergency help whenever I needed it. A special thanks to Heather for some much-needed last-minute encouragement.

I thank my faculty mentors and dissertation committee at the University of Chicago. Gil Stein's work brought me to the University of Chicago, and I have learned so much from him, whether in class, in conversation, or in the field. James Osborne has been supportive and generous with his time, and his careful comments on proposals, abstracts, chapters, and drafts have been very useful to me. Yorke Rowan has likewise been consistently encouraging and helpful with his comments and reviews. I have learned much from my other teachers at the University, especially Mac Gibson, David Schloen, Emily Hammer, Scott Branting, Michael Dietler, Francois Richard, and Kathleen Morrison.

All thanks are due to the team of the Surezha Expedition. Gil Stein, of course, for his leadership of the project, the invitation to work with him, and his constant support in the development and carrying out of my research. Mike Fisher’s contributions to this work are enormous. This dissertation could not have been completed without his willingness to devote time and resources during excavation to my own project. It would have been next to impossible without the Surezha project database, which he has developed into a real model for

archaeological data recording. I also thank him for his willingness to share resources and answer questions throughout this process, and his readiness to identify archaeological contexts for sampling. Ramin Yashmi's phenomenal object photography was a boon to this project, as were his unfailing good humor, friendship, and thoughtful conversation. Lucas Proctor was unstintingly generous with his time, answering my questions, showing me the ropes on flotation, and sharing and discussing his results. I'm grateful for his friendship. Max Price likewise was generous with his time and data, and helped me find my feet early in the Surezha project. There's no archaeologist I would rather be constantly mistaken for in the field. I am also grateful to Dr. John Alden for his ceramic expertise and thoughtful opinions as the excavation has progressed.

My assistant square supervisors over the years were invaluable, especially as I was so often called away for sampling. Suay Erkuşöz assisted me as I was finding my feet with microarchaeological analysis. David Usieto's careful excavation contributed greatly to our understanding of the nondomestic complex, and Karol Zajdowski pushed my interpretations of the complex in fruitful ways.

I am also grateful to Dr. Abbas Alizadeh, Mehdi Omidfar, Loghman Ahmadzadeh, Taos Babbur, Barbara Coutouraud, Henrike Bakhaus, Tobias Helms, Kate Grossman, Bastien Varoutsikos, Kate Lieber, Monica Smith, Victoria Wilson, and others whom I have worked with on the project through the years. Finally, I owe an enormous debt to all the field workers on the project. I have the utmost respect for their skill, hard work, and thoughtful questions and interpretations.

The Helen Rich Travel fund provided support for my participation in the Surezha excavations.

The geospatial analysis would not have been possible without Tony Lauricella and Eric

Hubbard at the University of Chicago's CAMEL Lab. I am very grateful for their kind assistance with ArcGIS and their good company while I worked. Jason Ur graciously provided imagery for my analysis.

I am grateful for all my friends and colleagues at the University of Chicago for stimulating conversations and good fellowship, in classes, seminars, lounges, social hours, and game nights. My good friends from home, Thomas, Adam, and Ross especially, kept me sane and grounded throughout my graduate study.

Most importantly, I thank my family. Melissa has supported me in every possible way throughout this dissertation process and through our years together. Our partnership is a joy and a blessing, and nothing good I have done would be half as good without her. June and Isaiah have been at the heart of my life since they came into the world. June was my coworker across the kitchen table through the final year of dissertation writing, and she and Isaiah both provided much-needed perspective on this project and on so much else.

The mistakes and shortcomings of this dissertation are, of course, my own. For everything else, thank you all.

ABSTRACT

The 5th and 6th millennia in the Near East, falling "between the revolutions" represented by the emergence of sedentism & domestication, on the one hand, and urbanism and complex society on the other, are important for understanding changes in human social, economic, and political organization in the region. Tell Surezha in northern Iraq was inhabited from at least the Ubaid period of the 6th millennium through the Late Chalcolithic of the 5th and 6th millennia, and exposures of the Late Chalcolithic 1 (LC 1) settlement offer an opportunity to investigate social structures and dynamics at a moment of cultural change as the interregional interactions represented by the widespread Ubaid material cultural assemblage began to be replaced by more localized material.

In this dissertation I ask how the residents of LC 1 Surezha organized their activity—and their society—across space. How were houses and households organized in spatial and social terms? How and where were objects and foods produced, used, and consumed? Were there major changes in the organization of domestic economies in a clear trajectory toward specialization and complexity? How were domestic and nondomestic spheres of activity and access created and used?

I use the analysis of microdebris—the very small remains of various kinds of human activity deposited and preserved in the matrix of use surfaces—in conjunction with other archaeological data to argue that production and consumption in the LC 1 remained largely organized by and centered in the household, that domestic spaces were multifunctional and relatively undifferentiated in terms of activity, and that the trend toward increasing economic specialization and centralization that would flower in later periods is evident only in very limited ways in the LC 1.

At the same time, a critical change in the use of social space is evident at Surezha in the form of a large nondomestic building complex, for which the microarchaeological data suggests major restrictions of access and use. While the idea of "public architecture" as a marker of socioeconomic complexity has been widespread for over a century, I put forward a different way of thinking about space by proposing the "limited-access public space" as a fundamental technology of the expanding power of political, social, and economic elites.

CHAPTER 1. INTRODUCTION: TELL SUREZHA AND THE HUMAN USE OF SPACE AT THE TURN OF THE 5TH MILLENNIUM BCE

1.1. Working from Home and Rethinking Public Space in a New Millennium

As the COVID-19 pandemic spread throughout the world in 2020 AD, the human use of space became a matter of vital concern. Spatial norms were scrutinized and sometimes upended in fields as unconscious as the distance between speakers and as fundamental as patterns of residency. The supposed 20th-century boundaries between the workplace and the home—already blurred by technological interventions, unpaid work, and informal and occasional labor—were largely erased for many white-collar professionals in the United States, while people of all walks of life found themselves homebound by unemployment, caregiving, or exposure to disease. The home became a place of both refuge and confinement (Aridi 2021), and the home became a renewed center of food and craft production, whether as hobbies or by necessity. Meanwhile, public spaces became sites of major contention. Across the ideological spectrum, actors in good faith and bad asked: Who has access to what spaces, and what behaviors are acceptable there? What restrictions can institutions impose on public action, and what means of enforcement are appropriate? Who can gather, and where? How can people challenge institutional control in the public sphere?

Such questions of human space, ripped from the headlines as they may seem, have been the focus of a wide range of social scientific literature in the 20th and 21st centuries. Foucault would come to argue that in the 20th century a concern with space supplanted a 19th-century preoccupation with time (Foucault 1986). While this may be overstating the case, it is certain that major trends in philosophy and the social sciences, from the explicit phenomenological rejection of a Cartesian "view from nowhere" (Dilthey 1996) to the focus on embodied practice

in society (Bourdieu 1977; 1984), economy (Lefebvre 1991), and politics (Giddens 1986; Wedeen 1999), have emphasized the centrality of space and embodied practice to human social life and institutions.

If all these concerns have a history, they also have a prehistory. In this dissertation I will argue that the Ubaid and early Late Chalcolithic periods in Mesopotamia, the 6th-5th millennia BCE, were another time in which the human use of space was in flux, in very different ways, of course, from the present moment. I will argue that houses and households remained the centers of economic activity and decision making at the turn of the 5th millennium BCE. In this sense there was considerable continuity in daily lifeways and social organization with earlier periods, even as public space was being reconfigured in such a way as to serve the needs of an emergent, aggrandizing social and political elite. More broadly, I will make the case for the human use of space as a key component of interpreting social change and continuity. I will show how contemporary spatial theory can be usefully applied to late Near Eastern prehistory as a way of approaching long-standing questions in the field.

A major theme in studies of the Ubaid and the Late Chalcolithic is the origin and development of more complex systems of social organization (G. J. Stein and Rothman 1994; G. J. Stein 2012; Iamoni 2016). There is good reason for this preoccupation with complexity: after millennia of apparently largely egalitarian Neolithic agricultural societies, the Late Chalcolithic saw the rise of clearly socially and economically stratified societies, of state governments, and of urban settlements. While these changes were gradual (and sometimes overstated), they were indeed revolutionary (Childe 1950).

However, the Late Chalcolithic 1 (LC 1) especially suffers from a relative lack of excavation and scholarly attention, leaving it to be variously interpreted as a period of substantial continuity

with what came before (Frangipane 2012b), as a major break with the past (Tobler 1950), as a transitional period of decline and stagnation between the regional interconnections of the Ubaid period and the dramatic developments visible in the LC 2 (Hole 1994, 130–31), or as a time of experimentation and change that laid the foundations for the urban revolution to come (Marro 2012b, 29; Fisher 2017). Moreover, as recent work has shown, societies across the Ubaid and post-Ubaid horizons of the 6th and 5th millennia varied considerably (G. J. Stein 2010a; Marro 2012a), and the experiences of different settlements and regions merit investigation on their own terms. In this dissertation, I will remain attentive to the question of trajectories of complexity and how the Ubaid and LC 1 fit within these trajectories, but I will be focusing on space rather than time, and my scalar focus will be very small: not only on the site itself, but on the distribution of activity across houses, courtyards, nondomestic buildings, and other spaces.

1.2. Key Questions and Contributions of the Dissertation

This project began as an effort to understand change and continuity in the use of space in Ubaid and LC 1 houses at a relatively small village site in northern Iraq called Tell Surezha. I would approach this through the analysis of microdebris—tiny fragments of cultural material that become embedded in earthen floors during the use-life of surfaces and can offer a high-resolution picture of the distribution of debris-producing activity across space. The unexpected exposure of a large nondomestic complex at Tell Surezha shifted my focus to a broader understanding of the use of space at the settlement. While I continued to address spatial patterns of change and continuity, I became especially interested in comparing different kinds of spaces and the ways that activity was organized both within and across them. I found a detailed analysis of the use of space to be useful in understanding not only domestic patterns of production and

consumption, but also social organization, commensality, authority, and control. The organization of activity in and around houses allowed me to address in detail the ways in which households were organized and labor undertaken, and to approach broader questions of specialization and social structure. The ways that different kinds of nondomestic or public space were used raised new questions about the role of such spaces in LC 1 society.

The questions I address in this dissertation can be grouped into two broad categories, one focused on domestic space and one on nondomestic space:

1) How were domestic production and consumption, especially those activities related to food, organized across space at LC 1 Tell Surezha? What are the implications of the spatial distribution of domestic production and consumption for the social and economic lives of the people at Surezha? How was labor organized? Are there indications of specialization in production or differential patterns of consumption between different households or other social groups?
2) How was the large nondomestic complex used? How did it relate to the domestic areas of the settlement? How should we understand the political, social, and cultural significance of large-scale nondomestic architecture in a society like that of Ubaid and LC 1 Tell Surezha?

In addressing these questions, the present work contributes to our understanding of the late prehistory of the Near East by taking an approach focused on three heretofore limited areas of study: one temporal, one geographical, and one scalar and methodological. Temporally, my research focuses on the critical but understudied period between the more commonly addressed "revolutionary" eras of Neolithization and urbanization, and specifically on the late 6th and early 5th millennia, in which we might plausibly see the beginnings of trends which culminate in the

urban societies of the 4th millennium, but in which also there existed a society with its own structure, dynamics, and historical contingencies. The persistence of both house plans and the nondomestic complex at Surezha over long periods allows me to take a diachronic approach to the organization of activity, with an eye toward better understanding the changes and continuities that marked the periods under study. This work offers an alternative model for understanding the development of complex societies between the late Ubaid and the early Late Chalcolithic in northern Mesopotamia, as neither a clear local break with Ubaid tradition nor a period of retrenchment prior to the period of primary urbanization, but rather a sustained trajectory of increasing social complexity persisting with substantial continuity from the Ubaid through the LC 1.

Geospatially, my research focuses on the Erbil plain of northern Iraq, whose late prehistory has been almost entirely unknown until the research projects of the last decade. This work provides in-depth discussion of the LC 1 architecture, artifacts, and microarchaeology at Tell Surezha in the Erbil plain, an analysis of the first monumental LC 1 structure known in northern Iraq, and, in presenting the first detailed microarchaeological assemblage from a LC 1 village site in Iraq, it offers an overview of the artifactual evidence for domestic and small-scale productive activities for the period.

Methodologically, I focus on the microdebris of daily life and repeated activity. At the domestic level, this allows me to discuss the trajectories not of regions but of households, the remains not of workshops and specialized production but of small-scale homemaking, the evidence not for feasts but for daily meals. Analyzing the spatial context and relationships between different kinds of activity allow me to interpret the archaeological data from a perspective of integrated and interconnected taskscapes (Ingold 2000b). In my analysis of the

nondomestic complex, a focus on microdebris and patterns of use allows me to discuss public architecture not only from the perspective of labor inputs and ideological display, but from the perspective of what was really done—and, crucially, *not* done—in and around a supposedly public space. As a test case for microarchaeological research in an agricultural village context, I offer both an overview of this still relatively underutilized method and my attempts to deal with some of the practical and analytical concerns it raises. I discuss the ways in which correspondences and divergence between microarchaeological and macroarchaeological data may be interpreted. Finally, as noted above, approaching all these questions at a truly micro-scale offers an important counterweight to regional or interregional approaches to the Ubaid and the Late Chalcolithic 1.

1.3. Tell Surezha

Tell Surezha **(Fig. 1.1)** is a mounded site located in the Kurdistan region of Iraq, approximately 20 km south of Erbil **(Fig. 1.2)**. The site consists of a high mound, a terrace or apron along the base of the mound, and an extensive lower town or settled area. The tell has an area of approximately 2.8 ha, while surface survey indicates an occupied area of 22 ha for the settlement for all periods combined (G. J. Stein et al. 2015, 34–35). The site was identified by the Erbil Plain Archaeological Survey in 2012 (Ur et al. 2013). The Oriental Institute of the University of Chicago, represented by a team under the direction of Gil Stein, commenced excavations at the site in 2013. To date, five full seasons of excavations have taken place, in 2013, 2016, 2017, 2018, and 2019 (G. J. Stein and Fisher 2020).

Figure 0.1. Tell Surezha, showing excavations in Area B in bottom right and the Area A step trench on the left (image courtesy Erbil Plain Archaeology Survey)

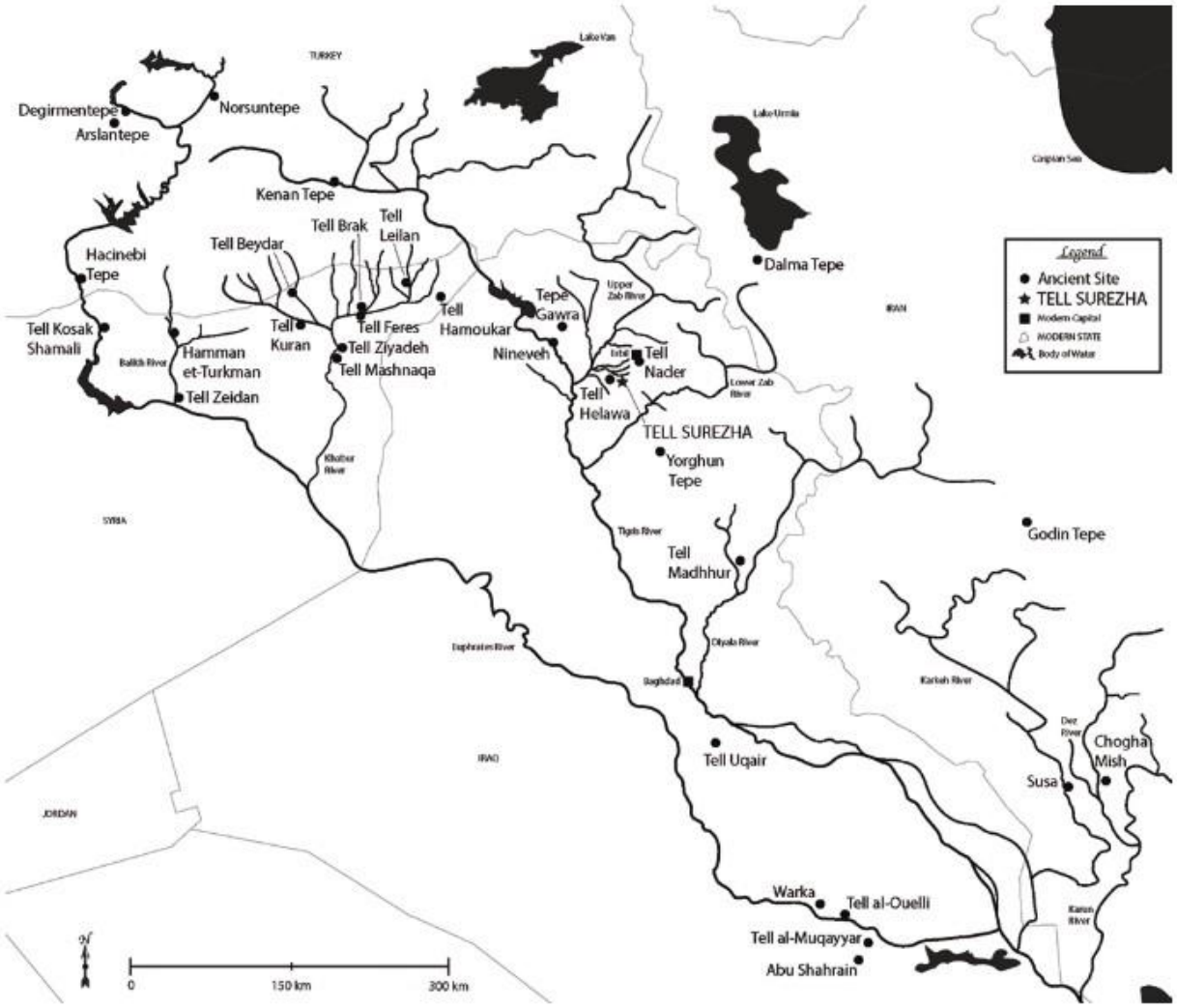


Figure 0.2. Tell Surezha in the context of Major Sites of the Mesopotamian Chalcolithic (from Stein and Fisher 2020, Fig. 1)

The site presents evidence for continued occupation from the Halaf through the Late Chalcolithic 4/Northern Uruk (that is, from at least the 6th through the mid-4th millennium BC). There were periodic reoccupations in the Neo-Assyrian, medieval Islamic, and modern periods (G. J. Stein 2018) **(Fig. 1.3)**.

Period	**Conventional Dates**
Late Chalcolithic 4 (LC 4) / Late Middle Uruk	ca. 3700-3400 BCE
Late Chalcolithic 3 (LC 3)	ca. 3850-3700 BCE
Late Chalcolithic 2 (LC 2)	ca. 4200-3850 BCE
Late Chalcolithic 1 (LC 1)	ca.4800-4200 BCE[1]
Ubaid	ca. 5500-4800 BCE
Halaf	ca. 6500-5500 BCE

Figure 0.3. Provisional Occupation Phases of Tell Surezha (after Stein 2018, 16)

The primary initial aim of the Tell Surezha project was to establish a local chronology for the Ubaid and Late Chalcolithic on the Erbil Plain, offering important evidence for a region which had seen little prior archaeological work for the late prehistoric periods and providing context to the growing number of excavations in the region. With the completion of a step trench through the west face of the mound (Area A, **Fig. 1.4),** focus shifted to extensive excavation of Ubaid and LC 1

This extensive excavation has focused on the Late Ubaid/Late Chalcolithic 1 settlement in Area B at the base of the south slope of the mound, which has been excavated in three 10 m x 10 m squares (Operations 2, 9, and 10), for a total of 300 m^2 of exposures. A fourth 10m x 10m. square, Operation 11, was opened to the north of Operation 2 at the end of the 2019 field season and, as no architecture has yet been exposed, is not considered in this analysis.

[1] Note that the conventional dates for the LC 1 (ca. 4600-4200 BCE) are at variance with the interpretations at Tell Surezha, where the period appears to begin much earlier (ca. 4800 BCE or even earlier). This problem has not been wholly resolved but will be discussed more in Chapter 2.

In this dissertation I focus exclusively on Area B. A detailed sequence of occupations and description of the architecture and other finds in these areas will be provided in the chapters to follow. In general terms, the easternmost operation, Operation 2, was almost entirely filled by domestic interior spaces and associated courtyards, along with a large platform feature in the northwest of the operation in the later LC 1 occupation (see **Fig. 1.7**). The arrangement of these rooms and courtyards is taken up in Chapter 6, but it appears that the exposed area includes parts of two distinct houses. A wide, deep erosional feature separates the LC 1 architecture in Operation 2 from that to the west in Operations 9 and 10. As shown in Figure 1.7, there are indications of earlier connections between Operations 9 and 2, but these are not yet confirmed.

Operations 9 and 10 are characterized by a strikingly large nondomestic complex enclosed by thick (~1.5 m) mudbrick walls and comprising at least two separate buildings or blocks of rooms. The complex apparently stood and was used from at least the late Ubaid through the LC 1 occupation of this area of the site. South of the walls of this complex were outdoor workspaces, including an apparent outdoor cooking area and a cobbled stone work surface or pavement.

The wide variety of surface types and the persistence of the structures over time make Area B at Surezha an ideal venue for a study of the organization of human activity across space, the conservative, constitutive, and transformative effects of such activity, and the ways in which habitual, daily actions might interact with changes over longer spans of time.

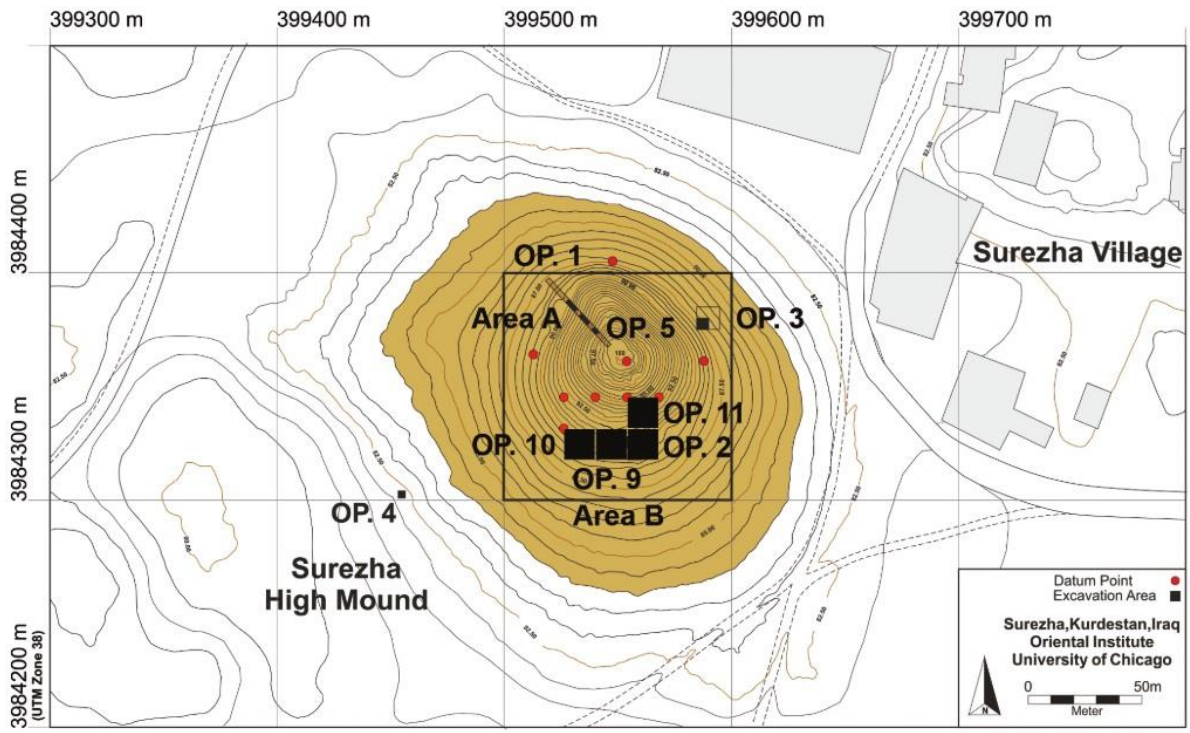


Figure 0.4. Areas of Excavation to Date at Tell Surezha

Figure 0.5. Orthomosaic Photo of Area B of Tell Surezha, early LC 1 Exposures

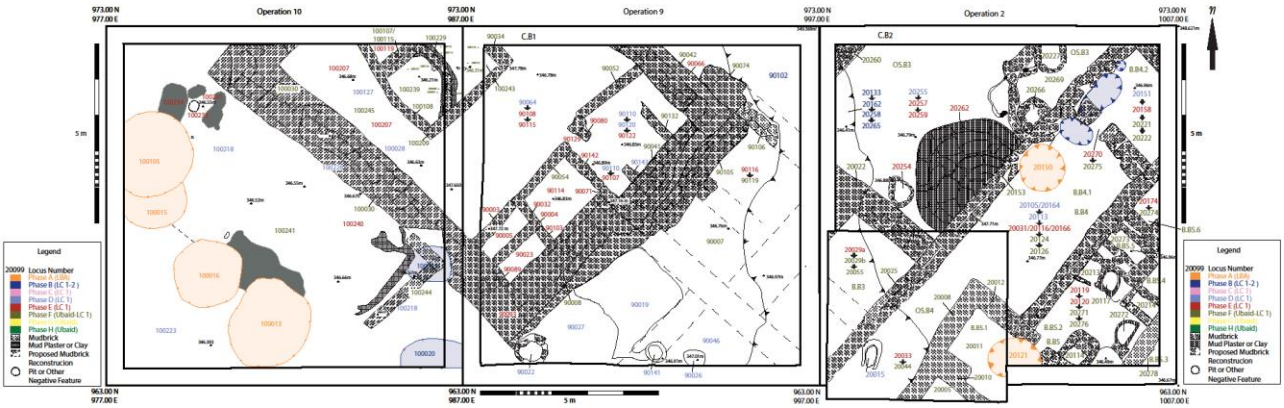


Figure 0.6. Top Plan of Area B at Tell Surezha, Late Ubaid/Early LC 1 Exposures

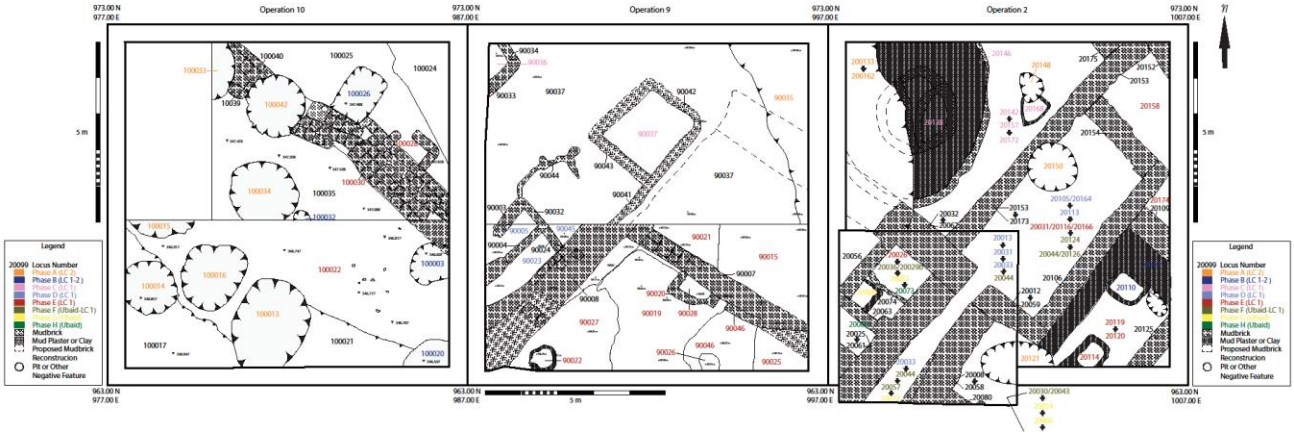


Figure 0.7. Top Plan of Area B at Tell Surezha, later LC 1 Exposures

1.4. Organization of the Dissertation

Chapter 2 provides an overview of the current state of the field and its approach to the Ubaid and Late Chalcolithic 1 in Mesopotamia. In this chapter I focus especially on questions of architecture and the use of space, as well as the ways in which the Ubaid-LC 1 transition have been theorized and understood. I show that there is a need for detailed reconstruction of the use of space to better evaluate claims about the structure of family and household, the degree of economic specialization and social hierarchy, and the role of public architecture.

Chapter 3 describes the central methodology used in this study: the analysis of microdebris. I show how such analysis can mitigate some of the basic problems of spatial analysis in archaeology, namely the tendency for macroartifacts to be subject to curation and various taphonomic processes. I offer a detailed overview of sample collection, processing, and analysis, discuss some of the potentials and drawbacks of various approaches, and evaluate some of the problems and limitations of microdebris analysis.

Chapter 4 presents the results of microarchaeological sampling at Tell Surezha. I show how activity of different kinds was distributed across space and give evidence for clear differences between domestic and nondomestic spaces. I also show how production and consumption was both heavily concentrated in and around homes and broadly distributed across such spaces.

Chapter 5 offers a theoretical background on household archaeology, practice theories, and a "taskscapes" approach to quotidian activity in and around houses. I take up several theoretical models, including "house societies" and "history houses," showing that, while these models provide useful insights for understanding the houses at Surezha, there is not good evidence for their wholesale application.

Chapter 6 examines the evidence from houses at Surezha in light of the theoretical discussion in the preceding chapter. It both provides a detailed overview of domestic activity and makes the argument that there is little evidence for specialization or segregation of activity within or between households. In this chapter, I use Tim Ingold's concept of "taskscape" (Ingold 2000b) to argue for an approach that focuses on the complex ways that human life, work, and society interact with the built and socially-constructed environment.

Chapter 7 shifts focus to the nondomestic complex, and uses microarchaeological, architectural and other data, alongside a theoretical model derived from Henri Lefebvre (1991) to

argue for a more nuanced conception of public space and public architecture and to make the claim that private or institutional control of public space is an important technology of power for aggrandizing elites on the threshold of complexity.

Finally, in Chapter 8 I offer some concluding thoughts and suggestions on future directions that research might take into both the human use of space in the Near East and the specific histories of various sites, societies, and regions in the Late Ubaid and the LC 1.

CHAPTER 2. THE 6TH-5TH MILLENNIA IN MESOPOTAMIA: ARCHITECTURE, SOCIAL CHANGE, AND THE HUMAN USE OF SPACE IN THE UBAID AND LATE CHALCOLITHIC 1-2

2.1. Introduction to Chapter

In this dissertation, I will be making an argument for understanding the human use of space as a key element for understanding social organization. I will be addressing the use of space in two principal ways: first, through the study of domestic production and consumption, houses, and households, and second, through a comparison between the usage of public and private space. In order to address the use of space at Tell Surezha, I begin by describing the cultural, social, and historical context of the 6th and 5th millennia BCE. I highlight some of the key questions that the study of the Ubaid and LC 1 have raised, and show how the use of space is an important but often overlooked element in addressing these questions.

This chapter is organized into the following sections:

1. A description of the late Northern Ubaid and the Early Late Chalcolithic and give an overview of the relevant archaeological sites and material, particularly in the Erbil Plain and surrounding regions, alongside a broad-strokes overview of the Ubaid and Late Chalcolithic.

2. A review of the currently-existing evidence for the use of space—domestic and nondomestic—in Ubaid and early Late Chalcolithic Mesopotamia.

3. An examination of the evidence and competing theories for social organization and dynamics from the late Ubaid to the early Late Chalcolithic, and some suggestions for how detailed attention to the human use of space and repeated daily activity can help to evaluate these theories. Here the emphasis is on questions of social complexity and regional interaction and identity. Questions related most explicitly to the household and to house societies are dealt with

in more detail in Chapter 5.

I will necessarily touch in this section on some of the theoretical issues which will be covered later, but my principal aim is to offer context for the succeeding discussions and interpretation of the evidence.

2.2. The Ubaid and early Late Chalcolithic periods in Mesopotamia

The Halaf, Ubaid and early Late Chalcolithic periods of the 7th through early 4th millennia belong to a period that has been described as falling "between revolutions" (Henrickson and Thuesen 1989, 11) - that is, between, the "Neolithic Revolution," the long process of sedentarization and domestication that characterized the foregoing millennia (Childe 1936), and the so-called "Urban Revolution" beginning sometime in the mid- to late 4th millennium BCE, characterized by the emergence of cities, writing, and the state (Childe 1950). Both of these fundamental changes in the organization of human societies in the Near East are the subjects of understandably intense scholarly attention and interest. Sometimes, as the "between revolutions" framing suggests, this attention has come at the expense of the study of the millennia in between.

Since the 1970s, more attention has been paid to the Ubaid (cf. Henrickson and Thuesen 1989; cf. Carter and Philip 2010a), although the number of excavations has remained relatively limited as a result not only of a lack of scholarly attention but also of modern political conditions and the fact that early levels of multiperiod sites or early sites in areas of intense alluvial accumulation like southern Mesopotamia are more difficult to access. The LC 1 and 2, with a few important recent exceptions that hopefully mark the beginning of a trend (e.g., Frangipane 2012b; Forest, Vallet, and Baldi 2012; Vignola et al. 2014; Fisher 2017), have remained obscure and poorly-integrated into discussions of the late prehistory of northern Mesopotamia. This in

large part reflects limitations of the data and the relatively small number of excavated sites, but there remains a tendency to prioritize the periods of neolithization and early urbanism over the millennia falling between, a tendency which in turn drives research and excavation agendas (for the persistence of a similar situation in the southern Levant, see Banning 2019; and in Anatolia, see Düring 2010, 200ff). These millennia are moreover viewed almost exclusively in terms of what comes after, i.e., urbanization and the formation of state societies, although in at least a few cases (Frangipane 2012a; Vallet 2018), there is a willingness to question this orientation and to see the LC 1-2 as a contingent period of social change, in which a variety of configurations and futures were possible, rather than a determined stage in social development toward urban and state formations.

2.2.1. The Ubaid and LC 1: Definitions and Chronology

The Ubaid period, first defined in Southern Mesopotamia where the distinctive Ubaid material culture is believed to have originated, is dated to between ca. 6800-3800 BCE and 5300-4300 BCE depending on region (Carter and Philip 2010a, 2). The wide variance reflects both the fact that Ubaid material culture appears over a wide geographical area at different times (Campbell 2007)and continued limitation or uncertainties in the dating of sites. Work continues to clarify and standardize chronologies of the Ubaid and Late Chalcolithic (Vignola et al. 2019), but for now, periodization and dates should be taken as loosely schematic rather than absolute.

Southern Mesopotamian Cultural Periods	Northern Mesopotamian Cultural Periods	Conventional Dates
Late Uruk	Late Chalcolithic 5 (LC 5) / Late Uruk	ca. 3400-3100 BCE
Late Middle Uruk	Late Chalcolithic 4 (LC 4) / Late Middle Uruk	ca. 3700-3400 BCE
Early Middle Uruk	Late Chalcolithic 3 (LC 3)	ca. 3850-3700 BCE
Early Uruk	Late Chalcolithic 2 (LC 2)	ca. 4200-3850 BCE
Terminal Ubaid/Ubaid 5	Late Chalcolithic 1 (LC 1)	ca.4600-4200 BCE
Ubaid 3-4	Northern Ubaid	ca. 5200-4600 BCE
Ubaid 2	Halaf-Ubaid Transitional	ca. 5500-5200 BCE
Ubaid 1	Halaf	ca. 6200-5500 BCE
Ubaid 0	Early Pottery Neolithic	ca. 6800-6200 BCE

Figure 2.1. Approximate Conventional Dates for the Ubaid and Late Chalcolithic (partly after Campbell and Fletcher 2010, 77; Fisher 2017, 46; G. J. Stein 2018, 57; Campbell 2007)

In Southern Mesopotamia, the first distinctly Ubaid assemblages may have appeared as early as the early 7th millennium BCE (Carter and Philip 2010b). The "Northern Ubaid," corresponding in time with the Southern Ubaid 3-4 and replacing a local material culture principally associated with the Halaf, is usually thought of as occurring across a transitional period through the second half of the sixth and first half of the fifth millennium BCE. However, a scarcity of excavated sites spanning the pre-Ubaid Halaf to Ubaid transition on the one hand (Campbell and Fletcher 2010), and the Ubaid to post-Ubaid transition on the other (Marro 2012a), have made it difficult to establish an unambiguous chronology.

The Late Chalcolithic, a designation created specifically for the societies of Northern Mesopotamia as the local dynamics of that region's prehistory came to be appreciated (Rothman 2001), is a broad term meant to encapsulate the variety of local traditions that emerged following the northern Ubaid period, and spans the mid-5th through the 4th millennium BCE. The Late Chalcolithic 1 is conventionally dated to ca. 4600-4200 BCE, but starting points as early as 4800 BCE and as late as 4500 BCE have been suggested. This reflects both differences in how scholars identify and define the Ubaid-Late Chalcolithic transition and the substantial variability in individual site and regional trajectories.

BC Cal.	Period	Tell Zeidan	Cilicia	Amuq & Orontes	Queiq Region	Middle Euphrates	Balikh Valley	Upper Euphrates	Middle Khabur	Upper Khabur	Tigris	Erbil Plain	Caucuses & Western Iran	Southern Mesopotamia
3850										Brak TW 23		Qalinj Agha III		
4000	LC 2	LC 2b		Amuq F; Hama K7-1	Coba Höyük IVC; Oylum Höyük Phase 4		Hammam VB	Hacınebi Phase A; Arslantepe VIII upper level		Hamoukar Level 2	Gawra XA - IX		Ovçular Tepesi Phase II; Susa B Acropole 22-19; Godin Late VII	Early Uruk; Eanna XII
4100		LC 2a	Yümüktepe XIII Gözlü Kule LC					Koruçutepe Early Phase B Norşuntepe Phase II Level 10		Brak CH 19; HS6 Level 6; Feres Level 6 Hamoukar Level 3	Ninveh III L:62 Yenice Yani YY4	Qalinj Agha IV Surezha LC 2		Eanna XIII Eridu Temple Sounding V
4200		LC 1-2		Tell es-Sheikh II-I			Hammam VA Strata 3-4		Ziyadeh Phase III Levels 15-16	Hamoukar Level 4 Tell Feres 7; Brak CH 20; HS6 9-8; Leilan VIb, Stratum 52a	Gawra XIA/B		Ovçular Tepesi Phase I; Godin Early VII	Eanna XIV
4300	LC 1	LC 1d		Ras Shamra III B h-f; Hama K10-8	Coba Höyük IVB; Oylum Höyük Phase 5-6	Tell al-'Abr Stage IV Kosak Shamali Sector B Lv. 5	Hammam VA Strata 1-2b	Norşuntepe Phase II Level 11 Arslantepe VIII lower level	Umm Qseir Phase 2		Yenice Yani Later YY5 Gawra XII	Qalinj Agha V	Terminal Susa A Acropole 24-23; Susa Necropole; Later Pisdeli Phase	Eanna XV
4400			Yümüktepe XV	Abd al-Aziz 4-1; Arjoune Trench VI; Tell es-Sheikh IV-III		Tell al-'Abr Stage III-2	Hammam IVD Strata 11-12	Norşuntepe Phase IC	Ziyadeh Phase III Level 14	Feres Level 8	Kenan Tepe Ubaid Phase 4	Qalinj Agha VI	Kül Tepe Level VII; Hasanlu Level VIII Susa A period Acropole 27-25; Earlier Pisdeli; Godin VIII; Seh Gabi Phase	Eridu Temple Sounding VI
4500		LC 1c				Tell al-'Abr Stage III-1	Hammam IVD Strata 9-10			Feres Level 9a	Gawra XIIA; Ninveh II L:60; Yenice Yani Earlier YY5	Surezha LC 1		Eanna XVI
4600		LC 1b		Karaça Khirbet 'Ali; Tell es-Sheikh VII-V		Kosak Shamali Sector A Lv. 1; Tell al-'Abr Stage II (Lv. 5)	Hammam IVC Strata 8a-c	Değirmentepe Layer 7 Norşuntepe Phase IA	Ziyadeh Phase III Level 13	Brak CH 21 Leilan VIb, Strata 57-52; Feres Level 9b	Gawra XIII			Eridu Temple Sounding VII
4700	Ubaid-LC	LC 1a Ubaid-LC 1	Yümüktepe XVI	Ras Shamra III B i Late Amuq E; Hama L2-1	Coba Höyük IVA	Kosak Shamali Sector B Lv. 6	Hammam IVC Stratum 7	Değirmentepe Layer 8				Qalinj Agha VII	End of Dalma Phase; Godin IX	
4800														

Figure 2.2. Relative Chronology of Late 6th-5th Millennium Sites (from Fisher 2017, 46)

At Surezha, there is further difficulty as it appears that the Ubaid-LC 1 transition took place earlier than at sites in the Syrian Jazira and elsewhere. For example, at Tell Zeidan, a recent and well-dated site spanning the Ubaid-LC 1 transition, the LC 1 commences ca. 4650 BCE (Fisher 2017). At Surezha, radiocarbon dates suggest an LC 1 start date of 4800 BCE or even earlier (G. J. Stein 2018; G. J. Stein and Fisher 2020). On the other hand, the Ubaid-LC 1 transition at

Surezha appears to be significantly less clear-cut than at Zeidan, with considerable continuity in material culture and site layout.

At Tell Surezha the data under consideration here for surfaces and structures of Area B appear to come primarily from the end of the 6th millennium to the very early 5th millennium BCE. In most standard chronologies, this would place the data squarely in the late Northern Ubaid or representing a span from the late Northern Ubaid to an early LC 1 transition. However, the current consensus at Surezha is to consider all but the earliest exposed areas of Area B as LC 1 and Ubaid-LC 1 transitional. I will generally follow this interpretation below, but it should be remembered that both chronology and regional comparisons for the period are still being worked out, and a contention of this dissertation is that the Ubaid-LC 1 transition is marked by continuity rather than a decisive break. The following section, then, will present regional context from both the late Ubaid and the LC 1, with a focus on the late 6th-early 5th millennium.

2.2.2. Defining the Ubaid

"The Ubaid" is a term that has become problematic through its ambiguity, applied, as the editors of a recent volume put it, to a pottery style, a period, and a "culture," (Carter and Philip 2010a). In addition to the ambiguity of just which sense is being referred to by scholars talking about "the Ubaid," it is not always clear where the boundaries are to be drawn around any of these three categories.

The Ubaid pottery style is characterized by black or dark-brown painted decoration on a usually mineral-tempered ceramic paste ranging in color from buff to green depending on firing and clay **(Fig. 2.3)**.

Figure 2.3. An Ubaid bowl from Eridu (image: Metropolitan Museum of Art, Public Domain. https://www.metmuseum.org/art/collection/search/324086)

The ceramic sequence first defined in southern Mesopotamia by Oates (1960; Oates (Lines) 1953) and revised based on the French excavations at Oueili (Forest 1996; Huot 1994) recognizes 5 or 6 distinct subphases of the ceramic assemblage (Ubaid 0-5). The Ubaid 3-4 phases represent the period in which the Ubaid horizon became prominent in northern Mesopotamia and elsewhere beyond southern Iraq. Pastes of Ubaid ceramics tend not to be standardized (Baldi 2012, 188). Mineral or mixed chaff and mineral temper are common, and firing temperatures tend to be high (Oates 2004). Oates (ibid.) notes the lack of evidence for central production of Ubaid ceramics, and, to the contrary, the good evidence for their local production, despite the often very similar or identical shapes and designs of wares in the repertoire. Some of the distinctive forms of the Ubaid corpus can be seen in **Fig**. **2.4**.

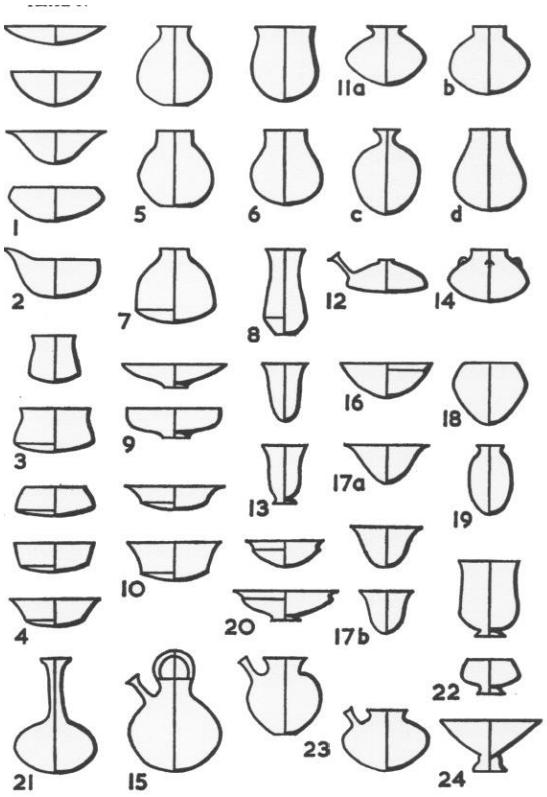


Figure 2.4. Ubaid Ceramic Corpus (after Oates 1960)

There is a tendency in the literature to either add forms or variants to the corpus or to use terms such as "Ubaid-related" or, slightly tongue in cheek, "Ubaid-related-related" (Weeks, Petrie, and Potts 2010), based fundamentally on the characteristic of black or brown geometrical painted decoration.

While "black-on-buff" geometric painting has sometimes been taken as both the necessary and sufficient datum for identifying "Ubaid-related" ceramics, the schema created by Oates (1960) still stands as the point of reference for forms and wares common to the Ubaid period for the south. Johnny Baldi identified several of the characteristic vessel forms for the late Northern Ubaid, including "corrugated ware, fine thin-walled beakers, bowls with incurved rims, [and] urns with flattened rectangular rims" (Baldi 2012, 188). A high proportion of painted wares is

considered characteristic of the Ubaid assemblage, but there is significant variance from site to site in exact proportions and, importantly, on what excavators consider to be a "high" proportion.

As a time period, as already noted above, the duration of the Ubaid in southern Mesopotamia has been steadily expanded, beginning now perhaps in the early 7th millennium and ending in the early 4th millennium, although the post-Ubaid transition along with the succeeding early and middle Uruk periods in southern Mesopotamia are quite poorly understood. Meanwhile, in northern Mesopotamia, as described above, there is significant regional variation in both the timing and extent of the adoption of Ubaid material-cultural forms. Typically the northern Ubaid is seen to commence around the mid-6th millennium BCE, as part of a transition away from the local Halaf-affiliated material cultural assemblage, and end by the mid-5th millennium BCE.

Finally, as an archaeological "culture," the Ubaid is defined by a range of artifactual material, most prominently the aforementioned "black-on-buff" pottery, but also architectural forms (including the tripartite house structure described in more detail below), clay sickles, bent clay nails or "mullers", and "ophidian" figurines that appear to represent human beings with conical heads as the result of cranial deformation **(Fig. 2.5-2.7)**.

Figure 2.5. Late Ubaid ceramic tool assemblage from the Uruk/Warka region, including clay sickle blade, clay muller, and clay axe head. (Image: The Oriental Institute Museum. https://oi-idb.uchicago.edu/id/77aeef9d-16c1-4f8f-9ce5-f63c15e5c214)

Figure 2.6. Ubaid Figurine from Ur (British Museum; Museum Number 122872; https://www.britishmuseum.org/collection/object/W_1930-1213-172 162371001)

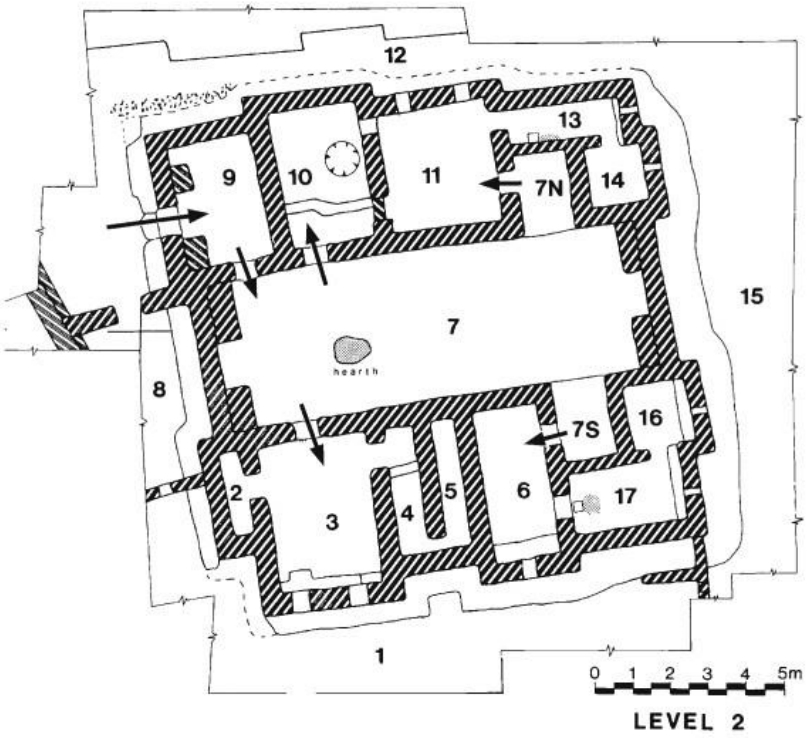


Figure 2.7. Ubaid Tripartite House from Tell Madhhur (Roaf 1989, Fig. 1)

These aspects of material culture are not found all together throughout the "Ubaid horizon," but rather appear to have been adopted differentially in different places across the greater Near East (G. J. Stein 2010a). In sociocultural terms, significant debate continues as how best to understand the various societies who made use to some extent or other of this material assemblage as well as the mechanics of its spread. A currently influential view is Stein's portrayal of the Ubaid horizon as being made up of "interaction spheres," where distinct material culture and aspects of social identity were shared in selective ways among neighbors in an overlapping patchwork across the region (G. J. Stein and Özbal 2007; G. J. Stein 2010a). In this model, while movement of people may have been a part of the process of dissemination of Ubaid material culture, it was not the primary factor. The result was not the spread of a single, uniform cultural identity, but rather a cultural horizon in which some aspects of identity were broadly

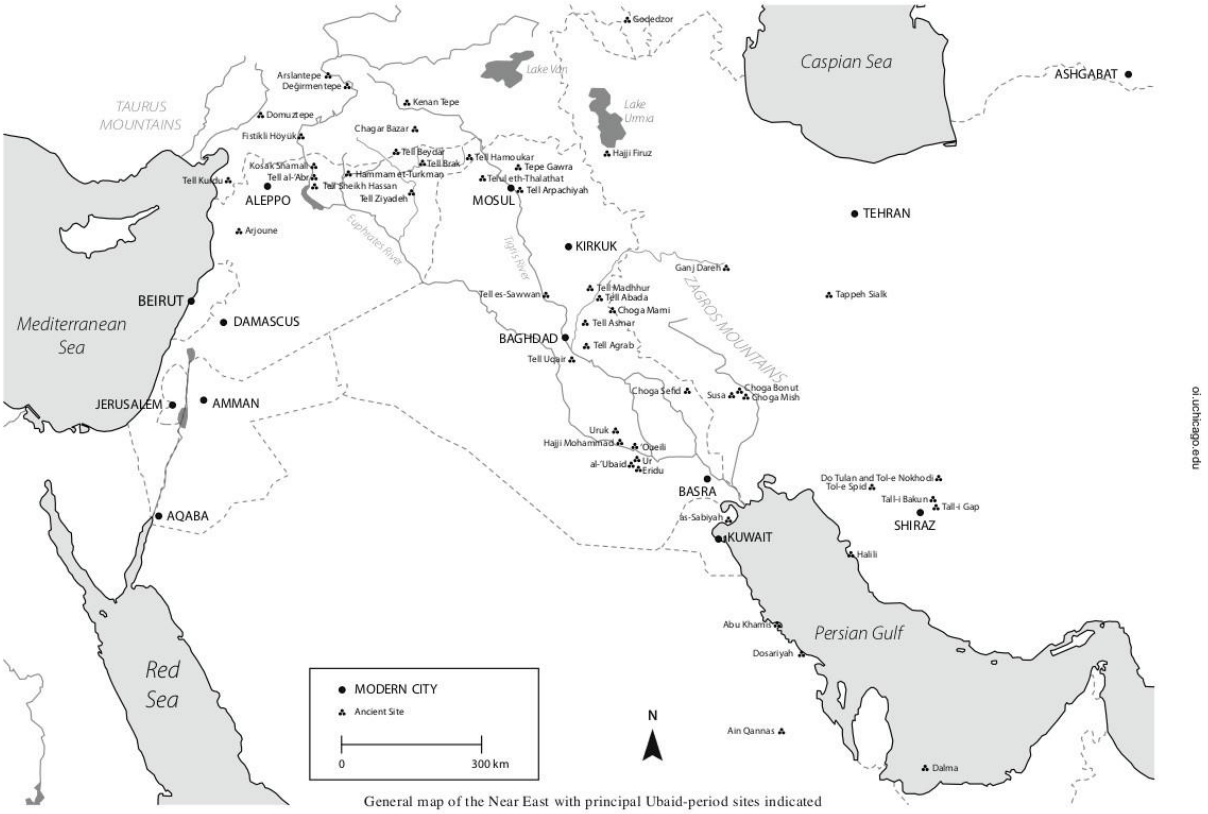
shared at least among some members of the various communities and others were confined to local or regional groups. I find this model convincing in its broad contours, and especially its emphasis on the persistence of local traditions and cultures, but the spread of certain deeply embedded cultural elements such as house form and cooking implements leaves open the possibility that population movements were a larger component of the spread of Ubaid material culture, especially in areas nearer to southern Mesopotamia, than previously acknowledged.

2.2.3. The Ubaid: History of Research and Overview of Sites

The Ubaid material-cultural style was initially defined in southern Mesopotamia based on Hall's & Woolley's excavation at the type-site of Tell al-Ubaid (H. R. Hall and Woolley 1927). The distinctive material culture was soon recognized at a number of other sites in the southern alluvium, including Ur, Uruk, Hajji Mohammad, and, perhaps most significantly, Eridu (Safar, Muṣṭafā, and Lloyd 1981) and Oueilli (Huot 1996). The sequence at Eridu provided the most expansive early corpus of Ubaid ceramic material and the basis for Joan Oates' Ubaid ceramic sequence. This sequence, which incorporated and renamed other assemblages to create the Ubaid 1-4 paradigm (Oates (Lines) 1953; Oates 1960), continues to be used with modification today (Carter and Philip 2010b, 2). Much of the subsequent elaboration of the Ubaid in southern Mesopotamia came from the work of Huot and Forest at Oueili (Huot 1994), where they identified an earlier phase they called "Ubaid 0," (Lebeau 1987; Huot 1996) along with a terminal "Ubaid 5" (Forest 1996, 387).

In addition to this southern Mesopotamian "heartland," Stein (2010a) has usefully distinguished seven more zones of the Ubaid horizon, for which the most important sites are listed below:

- Central Mesopotamia: Tell Uqair (Lloyd, Safar, and Frankfort 1943) and Ras al-Amiya (Stronach 1961)
- The Hamrin Basin: Tell Abada (Jasim 1981; 1983; 1984; 1985; 1989) and Tell Madhhur (Roaf 1984a; 1989).
- The North Mesopotamian and Northeast Syrian Jazira: Tell Arpachiyah (Mallowan and Rose 1935; Curtis 1981), Tepe Gawra (Tobler 1950), and Yarim Tepe (Norman Yoffee 1993a; Merpert and Munchaev 1987).
- Northwest Syria: Tell Kurdu (Edens and Yener 2000; Yener et al. 2000; Özbal et al. 2004; Özbal 2010), Hama (Thuesen 1988), Mashnaqa (Thuesen 2000), Tell al-'Abr (Hammade and Yamazaki 2006; Yamazaki 2012), Kosak Shamali (Nishiaki 2001), and Tell Zeidan (G. J. Stein 2009; 2010b; 2011).
- Southeast Anatolia: Değirmentepe (Esin 1989; Gurdil 2005), Kenan Tepe (Parker and Dodd 2005; 2011; C. P. Foster 2009).
- Western Iran, which might be further separated into three distinct sub-regions: Southwestern Iran & the Susiana Plain (The Susa I phase at Susa, Djaffarabad, Chogha Mish, Chogha Bonut, Chagha Sefid, Farukhabad, and Tepe Sabz (Weeks, Petrie, and Potts 2010; Voigt and Dyson, Robert H. 1992), the east-west "High Road" (typified by Godin Tepe (Gopnik and Rothman 2011); and Northwestern Iran/Iranian Azerbaijan (Hajji Firuz Tepe (Voigt and Meadow 1983), Dalma Tepe (Hamlin 1975), and Pisdeli Tepe (Abedi, Omrani, and Karimifar 2015).
- The eastern Arabian coast, including As-Sabiyah (Carter, Crawford, and Beech 2010), Dosariyah, Abu Khamis and Ain Qannas (Burkholder 1972).



General map of the Near East with principal Ubaid-period sites indicated

Figure 2.8. Distribution of Ubaid-Period Sites (from Carter and Philip 2010)

The overall impression is of an extraordinarily widespread material-cultural assemblage with distinct local variations and selective adoption of different aspects of that assemblage.

The Ubaid villages were sedentary, agricultural societies. In the southern Mesopotamian alluvium they practiced irrigation agriculture to produce grains including wheat and barley, raised animals, especially pigs and cattle (Huot 1989), and made use of the enormous resources afforded by the marshlands of the southern alluvium (Pournelle 2003; 2013), including reeds for fuel and construction and wild fish, duck, turtles, and mammals for food, although the proportion of wild food resources appears to vary (Huot 1989). Outside of southern Mesopotamia, the

varying ecological niches of different communities had implications not only for available resources, but also for the economic and social structures that could be built on these foundations (G. J. Stein 2010a); moreover, even when ecological factors were fairly similar, communities and groups might choose very different strategies of subsistence and economy (Grossman and Hinman 2013).

In Northern Mesopotamia as in the south, domesticated cereals and livestock were major components of the diet, although, while some communities were overwhelmingly reliant on these domesticated organisms, others maintained a heavy reliance on wild plant and animal resources (Grossman and Hinman 2013). Wheat, barley, and lentils were common crops in the north, and sheep and goats usually the most prominent domesticates, although relative proportions of domesticates could vary significantly (Wilkinson et al. 2014).

The wild resources available differed substantially across the Ubaid horizon; instead of the marshland and deltaic environment of the southern alluvium, the Ubaid communities of northern Mesopotamia would have exploited a range of forest, parkland, or steppe ecosystems, with correspondingly different resources including wild game (wild cattle, onager, gazelle, birds, and a range of small game), nuts and other plant products, timber, and stone, again, depending on the local geology and environment. Local hydrology and climate played a major role in determining the economic strategies of Ubaid communities, although cultural preferences and sociopolitical circumstances were also important (Wilkinson et al. 2014).

The single most important difference in available economic strategies between northern and southern Ubaid communities was the possibility of largely or entirely rain-fed agriculture in societies above the 250mm-isohyet (Postgate 1992, 13). The implications of rain-fed versus irrigation agriculture are significant, in terms of the types of crop selected, yields per acre, the

amount and type of labor inputs required, the feasible models of settlement organization and regional settlement systems, and fundamental components of social, political, and economic organization. In brief, whereas irrigation agriculture demands *intensive* farming, with high labor inputs in relatively constrained area for high returns on labor investment, rain-fed agriculture facilitates extensification, where relatively low labor inputs per unit of area are balanced by lower yields than in irrigation zones but cultivation over a wider area is feasible. The implications of these different affordances became especially pronounced in the period of early urbanism, when the process of agricultural extensification in northern Mesopotamia became clearly evident in the effort to provide for growing urban centers such as Tell Brak (Styring et al. 2017). In the Ubaid period, Wilkinson (2000) notes a greater site density in the north than in the south, and that this disparity persisted into the Bronze Age, although conditions of survey and site preservation may bias the data.

In North Mesopotamia, then, the Ubaid landscape was one of small agricultural settlements in which herding and wild plant and animal resources continued to play a role; settlement was denser than in southern Mesopotamia. Material culture and potentially aspects of social identity were differentially shared across a broad horizon through overlapping spheres of interaction. Already it can be seen that the use of space and daily practice are closely intertwined both with questions of the nature of the Ubaid horizon and its shared elements (house form, foodways, ceramic production) and with one of the central differences in the histories of the northern and southern Ubaid: the size and arrangement of settlements based on the agricultural economic base. Analysis of the way in which daily human activity was organized across space can help address basic issues in our understanding of the Ubaid: how and to what extent were Ubaid practices and crafts adopted in different regions? What are the implications of extensive vs. intensive

agriculture not only for settlement size but for the organization of activity and social life?

2.2.4. The LC 1-2: Definitions and Overview of Research and Sites

The Late Chalcolithic 1-2 in northern Mesopotamia (usually considered to begin ca. 4600 BCE but apparently earlier at Surezha) has generally been understood as a transitional period between the Ubaid period and the later Late Chalcolithic (LC3-5/Late Uruk), in which northern Mesopotamia societies became urbanized at a similar time to, but apparently independently of, those of southern Mesopotamia, before once more becoming tightly entangled with the south in the so-called "Uruk expansion" of the LC5. The Late Chalcolithic 1 (ca. 4600-4200 BCE) in particular occupies an ambiguous space: is it to be considered a smooth continuation of social processes from the preceding Ubaid period, an interlude of social stagnation and local retrenchment, an origin point for a local process of urbanization and state formation in the context of a break from regional traditions, or some combination of the three?

Even the nature of the Ubaid-LC 1 transition, including whether "transition" is an appropriate term, is a matter of debate (Frangipane 2012b), and it should be emphasized that the LC 1 in particular is largely defined in relative and negative terms—i.e., in opposition to the Ubaid. In general, the shift from the Ubaid to the LC 1 is characterized by a decrease in the degree to which elements of material culture are shared across the earlier Ubaid horizon (Balossi Restelli 2008; Baldi 2012; Marro 2012a). Some consideration needs to be given to the presumption of homogeneity in the Ubaid when setting up this contrast, since recent research has emphasized regional diversity in the Ubaid horizon (G. J. Stein 2010a), making regionalization perhaps a less useful distinguishing criterion of the LC 1 itself, but it can at least be said that over the course of the early Late Chalcolithic (LC 1-2), the dynamics of regional interaction shifted and elements of

the Ubaid material cultural assemblage can no longer serve to indicate strong connections between, especially, northern and southern Mesopotamia.

Another basic characteristic of the Late Chalcolithic is an increase in the homogeneity of ceramic production within sites (Baldi 2012) and the growing adoption, especially in the LC 2, of mass-produced vessel forms, both considered to be indicative of the specialization of economic activity (Al Quntar and Abu Jayyab 2014); alongside these there is a reduction in proportions of painted vs. unpainted pottery and a corresponding increase in the plain wares and the use of chaff temper.

The emergence and widespread adoption of quickly-produced vessels (e.g., Coba bowls and "Wide Flower Pots") deserves special note, since these are often interpreted as ration bowls of a sort, indicative of mass mobilization of communal labor (Baldi 2010). To what ends this labor was mobilized is not clear. Alongside the purpose to which they were put, the conditions of their manufacture are likewise evidence for a shift away from small-scale domestic production according to family traditions and toward a kind of centralization of pottery manufacture.

Figure 2.9. "Wide Flower Pot" Bowl from late LC 1-LC 2 Tell Surezha (SR 8723)

More subjectively, there is a tendency to view the LC 1 ceramic assemblage (and in particular the painted wares) as being of lower skill and quality than archetypical Ubaid ceramics. The comparative and sometimes subjective criteria for marking the Ubaid-LC 1 transition in terms of ceramics make demarcation difficult and pose problems when, as at Surezha, various elements of the Ubaid package seem to be replaced at different times, or at Tell Afis, where there is an apparent *increase* in Ubaid-style painted ware in the early Late Chalcolithic (Mazzoni 1998, 18, 24; 2000, 98–100).

Other markers of the Ubaid-LC 1 transition are a shift in settlement patterns, although the specific terms of this shift vary by region (Mazzoni 1999, 112–13; see also Fisher 2017, 25,53), an increasing tendency toward status differentiation as seen in burials (Fisher 2017, 74-77), and in the accumulation of precious goods or rarities that might stand as markers of status

differentiation (Fisher 2017, 64–65, 74–77). In the LC 2, monumental architecture is apparent (e.g., the basalt-threshold administrative building at Tell Brak TW20, (McMahon 2013a, 75), but monumentality has generally been either unobserved in the LC 1 or not considered characteristic. Akkermans (1989) considered the appearance of "tripartite temples" to be one of the markers of the Late Chalcolithic, but this assessment is based primarily on Tepe Gawra and on a chronology for northern Mesopotamian archaeology that has since undergone significant revision.

The trend toward regionalization of material culture has often been seen as a reassertion of local traditions, craft techniques, and identities (what Marro (2012b) calls a "substratum") following the more regionally-connected Ubaid period (Baldi 2012; Marro 2012b). Marro's use of the term "substratum" reflects the widespread view that these local traditions persisted throughout the Ubaid period and can be considered a major factor in the marked variability in the material culture of sites and regions that have been considered a part of the Ubaid horizon (G. J. Stein 2010a).

The idea of a "reassertion" of local identities raises questions that I do not think have been satisfactorily answered as to just how the widespread distribution of Ubaid styles of material culture should be understood, and just what "local identity" means. I will argue in Chapters 5 and 6 that rather than seeing a reemergence of a local identity subsumed under an Ubaid identity promoted by local elites, southern Mesopotamian populations, or a less-defined cultural and ideological hegemony, we should see a continued development of local identities throughout the Ubaid period and into the Late Chalcolithic.

Several of the other trends described (standardization of production, the emergence of "mass-produced" pottery forms, markers of status in burial and trade goods), and the supposed appearance of monumental architecture (at least by the LC 2) are generally adduced as evidence

for a rise in social complexity (Oates 2004, 200; Ur et al. 2007). There is no doubt that over the course of the Late Chalcolithic, and especially by the mid-4th millennium BC, social structures became more complex, political hierarchy entrenched, and urban settlement systems established. Where the LC 1 fits into this picture is less clear (Fisher 2017).

A discussion of the various models for the "pathway to complexity" will be taken up in section 3 of this chapter, but for now what is evident is that the LC 1 in particular has often been defined either negatively (i.e., that which comes after the Ubaid) or in conjunction with the LC 2, or, indeed, the Late Chalcolithic as a whole.

One of the aims of this project is to examine the late 6th and early 5th millennia in Northern Mesopotamia in its own terms, making reference to what came before and after, but attempting to avoid either negative definitions or teleological perspectives that see the LC 1 exclusively in light of the urban civilizations of the 4th millennium.

2.2.5. Key Questions about Ubaid & LC 1 Social Organization

With the foregoing context in mind, some of the basic unresolved questions about the late Ubaid and LC 1 include the following:

1) What is the degree of continuity between the societies, economies, political structures, and lifeways of people and groups in the Ubaid and the LC 1? Between the LC 1 and the LC2? And between the LC 1-2 and the succeeding urban, "complex" societies of the LC3?

2) To what extent can specialization and centralized production be observed in the LC 1, and to what extent is there continuity or change between the circumstances of economic and productive activity between the Ubaid, the LC 1, and the LC2?

3) How were political power and social influence exercised in the Ubaid and LC 1? Which

individuals and groups were able to deploy political power, and what were the mechanisms by which this power was exerted?

4) Relatedly, was a durable, hierarchical sociopolitical elite present in the northern Mesopotamian societies of the 5th millennium, and what were the conditions of their emergence and the trajectories by which they succeeded (or failed) in maintaining hierarchy?

I argue that each of these questions can be usefully addressed through careful analysis of the organization of activity across space: what sorts of activities were carried out where? What were the loci of production in the 5th millennium? What does the built environment tell us about the organization of domestic production, households, public and private space, and political authority? How was the use of space restricted, and who had the capacity to make and enforce such restrictions?

Before proceeding to a discussion of domestic and public space at the turn of the 5th millennium, we must consider the Ubaid and the LC 1 in their own terms, as well as the relationship between the two and with the preceding and succeeding periods.

In the next section, I discuss the current state of knowledge and research on the 6th-5th millennia in general and in northern Mesopotamia in particular, with particular emphasis on (a) how the Ubaid and LC 1 are defined (b) the evidence we have for domestic activity in the period, particularly insofar as this has allowed for scholars to conceptualize the economic and social organization of the period, and (c) the specific evidence we have for the organization of space, both public and private, in the Ubaid and the LC 1. Finally, I will return to some broader theories of social evolution, political transformation, or simply change over the course of the 6th and 5th millennia BC.

2.2.6.The Late Sixth and Early Fifth Millennia on the Erbil Plain

I turn now to a brief consideration of the archaeological and ecological context (based on the limited data available) of the Erbil plain in the late Ubaid and LC 1. The Erbil plain on which Surezha sits is located on the margins of the rain-fed agricultural zone of Northern Mesopotamia, taking the shape of a parallelogram formed by the Tigris in the west, the Upper (or Greater) Zab River in the northwest, the Lower (or Lesser) Zab to the south, and the beginnings of the Zagros foothills to the east. The limits of the plain may be more tightly constrained by setting the southeastern limit at the hill separating the Erbil plain from the Makhmur plain, and by taking the boundary of the watershed between the plain and the Shalga River valley as the eastern limit (Ur et al. 2013, 92).

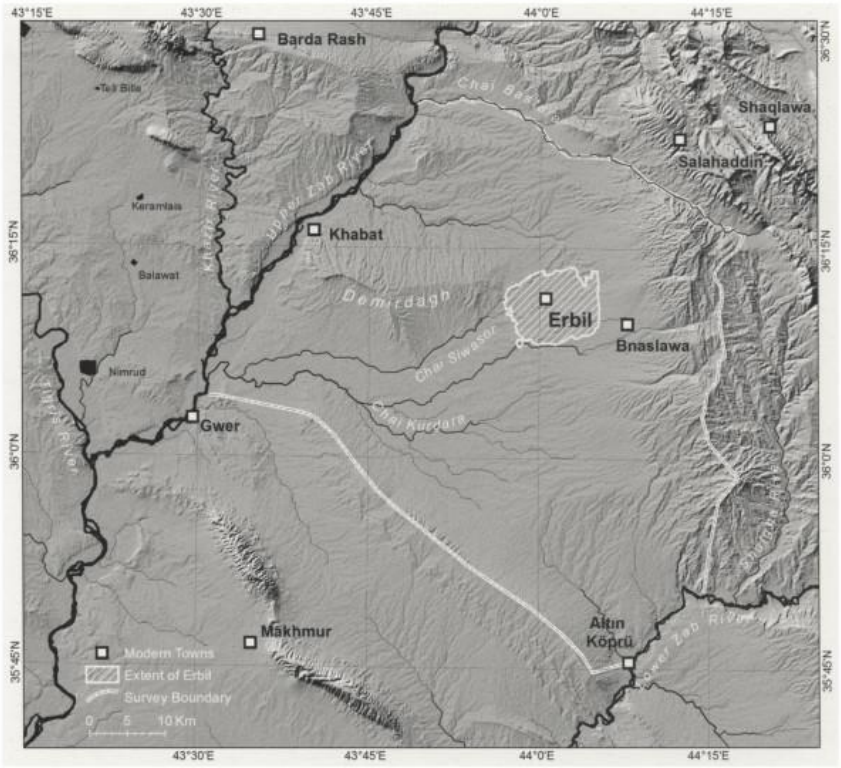


Figure 2.10. Physical Geography of the Erbil Plain (Ur et al. 2013 Fig. 2)

The plain has been a site of human habitation since at least the mid-7th millennium BC (Kopanias, Beuger, and Fox 2014). The enormous citadel mound in the center of modern Erbil, the Assyrian Arbela, was a major capital in the Bronze and Iron ages (when it was a cult center for Ishtar), a rival to the Ur III state in the late third millennium, and possibly settled as early as the Middle Paleolithic (Nováček 2008; Nováček, Amin, and Melčák 2013). Archaeological research in the Erbil plain has, however, been quite limited until very recently, particularly for the prehistoric periods: during much of the 19th and early 20th centuries, political conditions made excavation difficult. Until the present decade, the site of Qalinj Agha (Abu al-Suf 1969; Abu al-Suf and Es-Siwwani 1967; Hijara 1973) has been almost the sole source of evidence for the Ubaid/LC 1 periods on the Erbil plain proper, although the well-known sites of Nineveh, Arpachiyah, and Tepe Gawra are all relatively close by and may serve as points of comparison.

The geopolitical consequences of the 2003 American invasion of Iraq included the reopening of Iraqi Kurdistan to Western archaeological research (Ur 2017). By the early 2010s, a flowering of research in the Kurdistan region had begun (Kopanias and MacGinnis 2016). Early projects included Jason Ur's Erbil Plain Archaeological Survey (Ur et al. 2013), alongside similar initiatives in the regions of Dohouk (Gavagnin, Iamoni, and Palermo 2016) and Sulemaniya. Among the achievements of the EPAS project were the discovery and/or cataloging of a number of prehistoric sites on the Erbil plain, including Tell Surezha (See Peyronel and Vacca 2015; Kopanias and MacGinnis 2016 for overviews of work in the region).

As of 2020, three excavation projects spanning the late Ubaid and the early Late Chalcolithic in the Erbil Plain have been undertaken or are underway: Tell Nader (Kopanias, Beuger, and Fox 2014), Tell Helawa (Peyronel and Vacca 2015; Peyronel, Vacca, and Zenoni 2016), and Tell Surezha (G. J. Stein et al. 2015; G. J. Stein 2018).

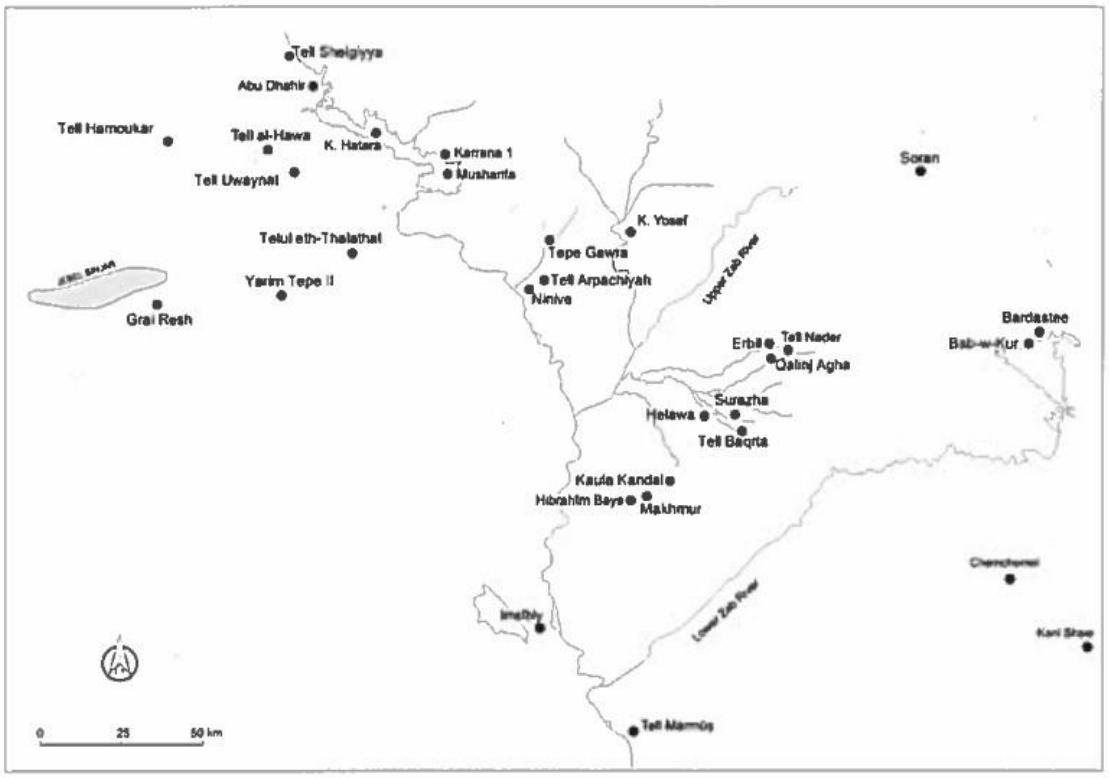


Figure 2.11. Locations of Excavated Ubaid and Late Chalcolithic Sites in Erbil Plain and Surrounding Regions (Peyronel and Vacca 2015, 92)

Based on this intensive and extensive survey work and the preliminary results of excavation, a picture of the Erbil Plain in the Ubaid and early Late Chalcolithic is beginning to take shape: in the late 6th-early 5th millennium, it was a region of small villages integrated into a wider Mesopotamian cultural interaction sphere. In the later 5th millennium, settlement area and the number of settlements appear to have expanded, a trend which reached its peak in the early 4th millennium LC 2 (Peyronel and Vacca 2015, 119). Unlike other nearby regions, there has been no identification of a major urban center in the later Late Chalcolithic, although it seems plausible that Erbil itself, whose prehistoric settlement remains essentially unknown, may have served this function.

2.2.7. Environmental Context

Detailed environmental and climatic reconstruction for the area has been complicated by the paucity of lakes which might provide pollen profiles, as well as the aforementioned relative lack of excavation from which botanical, isotopic, and other data could improve understanding of local landscapes and environments. The situation is beginning to be remedied somewhat, including by the use of speleothems from the Zagros mountain area (Marsh et al. 2018; Altaweel et al. 2019) and the recent publication of a multiproxy record from Neor Lake, northern Iran (Sharifi et al. 2015)**.** These data constitute important evidence for regional climatic conditions alongside the gradually improving picture of local ecosystems derived from excavation (Proctor, Smith, and Stein in press).

In the present day, the Erbil plain is characterized by a semi-arid continental climate with hot, dry summers and cool, wet winters and an average of around 500 mm of rainfall per year, sufficient for dry-farming agriculture, although annual variation may be significant (Ur et al. 2013, 93). The flat to gently rolling terrain of the Erbil plain has been heavily agriculturalized, and numerous crops, including rain-fed winter grains like wheat and barley and irrigated summer crops, including maize, rice, and cotton, are grown (Proctor, Smith, and Stein in press).

Broadly speaking, the fifth millennium in Northern Iraq appears to fall at the end of a period of wetter, rainier climatic conditions beginning in the 10th millennium BCE following the cold and arid Younger Dryas episode (Altaweel et al. 2019, 38) and either on the cusp or at the beginning of a period of swift change toward dryer conditions comparable to those of the present day. There is good evidence from lake cores and other data for "significant rapid climate change" in the Near East in the 4th millennium BCE (Stevens et al. 2006; Mayewski et al. 2004, 243). A recent review has, however, argued for placing the beginnings of this trend earlier, in the mid-5th

millennium BCE, in conjunction with a period of increased glaciation (J. Clarke et al. 2016, 98).

For the moment, this view of a fifth-millennium start to a period of rapid climate change is not clearly supported by more targeted evidence: in Iraqi Kurdistan itself, researchers working in the mountainous region of the Zagros east of the Erbil Plain combined sedimentary, phytolith, and cave speleothem data to argue that the 5th millennium remained a period of fairly wet, temperate, and stable climate, with perhaps a trend toward increasing seasonality marked by hotter, dryer (and possibly drought-prone) summers and wetter winters (Marsh et al. 2018, 964).

At present, unless and until finer-grained local climate proxy data are available, our impression of the fifth millennium in the Erbil plain is of a temperate climate with somewhat wetter and warmer conditions than prevail in the present day. As for the local environment, climatic and botanical data are consistent with either a savanna-like environment with few trees or an oak- and pistachio parkland that had likely already been subject to anthropogenic deforestation (Guest, Townsend, and Al-Rawi 1966, 1:72; Proctor et al in press; Proctor pers. comm.).

In either case, rainfall was sufficient for dry farming, although floodbasin irrigation would likely also have been practiced. The catchment area of Surezha would have included cropland and ample space for grazing. Other small villages would have dotted the plain.

Of these other fifth-millennium settlements in the Erbil plain, few are known beyond survey data, but, as mentioned, projects at Qalinj Agha, Tell Nader, and Tell Helawa have given us at least some comparative data for the study of life and the use of space at Surezha.

2.2.8. Qalinj Agha

Qalinj Agha, located near the center of modern Erbil, is one of the few sites on the Erbil plain

with a 5th-millennium settlement to have been excavated before the 2010s. Excavations and soundings in the late 1960s demonstrated occupation from at least the Ubaid (and probably as early as the Halaf) through the LC 2 (Abu al-Suf 1969; Abu al-Suf and Es-Siwwani 1967; Hijara 1973). The most extensive exposure was of the LC 2 settlement in Level III of the site, where in addition to a production area featuring kilns and other fire installations, two large tripartite structures were discovered (Abu al-Suf 1969, 6). The excavators described these tripartite structures as temples, comparing them with the structures from Gawra XIII. Peyronel and Vacca argue, on the other hand, that these buildings were not only not temples, but that they were domestic structures occupied by high-ranking families (Peyronel and Vacca 2015, 98).

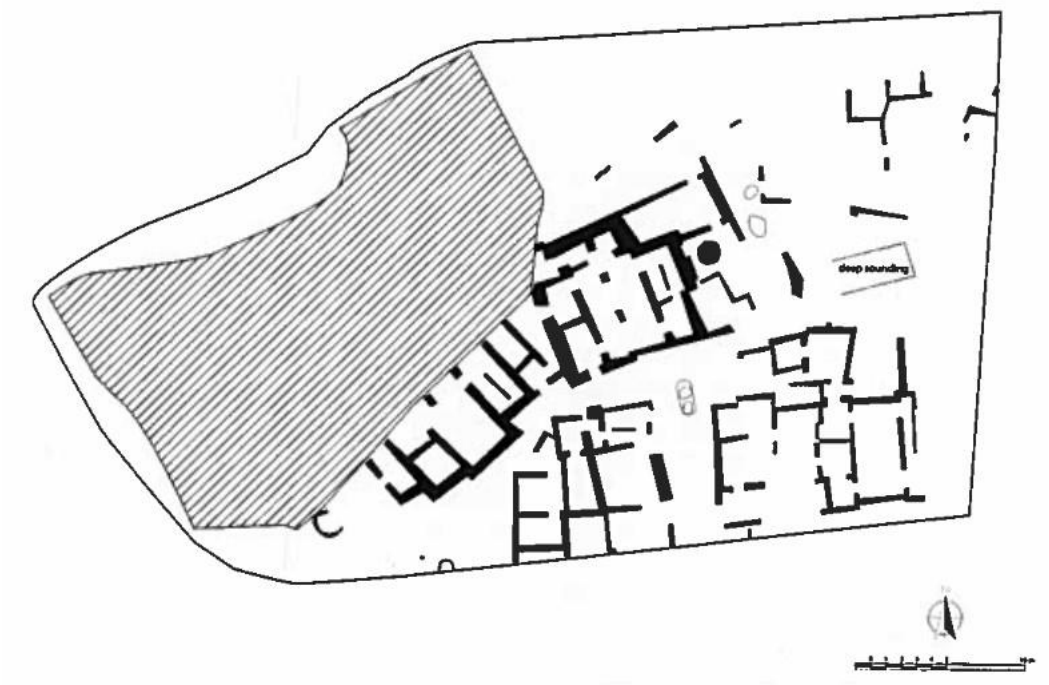


Figure 2.12. Qalinj Agha, Level III (LC 2). (Peyronel and Vacca 2015)

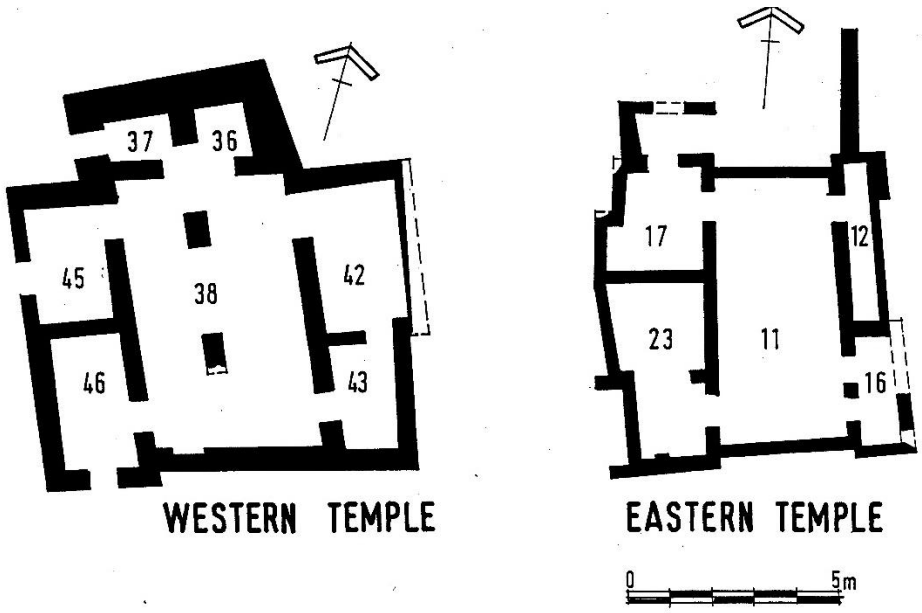


Figure 2.13. LC 2 Tripartite Buildings ("temples") from Qalinj Agha (Kubba 1998 Fig. 2-129)

2.2.9.Tell Nader

Excavations at Tell Nader, led by Konstantin Kopanias, have since 2011 revealed an area of late Ubaid and LC 1 occupation. This mainly appears to be a production area with numerous fire installations, of which one was repurposed for the burial of an adult female with signs of cranial deformation consistent with what are presumed to be Ubaid head-shaping customs (Kopanias, Beuger, and Fox 2014, 144).

Figure 2.14. Female Burial from Tell Nader (Kopanias, Beuger, and Fox 2014 Fig. 3a)

2.2.10. Tell Helawa

An important excavation currently underway is led by Luca Peyronel and Agnese Vacca at Tell Helawa, located not far from Surezha, approximately 28 km SW of Erbil. Tell Helawa is a 6.5-hectare mound with additional settlement around the base, potentially representing 10 hectares of occupation (Peyronel and Vacca 2015; Peyronel, Vacca, and Zenoni 2016; Peyronel et al. 2019; Peyronel and Vacca 2020). Intensive surface survey, a step trench, and the beginnings of extensive excavation have demonstrated occupation from the Ubaid through the LC 3, with a maximum settlement in the LC 1-2.

The LC 1 settlement at Helawa (Phase 5) included an apparent craft working area with pottery kilns and an obsidian working atelier (Peyronel et al. 2019, 12). In the succeeding Phase 4 (LC 2), the remains of a monumental building were excavated (ibid., 15).

Several features of the Helawa ceramic assemblage parallel Surezha's, notably the persistence of Ubaid forms and painted decoration in the LC 1 and the presence of Dalma

impressed ware, which is associated with the valleys of northwestern Iran across the Zagros from the Erbil plain but also occurs at Surezha (Peyronel et al. 2019, 36). Another result from Helawa that accords with preliminary interpretations from Surezha is the apparent shift from an Ubaid sheep/goat herding strategy focused broadly on meat to one that more heavily emphasized wool (Peyronel et al. 2019, 85–86; for the comparable situation at Surezha see Chapter 6 and Price, Fisher, and Stein in press).

While excavation is ongoing and publication is at an early stage, Tell Helawa will be an important point of comparison for the Ubaid and Late Chalcolithic occupation at Surezha, especially as work at both sites continues to refine the local and regional chronology.

2.2.11. Conclusion

At the beginning of the 21st century, the Ubaid and the Late Chalcolithic on the Erbil Plain were all but unknown. We are on the verge of a considerably fuller understanding as excavation continues at the sites described above, and the large exposure of LC 1 architecture at Surezha is a key to this understanding—the existing 300 m^2 of Area B are set to be doubled in the coming seasons. Before considering the results from Surezha in detail, I will again widen my perspective to examine the current state of research and understanding of the use of space in 6th-5th millennium Mesopotamia and models for its social context.

2.3. The Use of Space in Ubaid & LC 1 Society and Economy

2.3.1. Introduction

In this section, I focus on the existing evidence for the use of space in Late Ubaid and LC 1 settlements in northern Mesopotamia, with necessary reference to other regions within Greater

Mesopotamia, especially for the Ubaid material. These data will provide the comparative framework for the analysis of the use of space at Tell Surezha and set the physical stage for the discussion of 6th-5th-millennium social and political dynamics in the third section of this chapter. Much of the work on use of space in this period has focused on architectural analysis, primarily domestic architecture. This is in large part because nondomestic architectural remains from the northern Ubaid and LC 1 are scarce, although great interest has attached to the possible identification of Ubaid temples and other public buildings. My focus will be on the evidence for late Ubaid and LC 1 houses, household structure, and organization of activity, and for "public" buildings, including not only purportedly ritual structures but also spaces for community work, storage, and defense.

To begin, I present a review of the evidence for domestic spaces in the Ubaid and Late Chalcolithic I period. While I do not attempt a comprehensive overview of the archaeology of these periods, I do set out the comparative evidence and comparison for a view of these periods from the perspectives of house, household, and domestic architecture.

2.3.2.Ubaid Domestic Architecture

Ubaid domestic architecture has, over the last 35 years, received considerable attention, with several comparative studies seeking to clarify and classify the various forms (Roaf 1984b; Margueron 1989; Kubba 1998). Domestic activity and production have likewise been a focus of research (C. P. Foster 2009; Parker 2012; Graham and Smith 2012; 2013). Thus, while much of the material from Tell Surezha examined in this project comes from an LC 1 context (although apparently chronologically overlapping with the late Ubaid sites examined), a thorough discussion of the state of the field of domestic architecture, domestic activity and production, and

household organization in the Ubaid will serve as an important basis for the following discussion.

2.3.3.The Tripartite House

One of the key features of Ubaid material culture and its successors is the tripartite, or *mittelsaal*, building, characterized at its most basic by a large central hall or courtyard flanked on each long side by blocks of rooms (Margueron 1989). Structures with this plan have been variously interpreted as houses, temples, or both, depending on context and the opinions of the archaeologist (Akkermans and Schwartz 2003, 160; Fisher 2017, 199; Roaf 1984b). Although the excavations at Surezha have not yielded clear examples of this form, its heavy impact on the literature both of architecture and of social organization make it a useful point of entry to a discussion of domestic architecture, activity, and organization in 5th millennium Mesopotamia.

Michael Roaf's (1984b) synthesis of Ubaid domestic and temple architecture excavated to that date remains fundamental to the categorization and understanding of Ubaid architecture. Roaf incorporated evidence from the then-recent Hamrin Dam excavations (sites like Tell Abada, Tell Madhhur, Tell Songor B, Tell Songor C, and Kheit Qasim III) to offer a plan and typology of the tripartite house (and other architectural forms), and the following discussion draws heavily on both this synthetic work and his interpretations of domestic architecture at Tell Madhhur. More recently, S.A.A. Kubba (1998) has provided a useful catalog and summary of Ubaid architecture, which has also informed the presentation of data and discussion below.

The basic tripartite form may derive from Samarran architecture (Balossi Restelli 2010, 190; Margueron 1989). The earliest known Ubaid examples come from Tell Oueili (Huot 1989; 1994) in the southern alluvium, and other notable examples come from Eridu, Tepe Gawra, Tell

Abada, Tell Madhhur, Telul el-Thalathat, and Kheit Qasim, Mersin/Yümüktepe in Cilicia (Breniquet 1995, 24; Garstang 1953) as well as the aforementioned examples from Tell Qalinj Agha in the Erbil plain, and a possible (largely reconstructed) Ubaid example from Uruk/Warka. The form has drawn attention because of its frequent co-occurrence with other aspects of Ubaid material culture and because of its likely status as the precursor to later Uruk architecture, both sacred and domestic (Roaf 1984b).

Roaf cautions that the tripartite house is not the only Ubaid domestic architectural form (Roaf 1984b, 88). In addition to styles that appear to persist from earlier periods, such as the round Halaf-style "tholoi" at Tepe Gawra's level XVII, there are a variety of non-tripartite building forms (Kubba 1998, 76–77), including circular buildings at Khanijdal East (Wilkinson, Monahan, and Tucker 1996) and one at Yarim Tepe III (Bader 1981, 58); what Kubba calls "additive-plan" buildings in which structures appear to have been added onto irregularly over time according to the needs of the inhabitants (Kubba 1998, 77); distinctive buildings like those featuring networks of small square rooms at both Oueili and Tell Songor C, and various others structures, both simple and complex, that do not match the tripartite plan (Kubba 1998, 76–77).

So although the tripartite house has come to be seen as the archetypal Ubaid building form, we should be cautious about considering it the "standard" for Ubaid settlements, especially given the wide regional and intrusive variation in house form, settlement organization, and other aspects of material culture. Nevertheless, the tripartite house can serve as a useful point of entry to the study of 5th millennium houses since the other house forms are rarely described or discussed in detail.

Under the broad definition of a large central hall or courtyard flanked by blocks of rooms, the *mitelsaal* category includes structures like those at Gawra XVIII, XIV, and XII (Tobler 1950

Plates XIX, XIV, VIII respectively) and one at Abada level III (Jasim 1984, fig. 3).

Figure 2.15. Mitelssal House from Tepe Gawra XVIII (Tobler 1950 pl. XIX)

A later development of this tripartite house form features a central hall that is cruciform or "T-shaped," and tends to be larger **(Fig. 2.16)**. Walls may feature niches and buttresses/pilasters (Roaf 1984b; H. E. W. Crawford 2015, 24–25). This, what is often considered the archetypal Ubaid tripartite building, is found at, among other sites, Gawra level XV (Tobler 1950, Plate XV) Tell Abada Level II (Jasim 1989, Fig. 2) Tell Madhhur, Degirmentepe, Telul el-Thelethat, Kheit Qasim, and Qalinj Agha.

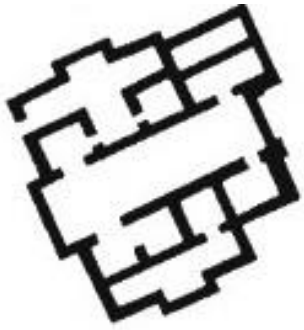


Figure 2.16. "T-Shaped" Tripartite House from Tell Abada, Level II (Jasim 1989, fig. 2)

The tripartite building appears with variation across the Ubaid horizon; one of these variations occurs in modern-day Turkey at Değirmentepe, Level VII, where a tripartite house form is incorporated into the agglutinated site architectural plan characteristic of earlier Anatolian settlements (Esin 1989), in contrast to the free-standing tripartite structures from southern and central Mesopotamia (G. J. Stein 2010a, 35–37). As Stein (ibid.) has pointed out, considerations of 5th millennium social organization need to take into account regional variations attributable to culture, local history, ecology, resources, and geography.

Early excavators tended to interpret large tripartite buildings, especially those featuring niches and buttresses/pilasters, as temples (e.g., Tobler 1950), but most recent evaluations have argued that, absent clear evidence of (e.g., an altar or offering table and small finds of a distinctly "ritual" character), tripartite buildings are best understood as either domestic structures or secular administrative buildings (Ur 2014).

I note here that a hard distinction between "private" and "ritual" structures should not be assumed, as ritual activities are certainly performed and ritual significance is most emphatically contained in domestic contexts; this is as true in modern contexts (e.g., the Russian "holy corner" (Figes 2002, 321), the rites of the microcosmic Kabyle house (Bourdieu 1970, 163), or the Roman Catholic blessings of homes at Epiphany) as in the Neolithic (e.g., at Çatalhöyük (Hodder and Cessford 2004) and Göbekli Tepe (Banning 2011)). Further, even "public" ritual buildings may both conceptually and actually also serve as houses, whether for divine beings, attendants, or both (Postgate 1992, 117ff.). Stein (2010a, 35) and Roaf (1984b) argue that in Southern Mesopotamia, ritual and domestic spaces are clearly distinct. While I believe that future excavation and analysis may complicate this picture, there is nevertheless broad

agreement that in 5th-millennium northern Mesopotamia it is often difficult to draw a clear dividing line between "ritual" and "domestic" structures.

Thus, while there are some tripartite buildings that are almost certainly nondomestic and probably ritual structures, the clearest examples date to later periods (e.g., Temple XI at Eridu and several of the temples at Uruk IV-VI). In the 5th millennium and especially the Ubaid, they were probably primarily domestic in nature. The frequency of the form's incorporation into Uruk temple architecture can be explained on the basis that the temple, conceived of as the house of the god, is extrapolated from "secular" house form.

The primary counterexample of an Ubaid (or possibly early LC 1) tripartite public building comes from Gawra XIII (Tobler 1950). The evidence is still not conclusive, but it seems at least plausible that all or some of the three tripartite buildings from this level were nondomestic public structures (although their identification as "temples" is less certain). More will be said about the Gawra XIII "temples" in the section on public architecture below.

So, while granting that there is the possibility that a minority of 5th-millennium tripartite buildings were primarily or wholly nondomestic, our primary goal is to understand them as domestic structures. What kinds of houses were these, and what does the architecture itself and the various kinds of archaeological evidence from in and around the tripartite houses imply for social and economic organization?

2.3.4. House Size and Population

A starting point is the size of the house itself, and (relatedly, but much more ambiguously) the size of the social unit or units that inhabited it. The variance in Ubaid house sizes is considerable, not just between sites but within individual settlements. At Tell Abada, to take the

most famous example of divergent house size, House A in Level II was approximately 20m x 12m (i.e. 240m^2 in total) exclusive of the (probably later) exterior courtyard (Roaf 1984b, 87), whereas the smaller House E is roughly 10m x 10m (100m^2) in total (Jasim 1989, 80, fig. 2). These dimensions include internal walls. House A, moreover, included not one but three cruciform courtyards within the same building, each flanked by blocks of rooms. The burnt house at Tell Madhhur Level II was in between the two in size, although closer to the smaller limit. Roaf (1989) calculated a total of 115.52 m^2 of floor space for this house, of which 88.12 m^2 was "usable" space, i.e., floor area not required for doorway clearance. The agglutinate structures at Değirmentepe averaged 90 $m^{2,}$ while the structures at 'Oueili appear to have generally covered over 200 m^2 (Huot 1989).

Complicating efforts to reconstruct the sizes and floor space of Ubaid houses is the question of whether the houses had a second story. Roaf, based both on the evidence from Tell Madhhur and his interpretation of other Ubaid architecture, argued that the Ubaid tripartite house did not have a second story (Roaf 1989, 92), contra the conclusions of Margueron and Forest (Huot 1987). While he did not offer conclusive evidence in favor of this position, he noted the practical and technical difficulties of two-story construction and argued convincingly that the burden of proof should be on the proponents of a second story. The burned house at Tell Madhhur did not offer good supporting evidence for such a second floor. What evidence there is for access to an upper level (such as the parallel narrow rooms found in many Ubaid houses, which may have been a space for ladders or stairs and the low walls at Kheit Qasim and Telul eth-Thalathat that may have been ladder-stops (Kubba 1998, 65)) is perhaps better interpreted, Roaf argues, in light of the possibility that Ubaid houses had flat roofs which could have served as work, storage, and sleeping spaces (Roaf 1984b, 94). Such an arrangement is common in the historical and

contemporary Middle East.

The debate over whether some or all of the Ubaid tripartite houses were two-story has not been entirely resolved (see e.g., Rothman 2002, 75, where at least some of the tripartite buildings at Gawra are considered to be two-story) but until dispositive evidence emerges, it is most proper to consider the houses as single-story, likely with usable flat roofs.

Another question that has implications for understanding the function of houses and house space is whether the Ubaid courtyards were roofed. Already by the 1980s there was an emerging consensus that they were, but the presence of burnt roof beams at Madhhur, alongside supporting evidence from later architectural forms at Habuba Kabira and Jebel Aruda, have made it clear that the central rooms were indeed roofed spaces (Roaf 1989, 92).

What even this brief discussion makes clear is that there was significant variance in the size and layout of even those Ubaid houses which were tripartite in form, the more so when the full range of Ubaid house forms is considered. Very approximate calculations of the total area of tripartite Ubaid buildings from across Mesopotamia show a range from around $50m^2$ to over $200m^2$, with the average of the more reliable examples coming to just over $100m^2$ (Kubba 1998, 87). The disparity in size and the fact that examples come from different sites and regions and thus perhaps considerably different cultural contexts (G. J. Stein 2010a) limit the usefulness of this data for theorizing about Ubaid use of domestic space in general, but since this project is concerned with questions of space, house, and household, and since I will be taking up debates about the changing nature of household organization in the LC 1, it is at least worth devoting some attention to household size in the Ubaid.

Although a number of efforts have been made at calculating population based on floor space or overall settlement size (Naroll 1962; Casselberry 1974; Sumner 1989), there are major

methodological issues with these efforts, ranging from the variance in cultural norms for crowding and comfort to the question of whether any given floor space is "living" space to the difficulty of distinguishing between roofed areas and courtyards.

In Naroll's classic formulation of 10 persons per square meter of floor space, this would give an average household size of 10 in Ubaid tripartite houses across the horizon. This number should not be taken too seriously for the reasons stated above, but it at least gives a starting point for a discussion of house/household composition. In particular, ethnographic parallels suggest that it would be surprising if the number of inhabitants of a 100 m^2 structure was much lower than 10. Other scholars of the Ubaid have suggested a number closer to 20, including children (Roaf 1989, 146). In general, the size and structure of Ubaid tripartite houses makes it appear at least plausible that they were inhabited by a group larger than a nuclear family (two adults plus their children and possibly some or all of their parents). I turn now to efforts to understand the structure of the households or groups that inhabited Ubaid houses.

2.3.5. Household Structure

As the household is a fundamental unit of social organization (see Chapter 4), questions of household structure are critical to the anthropological study of society. The prehistoric archaeological evidence poses significant problems for understanding family and household structure, but the focus on Ubaid domestic spaces has yielded efforts in this regard. One major question is whether Ubaid tripartite houses were composed of nuclear, compound/polygamous, or extended families.

Roaf, working on the evidence from Tell Madhhur, argued that a compound or extended family arrangement of some sort was the most likely, based both on the size of the tripartite

house and the abundance of pottery storage vessels, which appear to be present in higher quantities than needed for a single family (Roaf 1989). Forest agreed with the extended family formulation, and further suggested that some form of gender segregation might be implied by the courtyard/room bank form (Roaf 1989, 146). There is no strong evidence for gender segregation *per se;* such evidence might include strongly differentiated activities in different sides of the house (reflective of gender-associated activities) and certain reduplicated activities (reflective of those activities which are performed by both groups separately).

While there is admittedly no strong evidence to entirely disprove Forest's gender-based theory, at the moment the burden of proof lies on supporters of this suggestion, and the notion of a compound family with two or more husbands or wives seems more plausible to me.

While activity-area research for Ubaid houses is limited to date, the evidence we do have supports the notion that activity was reduplicated in the wings of the house separated by courtyards. This is the case in Balossi Restelli's (2010) analysis of the evidence from Tell Madhhur and from Değirmentepe, where she notes in both cases the presence of spindle whorls in both wings of the house, the symmetry of the distribution of cooking pots in both wings, and the localization of craft production material in the central courtyard.

Alongside the reduplication of spindle whorls and cooking pots, another element that might be associated with compound family or multifamily homes is multiple hearths or cooking installations: the Tell Madhhur house had three hearths: one large one in the center of the central Room 7, and then hearths in rooms 13 and 17, whose positions roughly mirror each other on either side of the large central room (Roaf 1989). Similarly, the Ubaid house from Operation 11 at Tell Zeidan had three hearths in use contemporaneously (G. J. Stein 2011, 124); the full plan of this house was not exposed, but it does not appear to have been a standard tripartite building.

Balossi Restelli also noted the scarcity of ovens in Mesopotamian Ubaid houses especially in comparison with both Anatolian domestic structures and with later (LC 1-2) Mesopotamian residences (Balossi Restelli 2010, 194). On the other hand, portable firedogs have been discovered at Madhhur, Gawra, Abada, suggesting that cooking may have been at least partly mobile and flexible.

Roaf (1989) also noted that all seven cooking pots in the burnt house at Madhhur were under 5 liters in volume; while it is difficult to establish with certainty, the relatively small sizes would suggest that smaller groups of residents were preparing daily meals separately (Balossi Restelli 2010, 198).

All these data suggest some kind of social organization in which activity is reduplicated in each of the two long sections of the house, a situation which might be interpreted as compound families (i.e., either a polygamous family in which children and/or other kin lived or performed at least some of their domestic functions in tandem or an extended family where siblings or other kin maintained semi-independent nuclear families within the same house).

As a final note in support of the compound-family view, although ethnographic evidence must be used with caution, Antoun (1972, 58), in his ethnography of a modern (late 1950s-early 1960s) Arab village in Transjordan notes that: "The size and form of a dwelling does…offer some indication of the general type of a household housed within it. A one-room house is almost invariably occupied by a nuclear family. A three-room house is often occupied by an extended family. A house of five or six rooms with an inner courtyard for livestock, a formal gateway, and several inner rooms for the women of the household is often occupied by a polygynous family." (58)

It must be emphasized that this reconstruction is highly speculative and is likely to remain so;

however, microarchaeological and micromorphological data could contribute substantially to this discussion, since they hold at least the potential to identify use patterns that could signify concentrations or reduplication of activity, which might then be at least provisionally associated with different kinds of household structure.

2.3.6.Organization of Activity

In addition to the structure of the family or household group, another key issue for the current project is the organization of production in and around the houses. Here the literature is much sparser and relies largely on those houses whose *in-situ* activities have been recovered by burning, of which the two most prominent examples are Ubaid houses at Kenan Tepe, destroyed by fire ca. 4500 BC (Parker 2012) and Tell Madhhur (Roaf 1984a; 1989).

At Tell Madhhur, Roaf met with some difficulty in reconstructing activity despite the good preservation of the burnt tripartite house under study; however, he did feel confident enough to draw some conclusions and make some inferences about the various uses to which the space was put (Roaf 1989, 135; 1990, 54–55). First, he identified four types of interior space, corresponding to four kinds of activity: (1) small rooms with one door and usable floor areas of less than 3 m^2, used for storage; (2) small corridor-like rooms with two doors and with usable floor areas of less than 3 m^2, used for access; (3) middle-sized rooms with floor areas of 5-9 m^2 (used for domestic activities), and (4) the central cruciform room with a usable floor area of over 40 m^2, used for reception and social activities (Roaf 1989, 100).

The house at Kenan Tepe was also burned to a high state of preservation, and Parker was able to use microarchaeological analysis to attempt to describe the functions of various rooms. He was able to interpret rooms as habitation and/or activity areas and less focal activity areas,

including those focused on cereal processing, storage areas, and a multiuse room. (Two other rooms were indeterminate.) Microarchaeological analysis also showed that debris was concentrated in corners and by doors, indicative of regular cleaning, and that tool manufacture was not carried out in the central portion of the interior of the house (Parker 2012). possibly because of the sharp debris produced by such activity.

Roaf, working from *in situ* macro-artifacts and architecture, suggested locations for specific activities: cooking may have taken place in the large central room and in one smaller room each in either wing; based on the absence of an oven, he suggested that some cooking may have taken place outside (Roaf 1989, 136).

Parker (2012) likewise suggested that the distribution of rim types and patterns of vessel shape, fabric, and sooting at Kenan Tepe were consistent with a scenario in which foods were mostly prepared in outdoor cooking installations.

Parker was also able to suggest something about cooking and dining processes. Stews prepared over low heat with a long cooking time, various fried foods, and roasted meats were all likely common parts of the diet. Dining seems to have been an indoor activity, in which small, open-shaped fine vessels were used. This aligns with Roaf's opinion (again based on architecture and not on the small finds, which were inconclusive) that the central hall of the tripartite building at Madhhur may have been used for dining and reception (Roaf 1989, 136).

Cereal storage at Tell Madhhur was associated with large simple jars of which most were between 16 and 35 liters in capacity (Roaf 1989, 112–13); Roaf notes that the storage capacity of the jars discovered *in situ* was insufficient for even a nuclear family (ibid., 113) and suggests that the majority of grain was stored off site. At Tell Abada, Level 1, a grain storage building with multiple mudbrick compartments was identified and hypothesized to have served the needs of

several houses (ibid.; cf. Jasim 1989, 86). At Kenan Tepe, Graham and Smith (2012; 2013) identified spikelet impressions and so were able to show storage of clean emmer wheat spikelets within the house, despite the lack of charred grains in the rooms identified as storage areas. Other crops used by the inhabitants of the Kenan Tepe house included barley, lentil, pea, and flax.

Final-stage cereal processing appeared to take place on the roof at Kenan Tepe (Graham and Smith 2012). At Tell Madhhur, there was no direct evidence for cereal processing, or indeed, of animal or other food provision and processing (Roaf 1989, 137).

Finally, Graham and Smith note that the storage of semi-clean grain spikelets as at Kenan Tepe is ethnographically associated with a degree of communal organization of labor; that is, of multiple households working together at initial processing of the cereals (Graham and Smith 2013, 415). I now turn to a consideration of the ways in which households may have interacted in Ubaid settlements.

2.3.7. Interaction Between Houses

Two related issues rise to the fore when considering interactions between households in the Ubaid. First is the degree of functional differentiation of households (i.e., Rothman's (1994) defining criterion for social complexity), and second, the degree to which a single household might have been able to differentially mobilize or amass community resources, (i.e., the evidence for socioeconomic hierarchy within the community). A broader discussion of the possible existence of a Mesopotamian Chalcolithic "house society" will be taken up in Chapter 5.

Tell Abada in the Iraqi Hamrin has been a touchstone for comparative discussion of Ubaid houses and for theorizing about relations between households, particularly as related to emergent hierarchy. Specifically, House A in Level II, with its multiple cruciform courtyards, its large size

relative to its neighbors, and the higher density of intramural infant burials, has been cited as evidence for higher status and differential access to resources (Jasim 1984; G. J. Stein 2010a), although this evidence on its own could be interpreted differently, e.g., as different stages in the life cycles of houses or households.

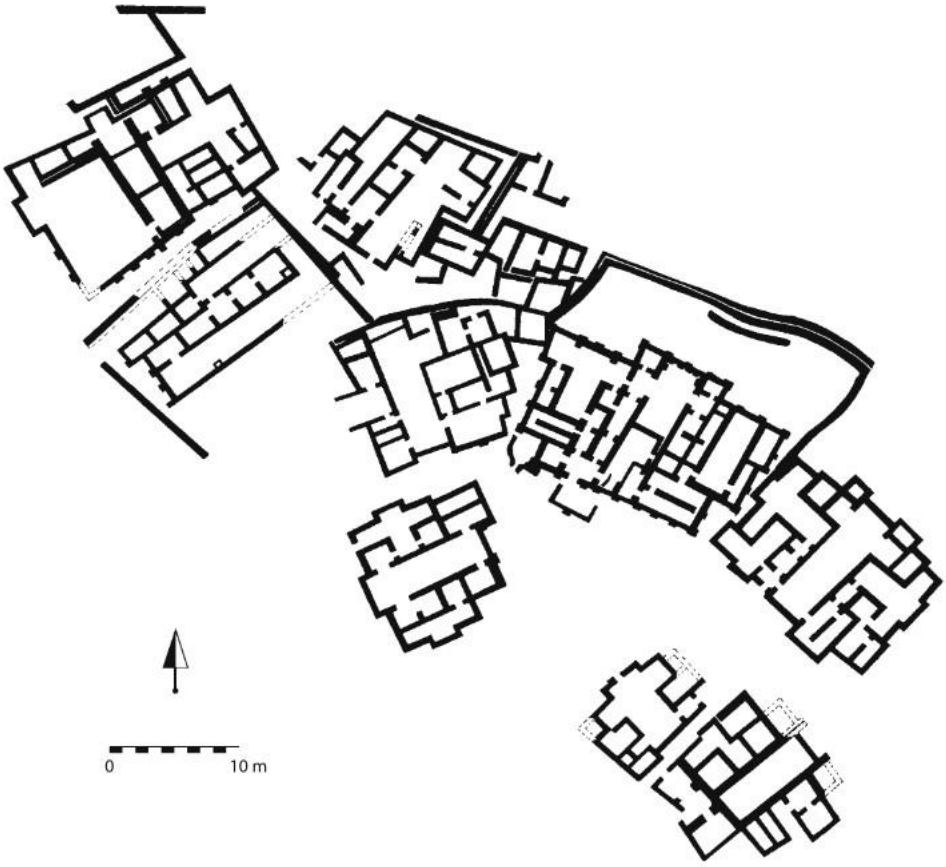


Figure 2.17. Tell Abada, Level II (Jasim 1984, fig. 2)

The evidence from Kenan Tepe for communal organization of labor in crop processing (Graham and Smith 2013) has already been mentioned, although it is important to emphasize that this is an inference drawn from ethnographic parallels rather than directly suggested by evidence for communal labor.

Another point in favor of seeing households as cooperating at least to some extent in food processing and/or storing activities is the insufficient storage space inside the house at Tell Madhhur and the tendency in many regions for fire installations to be located outside of the house itself (Akkermans 1989), (although, as Balossi Restelli notes, ovens inside the house *do* appear to be a feature in Upper Eastern Mesopotamia and Eastern Anatolian Ubaid communities (Balossi Restelli 2010, 194).

'Oueili provides significant architectural evidence for storage in granaries separated from the domestic structures; these granaries, with "pigeon-hole" construction, are found from the earliest through the late Ubaid and have parallels at Eridu (Huot 1989, 32–33).

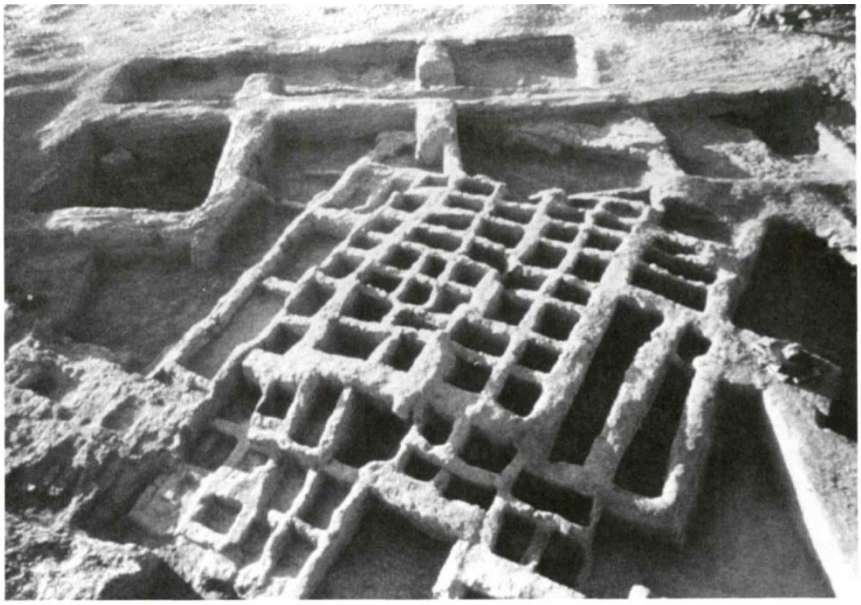


Figure 2.18. Ubaid 4 Grid Structure at 'Oueili (Huot 1992, 192)

It is not only in food production that we see aspects of communal activity and segregation in the Ubaid. The earliest level of Tell Feres al-Sharqi (level 10, Ubaid) offers useful evidence for ceramic production in the period: a workshop in which ceramics were produced in separate areas within the same structure, following at least 5 separate production traditions, which also

corresponded with decoration and could be clearly associated with different buildings on the site. This situation probably implies separate kin groups producing pottery for their own use, and moreover, the spatial associations indicate that these groups lived, worked, and stored food in spatially distinct areas (Baldi 2012; Vallet and Baldi 2016, 91–92; Vallet 2018, 157–58). Even over the course of the Ubaid, the excavators saw a decrease in the variety of ceramic production techniques. This homogenization became dramatically apparent by the end of the LC2.

At Tell Abada as well, evidence for specialized production of pottery appears (alongside perhaps the earliest evidence for the potter's wheel), as early as the 6th millennium (Jasim 1989, 89; Oates 2012, 479)

A remarkable piece of evidence for craft production comes from Tell Zeidan (G. J. Stein 2011, 127), where a securely-dated Ubaid stone tool workshop with a full suite of tools was discovered, offering evidence for production outside the immediate domain of the household.

Despite the clear evidence for communal workspaces, there is not strong evidence for functional differentiation of households in the Ubaid. There are some trends along those lines, such as the increased size and storage capacities of the large T-shaped houses versus structures of the preceding eras, and the beginnings of a tendency toward specialization and homogenization in pottery production.

The evidence for social hierarchy on the basis of households alone is also fairly thin. Although, again, a reasonable case might be made based on house size differentials, this is insufficient in itself. I will return to the question of hierarchy both later in this section, when discussing public buildings, and again in the last section of this chapter dealing with 6^{th}-5^{th} millennium society and economy. Now, I turn to an examination of the evidence for LC 1 houses.

2.3.8. LC 1 Domestic Architecture

The houses of the Late Chalcolithic 1 are less well-studied than those of the Ubaid. The detailed architectural and activity-area analyses of LC 1 domestic spaces come primarily from three sites: Tepe Gawra, where Mitchell Rothman's reanalysis takes as its chronological starting point the Ubaid/LC 1 transition of Level XII and focuses on reconstruction and analysis of buildings, activities, and populations (Rothman 2002b, 75); Arslantepe on the Malatya Plain in Turkey, where Francesca Balossi Restelli and colleagues use evidence from ceramics, architecture, and fire installations to better understand social activity and social organization, especially from the perspective of domestic food preparation and consumption in the LC 1 level VIII (Balossi Restelli 2008; 2012; Balossi Restelli, D'Anna, and Piccione 2018); and Tell Zeidan near Raqqa in Syria, where Michael Fisher performed a spatial-functional analysis of the LC 1 architecture (Fisher 2017, 221ff.).

Otherwise, household archaeology in the LC 1 has largely been limited to architectural analysis and to specialist studies of ceramic and other craft production, insofar as these relate to domestic economies (Baldi 2010), so this discussion will be largely constrained to a brief discussion of the architecture of LC 1 houses at these and a small number of other sites.

LC 1 and Ubaid Continuity and Change

As we have seen, one of the major areas of concern for the study of the LC 1 has been its relationship to the Ubaid, and the investigation of domestic architecture is no exception. In general, the literature on LC 1 houses suggests that at many sites post-Ubaid social change at the level of the household was gradual (Fisher 2017). There are continuities in house form, such as

the reemergence of the tripartite house layout at Tepe Gawra XII, the earliest significant post-Ubaid occupation (Rothman 2002b, 27–34) and at Tell al-'Abr (Hammade and Yamazaki 2006, 455; Fisher 2017, 78). Tripartite houses persist without interruption at Değirmentepe's LC 1 Level 7 and Hammam et-Turkman's level VA (Van Loon 1988).

At Tell Feres al Sharqi (Vallet 2014; Vallet and Baldi 2016; Vallet 2018), a large late Ubaid (Level 9B) house or mixed public-private complex was rebuilt and reused in the early LC 1 (Level 9A). The impression is of a community making use of old structures for new purposes appropriate to a changed social circumstance.

More dramatically, at Tell Ziyadeh, there was a seemingly quick replacement of the late Ubaid tripartite structure with buildings with small trapezoidal rooms (Hole 2000, 62).

At Arslantepe VIII (LC 1-2, ca. 4200 BCE), where an earlier Ubaid settlement probably existed but has not been exposed, the LC 1 is characterized by agglutinant architecture with no tripartite plan (Balossi Restelli 2010, 192; 2012, 237). This pattern is also apparently seen at Tell Zeidan Area E (LC 1b), although neither a full house plan nor a direct Ubaid antecedent was exposed (Fisher 2017).

As with so many aspects of the fifth millennium, then, the time frame in which and the degree to which Ubaid principles of house design and use persisted appear to vary, but continuity or gradual change seem to be more the rule than rapid replacement with new forms of dwelling.

2.3.9. LC 1 Houses

Gawra level XII, because of its relatively large exposure, has drawn a considerable share of the analysis of LC 1 houses. Much attention has focused on the "White Room Building," (Tobler 1950, 2:25–27; Rothman 2002b, 75ff.) a large, tripartite structure, preserved by burning, with

niched rear walls and a courtyard. Especially given the presence of a "hut statue" found within and a bowl set in a bench in one room, there is a temptation to assign it a ritual function, but both Tobler (1950, 2:27) and Rothman (2002b, 77) note that the other small finds are more consistent with domestic activity and that, tellingly, no altar is present.

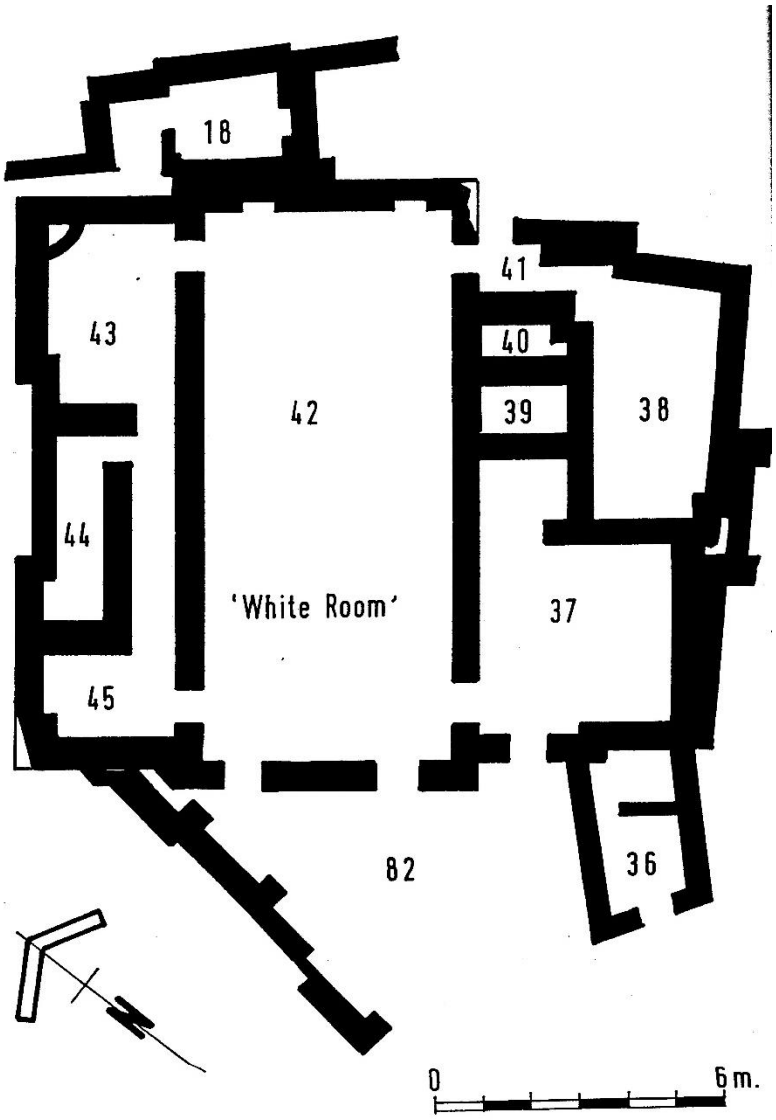


Figure 2.19. Tepe Gawra XII "White Room Building" (Kubba 1998, 198 after Tobler 1950, Pl. VIII)

The persistence of the tripartite plan in the White Room building and other structures at Gawra XII has already been commented on. Because this level immediately succeeds the Gawra XIII "acropolis," which has usually but not always been understood as a series of temples or at least "public buildings", the shifting social dynamics of the settlement at Gawra are somewhat difficult to understand. For the moment it is worth considering that, despite the reconfiguration of the site in Level XII, the transition that took place over the course of the occupations that Rothman (2002b) describes as XIA/B and XI/XA appears more dramatic than that between XIII and XII.

Tell Zeidan, in the Euphrates Valley of north-central Syria, yielded evidence for LC 1 houses in multiple areas of excavation (G. J. Stein 2010b; 2011; Fisher 2017). Most of these houses were only partially exposed, limiting the degree to which the overall domestic form and distribution of activity can be assessed, but these nevertheless provide useful comparanda. Partial remains from building S.A1 (Early LC 1) indicate a domestic building of relatively small rooms, of which the excavated portion appeared to focus on food production, and a courtyard smaller than most Ubaid or LC 1 tripartite examples (Fisher 2017, 158). In Operation 3, Building S.B5 (LC 1), the "T-Shaped Hall Building" recalls both Samarran antecedents and Ubaid cruciform courtyards (Fisher 2017, 190). The partially-exposed LC 1 buildings on the South Mound are also domestic in character, although there is not sufficient exposure to say much about their plan (Fisher 2017, 201ff).

At Tell Feres al Sharqi (Vallet 2014), the early LC 1 occupation (Level 9A) is most notably represented by a large complex which might be compared with multi-courtyard Ubaid buildings (and with the White Room Building at Tepe Gawra). Notably, the largest hall or courtyard of this structure was associated with a large number of Coba bowls, suggesting a feasting or gathering

place. A bloc of rooms in the southwest corner of the structure appeared to the excavators to be clearly “domestic” in nature (Vallet and Baldi 2016, 92–93).

2.3.10. House Size, Population, and Household Structure

There has not been an effort to compile a range of house sizes in the LC 1 or to estimate household sizes, whether for specific regions or across northern Mesopotamia, and it is difficult to compare Ubaid and LC 1 houses in this regard.

At Tepe Gawra, the Level XII (terminal Ubaid/early LC 1) structures (including several tripartite buildings) were large in comparison to those from later levels, leading Rothman to suggest that they (and particularly the White Room building) were multi-family dwellings (Rothman 2002b, 78) similar to those generally proposed for the Ubaid tripartite buildings. The areas of the relatively-completely exposed buildings ranged from 77 m^2 to 180 m^2 (the larger area is for the White Room building). These dimensions are similar in size to Ubaid examples, although the unique nature of the preceding Level XIII (see below) makes a direct comparison across the Ubaid-LC 1 boundary at Tepe Gawra impossible. In any case, if Gawra XII is indeed considered to be a post-Ubaid settlement, the evidence here is for a similar situation of extended or compound families.

Exposures (and published data) from Arslantepe VIII are limited to date, but Balossi Restelli concludes from both the agglutinate nature of the architecture and especially from the analysis of storage and cooking wares, that the LC 1 in the Malatya Plain was characterized by nuclear-family households.

2.3.11. Organization of Activity

Evidence for domestic production in the LC 1 is still limited. At Tell Feres al-Sharqi level 8 (Late LC 1), several pottery kilns were built in the ruins of the large Level 9 building described above. Importantly, this work area stood in contrast to an earlier, Ubaid workshop (see above) in that, rather than an integrated workshop with separate work areas for different kin groups, the individual kilns appeared to be used to fire pots in large batches in which "potters' marks" served to distinguish individuals' or groups' products. The excavators interpret this work area and the associated changes in the *chaîne opératoire* as evidence for increasing craft (Vallet and Baldi 2016, 93)specialization at the site.

At Tell Zeidan, the LC 1 houses tended to demonstrate multifunctionality rather than functional differentiation, with evidence for craft production, food preparation, food consumption, and ritual activity in the same domestic spaces (Fisher 2017, 198–200, 227).

At Tepe Gawra Level XII (early LC 1), all the buildings have evidence for domestic craft activity. One compound showed loom bases, another remains of a stone core and a number of blades, and another several woodworking celts. One of the smaller buildings offers evidence for cloth manufacture, in the form of a large set of spindle whorls and a blade and awl; Rothman interprets this as more likely an instance of domestic production rather than a specialized workshop, although he suggests that at least some of the craft production was centralized (Rothman 2002b, 78–80).

At Gawra XI, by contrast (late LC 1-early LC 2), there appear to be specialized workshops for tasks including weaving, woodworking and possibly pottery production (Rothman 2002b, 100–102).

At Salat Tepe on the Upper Tigris in Southeastern Anatolia there likewise appears to be a

shift over time from domestic to workshop production, specifically in the find location of pigment remains, which were located in houses in the Ubaid occupation and in a workshop in the Late Chalcolithic (Koizumi et al. 2016, 152 cited in Fisher 2017, 394).

The LC 1 houses of Arslantepe VIII are characterized by strongly functionally-differentiated rooms, especially the kitchens (Balossi Restelli 2010, 193), in contrast to Ubaid houses where, as discussed above, defined cooking areas are difficult to identify.

2.3.12. Hierarchy and Public/Private Space

In addition to continuities or discontinuities with the Ubaid period, LC 1 houses at several sites have invited speculation on the nature of social organization, on questions of hierarchy, ritual, and on the ways in which different households interact.

One of the interesting features of the domestic archaeological evidence from the Late Chalcolithic 1 has been the relative scarcity of discussion of hierarchy or differential socioeconomic status; the possibility of elite residences is occasionally raised (Fisher 2017, 199; Rothman 2002b, 77), but there has been nothing like the interpretive weight placed on differential house size in the Ubaid. As with much else in the LC 1, this can probably be explained by the relatively small number of substantially exposed LC 1 buildings, but it also raises important questions about whether the social differentiation and hierarchy presumed to be emergent in the Ubaid were carried forward into the LC 1, or whether the period can be understood as one in which elites lost status or ability to control or mobilize resources.

While evidence for hierarchy or lack thereof is not abundant from the domestic perspective, there are some intriguing data points with regard to the arrangement of domestic and nondomestic space.

It has already been noted that the White Room building at Tepe Gawra has "elements of religious ritual and of a domicile" (Rothman 2002b, 77). A similar overlap between domestic activity, including craft production, and ritual activity can be seen at Tell Zeidan.

In the analysis of fifth millennium architecture in northern Mesopotamia, it is difficult to draw a bright line between different kinds of spaces: domestic and public, between domestic and ritual, and between public and private. Ritual activity appears to occur in domestic contexts; houses and "temples" are difficult to distinguish; Coba bowls and other mass-produced ceramics are found in the courtyards of tripartite and other "domestic" buildings, suggesting public or semi-public feasts; and various basic aspects of domestic economy—from food preparation to craft production to storage—may take place away from the house and sometimes in communal contexts.

These difficulties in categorization of public and private space will be one of the foci of discussion in Chapter 5. For now, I turn to the ways in which the literature has presented public or nondomestic architecture in the Ubaid and LC 1.

2.4. Nondomestic Architecture North and South

As noted in the discussion of domestic architecture and site plan, there are significant differences in the built environments of Ubaid settlements in southern and northern Mesopotamia (G. J. Stein 2010a; Balossi Restelli 2010), and this differentiation extends to nondomestic architecture (This discussion closely follows G. J. Stein 2010a, 25ff.).

The Ubaid in the southern Mesopotamian alluvium is characterized by niched-and-buttressed long room temple architecture, a pattern also seen at Tepe Gawra. In Susiana, the most prominent public building is the Platform at Susa A. In much of the rest of the Ubaid horizon,

public buildings have not generally been identified.

Most fundamentally, there is little in the way of public ritual architecture in the Northern Ubaid or the LC 1, with the possible exception of Tepe Gawra (G. J. Stein 2010a, 32). In the case of buildings identified as temples (e.g., the tripartite buildings at Gawra XIII and XII), these identifications have been questioned.

Other kinds of nondomestic buildings, e.g., workshops or storage facilities, are known from the north, and there is evidence for large-scale construction works from, e.g., Tell Zeidan (G. J. Stein 2011, 129). The following discussion, then, begins with a discussion of the public architecture of the late Southern Mesopotamian ‘Ubaid as a point of comparison. I then take up the evidence from Tepe Gawra alongside the more ambiguously “public” architecture from Tell Feres al-Sharqi and Tell Zeidan, before turning briefly to some later evidence from northern Mesopotamia (the Basalt Threshold building at Tell Brak TW 20 and the “Round Tower” at Gawra XIA) as, further points of comparison and as evidence for the kinds of developments that northern Mesopotamian societies would have taken part in as the fifth millennium turned to the fourth.

2.4.1. Southern Mesopotamian Nondomestic Architecture

As noted above, the Ubaid architectural tradition in Southern Mesopotamia is more strongly identified with public buildings than the north. While this might in part reflect the vagaries of excavation, most scholars consider it to be evidence of different modes of social organization between north and south (e.g., G. J. Stein 2010a). The nondomestic architecture of southern Ubaid sites includes temples, storage facilities, and other, more ambiguous structures.

2.4.2. Sacred Space - Eridu & Uruk

The Ubaid sequence at Eridu one of the most significant for our understanding of both the ceramic assemblage and the architecture for the period in southern Mesopotamia as well as of its cultural continuity with succeeding periods.

Apart from some traces in Level XVIII (corresponding to Oates' "Ubaid 1" based on the ceramic evidence) the temple sequence at Eridu begins at Level XVII, with a small rectangular building containing a small, central pedestal of raised brick and a fire installation outside the walls (Safar, Muṣṭafā, and Lloyd 1981, 86). It is important to note that this structure and the subsequent two "temples" XVI-XV (and the hypothesized XIII-XII; "temple XIV" was essentially a fill layer) are not confidently asserted on their own merits to be temples, and it is partly on the basis of the central pedestal and partly on the basis of their location in the same spot as the subsequent Temple XI and its successors.

Most relevant for our purposes are the Ubaid 3-4 levels XII-VI; temple XII, if it existed, was in a different location. These temples can be separated into two groups which followed roughly similar plans: the earlier Temples XI-IX, and the later temples VIII-VI.

The niched-and-buttressed Temple XI is, according to the excavators, "the first in the series which can without any reasonable doubt be called a temple" (Safar, Muṣṭafā, and Lloyd 1981, 94). The building sits on a 1-meter-high platform and consists of several rooms in a plan that proved difficult to reconstruct; one of these rooms contained an offering table surrounded by signs of burning. Temple X appears to have been a rebuilding of XI, although no offering table was preserved.

Temple IX was better preserved than its antecedents; its sanctuary, entered through a door on the main axis, measured 10 x 4.1 meters and included an altar of which mudbrick remnants

survived (Safar, Muṣṭafā, and Lloyd 1981, 96ff.).

Temple VIII represented a complete rebuilding in the same space as Temple IX; there was still a long central chamber with an altar in the center of the southwest wall and an offering table in the northeast. Piers and niches were used to create a "proscenium" effect in the sanctuary as well as niches; a set of false doorways create a niche in which was found a lenticular vessel full of fishbones (Safar, Muṣṭafā, and Lloyd 1981, 100ff).

Temples VII and VI were similar in layout to Temple VIII. Temple VI, the latest Ubaid temple in the sequence, is likewise notable for its long central chamber (14.4 x 3.7 m). Its architectural features included an altar, a low mudbrick bench, and a mudbrick podium which functioned as an offering table, covered in ashes and fishbones.

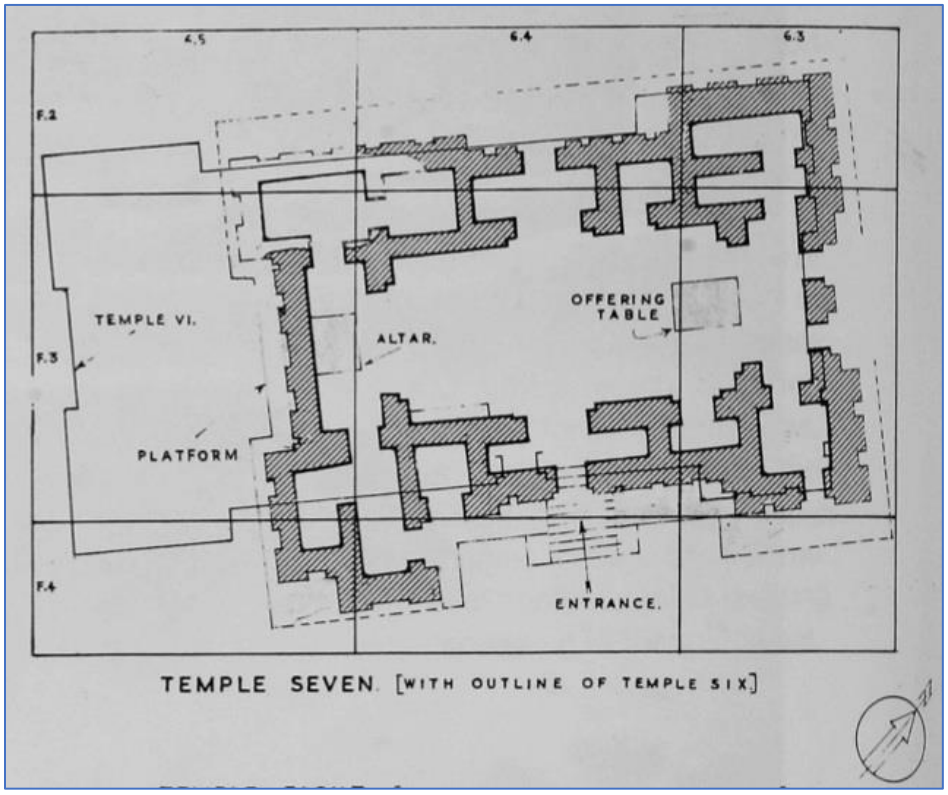


Figure 2.20. Eridu Temple VII (Safar, Muṣṭafā, and Lloyd 1981)

Ubaid temples comparable to those of Eridu VIII/VII were also unearthed at Uruk/Warka beneath the later Steingebaude (Schmidt 1974; Oates 2012, 479).

The Ubaid 3-4 temple sequence at Eridu thus provides valuable comparative data for the use and layout of ritual space in the early 5th millennium; the northern ritual built environment appears, as we will see, to have been quite different.

2.4.3. Secular Space - Uqair & Oueili

The large Ubaid building (Building A) partially excavated at Tell Uqair is noteworthy (Lloyd, Safar, and Frankfort 1943); although its function is difficult to assess, its thick walls and the contrast with the small "mud hut" found nearby, strongly suggest a nondomestic function. This is one of the buildings that Gibson (2010) uses as evidence for an early evolution of complex social systems, which he places in the Ubaid rather than in the Uruk/Late Chalcolithic. Building A cannot clearly be identified as a "temple," but it does seem plausible that it is a nondomestic structure. Whether it should be considered a center for administration or redistribution is unclear, and it is probably, as the excavators suggest, overreading the evidence to speculate.

The earliest Ubaid levels at Oueili (Ubaid 0) have yielded large tripartite buildings that may be domestic in character but have been at least considered as specialized, nondomestic structures (Oates 2012, 477), and in the later Ubaid 3-4 levels, both large granaries with stepped walls and a 40-meter long mudbrick terrace have been uncovered (Huot 1992, 192).

There are few other clear examples of 5th millennium nondomestic "secular" or administrative structures from the south, but as with much of the evidence from this period, the limited data should make us cautious about arguments from absence.

2.4.4. Northern Mesopotamia

The fifth-millennium nondomestic built environment in 5th- (and 6th)-millennium northern Mesopotamia appears to differ substantially from that in the south. Notably, nondomestic structures are rare in the Ubaid and up to now either very rare or nonexistent for the LC 1. However, recent results call into question the degree to which this situation is a genuine difference between southern and northern use of space and social organization versus a matter of chance and excavation.

As will be seen below, the evidence from Tell Surezha emends this picture, and it is to be expected that future excavation will expand our knowledge of nondomestic architecture.

At present, the evidence for nondomestic architecture in the northern Ubaid comes primarily from Tepe Gawra, with some hints at other sites like Tell Zeidan. In the LC 1, there are no clear large nondomestic structures. The large building at Tell Feres al-Sharqi may be partially nondomestic in character and the White Room building at Tepe Gawra (described above) is at least open to interpretation as a public building, but I see these as both essentially domestic structures.

In the LC 2, the picture becomes quite different, with multiple clear instances of large-scale public architecture at Tell Brak, Tepe Gawra, and elsewhere.

2.4.5. Tepe Gawra - The Level XIII "Acropolis"

Tepe Gawra sits at an interesting regional juncture, complicating efforts to describe its cultural affiliations: was it, in the Ubaid and Chalcolithic, a northern extension of the societies of southern Mesopotamia, or is it better understood in relation to cultures of the north and east

(Marro 2012b)?

Some of the most famous "public" buildings in late prehistoric northern Mesopotamia come from Tepe Gawra, particularly the so-called temples of Stratum XIII, which Rothman (2002) places at the end of the Ubaid. At Gawra XIII, an "acropolis" (Tobler 1950) of three buildings, called temples by the excavators, with both interior and exterior niches and buttresses/pilasters covering an area of approximately 30 m^2 represented a radical change from the preceding architectural arrangement of the site.

Figure 2.21. Gawra XIII Acropolis (Sievertsen 2010; after Tobler 1950 Pl. XI)

The Northern Temple, the best preserved, measures 12.25 x 8.65 m, was characterized by

frequent use of niches and pilasters, and an unusual pattern of entry that required an individual to turn left and right before reaching the cella (Tobler 1950, 2:30–31). The Central Temple had rooms decorated in purplish-red paint (Tobler 1950, 2:33). The Eastern Temple, whose architecture was only fragmentarily preserved, was noteworthy for containing intramural burials.

Rothman (2009) argues that the Gawra XIII structures should not be considered temples, failing as they do to correspond with key criteria found in later Northern Mesopotamian temple architecture. Rather, he suggests, the three buildings of the Gawra XIII acropolis were public buildings of a sort, but "social centers rather than temples *per se*" (Rothman 2009, 23). Roaf (1984), although he is skeptical of most of the excavators' designations of buildings as temples, is more willing to consider the Gawra XIII structures as specifically ritual in nature.

Gawra XII with its "White Room Building" has been discussed above. Tobler, Roaf, and Rothman all agree that this is a secular building with at least some public function. I agree that it would be incorrect to identify the building as a temple along the lines of the Ubaid temples at Eridu, and it seems to me that Rothman's description of the Gawra XIII buildings as "social centers" might apply to the White Room building as well.

2.4.6. Other Nondomestic Architecture

One of the few other traces of large-scale nondomestic architecture comes from Tell Zeidan, where a large (1.10 m thick), buttressed wall dating to the Ubaid period was found (G. J. Stein 2011, 129); the excavation did not uncover more of the building, but the size indicates the possibility of a large nondomestic structure.

From the Ubaid-LC 1 transition at the same site, Building S.C4 was exposed enough to reveal two three-brick-wide mudbrick walls, into one of which had been constructed a double-

recessed niche; small finds from the building included a large collection of sealing clays, leading to the suggestion that this was part of an administrative center (Fisher 2017, 203, 221, 288).

At Tell Feres al-Sharqi, both the Ubaid and LC 1 pottery manufacture areas have been described above, as has the large LC 1 building complex with evidence for both domestic activity and communal distribution and/or consumption of food.

Thus for the Ubaid and LC 1 in Northern Mesopotamia our evidence for nondomestic architecture is quite limited. The exposures at Tell Surezha offer an important addition to this body of evidence, as will be discussed below.

2.4.7. The LC 2

The Northern Ubaid has yielded limited evidence for nondomestic architecture beyond craft production areas, and the LC 1 even less so. However, the succeeding LC 2 (early 4th millennium) presents us with a quite different situation, with striking evidence from Tell Brak, Hammam et-Turkman, Tepe Gawra and elsewhere.

Tell Brak's area TW has yielded a series of public buildings and craft production areas, beginning with a large building in TW Level 20 (LC 2) with a large basalt threshold and massive walls, associated also with a specialized craft production area (McMahon et al. 2007, 149ff).

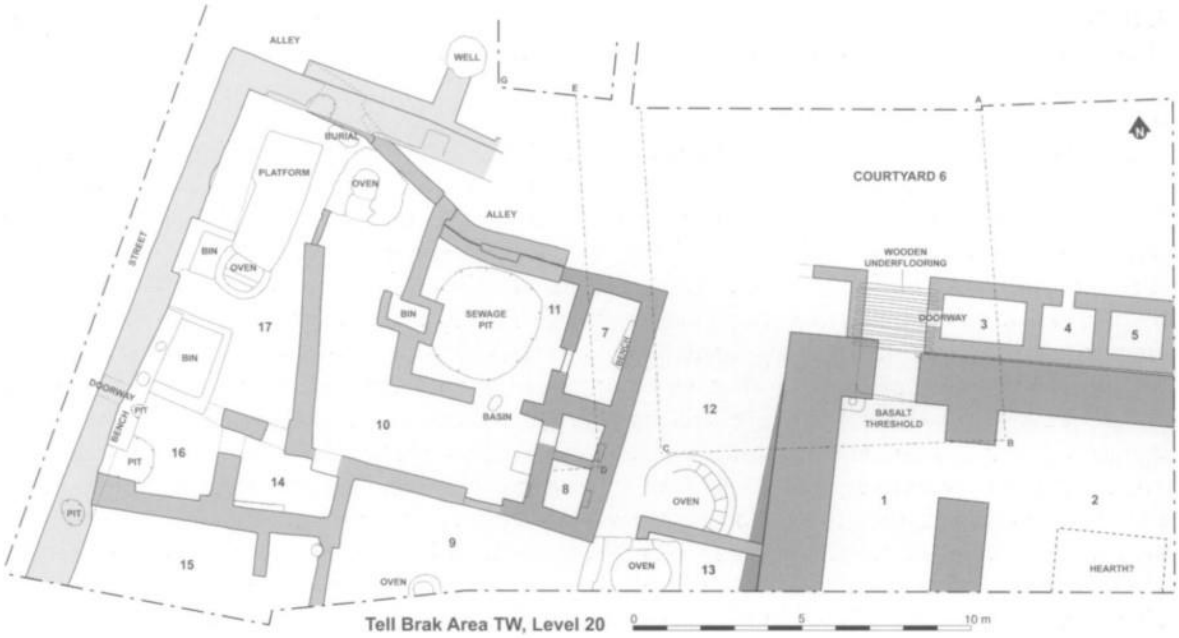


Figure 2.22. Tell Brak, Area TW, Level 20, with Basalt Threshold Building on Right (McMahon et al. 2007, fig. 4).

A "spectacle idol" of the type found in the later Eye Temple at Brak was found in the foundations of one of the walls of this building, as was an infant burial with another spectacle idol, perhaps also interred as part of a votive offering during the building of the structure. Despite this evidence of ritual activity in the construction, the Basalt Threshold Building does not appear to be religious in nature and instead is presumed to be an administrative center.

Public architecture in the area continued into later periods with the "Red Building" in TW Level 19 (LC 2), consisting of large rooms with ovens, large storage jars, mass-produced bowls, a considerable number of spindle whorls, seal impressions comparable to those from LC 2 Tepe Gawra, and a remarkable obsidian and marble chalice.

At Hammam et-Turkman, an LC 2 building with 2-meter thick niched-and-buttressed walls was discovered (Van Loon 1988; Oates 2012, 427)**,** and a large tripartite building in Level 10 (LC 2) at Norşuntepe may also have been nondomestic in character (cf. Fisher 2017, 377). At

Gawra XIA, a distinctive LC 2 structure is the "Round House," probably a defensive structure (Rothman 2002b, 86). The implications of this defensive structure and the evidence for a violent destruction of the settlement preceding its construction will be taken up in the next section of this chapter.

Thus by the LC 2 there is strong evidence for nondomestic structures, often monumental in stature, frequently with potentially administrative function bespeaking some sort of central management of labor and/or goods, and sometimes with a defensive character. An obvious question is how to understand this reality in light of social developments in the preceding Ubaid and LC 1. It is to these developments that I now turn.

2.5. Ubaid & LC 1 Society and Economy

In this section I address the evidence for and theories concerning the social, political, and economic organization and dynamics of 5th-millennium Mesopotamia. While there has been significant debate about how to properly define the Ubaid (and to a lesser extent the LC 1) social and economic system, this debate has in many ways been secondary to a larger debate about the origins and trajectory of socioeconomic complexity. I will attempt to treat the two separately, but as we will see, they are intimately connected in the literature, and, especially with regard to the LC 1, there is little scholarly work that attempts to treat the period on its own terms rather than in terms of the preceding and succeeding periods. A second problem has been to understand the Ubaid phenomenon in cultural and historical terms, and specifically how we are to understand the enormous geographical spread of the similar ceramic forms, decorations, and technologies and other components of material culture alongside the clear regional idiosyncrasies. As Stein (2010a) notes, efforts to reconstruct Ubaid social organization have been bedeviled by regional

variability of the evidence (25) and the sometimes indiscriminate association made between pieces of evidence from different regions or phases which should really be treated separately.

As has been seen before, the LC 1 is less well-represented in the literature, and so this dissertation is well-positioned to make a contribution to our understanding of both the LC 1 society and economy in the Erbil Plain as well as to the broader debate about trajectories of complexity.

Again because of the centrality of a perspective that sees the 6th-4th millennia in terms of a trajectory toward complexity, I will also touch on the developments of the LC 2 and beyond as a way of situating the dynamics under discussion in a broader context.

2.5.1. Social Complexity, Hierarchy, and Egalitarianism in the Ubaid

One of the primary topics of interest for the study of the 6^{th}-5^{th} millennia has been the evidence for the existence of or trends in the direction of social complexity, here defined, following Rothman, as "the degree of functional differentiation among societal units or sub-systems" (Rothman 1994, 4), such as households, economic units, or villages. While a neo-evolutionary desire to plot points on an upward-sloping line toward complex society continues to be a feature of this scholarship, some of the most valuable contributions have focused not on whether or to what degree 5th-millennium societies were complex, but on how and why various aspects of "complexity" manifested. Useful approaches have applied more nuance to concepts of hierarchy, heterarchy, and egalitarianism (e.g., Brumfiel 1995; Frangipane 2007), raised questions of ideology and status negotiation (K. V. Flannery 1999, 46–47; Sievertsen 2010) and looked in detail at changing processes of domestic and specialized production (Baldi 2016).

Carter and Philip discuss the history of the Ubaid in the development of theories of social

complexity: in the second half of the 20th century, as anthropologically-informed models of the evolution of complex society were being developed, the Ubaid appeared to be the immediate precursor to the urban state societies of the Middle-Late Uruk, and so were taken to be a probable origin point for state formation processes. As a more refined chronology has demonstrated the significant temporal gap between the Ubaid and the later urban societies of the Chalcolithic, scholars have worked to separate the two phenomena (Carter and Philip 2010b, 10–11).

However, both the Ubaid and the LC 1 continue to pose important questions of social organization, both for synchronic analysis and in terms of later trajectories and histories. How were these societies organized? How was power distributed and mobilized? To what extent were egalitarianism and social hierarchy practiced and incorporated into ideology and community identity? Should we continue to see the Ubaid and LC 1 as a step or steps in a predictable process of increasing social complexity? Or should we seek the origins of the state societies of both northern and southern Mesopotamia in their more immediate antecedents?

A fundamental point of dispute concerning the Ubaid period is whether it represents a period of relatively egalitarian social relations (Akkermans and Schwartz 2003, 178–79; Frangipane 2007, 169), a dynamic period of emerging socioeconomic inequality in which chiefs or other elites wielded increasing political and economic in small communities (G. J. Stein 1994; 2012; Frangipane 2007), or even a period in which durable inequality, kingship, and at least the basic apparatus of statehood was already manifest (Gibson 2010). None of these positions should be understood in absolute terms, but rather as a spectrum to facilitate thinking about how social, economic, and political power and difference were deployed.

Evidence in support of relative egalitarianism is the scarcity of prestige objects in Ubaid

burials alongside a preference for communal cemeteries, the lack of clear evidence for specialized production in service to elite individuals or institutions, and the lack of clear evidence for the accumulation of wealth in the form of prestige goods (Carter and Philip 2010b, 12–13).

On the other end of the spectrum, Gibson (2010) has argued that the evidence from the later Ubaid in southern Mesopotamia points to a society in which durable elites and even already existed. The evidence he offers for this view is based on the large size of both individual Ubaid sites and the Ubaid "interaction sphere" as a whole, suggesting large populations and large-scale movements of people and the need for trade goods to support a burgeoning population and increasing economic complexity, alongside the public architecture at Eridu, Oueili, and elsewhere and what might be interpreted as differential access to prestige objects, particularly at Tell Abada (Gibson 2010, 88).

Most scholars have argued for something between these two poles and inclined toward a view of something like "incipient complexity" or chiefdoms as the sociopolitical organization of societies in the Ubaid (G. J. Stein 1994). The Ubaid in this framework is seen as a period of increasing socioeconomic complexity that is qualitatively different from both the state societies of the 4th millennium and the egalitarian communities of the Neolithic. Durable elites may have emerged in this period, perhaps masked by a persistent egalitarian ideology, but the degree of control they exercised was distinctly less than that of the elites of even the later 5th millennium and especially of the urban political formations of the 4th.

Several lines of evidence can be adduced to support the notion that the Ubaid was a period of emerging but limited socioeconomic complexity (the following discussion owes much to Stein 1994, 37ff.):

First, the appearance by the second millennium in at least some regions of a two-level settlement hierarchy in which apparent central places of >10 hectares were surrounded by smaller ~1-hectare settlements that are seen as having interacted in a center-hinterland relationship (Stein 1994, 38).

Next, an apparent disparity in house sizes and distribution of contents, as seen for example at Tell Abada II, House A with its conspicuously larger size than its neighbors and higher density of infant burials, alongside potentially administrative material (Jasim 1983, 1989). The implication is that the larger house could be the dwelling of a chief (or even a special-purpose ritual building)**.** Similar claims are made, in the LC 1, for the White Room building at Gawra (Rothman 2002)**.** The presence of public architecture at Eridu and elsewhere, has, as described above, likewise been considered as evidence for emergent complexity, based on the assumption that some special or elite class was able to exert some degree of control or influence over the activities of the institutions centered on these buildings, whether as "priests," community mediators, or administrators.

A shift to less decorated pottery, and a constriction in the range of traditions of manufacture and decoration over the course of the Ubaid, a trend that accelerates in the LC 1, is also thought to signify increasing specialist and large-scale production (Baldi 2016).

The so-called "ophidian" figurines found at Eridu and other sites in southern Mesopotamia, with their coffee-bean eyes, distinctive conical heads indicative of deliberate cranial shaping, and appliques potentially representing ritual scarification, are also sometimes adduced as evidence for the presence of elites: the object occasionally held is thought to potentially represent a scepter or other symbol of authority. The distinctive features of these figures may, on the other hand, be more a marker of community identity than of individual elites, and on balance the symbolic

value of these figurines remains unclear (Daems 2010).

Stein (1994, 39–40) addressed several principal difficulties for seeing the 5th-millennium Ubaid as a period of chiefdoms or durable elites: these are largely homologous to the arguments adduced for an egalitarian social organization and include the durability of the system, the lack of evidence for warfare, the lack of differentiation in burials, and the apparent absence of high-status objects or trade goods.

Stein's explanation for this apparent difficulty is to apply the concept of a "staple finance" chiefdom (D'Altroy and Earle 1985) to Ubaid society. In a "staple finance" system, there is a political and economic hierarchy, but elites (i.e., "chiefs") mobilize labor and consolidate power through the deployment of an ideology of communal belonging and the ritual redistribution of foodstuffs or other economic staples. This stands in contrast to the evidence we would expect from "wealth finance" systems (i.e., the "chiefdoms" that archaeologists might expect based on a number of more recent ethnographic parallels), in which socioeconomic and political differentiation is expressed through differential access to prestige goods and other forms of individual distinction that highlight the authority and special access of elites.

Stein's application of the concept of "chiefdom" for the Ubaid Near East has not been universally accepted. Yoffee in particular is skeptical of the neo-evolutionary baggage that "chiefdom" models represent and prefers to consider chiefdoms as part of an entirely different trajectory or "evolutionary line" from states (Norman Yoffee 1993b, 73), rather than as precursors. He does not dispute that there is an analytical need for a vocabulary to describe non-state, non-egalitarian societies (Norman Yoffee 2005), but rather than the language of chiefdoms, he prefers a focus on processes of differentiation ("the process by which groups become dissociated from one another, so that specific activities, roles, identities, and symbols become

attached to them") and integration ("the political process in which differentiated social groups come to exist within an institutionalized framework.") (Yoffee 2005, 32). Yoffee is attempting to rescue a broadly neo-evolutionary framework from what he sees as problematic ethnographic parallels. In the process he focuses on economic power, including "the conversion of stored wealth to a system of dependencies arising from restricted access to land and labor," (ibid., 35) a process not all that different from the staple-finance model that Stein describes. Perhaps the most useful aspect of Yoffee's approach is his focus on differentiation, which will be a significant part of my own analysis of domestic production in the LC 1.

A corollary of Stein's staple-finance model that helps to explain the lack of evidence for socioeconomic differentiation, particularly in grave goods, is the suggestion that ideology, whether rooted in communal identity (Stein 1994) or specifically egalitarian in nature [cite] encouraged emerging elites to minimize social and economic difference.

A very strong ideology of egalitarianism is present in many small-scale human societies and potential aggrandizers are heavily sanctioned (Boehm 1999; K. Flannery and Marcus 2012). It seems likely to me that this egalitarian ethos prevailed in early agricultural communities as well; its breakdown and replacement with an ideology that allowed for and celebrated leadership and kinship is a central issue in the late prehistory of the ancient Near East.

Marcella Frangipane (2007) has provided a useful analytical framework for the "egalitarian" communities of the late Neolithic and Chalcolithic, arguing that there are "horizontal" and "vertical" egalitarian societies. The former are totally egalitarian societies while the latter are "basically egalitarian societies that are ideologically and politically represented by their chief members." (Frangipane 2007, 153). In her view, the southern Mesopotamian Samarran and early Ubaid societies were vertically egalitarian, "basically an egalitarian society with a symbolic and

representative leadership," which then "evolved into a new true rank society, ready to develop later into a fully stratified system" (ibid. 170). This stands in contrast to the Halaf societies of northern Mesopotamia which were horizontally egalitarian.

In this view, emerging elites in at least the early Ubaid were initially differentially placed symbolically and based on their position within the kinship system. In the context of community accumulation of agricultural surplus and the establishment of communal institutions they were able to amass wealth and control over said institutions, and thus lay the groundwork for a fully stratified society (Frangipane 2007, 169). There is some uncertainty in Frangipane's account as to just when this symbolic inequality was transformed into a more political and economic inequality, and her model raises interesting questions about the extent to which "vertical egalitarianism" or early stratification should be considered as having emerged in northern Mesopotamia as a direct response to southern influence. For the purposes of my study, Frangipane's work opens a framework for moving beyond typological questions of hierarchy and egalitarianism and for investigating both the mechanisms for establishment and consolidation of social power and the limitations of such processes.

A final concept that I find useful is Brumfiel's (1995) application of the concept of heterarchy, which, according to Crumley (1979, 144), is a social structure in which "each element possess the potential of being unranked (relative to other elements) or ranked in a number of different ways." While it may be an oversimplification to imagine that individual or elements in any society have a simple and fixed ranking in that society's social universe (at the very least, individual roles certainly change with time, activity, and developments in that individual's relationships), the concept of heterarchy may be useful in precisely the circumstances of the Ubaid and Late Chalcolithic when social systems and ranking are in flux

and tensions and uncertainties may arise.

Adding to this sense of flux is the fact that heterarchy creates its own kind of complexity, different from the social complexity described by Flannery (1972a). Rather, heterarchy creates complexity in the lives of individuals due to the variety of roles and rankings that they must assume in different circumstances. On an individual level, this can create a more complicated social terrain than that of "complex" societies (Brumfiel 1995, 129–30). Brumfiel's insight parallels Norm Yoffee's description of the state project as in large part an effort to impose not complexity but simplicity (Norman Yoffee 2005, 92). In other words, hierarchy and complexity can emerge in part as a way of dealing with the problems raised by heterarchy. In my analysis, the hetararchy concept provides a useful frame for a society in which quotidian activity appears broadly distributed across spaces and among individuals and households with little evidence for differentiation, while, on the other hand, restrictions on the use of space suggest a situation in which social roles were changing as aggrandizing elites consolidate specific, limited means of power.

All in all, I find convincing the view that the later Ubaid 3-4 was an early period of emergent hierarchy, one in which new social relations were developing but in which durable hierarchies were not yet firmly established. If the Ubaid period then was one in which a "vertically egalitarian" society was beginning to offer affordances for aggrandizing elites to accumulate control over surpluses and manipulate status as community leaders or symbols to accumulate durable power, and if the later 4th millennium in both northern and southern Mesopotamia was a period of durable elites, state societies, specialized production, kingship, and warfare, how are we to understand the later 5th millennium and the societies that arose after the Ubaid?

2.5.2. The LC 1-2 and its Relationship to the Ubaid

I consider three general perspectives on the early Late Chalcolithic. As with interpretations of Ubaid social structures, these should not be taken as absolutes, but as general interpretive frameworks for understanding the period both in its own terms and in relation to what comes before and after.

1) The Late Chalcolithic 1 in northern Mesopotamia represents a significant change from the preceding Ubaid period and can be seen itself as the origin point of a local trajectory toward complexity.

2) The Late Chalcolithic 1 represents a period of retrenchment and a breakdown of Ubaid elite authority before reconsolidating along a new pathway toward complexity immediately preceding the LC 3.

3) The Late Chalcolithic 1 represents a continuation of processes already existing in the 5th millennium northern Ubaid, in which emergent elites continued to consolidate social and economic power, and economic specialization and socialized differentiation proceeded gradually.

2.5.3. LC 1 as Break Point from the Ubaid

Marro (2012) has argued that continuities between the "Ubaid" and "Post-Ubaid" worlds are overstated. She usefully critiques a perspective that focus on continuity vs. discontinuity (Marro 2012b, 17), but does emphasize that the LC 1 and 2 should be considered on their own terms and as a significantly different phenomenon from the Ubaid. In her view, the LC 1 and 2 (what she terms the "standardised ware" period (Marro 2012b, 29) based on its clearest material-cultural signature (see below)) are a period of major social change in Northern Mesopotamia, rooted not

in Ubaid developments or southern Mesopotamian models, but in developments in the highland regions of the South Caucasus. She offers strong evidence for the influence of these highland regions as far south as Tepe Gawra, but the evidence for a distinctive break from Ubaid society, especially in northern Iraq, is not as strong.

Vignola et al (2014) have argued on the basis of botanical and zooarchaeological evidence that the LC 1-2 represent an important inflection point (at least on the Malatya plain) in the transformation of a balanced economy to one which was aligned with the interests of the emergent elites whose influence becomes clearer in the archaeological record in the LC 3-4 periods. The distinctive trajectory of the Malatya plain, especially as seen from the site of Arslantepe, has also facilitated an emphasis on a local trajectory of complexity rather than a connection to Ubaid social forms, although Frangipane (1997) places the most dramatic social transformations later in the 4th millennium.

Fisher (2017) has also argued for the LC 1 as a key moment for the takeoff of socioeconomic complexity in northern Mesopotamia, arguing that the breakdown of clear, communally-enforced norms for technical and cultural reproduction which had pertained in the Ubaid period allowed for greater experimentation in both production and social organization; these two processes, in his view, formed a kind of feedback loop in which new technologies in ceramic production and other fields (Fisher 2017, 60ff), increasing socioeconomic specialization, and the experimentation with new forms of social and economic differentiation fed on each other to produce new patterns of social and political organization, of which at least one experiment formed the foundation on which the complex urban societies of the later Late Chalcolithic in the region were formed.

Perhaps the most distinctive material objects, and some of the most common, found across

Northern Mesopotamia in the LC 1 are a range of rapidly-made bowls including Coba Bowls and the so-called Wide Flower Pots (Baldi 2010; 2012; 2016; H. T. Wright 2001; Frangipane 2001). There is variation in the forms of these bowls but all share certain characteristics: vegetal temper, undecorated bodies, and a crude manufacturing process associated with mass production (Baldi 2010). Their appearance in many sites in northern Mesopotamia in the LC 1 is both one of the key diagnostic features of the period and a key point of evidence for those arguing for the LC 1 as a point of qualitative change in social organization.

Baldi focuses on the manufacturing process of these bowls as indicative of a shift toward specialized production for larger groups of users, as opposed to the kin-group-based production of earlier times.

In terms of use, Coba and related bowls are interpreted based both on their find locations, their forms, and their ubiquity as individual food containers associated with redistribution and/or feasting (Baldi 2010), although it should be noted that, along with contexts like the large structure at Tell Ziyadeh (ibid.) Coba bowls have been found in primary domestic contexts as well.

A redistributive or "ration" function for these bowls would imply a system in which dependencies on certain groups or institutions were created and/or in which labor could be mobilized by these groups or institutions, which then provided food as compensation or maintenance of the labor force. Such a circumstance would be consistent with both the high degree of functional differentiation between units of society that mark socioeconomic complexity and with a privileged position for certain individuals, groups, and/or institutions that mark hierarchical models of political and economic systems.

The supposed shift from stem or extended to nuclear families as the primary unit of social

organization, represented by the movement from tripartite houses to smaller houses suitable for nuclear families, might also be adduced as evidence for major social changes in the LC 1, although, as we saw above, the extent of this shift and especially the degree to which it can be placed in the LC 1, are dubious.

Other potential rebuttals to the view of the LC 1 as a dramatic change and inflection point are the strong material-cultural continuities between the Ubaid and the LC 1 (a pattern that pertains at Tell Surezha); the uncertain function of the mass-produced bowls and their uneven adoption; and the mixed regional evidence for the change in economic foundations that Vignola et al identify on the Malatya plain.

Some of the arguments for seeing the post-Ubaid period as a significant break and an origin point for a local trajectory of social complexity draw in the early 4th millennium LC 2 as well, since here there is clearer evidence of emergent hierarchy and the change in material culture has become more complete.

When the LC 1 and 2 are taken as a unit, the argument for major social change acquires new evidence. One key posited feature of the Late Chalcolithic period, especially beginning in the LC 2, is a hypothesized rise in violence and organized raiding or warfare. One important data point for this rise is the evidence that the settlement of Tepe Gawra XII was violently attacked, burned, and overrun (Tobler 1950, 2:25–26). The burning of buildings with their contents and the presence of skeletons, including that of a child with a potential sling bullet in its back, contribute strongly to this picture.

Later (although probably not immediately thereafter), the Gawra Level XI settlement was rebuilt with the "Round Building" discussed above, usually interpreted as defensive in function. Looking slightly forward in time, we encounter the dramatic evidence from Tell Majnuna (early

LC 3, ca. 3800-3600 BC), where between 54 and several hundred individuals, most likely victims of violent conflict, were interred in a mass grave near the main mound of Tell Brak (McMahon, Sołtysiak, and Weber 2011, 208).

All in all, the evidence points toward mass violence that can reasonably called warfare in the first half of the fourth millennium. As warfare has often been considered as one of the drivers of state formation (Carneiro 1970), or at the least, a concomitant of social complexity, early 4th-millennium evidence for such large-scale violence can be adduced as evidence for a qualitatively different social organization than the Ubaid where, despite the likelihood of some amount of mass violent activity (see, e.g., arguments about the stockpiles of sling bullets in Chapter 6 below), no clear evidence of large-scale inter-communal violence in the 6th and early 5th millennium has yet emerged.

Continuing to anticipate the LC 2, the distinctive public and possibly administrative architecture of sites like Tell Brak and Hammam et-Turkman, discussed above, can also form part of an argument for a dramatic shift toward more complex and hierarchical social organization in the Late Chalcolithic. However, the LC 1 remains something of a black box in such arguments—should we look to the immediate post-Ubaid period for the beginnings of this increasing complexity, or is the LC 2 itself the period of decisive change?

2.5.4. LC 1 as period of retrenchment and social breakdown

A different perspective, not entirely incompatible with the one above, sees the LC 1 as a period of retrenchment, stagnation, or dissolution, in which elite and specialized institutions established in the Ubaid period were unable to maintain control and any incipient drive toward complexity in the late Ubaid was temporarily arrested by at least a partial collapse of the existing

social order (Hole 1994).

Evidence for this perspective would be the disappearance of even the relatively scarce monumental or nondomestic architecture present in the northern Ubaid (suggesting that the elite institutions or groups that maintained these structures were unable to maintain their status), the apparent reduction in the size of the "interaction sphere" and trend toward localization (suggesting a reduction in trade and/or shared elite identity), and the scarcity of evidence for further development in socioeconomic inequality.

The supposed reconfiguration of household which could be read, as above, as a marker of a changing society on the threshold of increased complexity might instead be read as a reaction to instability and social dissolution.

This perspective is not, in fact, entirely incompatible with the foregoing view of the LC 1 as a period of rapid change and origin point for the development of socioeconomic complexity, as Fisher (2017) argues, for example, that a breakdown in existing institutions was precisely the impetus for the experimentation that restructured Late Chalcolithic society.

There are several problems with viewing the LC 1 as a period of breakdown, retrenchment, or stagnation, however.

One of these is the aforementioned evidence for changing patterns of both production and economic organization, suggesting increasing specialization. It is also not at all clear that there was a breakdown in interregional interaction and that, if anything, there were shifts in patterns of trade and interaction that, while perhaps diminishing the importance of connections between northern and southern Mesopotamia, increased the level of contact on an east-west axis.

2.5.5. The LC 1-2 as Continuation of Ubaid Processes

Finally, it is possible to see the LC 1 as representing no major break with the preceding Ubaid period, with a continuation of a trend already evident toward social complexity, economic specialization, and social complexity, with gradual shifts in social identity and interregional interactions, and gradual rather than dramatic change in the organization of society in terms of household makeup and social roles. I incline toward this view.

The evidence in support of continuity and gradual change includes the following:

- The relatively slow post-Ubaid transformation in material culture at many sites across the Ubaid horizon, including ceramics and house forms, alongside the persistence of certain forms like the tripartite house into the Late Chalcolithic.
- The slow pace of change in settlement organization and regional site hierarchy,
- The persistence of interregional interaction spheres which appear to have shifted rather than disappeared.
- The fundamental continuities in the economic bases and economic organization of immediately post-Ubaid societies

On this last point, it would be incorrect to deny the important changes in production and labor practices that appear to take place in the LC 1 (and indeed these changes will be a major focus of this dissertation), but I would argue that these are developmental rather than revolutionary. Meanwhile, the fundamental basis of the economy—an agricultural economy based, in northern Mesopotamia, on rain-fed grain agriculture and domesticated animals of which caprids were the largest group-remained similar, as opposed to the more significant shifts across the Halaf and Ubaid periods (Grossman and Hinman 2013).

Nevertheless, continuity and gradual change are emphatically not the same as “no change.”

Instead, I believe that it is correct to see Ubaid society, especially the later Ubaid, as dynamic and tending toward change, as opposed to the apparently relatively stable forms of social organization of "horizontally egalitarian" societies (Frangipane 2007), and that this dynamism persisted throughout the Ubaid and into the Late Chalcolithic. Once affordances for aggrandizing elites are present, in a context of rising populations and agricultural surplus, significant changes in social organization are likely, and the changes over the course of the Late Chalcolithic were obviously profound.

My argument is that these changes are best seen in terms of a continuity that stretches from the Ubaid across the Late Chalcolithic, rather than in terms of a significant break between the Ubaid and the Late Chalcolithic. In Chapters 5 and 6, I will make an argument for this continuity, particularly in the organization of quotidian activity in and around houses. In Chapter 7, I will show how control of public space could have been one of the affordances available to aggrandizing elites whose activities tended toward the establishment of durable inequalities. In order to make these arguments, I turn now to the microarchaeological sampling project that forms the basis of my analysis.

CHAPTER 3. METHODOLOGY: MICROARCHAEOLOGICAL SAMPLING AND ANALYSIS

3.1. The Microarchaeological Approach to the Reconstruction of Quotidian Activity

This project seeks to reconstruct daily activity and the use of space at a prehistoric site. An understanding of repeated daily practices and the ways in which spaces were used by people over time is fundamental to an understanding of social life and social dynamics (Bourdieu 1977; Ingold 2000a). Since both direct ethnographic and textual data are lacking, such an understanding relies on the analysis of the archaeological record. However, it has long been recognized that, outside of conditions of extraordinary preservation, there are significant challenges in relating the macroarchaeological record to the actual use of space in the past due to the complications introduced by formation processes ranging from cultural curation to erosional and other natural processes (Schiffer 1987).

The analysis of microdebris embedded in use surfaces is one way to mitigate, although not fully eliminate, the problem of both the probability that final deposits do not accurately represent the full use life of surfaces and the post-depositional modifications to these deposits. In fact, microdebris analysis is a highly effective way of reconstructing precisely the patterns of repeated activity that make up the very structure of social life. Repeated activity of certain types produces accumulations of debris — e.g., shards of ceramic vessels broken during manufacture, use, and storage, lithic debitage produced by the manufacture of stone tools or their breakage during use, fragments of animal bone created during butchery, cooking, eating, and discard. In many cases, larger pieces of such debris are carried off or swept away for discard. Very small bits of debris, however, are likely to escape traditional sweeping methods, particularly on surfaces like the trampled earth common at Surezha.

The "McKellar principle" (Schiffer 1983, 679) formalizes this insight, postulating, based on experimentation on a United States university campus and confirmed by a variety of later ethnoarchaeological studies, that small debris produced and deposited in the course of the use of a regularly maintained activity area, is much more likely to remain *in situ*, or in predictably deposited zones within a space (e.g., swept into corners or pushed against doorways) than complete objects and larger fragments of objects, which are more likely to be moved or removed (Rosen 1986; J. K. Stein 1987). The corollary is that a statistical analysis of the content and distribution of this microdebris can offer a fuller and more reliable picture of past activity in a space, more specifically that activity which produces and deposits durable debris. Microarchaeological analysis is thus an important tool for activity area analysis within the broader context of household and social archaeologies; for the reconstruction of domestic economy and activity (C. P. Foster and Parker 2012); for testing the formation processes of use spaces, where archaeologically-recovered macroremains are often in tertiary context (Ullah, Duffy, and Banning 2015); and for investigation of activities which may not leave recoverable traces in the macroarchaeological record (Rainville 2005).

This study focuses on the distribution of microdebris (or microartifacts), the fragments of ceramic, animal bone, lithics, shell, and other materials that are produced in the course of the use of space. When combined with more-common lines of archaeological evidence, microdebris analysis allows for a richer and more nuanced understanding of what people at Surezha were doing in and around their houses at the turn of the 5th millennium BCE.

3.2. History and Overview of Microdebris Methodologies

The archaeological study of microremains has precursors early in the 20th century in excavations of Native American shell middens and campsites in California (See Rainville 2001, 52–54; much of the following discussion draws on her review), but the flourishing of microarchaeology as a dedicated approach can be traced to experimental work in the 1970s (e.g., K. V. Flannery 1976) and an increasing number of projects in the 1980s, with studies by Fladmark (1982), Schiffer (1983), Hull (1983; 1987), Rosen (1986), Dunnell & Stein (1989), and Metcalf & Heath (1990) refining both the theory and methodology of the approach.

Work on microartifactual remains continued in the 1990s and 2000s, including in the Near East. In her dissertation and subsequent publications based on work at the sites Kazane Höyük, Tilbeş Höyuk, and Titriş Höyük, Lynn Rainville (2001; 2005; 2012; 2015) developed a theoretical and methodological approach to micro-debris analysis that takes into account formation processes, sampling strategies, and analytical tools. Her approach is foundational to my own in the current project. Rainville usefully integrates the theoretical concerns of household archaeology with the insights available through microarchaeological methodologies.

Rana Özbal's work at Halaf-period Tell Kurdu in the Amuq Valley (2006; 2012) is a fine example of a project that used a diversity of techniques, including microartifactual and geochemical analyses, to approach questions of household composition and behavior. Her nuanced approach to the definition of social households through archaeological investigation of houses (and the difficulty of extrapolating "households" from the apparent domestic spaces accessible to the archaeologists) is an important contribution to work that, like mine, emphasizes the potential social dimensions of domestic activity as understood through microarchaeological and other techniques.

Catherine Foster's (2009; 2012) study of the Uruk houses and households of Kenan Tepe on the Upper Tigris was able to reconstruct in detail the household economies of a local population in the context of the 4th-millennium Uruk Expansion. Foster's approach, using microarchaeological techniques alongside other lines of evidence to investigate what she calls the Domestic Modes of Production and Consumption, is analogous to my own project, which emphasizes the reconstruction of households as the fundamental socioeconomic units of primarily non-market societies.

At Çatalhöyük, microarchaeological analysis has been carried out as part of an enviously broad research agenda for investigating the use of space including related methodologies such as soil micromorphology (the detailed analysis of micro-stratigraphic blocks) and geochemistry (Cessford 2003; Hodder and Cessford 2004; Wendy Matthews 2005; W. Matthews, Wiles, and Almond 2006). Somewhat further afield, Isaac Ullah's work at Tabaqat al-Buma in northern Jordan has pioneered alternative collection and analytical methods to lower the investment that traditional microarchaeological analysis requires (Ullah 2012; Ullah, Duffy, and Banning 2015). The post-collection analytical procedures developed by Ullah, Duffy, and Banning (2015) have been influential on my own approach to data analysis.

The alternative collection and processing procedures suggested by Ullah, Duffy, and Banning are in recognition of the fact that both the requisite specialization and especially the time and labor involved have prevented the adoption of microarchaeological analysis at many sites (Ullah, Duffy, and Banning 2015, 1239), especially historic sites where architectural remains, macroartifacts, and in some cases texts tend to be more plentiful and accessible. The lack of such analysis is understandable but lamentable, as there are few methodologies better suited to

reconstruction of daily activity and the use of space in the past. Microarchaeological analysis can help fill a crucial gap in our understanding of past societies, particularly at the level of house and neighborhood. As the principal goal of the current investigation is the reconstruction of domestic activity and its spatial organization, and the development from this information of a theory of socioeconomic organization, change, and relationship to regional trends, a microarchaeological dataset is ideally suited to the task.

3.3. A Unified Approach

Before continuing to a detailed description of the microarchaeological sampling and analysis that underlie this study, it is worth emphasizing the point just made: that a key component of this research is its interdisciplinary nature. The staff specialists of the Tell Surezha excavation project (Lucas Proctor, Max Price, Bastien Varoutsikos, and John Alden) have very generously shared their data and expertise on the faunal, macrobotanical, lithic, and ceramic material. The microarchaeological data are of limited use without contextualization within a broader understanding of the site, and since I am largely dealing with the remnants of craft and economic activity, details of plant availability, use, and processing; animal presence, activity, and economic use; lithic industries; and the creation, use, and discard of ceramic vessels are all critical to this analysis. Additionally, comparison between micro- and macro- remains have an important role to play in better understanding the formation processes of both the microarchaeological surface-debris record and the archaeological record more broadly.

Specialist reports detailing the methodologies and findings may currently be found in the interim reports for the Surezha excavations (G. J. Stein et al. 2015; G. J. Stein 2018; G. J. Stein and Fisher 2020), and publication of specialist reports is ongoing (Proctor, Smith, and Stein in

press; Price, Fisher, and Stein in press). The relevant data and analysis for my purposes is largely to be found in the dedicated sections of Chapter 5.

3.4. Procedures

The area under analysis is a partially exposed collection of Ubaid and Late Chalcolithic buildings and the accompanying outdoor and courtyard spaces on the southwest slope of the mound (Area B, Operations 2, 9, and 10). Each operation was opened in stages (Operation 2 initially as a 5m x 5m square in 2013; Operations 9 and 10 as 5m x 10m trenches in 2017). By the end of the 2017 season, all three operations had been expanded to 10m x 10m squares, giving a total excavated area of 300m2. At the end of the 2018 season, intact LC 1 surfaces had been reached in all three operations, with Ubaid surfaces present in the lower exposed levels of Operation 2.

Between 2017 and 2019, 31 separate surfaces, including house room floors, a constructed platform, courtyards, exterior spaces, and interior floors of a nondomestic complex, were selected for sampling. In general, whenever a surface with at least a fair degree of preservation was identified in excavation, samples were taken for micorarchaeological analysis. In defined areas of at least a square meter in area, a 50-cm by 50-cm grid was laid out with nails.

Figure 3.1. Laying Out a Microarchaeological Sampling Grid

Locations of the nails were plotted with a total station to facilitate GIS analysis of results. A square grid was then strung out along the nails. Sampling in extensive areas was total, where possible: each square or part of a square with at least two sides greater than 50 cm was sampled. In areas where total sampling was impractical, either because of size and shape of the area or because of time constraints, squares were sampled in a "checkerboard" pattern (or, in the case of an irregularly shaped platform, a modified checkerboard. Finally, in areas where grid-based sampling was impracticable in the first place, either because the boundaries of the surface were unclear, or because the area represented a single small feature, or because exposure was incomplete, a single sediment sample was taken from a randomly selected 50-cm square within the area (or across the entirety of a small feature or exposure).

Surface sediment was gently broken up using a small hand pick **(Fig. 3.2)**, and then brushed or pushed with a trowel into a dustpan **(Fig. 3.3)**, then placed in a measuring cup to note the volume of the sample, and finally poured into bags to dry and await processing **(Fig. 3.4)**. Each sample was coded with a unique identifying number and with the locus/lot number used at

the Surezha project, allowing the samples to be easily matched in the project database to the macroremains, architecture, and context. In all, 102 sediment samples have been collected and processed to date. To the extent possible, every reasonably intact indoor and outdoor surface excavated in Area B between 2017 and 2019 has been sampled.

Figure 3.2. Breaking up Sediment

Figure 3.3. Sediment Collection

Figure 3.4. Collected Sediment for Flotation

When possible, the matrix of a distinct surface layer was removed as a unit. Because surfaces at Surezha, whether interior or exterior, were usually formed of trampled earth rather than plaster, pavement, or other distinct materials, and because spaces were used and reused over long periods without clearly visible resurfacing of floors, it was often difficult to distinguish distinct surface layers. In these cases, a layer of sediment of approximately .5-1 cm was removed from each 50x50 cm square, in an effort to maximize collection of that material that had been ground into the floor during use while minimizing collection of material that should properly be analyzed with underlying deposits.[1]

In theory, this collection strategy should have yielded sediment volume between 1.25 and 2.5 liters from a 50 cm x 50 cm square; in practice, it was found that the recovered sediment using this technique tended to approximate 1 liter; the discrepancy is apparently due to the imprecisions of excavation with a pick, an amount of sediment loss in transfer from square to dustpan, and the small amount of sediment left unexcavated under the strung-out grid lines.

This approximate volume (1 liter) tended to match that retrieved from a 50cm x 50 cm square in those cases where a distinct use surface "popped up" through use of the hand pick, although there was some variability by surface. In any case, the shallowness of sample especially compared to other projects (e.g., Ullah et al 2015, where ~3 cm of sediment was collected and Özbal 2006, where, although depth was not specified, samples of 3-10 liters were collected from similarly sized squares), suggests that, when compared with similar datasets, the most likely bias

[1] In 2017, larger sediment volumes (an average of 3 liters, representing ~1.5 cm of depth) were collected, and there are some concerns about the comparability of that data, but it was determined that the relatively small difference in total depth of sampling had little effect on potential mixing.

is toward undercollection of material properly belonging to a floor or surface matrix rather than mixing of matrices. However, as will be considered in my analysis, it is important when interpreting these results not to assume perfect correspondence between collected material and the material embedded in use surfaces during a discrete period of use. This issue will be discussed further in Chapter 4.

Once sediment was collected, it was processed through a mechanical pump flotation machine constructed on site by archaeobotanist Lucas Proctor and reassembled by the author. The author, Lucas Proctor, and two local workers carried out the flotation. Light fractions (consisting mainly of carbonized plant remains and organic material) were separated and analyzed by Lucas Proctor. Heavy fractions, i.e., those components of the matrix both heavier than water and greater than 1 mm in size, were caught in a 1 mm mesh and dried. These samples were imported to the United States and analyzed at the University of Chicago by the author.

The preliminary step in analysis was to separate each heavy fraction sample into 4 size fractions using a standard set of geological mesh screens, at mesh sizes of 6.3, 4.0, 2.0, and 1.0 mm. Each fraction was then scanned and sorted in its entirety by the author under 3.0x magnification. Archaeologically relevant material was separated, counted, weighed, and bagged. The primary classes of material separated were ceramic, bone (unburnt and burnt), chipped stone, and shell. Less common materials such as beads, charred grain, and figurine fragments were identified and noted **(Fig. 3.5)**.

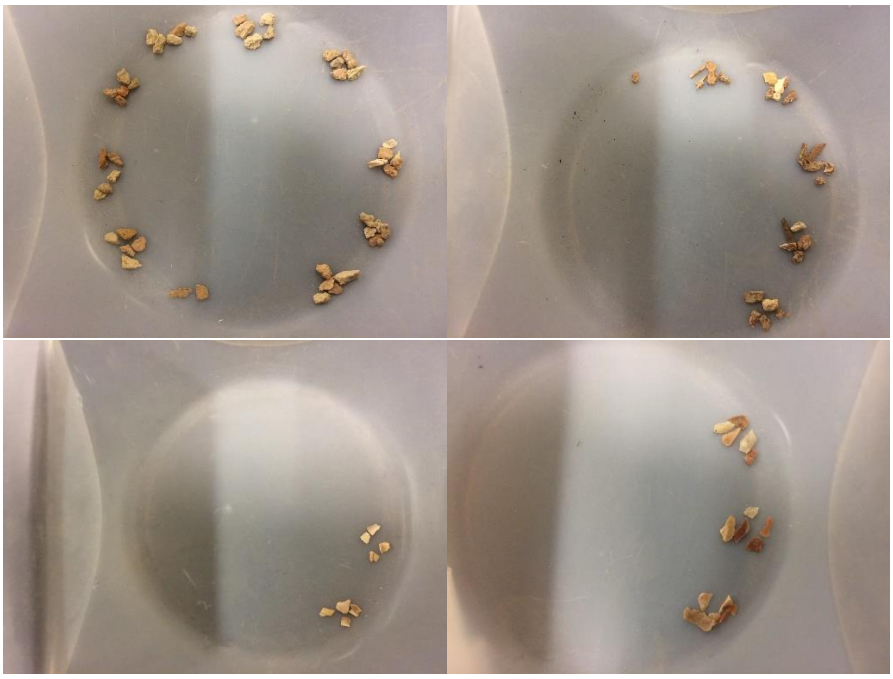


Figure 3.5. Examples of microdebris removed from matrix. Clockwise from top left: ceramic, bone, chipped stone, shell.

Then, the microdebris was analyzed spatially following the guidelines established by Ullah et al (2015): density data (count/liter of matrix) for each common microartifact class in each grid square were interpolated using regularized spline-tension interpolation feature in ArcGIS at a resolution of 1 cm. This procedure smooths the inherently "blocky" data that would result from an uninterpolated analysis of the 50cm x 50 cm grid squares by centering the microartifacts at a point within each square and predictively filling the gaps between squares at the 1-cm resolution, resulting in a smoother picture of the patterning of microdebris on the surfaces (See Ullah et al 1256-1257).

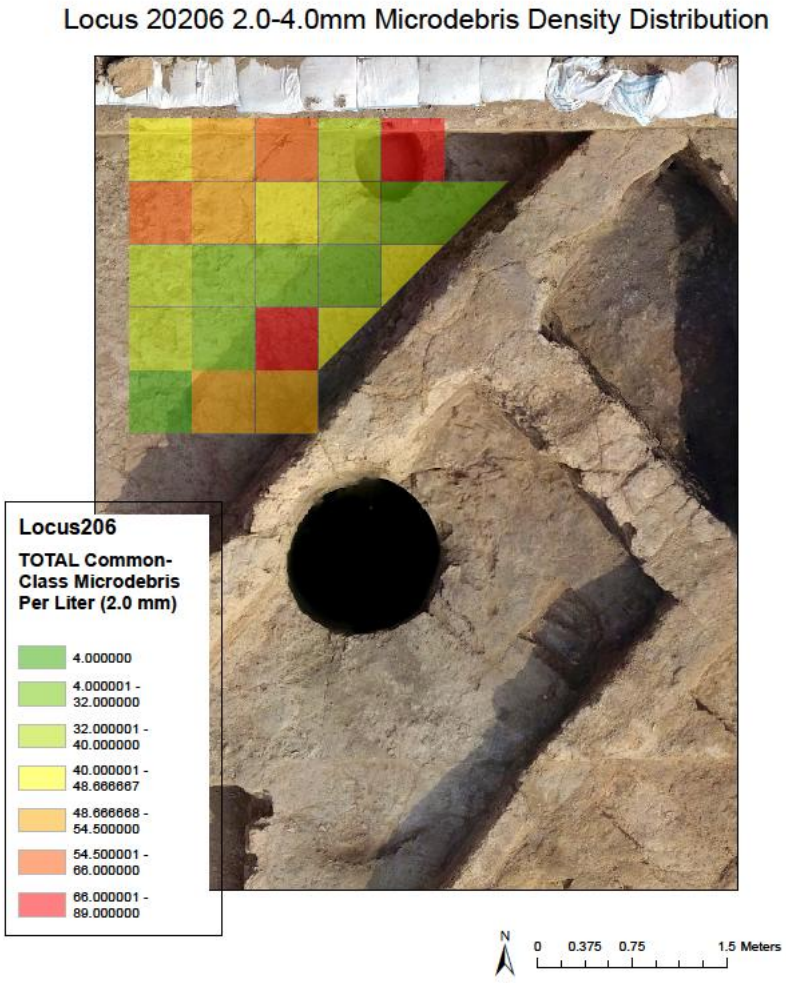


Figure 3.6. Microdebris Density Map of Locus 20206 before Interpolation

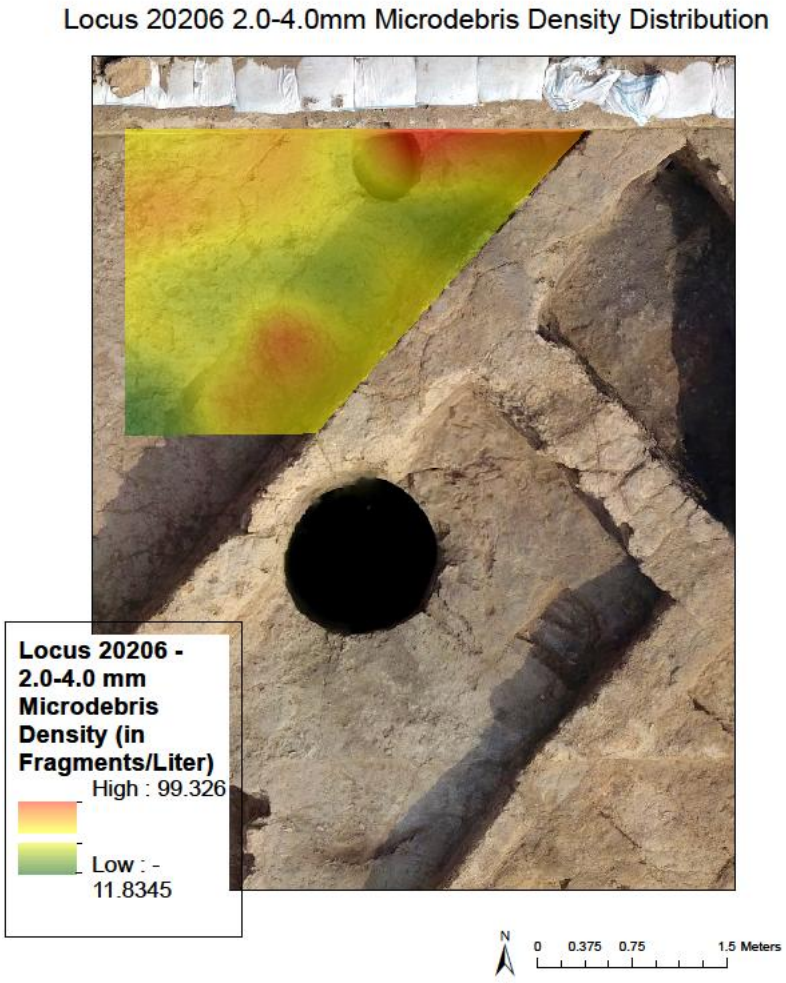


Figure 3.7. Microdebris Density Map after Interpolation

Methods of Analysis & Interpretation

The procedures described above organize the data for several kinds of manipulation and comparison: manual (through the raw count/weight densities); visual (through the "heat maps" produced in ArcGIS); and computational/statistical (through cluster analyses and various comparisons of microdebris types and densities across space). These data can then facilitate analysis and interpretation in the following ways:

First, different types of spaces may be compared in terms of their microarchaeological profile. Such comparisons can help to define the types, diversity, and intensity of activities that took place in different kinds of spaces at different periods and in different parts of the area under study. They can also help to confirm or call into question functional interpretations made on the basis of architectural and microarchaeological data. This approach can also allow us to infer certain principles of social organization (e.g., the use of public vs. private spaces for certain steps of food preparation, the placement of certain types of economic activities in houses or in other kinds of spaces).

Second, similar types of space may be compared, with an eye toward similarity and difference in the activity profiles. Such comparisons can help to assess the degree to which household industries and other activities were distinct or common across houses.

Third, patterns within spaces may be analyzed to understand the distribution of activity across space. This can facilitate a clearer understanding of the interface between architecture and activity; this analysis may also help to clarify whether certain activities were static and associated with particular parts of a house or courtyard or whether the same activities were carried out at different places at different times.

Fourth, microartifact sizes may be compared across samples to extrapolate degrees of trampling and/or sweeping, helping to establish the patterns of movement and cleaning in different areas of the site. This can facilitate an understanding of access, frequency of use, identification of storage vs. living/work areas, and so on.

Fifth, the same spaces or spaces of the same type may be compared over time. Thus, the microarchaeological profile, the types of activities inferred, and the distribution of those

activities within and between spaces in different building phases of the LC 1 or in the LC 1 and Late Ubaid may be compared. These comparisons facilitate understanding of change and continuity in quotidian activity, domestic economy, and the organization of space across spans of time both relatively long and short.

Sixth, microarchaeological and macroarchaeological profiles of spaces may be compared. This has the potential to help understand the formation processes of the excavated spaces by considering the degree of correspondence between the micro- and macroarchaeological remains (while it is usually assumed that macroarchaeological remains in normally-abandoned spaces are tertiary deposits, a high degree of correspondence between micro- and macroremains might indicate that, at the least, the tertiary deposit may originate from the same or a similar use context). Comparison between these profiles is also a worthwhile check on any conclusions drawn from either one in isolation.

All of these types of analysis have been considered in the current project. The following chapter presents the results of the study of the microarchaeological remains and their integration with the architectural, ceramic, botanical, faunal, and lithic remains in an effort to reconstruct the daily activities of people in and around their homes at Tell Surezha in the late 6^{th} and early 5^{th} millennia.

CHAPTER 4. RESULTS OF MICROARCHAEOLOGICAL ANALYSIS

4.1. Introduction

I present here an overview of the most important results of the microarchaeological analysis. Some additional results and especially interpretation can be found in Chapters 6 and 7. Both raw data and various compiled charts can be found in the appendices.

A total of 151 samples were collected from 31 individual contexts over the course of three seasons. Sampling strategies and analytical procedures were as described above. As I discuss these results, I will frequently use the Context Numbers (a combination of Operation and Locus number) as described in Chapter 3. Occasionally I will have reason to mention specific SR numbers (identification numbers for individual samples, objects, or bulk material). In all cases I will endeavor to give clear textual or visual indication of what location or feature is being discussed.

In this section I will summarize key findings and give two in-depth examples of the information that can be extracted from microarchaeological analysis in conjunction with other lines of archaeological evidence. This chapter provides the basis for my broader discussions of domestic modes of production and consumption and of a new social-spatial category emergent in the Ubaid and Late Chalcolithic Near East (the "privately-controlled public space"). Presentation of the data in this way inevitably involves some reduplication of reporting, but I determined that it would be most useful from an organizational perspective to have results presented both from a broad site-level perspective and in specific contexts of both area and activity.

The key findings from the microarchaeological research at Surezha are:

1. Especially in terms of microartifact density, there was meaningful difference between

different kinds of surfaces. Broadly speaking, there was correspondence between macroarchaeological and microarchaeological density. In terms of microdebris profiles (i.e., the specific composition of the microdebris samples), spatial differentiation was less clear, except between domestic courtyards and other kinds of spaces. Overall, circumstantial evidence tended to corroborate the presumption that the retrieved microdebris represented traces of activity from the use-life of excavated surfaces.

2. Indoor and outdoor surfaces were dramatically different in terms of the density of microdebris activity, with outdoor surfaces much more heavily used for debris-producing activity. Compositional profiles were less dramatically different, but several meaningful distinctions were observed, including higher concentrations of chipped stone debris on outdoor surfaces.
3. There was a dramatic difference in the cleanliness index between domestic and nondomestic interior floors: nondomestic interior floors were dramatically less frequently used for debris-producing activity than domestic floors. This is the starkest overall result and forms an important line of evidence for one of my main arguments: that we see at Surezha a relatively new phenomenon that emerged in Mesopotamia in the Ubaid and Late Chalcolithic: the privately controlled, restricted-access public space.
4. Pottery microdebris was very prevalent and nearly always represented the majority or plurality of microdebris in any given sample square's profile. This is in contrast to several other major microartifactual studies in the region and raises questions of both intersite variability and intersite comparability.
5. Clear microarchaeological "signatures" of specific kinds of activity (including butchery, food preparation/consumption, tool manufacture) were often difficult to observe at

Surezha. However, there are several instances in which specific activities are at least plausibly indicated by the data, especially when put into the context of the macroarchaeology and other recovered information. In particular there is evidence for functional differentiation between domestic indoor spaces and associated courtyards. The precise nature of this differentiation is difficult to determine but may involve greater consumption and/or discard of cooked food versus other kinds of space.

6. On the other hand, there is only limited microarchaeological evidence for clear functional differentiation (as opposed to intensity of use) among most other spatial categories or between different spaces of the same type. Interior domestic spaces were multifunctional and frequently used for debris producing activities, though somewhat less so than outdoor domestic spaces. Building on the results described in #2 and #3 above, there was little evidence for spatial segregation of activity within the house, although there was evidence that courtyards and interior spaces served functionally distinct roles.
7. Trampling analysis of ceramic microdebris did not produce clear results (i.e., clear patterns of traffic or identification of especially intense or sparse traffic), and based on several test cases at Surezha there is reason to doubt the usefulness of simple small-to-large microdebris ratios for trampling analysis. However, two interesting features — an apparently high degree of foot traffic in indoor domestic spaces and a surprisingly low degree of foot traffic on the outdoor pavement of Operation 10 - are worth discussing.
8. Based on the relatively few successive surfaces sampled, there is a high degree of continuity in the density of microarchaeological debris over successive phases of the LC 1. The composition of microarchaeological debris shows somewhat more variation, but a preliminary impression is of continuity of use and activity in the same spaces over time.

I begin this chapter by discussing each of these results in more detail. Then I discuss in depth the microarchaeology results from two exemplary contexts: a house in Operation 2 and interior surfaces of a nondomestic building in Operation 9, results which lead into the discussions of houses, households, and domestic economy in Chapters 5-6 and of a reconfiguration of "public" space in Chapter 7.

4.2.1. Distinction of Surfaces & Correspondence with Macroarchaeology

The first group of results emerges from a comparison of the microdebris profiles of different categories of surfaces. Microarchaeology can help confirm, test, or challenge such categorizations as well as facilitate investigation of the specific uses, the variable intensity of use, and the degree of functional differentiation of these surfaces. Do microarchaeological profiles conform to expectations about the expected intensity of use of surfaces? Is there wide variance between different kinds of surfaces? Is there variance between different surfaces within spatial categories? Do any of the microarchaeological profiles suggest a need for alternative categorization?

Provisional assignments of spatial categories were based on the architectural and macroartifactual data. On these bases, I identified nine categories of surface from the samples taken.

- Indoor Floors (Domestic)
- Indoor Floors (Nondomestic)
- Courtyards (Domestic)
- Outdoor Surfaces (Unpaved)
- Outdoor Pavements

- Platforms
- Trash Deposits
- Basins[1]
- Domestic Fire Installations[1]

At Surezha, clear differences of microartifact density were observed between different kinds of surfaces **[See Fig. 4.1 & 4.2].** Density was measured in terms of the "cleanliness index," a simple ratio of total common-class microdebris of 2.0-4.0 mm in diameter per liter of sampled sediment. As described above, the cleanliness index can serve as a rough proxy for the intensity of activity during the use life of a surface.

[1] Basins and domestic fire installations, because of the different formation processes in their microarchaeological signatures, were not considered comparable to other surfaces, but were still analyzed in their own right in terms of the composition of the microdebris profiles.
Trash deposits likewise were considered a special case, since it was evident that much of the microdebris embedded in the sampled surfaces was a result of discard and compaction from the overlying deposit. Finally, one sample square overlay a later burial than the surrounding surface, and because this square was determined to be disturbed its signature was excluded from the analysis.

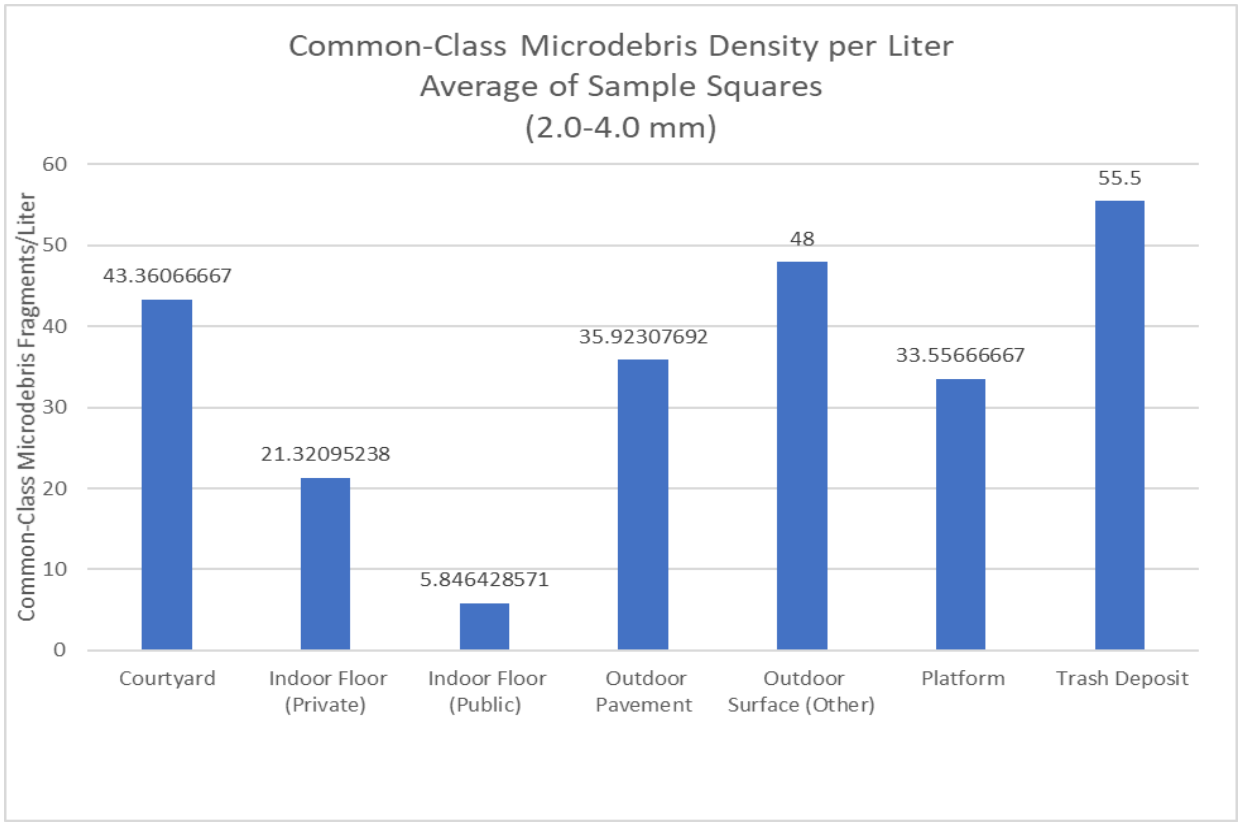


Figure 4.1. Microartifact Density by Surface Type (Individual Sample Squares)

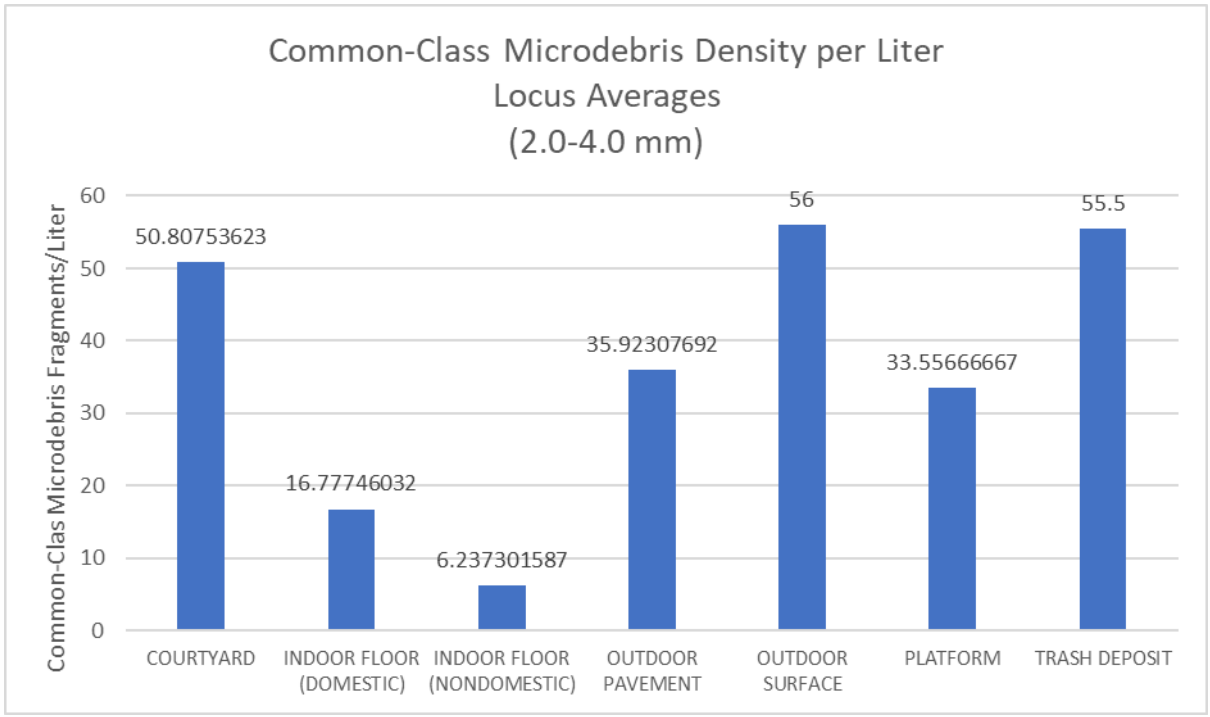


Figure 4.2. Microartifact Density by Surface Type (Locus Averages)

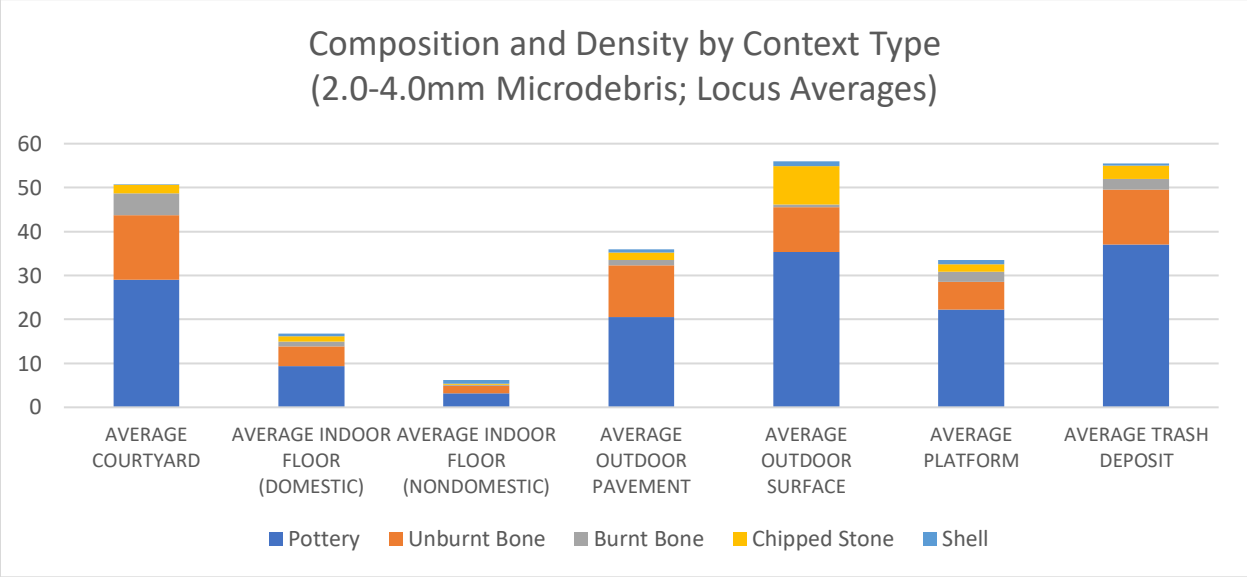


Figure 4.3. Microartifact Density and Composition by Surface Type (Locus Averages)

The differences in microartifact density were most notable between indoor and outdoor surfaces, between trash deposits and all other surfaces, and finally and crucially, between domestic and nondomestic indoor surfaces, a topic treated in more detail below.

The relative densities of microdebris in the different kinds of sites conform by and large to expectations of the intensity of debris-producing activity that we would expect from different kinds of spaces. Some aspects of these results deserve further comment.

It is noteworthy that courtyards were relatively dense sites of debris-producing activity. It is perhaps not surprising to find courtyards as centers of production and consumption activity: this is an attested or assumed function of courtyard spaces in Middle Eastern rural and urban homes both ancient (Moeller 2015, 264) and modern (Abdelmalek 2006, 42). However, it should not be taken as a given that courtyards were in heavy use for such activities: one could certainly

imagine situations where courtyards are predominantly used for less intensively debris-producing activities such as dwelling, sleeping, or reception of guests, particularly when climatic conditions favor such use (Al-Azzawi 1996), for storage, or for animals. The results of the microarchaeology at Surezha, however, show the intensity of use of domestic courtyards at roughly the same level as other outdoor spaces (and with a distinct profile, as discussed below). Whatever else domestic courtyards were used for, it seems clear that they were heavily used for activities that produced microdebris.

Trash deposits were the most intense sites of microdebris deposition. This result is perhaps expected given the preponderance of macrodebris in these locations, but it should at least give us some pause because it indicates that at least in certain circumstances, microdebris may be indicative of sites of discard rather than (or in addition to) sites of debris-producing activity. To my knowledge there has not been careful experimentation on the microdebris signatures of areas of primary activity vs. tertiary discard, and such experiments are warranted for a clearer understanding of just what we are seeing in the microarchaeological record and how to more clearly relate this record to primary activity and discard (Schiffer 1987).

The "platform" category deserves further comment. In the north of Operation 2 a circular area of mud plaster (Locus 20146) enclosed by a single row of thin mudbrick and raised above the adjacent courtyard surface to the east (Locus 20206). This platform was occupied in its latest recovered phase (the latest LC 1 occupation of this area of the mound) by an enigmatic circular structure (20138) whose function is still not known. **(Fig. 4.4)**

Figure 4.4. Platform 20146 and Circular Feature 20138

The platform was apparently reconstructed and raised above the contemporaneous courtyards several times throughout the LC 1 occupation; these are the surfaces 20216, 20217, and 20220. It has been proposed that some of these surfaces excavated as platforms may have been intermediate construction phases and/or extensions of the courtyards to the east rather than distinct use surfaces, but the microarchaeological profiles suggest otherwise: in general, the microarchaeological signatures appear different from those of the courtyards, although there is considerable variation in the profile composition of the various superimposed platform surfaces. Because of the uncertainty of the nature of these surfaces, I have been cautious about relying on the microarchaeological data from all but the final, clearest platform (Loc 20146).

The divergence in cleanliness of indoor and outdoor surfaces, and especially between

domestic and nondomestic indoor surfaces, is one of the most immediately notable features. The average 2.0-4.0 mm microdebris density of indoor spaces was less than half that of the average of outdoor spaces: courtyards, outdoor surfaces, platforms, and the cobbled pavement. Trash deposits were excluded; such spaces would have made the divergence even higher. **(Fig. 4.5)**.

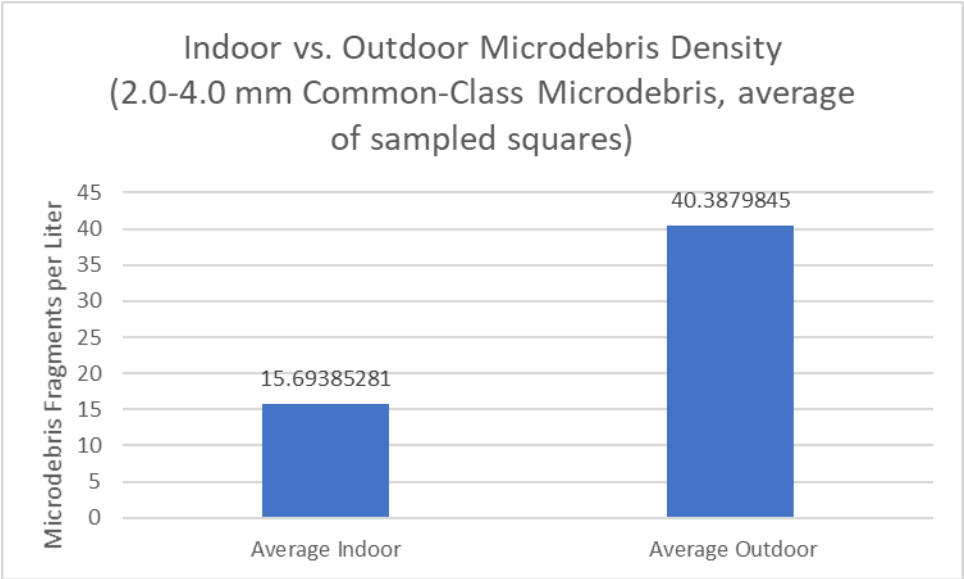


Figure 4.5. Microdebris Density of All Indoor vs. Outdoor Spaces (by Sample Square)

This considerable difference in density between indoor and outdoor surfaces is narrowed slightly but persists even when eliminating the remarkably clean nondomestic floors from consideration **(Fig. 4.6)**.

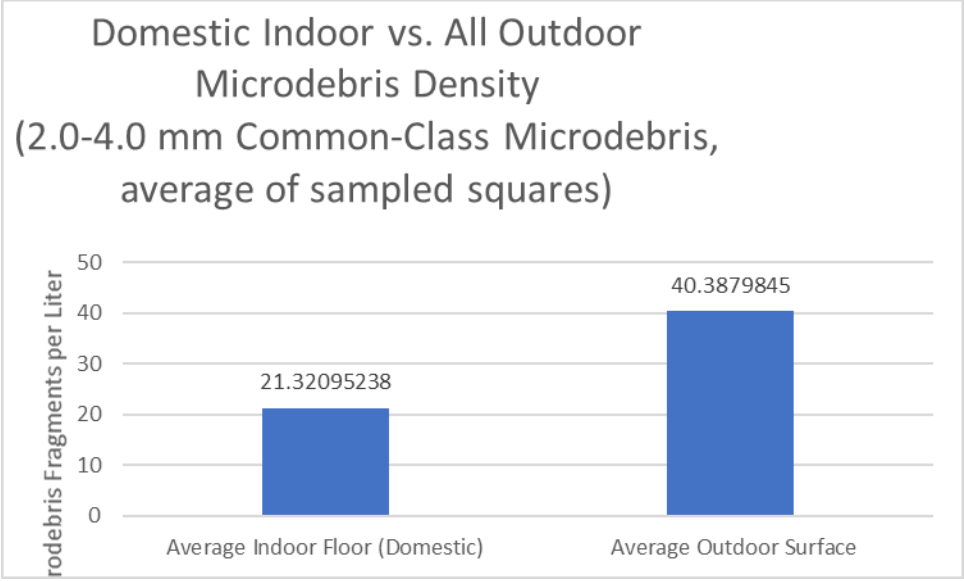


Figure 4.6. Microdebris Density of Domestic Indoor Spaces vs. All Outdoor Spaces (by Sample Square)

While this result is not especially surprising, it is worth considering. A preference for locating intense debris-producing activities outdoors is something we might expect, but should not be taken as a given, since there are certainly situations in which the opposite is true: it is probable, for example, that the microarchaeological study of a stereotypical modern American suburban house occupied by dual-earner families (absent hard floors and vacuum cleaners) would exhibit a localization of debris-producing activities (cooking, eating and drinking, object production and repair) in indoor spaces, and the grassy yard would look microarchaeologically almost barren in comparison, especially in the absence of children and pets (see J. E. Arnold 2012, 70 for a discussion of the reduction in use of outdoor space in contemporary society).

4.3. Convergence/Divergence of Densities Within Spatial Categories

I also used microdebris density/cleanliness analysis to explore how different surfaces of the

same type corresponded or diverged.

The average deviation from the mean microdebris density of specific loci within a spatial category varied by spatial category but was fairly high, at least in relative terms **(Fig. 4.7)**. Only Outdoor Pavements and Platforms had an average deviation from the mean of under 30%, and this is at least partially attributable to the small sample size of loci of these two types (2 outdoor pavements and 4 platforms); on the other hand, some of the higher deviations might likewise be reflective of small sample sizes, where outliers (as in the case of one courtyard with very dense microdebris relative to the others sampled) can exercise outsize influence on the mean deviation within the category. But from the data available at present, it is possible to say that there was a reasonably wide range of microdebris density among spaces of the same category at Surezha. This could suggest that either the categories themselves are not meaningfully distinct, or that certain surfaces should be reassigned.

Average Deviation from Mean Microdebris Density by Locus (2.0 mm Fraction)			
Type	**Mean**	**Average Deviation**	**% Avg. Deviation**
Courtyard	59.757	22.82866	38.20%
Indoor Floor (Domestic)	14.5831	6.228869	42.71%
Indoor Floor (Nondomestic)	6.237302	1.943492	31.16%
Outdoor Pavement	35.21154	0.711538	2.02%
Outdoor Surface	52.06667	20.46667	39.31%
Platform	33.55667	3.656667	10.90%

Figure 4.7. Deviation from Mean among Loci within Surface Categories

This may be the case with Courtyard 20218, for example, a proposed internal courtyard associated with the "West House" in Operation 2 in which microdebris was much denser than the courtyard to the north; however, in light of the architectural context, and especially because the proportions of different kinds of microdebris in 20218 resemble courtyards more than any other space, I have considered it more appropriate to maintain the original courtyard designation, suggesting that it was not *functionally* distinct to the residents but rather a preferred location for the same sorts of activities that were taking place in the "outward-facing" courtyards to the north.

But in assigning analytical categories to different kinds of spaces, I emphasizie that (a) these categories are spatial rather than functional and etic rather than emic and (b) individual surfaces within each category were used differently and with varying degrees of intensity of debris-producing activity.

The difference, for example, between "internal" and "external" courtyards (i.e., those surrounded by the house structure and those on the outside) might have been functionally important to the residents of Surezha, or specific spaces may have been preferred, either for use in general or for specific types of activity.

Differentiation of microdebris profile composition by area was less clear than differentiation by density. In pursuing this line of questioning, I attempted to see whether there were strong associations or correlations between certain microdebris profiles and the presumed spatial categories. Like the density analyses, this test was intended both to check the categories themselves and to better understand the ways that activity was distributed across space. Because of some concern about the low sample size at the locus level, I began this analysis at the level of individual sample squares. I performed a cluster analysis of 67 random sample squares from 5

different surface types: indoor domestic surfaces, indoor nondomestic surfaces, domestic courtyards, outdoor spaces, and outdoor pavement **(See Appendix C)**. I used K-means clustering, based on an open-source Excel template, to create 1, 2, 3, 4, and 5 clusters based on 5 categories of common-class microdebris (pottery, unburnt bone, burnt bone, chipped stone, and shell) at the 2.0-4.0 mm size fraction.

Outliers tended to obscure results when more than 2 clusters were created: the algorithm created very small clusters to accommodate only 1 or 2 squares, and there was no clear correspondence between spatial category and the clusters created. However, when separated into only *two* clusters, some interesting results emerged **(Fig. 4.8)**

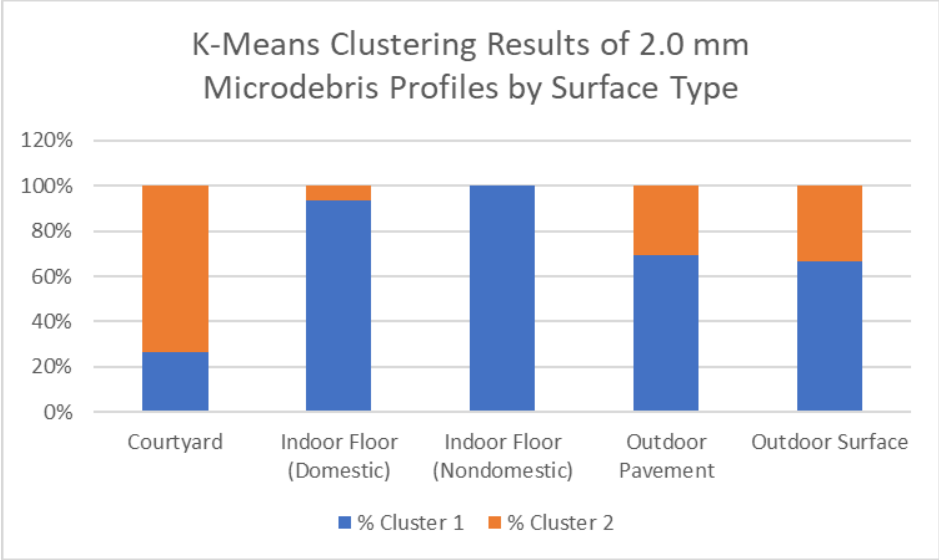


Figure 4.8. K-Means Clustering Results by Sample Square: 2 Clusters

Most striking is the very high correlation between indoor spaces and the algorithmically-generated Cluster 1 (93% of domestic floors and 100% of nondomestic floors were assigned to Cluster 1), and, by contrast, the relatively high correlation between domestic courtyards and Cluster 2. The division of outdoor pavements and outdoor surfaces were less clear, and insofar as

they did cluster, it was in closer association with Cluster 1 (associated with indoor spaces) than with Cluster 2. It should also be noted that the clusters were not of equal size: Cluster 1 (47 squares) was more than twice as large as Cluster 2 (20 squares), despite the fact that 30 of the 67 squares tested were indoor spaces.

Nevertheless, the degree of clustering of indoor vs. outdoor spaces is remarkable. This "blind" clustering lends support, first, to the assertion that spaces identified as courtyards were indeed different from those identified as indoor spaces (the identifications of courtyards vs. rooms can be difficult in the absence of evidence for roofing and especially in the context of incomplete house plans as is the current state at Surezha). Second, to the assertion that activity profiles in courtyards were markedly different from activity profiles in other spaces, particularly indoor spaces, a result that was somewhat surprising and will be discussed further below.

I repeated this analysis at the locus level, now analyzing all use surfaces (excluding bins and trash deposits), a total of 26 contexts. When 2 clusters were created: 100% of domestic courtyards were placed in Cluster 1, and every other locus was placed in cluster 2 **(Fig. 4.9)**. In other words, there is good reason to be confident that (a) the spaces defined as courtyards on the basis of archaeological and architectural evidence were indeed a distinct spatial category and (b) this spatial category was functionally distinct for the people who lived in LC 1 Surezha.

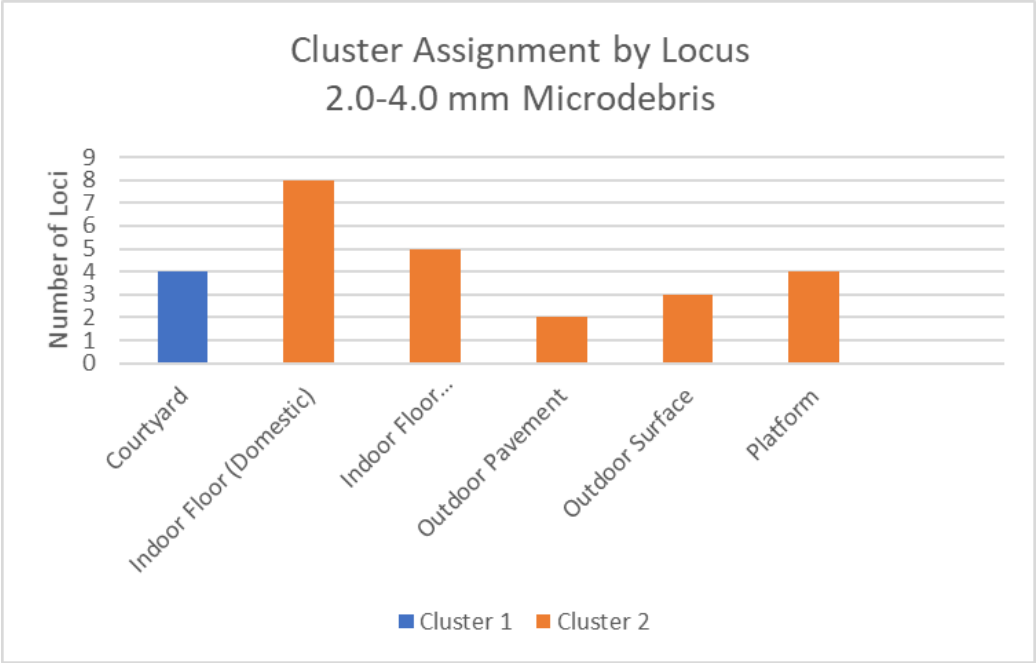


Figure 4.9. K-Means Clustering Results by Locus: 2 Clusters

When creating more clusters, correlations between spatial category and microdebris profiles were not evident, except for the continued clustering of domestic courtyards (e.g., in a 5-cluster analysis, 3 of 4 courtyards analyzed were assigned to one of two unique cluster), and, to a somewhat lesser extent than in the sample-square-level analysis above, the tendency for indoor spaces to cluster (e.g., in a 5-cluster analysis, indoor domestic and nondomestic spaces were all assigned to either Cluster #1 or Cluster #1). See Appendix C for more results from this analysis.

These instances of clustering are interesting for several reasons. First, it seems clear that courtyards were a specific functional category: remarkably, microdebris distribution was more similar between indoor domestic spaces, indoor nondomestic spaces, outdoor spaces, and work platforms than between any of these spatial categories and domestic courtyards. Second, especially when we widen the analysis to more than 2 clusters, it becomes difficult to distinguish between the microdebris profiles of different kinds of (non-courtyard) spaces.

While it might have been a salutary result for the blind clustering to overlap substantially with the other provisional categories as additional corroboration for their value as analytical units, such a result would presuppose both significant functional differentiation of space and correspondence between function and the specific spatial categories identified archaeologically. I instead believe that the general tendency for a variety of spatial categories to appear similar is best taken as evidence for relatively distributed activity and a lack of strong functional differentiation of space. Even the domestic courtyards, the apparent exception to the tendency, differ relatively modestly in their microdebris profiles from other kinds of spaces, with the primary apparent difference being a higher concentration of bone. I will discuss both the general lack of spatial segregation of activity and the apparently distinct functional role of the courtyards below.

This blind cluster analysis also showed the value of micorarchaeological analysis in another case: the small surface 20269 was initially classed as an indoor space as it was enclosed by a small semicircular line of mudbrick. However, blind clustering confirmed the opinion of the excavator and the project director, that this space should be classed as part of the adjacent courtyard, and an evaluation of the architecture and positioning further confirmed this classification. While it would be a mistake to uncritically accept blind clustering results (the murky situation of clustering of non-courtyard spaces makes this clear), microarchaeological profiles *can* provide important supporting evidence in ambiguous case.

One final point I wish to take up in this section on the correspondence of microdebris with macroarchaeological remains has to do with the distribution of material across space. In general, in those spaces where extensive sampling across the space was possible, the microdebris distribution corresponded to some basic expectations as to how debris and activity are distributed

across indoor spaces, although these correspondences were not as strong as might have been presumed.

Figs. 4.10-4.13 show the distribution of 2.0-4.0 mm microartifacts across space in several of the extensively-sampled loci (**Figs. 4.10** and **4.11** show two subsequent courtyards and Figs. **4.12** and **4.13** are domestic rooms. Note that the density maps in these images are not scaled to each other). Ethnographic evidence shows that artifact deposition is more frequent in the center of activity areas than on the edges (Ullah, Duffy, and Banning 2015, 1242). In the courtyards, microartifact density at Surezha was modestly consistent with this pattern, but debris density was not strongly correlated with distance from walls or edges of distinct spaces. It should be noted, however, that I had no extensively sampled outdoor or courtyard space with completely defined boundaries. In 20210, the intense accumulation of debris in two hotspots obscures other patterns; although these could be noise, they could just as well be indicative of actual centers of debris-producing activity. In 20206, there is little clear patterning, although there is not, at least, evidence *against* the centering of activity nearer to the center of the courtyard.

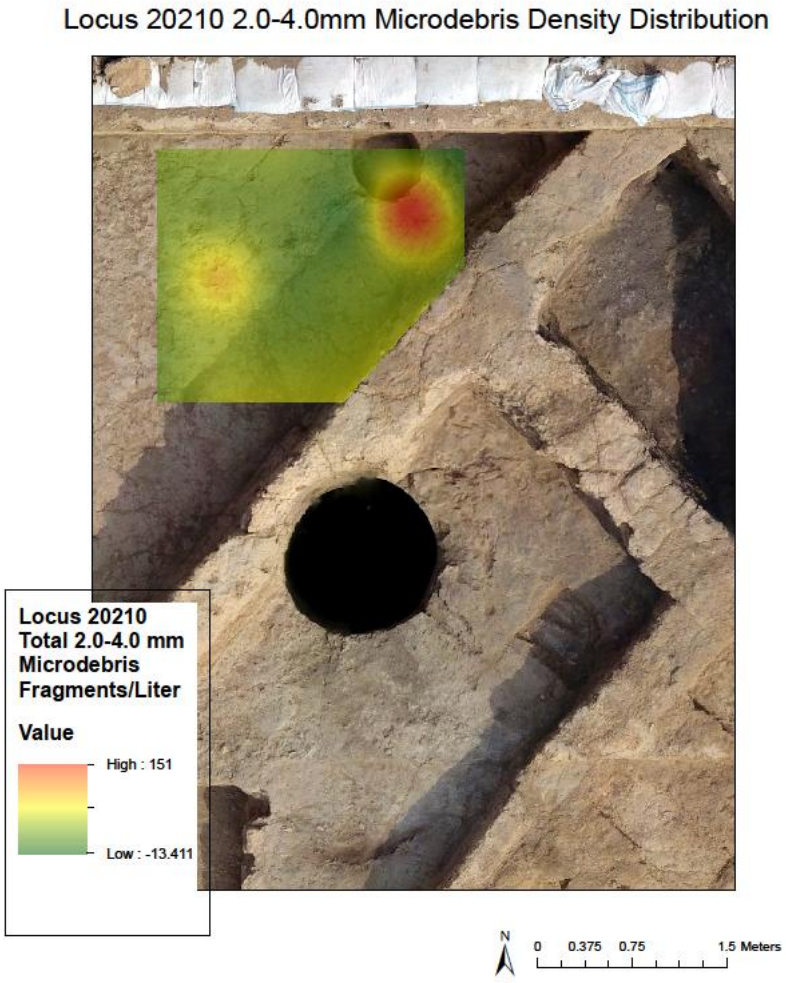


Figure 4.10. Locus 20210 2.0-4.0 mm Microdebris Density Distribution

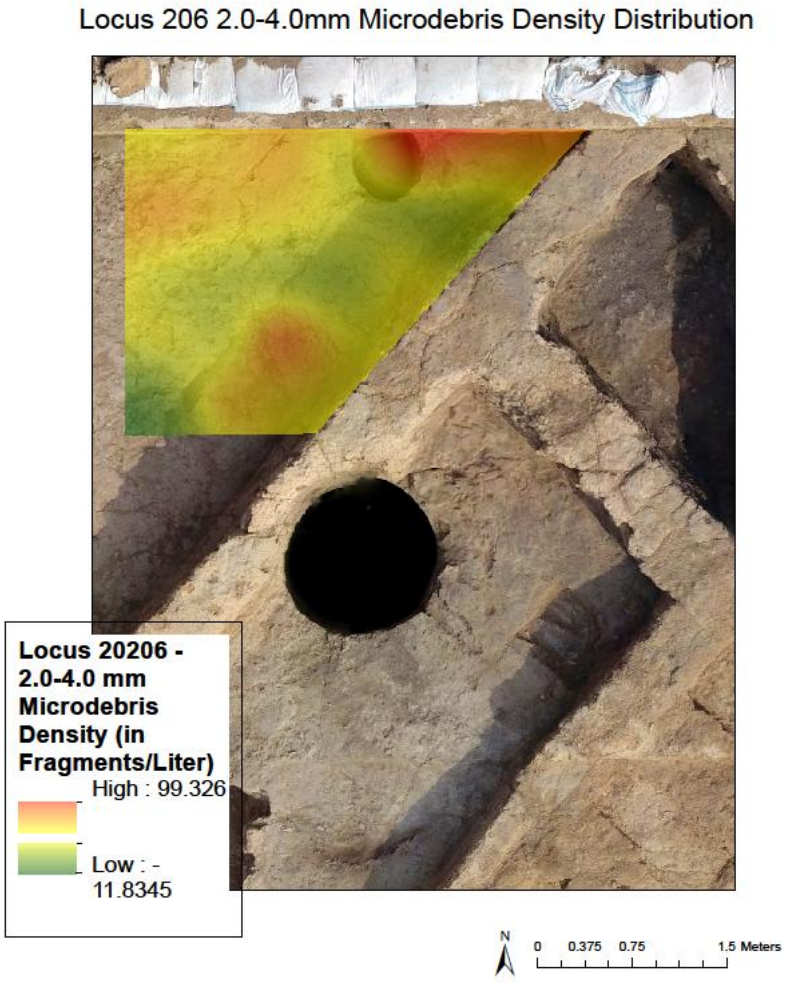


Figure 4.11. Locus 20206 2.0-4.0mm Microdebris Density Distribution

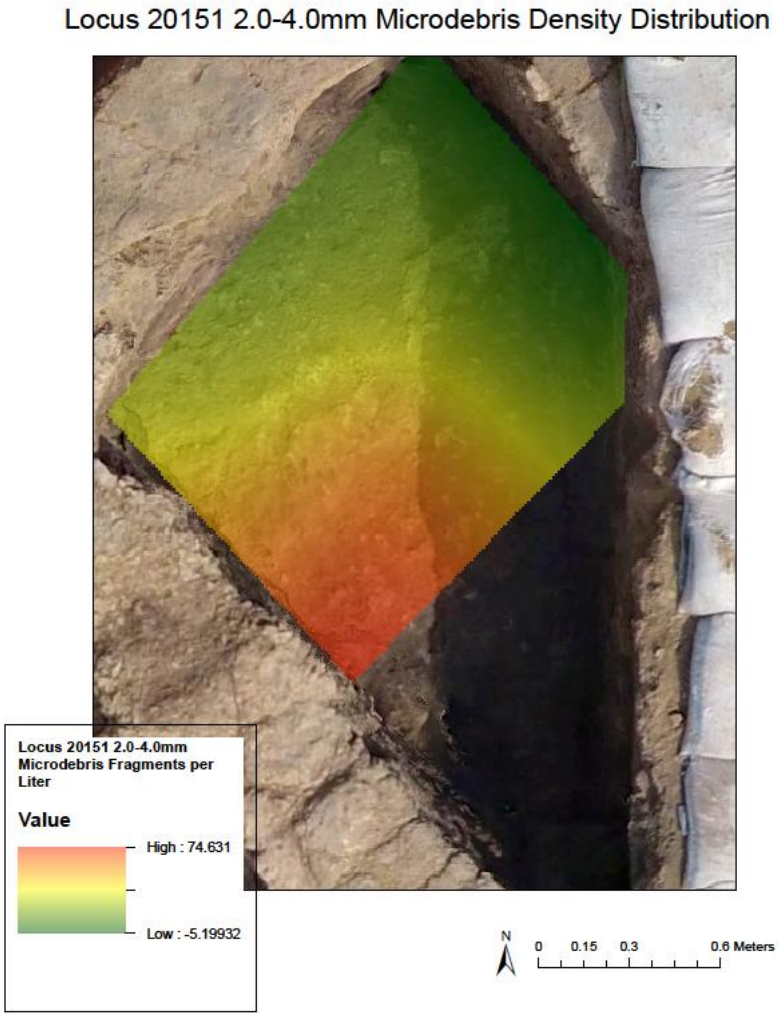


Figure 4.12. Locus 20151 2.0-4.0mm Microdebris Density Distribution

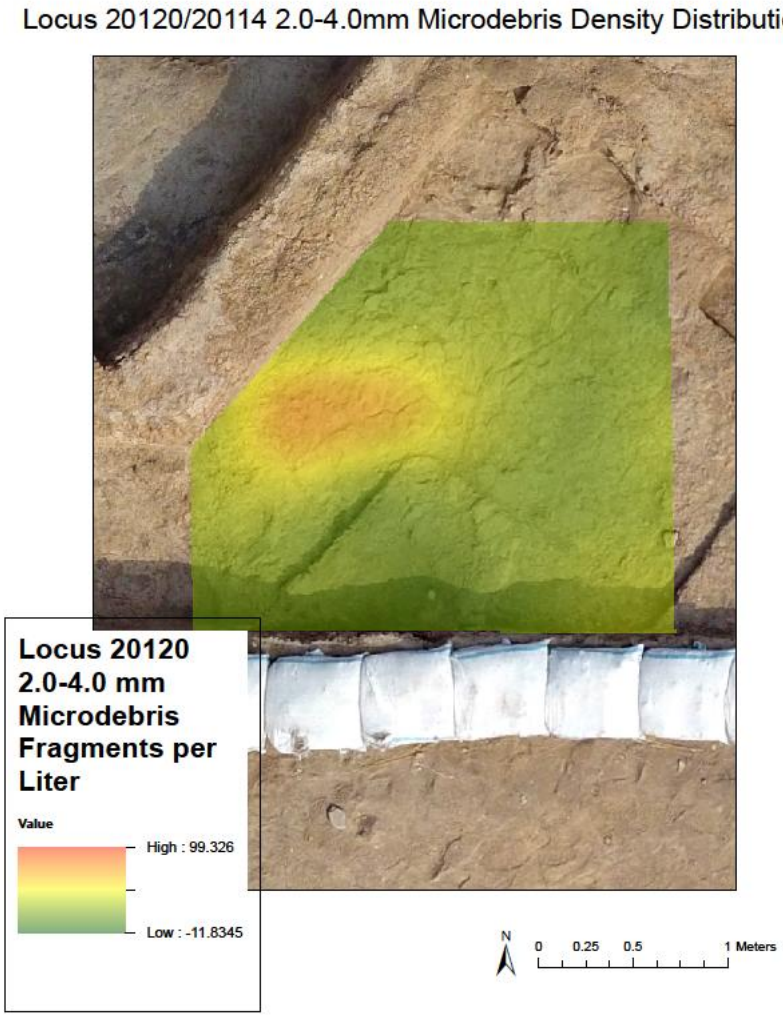


Figure 4.13. Locus 20120/20114 2.0-4.0 Microdebris Density Distribution

In indoor spaces, debris density was, by contrast, modestly correlated with *proximity* to walls **(Fig. 4.12-4.13)**. This tendency for concentration of microdebris near walls could potentially be explained by cleaning: while the assumption that premodern cleaning methods would be insufficient to completely or even substantially clear away small microdebris from earthen floors is central to my methodology, this does not preclude the possibility that regular sweeping or scraping of such floors, shaking out of floor coverings, or kicking and scuffing might account for

relatively denser accumulations near walls and doorways. We certainly do not see sterile room centers, only somewhat denser profiles near the walls. This result could reflect, for example, regular or occasional sweeping with a twig or straw broom, an activity which would leave substantial amounts of microdebris embedded in the earthen floors but carry along some small debris along with larger debris and dust; some amount might be removed, but differential accumulation along walls and thresholds would be expected. Other factors include the restricted range of space in indoor versus outdoor contexts, which might encourage activity near or against walls, and the impact of factors like fire installation 20114, around which work would naturally gravitate.

Different or more complex scenarios could be imagined as well, and the results from Surezha indicate the necessity for careful ethnoarchaeological and experimental testing of distribution patterns as micro-refuse analysis develops.

In some cases, the patterning of microdebris and architectural or permanent features gave clear indications of the interaction between space and activity; such instances will be discussed further below, but for example, in indoor food preparation area 20120, ceramic microdebris accumulated between walls 20106/20107 and the bin or cooking installation 20114 **(Fig. 4.14)**, whereas chipped stone debris was concentrated inside installation 20114 **(Fig. 4.15)**.

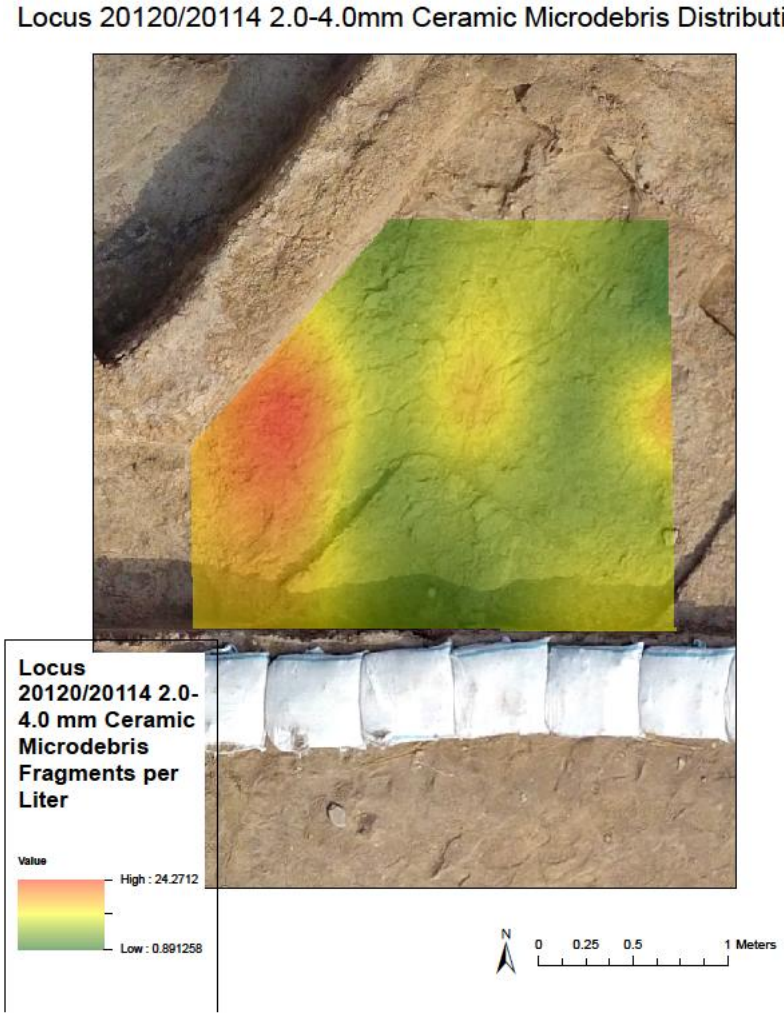


Figure 4.14. Locus 20120/20114 2.0-4.0 mm Ceramic Microdebris Distribution

Figure 4.15. Locus 20120/20114 2.0-4.0 mm Chipped Stone Microdebris Distribution

The accumulation of ceramic microdebris might be explained by the relative inaccessibility of the "nook" created by the wall and the installation, into which pots might fall and break and have little chance of removal, or into which the proposed sweeping activity might push small debris and debris-containing sediment alike with little opportunity for or interest in thorough cleaning. Alternatively, the area between the installation and the wall may have been an activity center itself. The concentration of chipped stone might reflect the use of the installation for some activity in which stone tools were susceptible to breakage (e.g., food preparation or craft

production). It is unlikely that an installation like this would have been a locus of stone tool production or retouching. If this is indeed a food preparation area, meat preparation or cooking would seem a likely candidate for installation 20114; concentration of bone tends to fall just outside the installation **(Fig. 4.16).**, which would be consistent with this hypothesis, although why the chipped stone is found disproportionately inside the installation is not completely clear.

Figure 4.16. Locus 20120/20114 2.0-4.0 mm Bone Microdebris Distribution

I will return to this room in a detailed discussion of the houses. I mention it here primarily as an example of the sometimes-distinctive ways that the distribution of microdebris across space corresponds to the architectural surroundings, and as supporting if circumstantial evidence for the likelihood that the microarchaeological record has the potential to reveal actual activity on use surfaces in the past.

4.4. Comparisons Between Indoor & Outdoor Surfaces

At the broadest level, as noted above, there are clear microarchaeological differences between indoor and outdoor surfaces. Unsurprisingly, the density of debris embedded in indoor surfaces is less than that of debris embedded in outdoor surfaces. The average density of all 2.0-4.0mm common-class microdebris across all indoor surfaces is approximately 39% that of all outdoor surfaces, excluding trash deposits (**Fig. 4.17).**

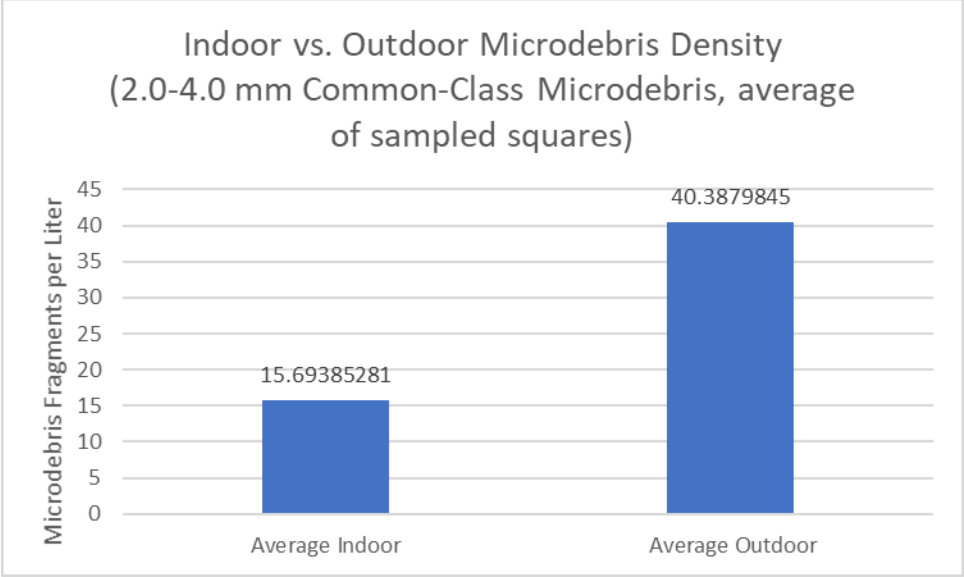


Figure 4.17. Indoor vs. Outdoor Microdebris Density (2.0-4.0 mm Fractions)

This ratio holds almost exactly steady whether considering the 2.0-4.0 mm fraction or the

aggregate of all fractions (**Fig. 4.18)** and is slightly *more* pronounced (30%) when considering only the 6.3 mm fraction.

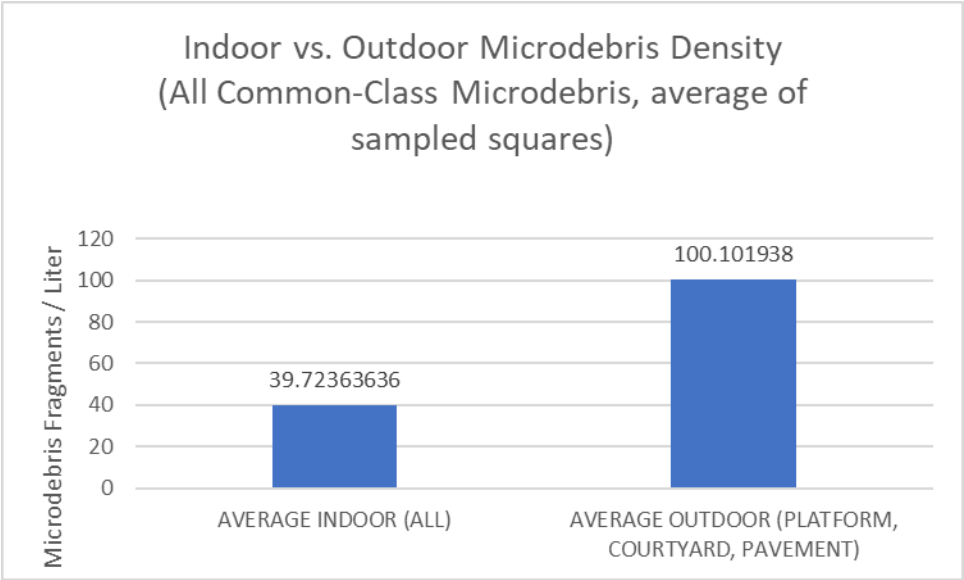


Figure 4.18. Indoor vs. Outdoor Microdebris Density (All Fractions)

The problems of interpretation with these larger fractions is discussed above, but this last datum does suggest that the difference in the microarchaeological profiles between indoor and outdoor surfaces at Surezha is more reflective of less debris-producing activity overall than of more intensive cleaning, as we would expect cleaning behaviors to have the most impact on the largest microdebris fractions.

That outdoor surfaces were more intensively used for debris-producing activities than indoor surfaces at Surezha is perhaps not surprising. Several elements deserve further comment. First, one of the most likely candidates for an exclusively outdoor activity is stone tool production and retouching. A preference for using outdoor workspaces for this kind of activity is archaeologically and ethnographically attested (Voigt and Meadow 1983) and is reasonable due

to the potential for injury from walking on the difficult to clean chipped stone microdebris as well as the more readily available space and light outdoors. As expected, chipped stone microdebris counts were lower in indoor contexts than outdoor ones (.96 fragments/liter on average indoors vs. 1.59 fragments/liter on average outdoors). However, it was at first surprising to see that chipped stone microdebris represented a higher *proportion* of the debris profiles of indoor sample squares: chipped stone represented, on average, 6.0% of the 2.0-4.0 mm microdebris in indoor sample squares vs. 3.9% in outdoor sample squares.

This apparently odd result is largely mitigated by separating non-courtyard outdoor surfaces from courtyard surfaces. Non-courtyard, non-cobbled outdoor surfaces featured both higher proportions and higher overall counts of chipped stone microdebris (13.19% of the debris profiles of these outdoor surfaces vs. 6.0% in indoor samples). Courtyards, in other words, were relatively clear of chipped stone microdebris, suggesting that they were not major loci of such tool production.

Another principal distinction between indoor and outdoor spaces was the higher proportion of bone, particularly burnt bone, found in outdoor courtyard spaces as opposed to indoor spaces and especially domestic indoor spaces. Because this phenomenon can be plausibly related to a specific function of domestic courtyards, it is discussed below under "Microarchaeological Signatures."

4.5. Domestic vs. Nondomestic Indoor Spaces

The most dramatic result from the microarchaeological data was the clear difference in microdebris density between the domestic and nondomestic indoor spaces **(Fig. 4.19-4.20)**.

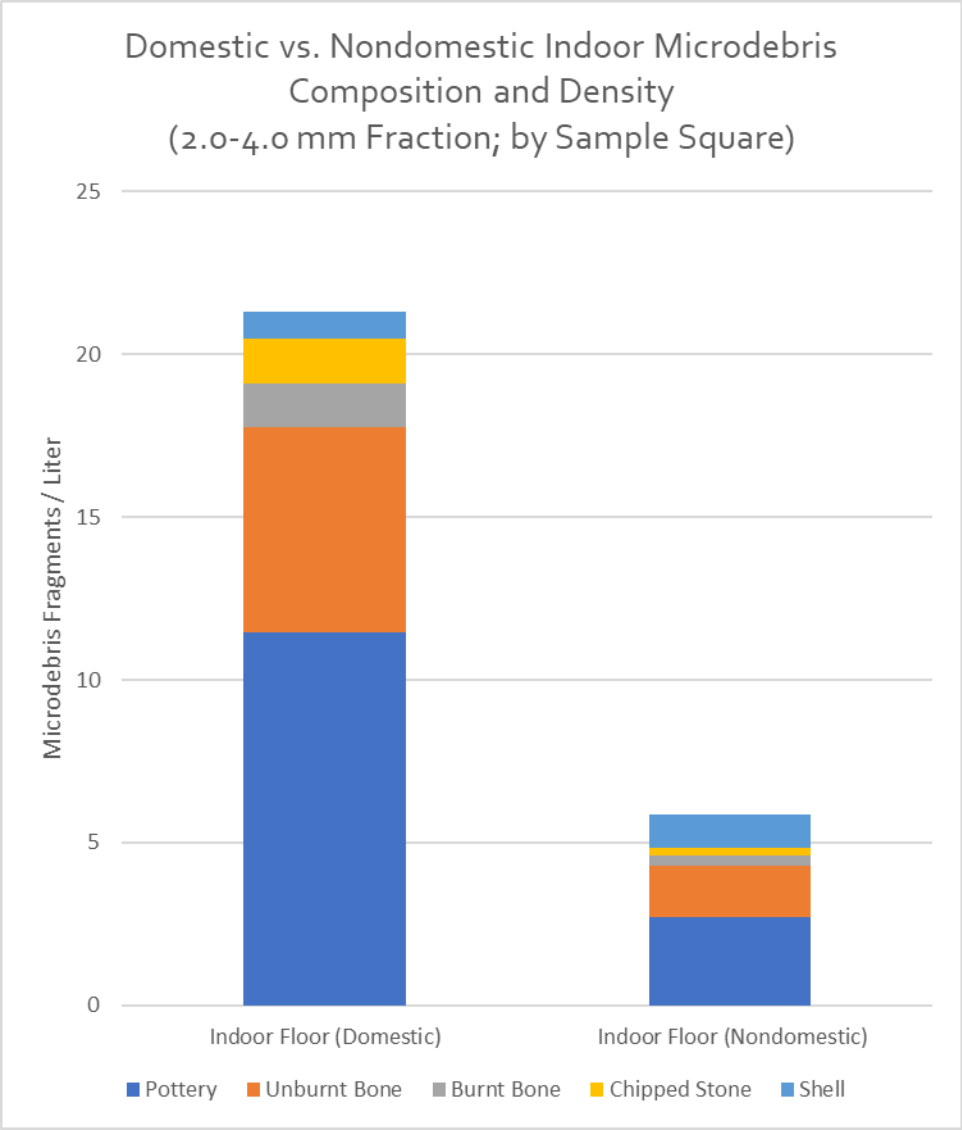


Figure 4.19. Domestic vs. Nondomestic Indoor Spaces: Density & Composition (by Sample Square)

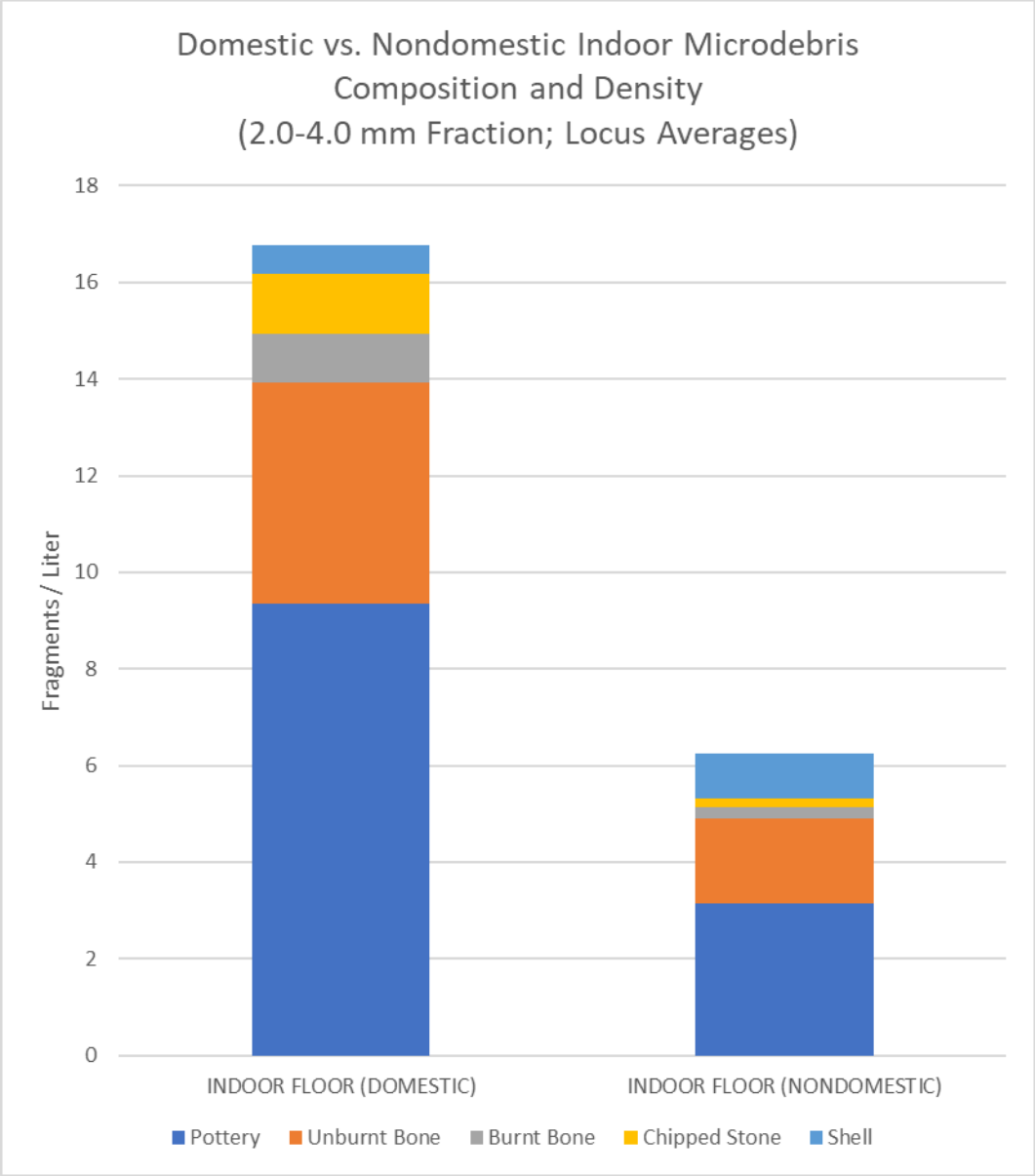


Figure 4.20. Domestic vs. Nondomestic Indoor Spaces: Density & Composition (by Locus)

Domestic spaces showed a relatively high degree of debris-producing activity, with an average density of 22.1 fragments liter (2.0-4.0 mm microdebris by sample square). The comparable density for indoor surfaces of the nondomestic building was 5.8 fragments per liter. In other words, nondomestic floors were nearly 4 times cleaner of microdebris than domestic

floors. When comparing by locus averages, the density was 16.8 fragments/liter for private houses and 6.2 fragments/liter for nondomestic floor loci, a less overwhelming but still very clear difference. The disparity between nondomestic indoor spaces and outdoor spaces of any type was of course even more stark.

One consideration is that a substantial number of the nondomestic floor samples came from a dense mudbrick pavement, which might affect the degree to which debris fragments were absorbed; however, when we remove the samples from the mudbrick pavement from the comparison, we see almost the same level of cleanliness: 6.0 fragments of 2.0-4.0mm microdebris/liter in the nondomestic building. This suggests that the cleanliness of the nondomestic building is not primarily a function of the absorptive properties of the surface matrix. Rather, it can be taken as reflective of a lack of debris-producing activity during the use-life of the surface.

This cleanliness was mirrored in the macroarchaeological record as well: only after the final abandonment of the nondomestic structure was substantial debris found in the rooms of the building. Indeed, the sediments predating this abandonment were often almost sterile, leading me to hypothesize either deliberate infilling between use surfaces or else a strong preference to avoid the accumulation of trash during periods of abandonment as is typically seen in vacant mudbrick structures as they degrade.

As discussed in Chapter 2, the "cleanliness index" of the microarchaeological profile of a space can be a useful indicator of the actual level of activity in that space; the microarchaeological cleanliness may be compared also to the macroarchaeological record in the space. Because of the limits of cleaning technologies and the difficulty that produced microdebris could be substantially removed, the microdebris profile in particular can give insight

into how space was used. In brief, and leaving aside for a moment the many potential complicating factors we could hypothesize, the following schematic explanations for the following micro- and macroarchaeological results:

Macroartifacts	**Microartifacts**	**Explanation**
Dense	Dense	Heavily used for debris-producing activities, not carefully cleaned or preserved.
Dense	Sparse	Lightly used for debris-producing activity, subject to post-use deposition or specific use.
Sparse	Dense	Heavily used but carefully cleaned during primary use and/or quickly preserved.
Sparse	Sparse	Lightly used, carefully cleaned or quickly preserved

Figure 4.21. Relationship between Macroartifactual and Microartifactual Density

In situations with a high density of both macro- and micro-artifacts, we might infer a surface that was intensively used and either infrequently cleaned or else abandoned and/or used as a trash deposit immediately following its primary use-life.

In situations with a high density of macro-artifacts and a low density of micro-artifacts, we might infer a surface that was not intensively used during its primary use-life (or at least was used for purposes that did not create much debris) and was used as a trash deposit after its primary use-life.

In situations with a low density of macro-artifacts and a high density of micro-artifacts, we might infer a surface that was intensively used and intensively cleaned, and that was not used as a trash deposit soon after its primary use life.

In situations with a low density of macro-artifacts and a low density of micro-artifacts, we might infer a surface that was not intensively used for debris-producing activities and was not used for trash deposition immediately following its use-life.

The debris profiles in the Operations 9 and 10 nondomestic building complex clearly matched the last category. The marked cleanliness of the micro- and macrodebris profiles is strongly suggestive of a space that was exceptionally lightly used for debris producing activities and that was also conscientiously cleaned and either deliberately filled in between phases or use or avoided as a place of trash deposition at least until its final abandonment.

Other indoor spaces at Surezha more closely fit the profile for the 4th category, although the density of microdebris was, as mentioned above, not nearly as high as for outdoor surfaces. Here, microdebris was frequently encountered in most spaces, and both actual surfaces and the wash and collapse layers were commonly rich in macroartifacts. The percentage difference in the cleanliness index between domestic and nondomestic indoor spaces, was significantly more than that between domestic indoor spaces and other spatial categories.

This distinction between domestic and nondomestic spaces will be discussed at length in the chapters below. I will not spend much time on the broader interpretation of these results here, but because it is a central feature of my argument in this dissertation, I wish to emphasize that I see the evidence as clearly pointing to the nondomestic building as not only a space with a different function from domestic indoor spaces, but as a space with significant restrictions on both use and access. The combination of the debris profiles and the cleanliness index indicate not only that nondomestic spaces were not centers of the same kinds of production and consumption activities as homes, but that they were also not centers of debris-producing activity at all. Access to these spaces and activity within them, was sharply limited.

4.6. Large quantities of pottery

A curious result was the very high concentration of ceramic microdebris relative to other Near Eastern projects described in the literature. For example, the vast majority of samples collected by Özbal from Halaf Tell Kurdu (Özbal 2006) contained less than 2 <10mm fragments of pottery per liter of sediment; in my samples, the average was 44.5 <6mm pottery fragments per liter! Even more striking was the ratio of bone to ceramic in Özbal's samples: not only was bone nearly always more prevalent than pottery, it was regularly over ten times more so (Özbal 2006, 375ff.). In my samples, while bone was sometimes somewhat more prevalent than pottery, it was exceedingly rare for any material but pottery to be in the majority, and practically never were the ratios so heavily skewed toward bone as was common at Tell Kurdu.

Rainville (2005) likewise reports relatively low concentrations of pottery and a tendency for bone to be represent the majority. Ullah (Ullah 2012, 130) on the other hand, found ceramics in the Late Neolithic village of Tabaqat al-Buma more in proportion to those I saw at Surezha.

Of course, there are nearly limitless possible explanations for this phenomenon that might not be a direct reflection on methodology, given the variations between the sites and periods under consideration, the specific areas sampled, and multicausal variability in past human activity. A likely consideration for the lower proportions of ceramic microdebris at Tell Kurdu is that in the Halaf pottery was still not as ubiquitous as in the Late Chalcolithic, although this does not explain the better correspondence with Tabaqat al-Buma. The difference is likewise harder to explain on such grounds for Rainville's Assyrian urban sites and could be related to different loci of activity, to changes in ceramic technology or approach to ceramic vessels resulting in either less breakage overall in the activity areas sampled, or to differences in surfaces' tendency to

absorb and preserve different kinds of debris. None of these options seems to me to be entirely satisfactory.

It is certainly worth considering that differences in sampling strategy and especially in sorting and identification are at least in part responsible for the variation. I have addressed the potential problems of comparability between different microdebris analysis projects in Chapter 3; these are further complicated by the potential biases of single researchers and the lack of reference collections and a standardized system of classification.[2] I do not, therefore, place a high degree of confidence in intersite comparisons of microdebris. Hopefully with the further development of the subfield of microdebris analysis and the accumulation of projects making use of the methodology, comparisons between sites can be taken up more systematically and with more confidence.

4.7. Microarchaeological "Signatures"

In approaching this project, I was interested in the possible identification of microarchaeological "signatures"—distinctive combinations and/or relative densities of microdebris that might be associated with specific activities. An example of how microdebris profiles might be identified and use can be drawn from Lynn Rainville's work on activity areas in and around households at Titriş Höyük and Kazane (Rainville 2005; 2012).

Rainville identified a significant correlation between bone and chipped stone near hearths at Kazane (.75, $r < .01$), suggesting that this was a result of animal butchering or from cutting meat into smaller pieces. The hearths at Titriş Höyük showed similar co-occurence of bone and chipped stone, but micro-ceramics were also relatively highly correlated, which she interprets as

[2] A promising effort in this direction, developed by Dr. Catherine Foster, is now defunct.

evidence that at Titriş, meats were prepared in vessels as stews, whereas at Kazane, where ceramics did not significantly correlate to the bone/chipped stone assemblage around hearths, meats may have been prepared by roasting (Rainville 2005, 65). The example is useful because it highlights both the value that the quantitative nature of the microarchaeological data can add (measuring the significance of correlation between bone and chipped stone) and the importance both of framing interpretations in terms of the macroarchaeology (proximity to hearths) and of a subjective approach both in terms of the questions asked and the potential answers (butchery vs. stew cooking).

The nature and meaning of microarchaeological signatures are highly subject to interpretation, especially given the still relatively low number of microdebris research projects against which any given set of debris distribution profiles could be compared, the often limited sample sizes, and the specific nature of each site and each space within that site. While I wanted to remain open to various other possibilities suggested by the actually-evident combinations of microarchaeological remains, potential "signatures" for which I was looking were:

1) High localized concentrations of chipped stone debris relative to other areas, possibly indicative of stone tool manufacture, retouching, and/or heavy use of such tools.
2) Concentrations of chipped stone and bone together, potentially indicating butchery or meat-cutting (as in Rainville's example above).
3) Concentrations of ceramic debris, especially finewares where these could be identified, possibly alongside burnt bone, potentially indicating dining areas or dining waste disposal areas.
4) Concentrations of ceramic debris, especially thick or coarse wares where these could be identified, with relatively little stone or bone debris and possibly in conjunction with

macrobotanical remains, suggesting grain or other storage areas.

5) Concentrations of burnt ceramic debris and burnt bone, possibly alongside heated chipped stone, potentially indicating (indoor or outdoor) cooking areas and/or disposal areas for waste swept or gathered from within or around cooking installations.

In all cases, multiple explanations for a given compositional analysis are possible, and potential signatures must be interpreted in the context of other samples and the architectural and macroarchaeological context. As will be seen below, despite several promising signatures in certain areas, my results were similar to those reported by Özbal (2006, 180): in most cases, clear microarchaeological evidence for specific activity was not present.

As I will discuss below, I believe that one of the reasons that specific profiles did not stand out was that domestic space, indoor and outdoor, was relatively multifunctional at LC 1 Surezha, muting the impact of specific debris-producing activities. Additionally, a variety of activities are apt to leave little or no debris, to leave debris that will not be preserved in the archaeological record, or be located outside of domestic spaces, largely limiting the profiles under analysis to the bulk material classes of pottery, bone, stone, and shell. Where less common material types (e.g., beads, carbonized seeds, or figurine fragments) were recovered, these were almost always found in very small quantities. This made them unreliable for comparative purposes but could, in combination with other small finds identified during excavation, facilitate understanding of particular spaces.

Despite the frequent similarity of microdebris profiles (as seen in Ch. 4, Section 2, above), there were some cases in which either signatures of specific activities could be suggested, or patterns that should be further discussed. Some of this data will be discussed in more detail in Chapter 6 on domestic production and consumption, but the below represents a site-level

overview.

4.7.1. Stone Tool Manufacture/Retouching

Chipped stone is one of the few bulk classes of microdebris to be intensively studied by other specialists due to the information it can give lithicists on techniques and spatial patterns of production. In the case of Surezha, analysis of the lithic material is ongoing, and I do not have the specialized knowledge to analyze the microdebitage from the standpoint of production technique, but it was possible to address spatial patterning in the distribution of lithic microdebris vis-a-vis other material classes.

As noted above, chipped stone represented a greater share of overall microdebris on outdoor (non-courtyard) surfaces as compared to other surfaces: 10.5% average chipped stone as a percentage of total 2.0-4.0mm microdebris fragments by outdoor surface sample square vs. 4.4% for other sample squares; 15.5% average chipped stone as a percentage of total 2.0-4.0mm microdebris fragments by outdoor surface locus vs. 5.0% for loci of other types (**Fig. 4.22-4.23**).

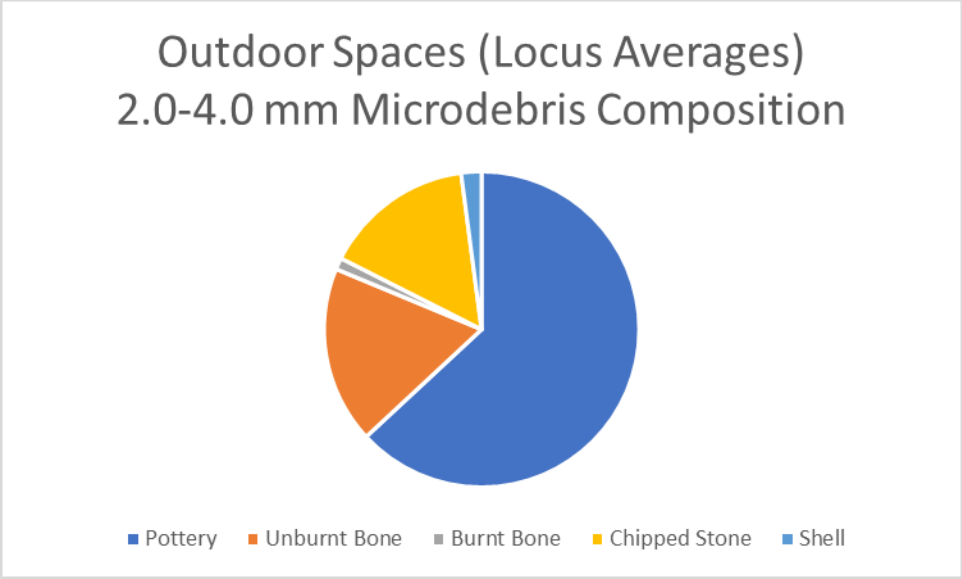


Figure 4.22. Outdoor Microdebris Composition (Locus Averages)

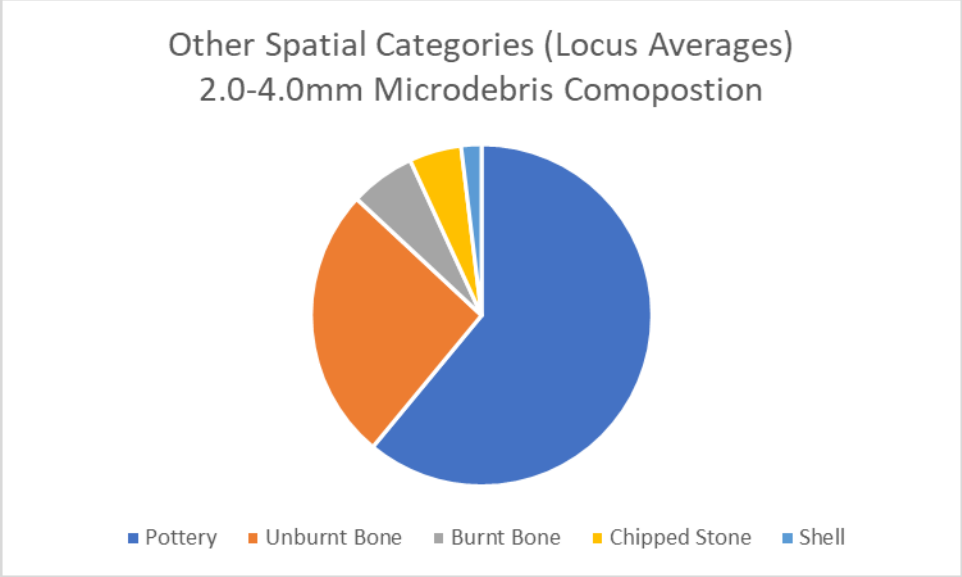


Figure 4.23. Other Spatial Category Microdebris Composition (Locus Averages). Includes Indoor Domestic and Nondomestic Floors, Courtyards, Platforms, Outdoor Cobbled Work Space, Trash Deposits.

As noted above, it is important to note the difference in this regard between what I have labeled "outdoor surfaces" (i.e., outdoor spaces that are not bounded by walls or clearly connected to an interior space) and "courtyards" (i.e., outdoor spaces bounded by walls or, as

was the case in Operation 2 where the furthest extent of the courtyard was not reached, extending immediately off of a house). Chipped stone represented only 2.0% of debris in courtyards by sample square (3.9% by locus averages). This suggests that stone tool production was preferentially located not only out of doors but outside of courtyard areas as well. This could be explained by a desire to minimize harmful debris in areas of high foot traffic and activity.

While the aggregate data present a pattern of outdoor stone tool production that matches expectations, analysis of individual loci and sample squares shows both the presence of outliers and raises the possibility of the identification of highly localized areas of stone tool production.

When considering all the sampled areas from the perspective of 250 cm^2 sample squares, chipped stone was never a majority or even a plurality of microdebris. In nearly 40% of sampled squares, and 22.5% (7 of 31) of contexts, there was no chipped stone debris at all. In 13 of the 152 sampled squares, chipped stone debris made up more than 10% of the total microdebris fragments. In four of these (SR 8587, 8355, 8399, and 4625), chipped stone made up more than 20% of the total microdebris fragments **(Fig. 4.24).** Looking at the 13 samples with greater than 10% chipped stone, we see a wide range of contexts, including indoor floors, both domestic and nondomestic, domestic courtyards, outdoor spaces, and platforms. Widening our view to the level of the locus, we see a similar spread of contexts. 5 of 31 loci had microdebris profiles with 10% or more chipped stone: a basin, an outdoor pavement, an outdoor surface, a trash deposit, and an indoor floor.

Sample Square SR#	Locus	Context Type	Chipped Stone/Liter (2.0-4.0 mm)	Total Microdebris/Liter (2.0-4.0 mm)	Chipped Stone %
4643	20120	Indoor Floor (Domestic)	3.33333333	31	**10.8%**
6853	20216	Platform	8.8	77.6	**11.3%**
8373	100221	Outdoor Pavement	6	50	**12.0%**
6521	20206	Courtyard	2	16	**12.5%**
8390	20269	Outdoor Surface	6	48	**12.5%**
8397	20271	Indoor Floor (Domestic)	9	57	**15.8%**
4613	20120	Indoor Floor (Domestic)	2.57142857	16.28571	**15.8%**
8370	20259	Outdoor Surface	14	75	**18.7%**
8362	90110	Indoor Floor (Nondomestic)	3	16	**18.8%**
8587	100218	Outdoor Surface	51	246	**20.7%**
8355	90075	Indoor Floor (Nondomestic)	4	18	**22.2%**
8399	20271	Indoor Floor (Domestic)	13	56	**23.2%**
4625	20120	Indoor Floor (Domestic)	6	21.6	**27.8%**

Figure 4.24. Sample Squares with >10% Chipped Stone (2.0-4.0 mm Microdebris)

Areas that *lacked* chipped stone microdebris are also worthy of mention and are more distinctive. All 7 loci with no chipped stone at all were indoor floors, 3 of them nondomestic and 4 of them domestic (including one bin or basin feature set in a domestic floor).

A focus on individual high- (or low-) density sample squares is likely to magnify the problem of unrepresentative outliers whose chipped stone density is better understood as emerging from unusual taphonomy or errors in sampling or analysis; a focus on high-density loci is more likely to remove some of this potential error or formation bias. However, because stone tool production might be highly localized within larger spaces, it is possible that individual sample squares or clusters of sample squares within loci represented such areas.

A survey of the contexts of sample squares with high lithic density suggests more often than not mitigating factors that suggest against identification of specific foci of lithic production or retouching. The indoor nondomestic floors 90075 and 90110, represented by sample squares SR#8355 and SR#8362 respectively would be puzzling locations for centers of chipped stone production. They are both indoors and represent successive levels of the nondomestic building where debris-producing activity of any kind was minimal. Thus it seems more likely that the high proportion of chipped stone in these squares is due to the low overall number of microdebris fragments per liter in each (16 and 18 fragments respectively), among the lowest of any squares sampled.

SR#8399 and SR#4625, the other two sample squares with concentrations of chipped stone microdebris greater than 20% of the total profile, were also from indoor floors, this time in domestic contexts (Loci 20271 and 20120 respectively**)**. As mentioned, this would also be an unusual result given the attested preference for siting stone tool production and retouching out of doors, but we cannot entirely dismiss the possibility that some such activity was taking place indoors at Surezha (or else that some activity causing frequent breakage was being undertaken there).

SR#8587, a square in an outdoor surface (Locus **100218**) whose 51 chipped stone fragments per liter were also the highest overall *number* of such fragments of any sample taken, is a strong candidate for a surface where chipped stone tools were produced or retouched during the use life of the surface. This surface, on which were present a grinding stone, many stones including at least one hammer stone, and a number of flat-lying sherds, was adjacent to the cobbled stone pavement south of the monumental walls in Operation 10, and thus located in a lower-traffic area conveniently located nearby to what might have been a work area where stone tools would have

been employed.

4.7.2. Butchery/Meat Preparation

Another microarchaeological signature I was attentive to was a preponderance of unburnt bone, perhaps associated with chipped stone debris, as potential evidence of meat preparation. While primary butchery might not leave much unburnt bone debris if it is being done well, there is likely to be incidental bone breakage that accumulates over time, and other stages in meat preparation are likely to produce bone debris. There were, in fact, no surface loci in which high (>30%) densities of unburnt bone and high (>10%) densities of chipped stone cooccurred. The two loci in which unburnt bone and chipped stone cooccurred to a meaningful degree were a sample square above a disturbed intramural burial (20248) and a bin (20227). The high degree of bone in the burial square is probably human bone and explainable as a result of disturbance. The bin is most likely a trash deposit, and so it is difficult to interpret the cooccurrence there as a clear signature of activity.

Examining the ratios of unburnt bone to total microdebris in the 2.0-4.0 mm fraction of both sample squares and especially loci does, however, indicate some evidence for particular areas of animal bone processing or possible butchery.

SR #	Locus	Context Type	Unburnt Bone/Total
8364	90110	Indoor Floor (Nondomestic)	100.00%
8378	100221	Outdoor Pavement	91.89%
6540	20210	Courtyard	78.81%
8355	90075	Indoor Floor (Nondomestic)	75.00%
8365	90113	Indoor Floor (Nondomestic)	75.00%
6503	20206	Courtyard	65.22%
4647	20120	Indoor Floor (Domestic)	63.49%
6859	20120	Indoor Floor (Domestic)	62.50%
6535	20210	Courtyard	58.33%
6807	20210	Courtyard	58.06%
6508	20206	Courtyard	57.53%
6808	20210	Courtyard	57.14%
8351	90100	Indoor Floor (Nondomestic)	57.14%
6519	20206	Courtyard	56.58%
6549	20210	Courtyard	55.56%
8372	100221	Outdoor Pavement	53.57%
6539	20210	Courtyard	53.33%
8382	100221	Outdoor Pavement	51.79%
5708	20157	Indoor Floor (Domestic)	50.00%
6509	20206	Courtyard	50.00%
6860	20120	Indoor Floor (Domestic)	50.00%
8389	20269	Courtyard	50.00%

Figure 4.25. Sample Squares with > 50% Unburnt Bone in 2.0-4.0 mm microdebris fraction

Unique Locus	Locus Context	Unburnt Bone/Total
20208	Indoor Floor (Domestic)	42.86%
20210	Courtyard	40.86%
20206	Courtyard	33.41%
90075	Indoor Floor (Nondomestic)	36.84%
20120	Indoor Floor (Domestic)	36.23%
20269	Courtyard	37.58%
20227	Trash Deposit/Bin	33.33%
100221	Outdoor Pavement	32.76%
90113	Indoor Floor (Nondomestic)	34.48%
20273	Indoor Floor (Domestic)	34.21%
20146	Platform	30.88%

Figure 4.26: Loci with >30% Unburnt Bone in 2.0-4.0 mm microdebris fraction

I will focus here on domestic, courtyard, and outdoor contexts because the nondomestic building contexts are so unusual and the very low overall density of microdebris poses problems for comparability: for example, there is a single sample (SR 8364) in which 100% of the 2.0mm microdebris is bone, but this is because there was, in fact, only a single piece of 2.0mm microdebris from the entire 50cm x 50cm square. Thus, while SR 8378, a square in the outdoor pavement 100221, with 95% of its 2.0 mm microdebris being bone, seems a very good candidate for an area of animal butchery (or other bone-debris producing activity such as gnawing by animals), it seems unlikely that SR 8364 is meaningfully representative of any debris-producing activity at all.

At the sample square level, there was modest correlation between high percentages of microbone debris and the “courtyard,” “domestic floor,” “outdoor pavement,” and “nondomestic floor” categories. At the locus level, there was not a strong correlation between surface type and density of unburnt bone as a proportion of total microdebris profile: to the extent that there was correlation between unburnt bone and surface type, it likewise pointed toward domestic

courtyards and the outdoor cobbled pavement, and to a lesser extent toward domestic floors. Of the nine surfaces outside the nondomestic building with greater than 30% unburnt bone in their compositions, three were domestic floors, three were domestic courtyards, one was a platform, one was a trash deposit or bin, and one was the outdoor cobbled pavement.

Examining the individual loci provides more context and indicates some possible conclusions.

Locus 20208, a small, undefined surface suggested to be a domestic floor, had a very high proportion of unburnt bone and no burnt bone. The small overall density of microdebris in this context and the single sample it represents should both be cause for caution, as will be discussed below, but we might preliminarily see this as a candidate for a butchery site; we might go further and suggest that it should be seen as a courtyard or outdoor rather than an indoor space, although the limited exposure here makes it difficult to say with any degree of confidence.

It seems very plausible that Outdoor Pavement 100221 was a surface used for butchery activity at least at some point during its active use-life. Large quantities of macrobone were found here during excavation, including a nearly-intact *Sus* skull. Two possibilities are that the cobbled pavement was a kind of work surface in its original form, or that after its primary use-life had ended it was used as a work, butchery, and/or discard space. The combination of high levels of micro- and macro-bone might point toward both possibilities, with the microbone generally representative of debris accumulated during the primary use life of the surface and the macrobone left lying on the surface as it went out of use.

The prevalence of unburnt bone in at least certain domestic indoor spaces likewise suggests that some degree of butchery or meat preparation occurred in indoor domestic contexts as well: in the case of 20120, a presumed kitchen or food preparation area, unburnt bone represented

36.23% of its microdebris profile, and burnt and unburnt bone together represented 44.89%, one of the highest proportions on the site.

4.7.3. Food Consumption - Burnt Bone in Courtyards

Another profile in which there was meaningful difference when taken in terms of aggregate comparison of different kinds of spaces was the relatively high proportion of burnt bone in outdoor domestic courtyards, representing 9.8% of the total 2.0-4.0 mm microdebris by sample square, a 50% greater proportion than the spatial categories with the next densest levels of burnt bone as a proportion of the total microdebris profile (platforms with 6% and indoor domestic floors with 5%) **(Fig. 4.27)**. Analysis by sample square was complicated by single-square outliers, especially in the nondomestic floors where only a very small number of debris fragments were regularly recovered, but in this case too, sample squares in courtyards had the highest proportion of burnt bone (11.14%).

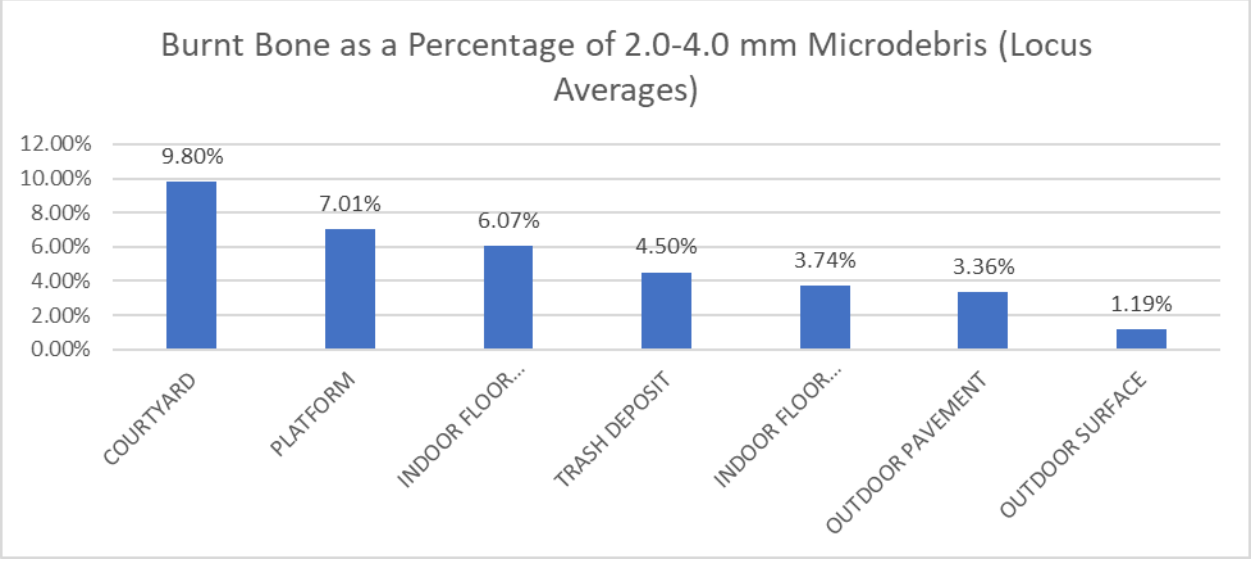


Figure 4.27: Percentage of Burnt Bone by Surface Type (Locus Averages)

The most likely explanation for this high percentage of burnt bone is that it represents fragments of animal bone burnt in the process of cooking, produced either during the cutting, tearing, or consumption of cooked meat or in/after the process of discard, through trampling or gnawing by commensal or other animals, after human consumption elsewhere. There are several reasons to prefer the interpretation that the bone is evidence of consumption of meat (and by extension meals) in the courtyards. Burnt bone represents only 4.5% of the microdebris in the two sampled trash deposits; if the burnt bone fragments in both were the result of discard of material consumed elsewhere, we would expect more comparable proportions. The overrepresentation of burnt bone in courtyards vs. trash deposits could be a result of the proximity of the courtyards to areas of meat consumption, but we are then forced to ask what these areas of consumption were. If they were in the sampled domestic spaces near or adjacent to the courtyards, we might also expect high levels of burnt bone fragments in those areas, whereas in indoor domestic spaces, burnt bone was approximately 50% less prevalent as a share of the overall profile. Additionally, we would not expect microremains of the size under consideration (2.0-4.0 mm) to be effectively removed from areas of consumption; they are more likely to be either primary debris from the act of cutting/preparation/consumption or produced by trampling/gnawing of larger fragments of burnt bone or whole bones tossed out as refuse, limiting the range of waste disposal scenarios. Finally, since we know that courtyards were areas of heavy use and intensive debris producing activity, we might not expect them to be preferred disposal sites for macro food waste from which microdebris was produced during the use life of the surface.

All this is to argue that I see LC 1 domestic courtyards as sites of meal consumption at

Surezha, and the high concentration of burnt bone as a signature of the consumption of cooked meat on the bone. Meals might also have been consumed inside homes or in nondomestic contexts as well, of course, and we have evidence for feasting at a supradomestic level in nondomestic contexts at least in later periods. I will be discussing this interpretation further in Chapter 6. But I believe there is a good case to be made, based on exposures made to date, for the localization of quotidian meals for household members in domestic courtyards.

4.7.4. Ceramic Microdebris as a Microarchaeological Signature

Somewhat disappointing was the difficulty of reliably distinguishing ceramic wares at the microdebris scale. I had hoped to be able to clearly distinguish between fine wares, cooking wares, and storage wares, or at least between fine and coarse wares, in an effort to better understand the kinds of ceramics that were being broken on the surfaces sampled. This proved quite difficult, however, and while individual examples of various wares could be identified in many samples, the quantities were small enough and the potential biases involved (e.g., the overidentification of distinctive fabrics) significant enough that I considered it impracticable to create valid comparisons between those samples in which wares were identifiable. Microscopic analysis may facilitate such a comparison in the future but was beyond the scope of this project.

There is still the potential to use overall ceramic density as evidence for certain types of activity or use of space. As mentioned above, ceramic microdebris was regularly the most common single component of the microdebris profiles of individual sample squares, of loci, and of spatial categories. However, there were certain areas in which ceramics represented considerably more than half of the

All but one of the platform surfaces were above or less than 1% below the median and the

mean proportion of ceramic debris **(Fig. 4.28)**. The function of these platforms is highly uncertain, but we might consider a storage, food preparation/consumption, or other use in which ceramic vessels were frequently used, moved, and broken.[3]

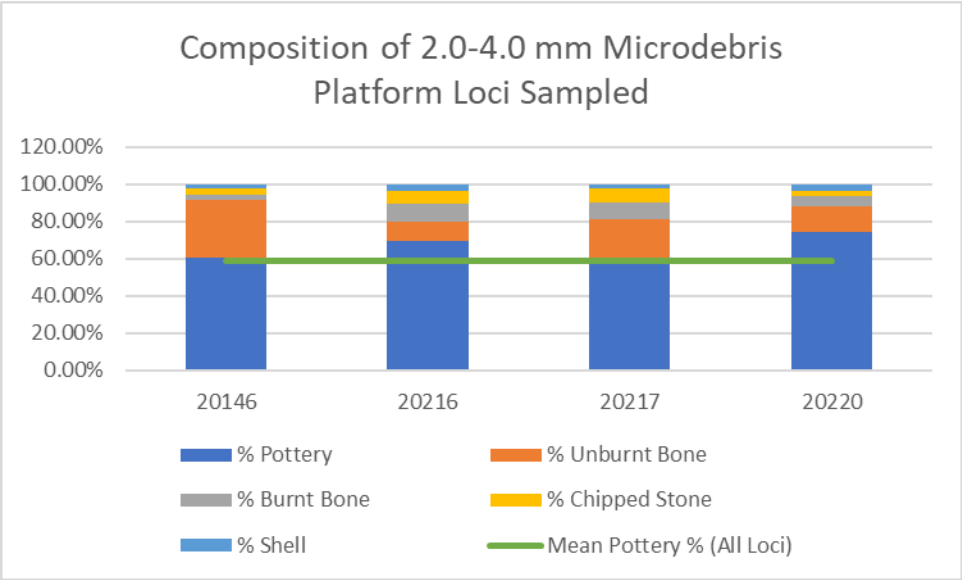


Figure 4.28. Composition of Platform Loci with Mean Proportion of Pottery Debris

Ceramic microdebris was also disproportionately prevalent in basins and fire installations **(Fig. 4.29-4.30).**

[3] The final platform, 20146, had a subdivided circular superstructure on top (20138) which may have been a fire installation of some kind, although no clear evidence of such use was observed. A curious feature of Platform surface 20216 were several small, shallow circular crater-like indentations in which ceramic bowls rested. These vessels, whose sherds remained within the indentations, were smaller than appropriate for bulk storage and their function remains obscure.

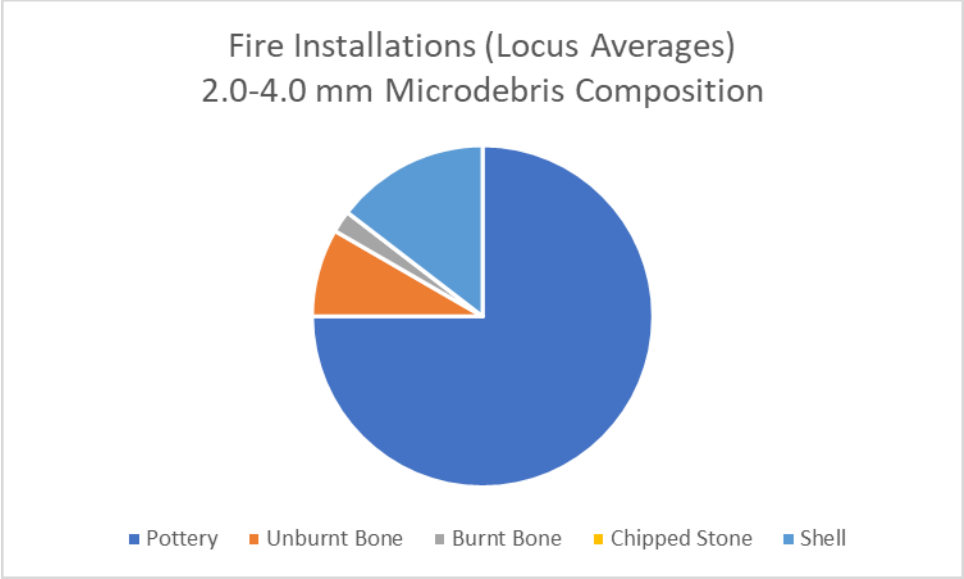


Figure 4.29. Fire Installation 2.0-4.0 mm Microdebris Profile (Average of Locus Averages)

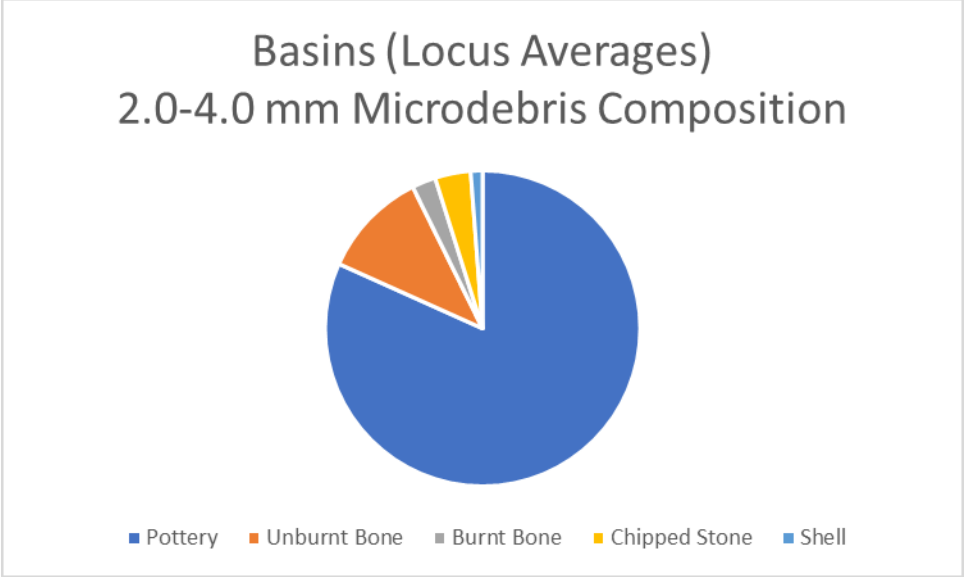


Figure 4.30. Basin 2.0-4.0 mm Microdebris Profile (Average of Locus Averages)

This makes sense if these installations were used in food preparation, for storage, or for cleaning, all circumstances in which breakage might be likely to occur. For the fire installation **20114** in particular, there were a relatively high degree of ceramic debris and a relatively low

degree of bone microdebris. We must be cautious because the formation processes of the base of a fire installation and that of floors or outdoor surfaces are different, but if we assume that profile of this fire installation is indeed representative of the debris produced by its use, we might suggest that this installation may have been used for food preparation (as opposed to a hearth solely for heating), since the ceramic microdebris found inside is denser than we might expect for a single-purpose heating installation. It might also have been an ash disposal bin or something similar, although the conditions of the soil and bricks during excavation suggest direct heat **(Fig. 4.31)**.

Figure 4.31. Fire Installation 20114 During Excavation

If it is a cooking installation, we might infer that in it foods were more likely to be prepared in the form of stews or other types of preparation contained in vessels rather than as roasted or grilled meats, since there is relatively little of the bone debris we would expect from cooking meat on the bone over direct heat. As will be discussed in Chapter 6, there is other evidence of cooking stews or similar in vessels in the form of burnt crusts visible on the interior of macroceramics.

4.7.5. Storage

Without *in situ* remains or a clear preponderance of thick-walled or coarse wares indicative of storage vessels, it would be difficult to identify storage areas through the microdebris profiles alone. Likely candidates for storage areas are the long narrow rooms **90005** and **90023** in the nondomestic building complex in Operation 9, and **20273** and **20174/20274**, small, narrow rooms in the "West House" in Operation 2. Unfortunately, of these small rooms, only **20273** yielded a surface that was clear enough to be sampled **(Fig. 4.32)**. The profile was somewhat different from other indoor surfaces sampled, notably in the high proportion of unburnt bone and the higher than normal proportion of shell. No burnt bone was present. While we could certainly imagine this microdebris profile as consistent with a storage area (shell from terrestrial mollusks drawn to stored water or other moist stored material, ceramics slightly denser than normal), the profile in itself is insufficient for drawing any positive conclusions.

One lump of sealing clay found amongst the macrodebris of the room might add to the impression that this room was used for storage, but such sealings or sealing clays were widely distributed in the domestic complex of Operation 2, so it is the size of the room that remains the best argument for seeing it as a storage area, and the microarchaeological signature is at best not

in opposition to such an interpretation, rather than providing any special positive evidence.

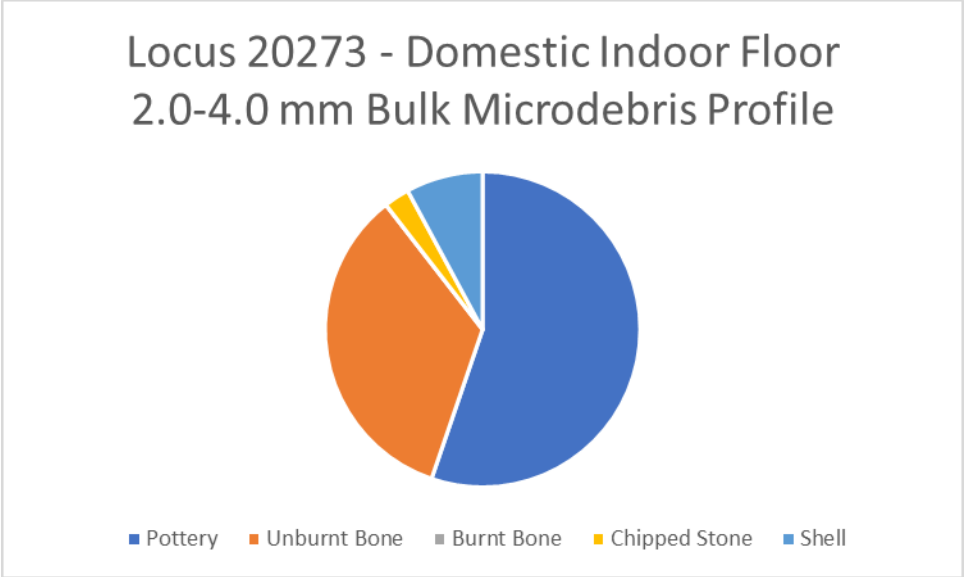


Figure 4.32. Locus 20273 2.0-4.0 mm Microdebris Profile

In summary, microarchaeological signatures were rarely clear on their own at Surezha—that is, the microdebris taken in isolation was rarely sufficient to make strong hypotheses on the specific functions and uses of various spaces. However, put in the context of architecture and macroarchaeology, the density and composition of microarchaeological debris can at times provide evidence for the location of specific activities, including dining, cooking, and tool production, not only in particular spatial categories, but in specific locations.

4.8. Mixed Evidence for Spatial Segregation of Activity

One of the major questions of this research project was the extent to which activity was segregated, either into specific categories of space or into specific spaces of the same category. There might be different explanations for such segregation of activity or its absence, including utilitarian concerns (e.g., proximity or access to needed light, heat, water), cultural preference or

social rule (e.g., gender segregation, preference for locating certain activities away from dwelling places), and economic concerns (e.g., specialization of production, differential access to resources). I was particularly interested in the possibility of understanding social and economic dimensions of Late Chalcolithic society at Surezha through the degree and kinds of spatial segregation observed.

Microarchaeological evidence for spatial segregation of activity at LC 1 Surezha is mixed. Evidence for such segregation can be seen most clearly in:

1. Varying (sometimes sharply varying) levels of microdebris density between different categories of use surface, as described in Chapter 4.1. The most dramatic variance, between nondomestic and domestic indoor spaces, was discussed in Chapter 4.2 and is taken up further in Chapter 7 below.
2. A tendency for domestic courtyards to be distinguished in terms of microdebris profile composition from other domestic and nondomestic spaces, most visibly in higher proportions of bone fragments, also described in Chapter 4.1.

On the other hand, several aspects of the microarchaeological record either do not provide evidence for spatial segregation of activity or else provide some evidence for the lack of such segregation. These include:

1. The very strong tendency toward diversity of materials in individual microdebris profiles, suggestive of multifunctionality in the use of space.
2. The tendency for debris-producing activity to be rather evenly distributed across domestic spaces, likewise suggesting a lack of functional specialization of space, or spatial segregation of specific household members.
3. A lack of evidence one way or the other concerning differentiation between houses. If an

alternative understanding of the division of houses in Operation 2 is considered, the evidence instead points toward homogeneity between domestic spaces of different houses. On the other hand, a single anomalous result at least leaves the door open for either significant differentiation in particular domestic spaces or between houses.

Since the evidence for spatial segregation where it exists has been discussed above under the sections on microarchaeological signatures, indoor vs. outdoor spaces, domestic vs. nondomestic spaces, and domestic courtyards vs. indoor spaces, here I address the evidence for apparent multifunctionality and the lack of spatial segregation among and within certain categories of space.

4.8.1. Multifunctionality

A high degree of multifunctionality is indicated by the microdebris profiles of domestic spaces, indoor and outdoor. In general, microdebris profiles across all kinds of spaces shared some common characteristics: fragments of ceramic material tended to be the most common type of debris, followed by bone, then chipped stone, then shell; in rare cases bone was the most common category, and on similarly rare occasions shell was more common than bone. Other classes of microdebris, such as beads, figurine fragments, and charred grains and charcoal captured in the heavy rather than light fraction, were very rare but occasionally encountered.

This distribution of material frequencies will perhaps not be surprising to Near Eastern archaeologists accustomed to excavating bulk macroartifacts on Late Chalcolithic (or later) tell sites, but insofar as microdebris is understood to be indicative of *in situ* activity, it is still important to remark this variety of microdebris, and, especially, the fact that ceramic, bone, and chipped stone occurred in at least some quantity in almost every square sampled. Moreover,

variance in microdebris profiles was not nearly as striking as variance in density, implying that intensity of activity was more distinctive of the use of different spaces than the particular activities undertaken. While signatures of individual activities were, as described above, not observable in the majority of sampled domestic contexts, the presence of all bulk material classes in the majority of samples is evidence of multifunctional use of domestic spaces.

Multifunctionality of space is a common feature of premodern societies (M. Müller 2015, xxviii), and even modern ones (J. E. Arnold 2012, 91): the area around the dining room table in my own house shows[4] microdebris evidence of everything from meals of rice to children's craft clay to wood shavings from an impromptu household repair to pet hair to pieces of hastily opened business envelopes. Multifunctionality of domestic spaces need not have a direct relationship to economic specialization across a society, as even if certain tasks are differentially concentrated in certain households, such tasks could take place in multifunctional spaces. On the other hand, in societies with a high degree of specialization of production, we would expect certain kinds of work (e.g., toolmaking, butchery, textile manufacture) to take place either outside the home in dedicated workshops or in relatively dedicated work spaces in certain houses. However, in times of more limited economic specialization as we might expect from the Late Chalcolithic, the expected degree of unifunctionality might be particularly hard to gauge, especially because many of the bulk microartifacts under analysis could plausibly be connected to activities—such as food preparation—whose spatial positioning we would not necessarily expect to have a direct relationship to economic specialization *per se*.

In sum, we might expect at minimum that a strong tendency toward unifunctionality in domestic spaces could support an interpretation of productive specialization due to the

[4] When I have let the vacuuming slide to apply myself to scholarship

centralization of certain activities and their removal from the general business of domestic life, and the reverse may also be true. However, the relationship between unifunctionality of domestic spaces and economic specialization is less certain and weaker than either clear evidence of spatial segregation of activity, differentiation of activity or resources between houses.

Moreover, the degree of spatial multifunctionality can serve as a proxy for other aspects of social organization that can be difficult to see otherwise in the archaeological record. Multifunctional use of space is consistent with a household organization in which members are not strongly spatially separated in the house, for example through a gendered division of space or occupation by multiple family groups. And most basically, it reveals an approach to the use of space in which functional category is not primary. This could be contrasted with contemporary American domestic space: even given the multifunctionality *in practice* of domestic spaces as mentioned above, the "ideal" American house is divided along supposedly functional lines: bedroom, kitchen, bathroom, dining room, living room.

Addressing the evidence from ancient Egyptian houses, Spence (2015) makes the important point that archaeological efforts to delineate function and "multifunctionality" of domestic spaces may be in some ways beside the point, because rooms were not conceived of in functional terms as they are in contemporary European and American society. However, at this stage, I am more concerned with a definition of multifunctionality centered not on how houses and their spaces were conceived and experienced, but rather in terms of the range of activities carried out in different domestic spaces (see Moeller 2015).

Such multifunctionality seems evident at Surezha and may be most clearly seen in a review of domestic indoor floor spaces. Six domestic floor loci were sampled (20120, 20151, 20157, 20208, 20271, and 20273). 20120 and 20271 are subsequent subphases of an area probably used

for food preparation. 20273, based on its dimensions, would most likely have been used primarily for storage. 20208 was problematic and poorly defined: there is a possibility that it should not be properly classified as an indoor domestic floor. The other surfaces are harder to define in terms of specific spatial-functional types, but as just noted, the microdebris evidence shows that functional differentiation was not as clear for the inhabitants of LC 1 Surezha as might be apparent from a modern functional categorization scheme.

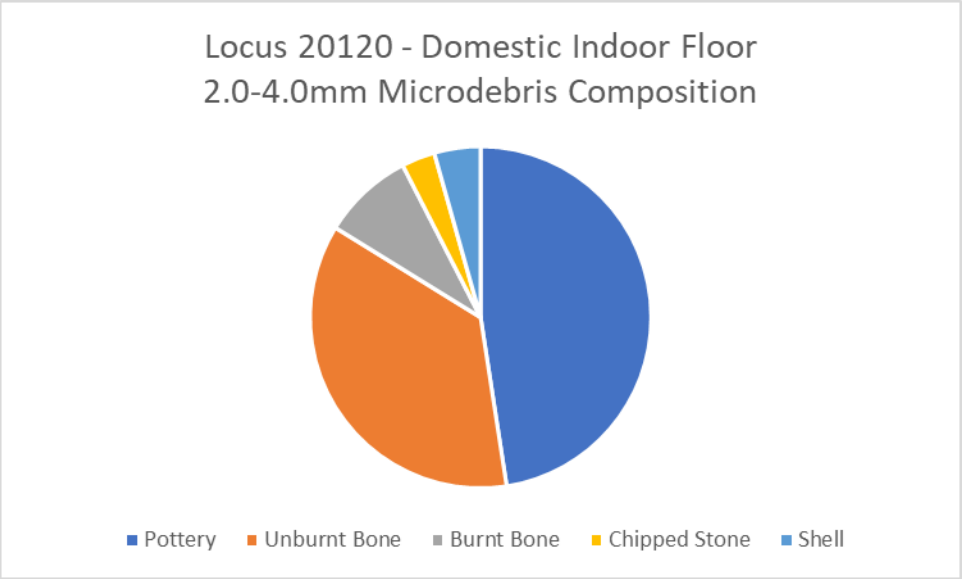


Figure 4.33. Locus 20120 2.0-4.0 mm Microdebris Composition

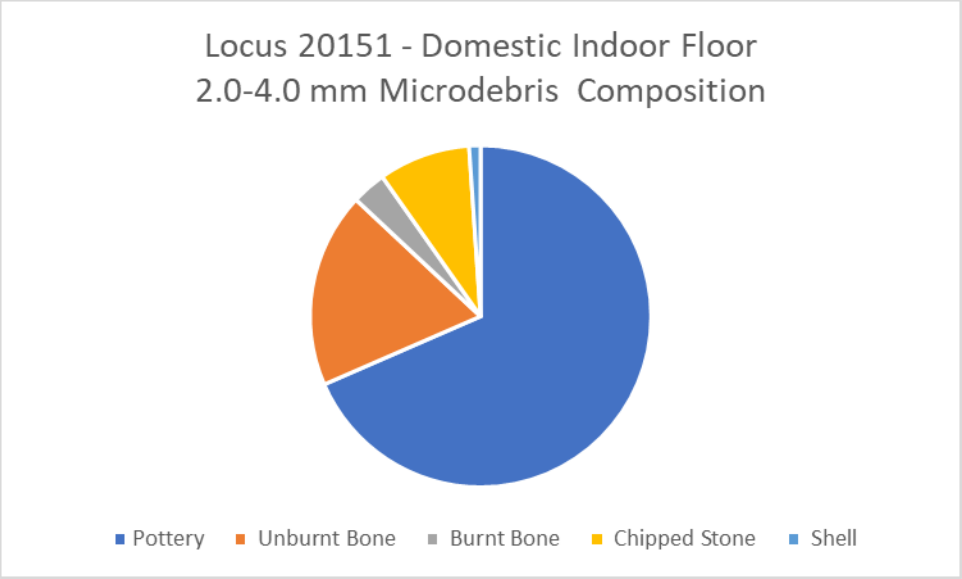


Figure 4.34. Locus 20151 2.0-4.0 mm Microdebris Composition

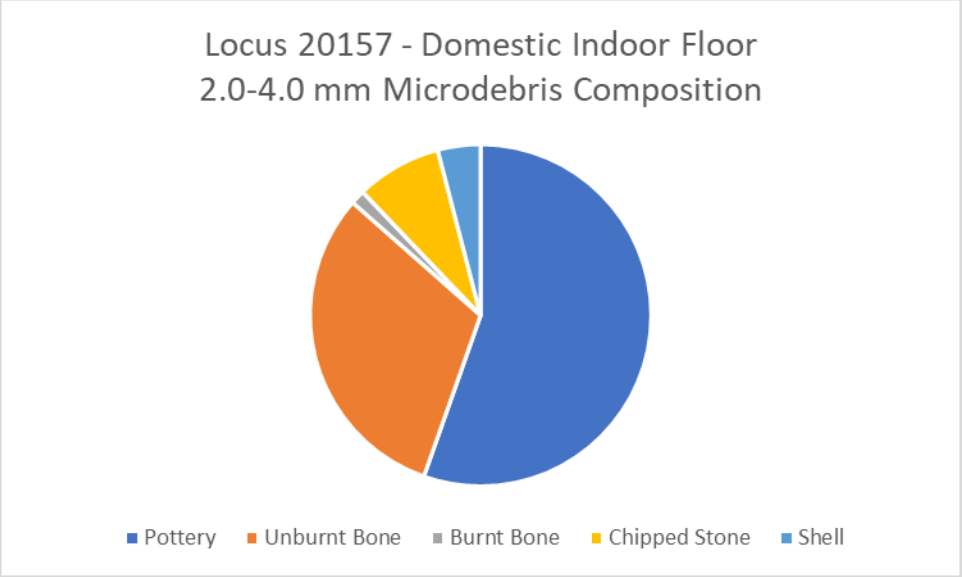


Figure 4.35. Locus 20157 2.0-4.0 mm Microdebris Composition

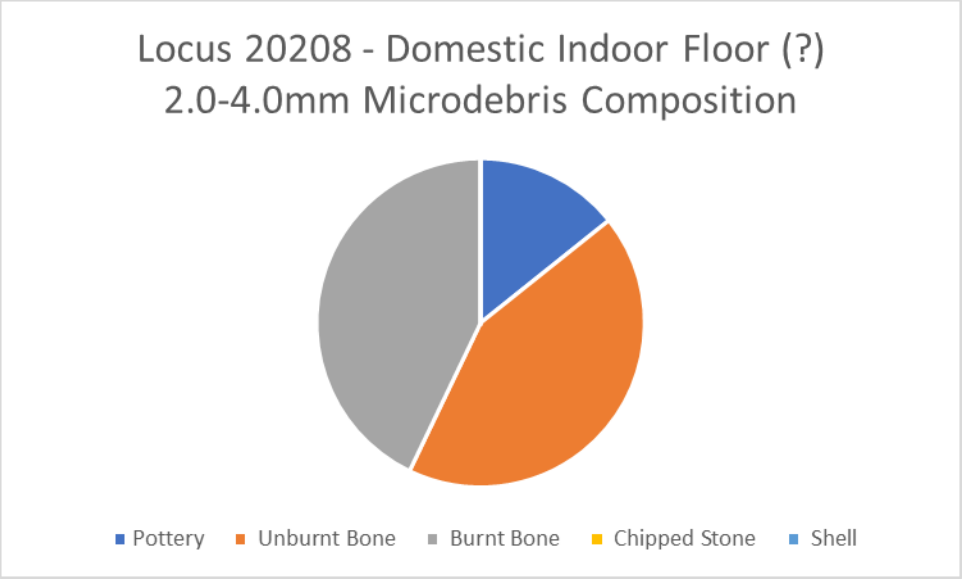


Figure 4.36. Locus 20208 2.0-4.0 mm Microdebris Composition

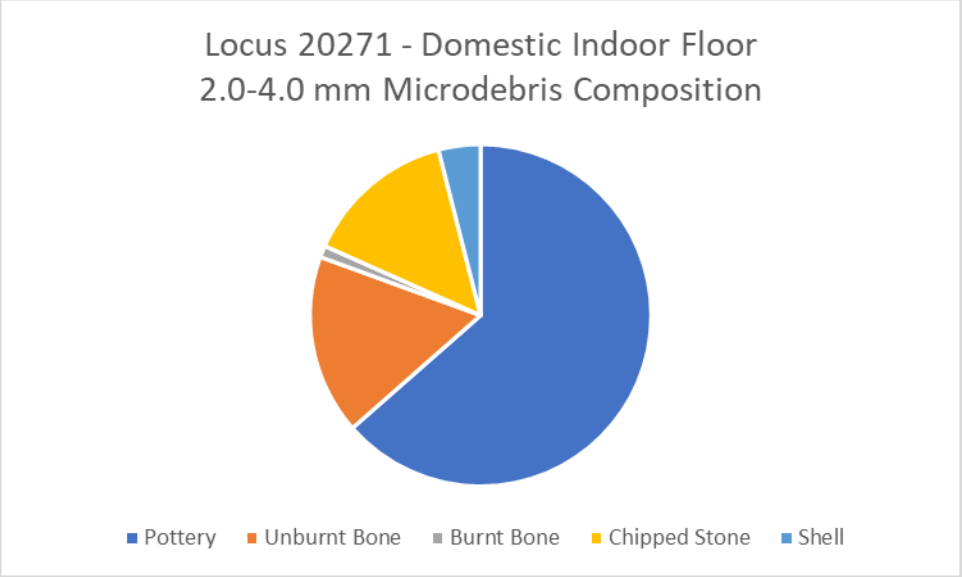


Figure 4.37. Locus 20271 2.0-4.0 mm Microdebris Composition

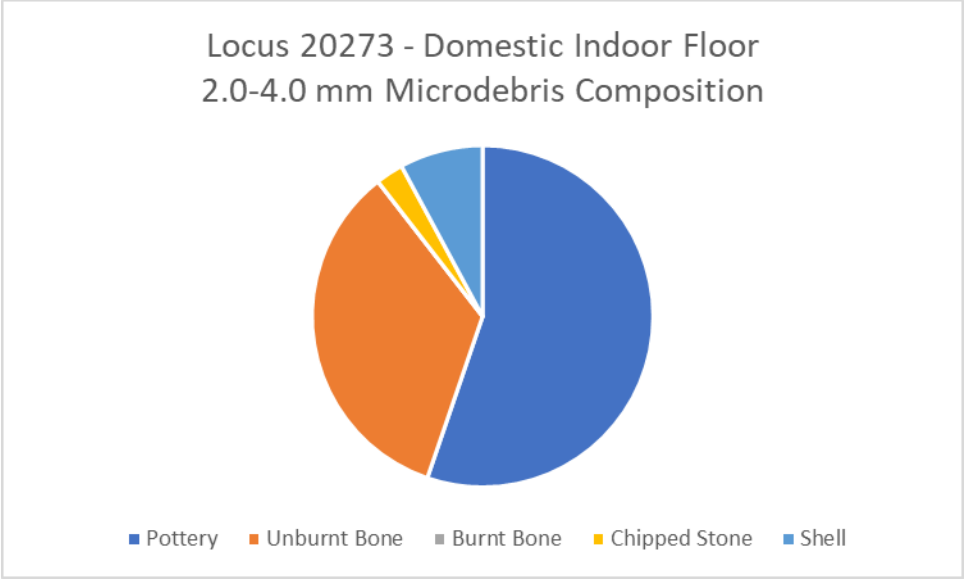


Figure 4.38. Locus 20273 2.0-4.0 mm Microdebris Composition

Figs. 4.33-4.38 show the microarchaeological profiles of all the indoor domestic spaces sampled. While, especially in the cleaner samples with relatively little microdebris, we must be attentive to the possibility that at least some of the debris is a result of secondary or post-depositional processes, we see bone, ceramic, and chipped stone debris being produced (in fairly similar proportions) across the house. In domestic indoor floor contexts, the microdebris profile almost universally showed similar relative frequencies: ceramics were most common, followed by unburnt bone, chipped stone, then burnt bone and then shell. The only exception was Locus 20208, which might be tentatively assigned to a late phase of the West House (whereas all the other domestic floors belong to the East House), but whose associations are not otherwise very clear and might in fact not be an indoor surface at all, but rather a fragmentary exposure of a street or courtyard.

It is worth noting that the proposed cooking area B.B5.2 **(20120/20271)** and a proposed storage area B.B5.5 **(20273)** each show a range of microdebris. While both food preparation and storage-related activity could, in various ways, involve activities that would produce all the types

of debris observed, at a basic level the multiple activities apparently pursued in these spaces should prompt some caution when we attempt to define domestic spaces solely in terms of single functions. Spence's (2015) observation seems to fit the evidence from Surezha: the microdebris profiles suggest a household organization in which specific activities were not sharply constrained within specific spaces.

Courtyards likewise demonstrated a high degree of multifunctionality. **Figs. 4.39-4.43** show the microdebris profiles of the various domestic courtyards; as noted above, bone occupies a larger proportion of the microdebris profiles of such spaces than those of indoor spaces, but it is still usual to see significant quantities of the different kinds of bulk microdebris both in the individual loci and in individual 250 cm^2 sample squares.

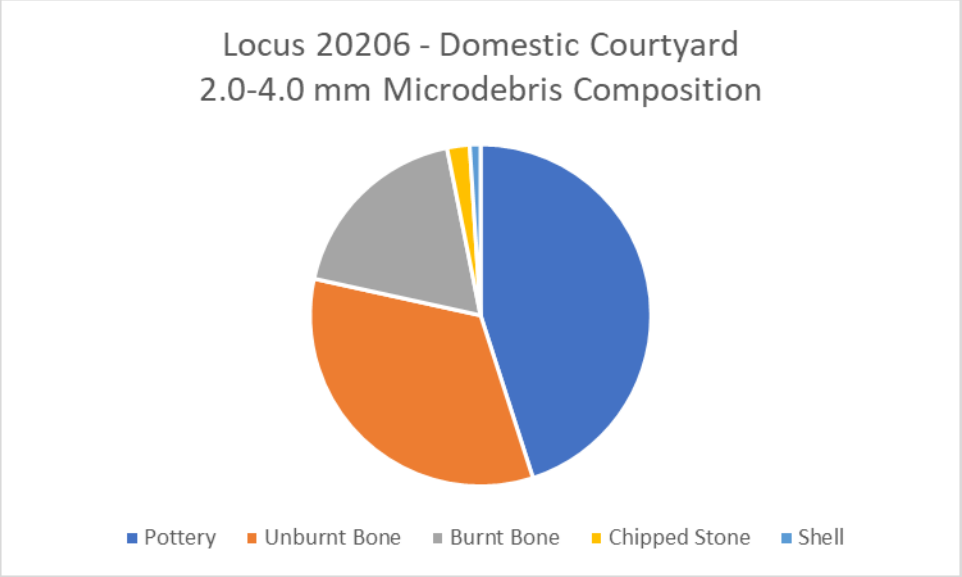


Figure 4.39. Locus 20206 2.0-4.0 mm Microdebris Composition

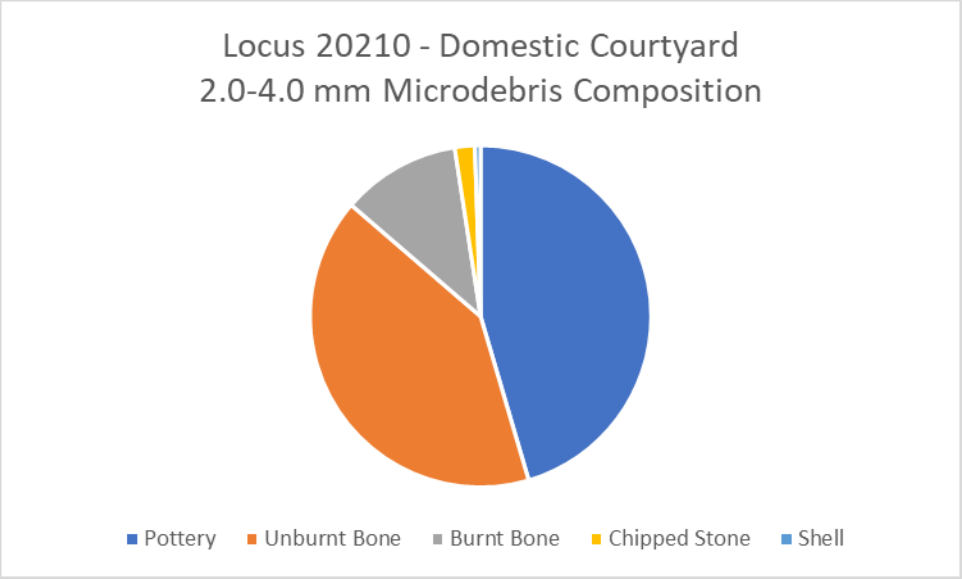


Figure 4.40. Locus 20210 2.0-4.0 mm Microdebris Composition

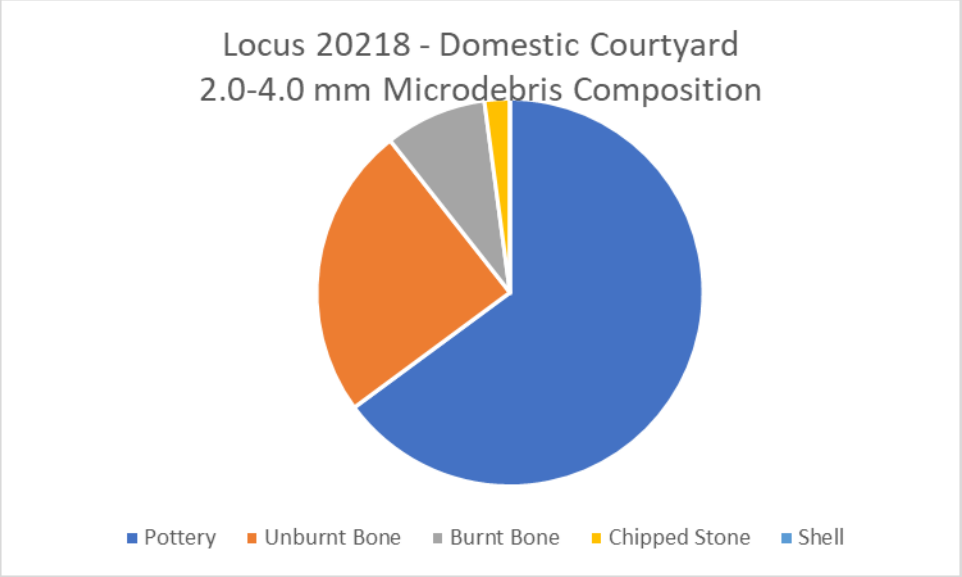


Figure 4.41. Locus 20218 2.0-4.0 mm Microdebris Composition

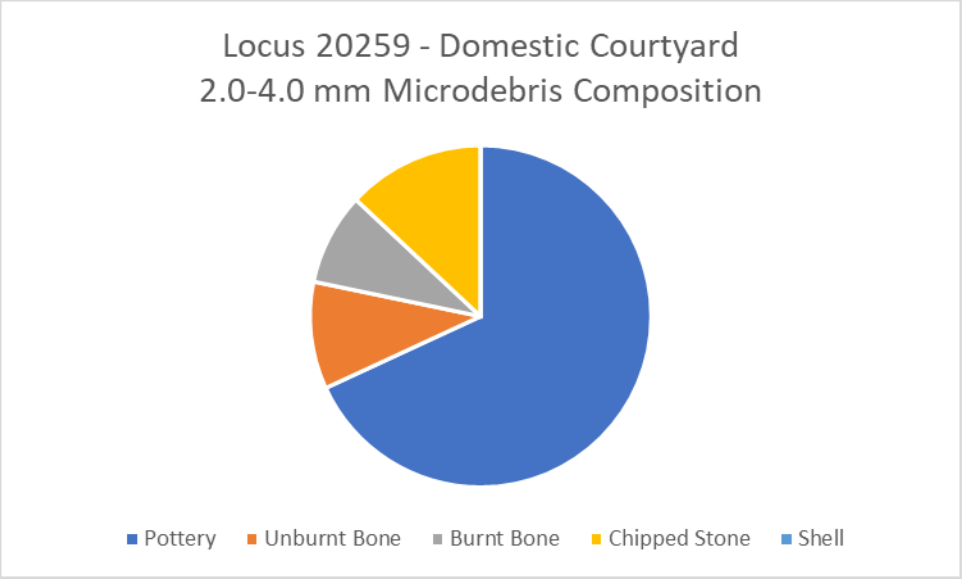


Figure 4.42. Locus 20259 2.0-4.0 mm Microdebris Composition

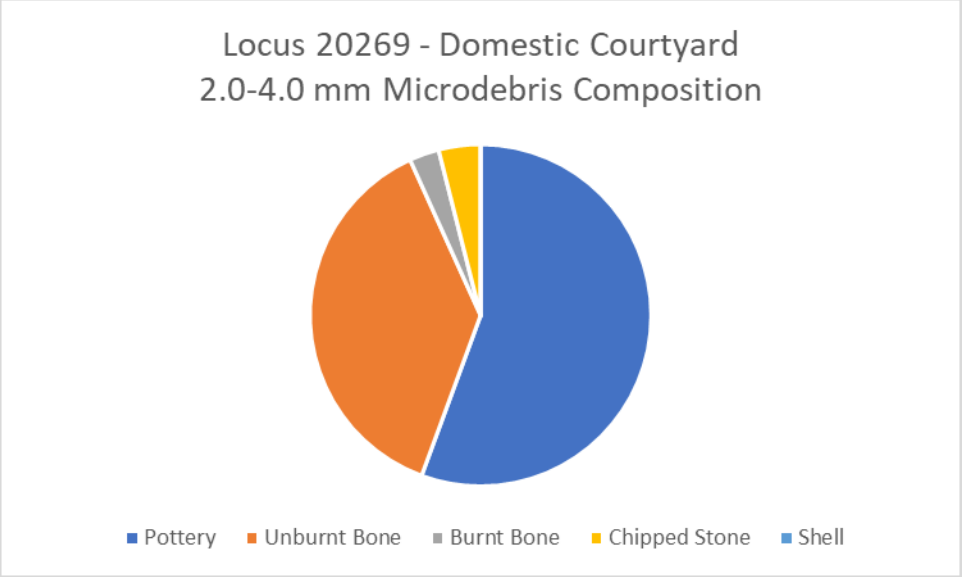


Figure 4.43. Locus 20269 2.0-4.0 mm Microdebris Composition

Other spaces, too—outdoor spaces and platforms—show a range of microdebris implying a range of debris-producing activities. Nondomestic floors, basins, and fire installations were less diverse in their microdebris profiles. In the case of nondomestic floors this was again largely

attributable to the very small number of microdebris fragments recovered. In the case of basins and fire installations, both differing formation processes and less diversity of function should both be considered.

In sum, one of the clear results of microarchaeological sampling at LC 1 Surezha is that debris-producing domestic productive and consumption activity was not sharply constrained either by spatial category or by individual space. Instead, a range of activities took place across nearly all domestic floor, domestic courtyard, outdoor, and platform surfaces.

4.8.2. Distribution of Activity Across Domestic Spaces

Related to the apparent multifunctionality of spaces is the relatively even distribution of activity overall across interior domestic spaces. A heat map (**Fig. 4.44-4.45**) gives a limited picture of the relative density of microdebris across such sampled spaces, (a) scaled to the minimum and maximum densities of indoor domestic microdebris only (a range of 0 to 74.63 2.0 mm-4.0 microdebris fragments/liter), and (b) scaled to the minimum and maximum densities of both courtyards and indoor domestic spaces (from 0 to 151 fragments/liter).

Figure 4.44. Microdebris Distribution across Extensively-Sampled Domestic Indoor Floors

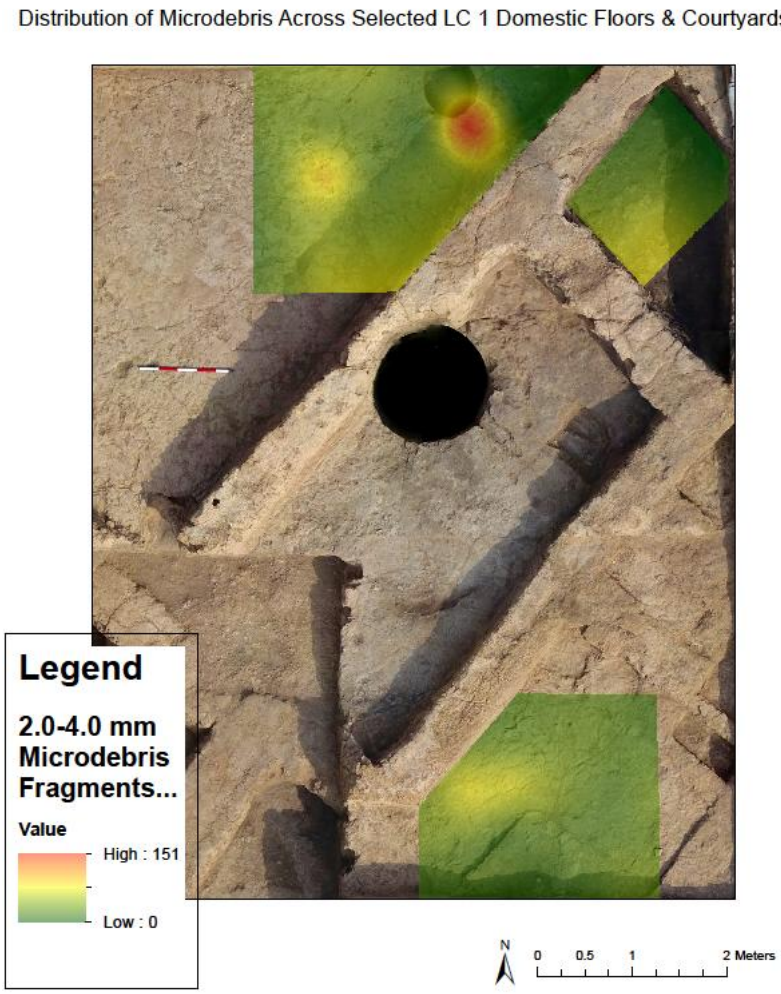


Figure 4.45. Microdebris Distribution across Extensively-Sampled Domestic Indoor Floors and Domestic Courtyards

These maps are obviously limited by the small number of rooms exposed and sampled and the smaller subset of those rooms that could be sampled extensively. While **Fig. 4.44** shows the potential for identifying areas of denser debris-producing activity within these spaces, **Fig 4.45** shows the relatively low level of variation across and between indoor spaces especially when contrasted with courtyard areas where density of activity was considerably higher. The low level of variation *between* indoor spaces (as opposed to variation across individual spaces) can also be

illustrated by comparing average densities of domestic indoor floors to that of other spatial categories. **Fig. 4.46** shows the range of densities of domestic spaces alongside the averages for spaces of other types.

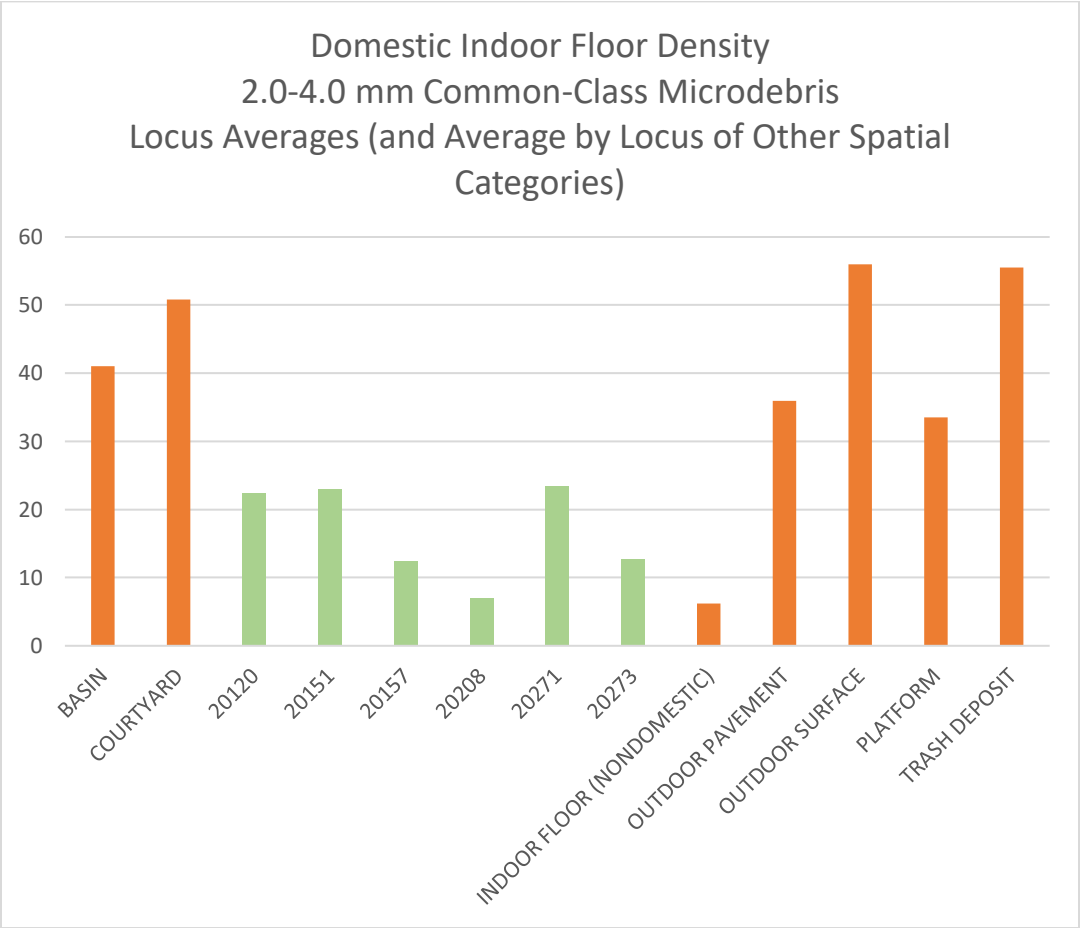


Figure 4.46. Range of Densities of Domestic Indoor Floor Microdebris Profiles (in Green) vs. Average Densities of Other Spatial Categories (in Orange)

As can be seen, most of the domestic spaces fall within a relatively narrow band in terms of density (Standard Deviation = 6.38 versus a standard deviation of 25.06 for all loci sampled), all clustering around the average for domestic indoor floors and all of them falling outside the averages of any other type of space. The principal exception, **20208**, is an interesting case, which

may be preliminary evidence of inter-house variation but may (more likely) be wrongly classed as a domestic floor. In any event, the low density of material should not be taken as an important exception to the trend and rather be understood as a special case.

What all of these comparisons show in different ways is that activity is relatively evenly distributed across indoor domestic space. The modest differences in density can help to understand the distribution of activity but should not be overstated. **20273**, a proposed small storage room, has lower density than other areas. **20157** was an indeterminate space from a later phase of domestic architecture and also has lower microdebris density, but even these spaces are relatively near to the mean. Food preparation area B.B5.2 (**20271/20120)** was very similar in both phases in density to **20151**, a small room in the north of the operation not thought to be dedicated to food preparation.

Lack of Clear Distinction in Microdebris Profiles Across Domestic Spaces

Additionally, composition of domestic interior spaces tended to be fairly consistent (cf. **Figs. 4.33-4.38). 20208** is again an outlier, and several of the factors mentioned suggest that it might not be appropriate to consider it a domestic indoor space at all.

In general, however, the microdebris profiles are relatively similar. The proportions of pottery, unburnt bone, and chipped stone fluctuate somewhat, but never to such an extent that we could say clearly that we have evidence of different types of activity.

The clearest difference is the relatively high proportion of bone in the later kitchen area **20120** and in **20269**. Both of these rooms are associated with basin features and both may have involved some kind of food preparation, which would be consistent with a relatively higher percentage of unburnt bone. In general, however, it is difficult to say whether results like this and

the higher proportion of chipped stone in the earlier kitchen **20271** are meaningful in assigning function—one would expect, for example, similar functional profiles in the two successive layers of the kitchen room in the southeast of the operation, but in fact there is more difference between this single room in two subphases than there is among rooms. If anything, the *lack* of clear debris signatures in contexts where we might expect them — a cooking area, a storage room — is surprising. Of course, we are dealing with a limited sample: complete exposure of the houses, and the exposure of more houses, may well overturn this observed trend toward relatively even distribution of activity across space. But the present evidence favors an interpretation of domestic spaces not being strongly segregated in terms of the actual uses to which they were put. This is consistent with results from LC 1 Tell Zeidan, where a range of productive, consumption, and ritual activities were identified in domestic spaces without clear demarcations of different kinds of space (Fisher 2017, 198–200, 227), and similar to results also from Halaf-era Tell Kurdu (Özbal 2006; 2012). I will discuss further the implications of this multifunctional approach to domestic space in Chapter 6 below. For now, I will note that it is consistent with an understanding of LC 1 society in which production and consumption are centered in the house and organized at the household level.

4.8.3. Absence of Evidence for Inter-House Distinction, And Some Possibilities

A final note pertains to distinctions between houses. A primary initial goal of this research was the identification of similarities and differences among the microdebris profiles of different houses, as such comparison can help to answer whether households were engaged in the same or different kinds of activities, whether intensity of activity in the domestic spheres of different households was the same, and what differences or similarities in consumption patterns might be.

All of these potential findings are directly relevant to our understanding of economy and society, particularly with regard to specialization, differential access to resources, and mobilization of labor.

The surprising discovery of the large nondomestic building in Operations 9 and 10 instead of the expected continuation of the domestic quarter opened other opportunities for research but meant that the opportunities for comparisons between houses were extremely limited.

In the context of houses that share walls and are only partially exposed, it can be difficult to identify the boundaries between the house structures themselves, let alone reconstructing households or other possible social identities of the denizens of the houses. Present interpretation of the excavated area in Operation 2 is that the LC 1 area consists of two or three houses: the house in the southwest corner of the operation designated B.B3, the house in the east of the operation designated B.B5, and the courtyard between them and the single communicating room designated B.B4, which may have been a part of B.B5 as well. These houses persisted over multiple rebuilding phases from the late Ubaid through the LC 1 occupation of this area of the site. My own inclination is to assign B.B4 and B.B5 to the same "East" house (**Fig. 4.47)**, but the west wall of B.B4 is problematic, and we have as yet no clear pathways between the rooms of B.B4 and B.B5.

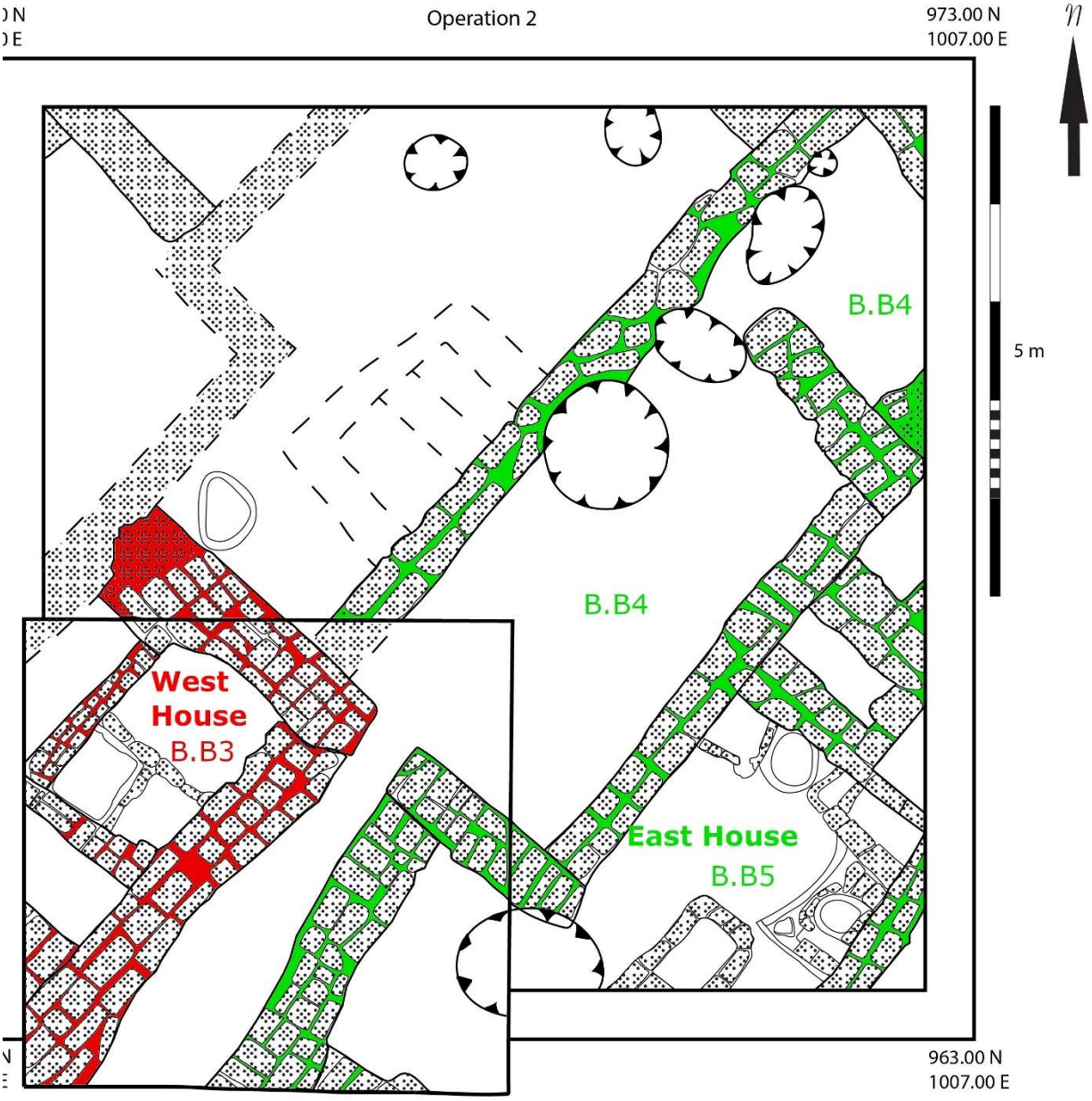


Figure 4.47. Operation 2 showing proposed "West" and "East" houses

The LC 1 occupation of the West House (B.B3) sequence was, unfortunately, largely excavated before the beginning of the microarchaeological sampling project, and the presently-exposed Ubaid floors had been exposed for several seasons making sampling impracticable. Thus it was essentially impossible to make a strong, statistically-significant comparison between

houses, leaving questions of inter-house variability to be answered by the available architectural and macroarchaeological evidence.

However, if alternative understandings of the excavated area are accepted, there are three possible avenues for inter-house comparison based on data available at present:

1) Considering the possibility that the East House in fact represents two or more separate houses (B.B4 and B.B5).

2) Assigning the excavated courtyards to different houses.

3) Considering the possibility that surface 20208 **(Fig. 4.48)** is an indoor surface associated with the West House (or another house separate from the East House).

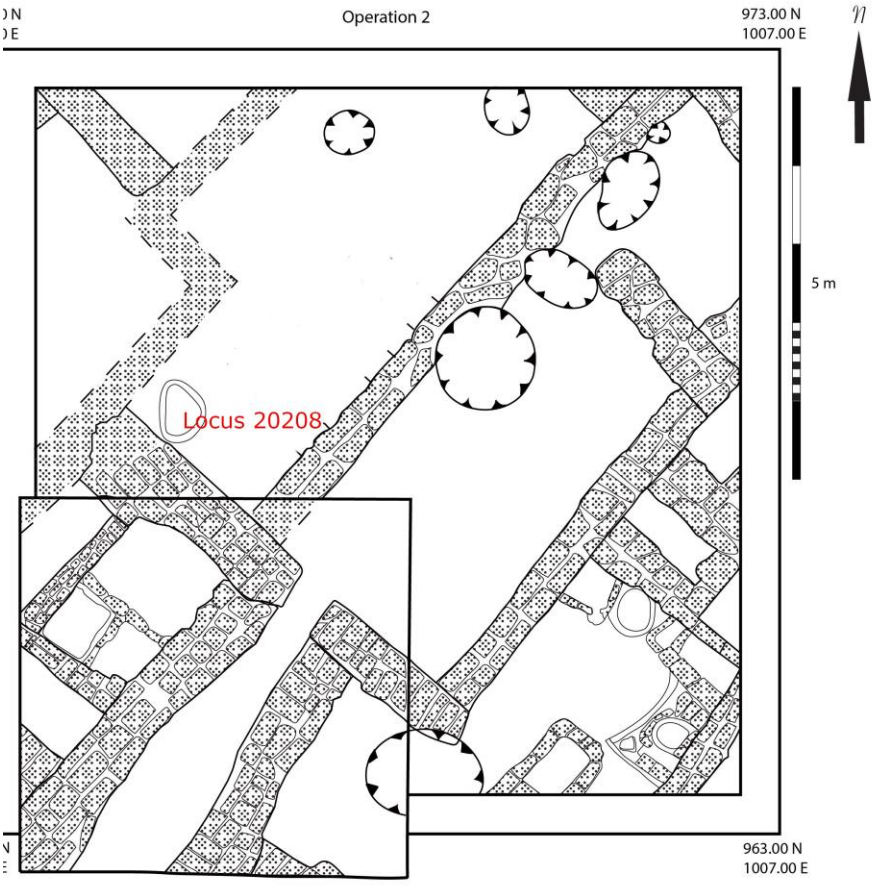


Figure 4.48. Location of Locus 20208 in Context of LC 1 Architecture

None of these options is particularly attractive due to the lack of supporting evidence, but they are at least worth considering given the importance of inter-house comparison and as a way of framing questions for future research.

1) If the East House represents two separate houses, one to the north and one to the south, the evidence would suggest that these two houses were very similar in terms of the kinds and intensity of activity carried out in them, at least in the spaces excavated. **Figs. 4.33-4.38** and **Figs. 4.43-4.45).**

2) Assigning the excavated courtyards to specific houses is difficult. It would seem likely that Courtyard **20218** is associated with the East house, although a clear pathway between the east house and the courtyard has not been established. Courtyards **20206/20210** and **20259** are all in the same area (**20206** and **20210** are subsequent levels of the same courtyard and **20259** is apparently an earlier level in the same general area). All these courtyards are perhaps associated also with the East House, although as can be seen in **Fig**. **4.47**, only a single doorway between the courtyard and a house room has been identified to date, and it is not entirely clear that this room belongs to B.B5. **20269**, directly adjacent to the walls of the east and surrounded by a small curb wall, is also likely to be a part of the East house. Present evidence, then, certainly leaves open the possibility that some of these courtyards are associated with one house and some with another. Whether associated with one or more houses, the microdebris profiles of most of the courtyards are, as noted in Section 4.1, quite similar. If it can be established that the courtyards are associated with different houses, this similarity could be taken as evidence for similarities in practices between houses.

20259 is the most unusual both in terms of composition and density, with a lower overall proportion of bone and a higher proportion of ceramics than other courtyard areas. This surface

is from a later phase than the sampled indoor floors, but the simplest understanding is that it is associated with a later phase of the same house(s) or household(s) as the earlier **20206/20210**.

So here the evidence would be, again, in favor of similarity between houses in terms of the kinds and intensity taking place within their domestic spheres.

3) If Surface **20208** is somehow associated with the West House (unlikely because of the positioning of the cross-walls, but at least a possibility) or with another, we have a very interesting initial result. **Fig. 4.49** shows a comparison between the microdebris profile and density for **20208** and the various "East House" indoor floors.

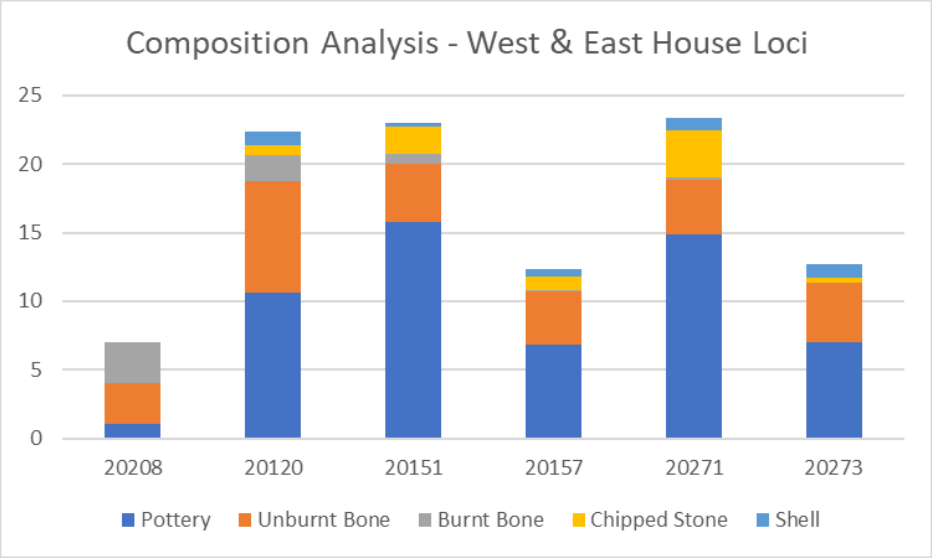


Figure 4.49. Locus 20208 vs. Other Indoor Domestic Floors

There are two quite striking results here: first, the very low density of microdebris in the possible West House locus **20208**, more in keeping with the results from the nondomestic building than with the other domestic floors sampled. Second, the microdebris profile of **20208** is almost unique, composed nearly entirely of burnt and unburnt bone. This high proportion of bone (and burnt bone in particular) is much more reminiscent of a domestic courtyard space than the

other indoor rooms sampled.

If this result were to be clearly associated with an indoor surface in the West (or another) house, it might be indicative of a special-purpose room within that house, or, if other surfaces in the West House (or other houses still to be excavated) showed similarly distinctive profiles, we might have a case either for distinctions in the domestic modes of production and consumption between households at LC 1 Surezha or else (or in addition to) for a rethinking of the domestic and non-domestic categories that have been assumed in this project.

Notwithstanding the unusual results from **20208**, the microarchaeological data so far do not represent strong evidence for or against variation between houses. Further investigation on both the microarchaeological and macroarchaeological fronts would provide further perspective on this issue.

4.9. Traffic/Trampling

Human foot traffic has a significant effect on the presence, size, distribution, and compaction of macroartifacts (Bradley and Fulford 1980, 90–91) and microsediment profiles (Branting 2013).[5] By extension, it has been suggested that microartifacts of the scale examined in the current project can yield useful information on trampling as well (Rainville 2005, 75; Özbal 2000; 2006, 101).

However, the dynamics of trampling of microdebris are far from well-established experimentally. Nielsen's (1991) experiments with larger debris have shown that after a surface

[5] At the site or landscape level, the compaction of sediments created by foot traffic, as seen in aerial or satellite imagery and in digital elevation models (DEM), can be used to identify pedestrian pathways (Wilkinson 1994, 492; Ur 2003a)

has been trampled a few times, sherd size tends to approach a value where significant resistance to further breakage occurs, after which further diminution in modal size is slow and minimal (493). On the other hand, micromorphological analysis has shown observable changes in debris shape and size through trampling (Branting 2007). These results indicate that experimentation on the physics of breakage of microdebris (between 1 and 5 mm) through trampling are necessary for reliable interpretation of such debris for trampling analysis.

Since such experiments have not, to my present knowledge, been conducted, the following analysis should be taken as conjectural. I have chosen nevertheless to include it as a potentially valuable comparative data source even if the simple comparison of debris size employed proves not to be a reliable proxy for trampling. That the results below seem consistent overall with expectations of high- and low-traffic areas is not, in itself, evidence of the validity of the methodology, but at least suggest that further testing is worthwhile.

At Surezha, I assessed degree of trampling using a simple ratio of smaller (<4.0mm) to larger (4.0mm-6.3mm) fractions of microdebris. I utilized bone and ceramic for these measures, both separately and in conjunction. Size variability in chipped stone is more likely to be tied to variables of manufacture, retouching, or use than to trampling by foot traffic (Fladmark 1982), and shell was too infrequent to be used as a reliable proxy across the area sampled. Ceramics and bone, however, are both nearly ubiquitous and susceptible to breakage through trampling, although the breakage patterns of very small parts of such material are, as noted above, uncertain.

I indexed the results for analysis in two ways: first by simply listing the size ratios in sequence (larger ratios of small to large microdebris indicate more trampling; smaller or inverse ratios indicate less trampling); and second by creating “high” and “low” traffic classifications for

those loci (and, later, sample squares).

This would in theory allow me to define both high traffic spatial categories and spaces and particular high-traffic areas within particular spaces (e.g., common pathways through courtyards and rooms or frequent work areas). Interpretation is not always so straightforward: we might see higher ratios of small debitage in some places not as a result of trampling but as a result of specific kinds of breakage, or, as in the case of the "public" building complex in Operation 9/10, because the overall amount of microdebris was so small, causing the few small pieces of microdebris to have outsize significance.

The results of a simple trampling analysis by surface type can be found in **Figure 4.50.**

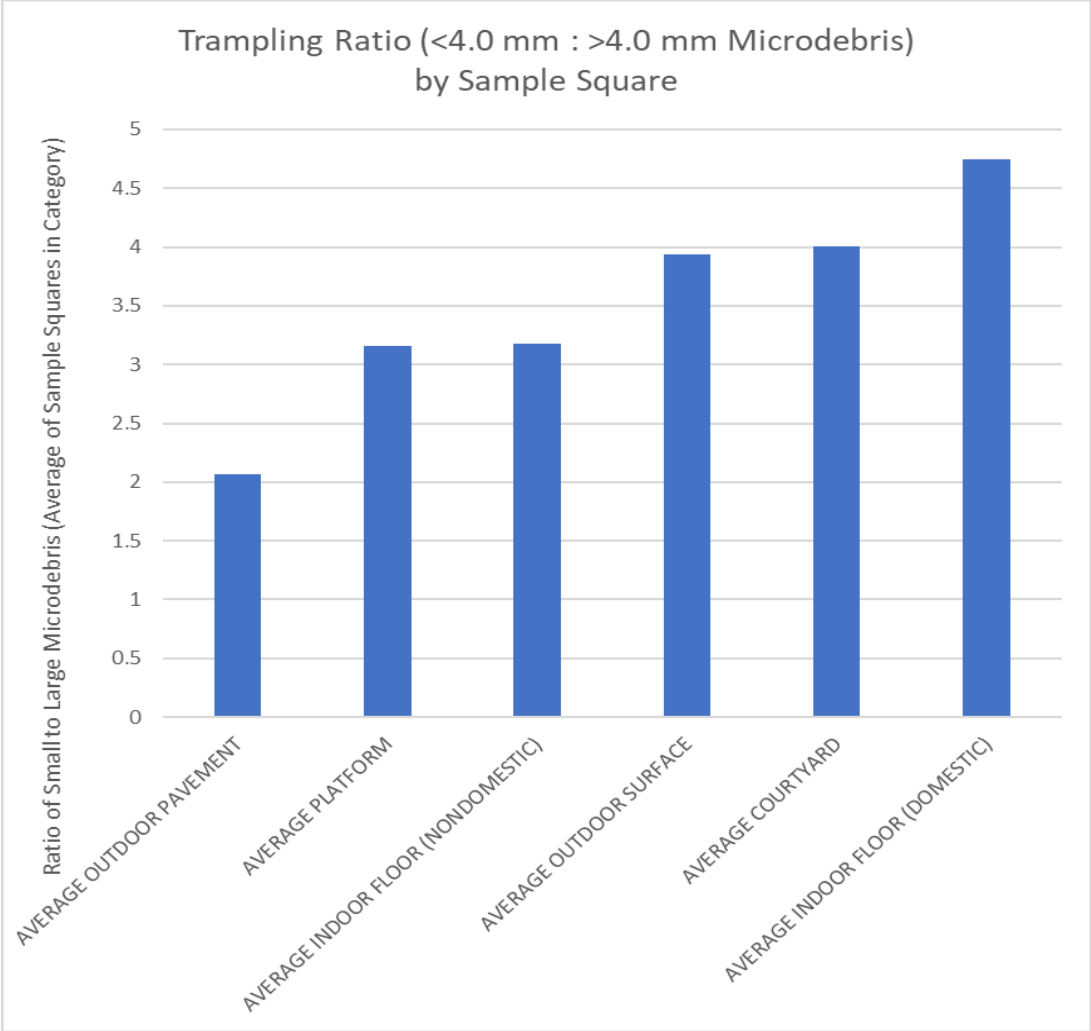


Figure 4.50. Trampling Ratios of Different Surface Types (Sample Squares)

One possibly surprising result is that indoor private floors demonstrated the highest degree of trampling (that is, the highest ratio of small to larger microdebris). Beyond the concerns above with the basic approach of using microdebris size as a proxy for trampling, two factors should be considered: the first is that outdoor surfaces are less likely to be cleaned of larger debris, potentially biasing the ratio. However, even when the >6.3 mm fraction is removed, and the ratio of 1.0-4.0mm microdebris to 4.0mm-6.3mm microdebris is considered, the ratio holds, and is actually more pronounced. There may still be a cleaning effect, since at least some portion of

microdebris in the 4.0mm-6.3mm range may be removed by cleaning, especially sweeping or scraping, but such activities would likely remove a portion of smaller material as well, so even if there is some differential in the size of material removed by premodern cleaning methods, I do not consider that to be a sufficient explanation.

Another factor to consider would be differential preservation of surfaces after abandonment, with outdoor surfaces somewhat more likely to have larger debris embedded in them through deposition of trash, erosional processes, etc., than indoor surfaces, giving a false impression of more trampling. I consider this plausible; while a host of studies in prehistoric archaeology have considered post-depositional microdebris movement (Eren et al. 2010; Madgwick and Broderick 2016), there have been fewer experiments on microdebris movement. In general movement is thought to be minimal, so I do not believe that this on its own is a sufficient explanation.

One mitigating factor could also be the variable impact of a higher overall concentration of debris per liter in different kinds of contexts—higher debris concentration could have effects both in terms of the porosity and conductivity of the matrix itself and in terms of statistical bias toward certain sizes.

A final explanation is the most straightforward one: that foot traffic was more intense or at least more concentrated indoors than outdoors. This would be an interesting result given the results that show a greater intensity of debris-producing activity outdoors. In its most basic interpretation, we could imagine more person-hours spent indoors than in courtyards, but with activities like tool production and food consumption more intense in outdoor courtyards. We might also consider more nuanced interpretations, for example by proposing that there were specific common pathways through courtyards, leaving courtyard spaces outside these pathways relatively untraversed (and untrampled), whereas indoor space was more evenly traversed.

That the indoor public floors show less foot traffic than indoor private floors is in line with expectations. This result is in fact probably greatly understated, since, as mentioned above, in many cases there was almost no large microdebris (and in at least four samples no large microdebris *at all*) in the samples from the public building, and there is every reason to believe this is not because large microdebris was ground down by heavy foot traffic but because it was simply not present (or was carefully cleaned away) in the first place.

The low apparent trampling ratio on the outdoor pavement surface deserves comment. One would typically think of this kind of surface as a high-traffic area, and especially given the surface of cobbles and pebbles, it would be natural to assume a high degree of fracturing of the debris lying on the ground. One possibility is that the cobbled surface was a more strictly delimited work area, on which people worked and around which they walked. However, the simpler and to me more convincing answer has to do with the nature of the surface itself: it would have been quite easy for debris to fall between the large cobbles **(Fig. 4.51)**, and, once there, it would be more protected from trampling, since the impact of most foot traffic would fall on the cobbles themselves. The dense concentrations of macroartifacts and larger (>4.0mm) microdebris in this area support this interpretation.

Figure 4.51. Cobbled Pavement Surface 100218

Finally, it must be considered that, in general, the trampling ratios across different kinds of surfaces are not dramatically different (the outdoor pavement and, I would argue, the indoor public floors, excepted). Overall we see what we might expect to see: the potential work-surface platform and the indoor public floors saw the least foot traffic, while courtyards, outdoor surfaces, and indoor floors of houses saw the most.

The results from houses and the pavement are the most interesting. The latter is probably best explained, as described above, as a special result of the nature of the surface. The former, however, might suggest a point of interest when it comes to daily activity in Chalcolithic Surezha: that people spent considerable time moving around and working indoors even as debris-

producing activity was more intense in outdoor and courtyard spaces.

Another potential line of research was at the level of the individual sample square, potentially useful for identifying either individual high traffic areas or pathways through extensively-sampled spaces. As a test case, I examined courtyard **20210** as a completely sampled area.

Fig. 4.52 shows the sample grid of courtyard locus **20210**, classified by natural breaks (jenks), uninterpolated, giving a direct view of the trampling ratios of each sample square. **Fig. 4.53** shows a rasterized heat map of trampling ratios, interpolated following the same procedure described in Chapter 3.

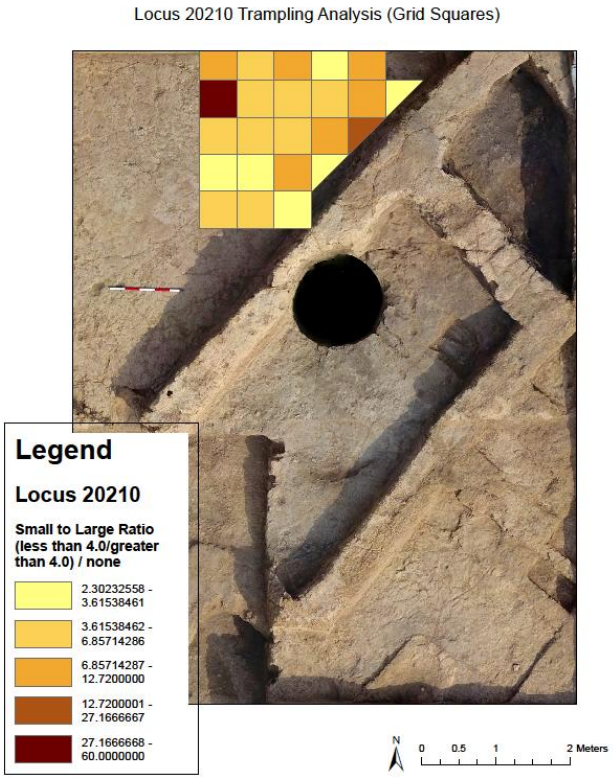


Figure 4.52. Courtyard Locus 20210 – Trampling Ratio of Individual Grid Squares

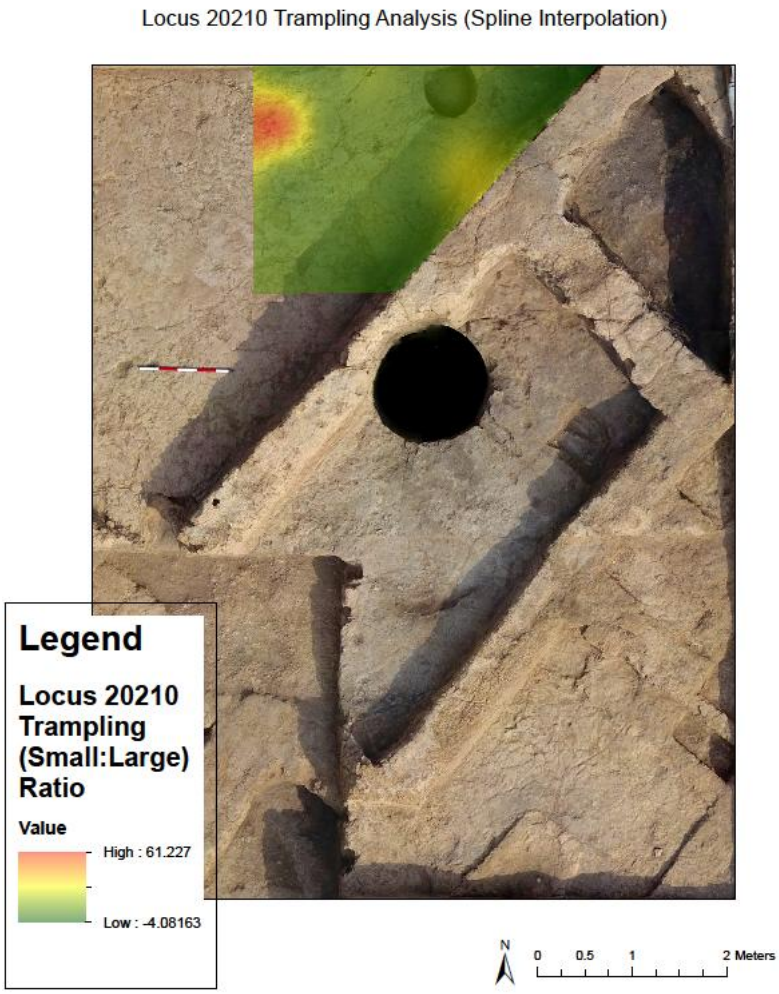


Figure 4.53. Courtyard Locus 2010 - Interpolated Trampling Ratio

In neither case is a clear pathway or even a clear pattern of any sort observable, although one might point to the general tendency for areas alongside the border walls to have a lower ratio of small-to-large debris as at least circumstantially supporting evidence for the notion that such a ratio could represent trampling, since we would assume these areas to be the least heavily trampled, all else being equal. There is also the problem of potential distortion from a single square in the west of the locus with an unusually high trampling ratio.

It is hard to conclude that we have arrived at an accurate view of pathways through the courtyard, but on the other hand, in a constrained space, especially one that was, as I propose, used for a wide variety of purposes, we might expect to see something less than a single clear pathway, but instead a broadly-trampled surface.

One area sampled as the surface underneath a trash deposit may also have been a street or footway (Locus **10116**); its trampling ratio was 2.1:1, within the bottom 15% of sampled squares (that is, within the top 15% "most trampled"), which again might be taken as weak circumstantial evidence in support of the trampling ratio methodology.

I conclude this section by emphasizing once again the necessity of experimental testing of the effects of trampling on microdebris between 1 and 5 mm. Such testing should first focus on establishing whether there is a direct relationship between foot traffic and the size ratio of microdebris and then on establishing the physics of breakage of different types of debris so that typical outcomes for different types of debris under different trampling scenarios can be understood. Finally, any observable physical properties (breakage patterns, rounding, etc.) associated with trampling should be described. Absent such research, my analysis of the material at Surezha raises the possibility that, despite claims of its utility, the visual analysis of non-microscopic microdebris is unsuited for any but a very crude analysis of trampling and intensity of foot traffic.

4.10. Continuity Over Time

An original goal of this research was to investigate change and continuity in domestic production and consumption over time, and especially over the course of the Ubaid-LC 1 transition. As it happened, Ubaid exposures were minimal, and no microarchaeological sampling

on Ubaid surfaces was practical, as the surfaces reached in the 2013 season were deemed by the time the current project began to be too contaminated by excavation, exposure, and backfill to be reliable sources of data.

In a few cases I was, however, able to sample successive use surfaces within the LC 1. Without radiocarbon samples, I cannot be certain of the time gaps (if any) between these surfaces, and even with radiocarbon dating, we may well be within the margin of error. For surfaces like B.B5.2 (**20271/20120**), successive floors within a single building phase of a house, I assume that the successively-sampled surfaces are truly immediate successors, the distinction between which is nearly arbitrary but might represent a very brief use-life hiatus or a retouching/recovering of the surface. In the case of the successive "platform" surfaces in the northwest of Operation 2, and the partial later surfaces sampled above the better-preserved ones in both the domestic courtyard of Operation 2 and the nondomestic building in Operation 9, there may be more time between the use-life of the surfaces, but the duration of any hiatus is uncertain.

4.10.1. Locus 20271/20120: Two Phases of LC 1 Food Preparation Space B.B5.2

Figure 4.54. Locus 20271/20120 and associated installations

Locus **20271** and Locus **20120** are both the same domestic indoor space (designated B.B5.2), probably a kitchen/food preparation area, in two successive phases (**20271** earlier, **20120** later). In terms of microdebris density, there is almost no difference between the two. In the 2.0mm fraction, Locus **20271** shows an average density of 22.0 debris fragments/liter, while **20120** shows an average density of 22.3 debris fragments/liter. Assuming an accurate reflection of debris producing activity, the frequency and intensity of use can hardly be said to have changed between the use-lives of the two surfaces **(Fig. 4.55)**.

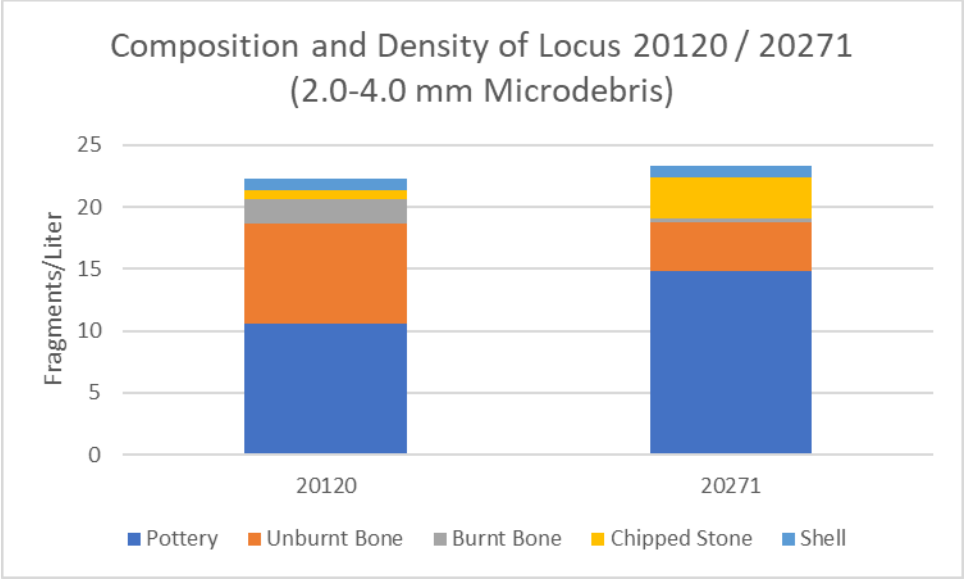


Figure 4.55. Composition and Density of 20271/20120

In terms of composition, there is some variation, most notably in the greater proportion of both burnt and unburnt bone fragments in the later locus **20120** and the greater proportion of chipped stone in the earlier locus **20271**. Because this represents a single data point it would be premature to suggest that this truly represents a change in food preparation activities, but in future research or through examination of other evidence, particularly faunal evidence, we might at least be alert to the possibility that there are some changes at least in this particular kitchen, specifically such that meat was being prepared differently, either with an increase in meat consumption overall or a shift in where preparatory work took place, with relatively more of such work moving into the kitchen in the later **20120**.

Food production and consumption are discussed further in Chapter 6. It would be overreading the evidence to see a shift in food practices over a short time-frame on the basis of microarchaeological results from a single context, but results like this can help inform interpretation of other lines of evidence (ceramic, faunal, archaeobotanical, bioarchaeological,

and isotopic) and microarchaeological profiles of other areas, as well as helping to frame questions moving forward.

4.10.2. Platforms

One particularly extensive sequence of successive surfaces comes from several phases of a raised platform standing to the west of the domestic courtyard in the north of Operation 2. From latest to earliest, these were Loci **20146**, **20216**, **20217**, and **20220**. While it is clear that in at least the final phase, the space was a raised platform, subsequent excavation has raised the possibility that in some earlier phases, the space represented an extension of the courtyard to the east. For the purposes of this discussion, I focus on whether and how intensity and kinds of activity in this area changed.

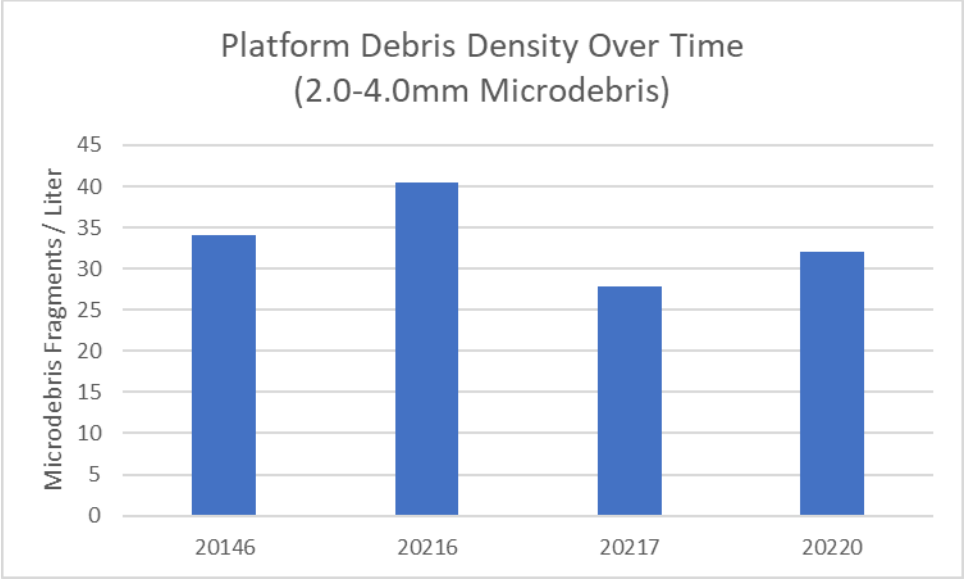


Figure 4.56. Platform Microdebris Density Over Time

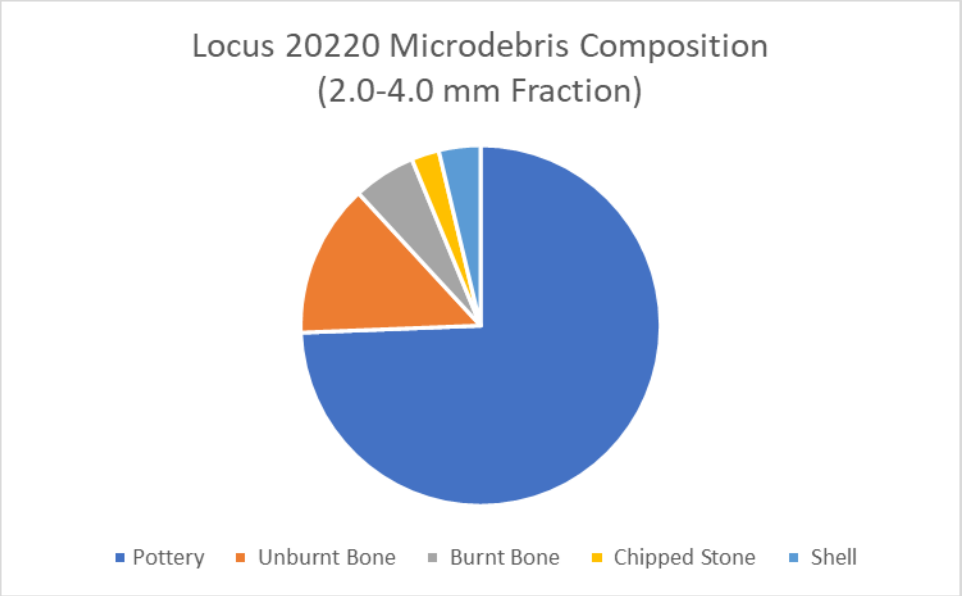


Figure 4.57. Locus 20220 Microdebris Composition (2.0-4.0 mm Fraction)

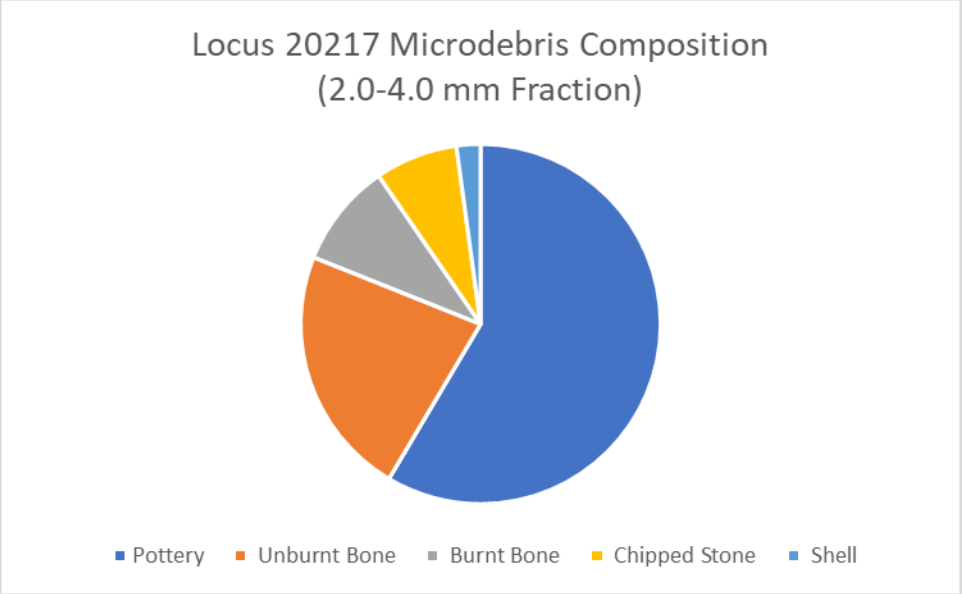


Figure 4.58. Locus 20217 Microdebris Composition (2.0-4.0 mm Fraction)

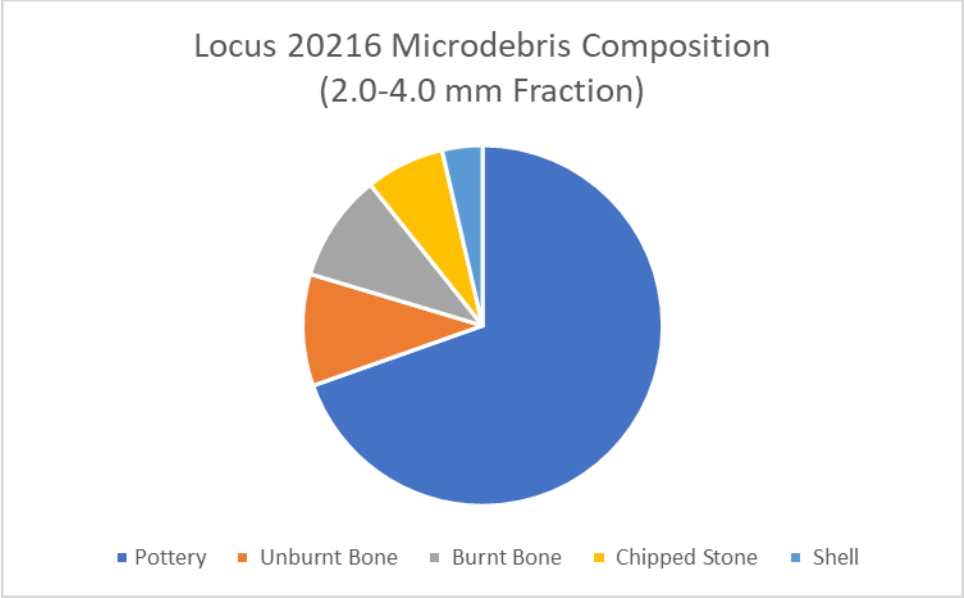


Figure 4.59. Locus 20216 Microdebris Composition (2.0-4.0 mm Fraction)

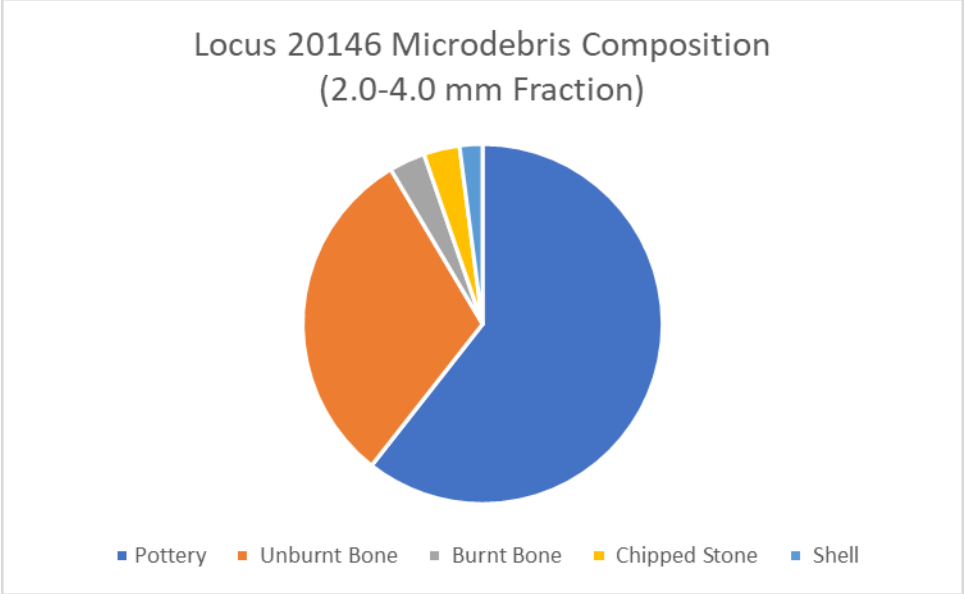


Figure 4.60. Locus 20146 Microdebris Composition (2.0-4.0 mm Fraction)

As can be seen, there are observable differences in composition over time, but these differences do not transform in a linear way and are hard to conceptualize in terms of functional

change. If anything, we see oscillations in the use profiles. Loci **20146** (the latest phase of the platform) and **20217** (one of the intermediate phases) resemble each other most closely in terms of the relatively higher proportion of unburnt bone and the relatively lower proportion of ceramic microdebris, and **20220** and **20216** are also relatively similar. While it is possible that usage of the platform shifted according to the needs of the specific use phase (e.g., with more manipulation of bone through disposal/trampling, butchery, or toolmaking in **20146** and **20217**), I consider it likely that these variations in the composition profile are more reflective of incidental differences in usage and debris deposition over time rather than a discernible trend toward different, more intensive, or more specialized use. A second possibility is that **20146** and **20217** were "true" platforms with distinct use profiles, while **20220** and **20216** represented extensions of their contemporaneous courtyards. However, this does not at present appear to match the way the surfaces are distributed in section.

In terms of overall density, we see little change with no linear trend. **20216**, the second-earliest platform, has evidence for the densest use, but all densities are tightly clustered, and it seems that roughly the same intensity of debris-producing activity persisted throughout the period represented by the four platform surfaces.

At minimum, then, there is no clear evidence for progressive differentiation in function or intensification or diminution of use of the platform areas west of the domestic courtyard in Operation 2; this result is consistent with a hypothesis of continuity over at least a significant portion of the LC 1 occupation of the domestic area in this space.

4.10.3. Nondomestic Floors in Operation 9

Distinct surface were often difficult to identify in the nondomestic building B.B2, but I was

able to provisionally identify and sample subsequent surfaces in Room B.B2.1. **Fig. 4.61** shows the changes in average density between the earlier and later phases, and **Figs. 4.62** and **4.63** show the changes in microdebris composition from **90110/90113** (the earlier mudbrick pavement) and **90075** (a later earthen floor at or just below the final deposit).

As can be seen, the difference is minimal, approximately 1 fragment per liter, and although the very sparse microdebris density in these spaces gives the appearance of a large percentage decrease, the absolute difference is smaller than that often observed among squares in the same context, and there is no reason to believe that this represents a change in intensity of use between the two surfaces.

Likewise, the microdebris profiles show some clear differences, most notably a relative increase in bone in the later surface **90075**. This *might* be representative of functional change in the space, but, while I was willing to at least cautiously entertain this supposition in the food preparation area B.B5.2 (**20271/20120**), I am much more hesitant to do so here, because the overall quantities of debris are so small: while the percentage of bone in **90075** increases from 31% to 47%, this represents a numerical difference of less than one half of one average bone fragment per liter (from 1.8 to 2.25). I consider this result in fact much more representative of continuity in function than of transformation: the surfaces remained nearly unused for debris-producing activities.

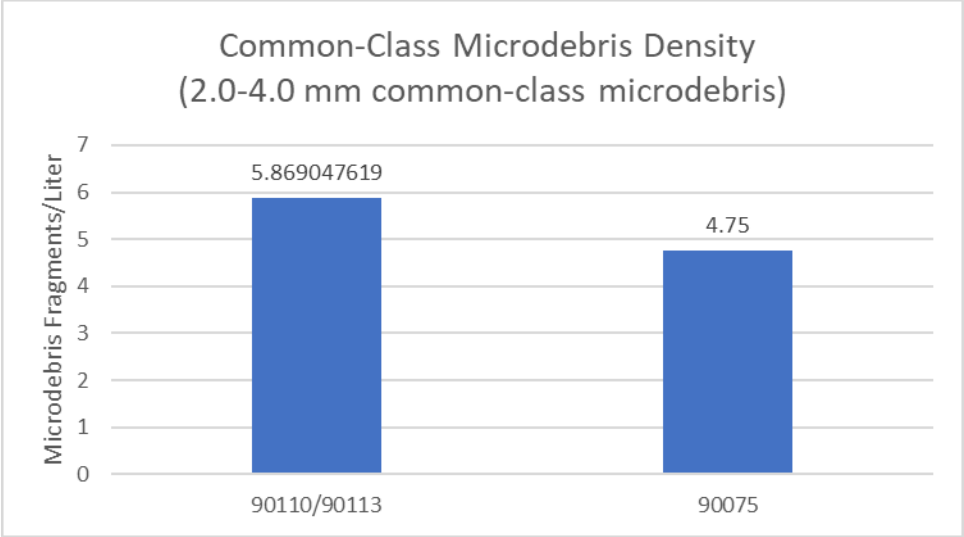


Figure 4.61. Change in Microdebris Density in Nondomestic Room B.B2.1

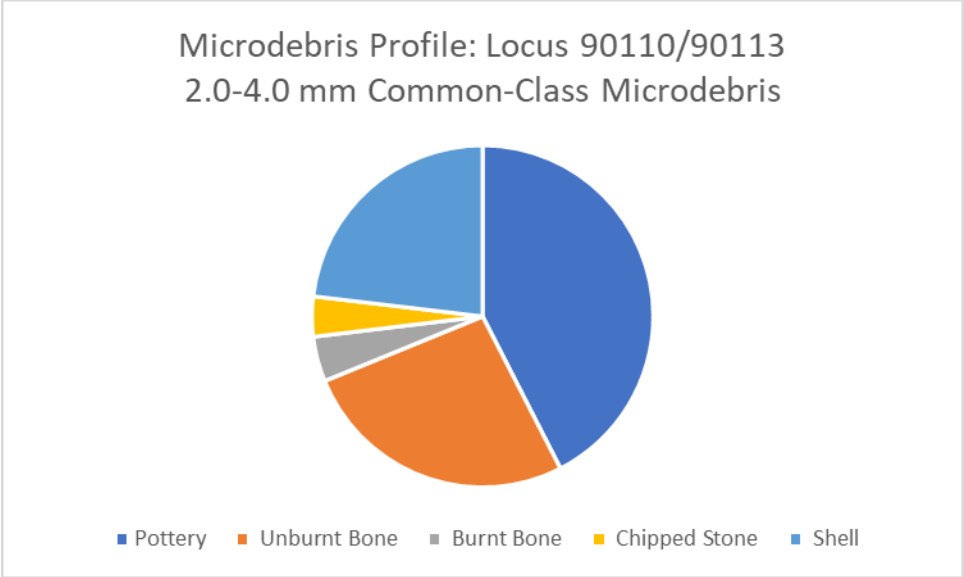


Figure 4.62. Locus 90110/90113 2.0-4.0 mm Microdebris

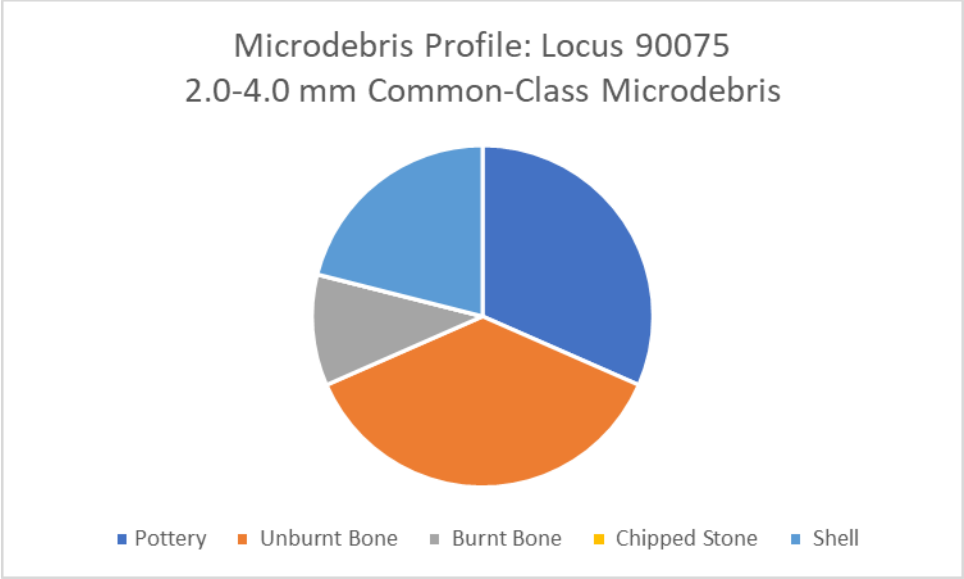


Figure 4.63. Locus 90075 2.0-4.0 mm Microdebris

4.10.4. Other Evidence for Continuity

Other evidence in favor of continuity over the LC 1 occupation and, at least in some cases, the Ubaid-LC 1transition include, first and foremost, architectural continuity. We see either the same walls in use or rebuildings along relatively similar lines for long periods of time, including across the Ubaid-LC 1 transition in the domestic area (G. J. Stein 2018), and across the LC 1 in the nondomestic building complex in Operations 9 and 10.

In sum, limited exposure of the Ubaid occupation leaves us unable to establish the degree of continuity and change in domestic and nondomestic activity over time at Surezha between the Ubaid and the LC 1. Based on these limited exposures and the subsequent surfaces we were able to excavate in the LC 1, however, the overall impression from both the microarchaeology and other evidence is one of continuity over the course of the time represented by excavations in the architectural division of space, in the intensity of use, and in the kinds of debris-producing activities carried out.

4.11. Examples in Depth

I present now the microarchaeological data from two spaces in depth. The "East House" (B.B4 and B.B5) of Operation 2, and the east building of the nondomestic complex (B.B2) in Operations 9 and 10. This section will recapitulate some of the top-line results discussed above, but by focusing on specific spaces rather than aggregate data and by presenting these results graphically I hope to show more clearly some of the ways that space was used in and around houses at Surezha.

I will make some preliminary suggestions here about the implications of this use of space for our understanding of domestic production and consumption, household and economic organization, and the construction of public and private space, but the bulk of this analysis will be undertaken in Chapters 5-7 below.

4.12. The East House

The "East House" (which I am defining as B.B5 and B.B4 taken as a unit) was a rectangular LC 1 mudbrick structure oriented generally NE-SW, composed of at least four rooms and at least one courtyard. The relationship between the houses and courtyards in this area is, as has been noted, not entirely clear, but this example proceeds from the assumption that the rooms below represented a single, connected house. Exterior walls were approximately 90 cm thick, two to four rows of mudbrick wide. The interior of the house was subdivided by narrower walls of two bricks (or, less commonly, one brick) wide. The house was apparently occupied throughout the LC 1 occupation of the area comprising Operation 2, and early indications are that a version of the house with roughly the same plan occupied the same spot in the late Ubaid, as was the case

with the house to its west.

This "tour" of the house moves counterclockwise from the northeast corner room. Due to the variable preservation of surfaces and their recognition during excavation, a complete survey of a single phase of the excavated surfaces of the house was not possible, so I was faced with the problem of whether to consider the spaces from different phases entirely independently or whether to risk anachronism and attempt a composite view of the excavated house using material from subsequent phases. In this section I chose the second option, because the evidence to date is in favor of a high degree of continuity in activity over this period of time and because the architectural plan remains consistent between the phases selected. However, this potential anachronism should be kept in mind, and I have endeavored in other areas of my analysis not to uncritically compare material from different occupation phases.

The surfaces described in this example are, in the excavator's current assessment, assigned to the later Phase D (**20151**) and the earlier Phase E (Locus **20120** and **20114**), both LC 1 occupations of this area of the site, and to Phase F (Loci **20218**, **20271**, **20114**, and **20273**), an Ubaid-LC 1 transitional phase. That **20114**, a mudbrick fire installation in the south room, persisted in use from at least Phase F through Phase E suggests that we are not dealing with an extremely long timespan between the two.

Given the caveats above, I believe that there is value in a detailed "tour" of this house even given the risk of anachronism, and that combining the data is a reasonable way to approach the kinds of activities taking place in the excavated portion of the East house in the early LC 1 occupation of this area of the site.

4.12.1. Op. 2, Locus 20151/20158 (Room B.B4.2)

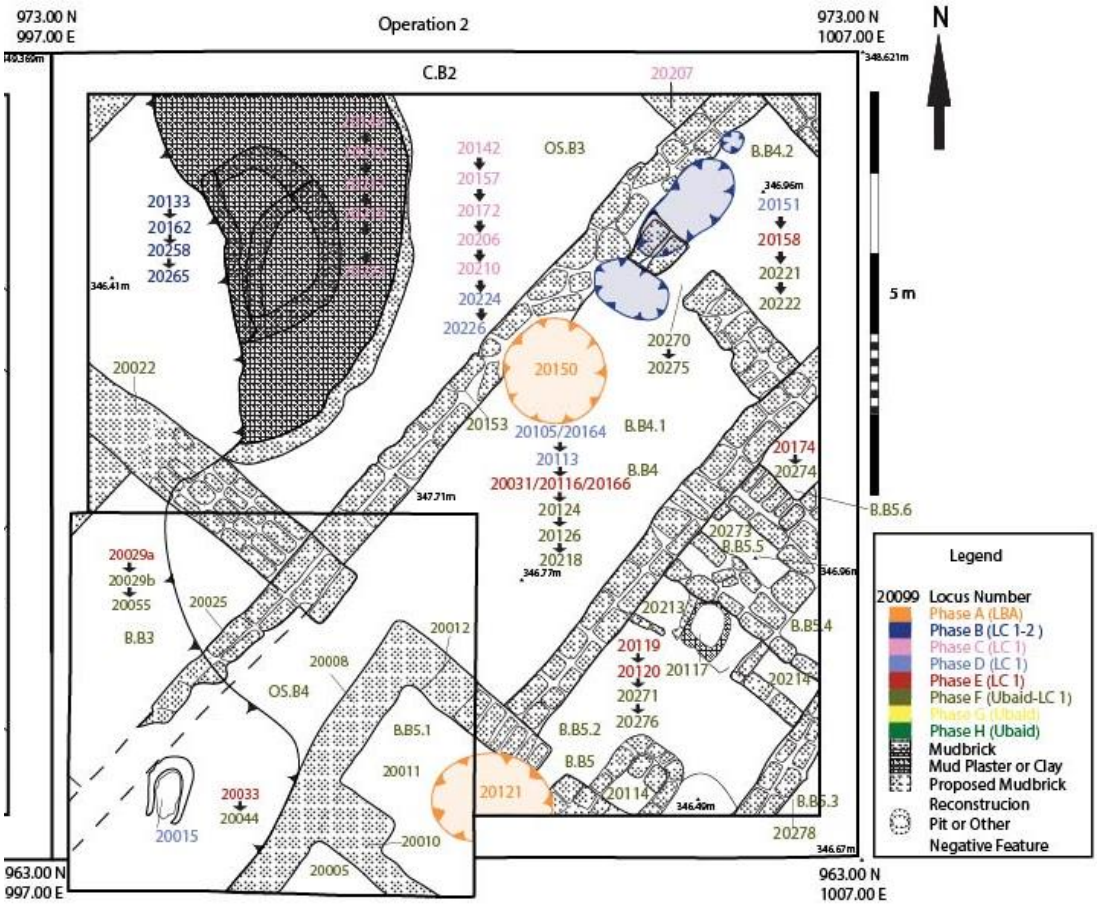


Figure 4.64. Operation 2 with LC 1 and Ubaid-LC 1 Loci

In the northeast of the excavated portion of the house is a rectangular room (B.B4.2) of approximately 1.0 x 1.4 m in diameter. The west wall 20153, bordering a courtyard area, was approximately 40 cm wide. The north wall, **20152**, is estimated to have been an external wall approximately 1 m thick, although its north face is essentially unexposed in the operation. A doorway (**20270**) on the south wall (**20154**) leads to a large rectangular courtyard (**20031/20116/20166** in Phase E, **20113** in Phase D). Samples were collected under the locus

designation **20151** although the use surface should be properly assigned to the Phase E **20158**.

The overall density of 2.0-4.0mm microdebris in this room was somewhat high relative to the average of indoor domestic spaces, with an average density of 23 fragments/liter. This average was especially driven by a dense concentration of microdebris of all kinds along the southern wall **(Fig. 4.65)**.

Pottery and chipped stone were both relatively prevalent in this sample **(Fig. 4.66)**. Of the macroarchaeological small finds, a sample of stone believed to be the raw material for toolmaking (SR 5712) and the head from a clay muller (SR 6412) are worth noting.

It is difficult to assign a single or predominant function to this space based on the microarchaeology or the macroarchaeology. The microarchaeology points toward a multifunctional space as described in section 4.6 above, although the relatively small area and the relatively high proportion of ceramic debris (which could come from breakage of storage or carrying vessels) could indicate that storage was at least of the room's uses. Based on the pattern of debris deposition, we could imagine storage along the north wall and whatever debris-producing activity took place along the south wall, although the patterning could also be explained as noise or a result of other processes such as cleaning. The lack of *in situ* debris means that any explanation will be conjectural, but at the least the microdebris indicates a space used for a range of activities.

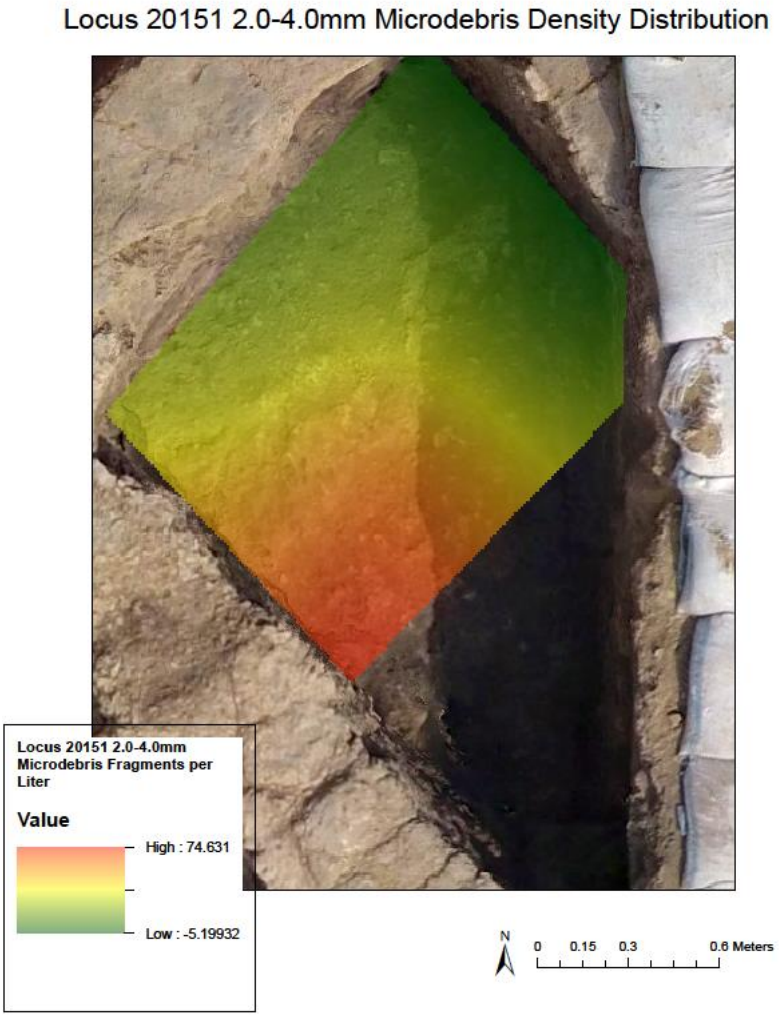


Figure 4.65. Locus 20151 Microdebris Distribution

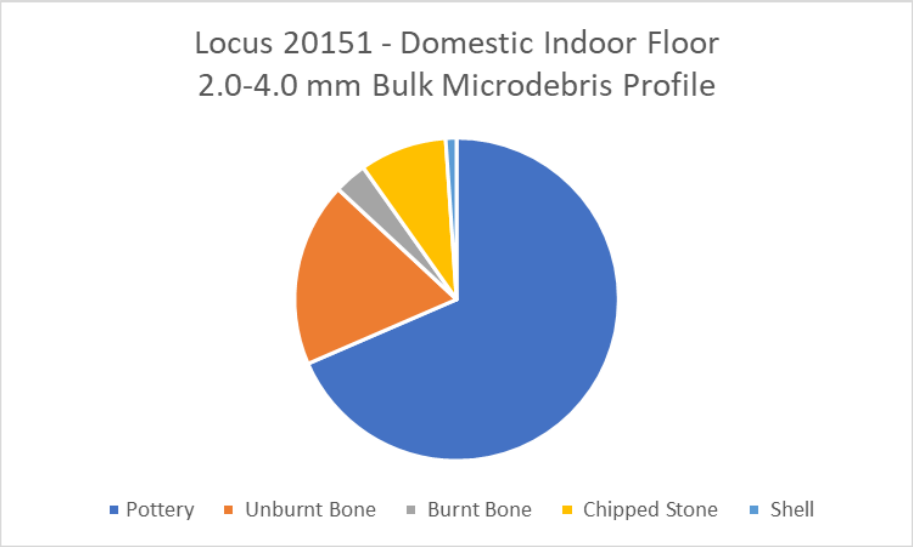


Figure 4.66. Locus 20151 Microdebris Profile

4.12.2. Locus 20273 (Room B.B5.5)

Locus **20273** is a surface in a narrow room designated B.B5.5, in the center of Operation 2 running NW-SE into the east baulk, 1 meter x .4 meters in dimension. Such a room would typically be described as a storage area, and such an interpretation is plausible based on the microdebris profile, which is dominated by ceramic, unburnt bone, and (to a lesser extent) shell fragments. Burnt bone is, somewhat unusually, entirely absent, not only from the 2.0-4.0mm fraction, but from the entire microdebris sample. The density of 12.67 2.0-4.0mm fragments per liter is low for domestic indoor spaces, although still considerably higher than the average nondomestic indoor space. Among the macroremains was identified a small length of wood charcoal.

The small but noticeable quantity of chipped stone fragments, and alternative as might open the possibility to activity beyond storage and removal of stored goods being carried out here, but it seems reasonable to consider storage as the most important function of this room.

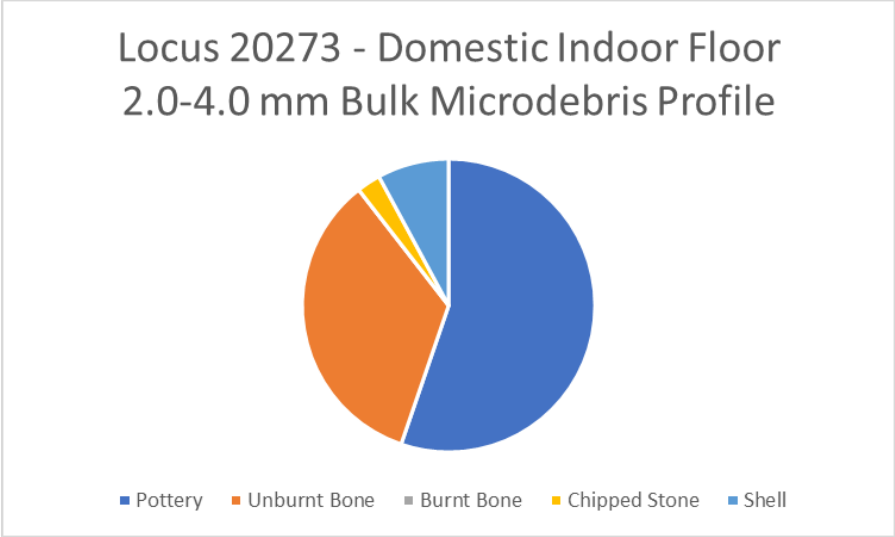


Figure 4.67. Locus 20273 Microdebris Profile

4.12.3. Loci 20120/20114 and Locus 20271 (Room B.B5.2)

Locus 20120 (Phase E)/20271 (Phase F) is a rectangular area in the southeast corner of Operation 2, bounded on the west by the long wall 20106. I include both phases in my description of this room because, although the Phase F surface is contemporaneous with more of the surfaces described in this section, the Phase E surface was better preserved and more extensively sampled. Roughly 2.0 x 2.5 m in length and width, the room features several bins or installations: one (**20114**) in the south of the room against the baulk and presumably the south wall, and two (**20213**, **20214**) against the north wall **20107**. These features all appear to have been in use in both the Phase E and Phase F periods.

The surface of **20120** was well-preserved mud plaster, with several macroartifacts found *in situ*, including a clay andiron fragment, a cache of unbaked clay ovoids (probably sling pellets, as described in Chapter 5), and stone blades. The microarchaelogy showed a diversity of debris

(Fig. 4.68) with distributions of different kinds of debris close to the average for indoor domestic spaces: slightly less chipped stone and slightly more burnt and unburnt bone relative to the average, but not dramatically so.

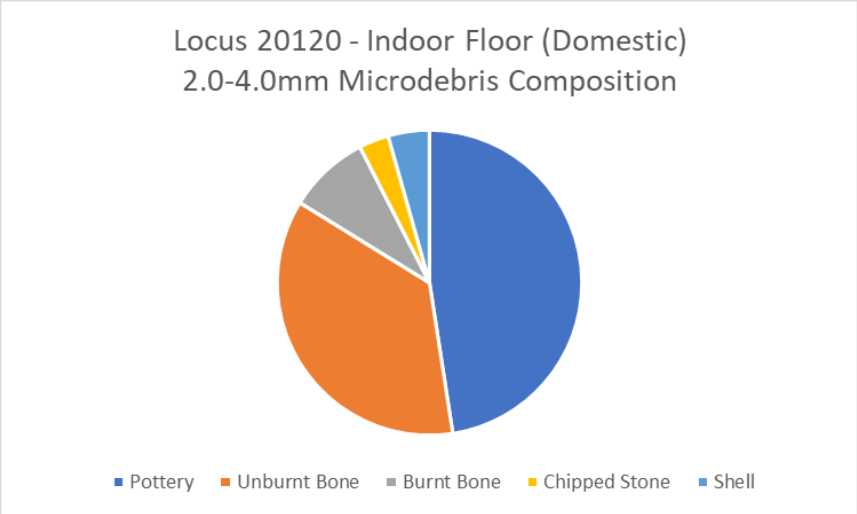


Figure 4.68. Locus 20120 Microdebris Composition

The earlier mud-plaster surface of **20271** was well-preserved over less than the full room, and so there was correspondingly less coverage in the microarchaeological sample. There were no *in situ* macroartifacts found on the earlier surface.

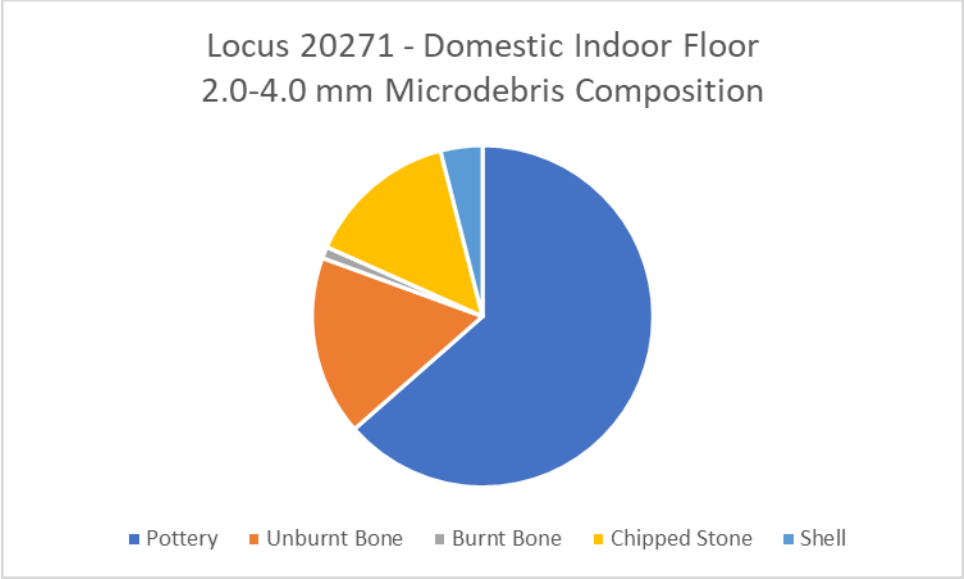


Figure 4.69. Locus 20271 Microdebris Composition

In both the earlier and the later phases of the room, debris accumulated near installation **20114**, particularly along the northwest corner of the installation and between the installation and wall **20106**. The heat maps (**Figs. 4.70 & 4.71)** give the impression that people frequently stood and/or sat near this northwest corner as they worked.

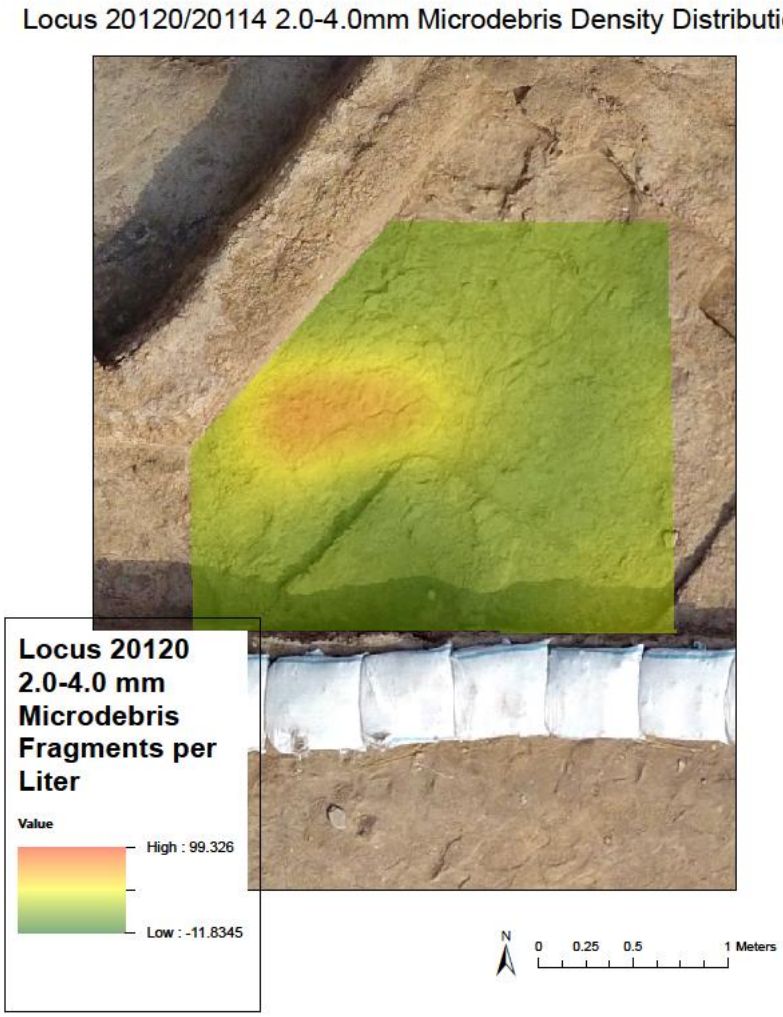


Figure 4.70. Locus 20120 Microdebris Distribution

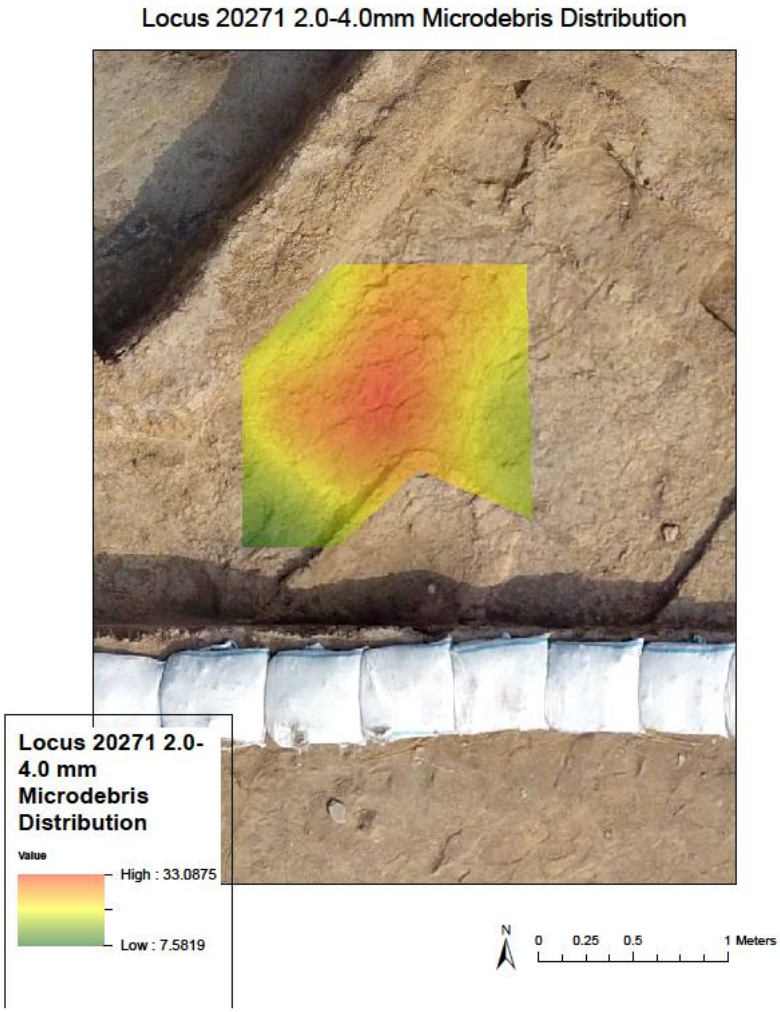


Figure 4.71. Locus 20271 Microdebris Distribution

This room may have been regularly cleaned. Debris accumulated between bin **20114** and wall **20106**, particularly on the Phase E/Locus **20120** surface **(Fig. 4.70)**. The impression that the space between the fire installation and the wall was a place for the buildup of debris is strengthened by the presence in this corner of two small beads in sample squares from 20120.

Another relevant finding of the microdebris analysis is that charcoal (rare in microdebris collections) was found in two of the three squares sampled inside bin **20114** as well as in two

squares in the SW corner where other debris accumulated. This adds to the impression from the characteristics of **20114** itself that the feature was a fire installation of some kind. A concentration of chipped stone (of all sizes, not only the 2.0-4.0 mm fraction) in **20114** is curious. As mentioned in section 5 above, a relatively dense amount of debris is consistent with the interpretation that this installation was used for cooking rather than or in addition to heating, although it is not immediately clear what forms of food preparation would result in the accumulation of stone tool debris within the cooking installation itself. We could, perhaps, imagine food being cut along the edge of the feature and the debris from incidental breakage of cutting tools being swept in. The andiron fragment found on the preserved surface of **20120** may indicate that fire was kindled within the **20114** fire area and then a vessel placed on the andiron to cook. There was no evidence of fire on the floor of **20120** itself.

It is noteworthy that at least in the excavated area of the western house we have no feature that looks plausibly like a bread oven, at least two of which are visible in the outdoor area to the west of the domestic building complex.

20213 was a basin feature whose use may have involved water, based on the laminate mud layers found especially near an "outlet" at the south corner of the basin. A phytolith sample (not yet examined) may provide additional information, but the evidence to hand would suggest a washing/cleaning function, again consistent with an interpretation of this room as having a food preparation function.

20214 was a 1m x .3 m rectilinear bin feature made of mudbrick along the north wall (**20107**). Microarchaeological sampling was again not practical here but several small finds were recovered, including shaped clay possibly for sealing, a clay loom weight, and a small muller; the diverse nature and uses of these finds suggest that they were deposited as refuse, potentially

after the primary abandonment of the room.

The presence of beads and figurine fragments in this room is higher than in most other surfaces sampled. This may partly or even entirely reflect its status as an indoor surface, but a counterargument is that the one surface with comparably rich bead/figurine fragment microdebris is courtyard area **20206**. If courtyard **20206** is associated with the same house, we might envision that both **20206** and **20120/20114** were areas of more frequent or intense motion or physical activity where beads might be broken and objects like the figurine fragments dropped or lost. The issue could also be one of simply higher traffic, but I favor the explanation that this was a work area, and the kind of work being done was such that breakage of jewelry or the dropping of carried objects were regular hazards.

The presence of the sling pellets may seem odd if we persist in seeing this as a unifunctional food preparation area. A range of possibilities may be considering that the cache was deposited after the end of the primary use of the room, that the clay ovoids had a different function than as ammunition, or that the room was not in fact a food preparation area. However, I argue that the evidence of both ethnography and microarchaeology argues strongly in favor of a less rigid approach to the use of space so that an area with a cooking function need not have been devoid of other purposes, including storage of things like sling bullets. Additionally, it was observed by the excavators that the clay pellets appeared in some cases to be partly heated, and the cache in **20120** was found in close proximity to the fire installation **20114**. There is the possibility that the pellets were being heated deliberately to lightly bake them, drying them out and hardening them for more effective storage and use, and a spot in the kitchen next to a cooking installation may have been ideal for this task.

There are other aspects of the room that should be considered when attempting to reconstruct

patterns of activity: although one of the larger indoor spaces excavated at Surezha, when the fire installation and bins are taken into account, the usable space was not extensive. This relatively small working space would not easily admit more than one or two persons working at once. The relatively clear concentration of debris in a single "hot spot" near the northern corner and northwestern edge of the fire installation **20114** supports this interpretation of a single or at most two workers occupying the space at once. This is in contrast to the outdoor cooking area in Operation 9, where we could easily imagine larger groups of people at work. The individual or communal preparation of meals has implications for household and social organization which will be discussed in Chapters 5 and 6. The animal figurine fragments, if seen as parts of children's toys, could be interpreted as the remnants of the activity of a child or children at play while an older household member worked at food preparation.

Access to and from this room presents some difficulties. There appears to have been a doorway on the southwest side of the room, leading into **20011**, whose floor was excavated prior to the beginning of the microarchaeology project (and was also substantially washed and eroded due to proximity to the surface) and so was unsampled. An entryway to spaces north and west was not identified. This could be evidence that the room belonged to another house than **20174** and the rooms to the north (either a house separate from both the West House and the rooms to the northeast, or, less plausibly, the West House itself, as described in Section 4.6 above) or that it was part of a larger house complex that surrounded courtyard **20218**. This question will be taken up further in the discussion of **20218** below.

In sum, this space was probably used at least largely for food preparation, both in Phase E and Phase F, but it was not unifunctional.

4.12.4. Locus 20218

Locus **20218** (B.B4.1) was a Phase F courtyard surface probably although not certainly associated with the East House, with at least one entryway from room **20158** to the northeast. It is bounded on all sides by relatively thick walls, two rows of brick thick, laid as stretchers (with the possible exception of the southwest wall **20012**, which was apparently laid as headers). The southwest wall is less clear. There is no evidence to suggest **20218** was roofed, and as described above in section 4.1, its microarchaeological similarity to other courtyard spaces helps to establish this as most probably an unroofed courtyard similar to Locus **20210**, although their placement in parallel separated by a wall obviously raises the question of whether they had distinct functions, belonged to different houses, or both. This sample's composition was assigned by blind clustering to the "courtyard" cluster, and both the density and the relatively higher proportion of overall bone and burnt bone help make the case that it should be considered part of the same general functional category of the courtyards.

Sampling of **20218** was hampered by a lack of clearly preserved surface across an extensive area—a later Assyrian well was dug through the and so the microarchaeology was unfortunately restricted to a single spot sample.

I have made the case above for seeing courtyards as multifunctional, heavily-used spaces in which food consumption was one major activity. The compositional profile and debris density of 20218, although it could be interpreted otherwise, can support such a reading, with a significantly higher density of microdebris than the indoor spaces of the West house and a significantly higher proportion (9%) of burnt bone than all but the food preparation area **20120**.

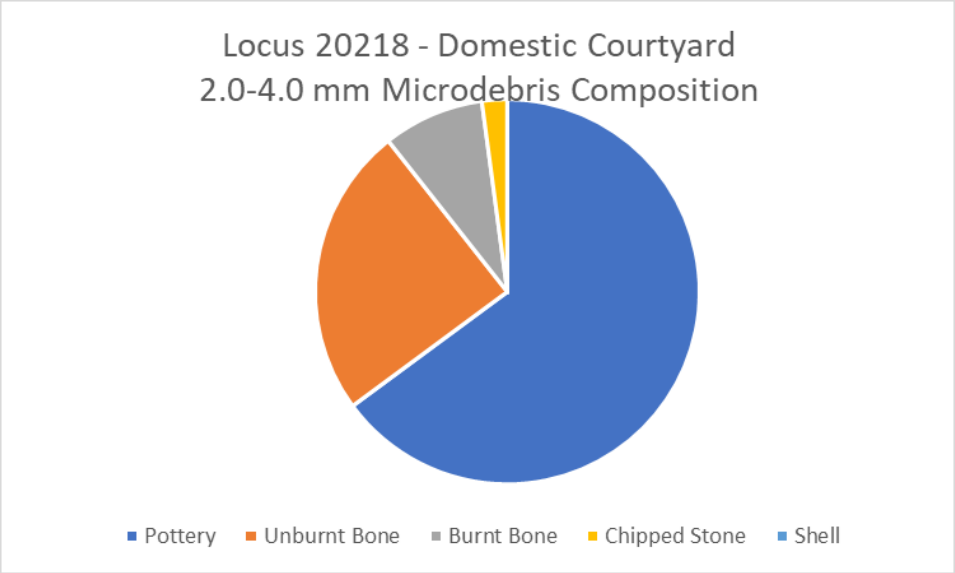


Figure 4.72. Locus 20218 2.0-4.0 mm Microdebris Composition

A number of macro-finds were recovered from the surface, including a bitumen-hafted sickle blade, a number of sealing clays, and a figurine fragment. These macroartifacts, probably from tertiary deposition, are less securely associated with the actual use surface than the microarchaeological material so I do not place heavy interpretive weight on them. However, figurine fragments were frequently associated with courtyards both in the microarchaeology and the macroarchaeology (even though none appeared in the microdebris sample from **20218**), so we might consider the figurine fragment to be plausibly associated with the actual courtyard surface.

One problem worth considering is the relationship between the courtyard **20218** and the food preparation area **20120/20271**. If, as I have been suggesting, courtyards like **20218** were centers of food consumption, we might expect there to be easy access between the food preparation area and the courtyard. However, no direct pathway has been identified. Possibilities include an unidentified doorway, an association of courtyard **20218** with a different house, a willingness to

accommodate more indirect access between centers of food preparation and consumption, or most straightforwardly a lack of clear association between food preparation area **20120/20271**, implying either that the hypothesis of this courtyard as a center of consumption is incorrect/overstated or that the preparation of the food consumed here took place elsewhere than in **20120/20271**. There is insufficient evidence to select one of these options, but the burnt bone and ceramic microdebris in this and other courtyards make me hesitant to reject them as loci of food consumption.

In sum, this area probably saw heavy use for consumption activities, including consumption of cooked meat and incidental breakage of ceramics. We could imagine additional activities, including storage of various types, storage or repair of agricultural implements, and children's play.

4.12.5. East House Summary

The microarchaeological evidence from the East House to date reveals a household involved in cooking, storage, food consumption, play, and preparation for food production activities in the form of hunting and agriculture. Space was not strictly segregated by activity, but differences in microdebris profile composition and especially in intensity of debris-producing activity are evident. Extensive sampling of the kitchen space B.B5.2 in the south east of the excavated area allows us to identify patterns of activity, cleaning, and deposition of debris across space and adds to the evidence of the installations that this was a spot used for food preparation, although not exclusively so. Courtyard B.B4.1 matched other courtyards as indicating a center of consumption, but its relationship to the rest of the house (and even which house it was associated with) remain unclear. The overall impression is of a house in heavy use for economic, social, and

other activities, whose residents moved frequently and freely about the house to carry out these activities.

4.13. Example: The Nondomestic Building Complex

I turn now to a microarchaeological overview and "tour" of the nondomestic building complex in Operation 9-10 as a point of comparison and contrast to the domestic spaces in Operation 2. The specific details of activity and their location in these spaces are sparser, partly because there are fewer rooms to discuss, but primarily for the simple reason that debris-producing activity was extraordinarily limited in these rooms. Nevertheless, it is important for the discussion going forward to discuss in more detail the architectural character of this building, the distinctive macroartifacts found in the final (abandonment) stage of the use of this complex, and the unusually bare microarchaeological profile that nevertheless raises some questions in terms of its composition and distribution.

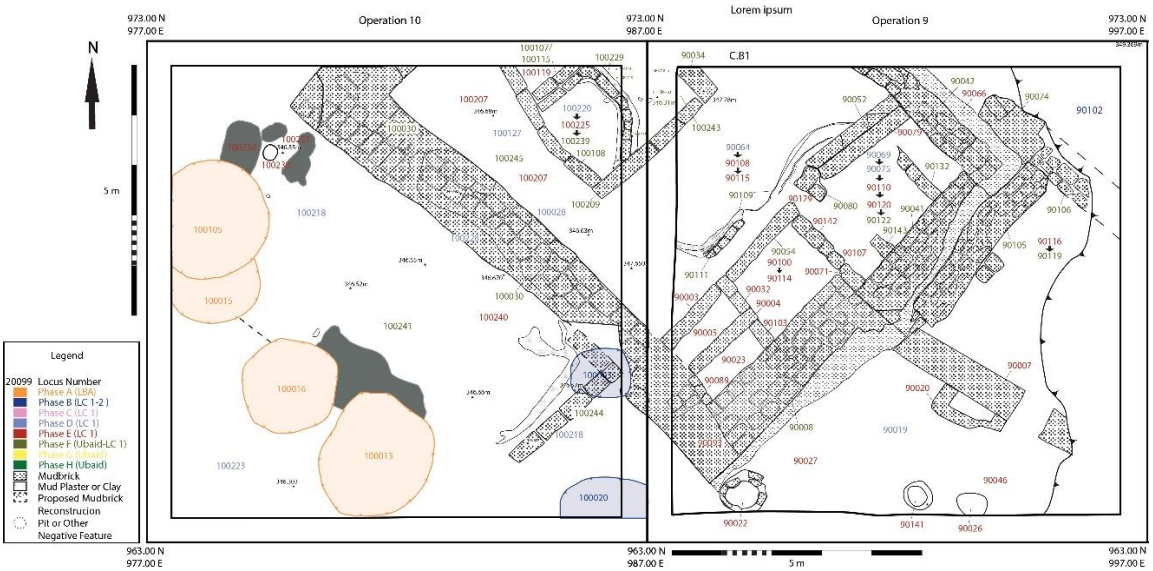


Figure 4.73. Operations 9-10 Composite Plan, Featuring Nondomestic Building Complex

The nondomestic building complex in Operations 9-10 (designated C.B1) is one of the remarkable features of LC 1 Surezha. An enclosure wall of some 1.5 m in thickness surrounded what partial excavations indicate to be an area of at least 100m^2. This enclosure wall was reconstructed at least once and maintained through numerous replasterings, and the complex appears to have persisted from the Ubaid through the end of the LC 1 1 occupation of the area of the mound represented by Area B. The complex and its contents will be discussed in much more detail in Chapter 7, but a brief overview is presented here to contextualize the microarchaeological findings.

Inside the complex were what appear to be at least 2 distinct buildings: one consisting of a series of small rooms against the southwestern wall, the other comprising a small space frequently subdivided on the northern edge of the excavations in Operation 10. Only a single square from the Operation 10 nondomestic building was sampled, so I will not discuss this space in detail here, but a few key aspects of the macroarchaeology are worth defining: first, several of the exposed layers were covered in deep layers of ash. Very thin walls were identified subdividing the space at different periods. Two carefully made, small stone bowls were recovered *in situ* from the room surface **100239** along with a muller and a bitumen ingot. Many large animal bones, including the articulated spine of a domestic cow and skulls and bones of domestic and wild canids, were recovered from an earlier, ashy trash deposit in the same small area (**100225**).

The north room in Operation 9 appears to have had a special function. On its final pre-abandonment surface we recovered an overturned lenticular vessel similar to those found at Gawra and Eridu, a stone mortar and pestle, and several beads, bone tools, and sling pellets.

Beneath this final abandonment, there was nearly a meter of sterile, possibly deliberate fill, above what may have been several transient surfaces and then a mudbrick pavement.

The older walls of this room were heavily burnt, especially on the north and east interior wall faces. These faces featured blackened and in some cases semi-vitrified mudbricks extending to the highest point of the preserved structure. After the burning, the walls were replastered, apparently several times, so that upon initial excavation of the walls a smooth mud plaster surface with no trace of heat or burning was exposed, and only after the removal of approximately 4 centimeters of this plaster was the burnt brick visible.

A curious feature of the building was the lack of clear doorways allowing for passage into and out of the rooms. Proposed means of access to at least the north two rooms are suggested in Figure 4.73 but if these were indeed doorways, they were at some point deliberately closed with mud brick, leaving no obvious means of entry.

I will have more to say about this building complex in Chapter 7. I turn now to a focus on the microarchaeological samples collected from Operation 9, and in particular the north room B.B2.1.

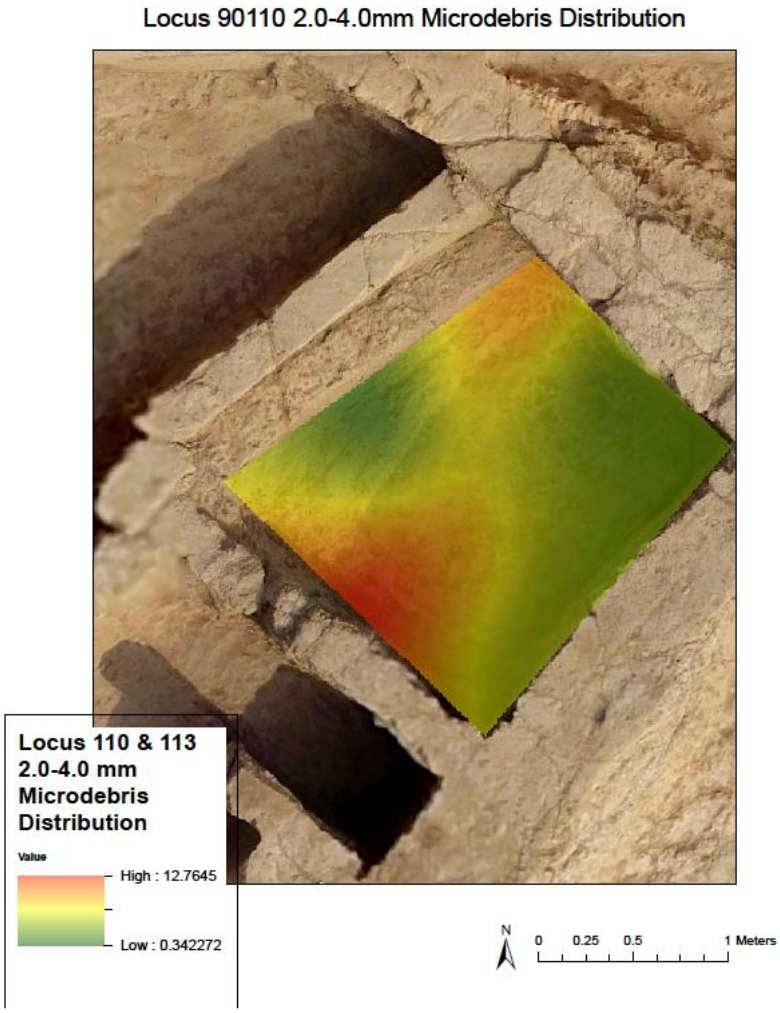


Figure 4.74. Locus 90110/90113 Microdebris Distribution

Fig. 4.74 shows the distribution of overall 2.0-4.0 mm microdebris density across the north room B.B2.1. One noteworthy aspect is the concentration of debris against the southwest wall of Locus **90110**, overlapping an area that was initially considered to be a basin or similar feature (**90113**) based on the oval-shaped outlines in the otherwise rectangular mud brick of the pavement. Although it was determined based on subsequent excavation that no basin feature was present here, the concentration of debris in combination with the faint, unusually-shaped outline visible in the pavement might indicate a genuine special-use location during the pavement phase.

The microdebris in the sample squares associated with **90113** was sparse but consisted of roughly equivalent amounts of ceramic, unburnt bone, and eggshell. Whereas across the site, most of the shell that could be identified was apparently from mollusks, here the shell (a single fragment) appeared to be from a bird's egg**.**

A heat map scaled to the minimum and maximum densities of the nondomestic building complex can be misleading, however, in the context of the foregoing discussion of domestic spaces**; Fig. 4.75** rescales this heat map to the range of densities in both domestic and nondomestic indoor spaces. As can be seen, the variability in intensity of activity is, when taken in these terms, minimal, and we should be cautious at reading too much into such variability when overall amounts of debris deposition are very small.

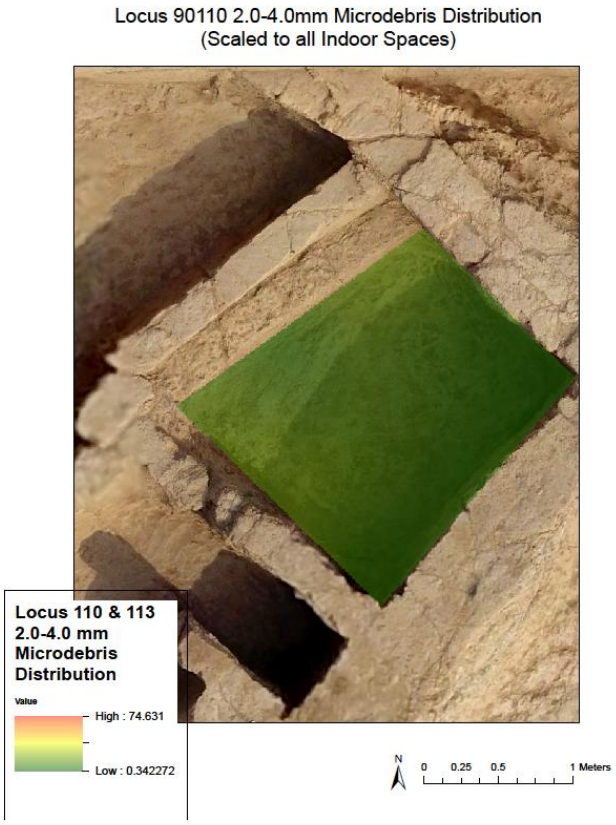


Figure 4.75. Microdebris Distribution in North Room of Nondomestic Building, Scaled to Density Range of All Indoor Floors

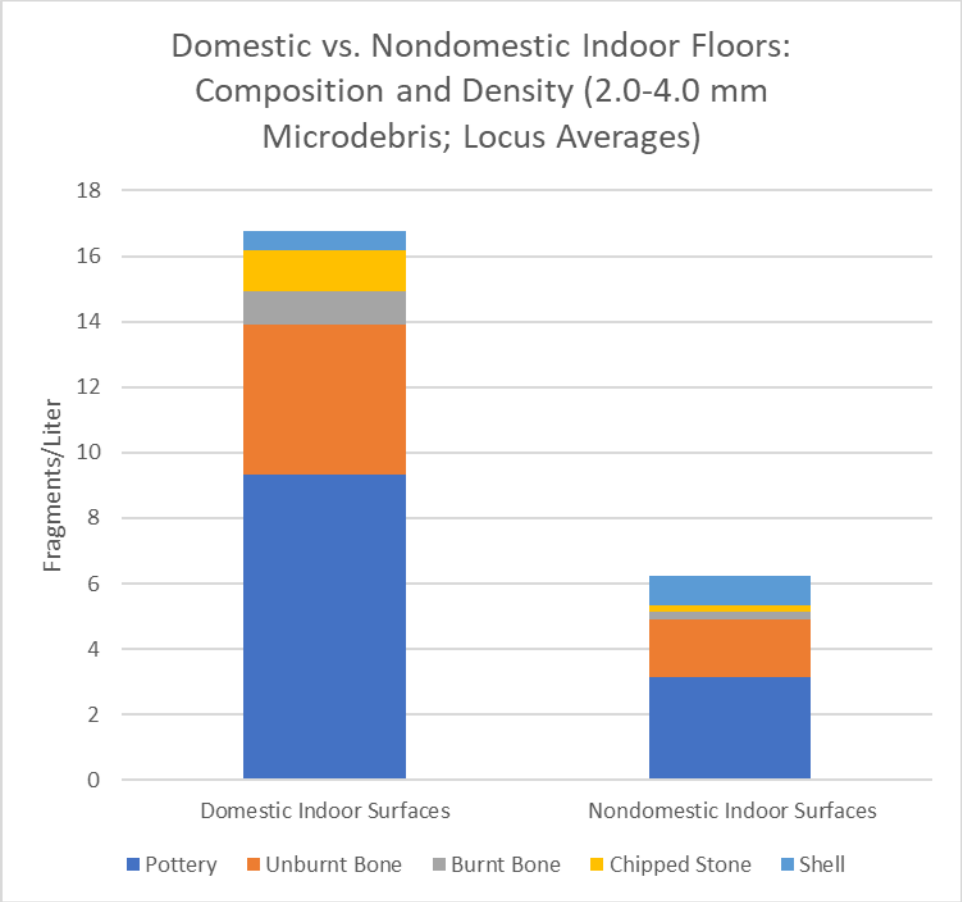


Figure 4.76. Composition and Density Comparison of Domestic and Nondomestic Floors

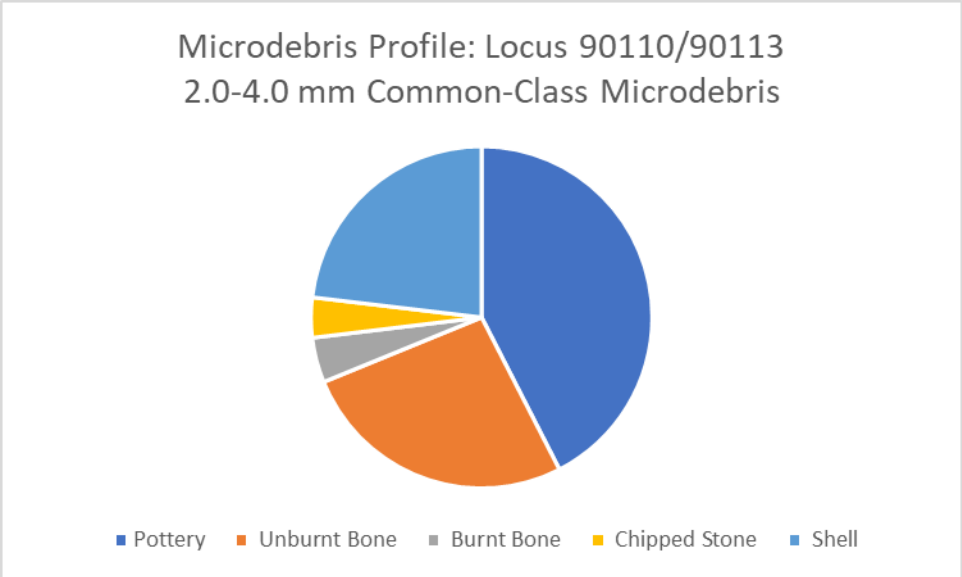


Figure 4.77. Locus 90110/90113 2.0-4.0 mm Microdebris Profile

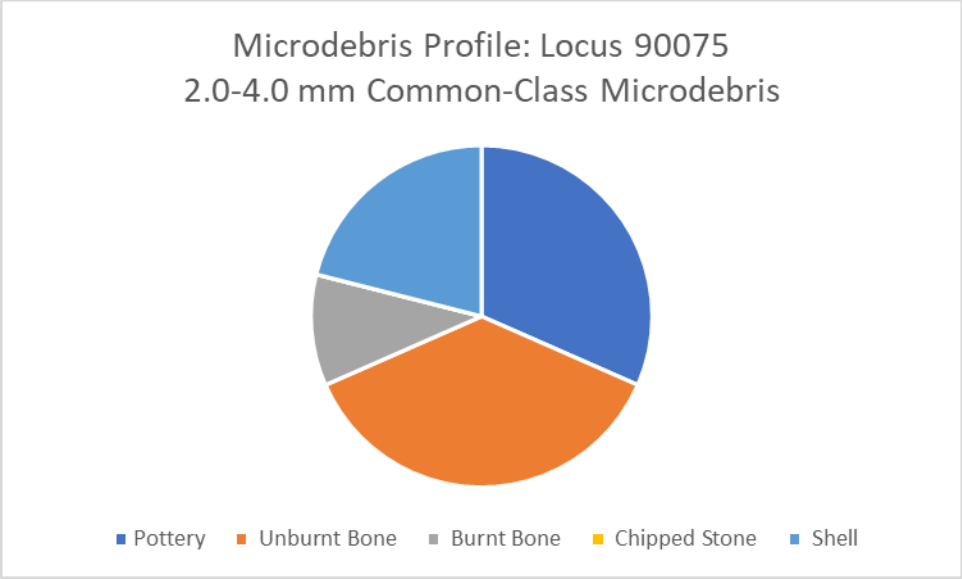


Figure 4.78. Locus 90075 2.0-4.0 mm Microdebris Profile

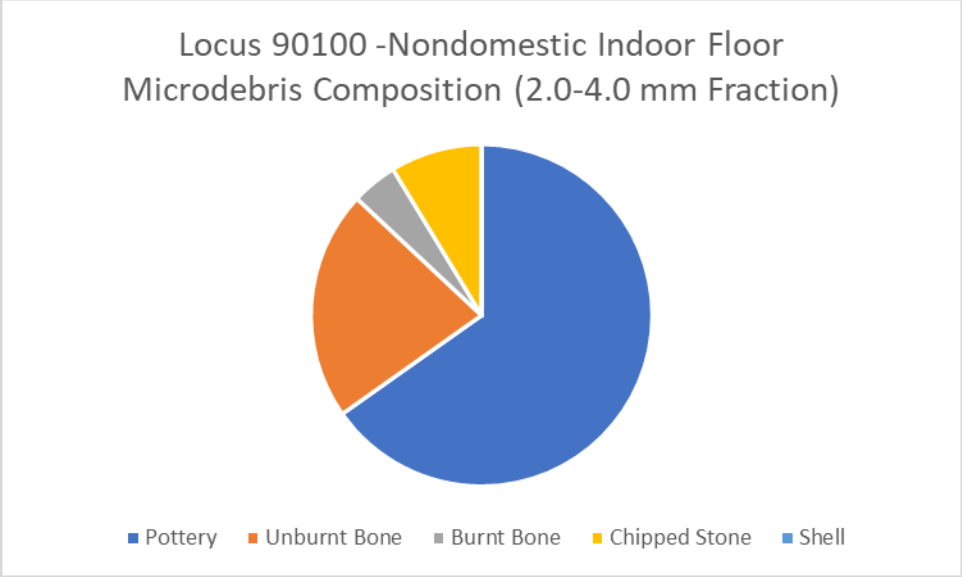


Figure 4.79. Locus 90100 2.0-4.0 mm Microdebris Profile

Indeed, as **Fig. 4.76** recapitulates, the most striking result of the microdebris analysis of the nondomestic buildings surfaces is the extraordinarily low density of debris in these spaces when compared with interior domestic surfaces (and even more so in comparison with outdoor surfaces of any kind). In Section 4.2 I described this phenomenon and the possible explanations for it. The likeliest explanation is the simplest: debris producing activity in the nondomestic

building complex during the phases sampled was minimal. Although any number of non-debris-producing activities may have occurred within the nondomestic building and left no trace in the record, all of the evidence—architectural, macroarchaeological, and microarchaeological—points to heavy constraints in the extent and ways that this space was used.

As can be seen also in **4.76**, the distribution of finds when compared with the domestic spaces was different in some respects, most notably a much higher concentration of shell (17% on nondomestic floors vs. 4% in domestic spaces). Shell was not identified to species and in some cases it was even difficult to distinguish between eggshell and mollusk shell, but of the identifiable shell fragments, here as elsewhere the majority appeared to be mollusk shell, although as noted above, at least one bird's egg shell was identified.

South of the north room, this complex consists of a narrow room that may have been a kind of entry corridor to the rooms to the north and south (B.B2.2), and then a larger room **(**B.B2.3**)**, and finally two small, narrow rooms B.B2.4 (**90005)** and B.B2.5 (**90023)**, Of these, the only clear surface that was suitable for sampling came from the narrow room B.B2.2 **90100**.

Interestingly, although a large unburnt bone and a large ceramic fragment was retrieved from the surface of **90100** during excavation, leading me to expect a number of (especially bone) fragments in the micro samples, the overall bone in these samples was still sparse, suggesting both that these materials were deposited on the floor at a time of non-use and also that incidental fragmentation is minimally incorporated into floor matrix (supporting the hypothesis that the floor matrix more accurately reflects evidence from the use-life of the surface than evidence from post-use waste deposits).

The only non-bulk microdebris fragment retrieved from all of the Operation 9 nondomestic building complex was a single bead from this small room (**90100**, Sample Square SR 8351).

It was especially unfortunate that room 90114 was unsuited for microarchaeological sampling, as it may have had a distinctive use from the north room. However, the macroarchaeology was similar insofar as the final (abandonment) layer 90073 and the post-use deposition 90067 was rather rich in finds, including a stone celt and an unbaked clay sling pellet, but the underlying layers were nearly sterile.

The rooms to the south (90005 and 900023), long and narrow (approximately 1.25 x .75m each) would probably be unsuited to heavy use other than storage. It was considered at one point that these could have been stairwells, but no other evidence has emerged to support that view, and it is most likely that they were storage areas, although neither clear surfaces nor *in situ* deposits of any kind have yet been identified.

In sum, the microarchaeology, along with the architecture and the macroarchaeological small finds, all indicate that these rooms were something quite distinct from the domestic buildings to the east. They almost certainlyconstitute what would often be called a "public" building—i.e., nondomestic spaces with a communal function—but because I think "public" obscures what I consider to be one of the salient features of this building— I prefer to continue to refer to the building as "nondomestic" instead. Indeed, the microarchaeology provides strong evidence for a phenomenon which might be assumed of certain large-scale nondomestic architecture but can be difficult to confirm archaeologically: that access to this building was tightly restricted. In point of fact, as I will argue especially in Chapter 7, the nondomestic building is representative of a phenomenon that had emerged not long before and would have important ramifications for the organization of social life in the ancient Near East: the limited-access or privately-controlled public space.

4.14. Review/Conclusion

In summary, the microarchaeological evidence from Surezha provided information on past activity that would be difficult to reconstruct by other means. Analysis of this evidence strongly supports a clear differentiation of domestic and nondomestic space. It shows that domestic spaces, indoor and outdoor, were used for a variety of debris-producing activity and that most spaces had multiple functions. It suggests that courtyards had distinct functions in the lives of household members and were potentially centers of food consumption.

The nature, distribution, and organization of activity across domestic space and its implications for the organization of economic, social, family, and political life will be the subject of Chapter 6. The special nature of the nondomestic building complex and the implications of its restricted activity and access will be the subject of Chapter 7. In order to facilitate these discussions, I turn in the next chapter to a theoretical discussion of the construction of space.

CHAPTER 5. HOUSE AND HOUSEHOLD: DOMESTIC LIFE AND WORK

5.1.Introduction

Having laid the groundwork with a presentation of the microarchaeological data, I turn now to an analysis and interpretation of the use of space at Surezha: my aim is to use the microarchaeological, macroarchaeological, and architectural evidence to address social, political, economic, and cultural structure and dynamics in the Late Ubaid and early Late Chalcolithic of Northern Mesopotamia: specifically, I will make the case for seeing households at the site as the continued centers of production, consumption, and economic decision making, even as inter-household cooperation remained a major factor and, at the same time, a relatively new phenomenon in the social organization of space was becoming entrenched: the limited-access public space.

In this and the following chapter, I focus on houses, households, and domestic activity, before turning in Chapter 7 to a description of the nondomestic spaces and the development of an argument for the creation of new kinds of restricted public space in 6^{th}-5^{th} millennia Northern Mesopotamia as a technology for the consolidation of the power and social distinctiveness of emergent elites.

Chapter 5 is focused primarily on household structure and on the place of houses and households within society, culture, and political economy, arguing that houses were centers of production and consumption activity and that households were basic units for organization of labor, consumption, and social affiliation. Chapter 6 focuses on the production and consumption activity itself, with an in-depth examination and analysis of the activities, taskscapes, and foodways of the domestic areas of Surezha.

I frame this chapter through an overview and history of "household archaeology" approaches and how the various developments and perspectives have informed my own approach; in particular, I highlight the influence of processual and socioeconomic approaches to household archaeology in my work at Surezha. Then I take up the challenges and possibilities of identifying and categorizing households at Surezha. From here, I move to a consideration of specific models of house and household, including the related concepts of the "house society" and the "history house," to argue that at least on present evidence, neither is a precise fit for the society of LC 1 Mesopotamia, although both perspectives contain good elements to think with. I discuss questions of social, economic, and political transformation over time. Finally, I bring together the evidence for both seeing households as centers of production and consumption and for elements of inter-household cooperation.

5.2. Household Archaeology: An Introduction

In order to get from the archaeological data to analysis of social, economic, and cultural life, we are in need of theory to bridge the gap (Binford 1965; Wilk and Rathje 1982). While explicit efforts to work from archaeological evidence of houses or domestic spaces to interpretations of households, social organization, and domestic life have been a major focus of archaeological theory since the 1980s, the archaeology of domestic spaces has a history nearly as long as the discipline itself (Barile and Brandon 2004, 2), and questions of house, home, domestic activity, and the built environment have, in one way or another, been fundamental to most important lines of archaeological inquiry (Moore 2012; Steadman 2015). While it would be impossible to do full justice to all the ways in which such questions have been asked, developed, and answered, in this section I introduce my own interpretations through an overview of the archaeological study of

houses, households, domestic spaces and activities, along with their social, economic, and cultural roles and implications[1].

From its beginnings, archaeology, and particularly the archaeology of Mesopotamia, concerned itself with architecture, although the bulk of early research focused not on small houses but on large, public, or elite structures (Layard 1850), and initially there was little concern with reconstructing the details of daily life and practice outside the elite or ritual sphere. Household archaeology is largely an attempt to correct this bias. As I will attempt to show, though, the archaeology of "public" and "private" spaces can be usefully combined to consider the ways that both reflect and are constitutive of social reality.

The extensive excavations of the early 20th century necessarily involved the investigation of houses (Reuther 1968; Delougaz, Hill, and Lloyd 1967; Woolley and Mallowan 1986), but these data were not often given a central interpretive role and tended to be recorded for purposes of understanding the organization of space at the level of the settlement or of clarifying cultural-historical sequencing (Delougaz 1933). Still, some attention was paid to questions that would be of interest to later archaeologists of household, such as patterns of access and restriction of movement (Frankfort 1933), the relationship between house form and socioeconomic or cultural change (Delougaz, Hill, and Lloyd 1967); the organization of craft production (ibid.); relationships between houses in the community (Jasim 1983) and technologies of construction and maintenance (Delougaz 1933). Additionally, debates over the economic foundations of early state and institutional authority (Deimel 1931; Falkenstein 1974; B. R. Foster 1981; Gelb 1969)

[1] The intellectual history of household archaeology that runs through this chapter is heavily indebted to Steadman (1996; 2015).

caused at least some attention to be paid to questions of such activities as craft production and farming (although this early interest was largely confined to the textual record and overwhelmingly considered from the perspective of central institutions rather than that of the crafters and farmers themselves). Finally, careful documentation by the often architecturally-trained archaeologists of the period has proved an enduring resource for reexamination as theoretical priorities have shifted (Stone and Zimansky 2016). It is worth noting that even in circumstances where the archaeological recovery of ordinary houses was neither sought or practicable, early excavators paid some ethnographic attention to the houses of the peoples in whose lands they were working (Layard 1867, 131–32), setting the stage for a later and more conscientious ethnoarchaeology, which has proved especially important in the study of houses and households.

The development of household archaeology as a distinct subfield responded to several trends already becoming evident in the archaeology of the mid-20th century: an emphasis on clarifying and interpreting spatial relationships; increasing attention to "microscalar" data and its relation to models of society, particularly in the context of the "New" or processual archaeology; an engagement with questions of social organization drawn from anthropological theory (also closely related to developments in processual archaeology); and an increasing concern with understanding the lives of non-elite people and groups (Ashmore 2002).

Foregrounding the first set of questions related to the archaeological investigation of space, Steadman (1996) has argued that household archaeology emerged from "a marriage between settlement analysis and activity area research" (54), citing antecedents in settlement archaeology of both the New World (Steward 1937; Willey 1953) and the Old (Adams 1965; Adams and Nissen 1972; R. J. Braidwood et al. 1974; Butzer 1971; 1976; K. Chang 1968) whose concern

with human use of space and the built environment in context, especially on the macro level, laid the groundwork for the study of houses in a more focused sense (Steadman 1996, 52). As social theorists like Rapoport (1969) were attempting to understand how the arrangement of built features and bodies reflected, shaped, and interacted with culture, archaeologists like David Clarke (1972) were beginning to formalize and theorize the fact that "the retrieval of archaeological information from various kinds of spatial relationship is a central aspect of…archaeology and a major part of the theory of that discipline." (D. L. Clarke 1972, 1).

A second thread in the development of household archaeology is the discipline's effort to grapple with anthropological questions of social organization. One important antecedent to consider is the anthropological concern with matters of kinship, a foundational question for the field (Morgan 1871), and one for which patterns of dwelling and propinquity have been central. Lévi-Strauss (1982) through his efforts to understand the social organization of the Kwakiutl, originated the concept of *sociétés à maison* (or "House Societies"). This model, for which Lévi-Strauss found parallels in the manors of feudal Europe, placed houses (rather than lineages, as in most traditional anthropological kinship models) at the center of social reproduction. More will be said about house societies and their relevance to this study below. It is sufficient here to note that the concept has generated a considerable amount of archaeological interest in recent years, in part because of an assumption that "house" as a social category might be more easily visible in the archaeological data than other anthropological relationships. It is one example of the way in which kinship and the related questions of social structure and reproduction, both biological and social, continue to animate the study of houses and households, regardless of the theoretical orientation or emphasis of the practitioner.

Another anthropological antecedent is the investigation of the role of the household in the socioeconomic structure of society. Responding to the formalist/substantivist debate about the role of markets in history and prehistory (Polanyi 1957; Silver 1983) and Chayanov's (1966) efforts to understand the peasant economy in Marxist terms, Marshall Sahlins (1972) foregrounded the social and economic role of households in marketless societies which he saw as characterized by a "Domestic Mode of Production," that is to say a system in which the household is the locus of and possessed of control over labor mobilization, production, and consumption. More explicitly Marxist approaches also took up questions of the role of the household in marketless economies (Donham 1981). Although the economic anthropology literature is not always cited in the household archaeology work of the 1980s, it seems clear that similar concerns are at play, and Sahlins' Domestic Mode of Production in particular remains influential for contemporary archaeologists of household, particularly those who focus on the role of the household in the mobilization and organization of labor, craft production, and consumption and distribution (C. P. Foster 2009; 2012).

Finally, while the broad framework of "household archaeology" does not preclude the study of "elite" dwellings and their residents (cf. Peyronel, Vacca, and Wachter-Sarkady 2014), it is the case that household archaeology approaches are generally informed by an interest in either a broader swath of social actors or in non-elites specifically. This interest can be tied to the early recognition among some archaeologists of the role that the discipline could play in investigating the "social", even before the emergence of a self-conscious "social archaeology," which has arisen more or less alongside household archaeology (Meskell and Preucel 2008), and which "refers to the ways in which we express ourselves through the things that we make and use, collect and discard, value or take for granted, and seek to be remembered by" (M. Hall 2001,

cited in Preucel and Meskell 2008, 3). This social archaeology emphasizes the temporal, spatial, and material situatedness of human social existence, and can be contrasted to archaeological approaches which prioritize political and cultural history, particularly at the macro-level (Meskell and Preucel 2008).

Bearing all these antecedents in mind, approaches to a self-conscious "household archaeology" have their most immediate origins in the "New Archaeology" or processualist approach which emerged in the late 1950s and crystallized in the 1960s (Willey and Phillips 1958; Binford 1962; 1965; D. L. Clarke 1973; see also Wylie 2002, 117ff. for a critical review/response). Processualist approaches are characterized by an effort to model archaeological research design on that of the natural sciences through the development and experimental testing of falsifiable hypotheses; to theorize the "middle-range" gap between archaeological evidence and theoretical models (Raab and Goodyear 1984), and to prioritize questions of social system and generalizable culture process over cultural-historical particularism.

The focus on reconstructing or modeling systems based on the recoverable data stimulated efforts to formally theorize relationships between archaeological evidence and social organization, including that between domestic spaces and evidence of activity, on the one hand, and the social systems or dynamics that these might imply, on the other (e.g., Hill 1970; K. V. Flannery 1976).

Much of this early work on the interpretation of houses from a systems perspective took place in Mesoamerica, where Kent Flannery's work (K. V. Flannery 1972b; 1976) showed how the physical remains of houses and activity recovered by archaeological excavation could both

form the basis and serve as test cases for anthropological models of the organization of society—including issues of kinship, marriage patterns, family structure, and economic activity. An influential example of the efforts to describe relationships between the archaeological data from houses and the kinship, economics, and other systems at play in a society is Flannery's discussion of shifts in house form.

Flannery argued that the shift from small, round dwellings individuals to larger rectangular dwellings seen in both Mesoamerica and the Near East could be correlated with a shift from hunting and gathering lifeways to agricultural ones. Flannery saw the change in house shape, size, and layout as representing a change in residence patterns from individually-inhabited huts to houses for nuclear families and pointed out the advantages of larger, rectangular dwellings for the "privatization" of storage in the context of accumulating surplus (K. V. Flannery 1972b). When he revisited his work some three decades later, Flannery clarified and nuanced his original discussion and added analysis of an additional transformation observable in both the Near East and Mesoamerica from smaller to larger rectangular houses, which he took to indicate a shift from nuclear to extended families concurrent with the entrenchment of agricultural economies (K. V. Flannery 2002). As seen in Chapter 2, these issues of changing house form and size and their possible social correlates continue to have significant import in discussions of the late Neolithic and Chalcolithic of greater Mesopotamia, and, although at Surezha evidence is preliminary, we can usefully apply some of the criteria developed from Flannery's initial theory to argue that at present evidence is in favor of single-family organization, either nuclear or minimally extended (see below).

As Steadman (2015, 13–14) points out, alongside these investigations of the relationship between archaeological evidence and social systems, several methodological and theoretical

approaches were being developed in order to answer questions about societal structure and behavior. Naroll (1962) was the first of many to attempt to estimate population based on settlement size (Gremliza 1962; Cook and Heizer 1968; LeBlanc 1971; Watson 1979; Kramer 1979). Meanwhile, Edward T. Hall (1963) was developing the subfield of proxemics, drawing on semiotics in an effort to formally describe and understand the human organization of space, both between individuals in the course of their behavior and activity and between the various elements of the built environment. Similarly, by the late 1970s and early 1980s, Hillier and Hanson (1984) and their colleagues were using access analysis to develop a framework for the analysis of the built environment. This framework, which would come to be called "space syntax," saw constructed spaces as a network of choices, nodes, or restrictions which imposed an order or set of rules on an otherwise random environment.

While I do not apply a formal "space syntax" approach to Surezha, a venture which would require a fuller exposure of the settlement (see Shapiro 2005 for an application of space syntax to an archaeological context), a way of thinking that (a) sees the built environment as the result of conscious and purposeful choice and (b)sees the built and natural environment in terms of the opportunities and restrictions that environment implies for the course of people's lives and work is central to my approach. I maintain this orientation as I move more specifically into the household archaeology approaches described in the following section, and it will be especially important as I integrate the evidence from domestic and nondomestic spaces.

5.3. Household Archaeology: The Processualist Tradition & Its Legacy

As archaeological studies of houses, households, activity areas, and intrasite social systems continued to amass a body of evidence and began to create theoretical models, and as various methodological and theoretical approaches to the human built environment and use of space

were developed, the stage was set by the early 1980s for the emergence of household archaeology proper.

It was Richard Wilk and William Rathje who essentially defined the "Household Archaeology" approach in a seminal 1982 article by that name in *American Behavioral Scientist*. In the article, the authors claimed a special status for households, based on their ubiquity and social importance, going so far as to argue that "material culture can be thought of as a shell whose form reflects the demographic shape and the activities of households" (Wilk and Rathje 1982, 618). In other words, households should be a central, perhaps *the* central, analytical unit in the archaeological interpretation of the past. The household was defined in terms of its fundamental place in the structure of societies, as "the most common social component of subsistence, the smallest and most abundant activity group," (ibid.,) or, as Hammel (1984) put it, "the first order of social organization above the individual" (40-41). That this definition raises some difficulties, particularly for archaeologists, did not go unremarked, but the socioeconomic definition of household provided both the foundation for Wilk and Rathje's approach and justification for its importance. I will discuss further the issues with defining households and identifying them archaeologically below.

Wilk and Rathje, responding to a major concern of processualism, argued that household archaeology could "bridge the existing "mid-level theory gap" in archaeology" (Wilk and Rathje 1982, 617), that is, the gap between artifactual evidence and theories of society, political and economic organization, and cultural change. Households, they argued, "are the level at which social groups articulate directly with economic ecological processes" (618).

Wilk and Rathje saw households as composed of three elements - social, material, and behavioral (Wilk and Rathje 1982, 618) - and characterized them in terms of their four key functions of "production, distribution, transmission and reproduction (ibid., 622ff). Steadman (1996) insightfully comments that the first two functions, related primarily to the household's economic activity, are more likely to leave traces in the archaeological record than the latter two functions, which have to deal with less-easily seen social activities such as bearing and raising children (56).

The emphasis on productive activities led Wilk and Rathje to attach considerable importance to how labor was organized and mobilized in different societies, although at least initially intra-household relationships of economic and social power were not foregrounded. Wilk and Rathje discussed how households schedule labor — ranging from "linear"(i.e., individual) to "simultaneous" (group or cooperative); further, simultaneous labor may be simple (in which all individuals perform the same task simultaneously) or complex (in which individuals perform specialized tasks to complete a larger whole). The nature of household labor scheduling, itself an adaptation to the economic and subsistence base of the society, is in great part responsible for the size and structure of the household (Wilk and Rathje 1982, 622–23).

Similarly, households in Wilk Rathje's formulation were centers of distribution, both within the household unit and among households, and the forms of this distribution "vary systematically with the mode of subsistence and production" (625). "Transmission" can be seen as a "special form of distribution" (627), and the specifics of reproduction (i.e., family or household size) likewise seems basically connected with the labor needs of the mode of subsistence. Thus the household is to be understood in terms of its place within the economic system of society.

Wilk and Rathje offered some "preliminary propositions" or rules about how household organization appears to function cross-culturally (631-632) and offered a brief application of a household archaeology approach, supplemented by ethnoarchaeological data, to the Maya lowlands in the early Formative period (633ff.). They argued for a systematical linkage between "environment, household demography, organization, and activities" (637). In sum, for Wilk and Rathje, households are a legitimate and necessary object of dedicated study; they can be studied and understood in systemic terms; and households are defined in terms of their place as the smallest corporate unit in the social structure and analyzed in terms of their functions, which are all closely related to matters of subsistence, production, distribution, and labor mobilization, that is, economic activity.

Wilk and Rathje's brief, programmatic article was followed shortly by an edited volume (R. Netting, Wilk, and Arnould 1984) and a collaboration between Wilk and Wendy Ashmore on the role of the household in Mesoamerica (Wilk and Ashmore 1988). The initial article more or less set the agenda for household archaeology for a decade, and their approach continues to be influential. More will be said on the processualist efforts at defining and interpreting households below, but in general terms, these studies tend to emphasize the economic role of households within society, and ask questions concerning how domestic activity and domestic space were structured and related.

The productive and reproductive activities of the household continue to be central research questions (C. P. Foster 2009; 2012), even as the field of inquiry of political economy and social organization have broadened to encompass questions of inequality, gender, and (see below). Additionally, the processualist work on systematization has proved valuable even for archaeologists who operate from different theoretical perspectives (Steadman 1996, 56).

Regarding those different perspectives: Steadman (Steadman 2015, 167–68) summarizes the views of Nash (2009) and Carballo (2011) on the various approaches to household archaeology since Wilk & Rathje's 1982 article. Carballo sees 3 categories: "traditional" approaches (focusing on consumption and production); "political" approaches (which emphasize the strategies and negotiations of individuals who compose households); and "symbolic" approaches (which emphasize the way that individuals create and negotiate aspects of society like gender relations, identity, and ritual). Nash (2009) offers a similar division of categories: a "materialist" approach (focusing on socioeconomy); a "political" approach, and a "structuralist" model (which emphasizes the individuals who compose a household).

The work I do in these chapters on houses and households at Surezha falls largely under the "traditional" or "materialist" headings. This is not because I believe in an innate superiority to this approach or its objects, but because the specific research questions I am pursuing require an emphasis on production, consumption, and social organization. I attempt, however, to grapple insofar as the evidence allows with some of the issues raised in the recent literature along other lines, including the political dimensions of the organization of space, the structuralist concern with household composition, the gendered nature of work and household organization, and the symbolic import of both domestic and nondomestic space.

5.4. Defining Households

As noted above, moving from a discussion of houses and domestic spaces (and their physical remains) to households requires, first, a working definition of the latter. A satisfactory definition of household is a matter of concern not only to archaeologists who wish to use the concept, but also to anthropologists, sociologists, demographers, and states. The variety of applications of the term has led to a variety of approaches toward definition.

Four principal approaches to the definition of households in anthropology and archaeology since the 19th century can be identified. These approaches may overlap, and a definition of household for a particular society or from a particular theorist may contain elements of some or all of them, but it is worth exploring the distinctions between them before attempting a definition for the present study. These four approaches emphasize, respectively:

1) Coresidence
2) Kinship
3) Propinquity of quotidian activity
4) The place of the household in the social system and as locus of production and reproduction.

1. Definitions of household that emphasize coresidence are a hallmark of the data-collection operations of quantitative sociology, demography, and of 20th- and 21st-century states. The U.S. Census Bureau, for example, defines households as "all the people who occupy a housing unit" (U.S. Census Bureau 2019). And for all the efforts to more clearly delineate the categories of "house" and "household," (e.g., through the recognition that members of the household may be absent from the house for extended periods of time without meaningfully affecting their membership in that household, that "households" as collections of people may be spread across extensive space than a single building), it is nevertheless true that the "house" in "household" is an anchoring concept, even in those social examples where the "house" becomes a metaphorical stand-in (e.g., Lévi-Strauss 1982), where the head of household may be essentially non-resident (e.g., migrant workers in the contemporary globalized economy), or where household members are scattered across multiple buildings in the same estate or neighborhood. Thus, I do not think it advisable to attempt to entirely decouple the physical house from the household. Moreover, in

archaeological contexts where the overwhelming majority of our data comes from the physical remains of houses, we are often faced with the choice of either ignoring the social role of houses in favor of simple explanation of spatial and physical attributes, black-boxing the relationship between house and household by assuming simple correspondence between the two, or explicitly positing the assumption that there is a fundamental connection between physical houses and social households, and investigating the possible correspondences and distinctions between the two categories. I choose this final course.

2. Folk understandings of household are likely to center on kinship or family relationships—returning to the U.S. Census, for example, a "Family household" combines the coresidence definition above with relations of birth, marriage, or adoption (U.S. Census Bureau 2019). As a general rule, however, anthropologists and archaeologists explicitly theorizing the household have attempted to keep the two distinct (Bender 1967), while recognizing that kinship as a fundamental organizing principle of human society is often deeply intertwined with coresidency, co-activity, and social and economic activity. Kinship, however, is a broad enough category that it is difficult to create a definition of household that utilizes it meaningfully (Sahlins 1972). Households, even considered within a single society, might contain a wide variety of combinations of kin and non-kin relationships (Hammel and Laslett 1974; Bender 1967, 493–94). It is not necessary that family members share households or that all household members are kin (Douglass and Gonlin 2012, 4–5). In other words, kinship (including family) affiliation and household affiliation are distinct.

It is nevertheless worth foregrounding the concept of kinship here for two reasons: first, because it is undeniable that kinship, while not coterminous with a workable definition of the household, is often tightly intertwined with the constitution and construction of the household in

societies. Second, because of the tendency of researchers not explicitly theorizing the household to slip incautiously between folk definitions of family, anthropological notions of kinship, and household. To avoid confusion and preserve the utility of households as an analytic category, it is therefore important to maintain the distinction between kinship and household as categories while clarifying (when possible) the relationship between the two in the society under study.

The latter imperative poses particular problems for the prehistoric archaeologist, since absent ethnographic or textual evidence, kinship relations must remain speculative. In this case, it is important to be straightforward that ascription of kin-groups to households and/or coresident groups is almost always an assumption based usually on ethnographic parallels, although, for example, Baldi's study of Ubaid potting techniques (Baldi 2012) is representative of the kind of supporting archaeological evidence that could be marshaled to support such assumptions.

3. The third and fourth approaches to defining household are related but likewise useful to keep separate. The third focuses on activity, and specifically the physical proximity and social coordination of daily activities. There are of course a number of social situations in which individuals engage in coordinated activity in close contact. This approach relies to some extent on other criteria for initial identification of households and then focuses on what households as collections of individuals do. A focus on activities is the hallmark of some of the most important theorists of household, including Amos Rapoport, with his Environment-Behavior Studies (EBS) approach (Rapoport 1969; 1990; 2008) and Wilk and Rathje (1982). Wilk suggested that the household be usefully considered as much "verb" as "noun" (Wilk 1985).

4. The focus on activity, particularly the grounding of activity in the social world, ties in with an approach that defines household largely in terms of its social and economic role in the

community. Here the work of Marshall Sahlins, who described the household as the principal socioeconomic unit in marketless societies (Sahlins 1972) is an important anthropological antecedent.

A subcategory of this fourth definition likewise emphasizes the social dimension but puts a premium on the cultural and symbolic role played by both houses and households. This is the approach taken by postprocessualist scholars like Ian Hodder (1990) and Kuijt (Kuijt 2000a; 2008), who, in their concern with questions of the cognitive and symbolic dimensions of sedentarization, have emphasized the house as a fundamental organizing symbol or metaphor (it must be said here that house and household are sometimes not clearly distinguished by this approach).

As is often the case with such definitions, different emphases serve different analytical purposes, and even in our own society where emic categories are accessible, multiple definitions might be relevant. In the archaeology of prehistory, the challenges are of course significant. However, I believe it is possible to retain the use of household as both a useful analytical category at Surezha and to arrive at a definition that plausibly reflects at least a partial social reality for the people who lived and worked at LC 1 Surezha, if I am clear about, first, the definition I am using and, second, the connections I am able to draw between that definition and the evidence for the social system at Surezha.

Because my work at Surezha has focused on repeated quotidian daily activity, I begin by examining households from the perspective of "propinquity,"—a combination of the first and third perspectives. That is, in seeing households as composed of coresidents who work and consume in shared spaces. Further, these spaces are made socially distinct from the spaces of

other households or individuals both by architecture (the house itself) and the habits of practice that take place in and around them. Bender (1967, 493-499) places propinquity as the main criterion of "household," as opposed to kinship, which is the criterion for family, and I take the same approach.

This may appear to be begging the question on such basic matters as whether households at Surezha included multiple families or were spread over multiple houses. However, when working with data such as that currently available from Surezha, it is most useful to begin with the presumption that the people who lived and worked together can be considered as a social unit, an analytical household that may or may not overlap precisely with emic categories. This allows us to both engage in meaningful analysis of individual and social activity without definitively ascribing family or kinship relations, and to begin at least to speculate on such matters as kinship through activity area analysis, architecture, and the organization of space, as in the following section.

There is, moreover, reason to believe that a definition based on coresidence and shared production and consumption activity is appropriate not only to facilitate analysis but as a descriptor of lived social reality. It does seem based on the microarchaeological evidence that houses were primary loci of production and consumption. This role will be further described in Chapter 6. Both domestic courtyards and domestic interior spaces were, as described in Chapter 4, densely populated with the microdebris of intense activity. While there are certainly important activities that took place away from houses—agriculture, hunting, tool and ceramic manufacture—the microarchaeological evidence suggests that considerable activity took place in and around houses. While the presence of nondomestic monumental architecture suggests that labor could be mobilized outside of the domestic sphere, both the evidence from Surezha and

comparison with other agricultural societies (Sahlins 1972) suggest that the household was the social unit that organized and deployed most of the labor and economic activity of the residents of Surezha.

It is, then, primarily as socioeconomic units based in single houses that I am defining and analyzing households at Surezha, rather than primarily as kin groups, collections of individuals, symbols, political actors, or sites of individual political negotiation and conflict. All of these aspects are, of course, important, and in the remainder of this chapter I will discuss both household/family organization and the role of houses and households as cultural symbols and organizing metaphors.

5.5. Categorizing Households

Acknowledging both the limitations of the data and an analytical preference for focus on activity, it is nevertheless worthwhile to ask what these households were like, how they were constituted, and how they might compare to the range of historically, archaeologically, and ethnographically attested modes of household organization. In this section I focus on the social structure of the household: what collection of individuals and relations constituted household at Surezha and in the LC 1?

The focus on systems of the 1960s and 1970s in various of the social sciences produced categorization schemes that may still be useful, of which Hammel & Laslett's (1974) is a good example. They divide households into 6 general types: solitaries, no family, simple family, extended family, multiple family, and "incompletely classifiable." In each of these category headings, a number of sub-categories can be recognized, as displayed in **Figure 5.1:**

Composition of Households—SAMPLE CLASSIFICATORY TABLE

Categories	*Classes*	*Total percent*
1 Solitaries	1a Widowed 1b Single, or of unknown marital status	
2 No family	2a Coresident siblings 2b Coresident relations of other kinds 2c Persons not evidently related[1]	
3 Simple family households	3a Married couples alone 3b Married couples with child(ren) 3c Widowers with child(ren) 3d Widows with child(ren)	
4 Extended family households	4a Extended upwards 4b Extended downwards 4c Extended laterally 4d Combinations of 4a-4c	
5 Multiple family households	5a Secondary units UP 5b Secondary units DOWN 5c Secondary units lateral 5d *Frérèches* 5e Other multiple family households	
6 Incompletely classifiable households[1,2,3]		
	(continued next page) TOTALS	100%

Figure 5.1. Household Categories from Hammel and Laslett 1974, 96

It must be emphasized again that discussions of kinship in prehistory are limited by the nature of the evidence, but a classificatory schema like that above suggestions some direction for inference from archaeological evidence to likely structures of household organization. A frequently-cited example in both the Near East and Mesoamerica, drawn from Kent Flannery's early work, is the shift over the course of the Neolithic from round to rectangular buildings (K. V. Flannery 1972b); the point is not an easy one-to-one correlation between building shape and marriage, kinship, or family patterns, but rather the questions of what kinds of socioeconomic, environmental, or other dynamics are behind changes in household or family composition, and, on an evidentiary level, whether architecture or other archaeological material can serve as an indicator of both this composition and these dynamics (K. V. Flannery 2002; Steadman 2015, 152–53). This shift is dramatically evident in the sequence at Çayönü in Anatolia over the course of the Pre-Pottery Neolithic (ca. 9400-8000 BCE), where the round wattle-and-daub huts of

Level 1 were replaced by rectangular buildings which increasingly differentiated and divided space and activity (Sagona and Zimansky 2009, 51; A. Özdoğan 1999).

Flannery (1972b; 2002) saw round dwellings, generally constrained in space and not expanded upon over the lifetime of the building, as ideal for individual residence (Hammel & Laslett's categories 1 and 2), typical of the societies he saw as structured around hunting and gathering. The small rectangular dwellings that superseded them from the PPNB through the early ceramic Neolithic, with their larger space and storage potential, were in Flannery's view more suitable to the nuclear families of the early farming communities (Hammel & Laslett's category 3), who had an interest in both maintaining control of surplus and increasing the number of productive members of the household (K. V. Flannery 2002, 424).

Round dwellings can be understood as conducive to either individual (Hammel and Laslett's category 1) or stem-family residence system (Hammel and Laslett's category 2), while rectangular buildings are more amenable to extension and subdivision or reconfiguration over the course of their life, amenable not only to the increased demands of storage that might be required of economies increasingly invested in agricultural production and the possible accumulation of surplus or wealth, but also to the accommodation of extended families.

Peter Pfälzner (1996), working at the third-millennium site of Tall Bderi, analyzed room function and household structure, emphasizing change over time both at the level of settlement and in the life course of the house, finding in one house evidence of a residence initially suited for a nuclear family and then expended to accommodate an extended family or potentially two nuclear families (118-122; that is, from Laslett's category 3 to category 4 or 5), and, in another house, evidence he interprets as indicative of a polygamous family (123): separate grinding

rooms but a single hearth, which Pfälzner reasons suggests two domestic female laborers (presumably wives) contributing to a single productive/consumptive unit (Pfälzner 2012).

Richard Matson has likewise (1996) used architectural data from different regions and time periods in North America to attempt both to identify and explain differing patterns of household organization. Criteria such as house size, division of space within houses, and number of hearths served alongside later ethnographic evidence as indicators for nuclear or extended families; Matson concluded that there was a close connection between the economic bases of a society and patterns of household organization: for example, the maize agriculture of the American Southwest was flexible in terms of location and minimal in terms of required labor input, conducive to a nuclear family organization, whereas the salmon fishing of the Pacific Northwest required control of specific territories and encouraged control of large labor forces to exploit the salmon runs, encouraging the formation of larger extended family households in which multiple nuclear families worked together and in which households competed with each other for control of critical areas and of human labor, resulting in variably-sized houses (cf. Steadman 2015, 173–74).

Steadman (2015, 155–56) notes another important factor in household composition: households and the use of houses are dynamic in human societies. Over the course of human lives and the life cycle of the house, residency in the house and membership of the household changes: most obviously through marriages, births and deaths, but also through cycles in which, for example, young married couples may cohabitate with parents for a time and then set up their own households, or in which aged parents who previously dwelt separately may move in to the house of a child. In cases like these, it is possible that there will be archaeologically-evident changes in the structure and use of space in and around the home, but, especially when a change

in household is not thought of as permanent (e.g., the temporary coresidence of a child's young family), there may be no change in architecture and the preservation of distinctive archaeological or microarchaeological signature is by no means assured.

In any event, we can begin to establish the sorts of correlates in the archaeological data that we might expect to see in different types of household. These correlates may relate to the architectural layout of individual houses, the arrangement of houses in relation to each other and to non-house spaces, the semipermanent features (Rapoport's "cues") that might structure activity, the macroartifactual remains preserved *in situ*, and the microartifactual remains preserved *in situ*.

It is important to remember Rapoport's concern that we see activity and space as systems of interrelated systems, and that activity can take place in a variety of different spaces, just as a single space might be a site of different kinds of activity at the same time or over time. At Surezha, based on excavations so far, we find rectilinear houses subdivided into rooms of varying size **(Fig. 5.2)**.

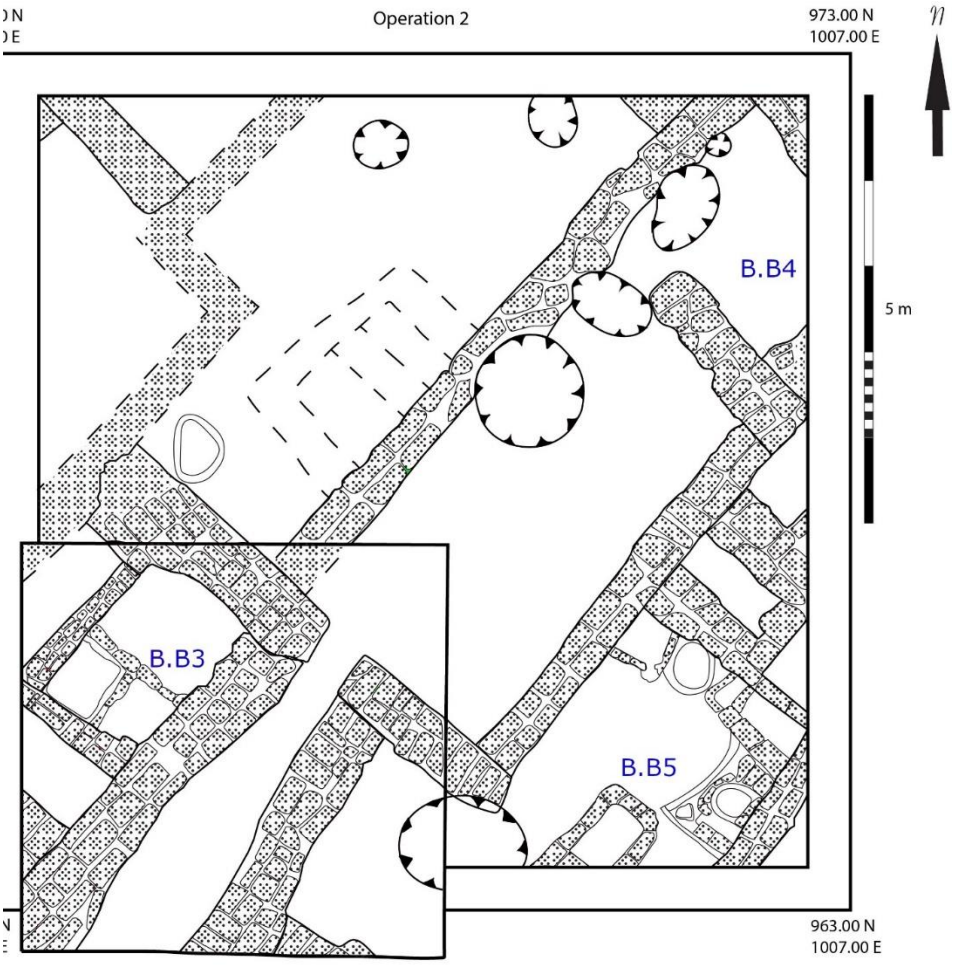


Figure 5.2. Operation 2 houses (B.B3, B.B4, B.B5), including Ubaid room divisions in B.B3

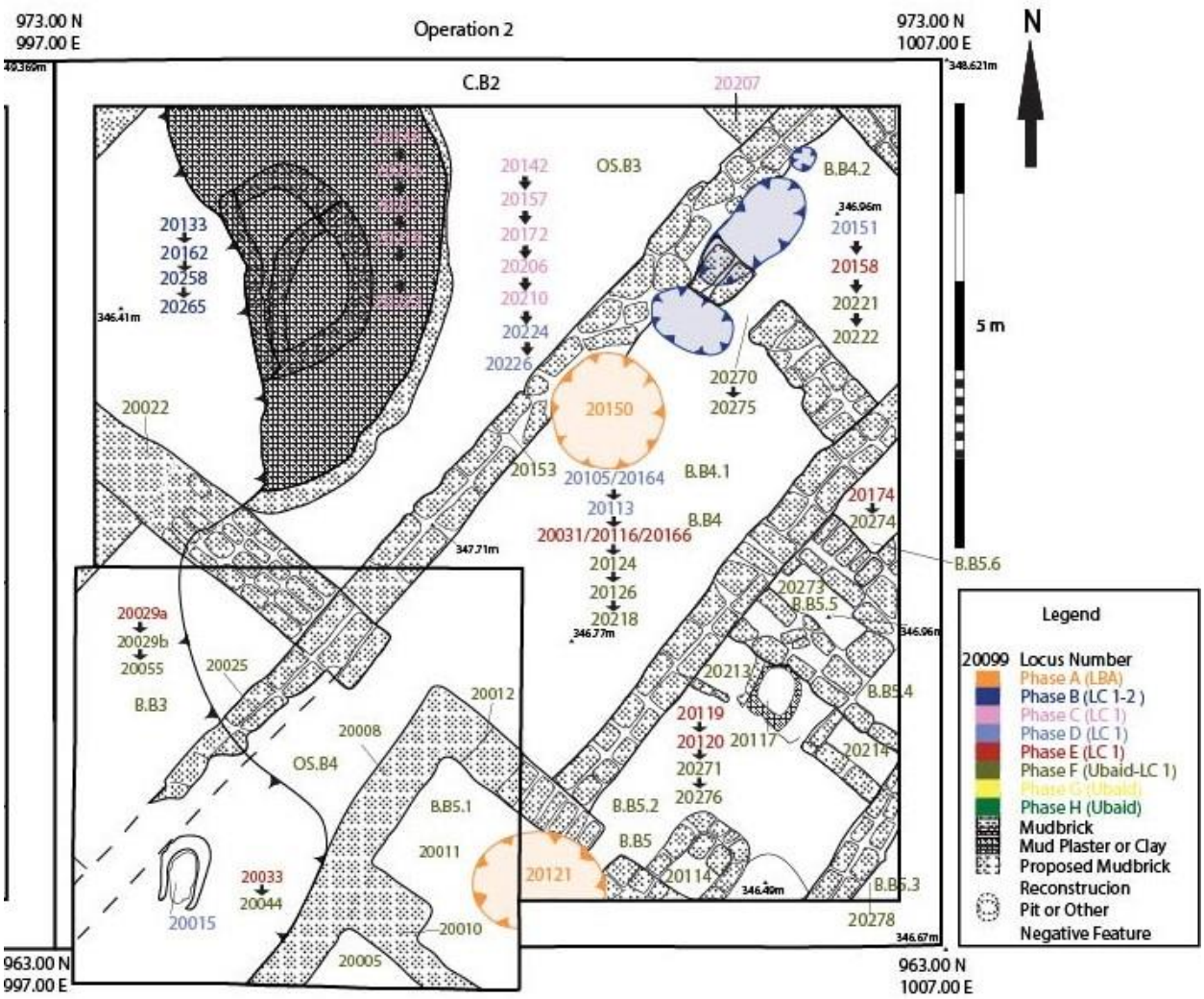


Figure 5.3. Operation 2 houses with later LC 1 architecture and work platform

We do not currently have evidence of the kind suggested by Pfälzner and Matson for extended or mixed family households. Although the partial exposures do not allow us to draw conclusions about overall house size, we do not yet see indications for multiple hearths or food preparation or consumption areas within the same house. While we do see a tendency toward multifunctionality of space as described in Chapter 4, we do not see a reduplication of dedicate

function in different spaces of the same house as we might expect in situations where either a mixed or extended family is dwelling within a house.

The two courtyards excavated are larger than interior rooms but either certainly (in the case of **20218)** or apparently (in the case of **20210**/**20206**) smaller than the large interior courtyards of most Ubaid or LC 1 tripartite houses (Kubba 1998), more like the small courtyards evident at LC 1 Tell Zeidan (Fisher 2017)**.**

The interior food preparation room B.B5.2 (**20120/20114**) of the LC 1 "East House" is fairly small and is probably, as discussed in Chapter 4, unsuited to having more than one or at most two adult individuals preparing food together. Certainly, there is a wide range in the number of the potential individuals whose food needs could be wholly or partially supplied by food prepared in this space, but I am primarily interested in the apparent limit on food *preparers*. While we could imagine situations in which multiple families or other groups had meals prepared by a single cook, or in which food preparers took shifts, the simplest explanation is that food was being prepared here by and for members of a single commensal group.

There is apparently storage space inside the house (e.g., room **20273** in House B.B5), although the microarchaeological evidence is unclear and we likewise have no clear *in situ* ceramic or archaeobotanical remains that would allow us to definitively designate it as such.

All of these elements are consistent with a scenario in which single-spouse families (probably with multiple children and perhaps with multiple generations or adult kin sharing the space at times) were the denizens of the LC 1 houses: simple or extended families in Hammel and Laslett's terminology. Meals appear to have been prepared for one family by one or two family members, and probably frequently consumed in courtyards. Activity was distributed

across the house. No group in the household appears to have been segregated in terms of activity or access. This is all in contrast to scenarios proposed for the Ubaid tripartite house, in which gender segregation, multiple families, large extended families, and/or high degrees of spatial segregation of activity have been suggested (Roaf 1989; Wengrow 1998; Ur 2014). Rather, the household composition suggested by the data as it exists at Surezha has more in common with Balossi-Restelli's findings for LC 1-2 Arslantepe VIII (Balossi Restelli 2010), where nuclear families are proposed as the default organizational model.

To conclude, it would be premature to attempt a definitive statement of household composition from the very partial data from Surezha and the rest of LC 1 Northern Mesopotamia. However, we can say that the limited evidence to date points to mid-size to large nuclear families or small extended families as the residents of houses and, presumably, the social constituents of households. We do not yet see good evidence for large mixed or extended-family dwellings as has been suggested for the Ubaid tripartite house (Ur 2014, 12). Whether there is in fact a shift in typical family and household organization between the Ubaid and the LC 1 may have varied by region (Balossi Restelli 2010), and Ubaid evidence from Surezha alongside full house exposures for the LC 1 may help clarify the question for the Erbil Plain.

5.6. Houses and the Organization of Activity: Rapoport and EBS

A central concern of the household archaeology from the late 1980s was interpreting the organization of activity across space: what could be inferred about social organization and differentiation, economic production and consumption, complexity, and the meaning of the built environment from the distribution of both architecture and artifactual remains? I will take up

activity area research *per se* in Chapter 6, but here I want to discuss the ways in which attempts to think through the distribution of activity across space and its implications have informed perspectives on social life and social organization.

A key theorist of the social dimensions of the use of space is Amos Rapoport. His 1969 work *House Form and Culture* is the beginning of a career-long effort to understand the ways in which human activity and the built environment shape and constrain one another (Rapoport 1976; 1982). As he developed what he calls the Environment-Behavior-Studies (EBS) approach (Rapoport 1982), Rapoport engaged with both contemporary vernacular architecture and increasingly with the archaeological data (Rapoport 1990). Rapoport suggests approaching questions of activity and built environment as "systems of activities within systems of settings" (ibid.). That is, we are both constrained by evidence and required by theory to look at systematic (rather than single) activities and the relationships of these activities to one another, as well as to the spaces — built, modified, and natural— in which these activities take place and the relationships of these spaces to one another.

By the mid-2000s, Rapoport himself had come to believe that the Environment-Behavior Studies approach had stagnated, citing the failure to establish a shared approach and to effectively communicate across disciplines (Rapoport 2008).

Nevertheless, there is space for productive engagement with EBS on a project like this one. Susan Kent (1980; 1984; 1987; 1990b) was a primary exponent of Rapoport's approach in archaeology; her work often deployed ethnoarchaeological analysis to interpret the built environment of archaeological sites and to test cross-culturally models such as the relationship

between house form and social structure, most explicitly the proposition that more complex societies are associated with greater segmentation of domestic spaces (Kent 1984; 1990a).

As is the case with the related "Space Syntax" approach, my current work at Surezha does not fit squarely within the "Environment-Behavior Studies" approach. Again, the limited exposures prevent a systematic spatial analysis of settlement and activity organization, at least for now. However, the perspectives of Rapoport and Kent have been important to my understanding of how to integrate microarchaeological evidence of activity with the built environment to understand social systems.

Two examples are the apparent place of courtyards in the social life of people at Surezha, and the ways in which different kinds of food preparation spaces imply different kinds of activity and different modes of social interaction.

5.6.1. Courtyards as Consumption Centers

First, as I have shown in Chapter 4, there is good evidence that courtyards were centers of activity in the domestic lives of people at Surezha. I have further argued (with admittedly more tenuous evidence) that it is likely that households at Surezha were single-family or small extended-family units centered around single houses.

The built environment both reflects and channels or constrains social choice. So, for example, the apparent tendency for relatively small interior rooms and larger courtyards both reflect a social preference and reinforce it: the larger courtyards, still likely conceived as part of the domestic sphere, would have been preferred centers of gathering. Commensal activity is thus perhaps marked as one in which household members share, and the courtyard space might

reinforce existing notions and practices of commensality. Of course, we do not know whether the entire household ate together regularly in the courtyards, whether members of different households dined regularly together, or whether there were more or less strict divisions in mealtime socialization, as, for example, in societies where men are served first and women and children eat after the men have finished and/or departed**.**

What we can say is that the large courtyards and the evidence that they were places of consumption provide at least an affordance for shared dining. It seems likely that this use was in the minds of the individuals and groups constructing such spaces and that, in the sort of reinforcement of both daily practice and social system that theorists like Rapoport and Bourdieu describe, the organization of such space helped to fix their use.

Widening our focus to other examples of Ubaid and LC 1 architecture, we could consider the archetypal tripartite house, similarly, as a case where small(er) rooms surround a large courtyard, in which the latter serves as a gathering place. Roaf drew this essential conclusion based on the architectural configuration of the Ubaid tripartite house at Tell Madhhur and the presence of a hearth in the central courtyard, arguing that this central room was for "reception and social activities" (Roaf 1989, 100). While I agree that it seems clear that the courtyard is almost certainly a center for social activity, including, presumably, consumption activity as seen in the domestic courtyards at Surezha, the "reception" function is less certain. I suspect that such a function is inferred largely on the basis of the modern *mudhif*, or sheikh's reed guest house (Ochsenschlager 2004), and is not unreasonably. However, an EBS perspective focused on patterns of access would emphasize the indirect access to the courtyard at the Madhhur house, requiring at least some movement through the "interior" of the home **(Fig. 5.4)**.

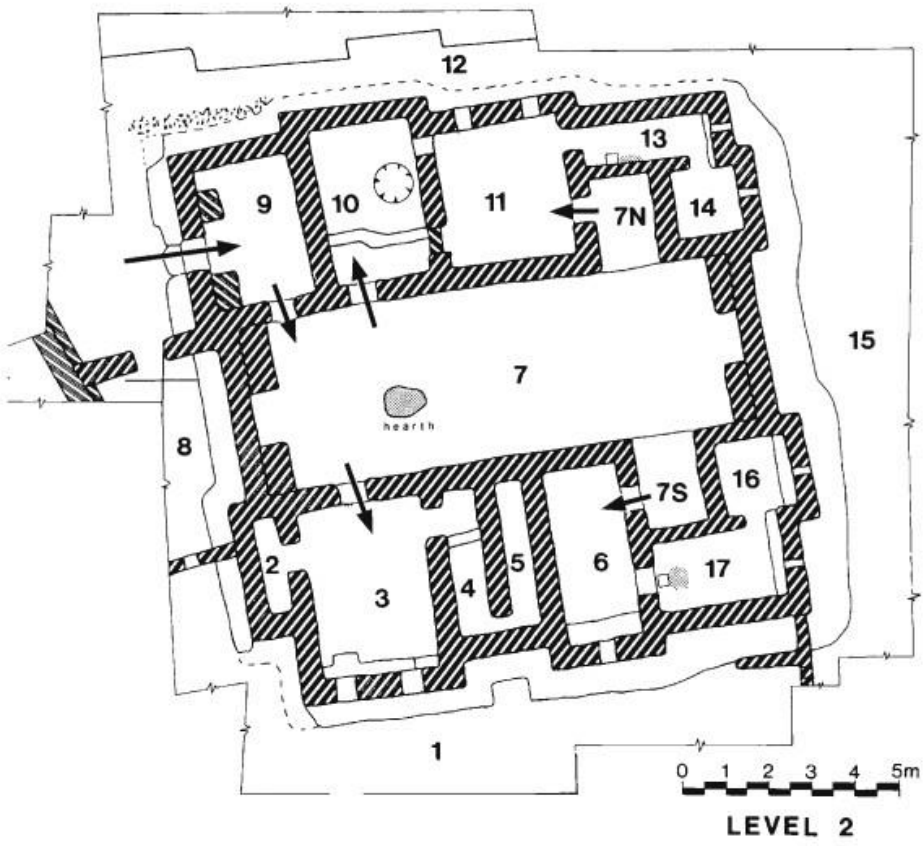


Figure 5.4. Access to Tell Madhhur tripartite building courtyard (Pollock 2010, fig. 7.1)

The need to move through "domestic" areas certainly does not render impossible a situation in which the central courtyards were reception areas for guests outside the family or households, particularly if access was provided through the northwestern entrance with only minimal pass-through of the house proper. However, we should at least consider whether the lack of direct access to the central courtyard at this and other Ubaid tripartite houses might be taken as evidence to support a role for such courtyards as centers of intra-household activity rather than, or to a greater extent than, extra-domestic reception.

Unfortunately, we have few LC 1 domestic structures for comparison, and even fewer if the tripartite examples, such as the "White Room Building" at Tepe Gawra XII, are set aside as representing likely continuities with the foregoing Ubaid. The best we can do at present is raise the question of how architecture and patterns of access both reflect and shape social activity and organization, and, more specifically, the question of whether we should see Ubaid and LC 1 courtyard houses as oriented "outward," toward reception of guests and by extension the creation of social bonds of various types (solidarity, obligation, dependency) between households, or whether we should see Ubaid houses, LC 1 houses, or both as oriented "inward," toward domestic commensality and common activity within the household group.

5.6.2. Food Preparation

There are two apparent loci of food preparation in the excavated areas of Surezha: the interior food-preparation area in the southeast of Operation 2 (B.B5.2) and the apparent outdoor preparation area in the south of Operation 9. More will be said about the tasks carried out in these areas in Chapter 6; I want to focus here on the characteristics of these spaces and the kinds of activity and social choices and constraints they imply.

The characteristics of cooking area B.B5.2 have been discussed in Chapter 4. To briefly recapitulate: while cultural preferences for space may vary, practical considerations, like moving between installations **20114**, **20117**, and **20272**, suggest that the area was probably not suited to cooperative work between more than two adults. As described in Chapter 4, the kinds of foods being prepared are uncertain, but microdebris analysis would suggest that any meats being prepared may have been stewed or braised rather than roasted, and that bread was probably prepared out of doors rather than in this area. The number of installations suggest a variety of food preparation (or other) practices taking place in this area. Small *in situ* finds included

unbaked clay ovoids (likely sling pellets) and figurines. In Chapter 4, I mentioned possible explanations for the placement of both types of object—if the figurines were toys, children may have been present playing while adults prepared food; the heat from the fire installation may have helped to dry or par-bake the sling pellets.

5.6.3. Outdoor Cooking Area

The presence of an extensive outdoor cooking area in Operation 9 is interesting and provides a counterpoint to the apparently small-scale, single-household focused food preparation within the Eastern House. Three fire installations (**90022, 90026,** and **90141**) were excavated, and deep (>5cm) deposits of ashy matrix surrounded these and ran through much of the outdoor space here**.** Two of the installations (**90022** and **90141**) appear to have been bread ovens **(Fig. 5.5-5.7)**. The third, **90026**, was more significantly eroded and is less clear in function, but could also be the remains of an oven (**Fig. 5.7**).

Figure 5.5. Fire Installation 90022, Interior

Figure 5.6. Fire Installation 90022, Exterior

Figure 5.7. Fire Installation 90141

Figure 5.8. Fire Installation (or Bin) 90026

The stratigraphic and chronological relationship between this area and the houses to the east is still not entirely clear, as usable radiocarbon dates from the outdoor cooking area are lacking and the hydrologic cut or gully interrupts stratigraphic links between Operations 9 and 2. The outdoor cooking area and accompanying ash deposits do postdate the foundation of the large outer walls of the public building. A late cross-wall (**90007**) with a pentagonal bin of narrow mudbrick (**90020**) postdates most of the ashy deposit, but deposits after construction of this wall were mixed with ash, suggesting that the space might have continued in use for some time after it was built. The slope of the mound is such that we must also consider that later fire installations have eroded away.

A key question, granting that this is indeed an area used at least in part for cooking out of doors is whether this cooking was for domestic purposes, for activity occurring in the nondomestic structure, both, or neither. There is not yet definitive evidence, but I suggest that it is likely that the closest relationship is with the domestic spaces to the east rather than the nondomestic area to the north and west. The fact that the cooking area is outside the monumental

wall, without a clear access point, and that there is apparently considerable open space within the nondomestic complex which could have been dedicated to cooking, along with the subdivision of the space by wall **90007** during the life of the nondomestic complex all incline me to see the area as a production space oriented toward domestic consumption rather than a centralized appendage of an institution housed in the nondomestic complex.

Preparation of food outside the home for consumption inside it would accord with Kennedy's (2012) analysis of the distribution of cooking and serving wares in Ubaid levels at Değirmentepe and Tepe Gawra, by which he concludes that cooking installations outside the household were commonly used for production of food consumed in domestic contexts (146).

If this is the case, there are implications both for the organization of production activity and for the place of households within society. Most basically, it implies that the production for a fundamental good for domestic consumption, bread, was either (a) cooperatively organized between multiple households, (b) perhaps even specialized or professionalized to a degree, and/or (c) produced by households more or less independently in a shared space. It is uncertain, on present evidence, which of these possibilities is most likely.

There is evidence at other sites for spatial concentration of production not only in the Ubaid, and the LC 1, but in earlier periods like the Hassuna kiln workshop area at Yarim Tepe I (Merpert and Munchaev 1993a, 76–77) and the Halaf "Potter's Workshop" (apparently for stone tool production) at Arpachiya 6 (Wengrow 1998, 787). In the Ubaid, likewise, this workshop model of spatially-concentrated production is found in relation to ceramic production, for example at the Ubaid production and storage center at Kosak Shamali (Nishiaki 2001 cited in

Bartl 2012, 391) , the pottery workshops at Tell ‘Abada (Jasim 1985, 54), and the kiln buildings at Tell al-’Abr (Akkermans and Schwartz 2003, 164).

In the LC 1, ceramic production is again the most frequently recognized arena for spatial concentration of production, for example in the LC 1 workshop at Tell Feres al-Sharqi (where different kin groups are supposed to have made use of a shared space (Baldi 2012) and the proposed LC 1 pottery workshop at Asingeran on the Navkur Plain (Iamoni and Qasim 2020); Rothman (2002a) proposes dedicated workshops for woodworking, textile production, and ceramics at late LC 1-LC 2 Gawra (Level XI), but not in the earlier Level XII. Finally, large-scale “industrial” production is attested at various sites in the LC 2 (Al Quntar and Abu Jayyab 2014).

Thus we might not be surprised if we saw either spatial centralization, centralization of labor, or both in the production of basic goods like bread. As usual, conclusions are made difficult because of the incomplete exposure of the area. However, some clues are offered by the layout. The large space and the presence of multiple cooking installations might suggest that individuals or groups were baking bread in parallel, especially if all three installations in the space were bread ovens and were partly or wholly contemporaneous.

Again assuming general contemporaneity, the placement of the installations suggests less an organized, large-scale operation of specialized bakers and more a cooperative or sequential work area, i.e., that production was organized separately for separate consumers but that the overall space was shared. The situation might be similar to the proposed reconstruction for Tell Feres al-Sharqi (Baldi 2012) where various kin groups are thought to have used the same space for their own pottery production.

We cannot dismiss the possibility that the area is one of more specialized production where dedicated bread bakers produced in quantities for multiple households or other consumption units, including a possible institutional or communal unit located in the nondomestic complex, but at present I see the open arrangement of the space and the scattered installations as suggesting a less concentrated and specialized application of labor.

5.6.4. Implications for Domestic Economy, Household, and Organization of Labor

Taken together, these examples of the "system of settings" for the activities undertaken by people at Surezha allows us to propose a situation in which households were fundamental but not autonomous groups, engaged in regular production and consumption in domestic spaces and organized along household lines, but also making use of what I consider to be true public spaces such as the outdoor baking area: a space built, maintained, and used by the community. In such spaces labor was probably still basically organized at the household level, even if the activity took place outside the physical house.

If, instead, the outdoor cooking area was devoted to serving the needs of the large nondomestic building complex, as is the case with later Mesopotamian temples, this would imply that labor could be mobilized by institutions not only for construction but also for regular provisioning of those institutions. The implications for the political economy of the Late Chalcolithic are obviously very different, and while I have argued that the evidence at present suggests that this space was truly public and not an appendage to a central institution, further confirmation might be found when and if more direct stratigraphic links are made between the domestic spaces of Operation 2 and the outdoor cooking area (or a contrary conclusion might be

reached if clear evidence emerges of a linkage between the cooking area and the nondomestic complex).

Whether a cooperative public work space, a specialist bakery, or a centralized appendage to a large institution, the outdoor cooking area makes clear that some productive activity was spatially separated from households. My interpretation sets this within a socioeconomic context whereby individual households continue to be the dominant organizers of labor and economic decision makers, but where space and some amount of labor are shared, an interpretation that would be consistent with Kennedy's (2012) and Graham and Smith's (2013) reconstructions of Ubaid domestic economies and would suggest that production activity had not extensively centralized in the LC 1. I argue that we should continue to see the household as the center of economic decision making, labor organization, and consumption. If this is the case, it stands to reason that the house was also a locus of cultural significance. As sociocultural and symbolic dimensions became a major focus of household archaeology beginning in the late 1980s, it is to these perspectives that I now turn.

5.7. Household Archaeology: Symbolic and Post-Processual Approaches

Rapoport and Kent, among others, emphasized questions of spatial symbolism, and indeed much of the older tradition of elite and religious architectural analysis, with its roots in art-historical and aesthetic approaches, had grappled with questions of the space and cultural meaning. By the late 1980s, however, questions of symbolic, ideological, and cultural import were beginning to be posed with increasing frequency in the study of house and household, and a

desire was increasingly expressed to see the house as a cultural unit, and not only or even primarily a socioeconomic one (Steadman 2015, 15).

This shift is in part explicable as part of the larger post-processualist critique, framed as an effort to escape some of the theoretical and methodological aporias that had developed over the preceding decades of processualist research and, rhetorically, as a challenge to what was seen as a scientistic discourse that overstated the possibility of objectivity and the possibility of a clean subject/object distinction (Hodder and Hutson 2003, 203, 207). Though the processualist/post-processualist debate is broad and complex at best (and stale and unproductive at its worst), two important consequences of post-processualist scholarship for the archaeology of house and household—and for my own approach here—have been a greater focus on the symbolic dimensions of house, household, and home; and an increased concern, derived from post-structuralist theory, for relationships of power, identity, and gender, and the construction of symbolic and epistemic regimes.

An early example of a post-processualist approach to the household from one of the movement's most prominent exponents (and an indicator of just how central questions of household and domestic life would be to post-processual archaeology and archaeology in general by the 1990s) was Ian Hodder's (1990) *Domestication of Europe,* a work of "interpretive prehistory" rather than anthropological archaeology (11). Hodder saw the emergence of what he calls the Neolithic *domus* (a shifting term in the work, but essentially Hodder's attempt to get at an emic concept of "home") in Anatolia and Europe primarily in terms of the creation of a symbol system and ideology of household and domestication. This ideology, according to Hodder, brought certain elements of experience into the emergent settled sphere and "cultured" them (18-19), creating in the process a fundamental distinction between the wild and the

domestic, the natural and the cultural, separated (or in some cases enclosed) by the boundaries of the *domus* (53). Not incidentally, the creation of these divisions helped to create power relationships as well that particularly constrained the social roles of women (ibid.). The symbolic system thus created would prove the cognitive foundation for the process of neolithization, which Hodder, following Jacques Cauvin, sees as first and foremost a conceptual or ideational transformation (Cauvin 1974; Cauvin et al. 2001). That is, the typically-referenced social and economic processes of literal domestication played "a central but not dominant role" (Hodder 1990; 34).

Hodder attempts to "read" the symbolic content of household structure and organization over time. Although he ultimately rejects (28) a simple system of oppositional pairs (wild/domestic, male/female, inner/outer and so on (10,27)) it is hard to read the *Domestication of Europe* without seeing Hodder's *domus* as constructed in opposition to "the wild" in an interpretation echoing French structuralism, e.g., the fundamental oppositions of the sort that Bourdieu (1977) had suggested for the Kabilye houses, or that Lévi-Strauss saw as foundational to much of the structuring of the social order. Hodder makes an argument for complexity and ambiguity rather than simple dualisms, but the socially-constructed nature/culture or wild/domestic divide is a major component of his efforts to understand neolithicization as a cultural and symbolic, rather than fundamentally economic or utilitarian process.

Peter Wilson's *Domestication of the Human Species* (1988) had made a similar argument about the central role played by "home" as a symbol in the process of settling down, emphasizing the ways in which social ideology were transformed by the fact of dwelling in permanent houses, and Ian Kuijt (2000a; 2008) has continued this line of inquiry, arguing that processes of memorialization and the laying of claim to space by kin groups helped create the

ideological conditions for sedentism in the southern Levant by sacralizing built domestic spaces as homes.

Hodder's early formulation has been criticized on a number of fronts, particularly with regard to the acknowledged tenuousness of his ascription of meaning to prehistoric objects, buildings, and spaces (Hodder himself calls his description of the cognitive neolithicization in the Near East "highly imaginative" (Hodder 1990, 42)). Nevertheless, the work of Hodder and other postprocessualists has had lasting impact: culture, symbolism, and meaning have become major areas of inquiry in household archaeology.

At Surezha, symbolic dimensions of domestic spaces have been both difficult to investigate based on available evidence and, as mentioned, admittedly not a primary focus of this project. However, they are central to my approach in one respect: framing the difference between "domestic" and "nondomestic" spaces. Of course the precise emic categories can never be wholly accessible to us, but the evidence from both the architecture and the distribution of microarchaeological remains suggests that there were important distinctions between how different kinds of space were used.

A second issue is that the Late Chalcolithic 1 agricultural villages were already deeply rooted in the tradition of "home" that emerged in the Neolithic. One does not need to follow Hodder's or Kuijt's models to their fullest extent to agree that there must have been a significant change in the mindset of people and the organization of cultural symbols once they became accustomed to seeing a single, immovable spot, marked by architecture, as a permanent dwelling place.

I mention this because I think that while Hodder saw a fundamental dichotomy between the "settled" and the "wild," the "domus" and the world around, it is possible that what we see in the

Chalcolithic of Mesopotamia is the crystallization of a new dichotomy: that between public and private, and the emergence of a complication. Within the space formerly seen as public, i.e., nondomestic space not claimed by individuals, a new distinction is emerging. Some public spaces are truly public. Wild and uncultivated areas and communal work spaces are still anyone's domain, true commons. However, spaces like the nondomestic building in Operations 9 and 10 are not private, exactly, in the sense that they can be described as the special domain of an individual or family, but they are not public: access to the space is restricted. Restriction of certain nondomestic built spaces very likely has origins in the earlier Neolithic, but I do wish to make the case that clear evidence for tight control is limited before the Late Chalcolithic and that the LC 1 is a promising area to look for a marked change in the Neolithic dynamic proposed by Hodder. This discussion will be pursued in more detail in Chapter 7, when I bring nondomestic space into my analysis. For now, I wish principally to suggest that as the nature of "public" spaces was changing, there would likely have been a concurrent shift in the way that house and home were understood.

5.8. Household Archaeology: Political Approaches

Recent work on the archaeology of household, especially in the Near East, has focused on questions of inequality and equality (K. Wright 2014; Pfälzner 1996; 2012; J. Müller et al. 2015), both between households and within them. If the "household" is to be the unit of study, it has been acknowledged that households are not simple, static, or unified actors, but rather contain their own hierarchies of gender, age, status, and relationships, and their own potentials for dispute, resistance, counter-narrative, and counter-action. Efforts to locate intra-household dynamics based on the archaeological evidence are an important area of research, and it was hoped that microarchaeological data might inform research into such dynamics at Surezha.

The generally homogeneous distribution of microdebris in domestic spaces at Surezha, both in terms of activities represented and intensity of use, offer little evidence for spatial difference within households, a frequently-invoked proxy for inequalities (e.g., Wengrow 1998). I am hesitant to make a more definitive statement about the evidence from Surezha due to the lack of completely excavated households, but the preliminary evidence as summarized in Chapter 4 does not support a reading of strong differentiation within the household, for example, the gendered division suggested by Wengrow (1998) and Forest (Roaf 1989) for the Ubaid tripartite house. Evidence one way or the other for inter-household competition or stratification is even less evident: later (LC 2) evidence for feasting from the nondomestic area (see Chapter 7) could be interpreted as representing either labor-mobilization or competitive feasting (Dietler and Herbich 2001), but it would be overreading the data to suggest inter-household competition on the basis of the presence of later feasting.

I turn now to an examination of Surezha houses households in light of two models that have had considerable influence in interpretations of prehistoric societies, to argue that neither the "house society" model nor the concept of "history houses" is a precise fit for the evidence from Surezha, but that both approaches have insights that can help us to understand the organization of household and society at the site and in the Late Chalcolithic 1 more generally.

5.9. House Societies

Two important recent trends in the archaeological interpretation of houses and households are the application of Lévi-Strauss's concept of the "House Society," and, as a special case or subset of the House Society, Ian Hodder's concept of "Memory Houses" or "History Houses."

Since both ideas have driven considerable research and debate and have shown themselves to be productive ways of considering the social lives of houses, it is worth discussing their relevance to house and household at Surezha.

Claude Lévi-Strauss originated the concept of the "house society" (*société à maisons)* in his efforts to understand social organization among the Kwakiutl (Kwakwaka'wakw) of the American Pacific Northwest as observed in the late 19th and early 20th centuries by the ethnographers Franz Boas and George Hunt (Boas 1966; Lévi-Strauss 1982)**.** The crux of the problem was that the Kwakiutl's descent rules expressed in the institution of the *numayma* appeared not to fit with any of the categories of descent (unilineal, bilinear, and undifferentiated) that were standard in anthropological classifications, partaking instead of elements of patrilineal and matrilineal descent forms. Boas (always more alert than his contemporaries to the dynamism of society) interpreted this situation as reflecting a society in transition from a patrilineal to a matrilineal system, but Lévi-Strauss saw this as an insufficient explanation. He also noted parallels with other societies, including that of the Yurok of California and, in a somewhat intellectually transgressive move for an anthropology still focused on "primitive" or "preliterate" societies, the social organizations of medieval Europe and feudal Japan. While Lévi-Strauss was not willing to jettison the "taxonomic orientation to social structure, in which societies and their constituent units are classified into…mutually exclusive essentialist types," (Gillespie 2000b, 41), he argued for creating a new, cross-cultural category of descent, and indeed of social organization, that he called the house society.

In such a society, the house was defined as "a corporate body (*personne morale,* sometimes translated as "moral person"), holding an estate made up of both material and immaterial wealth, which perpetuates itself through the transmission of its name, its goods, and its titles down a real

or imaginary line, considered legitimate as long as this continuity can express itself in the language of kinship or of affinity and, most often, of both" (Lévi-Strauss 1982, 174). In a house society, it is this house that is the fundamental social unit, and the house itself, rather than a family line per se, is the locus for descent. The house represents a kind of imagined perpetuity that transcends any individual member or line. The house in a house society is the product of a marriage alliance and serves as a "fetish" in the Marxist sense, presenting a unified face to the society at large while concealing hierarchy, opposition, and negotiation of status (Gillespie 2000b, 30). Additionally, the house in such a society may serve as a kind of symbol or microcosm of the entire social world or cosmos (Lévi-Strauss 1982, 156); such a metaphotical house-as-cosmos or house-as-microcosm has been noted in Southeast Asia (Wales 1959) as well in the famous Kabyle house as represented by Bourdieu (Bourdieu 1970).

Lévi-Strauss himself saw the house society as potentially represented in Polynesia, Indonesia, Melanesia, Africa, and, as mentioned, medieval Europe, where the house (e.g., the House of Tudor or the House of York (Moore 2012, 159)) served as the locus of social activity and social reproduction much as the *numayma* among the Kwakiutl. The house in this sense is a fundamental social unit in the sense Wilk & Rathje (1982) used for the household; it is a social referent, but also a feature of society that cuts across one-to-one biological or other kinship relations and can instead contain a range of relationships within a single unit**.**

One of the most interesting repercussions of the "house society" model as articulated by Lévi-Strauss is that it requires the integration of history (Gillespie 2000b, 33), something that structuralist anthropology has often struggled with (Leach 1954), and that Lévi-Strauss himself had trouble reconciling with his more static view of oppositional pairs as the structuring principle of social life (Gillespie 2000b, 32). Indeed, instead of a static system of kin relations that

structure social relations, the "house" only makes sense in the context of concrete histories: specific marriage alliances, adoptions, ancestors, separations, political maneuvers, along with other particular events that become a part of the history of the house and thus its identity. Anthropologists concerned with processes and dynamics of change welcomed this space, while archaeologists found themselves well-placed to study the processes by which houses were formed, how they change, and how they might cease to be as relevant social entities, either individually or as on a society-wide basis (Hodder and Pels 2010).

The "house society" concept found both broad application and considerable critique in anthropological circles, in part because of the ambiguities in his definition that proved a source both of frustration and of productive reframing. As later scholars have observed (Carsten and Hugh-Jones 1995; Joyce and Gillespie 2000; Gillespie 2000b, 34–35), although Lévi-Strauss himself tried to see the house of his "house society" within a structuralist system of social classification, the concept fit awkwardly with structuralist notions of kinship and descent. As Gillespie (Gillespie 2000a, 9) points out, one of the strengths of the "house" concept is that it helps to deprivilege notions of biological kinship as the organizing principle of society and that it likewise shakes the probably untenable foundations of a "rules-based" anthropology that does not effectively encompass the variety of lived experiences and strategies that make up not just the special case of the "house society," but *all* societies.

Gillespie (2000a) argues for making use of what she sees as Lévi-Strauss's original definition of the house, which, stripped to its essentials, "involves the ideal of continuity beyond the life span of individual members of a *person morale*, a continuity objectified in the maintenance over generations of a corpus of valued material and immaterial property via a transference of its

custodianship, accomplished by the "strategic exploitation of the 'language of kinship or affinity'" (Waterson 1995, 48–50).

While Lévi-Strauss did not talk in detail about architecture and, indeed, did not center the physical house at all, later anthropologists and especially archaeologists began to focus on the house itself, which was, according the model, the materialization of the social relations of the "house." Archaeologists, of course, found much to like about a theoretical approach in which physical houses might be extrapolated into social units, in which a diachronic perspective was central, and in which debates about "complexity" could be refreshed with new perspectives.

So it is not surprising that the house society concept has lately found broad application in archaeology (Joyce and Gillespie 2000; Kuijt 2000a; Chesson 2003; Gonzalez-Ruibal 2006; Beck 2007; Steadman 2015, Kuijt 2018), not only because it is easier for archaeologists to recover physical houses than kin relations, but also because there is an obvious attraction to cross-culturally applicable model by which one could extrapolate from data available archaeologically to aspects of society not likely to preserved in the archaeological record. For this reason, and because of the currency of debates around house societies, as I myself attempt to extrapolate social relations from the archaeological evidence, it is worth considering first, whether this model in its restrictive sense has applicability to the evidence from Surezha, and, second, what aspects of the burgeoning literature on house societies might be applicable even if the evidence does not support a categorical definition as a house society *stricto sensu*.

Gonzalez-Ruibal, who has thoughtfully considered the application of the house society concept to archaeological material, has suggested the elements that should be ideally attested in a house society as described by Lévi-Strauss:

"1. Ranked systems, or societies that are undergoing major social transformations towards a more hierarchical organization.

2. Unclear or mixed descent systems.

3. Houses must be a key symbolical element in the community at issue. They have to be the focus of all ordinary and extraordinary activities, but especially of rituals and sacrifices, thus displaying defining material features pointing at their symbolic relevance.

4. Related to the latter, a strong investment in houses (as buildings) and clear differences among houses should be noticed. Houses must be an arena for social competition and this may be reflected in monumentality and in prestige materials associated to houses.

5. The existence of titles of nobility, recurrent family names, etc. This can be tracked down through epigraphy, graffiti, coats of arms or symbols depicted in personal belongings or structures.

6. Heirlooms and elements of rank which are inherited.

7. Houses go beyond traditional kin systems and both the female and male lines might be manipulated in order to accrue the house's wealth. Women in house societies usually make a significant contribution in terms of wealth or power to the house's capital.

8. The relevance of territory for defining a collective identity, though not decisive, might also point to this kind of social organization.

9. Explicit references to houses as social units."

(Gonzalez-Ruibal 2006, 146)

Granting that other archaeological criteria might be identified or that not all of these criteria must be present in every instance, it is worthwhile to see how the houses from Surezha might align with the above.

The evidence as we have it suggests that at least the first criterion might be met: it is highly likely that both late Ubaid and LC 1 societies were in a state of transformation toward increased hierarchy, although the speed and intensity of this transformation is not at all certain**.** Archaeologically, we make this inference on the basis of hindsight: what succeeded the early Late Chalcolithic was obviously a more hierarchical society than what preceded it. We should be cautious here, since we are speaking not of the social transformations, observable in decades, among the native communities of the North American Pacific Northwest, but of an archaeological record of centuries. At the least we can say that, looking backward, it is not unreasonable to see LC 1 societies as in the midst of significant changes in organization toward increased complexity.

The second criterion, "unclear or mixed descent systems," is difficult to discover archaeologically for prehistoric Mesopotamia. In theory, we could try to find proxies for kinship and descent systems in material culture, as Deetz (1965) famously attempted for Arikara ceramics, But leaving aside the many well-considered critiques of such methodologies, the

breadth of data required from an Ubaid or Late Chalcolithic settlement, involving multiple houses with associated primary deposits, over time, is simply not available at present, at Surezha or anywhere else.

The third criterion, "houses as a key symbolic element," is more likely to be testable in prehistoric contexts; we might infer such a situation from the presence of domestic ritual space as at Çatalhöyük (Hodder and Cessford 2004, Kuijt 2018). However, there is not clear evidence for houses as a center of ritual activity in the Ubaid and early Late Chalcolithic at least for Northern Iraq, and in fact, to the extent that we have evidence for this period, it is usually interpreted as indicating the separation of ritual in this period into dedicated sacred spaces, such as the temples at Eridu and Gawra (Tobler 1950; Safar, Muṣṭafā, and Lloyd 1981).[2] It is possible that either ritual centers, administrative centers, or both were developments of literal houses in the Ubaid (Ur 2014), but at least by the late Ubaid it appears that there was separation between the two.

Likewise at Surezha, the considerable differences between the domestic and nondomestic buildings at Surezha would suggest that, if anything, houses were *losing* status as centers of ritual activity, even if the house remained a structuring metaphor (Schloen 2001) for special-purpose ritual buildings, as evidenced in the architecture and designation ("É"/"bit") of Mesopotamian temples.

The fourth criterion, an investment in houses and differentiation between them, is attested for Ubaid and early Late Chalcolithic Northern Iraq; the most notable example for the Ubaid

[2] Of course, a perspective that sees the "temple" buildings at Gawra as domestic or mixed-purpose buildings might run counter to this conclusion.

probably being the houses at Tell Abada, and particularly the large House A (Jasim 1985), while for the LC 1, the White Room building at Gawra XII might stand as an example (Tobler 1950, 2:79). At Surezha, the fairly substantial architecture and frequent rebuilding in the same place likewise suggest that houses were important and invested in. However, we do not have a wide enough exposure at present to say anything about variance in house sizes at the site.

The fifth criterion is again difficult due to limitations of data. In prehistory we are unlikely to find evidence of names or titles or direct evidence for descent systems. We might be able to infer a strong house identity through distinctive visual culture associated with specific house structures, but at least for the Ubaid and LC 1 such evidence is currently lacking.

Relatedly, the sixth criterion, concerning the heritability of elements of rank and preciosities, is theoretically investigable archaeologically, but at present there is no clear evidence for such a situation at Surezha, nor, to my knowledge, in other sites of the 5th millennium Mesopotamian heartland and northern Iraq.

While there may be creative ways at getting at the relationship of territory and identity (the eighth criterion), this, along with the seventh and ninth criteria, regarding the status of women and the references to houses as social units, are probably inaccessible to us with present data.

In sum, we have relatively direct evidence for one criterion of house societies (investment in and, less certainly, status competition through houses), and circumstantial evidence for another (a period of transition toward more hierarchical society and politics). Several other criteria are difficult to assess without access to text or ethnography, and one (houses as the focus for symbolic life) seems to run counter to our evidence.

Thus, while it might be tempting to adopt the model of a "house society" or some variation thereof to late 6th and early 5th millennium north-central Mesopotamia, and while future studies may give us better evidence of other criteria, at present the archaeological evidence does not support the notion that LC 1 households at Surezha and elsewhere in Mesopotamia are "house" societies in the strict Lévi-Straussian sense. Given that the anthropological literature (at least that anthropological literature concerned with classification of descent modes) treats house societies as rather an exception than a usual type, it may be more apt to consider Chalcolithic Mesopotamian society as organized around relations and descent rules based on real and/or fictive kin than around Lévi-Straussian houses *per se*.

However, as Gillespie argues, there may be less value in attempting to use the "house society" concept as a classificatory category than in examining "the dynamic quality of kin-like, economic, ritual, and co-residential relations that are enacted within the physical and symbolic framework provided by the house" (Gillespie 2000b, 42). In this sense, the Lévi-Straussian "house" may prove a useful heuristic in a society like that of Chalcolithic Surezha, particularly since the evidence to hand through excavation is largely related to matters of building, maintaining, working in, and living in houses. Moreover, it is the case that at Surezha, people built houses over an extended period of time in the same places and along the same plans as their predecessors. Without access to the people who built, rebuilt, and maintained these houses, we must speculate on the reasons for this rebuilding, but it has been effectively shown that the formation of tells through repeated building is not merely a matter of spatial constriction but a social matter involving memory-making and a commitment to place (Tringham 2000, 119).

Therefore, rather than attempting to apply a narrowly restrictive label of "house society" (which label, insofar as it is useful for comparative purposes, is not in my opinion suited to the

evidence presently available), I do believe that the "house"—comprising the material, social, and symbolic realities for which the house is both metaphorical and physical referent—is a useful way of interpreting the archaeological evidence from Surezha, dispensing with Lévi-Strauss's category as such, but borrowing the insight that the "house" has a social significance beyond its physical reality.

5.10. History Houses

A derived or special case of 'house society' that has recently been influential in the archaeology of the prehistoric Near East is the proposed social organization of Pre-Pottery Neolithic Çatalhöyük in which what Ian Hodder has termed "History Houses" play a central role (Hodder 1990; Hodder and Cessford 2004; Hodder and Pels 2010).

In the context of growing archaeological engagement with Lévi-Strauss's "House Society," along with theories of social reproduction drawn from Bourdieu (Bourdieu 1977; Hodder and Cessford 2004), Hodder and his team have attempted to explain a striking phenomenon at Çatalhöyük: in the tightly-packed, agglutinative and generally egalitarian structure of the settlement, some houses grow over time in such a way that their central spaces increase while their storage spaces either stay the same or decrease, indicating the unlikelihood that these houses are simply adding more and more inhabitants; additionally, some of these houses become the sites of disproportionately large numbers of burials (Düring 2005; Düring and Marciniak 2006; Hodder and Pels 2010, 174–78).

Hodder and Pels suggest calling these special houses "history houses," as a way of explaining their social function: through the embodied practices of daily life including sharing

meals (Atalay and Hastorf 2006), the repetition of artistic motifs, the curation and handing down of objects (Hodder 2016, 2), the "kin-making" practice of burying and/or reburying certain individuals beneath the floors (Boz and Hager 2013), these houses were places where social memory, shared specific history, and forms of association (which may or may not have been articulated using the language of kinship) were created. Thus the history houses can be seen as an extension of the process that Hodder (Hodder 1990) and others (Kuijt 2008) have argued as basic to the ideological transformations of the Neolithic: the investiture of domestic space with special meaning.

Like many interpreters of Lévi-Strauss, Hodder discards some of the formal dimensions of the house society, but emphasizes the ways in which houses are both metaphor and actualization of social identities and relationships. For Hodder, history houses both reflect aspects of social reality—the deep connection formed over the later Neolithic between home, kin group, and identity—and constitute it: history houses become a primary site of social identification and change. Being associated with a house is a part of one's identity and personhood. Entering a house, whether from birth or through later incorporation, has a significant impact on one's fortunes. Presumably negotiations within the house are of major importance to the social lives of their members, and the houses themselves are presented as social actors in their own right, with the further implication that individuation and atomization, at the level of the household rather than the individual, are possible to an extent that is not usually thought of for small-scale societies (Hodder and Pels 2010, 181). Not only was labor organized at the level of the social "house," but the individuation between houses may have allowed for a degree of distinctiveness in the economic activities and division of labor between houses (ibid., 181-2). Perhaps most fundamentally, though, the "history house" model, like Lévi-Strauss's house society, compels us

to think of such a house, linked both practically and metaphorically to the physical house, as a fundamental cultural, social, political, and economic unit, composed of individuals but having an existence beyond any one collection of persons.

Kuijt (2018) challenges some of Hodder's assumptions in the 'history house' concept and instead argues for an understanding of Çatalhöyük as being organized around broader, multi-family Houses or sodalities in a "*House society-ish*" arrangement (585). While shifting the focus to inter-family relationships, Kuijt maintains the significance of Houses as a central organizing unit in the Neolithic of the Near East.

Could such a situation pertain in the LC 1 of northern Mesopotamia as well? There are some tantalizing similarities, especially as expressed in the houses at Tepe Gawra's Level XII (Rothman 2002b, 78), which in many ways seem good candidates for representatives of a "history house" society or something similar. These houses see a high frequency of intramural burials, although mainly of infants and children (Tobler 1950, 2:28); the houses, with central halls or courtyards and many side rooms, have been interpreted as designed with the capacity to absorb new household members over time (Rothman 2002b, 78). Finally, the White Room building at Gawra XII seems to have a special status, and, if interpreted as a house, could be an example of a successful history house. A similar example of an "elaborated" house might be the plastered and painted room at Hammam et-Turkman (Van Loon 1988). Broadly, as I have been arguing with the evidence from Surezha, LC 1 households were principal centers of labor organization and production and consumption activity. This too, accords well with Hodder and Pels' interpretation.

However, as with the broader "house society" concept, it must be admitted that for the LC 1 of Mesopotamia we are missing several key criteria. First of all, the motivating evidence identified by Düring (2005) and Hodder and Pels (2010) was the tendency for certain houses to increase in elaboration and in number of intramural burials over time, while at the same time increasing the relative size of their central chambers as compared with their side or storage space. This diachronic feature is missing, as far as we can tell, from the LC 1 (and Ubaid), although this could be partly a deficit in evidence—we have fairly few diachronic house sequences from the LC 1.

At Surezha, where we do have a sequence of long-standing LC 1 houses, we see both overall house size and courtyard spaces in houses remaining more or less the same over the course of the LC 1 occupation, even as some rooms are internally divided, perhaps to accommodate changing household membership. The extent to which the life cycles of the houses identified at Surezha are "typical" of either the site or the LC 1 remains to be seen, but they appear to be more in line with large family homes adapting to changing needs rather than actors in a shifting society of history houses.

Likewise, with the exception of Gawra XII, we do not normally see a high density of intramural burials in particular houses in the LC 1: the movement of adult burial from within houses to cemeteries is a distinguishing feature of the Ubaid (Akkermans 1989, 356ff; G. J. Stein 2010a, 38), and while there are some meaningful changes in burial practices during the Ubaid-LC 1 transition (Akkermans 1989), adult burial seems by and large to remain outside of houses. The prevalence of infant burials inside houses in the Ubaid and (although the evidence is scarcer) the LC 1 could be interpreted in a variety of ways—most probably all related to a close association between infants, the social sphere of the domestic, and the physical house—and,

while most such interpretations do imply a kind of corporate identity centered on the house, they are less indicative of the kind of "history house" described at Çatalhöyük where both biological and fictive kin are inducted at different life stages into the social unit of the house.

Thus, as with the broader "house society" model, we are left with at best an incomplete fit between the evidence from the LC 1 and a social model centered on "history houses" as *personnes morales* which incorporate both biological and fictive kin, behave as social actors persisting across generations, and serve as a central organizing metaphor for society.

There is, at least, enough evidence not to wholly discard the possibility that a similar social organizing principle was in fact at work in the LC 1. And we certainly have grounds to continue investigating the connections between houses as physical structure, households as socioeconomic units, and "houses" as cultural actors. If the narrow models of "history houses" and "house societies" are not strongly supported by present evidence, there is considerable value to be had in the application to the Mesopotamian Chalcolithic context of some of the concepts and ways of thinking that these models suggest.

A useful concept to borrow from Hodder's model is that of "history making," that is, the discursive and/or non-discursive modes of repetition of activity that shape the landscape and create certain connections between people, place, and time. I have been arguing and will argue further in the next chapters, that the way people use space is fundamental to and understanding of how people act and think.

We might also selectively apply aspects of the "house society" concept to the wider debate on the origins of socioeconomic complexity in Mesopotamia. Recent efforts to theorize the emergence of inegalitarian social institutions have suggested that their starting point may indeed

have been social groups (whether families, extended kin groups, or households broadly construed) centered in physical houses (Ur 2014). Along these lines, what if we were to see structures like the "nondomestic" complex at Operations 9 and 10 at Surezha and the White Room Building at Gawra XII not as institutions qualitatively different from the houses of the Neolithic and earlier Chalcolithic, but rather as large "houses" (in the "house society" sense) which had substantially succeeded in consolidating large groups of individuals within their house group? If this were the case, we might be prepared to imagine a scenario in which one household or "house"—that of the chief, prince, king, etc.—achieved dominance and in the process broke the model irrevocably. The details of such a scenario go beyond the evidence available, but I mention it here because I believe further diachronic investigations of the period between the late Ubaid and the middle Late Chalcolithic are crucial to our understanding of the ways in which political authority and economic power moved from multiple households to centralized institutions. Whether or not the "house society" model fits in the strict sense, we might draw considerable insight from the model as a source for understanding the social mechanism by which such consolidation could occur.

5.11. Households and Transformation

The household, and particularly the microdebris of quotidian activity, is an ideal framework through which to investigate transitions in society, politics, and economy, precisely because of households' central place in the activity and decision-making of small-scale (and other) societies. As Wilk and Rathje put it, "households are the level in which adaptation can be directly studied because, as social groups, households articulate directly with economic and ecological process" (Wilk and Rathje 1982, 618). I have some reservations about this statement. I do not know if adaptation can indeed be "directly" studied, or whether households of necessity articulate any

more or less directly with economic and ecological process than do individuals or larger-scale social groups. Additionally, considering households metonymically as decision-makers" risks eliding the intra-house conflicts, negotiations, and consensus-building that might go into any such decision.

But, at the least, households have both a responsibility and capacity to directly alter or preserve social and economic processes, in response to changing environments and through the decisions, actions, and negotiations of their members. Because households are a locus of decision making (however negotiated or oppressive those decisions might be) and because their members pass on practices and concepts to other members, if we are to see signs of change in social, economic, or even political practices and structures, we could do worse than to look to households, and, bearing in mind the caveats discussed above, the archaeological evidence of and from houses.

An example drawn from functionalist sociology might be useful in demonstrating some of the strengths and limitations of a household-focused approach. Talcott Parsons (1955) famously proposed a "functional fit" conception of the family in society. (Note the slippage between household and family: Parsons was implicitly equating the two in his discussion of pre- and post-industrial family structure in Europe and America.) Parsons believed that family structures change in a manner to best serve the needs of social and economic structures, with his core example being the shift from the extended to the nuclear family as the core unit of society accompanying the shift from pre-industrial to industrial economy. While the specifics of Parsons's argument have by now been significantly reconsidered, he raises a question that remains key to the archaeological and anthropological understanding of household: how and to what extent do the configurations of household function and membership change in response to

changing social and economic structures and systems? Do these changes tend over time to optimize household organization for socioeconomic circumstances, and "optimize" in what sense? Are reconfigurations in household form and function always reactive, or are they drivers of social and economic change instead or as well?

One of the original aims of this project was to investigate the changes in daily life for the people of Surezha over the period marked by the transition from the Ubaid to the Late Chalcolithic 1. While the limited data from the Ubaid made this proposition difficult at Surezha, we have somewhat more evidence for charting change—or rather, continuity—across the LC 1. I will briefly expand on my comments in Chapter 2 regarding the evidence for continuity across the Ubaid-LC 1 transition, focusing here on the household as such, and then draw on impressions from the architecture and the microarchaeology as described in Chapter 4 to discuss continuity and change over the course of the LC 1 settlement at the level of the household.

Although the changes in social organization and affiliation over the course of the Late Chalcolithic in Mesopotamia appear enormous in retrospect, with the indigenous development of complex society, the emergence of urban settlement systems and state polities, and the dramatic phenomenon of the Uruk expansion, the Ubaid-LC 1 transition itself is marked more by gradual change and even continuity than by a sharp and dramatic break.

Taking the view from the house on this transition overall confirms this sense of gradual change: there is some evidence across the Ubaid horizon for swift abandonment of Ubaid house forms, for example at Tell Ziyadeh (Arzt 2001), but more common is continuity, as at Değirmentepe 7 and Hammam et-Turkman VA (Van Loon 1988), or reappearance of tripartite houses, as at Gawra XII (Rothman 2002b, 27–34) and Tell al-'Abr (Hammade and Yamazaki

2006, 455). Likewise, partial exposures at Surezha suggest continuity not only in architectural form but in at least the exterior placement and layout, perhaps the walls themselves, over the course of the Ubaid-LC 1 transition.

There is no major break in domestic economy between the Ubaid and the LC 1, although important changes did occur in this timeframe. An agricultural economy based on staple domesticated grains and domesticated animals (most prominently sheep and goat in northern Iraq) remained the foundation for production and consumption activity. One important change may be indicated by accumulating evidence for an increased use of secondary products such as wool in the terminal Ubaid/early Late Chalcolithic (Sudo 2010). This may have been one of the more substantial changes in the domestic economy in the 5th millennium, and the evidence from Surezha for textile production will be discussed in Chapter 6 below.

Ceramic mullers, food-processing tools associated with the Ubaid material-cultural package, are found in LC 1 contexts as well.

Perhaps the change most marked in the material cultural evidence from the Ubaid-LC 1 transition is in the pottery, not only in the significant reduction in proportions of painted ware at most sites, but also in the tendency toward lower firing temperatures, "cruder" painting, and a shift toward coarser chaff temper. Kiln technology also saw change, but this was "evolutionary rather than dramatic" (Baldi 2012, 191). Indeed, as described in Chapter 2, the degree to which and abruptness with which the ceramic assemblage shifted on any of these variables can differ significantly from site to site; at Surezha, painted wares remain a very high proportion of the LC 1 assemblage (42.6% of all rim sherds across Area B). The trend, however, toward unpainted, lower-fired, chaff-tempered wares, is apparent.

What are the implications for household economy and organization? We might consider Baldi's suggestion that changes in manufacturing techniques at the beginning of the Late Chalcolithic, such as an increase in chaff temper requiring lower firing temperatures, may have reflected a desire for fuel conservation (Baldi 2012, 192). This would correspond to evidence from Surezha that shows dung fuel to have been far more common than wood fuel in the LC 1 (Proctor in press). Another factor observed in the Terminal Ubaid and late LC 1 is a spatial consolidation of kilns, perhaps also due to a desire for fuel conservation (Baldi 2012, 192). This spatial consolidation could likewise involve a consolidation of labor and run alongside the increasing specialization proposed for the early Late Chalcolithic (ibid., 189).

While evidence from Surezha itself for the Ubaid-LC 1 transition and its effect on households is largely limited to the apparent continuity in house form in the small sounding in the southwest corner of Operation 2 **(Figs. 5.9 & 5.10)**, we have better evidence for overall continuity through the LC 1 occupation of the site.

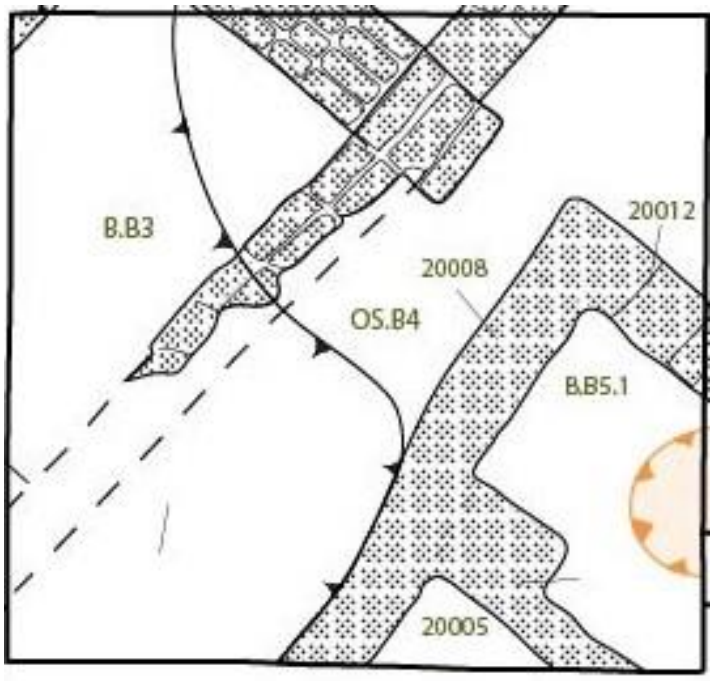


Figure 5.9. LC 1 Architecture of House B.B3 segment in Operation 2

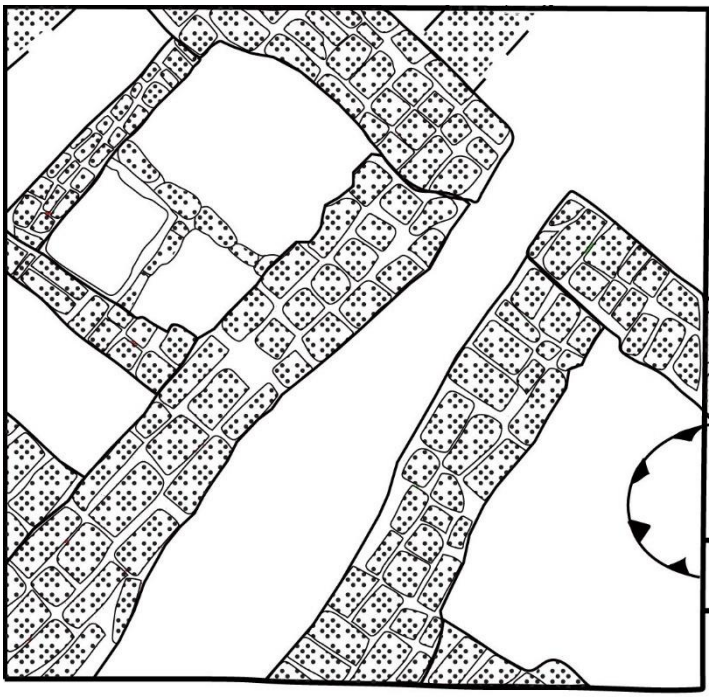


Figure 5.10. Ubaid-LC 1 Architecture of House B.B3 segment in Operation 2

This continuity is seen in the relatively minor changes to the plan and arrangement of rooms within the houses of Operation 2. Exterior walls, by and large, remain intact and in position throughout the LC 1 occupation**.**

Interior space is reoriented to a minor extent, while courtyards are more heavily modified over time. The most noticeable change in Operation 2 over the LC 1 is the construction of the circular installation atop the platform surface **20146**. The function of this structure is unknown, but its construction in the final phase of the LC 1 occupation of this area of the site might indicate a significant change in the use of the platform and courtyard. If it was a pyrotechnic facility, its construction might run counter to the spatial centralization of craft production described at other sites above.

The material culture likewise suggests overall continuity across the LC 1, within a slow trend toward regionally recognized aspects of the Late Chalcolithic. Chaff temper is predominant in the ceramic assemblage, although it seems that mineral tempered vessels may not have been as predominant in the Ubaid assemblage at Surezha as is the case at some other sites. Distinctive Late Chalcolithic vessel forms, such as gray wares, deep comb incised wares, and "casseroles" appear later, in LC 2 deposits.

As described in Chapter 4, microdebris from platforms **20220, 20217, 20216,** and **20146**, from cooking areas **20120** and **20271** and from successive courtyards **20206** and **20210** all tend to support the view that both the range of activities and the intensity of activity remained similar throughout the LC 1 occupation. The variations between successive surfaces appear most likely to be incidental variation or at most very gradual transformation rather than dramatic change in the debris-producing activity within households.

5.12. Conclusion: Houses as Loci of Production, Social Organization, and Social Meaning

I close this chapter and make a bridge to the next by focusing on what I consider to be a basic result of the research undertaken at Surezha: houses were spatial centers of production and consumption activity, and households were likely the major organizers of labor and decision-makers on its allocation, whatever intra-household political, age, and gender dynamics might be at play in the organization of such decision-making. Despite the presence of the non-domestic building complex and the corresponding implication that labor and activity at LC 1 Surezha could be mobilized to ends that did not directly correspond with domestic consumption and maintenance of the household, house and household were principal centers of activity and social organization.

The siting of certain activities, such as bread making, ceramic production, and (probably) stone tool production, outside of houses could be consistent with either some degree of cooperative labor, simple spatial centralization, and/or more centrally organized labor. Likewise, a great many aspects of the household economy (especially those related to food production or acquisition) took place not only away from the house, but "off-site," in fields and grazing lands. However, the density of debris recovered from indoor domestic spaces and from courtyards makes their key role in production and consumption clear.

In the next chapter, I will canvas in more detail the evidence for activities that took place in and around houses at Surezha, discuss potential activities that took place away from houses, and address the ways that labor, time, taskscapes and foodways fundamentally shaped the lives of people at Surezha and in the LC 1 of northern Mesopotamia.

CHAPTER 6. UBAID & LC 1 HOUSES AT SUREZHA: DOMESTIC LIFE AND WORK IN THE ARCHAEOLOGICAL RECORD.

6.1. Introduction

I have made the case based on the artifactual and especially microarchaeological data that houses were important centers of production and consumption and, further, that production and consumption were primarily organized at the household level. In this chapter I attempt to use the evidence at hand to reconstruct the various spheres of domestic activity archaeologically identifiable at Tell Surezha, including the creation and maintenance of houses; the production of pottery, tools, and textiles; the creation and use of personal ornament and toys; and, especially, those activities related to food procurement, preparation, and consumption.

In this discussion I also address several basic questions for our understanding of both social structure and social dynamics during the late 6th and early 5th millennia of northern Mesopotamia:

1) Is there evidence for economic or productive specialization in the LC 1 domestic economies of Tell Surezha?

2) What is the evidence for gendered or other social segregation of labor and space in the domestic economy?

3) What are the implications of Late Chalcolithic foodways for our understanding of society and economy in the period?

More broadly, I frame this chapter as an argument for the importance of a perspective that emphasizes practice and *habitus* and that considers production and consumption as fundamentally connected to space. This is also an argument for how to understand continuity and

change, as matters of embodied practice taking place in particular places. That people live in space and time is obvious, but it is easy in practice to ignore the spatial dimension and to think of time only in terms of sequence, rather than in terms of experience. In this chapter I use insights from, among others, Bourdieu (1977), Rapoport (1976; 1990), Lefebvre (1991), and especially Tim Ingold (2000b), to argue that production, consumption, and other social activity are properly understood in their spatial and temporal contexts and that this matters both for reconstruction and analysis of such activity.

6.2. Activity Areas and Taskscapes

Although their approaches to human activity and the environment diverge in various ways, both Rapoport and Ingold are concerned with what Ingold calls "taskscapes," that is to say the mutually interlocking "ensemble of tasks" undertaken by socially-connected people (Ingold 2000b, 195). While Ingold approaches taskscape largely in terms of the activities themselves, an approach which considers landscape and taskscape as analytically distinct, I think Rapoport's concept of "systems of activities within systems of settings" (Rapoport 1990) can be usefully applied to Ingold's formulation to analyze taskscapes explicitly in terms of the human landscape.

At Surezha, I am attempting to consider different spatial divisions or scales of taskscape in an effort to better understand production, consumption, and other social activities. These scales or divisions include: spaces made discrete by architectural or other man-made divisions (e.g., rooms within a house); areas within such spaces that may or may not have been considered spatially discrete but that might be analyzed in terms of the distribution of activity; larger discrete units composed of multiple discrete spaces (e.g., houses or the walled nondomestic complex);

apparent divisions within the settlement that might not be clearly delineated (e.g., work areas, domestic areas); the settlement itself; and the wider landscape of human tasks and experience. Data is lacking for some of these scales, especially the site and offsite levels, but the microarchaeological research undertaken as part of this dissertation gives a unique perspective on the smaller scales and divisions.

Household archaeology has long considered the spatial dimensions of human activity, framed as taking place in and around the physical house. However, domestic activity, to both most accurately represent the experience of such activity for its actors and to most correctly understand that activity analytically, must be broadly interpreted — not only that activities carried out in the house, but those in its surroundings and even at a distance or in other households. Given the interconnections between systems, the landscape of human activity is potentially infinite. As Rapoport's project indicates, the circle inscribing the landscape of human activity-space could be as wide as the world: nothing is isolated**.** The practical and analytical circles we must draw around human activity should be drawn with explicit consideration.

Therefore I am trying to think of these activities in overlapping and permeable temporal and spatial spheres. Practically this means analytically dividing spaces and activity periods and investigating them both on their own and in relation to other spaces and time periods, but also trying to keep in view the ways in which activities, spaces, and times can be considered as more complete wholes or systems. For example, when considering the distribution of microarchaeological debris potentially associated with animal butchery, I am considering the following questions: how is the activity itself constrained or delineated spatially? How does the activity relate to the broader taskscape both in time and space?

There are multiple ways of considering human activity temporally: to continue the initial example, butchery would be part of a long sequence of both the animal's life and the human activity involved in shepherding, slaughtering, preparing, and eating the animal. To take another spatial-temporal frame, microarchaeological evidence is likely to attest to repeated, habitual activity (Ullah, Duffy, and Banning 2015). The act of butchery then should be seen as a habituated activity within a sequence of activity (Bourdieu 1977). Another aspect of this cyclical temporality of activity would be seasonal: animals might be preferentially slaughtered at certain times of the year (Ochsenschlager 1993), and this preference might change year to year (H. T. Wright, Redding, and Pollock 1989). Then there is a less predictable but still perhaps cyclical element: animals might be butchered in the context of specific historical moments — a marriage, death, coming of age, military victory, economic boom or bust: the archaeological identification of such moments can be quite difficult and dubious, especially in prehistoric contexts, but traces might survive for identification in, for example, evidence of feasting (Dietler and Herbich 2001) or ritual abandonment (Akkermans and Schwartz 2003, 112). Finally, we might consider time in its sense of historical change: patterns of butchery might change over time in ways more observable to the archaeologist than to the people themselves participating, as herding strategies and economies change (Zeder 1994).

Spatially, I consider whether there are certain areas that appear to be delineated for animal butchery. The evidence suggests that the outdoor cobbled pavement in Operation 10 might have been such a space, at least at a certain stage in the use life of the area. Then I consider the patterns of activity within such an area to the extent they can be determined by the microarchaeological evidence: are there areas of greater intensity of labor, and why might these have been chosen? It is likewise worthwhile to consider a space like this in relation to other

functional spaces: there also appears to be some smaller scale animal processing going on in domestic kitchens themselves. Then, spatial spheres can be considered in their connections to other places made meaningful by human action: the fields where the animals grazed and were watched, the pens or other places where they were quartered, the place of their slaughter, the spaces where the butchered meat was prepared, where it was consumed, and where its waste products were disposed of.

Further, spatial and temporal factors might be considered together: the movement of the animal or its parts from field to butchery site to kitchen to dining area occurs across both space and time, and the spatial lines and timelines are socially meaningful. They can be related both to traditional concerns such as specialization (spatial segregation and consolidation, and temporal segregation and repetition of activity) and social inequality (differential spatial relationships between producer and consumer and the varying time signatures of, say, domestic daily meals, work feasts, and prestige feasts), and to issues raised by feminist archaeology and by the phenomenological turn of the late 20th century as described in Chapter 5.

The factors under consideration are myriad, and not all of them can be seriously analyzed or even approached with the data at hand or in the scope of this project. But I would like to set down a marker that an archaeology concerned with social systems, social change, social life, and social experience should see temporal and spatial experience as fundamental to all of them.

6.3. Is there evidence for increasing specialization or household autonomy?

Bearing in mind these temporal and spatial dimensions, I turn now to the question of specialization. An original aim of this study was to understand whether there were developments

in the direction of economic and productive specialization over the course of the Ubaid-LC 1 transition. However, as the exposure of this transition remains limited, this particular question can only be considered in light of other regional developments. More feasible is an analysis of potential evidence for specialization during the LC 1 occupation, and whether there are observable changes in the organization of production and consumption over the course of this occupation.

Specialization is here defined, following Costin (1991), as "a differentiated, regularized, permanent, and perhaps institutionalized production system in which producers depend on extra-household exchange relationships at least in part for their livelihood, and consumers depend on them for acquisition of goods they do not produce themselves" (Costin 1991, 4). As Costin notes, specialization is properly understood not only as a continuum, but as a multidimensional phenomenon (ibid., 5) that incorporates not only the scale and intensity of specialization but also the degree of elite or government involvement in production, distribution, and consumption.

Household autonomy, then, in addition to being a key feature investigable using the method and theory of household archaeology, is closely connected to questions of specialization, although it will be useful to observe the distinction between the two. We should not expect households in any society to exist in a condition of absolute autonomy. Rather, when we speak of household autonomy, or indeed of specialization as a whole in terms of socioeconomic complexity, we are speaking of changes in degree that eventually imply qualitative change in the organization of society.

To reiterate, the spatial dimensions of the phenomenon of specialization are fundamental, and have long been a part of the ways in which archaeologists have identified evidence for

specialization: differential spatial distribution of evidence for certain production activities (e.g., different activities being carried out in different households; removal of certain activities from domestic to specialized production areas; or the emergence of new kinds of production in centralized areas); the emergence of new kinds of spaces (workshops, factories); differential spatial distribution of specialized products (e.g., "high-status" craft products and "preciosities"); and spatial relationships between producers and consumers (e.g., "attached" workshops within a settlement or the distribution of specialized products from local production centers to regional consumers).

These spatial dimensions are not just markers but are intrinsic to the experience of specialization itself. Once production is concentrated in certain places and not others—especially in the shift from domestic to nondomestic production sites—it changes the ways in which people experience space and live their lives in and around the built and otherwise human-mediated environment.

What is the evidence for economic specialization at LC 1 Surezha, and how does this evidence compare regionally and over time? Is there evidence for increasing specialization, and, if so, in what domains and in what ways? How can we consider specialization in regional perspective? I draw here largely from evidence presented in Chapter 4, supplemented by other macroarchaeological and microarchaeological data and put into comparison with other sites in the LC 1.

Potential characteristics of specialization of production and the kinds of evidence we might look for at Surezha include the following. Note that some of these overlap, and that none of these are meant to be absolute criteria (e.g., there is almost always some degree of "specialization"

within households, and even between households, as almost any society might have skilled experts or preferred producers of certain goods), but rather sliding scales along which different aspects of specialization might be seen:

Economic Specialization of Certain Households or Members of Certain Households in which particular individuals or groups engage in productive activity that exceeds their own consumption activity, is not practiced by most or all households, and is consumed by other members of the society.

Archaeological evidence for this aspect of specialization would include differences between households in evidence for productive activities (e.g., a concentration of microdebris associated with certain kinds of tool or craft production within some households and not others) and general spatial segregation of specific activities reflecting the intensification of certain activities at the expense of others.

At Surezha, this kind of evidence is presently lacking, but it is premature to draw strong conclusions because of the simple fact that we do not have microarchaeological or other evidence from multiple complete houses. As shown in Chapter 4 there do not seem to be any recognizable archaeological signatures of intensive, specialized production within or around domestic spaces, as we might see, for instance, in a house where a cottage industry in weaving or tool-making were practiced. Rather, the overwhelming impression is of non-specialized activity widely distributed across domestic spaces, with no clear indications of special- or single-purpose areas. One exception is some possible, highly localized concentrations of lithic microdebris, but the intensely local nature of this debris seem almost certain to represent small-scale production and no high degree of specialization.

Production of Domestic Necessities Outside the Domestic Sphere. Related to the previous aspect of specialization, but worth keeping distinct, is the production of materials used or consumed in the domestic sphere outside of that sphere, i.e., in specialized workshops, industrial areas, and so on. Spatial localiazation of production outside the home does not necessarily imply specialization: obviously, many productive activities, including agriculture and animal husbandry, take place largely outside of the house and its immediate environs and do not imply that they are being undertaken by specialists. However, in certain cases, we could see centralization of production or movement of formerly or plausibly household productive activities outside the house as reflecting a shift in economic structure: the textile "factories" of the Akkadian period would be a clear example of such centralization (B. R. Foster 2016).

Archaeological evidence for this shift in economic structure (basically, away from household control of production (Sahlins 1972)) could be spatially reflected the placement of plausibly domestic productive activities outside of domestic spaces and inside specialized workshops or other work areas, or the emergence of dedicated work areas for new kinds of products. Another way of looking at a similar trend archaeologically would be the evidence for lessened or absent household production of necessities, especially when such trends can be analyzed diachronically. If we were to find that tool or craft production that had formerly taken place inside or around houses later was absent, we might propose a shift in the direction of specialist production.

At Surezha we do not have evidence that could be called definitive, but all the evidence we have points to houses as being major centers of diverse productive activity. In Chapters 4 and 5 I have argued that this reflects a situation in which households were the primary economic actors and organizers. As will be shown below, all major classes of on-site productive activity visible at

Surezha, with the exceptions of pottery production and bread baking, appear to have taken place in and around houses (although in some cases—as with lithic manufacture—elsewhere as well).

Standardization of Craft Goods: Standardization has been a major archaeological criterion of specialization, whether within communities or at the regional level (Longacre 1999), as it is taken to imply a centralization of production and sources as well as a potential increase in the quantity of production. While there have been important critiques of the degree to which standardization, for example of ceramic pastes, can be taken as unambiguous evidence for specialization (D. E. Arnold 2000), it remains a frequent component of archaeological investigations of specialization.

Archaeological evidence for standardization is most commonly sought in ceramics due to the large quantities of evidence recovered: standardization of forms, pastes, decoration, and design.

At Surezha, detailed comparisons of pastes and vessel forms have not been completed, but here we do not see the emergence of mass-produced forms like Coba bowls in the LC 1.

Different patterns of consumption among different members or institutions of society, although most obviously linked to social differentiation or hierarchy, might also be correlated with productive specialization, in cases of "attached" specialists producing special-purpose wares for these individuals or institutions, or as reflective of the ability for certain individuals or groups to obtain greater access to wealth or goods on the basis of a specialized economy.

Archaeological evidence for different consumption patterns could include bioarchaeological or other evidence for different diets and differential distribution of macro- or micro-artifacts.

At Surezha we, as in the case of production, have little evidence one way or another for differentiation in domestic consumption patterns in the LC 1 due to the limited exposure of houses. In the Ubaid phase of the domestic quarter, a cache of sealing clays and a fragment of a polished stone palette **(Fig. 6.1)** were identified in Operation 2: because either the raw materials for the palette or the palettes themselves were likely imported, these objects are often considered prestige goods in the literature in the Ubaid (G. J. Stein 2010a, 29)**.** It is uncertain to what degree such objects were differentially distributed at Surezha in the Ubaid, and we have no immediately comparable "high-status" objects from the domestic areas in the LC 1.

Figure 6.1. Fragment of Ubaid Polished Stone Palette

One comparison in which we do see considerable difference in artifactual distribution is that between domestic and nondomestic areas. This differentiation is visible in both the micro- and macroarchaeological records and should, I argue, be taken as representing a fundamental difference in how these spaces were used. This argument is largely taken up in the next chapter. However, the question of to what extent the differences in differing patterns of use and consumption between domestic and nondomestic spaces is evidence for specialization of production at LC 1 Surezha is a difficult one. We do see several unique types of object in the nondomestic space that may be evidence of specialized production. The lenticular vessel (Fig. 6.2) is an uncommon type that would have been specially produced for its users and although it would not have required exceptional technical knowledge, it would require a shared cultural knowledge of the form and its requirements.

Figure 6.2. Lenticular Vessel from Operation 9 Nondomestic Room B.B2.1

Stronger evidence for specialized production can be drawn from several fine stone bowls (SR 9490 & SR 9491, Figs. 6.3-6.4) found in the nondomestic room in Operation 10.

Figure 6.3. Stone Bowl (SR 9490) from Operation 10 Nondomestic Building B.B1

Figure 6.4. Stone Bowl (SR 9491) from Operation 10 Nondomestic Building B.B1

Such bowls are otherwise unique at Surezha and evidently not part of the assemblage of tools and vessels of the LC 1 households (although we must consider the possibility that the different circumstances of abandonment of the houses and the nondomestic complex allowed for removal of such artifacts from the houses while they remained in the nondomestic rooms). The bowls seem likely to be the efforts of expert craftspeople. We have no evidence of their workshop or place of manufacture on-site to date. Obviously such a workshop may simply be unexcavated, or the bowls may have been imported. But in any case, specialized craft products were used at Surezha, and apparently differentially, with most such products emerging in the nondomestic area.

Fundamentally, then, the evidence from Surezha suggests a relatively low degree of specialization of production, especially for those goods employed or consumed domestically. There is evidence for spatially centralized production of certain products, including bread and pottery, but no reason to believe that this is reflective of economic specialization. On the other hand, there is evidence that specialized production was either undertaken in the settlement or that special craft goods were available to the individuals, groups or institutions provisioning the nondomestic complex in the LC 1.

6.4. Gendered and other Spatial/Social Divisions of Labor

As briefly discussed in Chapter 5, one crucial dimension of the archaeology of household, particularly since the 1990s, has been the integration of the study of gender; as part of a general shift toward considerations of the individuals who make up the household and the political and symbolic negotiations that might occur within, several scholars argued that the archaeology of

domestic spaces was an important venue for the investigation of questions of gender (Tringham 1994). Understanding the ways in which spaces were constructed and used might provide insight into the social roles and status of men and women, as well as, perhaps, giving insight into the ways that past people conceptualized gender.

One of the most immediate concerns, especially for household archaeologists working in the "traditional" or "materialist" tradition, was to better understand the gender division of labor; this project is, however, not at all straightforward, particularly in the absence of text or ethnography. Comparative ethnography and ethnoarchaeology can offer some assistance to reconstructions of the gendered labor of the household (Steadman 2015, 195). Work by Hendon (2006), Nelson (2004; 2006), Barber (1994) and others has shown some broad trends that tend to recur: food production is usually associated with women's labor and hunting and warfare with men's. Other tasks (e.g., textile, jewelry, and pottery production) vary by society and might be flexible, with either men or women or both participating. Of course there is no guarantee that any given society or situation will conform to a cross-cultural trend. Another potential source of error, as Lowell (1990) has pointed out, is that site-based excavation can bias the record toward women's labor, since some of the most distinctive men's labor (like the aforementioned hunting and warfare) is typically undertaken away from the settlement itself and thus away from the area excavated by archaeologists.

While spatial or labor divisions are a limited window into the variety of gender and other intra-household relationships, they have the advantage of being at least potentially investigable with microarchaeological techniques. The question is also important due to the questions raised regarding household and social organization in the Ubaid by scholars like Forest (Roaf 1989), who argued for seeing the characteristic tripartite houses of the period as essentially divided by

gender, or Balossi Restelli (2010), who argued instead that the reduplication of activity in houses of the Mesopotamian Ubaid were potentially indicative of multifamily houses. Microarchaeological or micromorphological analysis of Ubaid tripartite houses might effectively test some of these claims of functional segregation or reduplication, providing clearer data from which to make further claims about social organization within households.

For Surezha, given the limited Ubaid domestic exposures, I was interested in understanding the situation for the LC 1. In attempting to assess the patterns of domestic production and consumption I wanted to know whether there was any evidence with houses of spatial segregation or differential production and/or consumption that might reflect divisions between genders, individuals, or groups within the household (e.g. children and adults or different nuclear families in a multi-family household). Even given the presence of clear spatial segregation of activity, correlation of such segregation with individuals or groups might be difficult but could at least provide guidance for future research.

We can hypothesize that a household with clear division of space (not necessarily of labor) on the basis of gender or another social category would be likely to show differences in the architectural, macroartifactual, or microartifactual profiles of different space. These could include microarchaeological profiles indicating spatially distinct activity, e.g., of areas devoted specifically to certain kinds of craft production. Alternatively, in cases of even greater segregation by social category, we might see replication of similar profiles in different spaces, e.h., separate dining, entertaining, or food production areas for different groups in different parts of the house, a situation we might expect in multi-family households (Pfälzner 2012), polygamous households (Abu-Lughod 1999), or households in which spatial segregation is highly gendered, as in some iterations of the *harem* (Schick 2010, 72).

Even given clear evidence spatial distinction or reduplication, it would not be at all straightforward to identify whether gender is the relevant factor. Spatial distinctiveness might indicate nothing more than dedicated spaces for specific activities (e.g., craft production or cooking). Such activities of course may be more or less highly gendered activities in a given society, and the more highly segregated activity appears to be, the more plausibly we might suggest some sort of distinction between groups within a household. Depending on the kinds and intensiveness of activity observed, this could be taken as evidence for specialization as described above, but especially if the same small-scale, spatially distinct activities frequently observed across households, we might instead consider a replicated pattern of differentiated labor on the basis of gender, age, or some other social category.

On the other hand, a situation in which activity is distributed throughout the house, with few or no areas of specialized production or symmetrical reduplication of activity would be indicative of a lack of spatial segregation of productive and consumption activity, as well as a lack of restriction on movement and access. For example, the distribution of food processing equipment across the house might suggest that women (given a presumption that women did much of the domestic food preparation) moved freely throughout the structure (Steadman 2015, 187).

At Surezha, the evidence from LC 1 houses supports an interpretation of highly distributed activity with relatively low levels of segregation. As described in Chapter 4, we see that production activity appears to be decentralized. I have argued that we should see domestic courtyards as centers of food consumption, but there is no clear evidence that such spaces were segregated by gender or any other social category within the household, and I have suggested it

is likely that the spaces were the common dining spaces for household members as well as potentially for receiving non-household guests.

One domestic center of productive activity that we do see is the food preparation area B.B5.2 (**20270/20120**), with its built-in fire and other installations. As described above, cross-cultural evidence suggests that the food preparation labor taking place in this area was gendered, and most likely female, but we have no internal evidence to support this conclusion. We have little in the way of mobile or semi-mobile food production equipment (e.g., grinding stones, andirons, mullers) *in situ*, so cannot make arguments from this material about patterns of movement and access, but it is worth noting that microarchaeological material that we might associate with domestic food preparation, particularly unburnt bone and lithic microdebitage, are found throughout the houses investigated. This debris could be interpreted in various ways, but one option would be that some aspects of food preparation were carried out throughout the house, including in storage areas and in rooms with probably broad functional range. Such an interpretation would strongly suggest that there were no limits on access or activity placed on food preparers within and around the house. If such preparers were female, this would be evidence against a strongly gender-segregated spatial arrangement of the house.

Overall, there is no evidence strong spatial segregation by gender or any other social index, within the LC 1 houses at Tell Surezha excavated to date. The limits of the data are such that we cannot wholly preclude such segregation within houses and households, but domestic activities investigated do not indicate strong functional differentiation of space. It is probable that certain tasks were restricted to or strongly associated with certain social roles of gender, age, and position in the household and the wider society, but evidence of such restriction or association is not visible in the architectural or microarchaeological record. We do, on the other hand, have at

least probable evidence that whatever the gendered or other associations between individuals and labor, there were not strong limits on access or movement based on gender.

As described in Chapter 5 under "Categorizing Households," we are able to suggest that households at LC 1 Surezha were not composed of multiple families. The partial nature of excavation means that this suggestion is tentative, but there is no evidence to support multi-family households, whether architecturally, microarchaeologically, or macroarchaeologically.

I have argued that all human practice and experience should be considered in spatially-mediated terms, and certainly gender and labor would have been so mediated. While evidence is limited to date at Surezha and for the Ubaid and LC 1, further research toward the gendered dimensions of labor, space, and consumption should be a priority. Promising avenues for such research include bioarchaeological analysis of musculoskeltal wear (e.g., efforts to identify the distinctive wear patterns associated with grinding of grain across the life span (Austin 2014) or nutrition, isotopic analysis of diet (with potential implications also for movement across space at a much larger scale), as well as innovative techniques like the ridge-size analysis of fingerprints left on pottery undertaken by Sanders (2015) at Tell Leilan.

6.5. Spheres of Domestic Activity at Tell Surezha in the 6th-5th millennia.

In this section I describe those domestic activities at Tell Surezha at the turn of the 5th millennium for which it is possible to make some claims based on the archaeological evidence. My emphasis here is on activity taking place in and around houses, and for which we have at least some data. Off-site activities fundamental to the domestic economy are discussed, especially in the context of food procurement, but the limitations of the data preclude extensive

analysis. However, significant parts of the domestic economy are at least partly visible in the archaeological and microarchaeological records.

The goals of this section are, first, to present the pertinent archaeological data on domestic production and consumption from the site (through the 2019 season); second, to attempt to reconstruct the activities undertaken by residents of Surezha in the time period under question using these data and, in some cases, reasonable analogy; third, to consider the spatial distribution of such activity as presented in Chapter 4 in terms directly related to human activity; and fourth, to contribute evidence to my broader claims about the organization of space, society, and economy at Surezha, and in the LC 1 of northern Mesopotamia more broadly. I organize this discussion by category of labor, although this treatment also requires some treatment of categories of objects for which we have data for use or discard but not production.

6.6. Architecture, Building, and Maintenance

6.6.1. Houses and the Dwelling Perspective

Building, for the inhabitants of the mud-brick houses of Surezha, should be understood not only in terms of a finite moment of construction that creates a form of shelter and makes a division between internal and external space and divisions within that internal space. Rather, mud brick construction requires frequent maintenance and regular cycles of rebuilding**.** The construction, care, and use of house space should be considered, then, one of the major spheres of domestic activity of households at Surezha.

Building, planning, maintaining, and living in mudbrick architecture encapsulates what Tim Ingold has called a "dwelling" approach (Ingold 1995; 2013, 70), in which "the forms people build…arise within the current of their involved activity, in the specific relational contexts of

their practical engagement with their surroundings" (Ingold 1995, 76). Ingold is perhaps too dismissive of the mental forms that guide building, but his broad approach, which emphasizes the mutuality of activity and building, is an especially useful way of thinking about how the built environment is both a product of social activity and a key mediator for that activity (see also Rapoport 1969). In this section, I discuss some of the practicalities of construction and the daily practices embodied in building and maintenance, then move to a discussion of house form and the inferences we can make about social life and activity; I touch briefly then on nondomestic architecture from the perspective of practices of building and maintenance. Nondomestic space will be treated more fully in Chapter 7 from a somewhat different perspective, emphasizing access and control of activity.

6.6.2. Building and Maintaining Houses

The houses and most other buildings of 6th and 5th millennia Surezha were constructed of sun-dried mud bricks. We do not have information on the material sources for the earth used for the Surezha bricks, but a wide variety of soils may be used for the formation of mudbrick, including agricultural soils and the debris from earlier occupation (Moorey 1994, 305); alluvial soils may be preferred when available (Morgenstein and Redmount 1998) (Morgenstein and Redmount 1998), as might those with a high clay content (Moorey 1994, 305).

Bricks were chaff-tempered and usually rectangular, although occasionally square or irregular bricks or brick pieces were employed**.** Walls and other mudbrick features were usually coated with layers of tempered mud plaster, presumably repeatedly applied throughout the use life of the building, as is the case in modern and ethnographically-observed mud-brick construction and maintenance. This plastering provided protection from water and preserved the underlying brick. While the plaster faces were not always clearly preserved or recovered, at

Surezha we found impressive examples of 7 or more clearly defined layers of preserved plaster on nondomestic architecture (discussed more fully below).

No kiln-baked bricks have been recovered from any of the Ubaid or Late Chalcolithic strata at Surezha to date. There is likewise no evidence of the use of stone as a foundation or building material in the Ubaid or LC 1 levels. Unambiguous evidence of roof timbers has not been seen, but both ethnographic (L. S. Braidwood et al. 1983) and archaeological (Moorey 1994, 348; Emery 2009) evidence would suggest that roofs were constructed of wood beams. The preponderance of dung fuel attested in the archaeobotanical record (Proctor, Smith, and Stein in press) might reflect cultural preference, but it could also represent limited timber resources in the immediate environs of LC 1 Surezha. In such a case, roof timbers, especially larger trunks, would have been relatively valuable and likely reused in reconstructions and rebuildings when possible.

Clay for bricks would have optimally been obtained in late spring following the rainy season. This would have allowed bricks to dry in the summer heat before construction following harvest (Moorey 1994, 304–5; Pollock 1999). Brick construction, whether in wooden molds or by hand, would have been an important activity (although not as labor-intensive for a skilled craftsperson as might be assumed), but we have no direct evidence of this activity or how it was organized. Even in very recent times, mud brick manufacture in contemporary Middle Eastern village societies was a broadly-known skill and not a specialized activity (Emery 2009, 4). Mud brick manufacture for most domestic projects in modern Egyptian villages is organized at the household level, although neighbors and friends will often contribute to larger projects with the expectation that such assistance will be reciprocated when the need arises (ibid.). It is reasonable

to assume that manufacture of mudbrick for houses at Surezha was likewise organized by individual families or households.

As noted, upon construction, the walls and roof of mudbrick structures were covered in mud plaster for durability and water resistance. This plaster must be regularly repaired and replaced, especially after and/or before the rainy season. This activity would almost certainly have been undertaken by the residents of the houses themselves; although not as major a labor commitment as house construction, this continued act of maintenance should also be seen as part of the domestic economy.

There is no apparent change in building or maintenance technologies in domestic architecture at Surezha over the course of the LC 1, although there may be some differences in technique and/or sources of clay visible in the somewhat different brick texture between the early and later phases.

6.6.3. House Form at Surezha

House form is a basic element of the archaeological study of house and household (Kent 1990b; Rapoport 1969; 1982) and cannot be ignored in a study of the ways in which people lived, worked and interacted with the built environment. Since house form and its social implications at Surezha and elsewhere in the Ubaid and LC 1 have already been discussed at length in Chapters 2 and 5, here I briefly recapitulate, with an emphasis on the interface between house form and social activity.

Exterior house walls ranged between 50 and 100 cm in thickness, mostly toward the lower end of that range, although there is variation from wall to wall; interior walls also varied, but most ranged between 30 and 50 cm in width, often a single row of bricks laid as stretchers. The

bricks themselves were, on average, approximately 36 cm x 24 cm x 11 cm for domestic buildings, although there was a wide range here, from as little as 30 cm to as much as 40 cm in length, and similar ranges in width and height.

Houses at Surezha were rectangular, divided into multiple rooms, also usually rectangular. Angles were not precise and true right angles were seldom encountered, but in general perpendicular subdivision of the exterior walls was the rule. Few complete interior LC 1 domestic rooms were exposed, but dimensions were modest: the early-phase kitchen 20271 was in one sense the largest complete room, approximately 7.5 m^2 between its walls; however, this area overstates the usable floor space, since much of the room was filled with fire or other installations, leaving 3-3.5 m^2 of usable floor space. Room 20151 in the northeast of the Operation 2 exposures offered ~4.5 m^2 of floor space. Rooms 20273 and 20174/20274 were quite small and probably used for storage. Ubaid rooms excavated in the small sounding in the southwest of Operation 2 were similarly modest in size.

Courtyard spaces were considerably larger than interior rooms: courtyard area 20218 enclosed some 12.5 m^2, while courtyard 20120/20206 was larger, although its bounds have not been established. The difference in size between interior and courtyard spaces is a good example of the ways in which the mutuality of building and dwelling both expresses and impacts daily practice and social organization: obviously it is simpler to enclose larger unroofed spaces near the exterior of a house than to create large, roofed spaces using mud brick and with potentially limited timber resources. But the larger courtyards should not be written off as simply a result of material limits: as I have shown above, courtyard were centers of consumption and commensality. These were places where people gathered, ate, and socialized. Further, at LC 1 Surezha, the courtyards do not seem to have been placed interior to the building as in the Ubaid

house or the modern urban Middle Eastern house, suggesting that this consumption and commensality may have been carried out with some degree of openness to the social space outside the household.

As described in the chapters above, the overall impression from the houses so far seen at Surezha is of nuclear or small extended family dwellings, rather closely spaced, perhaps sharing walls, positioned in order to take advantage of communal or specialized production spaces and oriented toward domestic production and consumption in both courtyard spaces and interior rooms.

6.6.4. Nondomestic Architecture

Although this section is principally focused on patterns of building, maintenance, and use of domestic structures, I wish to briefly note here some aspects of these activities with regard to nondomestic structures, as these also would have formed part of the work of local people. Nondomestic architecture was considerably different in scale and sometimes in construction technique, but when mudbrick was used this material was similar in dimension and material, although the apparent differences in color and consistency of different phases of building were more pronounced in the nondomestic complex in Operation 9 than in the domestic houses. However, the bricks in the nondomestic building did not appear to be meaningfully different in size or shape from those used in the houses to the east.

One of the interesting features that emerged in the excavation and removal of walls in the nondomestic area of Operation 9 was the possibility that at times pisé/tauf/rammed earth techniques were used instead of sun-dried mudbrick. Walls **90136** and **90127** in the nondomestic building in Operation 9 appeared on removal to have been constructed not of individual bricks,

but of packed clay or *tauf*. *Tauf* in modern Iraq, where it is still used, tends to be used for domestic courtyard and garden walls rather than dwelling or other structures (Braidwood and Howe 1960, 40), making it interesting that a room in a special-purpose nondomestic building was so constructed while both the exterior wall and the domestic structures to the east were made of brick.

An important example of the cycles of maintenance and use comes from this same building in Operation 9, where fire had blackened and even partially vitrified some of the walls of one room, probably at a stage earlier than our deepest excavations to date (Ubaid-LC 1 Transition). The blackened bricks were covered over with mud plaster and the room was then reused for a time, until its final abandonment, which probably had a ritual element involving the discard of the lenticular vessel and stone mortar and pestle described elsewhere. Whatever else can be said about the space here, it seems obvious that there was an overwhelming desire to continue utilizing the same space, even after what appears to have been a very serious conflagration.

Elsewhere, on the exterior walls of the nondomestic building, we see multiple instances of rebuilding and then replastering. As best we can understand the sequence of construction, the northwestern walls were being rebuilt and replastered and the rooms inside being used even as the large southwestern wall was falling into disrepair.

Here we can see spatially-inscribed time, as Lefebvre would have it (Lefebvre 1996, 16). The thickness of the plaster is evidence of repeated cycles of maintenance and care. It seems almost a flight of fancy to envision this building continuing in use, replastered season after season even as the eastern face of the external wall was crumbling away. The history is of course lost to us, but we might at least guess that two factors were warring here in the institutional history of this

space, one tending toward entropy and one toward repair. It requires even more of a leap, but we could perhaps see this history in the context of a diminishing ability of this particular institution to mobilize labor at the same time that it was exerting effort to maintain its relevance. The social dimensions of nondomestic spaces and institutions will be discussed at length in Chapter 7. For now, I present this both as an example of how activity is written onto the built environment and as both a parallel and a counterpoint to the activities of building and repair described for domestic houses above.

6.7. Food Procurement, Preparation, Consumption

6.7.1. Food as Fundamental Social Fact

At Surezha, as in most nonindustrial societies, the most common and important class of labor was that involving the procurement, processing, and preparation of food resources. Under this broad heading may be subsumed hunting and fishing, along with the manufacture and maintenance of the tools therefor; the gathering and processing of wild plant resources and associated labor; agriculture, including field labor, crop processing, and all the work of toolmaking and maintenance required; husbandry, including care of animals, harvesting of any secondary food products (i.e., dairy or blood); the procurement, transport, and storage of water; preparing food for storage or cooking; storing food; cooking; serving and eating; and cleanup or disposal following consumption. It will be observed that several of the industries treated elsewhere, like ceramics and lithics, were aimed to a considerable extent at food procurement, preparation, transportation, and storage. Casting our gaze still more widely, activities ranging from trade to warfare might likewise often have a food-procurement aspect.

This is to say that foodways, socially-mediated human-food relations, are a fundamental aspect of every society, comprising a major part of social, economic, technical, and intellectual life. To study foodways is to engage with questions of labor, gender, family, social norms, negotiations, and ritual, of economics, distribution, politics, of hierarchy, ethnicity, and social change. Food is, as Hastorf (2017) puts it, "a principle medium for social interaction, for human comfort and reassurance, for anxieties and fear; it is at the heart of ideological construction…. Food is a social fact…a transformative agent operating in all societal processes, both materially and psychologically" (1-2).

Food practices within the household likewise unite the economic and the social: "the inner-directed circulation of the household product…is magnified where distribution take the form of eating together, in a daily ritual of commensality that consecrates the group as a group" (Sahlins 1972, 94).

It follows that the study of domestic means of production and consumption must set food at a central place. So, what were the people of Surezha eating? How were the materials for their meals acquired, and how were they transformed, physically, and socially, into meals? How did these foodways change over time?

Food involves a long *chaîne opératoire*, whose stages include procurement and production, curation processing, storage, consumption processing, presentation, serving, eating, cleaning up, and rubbish disposal, all of which may at least theoretically be studied in the archaeological record (Hastorf 2017, 83).

I begin, then, with a discussion of the foodstuffs that composed the diet of the people of LC 1 Surezha. Then I briefly discuss the evidence for food procurement and production, most of which

must be inferred because of its primarily offsite nature; in the course of this discussion I also address, separately, the limited evidence for storage of plant foods and the stabling/housing of animals. Then I move to a discussion of food processing, both "curation" and "consumption" processing, before moving on to a discussion of our evidence for meals, both quotidian and special, and a final note on disposal of wastes. Throughout I attempt to integrate environmental, economic, and social aspects of the activities involved.

6.7.2. Diet

The range of foods consumed by people at Surezha in the LC 1 reflects preference, technology, and environment. Our principal data sources for diet at present are faunal and macrobotanical remains, with some corresponding evidence from other sources, including ceramics and tools used in food preparation.

Based on the archaeobotanical record, the vast majority of the food consumed was apparently derived from domesticated plant and animal resources. The staple domesticated grain crops were barley *(Hordeum vulgare*) and emmer wheat (*Triticum dicoccum*), with the former being somewhat more common. Free-threshing wheats became increasingly common in the later LC 2-3 periods. Other domesticated plant resources include lentils (*Lens culinaris*) and bitter vetch (*Vicia sativa*), although the latter may have been primarily or exclusively livestock forage (Proctor, Smith, and Stein in press). Grains were evident in considerably greater quantities than pulses, a common phenomenon for the period (ibid.). There is evidence for flax *(Linum usitatissimum)*, although its presence is minimal by the end of the LC 1, which may indicate that

it was cultivated primarily for fiber rather than oil, and that in this respect it was supplanted by animal fibers by the late 5th millennium.

Figs (*Ficus carica*) were consumed, including in a feasting context. Because it is presently impossible to distinguish between the seeds of wild and domesticated figs, we do not know whether these were domesticated at Surezha (Proctor, Smith, and Stein in press). Other plant resources whose remains have not been preserved in the archaeobotanical record are likely to have been consumed as well.

The meat of domesticated animals was also a major food source: sheep and goats (genus Ovis/Capra) were most commonly consumed, as were, to a lesser extent, pigs (genus Sus) and, less commonly, cow (Bos). Ovis/Capra represented approximately 44% of identified faunal taxa for the LC 1 at Surezha, with Sus bone at 31%, and Bos at 14%. Proportions of pig bone waned and waxed over time; while in the Ubaid they represented 32% of identified taxa, in the LC 3 faunal record 28% of identified taxa were pig (Price, Fisher, and Stein in press)

Identified Taxa	**Ubaid & Ubaid-LC 1**	**LC 1**	**LC 1-2**	**LC 2, LC 2-3, & LC 3**
Ovis/Capra	53%	44%	80%	56%
Sus	33%	31%	10%	28%
Bos	12%	14%	7%	13%
Canis	1%	8%	1%	<1%
Wild	1%	3%	1%	3%
Total	**203**	**1113**	**410**	**268**

Figure 6.5. Relative Abundances (based on %NISP of Mammals) of Major Taxa from Tell Surezha. Specimens identified as Ovis/Capra/Gazella not included. (after Price, Fisher, and Stein in press)

Overall the proportions of various food animal taxa were relatively stable between the Ubaid and LC 1, with the important exception of Canis bones, which were much more common in the LC 1 than in earlier or later periods. This may be an overrepresentation based on the presence of several more complete individuals found in the nondomestic complex in Operations 9/10; both domestic dogs and wolves were present, and the presence of butchery marks suggests that in at least some cases these canines were eaten.

Due to the higher percentage of Canis remains, Ovis/Capra bones represented a correspondingly lower percentage in the LC 1 than in the Ubaid, but the relative proportions of Ovis/Capra, Sus, and Bos were basically stable between the two periods.

Culling patterns of the sheep and goat bones in the LC 1 are consistent with a generalized pastoral herding economy in which meat for local consumption was the main product (see also "Textiles" below). Individuals tended to be killed at prime ages (6-24 months) rather than preserved for an intensive focus on secondary products (G. J. Stein and Fisher 2020, 138; Price, Fisher, and Stein in press). This does not mean that secondary products like hair/wool and dairy were not used - there is, on the contrary, good evidence that they were - but that intensive production of textiles was not yet an overriding goal of herding practices, even if a nascent trend toward a "fiber revolution" (McCorriston et al. 1997) of intensive animal fiber exploitation can already be discerned by the late LC 1 (Price, Fisher, and Stein in press).

Wild plant and animal products were also a part of the foodways of LC 1 Surezha. Although these likely represented a relatively small proportion of the caloric intake, it is important to note that wild plant resources in particular tend to be underrepresented in the archaeobotanical record

(Colledge and Conolly 2014) and that wild resources may have particular cultural resonance that belies their significance or lack thereof in the overall dietary makeup. This appears to be the case, for example, in wolf remains found with evidence of butchery exclusively in the nondomestic complex.

Some of the wild animal food resources noted at Surezha include the aforementioned wolves, gazelle, freshwater fish, freshwater mussels, and birds' eggs (G. J. Stein and Fisher 2020, 137–38; Price, Fisher, and Stein in press). Mollusk shell was frequently observed in the microarchaeological as well as in the faunal record; some of this shell was readily identifiable as belonging to freshwater mollusks, while other shell appeared to come from land snails, which may or may not have been a food resource.

Of wild plant resources, caper (*Capperis spinosa*), and purslane (*Portulaca oleracea*) were consumed, along with the aforementioned figs, which may have been gathered wild (Proctor, Smith, and Stein in press).

Overall, then, the diet of people at LC 1 Surezha was oriented around staple grain, especially barley, and the meat and possibly milk of sheep and goats, along with pig and cow meat to a lesser degree. It is likely that a wide variety of other foods composed part of both the daily and special-occasion diet, however, including the less common domesticates and wild foods listed above and almost certainly a number of foods whose remains are less likely to survive in the archaeological record, including leafy wild and domesticated plants, root vegetables, fruits, and nuts.

If these are the raw materials for the foodways of LC 1 Surezha, what were the processes that made them into food and into meals? I turn now to activities of production and procurement.

6.7.3. Agricultural Production, Offsite Processing, and Storage

Barley and emmer wheat were staples in the diet, and their farming and processing along with pulses and other edible crops would likely have been the single largest object of labor at LC 1 Surezha. It is unfortunate that there is little direct evidence for field and farming practices in the Late Chalcolithic: while certain basic aspects of traditional agricultural practice are mandated by biology and environment, within these parameters there is a considerable range of possible farming practices. Paleoenvironmental reconstruction, ethnographic parallels, and traces in the on-site archaeological record can help make inferences about farming at LC 1 Surezha.

The paleoenvironment of Surezha would have been suitable for dry farming, although irrigation may also have been employed (Proctor, Smith, and Stein in press). Fields would have been ideally located near the site, although the acceptable range of travel for agriculturalists to their fields varies cross-culturally and based on the local environment. The catchment analysis approach pioneered by Vita-Finzi and Higgs (1970) has been developed and refined for different circumstances and data sets, including the integration of landscape features like “hollow ways” or radial routes indicating foot and animal traffic around tell sites in northern Mesopotamia (Wilkinson 1994; Ur 2003b; Wilkinson et al. 2010; Casana 2013); but we have no clear data on the agricultural catchment of LC 1 Surezha.

The details of farming practice at the site remain obscure, but scattered indicators from the on-site archaeological evidence provide some useful detail. Stone sickle blades, sometimes with silica traces, sometimes with bitumen show evidence of grain harvesting practice **(Fig. 6.6)**.

Figure 6.6. Flint Sickle Blade with Bitumen Hafting

There is some evidence, in the form of pathological lesions on distal limbs of cattle bone, that cows were being used as traction animals at LC 1 Surezha (Price, Fisher, and Stein in press).

No caches of stored grain have been recovered from Surezha. The archaeobotanical evidence, in which there is a scarcity of culm and rachis fragments and a large quantity of glume bases, suggests that grains harvested and threshed offsite were given final processing in and around houses, an impression increased by fragmentary grinding implements (Proctor, Smith, and Stein in press). Small rooms in houses are potential candidates for storage places of the semi-processed grain, as was the case at Ubaid Kenan Tepe (Graham and Smith 2013), and the nondomestic building complex in Operation 9 contained small rooms that likewise might have had a storage function. But, as noted, no bulk stored grain or other direct evidence for storage has been found, and there is no clear answer to whether grain was stored in individual houses, in the nondomestic complex, or elsewhere on the site.

Hopefully future excavation will give a clearer picture of crop processing and storage at LC 1 Surezha, as these practices can help illuminate both the *chaîne opératoire* of grain food production and broader questions of labor and economics. For example, Roaf (1989, 137) determined that there was an absence of grain storage facilities in the Ubaid house at Tell Madhhur, suggesting that either the household did not control individual stores of grain or that their grain was stored away from the house itself, in contrast to the example of Kenan Tepe noted above. At Kenan Tepe, evidence of storage of grain in semi-clean form was used to suggest communal organization of labor (Graham and Smith 2013); if the model is accepted, and the preliminary evidence for storage of semi-processed grain is confirmed, we might also be justified in asking whether and to what extent agricultural labor was communally organized at LC 1 Surezha, and whether this organization involved collaboration between independent households or a more centrally-organized effort. For the moment, the question remains open.

6.7.4. Animal Husbandry, Pasturing, and Penning

Before discussing animal husbandry practices, it is worth taking a moment to consider the ways in which human life at Late Chalcolithic Surezha was intertwined with the lives of other species (Haraway 2008; Ogden, Hall, and Tanita 2013; Boyd 2017; Seshia Galvin 2018). The domestic world of human beings at Surezha was also a world of sheep, goats, cattle, pigs, birds, wild animals, plants domesticated and undomesticated, insects, microbes, and others. The interactions between these beings could be matters of considerable import, indeed life and death, for any and all of them. While a truly multispecies archaeology (along the lines of the "multispecies ethnography" called for by Ogden et al (2013)) is beyond the scope of this project, which focuses on human social lives and taskscapes (and see Boyd 2017 for some critiques of

the “multispecies” concept), it is important to see the discussion on animal husbandry as part of a much broader network of relationships that were central to the domestic economy, however invisible much of this network—from grain-eating rodents to disease-bearing insects to microbial fermenting agents—may initially seem to be.

Our evidence for animal husbandry practices comes from the zooarchaeological and archaeobotanical records. I have already discussed relative proportions of animal remains in the section on “diet,” but it is worth reemphasizing here that sheep and goats were probably the most common source of meat and represented the largest domesticated animal population at LC 1 Surezha. The archaeobotanical assemblage, in which a high percentage of wild/weedy taxa in samples derived from dung fuel, shows clearly that animals were pasture grazed near the site. Their diet may have been supplemented by chaff from cereal processing; alternatively, this chaff may have been introduced as temper when forming the dung fuel cakes (Proctor, Smith, and Stein in press).

Dung itself was an important product and an important part of the cycle of both food production and household life, as it provided the bulk of the fuel used at LC 1 Surezha (Proctor, Smith, and Stein in press). Whether this preference for dung fuel springs from environmental, cultural, or economic factors, or a combination of the three, is unclear. However, it should be remembered, especially in the context of discussion of secondary animal products, that dung was both an important resource for heating and cooking, in addition to its utility as fertilizer (whether deliberately spread or incidental to grazing) and potentially as temper for ceramics, mudbrick, and plaster.

Another question related to both the animal economy and domestic taskscape has to do with the housing of animals. When necessary, animals might be housed in pens or folds offsite, in dedicated areas of the site, or housed or temporary kept indoors, either in shared living spaces or dedicated structures, either attached to or detached from houses themselves, or in roofless courtyard areas. At the modern village of Surezha, sheep, goats, and poultry are housed in mudbrick or cement block stables or stalls nearby to but not usually attached to the houses, with stables and houses together surrounded by a wall for the housing complex.

The houses excavated thus far at Surezha do not contain spaces suitable for the housing of large livestock. Roaf came to a similar conclusion in his study of the Ubaid house at Tell Madhhur, which he considered to be unsuitable for the stabling of animals (Roaf 1989, 137) due to the narrowness of the entryway and the high threshold to enter the house.

Proctor was able to identify a deposit with high concentrations of dung spherolites in an alley (SR 2772). In general, such concentrations were only found in the context of dung fuel debris in fire installations, suggesting that this alley was either a storage place for dung fuel or a stabling area for animals (Proctor, Smith, and Stein in press). Another tool at our disposal for identifying animal housing is soil chemistry analysis. Concentrations of phosphates from deposition of urine are one potential indicator for the presence of animals in a confined space. This was not practical as part of the current study, but such work might likewise help to identify places of animal housing.

A final piece of architectural evidence: a bin along the south face of a wall in Operation 9 **(90020)** somewhat irregular in shape and having the appearance of an afterthought, might be supposed to be a trough of some kind, but no contents were preserved.

Figure 6.7. Bin 90020

Moving along the life history of the animals to the time of slaughter and butchery, I have suggested that the cobbled pavement **100221** may have functioned as a space for one or both of these activities, at least at some point in its history, on the basis of the large number of both animal macrobone remains and the fragments of unburnt bone in the microarchaeological profile of this space. It is also quite plausible that such activities took place at a somewhat greater distance from the inhabited structures of the site. Evidence for further preparation of meats is given below when I turn to food preparation.

6.7.5. Food Preparation

The evidence from LC 1 Surezha is that food was prepared and consumed in both collective and domestic settings. The kitchen B.B5.2 (Locus **20120**/**20271**) in Operation 2 was small and presumably used for the preparation of food for the family or group inhabiting the West House.

Microarchaeological evidence as described in Chapter 4 gives us some information about the kinds of work going on here: the most noteworthy results were a relatively high proportion of unburnt bone in the **20120** phase (36.23% of the total 2.0-4.0 mm microdebris) and a surprisingly high concentration of chipped stone microdebris both embedded in the floor of the **20271** phase (in which chipped stone represented 14% of the 2.0-4.0 mm microdebris) are worthy of comment. For **20271** in particular, where unburnt bone represented 17% of the total 2.0-4.0 mm microdebris profile, we might suggest meat processing for food preparation. Both the bone and stone would represent breakage or chipping from cutting or scraping at cuts of meat, possibly for stewing or braising. In **20120**, while chipped stone was less prevalent, the high proportion of unburnt bone might likewise be indicative of final preparations for cooking meat, either by removing meat from the bone or by breaking bones to cut pieces to size, to remove marrow, or both. It is to be hoped that future investigation of the burnt crusts of organic material identified on several LC 1 vessels might further clarify ingredients and preparations.

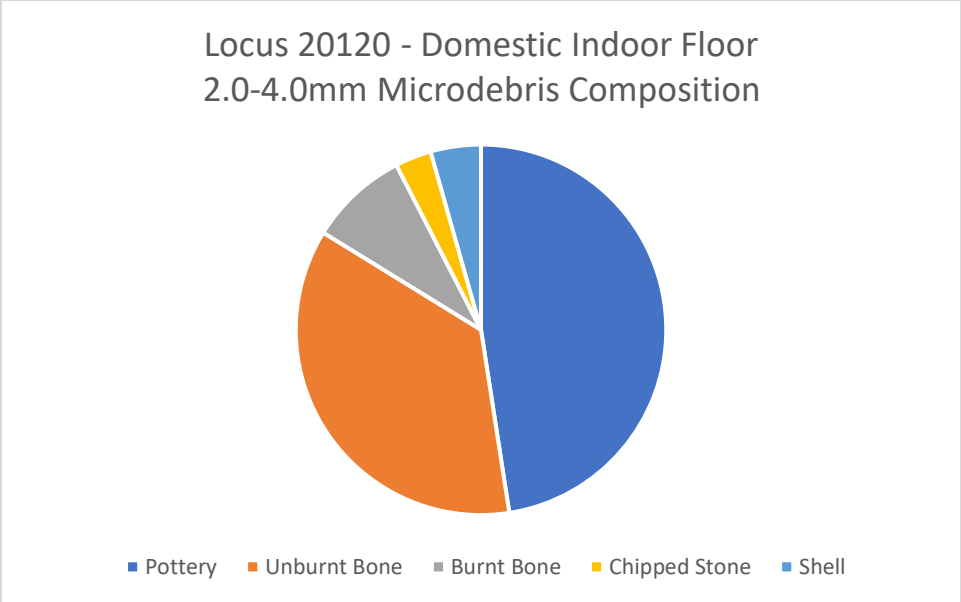


Figure 6.8. Locus 20120 2.0-4.0mm Microdebris Profile

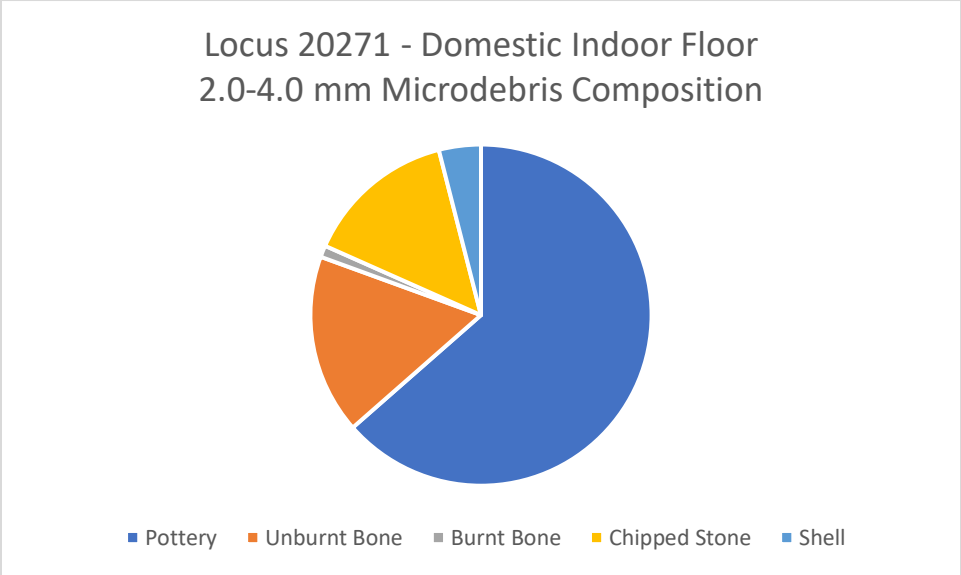


Figure 6.9. Locus 20271 2.0-4.0mm Microdebris Profile

I have made the argument, both on the basis of size of the kitchen area and the evidence for consumption in domestic courtyards, that many foods were prepared by household members for the same household group.

Another phenomenon must be explained, however: the multiple outdoor baking installations in Operation 9, apparently contemporaneous with at least the earlier occupation phase of the kitchen suggest preparation of at least some kinds of food outside the home, in this case, most likely, bread baking.

Evidence for preparation of food outside the home can be interpreted in several different ways, not all of them necessarily mutually exclusive, and none of them precluding similar processes going on within the domestic sphere as well.

1) Collectively prepared foods were prepared for public purposes, including communal feasting events, communal provisions for specific institutions, groups or individuals, redistribution (either through feasting or other means), and ceremonial or ritual meals.

2) Specialists prepared food for multiple households.

3) Quotidian foods were jointly prepared through communal labor, with members of different households or other social groupings sharing labor and dividing the produce, as suggested for the worker's village at Amarna (Samuel 1999).

4) Quotidian foods were prepared by households, families, or kin groups separately but either alongside one another or by using shared installations for parts of the process: this sort of arrangement was common in the modern Middle East, where baker's ovens served also as "public" ovens, to which families sent their dishes for slow cooking over the course of the day (Roger 2000, 1143).

Each of these interpretations has significant implications for our understanding of a society. If food is prepared collectively, we expect a high degree of household interdependency, a strong communal ethic, and a relative lack of specialization. If food is prepared by households or kin groups working independently, we might expect a somewhat more specialized or otherwise divided society in which other aspects of household economy are independent as well; and if food was prepared in nondomestic contexts by specialists for select purposes (feasting, redistribution, cult ritual, or--as in a modern context--sale), this might be indicative of a significant communal investment in public and/or elite institutions.

It is my opinion that the open-air fire installations in Operation 9 represent sites of domestic production, used by households for their own production. I base this largely on my interpretation

of the space: the massive walls to the northwest of the outdoor fire installation area, without apparent entrance on this side, seem to mark a clear demarcation of space. While it is certainly possible that bread or other food products from the outdoor fire installation area could be carried into the nondomestic building complex, the fact that the public complex is itself fairly extensive and appears to incorporate its own courtyard suggests to me that a simpler explanation is that it is connected to the domestic spaces to the east, and was a practical way to manage space and risk of fire, save fuel, and/or consolidate labor.

I emphasize, however, that this interpretation should be questioned by continuing excavation, and that it is extremely preliminary given the overall lack of connection between operations 9 and 2 and the limited understanding of the nondomestic building complex. We must, moreover, consider why a bread oven like **20254** was placed in what appears to be a domestic courtyard while the Operation 9 ovens were at least partly separated from any particular house.

6.7.6. The "Muller Investigation"

In the context of this discussion of food preparation, I here present the results of a study I undertook in the course of this dissertation research to better establish the function and use of the ceramic "muller," one of the most distinctive elements of the 6th-5th millennium Ubaid material cultural assemblage (Jasim 1985; Roaf 1989; Carter and Philip 2010a) and also found in the succeeding northern Mesopotamian Late Chalcolithic 1 (G. J. Stein 2011, 129–30 fig. 11; Fisher 2017). These objects of fired clay typically consist of a tapered shaft of some 7-18 cm., usually with a curve or sharp bend before the narrow tip. Sometimes the shaft is painted, and at Tell Abada (and apparently only there to date) some of the shafts terminate in animal heads (Jasim 1983; 1985, 63). On the other side, the object terminates with either a flattened semispherical head, wider than the shaft, or sometimes simply a convex base on the same lines as or only very

slightly flaring from the shaft. The "head" is apparently never painted, but in some cases as at Tell Zeidan, cross-hatch incision is seen. Generally speaking, the objects resemble a thick curved clay nail. There is terminological overlap in the literature between "clay nails," (another key element of the Ubaid assemblage) "bent clay nails," and "mullers," and it is probably the case that more than one functional category of artifact has been variously ascribed to each of these categories.

Figure 6.10. A Muller from Surezha

Mullers are widely distributed across the Ubaid horizon, including in southern Mesopotamia at Ur, Eridu, Oueili, and elsewhere, at Tell Abada (Jasim 1984) and Tell Madhhur in the Hamrin

(Roaf 1989, 25), at Tepe Gawra in northern Iraq (Tobler 1950), at Tell Zeidan in Syria (G. J. Stein 2011; Fisher 2017), at Değirmentepe in Turkey (Esin 1989, 136), as well as in Susiana (Hole 1987), and are primarily associated with the Ubaid 3-4 phases (Oates 2010) and the LC 1. The function or functions of the mullers has been a subject of speculation since their initial identification. Excavators have suggested a number of possible functions, from model bull's horns to crop harvesting implements to tools for ceramic manufacture or attaching reed matting to walls (Jasim 1985, 62). However, the dominant interpretation is that they were used as pestles or mullers (Roaf 1989; Tobler 1950). The most persuasive evidence for this interpretation is the frequent signs of abrasion on the head. Additionally, while the shaft is sometimes painted, the head never is, and the design of the objects appears ergonomically suited for grasping in the hand as a tool (Jasim 1985). However, until now direct evidence for their use as pestles or grinding tools has been absent. Relatedly, a major problem has been that of establishing just what they were used to grind. As Roaf (1989) observed, they would be inefficient tools for grinding of raw cereal grains, both because of their size and material. It has been suggested that they were used for grinding paints or pigments, but no evidence has yet emerged to support this use.

This project, then, aimed at answering the question of what Ubaid and LC 1 mullers were used for, testing the hypothesis that these were pestles or grinding instruments and, if possible, identifying the substances with which they were in contact. In order to do so, we analyzed fifteen mullers from Surezha for starch grains that had been absorbed into the porous fabric of the mullers during their use life. This would allow us to test the hypothesis that the mullers were in contact with vegetal material during their use lives, and if such proved to be the case, to potentially identify to some degree the kinds of plants on which they were used.

Through the end of the 2017 field season, fifteen complete mullers or broken mullers with intact heads had been retrieved from Surezha. Six of these came from the LC 1 houses of Operation 2; one from LC 1 levels in the step trench, four from topsoil or wash layers, two from the nondomestic building complex in Operations 9 and 10, and two from field survey of the area surrounding the tell (Operation 99).

Once the mullers had been collected, we began the process of extracting and analyzing sediment for starch grain analysis. Starch grain analysis is a growing avenue of research for understanding foodways in ancient Southwest Asia. The majority of starch grain studies have focused on dental calculus (e.g. Hart 2014b) , but as in the case of the examination of Mousterian tools at Shanidar Cave (A. G. Henry 2012) and artifacts from Çatalhöyük (Hardy et al. 2013), tools are also a promising line of research for ancient starch. The ability to identify a specific cooking practice, such as grinding or boiling of plant materials, is a well-known aspect of starch grain research (A. G. Henry, Hudson, and Piperno 2009; Crowther 2012; Raviele 2011; Johnson and Marston 2020). Despite recent skepticism (Collins and Copeland 2011), associating starch grain morphology with human behavior remains a powerful tool in the archaeologist toolkit (A. Henry, Brooks, and Piperno 2011).

Once the 15 mullers or muller heads were selected, starches were extracted from the ceramic fabric of the heads using the methodology described in Pearsall (2000, 360–61). Three sediments were extracted, using an initial dry brush to remove surface sediments were extracted, using an initial dry brush to remove surface sediments, then a water rinse, and finally immersion in a sonication bath to dislodge sediments from the porous ceramic surface. It is from this final sediment that the starch grains were identified.

Tom Hart processed the samples and mounted the slides at the University of Connecticut in Summer 2019 using the University of Missouri piggyback method described in Pearsall (2015, 363–64). Starches were examined at 200x and 400x magnification in both transmitted and polarized light and identified in comparisons with Hart's reference collection and established literature (Hart 2014a; Piperno 2006).

A total of 20 starch grains were recovered from 9 of the 15 mullers. 9 of these starches were gelatinized, indicated that the starches were cooked**.** Three of the gelatinized starches, all from a single muller, could be identified to the Triticeae tribe, a category of taxa below the family level that includes the Aegilops, Hordeum, and Triticum genera, that is the wheats and barleys. An additional three starches were broken in half. Finally, 4 more ungelatinized Triticeae starches, 5 Poaceae (grass), and 2 unknown starches were recovered intact.

The mullers from which identifiable Triticeae grains came were both from unstratified contexts near the mound surface; however, further Poaceae starches were identified on mullers from stratified contexts, including an LC 1 trash deposit (SR 5401).

These results are good evidence that the mullers were used to process grains and possibly other grasses, and that in at least some cases this processing occurred during or after cooking or heating of the starches.

Starch grains were recovered both from mullers that were minimally handled and uncleaned before the start of the sampling process and from those that had been collected and cleaned for museum storage in previous seasons, and from mullers in sealed archaeological contexts as well as surface survey finds and wash layers. Thus a further result of this research is to support the claim that recognizable and identifiable archaeological starch grains can be recovered from

ceramic artifacts, including those that have been subject to cleaning or other post-depositional or post-excavation processes.

This study confirmed mullers at Ubaid and LC 1 Surezha were used at least in part in the processing of food plants. This does not rule out additional uses or different uses of the tool in different areas, times, or cultural contexts. It does, however, suggest that a food processing use is a main function for mullers, and such a use could be applied as working hypothesis to mullers found at other sites, especially when evidence of abrasion is present. This could also be adduced as evidence for cultural similarities in foodways across the Ubaid horizon in those sites and regions where mullers are found, adding to the impression that continuities in Ubaid culture are found at the level of daily practice (G. J. Stein 2010a, 33).

We were also able to show that mullers were used in the processing of staple cereal grains; it is possible that the starches identifiable to the family Poaceae were also from staple grains or from other grasses. The presence of gelatinized starches raises questions of where in the chain of operations of food production and preparation the use of mullers fell. If grains had already been cooked, a more specialized use than grinding of uncooked cereal grains could be indicated. This makes sense since, as has already been mentioned, the mullers would seem highly impractical for bulk grinding of uncooked grain. Some possibilities include: (1) that they formed part of the food preparation process, perhaps to crack parboiled or parcooked grains in a similar way to bulgur or to mash or stir cooked or heated grains—such processes are attested in the preparation of masa, for example, and specialized instruments for stirring porridges are not unknown: for example, the Scottish oatmeal spurtle. (2) that they were used for the mashing of cooked foods to make them palatable to individuals with few or no teeth (e.g., babies or adults with substantial tooth loss due to decay or damage); mashing food, especially for weaning infants, is well-attested in the

ethnographic literature (Sellen and Smay 2001, 65), and the use of starchy foods for weaning has been cited as potential evidence for earlier weaning among agricultural as opposed to hunter-gatherer communities (ibid.). Cooked or heated grains are not obvious candidates for requiring a dedicated tool for mashing, since they are easily made soft in the form of porridge or soaked bread, but the possibility should not be excluded. Another possibility (3) is that mullers were used in a stage of beer production, perhaps in the process of separating heated mash from grain solids.

Additional avenues to be explored include organic residue analysis and mass spectrometry, which might reveal chemical residues not likely to leave starch or phytolith traces, as well as dedicated use-wear analysis using a scanning electron microscope or other high-resolution imagery to attempt to better characterize the wear observed on the muller heads. We are proceeding with pollen and phytolith analyses of the mullers; while these investigations have the potential to add significantly to our understanding of their function, the central conclusion, that these tools were used in the processing of heated cereal grain, allows us to clearly see mullers as part of the suite of tools used by people at Surezha in the preparation of meals.

6.7.7. Consumption: Daily Meals

Kassabaum (2019, 613) points out a growing commentary on the feasting literature which calls for additional attention to everyday consumption, both on its own terms and in its relationship to feasting events (Hastorf and Weismantel 2007). As I have argued in this section, everyday food consumption is fundamental to social life, economic organization, culture, and identity.

Several of the quotidian food consumption practices at LC 1 Surezha can be extrapolated from the microarchaeological, archaeological, and architectural data. I am particularly interested in the spatial dimensions of these consumption practices.

I have argued based on the microarchaeology that domestic courtyards were centers of meat consumption, including most probably roasted meats as indicated by a high proportion of burnt bone fragments in the microdebris profiles of courtyards. Other direct evidence for consumption of quotidian meals in courtyards (e.g., preserved *in situ* deposits or identifiable eating/drinking vessel fragments in the microdebris profiles) is lacking, but it seems likely that if roasted meats were being consumed in domestic courtyards, the courtyards were a site of meal consumption as well. The courtyards would presumably have been used primarily by family members dwelling in the attached houses. We are still lacking robust data on patterns of entry and egress to houses and courtyards, but the placement of courtyards near the edges of the housing complex and the apparent direct entry to courtyard **B.B4.1** from outside the house also suggests that these spaces were not restricted to family or household members, but rather places in which neighbors could be together and, by extension, eat together.

I have also suggested that both stews or braises and roasted or grilled meats were consumed; the presence of microdebris associated with both processes in domestic production and/or consumption spaces suggests that both types of preparation were part of quotidian foodways. Bread, too, whatever the economic circumstances of its preparation, would almost certainly have been consumed in these spaces. We have no direct evidence for preparation or consumption of beer or other beverages.

More information on day-to-day consumption could be facilitated by isotopic or other analyses of LC 1 human remains, and the social and spatial dimensions of eating should continue to be investigated as more of the settlement and more complete houses are exposed.

6.7.8. Consumption: Feasts

Over the last two decades, feasting has become a central concern in archaeology (Dietler 1996; Dietler and Hayden 2001; Emberling 2016; Kassabaum 2019). In anthropology, feasting has long been understood as a vehicle for exchange, for enhancing prestige, and for establishing and altering social relations (see, e.g. Tybjerg 1977). The turn toward feasting in archaeological theory has included efforts to systematize different types of feasts (Dietler 1996) as well as to integrate feasting with questions of long-standing concern, such as the origins of domestication (Hayden 2009) or of social complexity. A broad line of inquiry has seen feasting as, at the least, deeply intertwined with, and at most, a driving force in the emergence of social complexity in the Near East (Kabukcu et al. 2021).

While evidence of individual feasting events can be difficult to identify, we do have strong evidence for feasting at Late Chalcolithic Tell Surezha for the LC 1-2 transitional period following the occupations described in this dissertation. Two large pits were dug into and just outside of the remains of the large nondomestic building complex in Operation 10; one of these (100003) revealed a large quantity of noncarbonized, mineralized fig (*Ficus carica*) seeds and caper berry (*Capparis spinosa*) likely excreted in human stool), along with purslane (*Portulaca oleracea)* and turnsole (*Chorzaphora sp.)*, a genus of which the sole species extant in modern Iraq is known ethnographically for its use as a blue-green food (or textile) colorant (Proctor et al in press). These remains were found in rich organic matrices in multiple deposits, separated by soil .

The pit also yielded the butchered and articulated skeletal remains of three juvenile and one adult caprid, with little sign of burning on the bones.

Also prominent in these pits were at least several dozen small, apparently hand-squeezed logs or pegs of unbaked clay **(Fig. 6.11)**. Their function has not been determined, but it is conceivable that they were used as some kind of counting or inventory device.

Figure 6.11. Unbaked Clay Objects from Pit 10003 (SR 4196)

Finally, the pit also contained several obsidian blades, frit beads, and a rare example at Surezha to date of a "wide-rimmed flower pot bowl," a widespread mass-produced form of the northern Mesopotamian Late Chalcolithic.

Because little is known to date about the broader context of the feasting event or events evidenced by this waste or disposal pit, it is difficult to draw firm conclusions about the purpose of the feasting. If the clay objects were some form of inventory or represent some form of institutional or individual control over the distribution or provisioning of the feast, we might see a redistributive or labor mobilization function for the feast. In such a case, the remains of this feast could be taken as evidence of groups or institutions possessing a degree of control over labor, consumption, or both by the end of the LC 1.

On a more prosaic level, mineralized seed remains also offer a tantalizing view of certain aspects of foodways that are not often preserved in the archaeological record, namely the consumption of uncooked, leafy, wild, or fruiting plants.

6.7.9. Food Waste Disposal

The disposal of food wastes (both consumed and unconsumed) is yet another basic part of the cycle of human foodways. Evidence at Surezha is sparse at yet, beyond the striking remains from the feasting pit.

Most of the macroarchaeological deposits of bone, broken ceramics, and other materials can be reasonably considered to have been left behind following the use-life of the rooms or other surfaces which they overlay. On the one hand, this could be seen as a limitation of the data on actual disposal procedures, but on the other it shows that abandoned houses or waste places were likely common dumping grounds for waste of various types, including food wastes.

Larger macroarchaeological components of the floor matrices might also help us to understand patterns of cleaning and disposal. The same data used to analyze trampling might also or alternatively suggest the frequency with which larger debris were swept or cleaned away

from various surfaces: it is noteworthy that the ratios of small to large microdebris from domestic indoor surfaces are, on average, the highest of any surface category **(Fig. 6.12)**; while I have adduced this as evidence for trampling in these spaces, it might also be indicative of a regime of regular cleaning that removed some of the larger debris from the space.

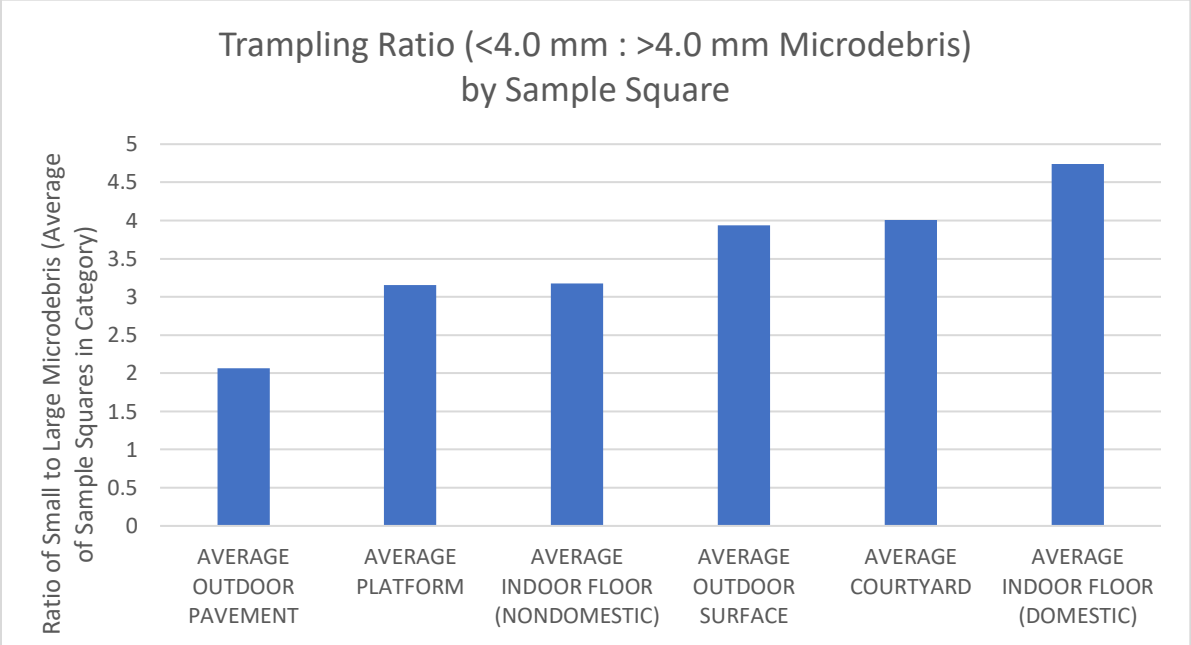


Figure 6.12. Trampling Ratios for Different Surface Types

It is likely that dumps of food and other wastes were largely outside of both courtyards and interior spaces, but also likely not located far from the site, excepting such cases, not yet evidenced for the Late Chalcolithic, in which wastes were scattered as manure in agricultural fields (Wilkinson 1994). Other than the "feasting" pit, no clear latrines or other concentrated areas of human waste have been identified.

6.8. Pottery Manufacture and Use

While the importance of ceramics to the archaeological record goes almost without saying, their role as objects made and used is often subordinated to their role as chronological indicators or evidence of cultural connection. However, recent years have seen important work on ceramic manufacture and craft traditions in the Ubaid and LC 1 (see especially Baldi 2010; 2012; 2016), as well as on the relationships between ceramics, foodways, and social relations (Parker and Kennedy 2010; Kennedy 2012; Balossi Restelli and Mori 2014; D'Anna and Jauss 2015; D'Anna 2020) . Key issues raised are the degree of centralization or specialization of production, the social and economic meaning of the emergence of mass-produced forms especially in the later Late Chalcolithic, and the importance for life and society of observed regional similarities and differences.

At Surezha, our direct evidence for ceramic manufacture in the LC 1 is limited. No LC 1 kilns or pottery production areas have been excavated. Additionally, full analysis of the ceramic assemblage is still ongoing, so detailed statistics on pastes, vessel forms, and manufacturing techniques are not available.

However, we are able to glean some information from the available data on the place of ceramics in the social and economic landscape, both in terms of their manufacture and as objects used by people. This section will discuss, first, the persistence of ceramic traditions across the Ubaid-LC 1 transition, as a potential indicator of broader continuities in society; then, the indicators of patterns of use available from the microarchaeological data; and finally a brief summary of potential avenues of research to broaden our understanding of the social and economic dimensions of ceramics in the LC 1.

6.8.1. Ceramic Traditions: Evidence for Continuity and Local Production

An interesting feature of excavation at Surezha has been the degree of difficulty in clearly identifying the shift from the regional Ubaid ceramic horizon to the localized ceramic traditions associated with the local Late Chalcolithic. Across the Ubaid horizon, this shift has principally been associated with both a tendency toward local variability in both ceramic vessel form and decoration, as opposed to the more unitary Ubaid assemblages, on the one hand, and a tendency toward faster and larger-scale production on the other (Marro 2012b, 27). In Northern Mesopotamia, two key features related to these trends are the reduction in the proportion of painted pottery, the increase in poorly-fired, chaff-tempered wares, and the spread of serially-produced bowls such as the various Coba or "wide-flower pot" bowl types (Baldi 2016, 122).

At Surezha, many of the regionally-acknowledged distinctive forms, however, are not present in the LC 1. Serially-produced forms are not observed until the LC 1-2 transition; neither flint scraping nor bowls with internal cross-hatch incisions are common, and the vegetal decoration known as sprig ware is also absent (G. J. Stein and Fisher 2020, 142); this is surprising, because although the LC 1 is marked by considerable variance in ceramic assemblage between regions, some of these elements are quite well-known, at least by the 5th millennium (Baldi 2016, 199). Additionally, the proportion of painted decoration remains high—42.6% of all rim sherds for the LC 1 assemblage (G. J. Stein and Fisher 2020, 142). Chaff temper predominates in both painted and plain wares.

In other words, many of the markers of the transition between the Ubaid and the LC 1 do not appear to be present in at least the early to middle phases of the LC 1 ceramic assemblage. One

possibility, amplified by the consistently early C14 dates for the LC 1 deposits at Surezha, is that what has been understood as the early LC 1 at Surezha could be considered a local variation of the Ubaid, with the Ubaid-LC 1 transition occurring near the end of current Area B exposures rather than near the beginning.

Alternatively, the similarity of the LC 1 ceramic assemblage at Surezha to the Ubaid assemblage both at Surezha and elsewhere, in terms of the observed forms, the high proportion of painted wares, and the apparent similarity in manufacturing techniques, could be taken as additional evidence for substantial continuity in organization of aspects of the production and consumption economy between the periods at Surezha. I have already proposed such continuity on the basis of architecture (where it seems both domestic and nondomestic buildings were reused or rebuilt along similar lines). The nondomestic building complex in particular, as will be discussed below, seems likely to have continued in use across the Ubaid-LC 1 transition.

Another aspect of local productive economy that can be inferred from the data available to date is confirmation that ceramics were produced locally (Minc, Alden, and Stein 2019); while this could probably be assumed for most ceramics in a setting like Surezha, a neutron activation analysis undertaken by Minc, Alden, and Stein showed that this held true also for vessels of the Dalma-impressed ware known from the 5th millennium in northwestern Iran. Besides indicating that east-west cultural interaction across the Zagros was a feature of life at LC 1 Surezha, and providing some of the earliest evidence for this interaction between the Erbil Plain and northwestern Iran (G. J. Stein and Fisher 2020), this also indicates that local potters were manufacturing ceramics to meet the social or economic needs emerging from this interaction, rather than relying on regional specialists or import.

6.8.2. Microarchaeology and Spatial Distribution of Ceramics

A disappointing aspect of the microarchaeological research was the difficulty of identifying fragments of different ware types among the microdebris. While occasionally, especially among the larger fragments, ware type was clearly identifiable, the difficulty of reliably identifying wares and the potential for over- or undercounting of certain types made it impractical to attempt a spatial analysis of the deposition of microdebris from different ware types. We have also not completed a systematic analysis of the find spots of different vessel types. Thus I am limited in what I can say about the spatial distribution of ceramics and their use.

However, at least in terms of overall volume, it is possible to identify those areas in which ceramics suffered a high level of breakage (indicative either of overall heavier use of ceramics or of more activities likely to result in breakage). Fig **6.13** shows the 10 highest-density loci for ceramic 2.0-4.0 mm microdebris.

SR #	OP	LOCUS	LOT	Context Type	2.0 mm PT #/LT
6595	10	100116	250	Trash Deposit/Outdoor Surface?	67
6852	2	20216	265	Platform	65.6
6872	2	20218	274	Courtyard	61
8587	10	100218	343	Outdoor Surface	55
7292	10	100127	287	Outdoor Surface	48
6809	2	20210	253	Courtyard	48
8392	2	20266	349	Basin	48
6877	2	20220	278	Platform	43
6263	2	20151	230	Indoor Floor	39
6506	2	20206	231	Courtyard	38

Figure 6.13. Sample Squares with Highest Ceramic Microdebris Density

As can be seen, high ceramic-density loci come from a wide variety of kinds of spaces, further suggestion of my major contention that activity--including activity likely to result in high levels of ceramic breakage, such as dining, food preparation, and deliberate discard--was broadly distributed across the site with the exception of the nondomestic building complex. **Fig. 6.14** presents averages of 2.0-4.0 mm ceramic debris across different categories of locus.

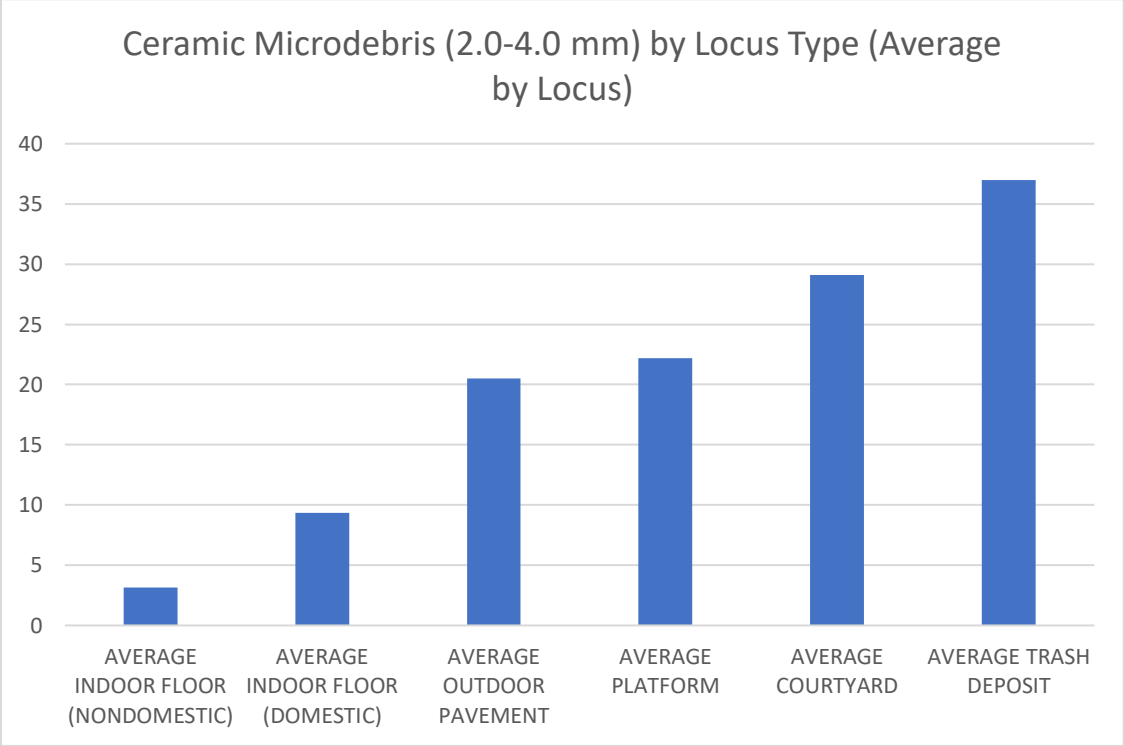


Figure 6.14. Average 2.0-4.0 mm Ceramic Microdebris by Locus Type

Here, distinctions between kinds of surface become clearer, with exceptionally high rates of ceramic microdebris in trash deposits and exceptionally low rates of such debris in nondomestic surfaces, and, to a lesser degree, domestic indoor surfaces. Importantly, both courtyards and

platforms were major loci of ceramic microdebris deposition. For the courtyards, I interpret this as support for my conclusion that these spaces were consumption centers within the domestic economy, where meals were eaten and, presumably, dishes broken. The density of ceramic debris on the platforms is less easily interpreted, but if these spaces were used for some kind of production activity, including food preparation or some kind of craft, ceramics used in these activities may have been susceptible to breakage.

6.8.3. Further Research into Ceramic Manufacture and Use

Clearly, identification of place of pottery manufacture would offer important information on the production side of this fundamental technology. Even barring such a find, there are potential avenues to investigate ceramic manufacture at Surezha, including petrographic or further compositional analysis of the ceramics.

Questions to be answered regarding the use of ceramics in the household and broader economies include the functions of different wares and vessel types, which could be investigated through use-wear and organic residue analyses, and the distribution of different wares and vessel types, which might be accomplished partly through careful reanalysis of the microarchaeological remains and partly through analysis of bulk sherd findspots.

At present, I wish mainly to call attention, in terms of manufacture, to the preliminary conclusion that ceramics, including those ceramics that might be considered to have social or economic linkages to people and groups in other regions, were largely locally produced, and, in terms of usage of ceramics, to the role of courtyards as centers of ceramic usage and the broad distribution of ceramic microremains across the site.

I turn now to the manufacture and use of other tools, including those of unbaked clay, metal, and stone.

6.9. Tool Production

The fashioning and maintenance of tools, along with the gathering of materials for these activities, are a significant sector of production in nonindustrial societies. Both materials collection and production itself may take place away from site and may be carried out as labor incidental to other activities such as hunting (Binford 1977). Use, breakage, discard, and in some cases storage or tools such as agricultural or hunting implements may likewise take place away from houses and away from site. Thus the domestic assemblage represents a very partial record of tool making, maintenance, storage, use, and discard, even before accounting for post-depositional processes.

However, we do find evidence at Surezha and elsewhere in the LC 1 for toolmaking in and around households. Bone implements will be discussed in the section on textiles: we do not have clear archaeological evidence for their place of manufacture (or, indeed, for the place of their use). Similarly, we have little direct evidence for the place or circumstances of manufacture of fired clay spindle whorls or other ceramic tools, but spindle whorls will be discussed insofar as they reflect textile production below.

This section will, first, treat with the unbaked clay ovoids generally considered to be sling bullets, then very briefly note the lack of evidence for metalworking crafts, before turning to a consideration of stone tools.

6.9.1. Unbaked Clay Ovoids -Sling Bullets

Figure 6.15. LC 1 Clay Sling Bullet from Surezha

Unbaked clay ovoids were recovered from a variety of contexts at Surezha, including a cache from the Ubaid levels of the Operation 1 step trench**,** and from the Late Chalcolithic 1 floors of the houses in Operation 2. These ovoids, frequently found at sites throughout the late Neolithic, Chalcolithic, and Bronze Age Near East, sometimes in great quantities (as for example, at the Ubaid site of Tell Madhhur, which yielded an enormous quantity of these objects, apparently stored on the roof, or the later Area B (ca. 3500 BCE) at Hamoukar (Reichel 2006; 2009), have been variously interpreted (e.g., as votive objects or children's toys), but the most plausible explanation is that they are sling bullets.

Presumably these bullets could be effective as either weapons of war (Reichel 2006; Wernick 2014) or tools of the hunt, or perhaps even used by shepherds as a means of driving straying sheep back to the herd (Perlès 2001, 229) or protecting livestock from predators (Forouzan 2010). Detailed comparisons of sling bullet size, composition, and distribution from different sites across the region are as yet lacking, but the data from Hamoukar (Reichel 2006; 2009) and Chogha Gavaneh in the Central Zagros (Forouzan 2010) serve as useful comparanda for the bullets from Surezha: the bullets at Hamoukar averaged 3.6 x 2.4 cm, those at Chogha Gavaneh ranged from 2.20-4.98 cm in diameter, with weights ranging from 10.13-35.93 grams. Those at Madhhur averaged 5.3 x 3.3 cm, weighing an average of 49 grams. At Hamoukar also were found much larger and heavier clay balls between 6 and 10 cm in diameter, many showing damage on one side from their use as missiles, which Reichel concludes could have inflicted damage on mud brick structures.

The bullets found at Surezha are fairly small, ranging between 3.0 and 5.5 cm in length (average 4.5 cm), and between 7.1 and 55 grams, a range that partly reflects a few exceptionally small bullets and probably, at the higher end of the range, a matter of weighing bullets not yet wholly dried from excavation. The bullets at Surezha are always unbaked, but frequently had signs of deliberate heating in the form of very hard exteriors, sometimes more on one side than another.

Inevitably opinions on the use of these bullets is shaped by scholars' views on the prevalence of violence, raids, and warfare in the contexts in which they have been found. While some have dismissed them as ineffective because of their relatively light weight and especially their unfired condition (Jasim 1985, 62), Reichel (2006) has shown that sun-dried clay bullets of this size fired from a sling could stun or injure an adult human.

At the site of Mersin in Cilicia and at Hamoukar, destruction episodes (ca. 5000 BCE at Mersin and ca. 3500 BCE at Hamoukar) were accompanied by large caches of these sling bullets (Reichel 2006, 73), sometimes with clear indications of use. We have no such destruction layer, and no such indications of use at Surezha, so there is no clear evidence of their use as weapons of raiding or war, but such a use seems at least probable in the context of finds like those mentioned above.

If and to the extent that the bullets were used as hunting implements, the question remains as to what they were used to hunt. While it would seem that unbaked clay bullets would be inadequate to bring down even medium-sized game, Reichel's assertion that they could stun a human at least leave a possibility that they were part of the suite of hunting tools for animals like gazelle whose remains are attested at Surezha. While smaller wild game and birds, more likely to be incapacitated by these bullets, are much less frequently attested in the zooarchaeological record, there are known preservation biases that might lead us to undercount their significance as quarry.

My inclination is to see these sling bullets as multifunctional: potentially used in hunting, in raiding, or in defense of herd animals. Without further information from Surezha or the broader LC 1, this is a difficult hypothesis to test, and hunting uses in particular, due to the scattered and offsite nature of the activity, will be almost impossible to confirm archaeologically in any event.

But in light of this very problem, I wish to use the example of these bullets as a case in point of the complicated ways in which objects are entangled in the spatial experiences and other taskscapes of the residents of Surezha: the bullets, as mentioned, frequently seem to have partly heated. A number of these objects were found *in situ* in the kitchen area of the Operation 2

eastern house; presumably the cooking installation there could have done double duty, providing incidental heat for drying or part-baking the clay on the sling bullets while serving in its primary food-preparation capacity. Afterward, the bullets may have found their way into the long chain of activities that formed the herding economy (as a deterrent to wolves or other predators), or, if they were used for hunting game, they would have facilitated entrants into the same general set of processes—butchery and food preparation—from a different stream. Or perhaps they would have formed part of an economy and a spatial experience barely glimpsed in the archaeological record at Surezha: that of raids on neighboring villages or defense from the same.

Another spatial dimension of these objects deserved mention: Bullets were found apparently *in situ* on floors of both the domestic and the nondomestic building complex, suggesting that they were both produced by members of households for their own use and for institutions or elites who had access to the nondomestic buildings. Their presence in the nondomestic building suggests further their possible use as weapons of defense or raiding. No apparent differences in size or manufacture can be distinguished between the bullets found in the domestic and nondomestic contexts.

6.9.2. Metalworking

Copper implements (or those of other metals) at Surezha were reliably found only in LC 3 and later contexts. It is certainly possible that the residents of Surezha had access to copper, gold, or other metal objects or engaged in metalworking themselves, as there is evidence for copper beads in Mesopotamia from the 6th millennium at Tell Sotto and Yarim Tepe I (Moorey 1982, 17), and copper tools and gold beads from Ubaid levels Tepe Gawra (Tobler 1950). Such

materials are more subject to both curation and post-depositional degradation than stone or ceramic, but there is at present no evidence for the production or use of such objects in Ubaid or LC 1 levels. The microarchaeological record was likewise apparently bare of copper prills or small objects or fragments.

6.9.3. Lithics

The lithic industry at Surezha was an important source for tools used in agriculture, craft, and hunting. Tools included sickle blades for harvesting of grains, knife blades, choppers, axes, scrapers, and probably others, including *ad hoc* tools for various purposes.

Analysis of stone tools from Surezha remains in a preliminary state, so this section will be necessarily brief, although the microarchaeological data along with observations from excavation give some room for investigation of the spatial dimensions of stone tool production and use.

Most of the raw material for chipped stone tools was collected locally (G. J. Stein 2018, 20) as cobbles from seasonal streambeds, and tools from this material were made within the settlement.

A number of obsidian blades and fragments were discovered. Geochemical analysis places the origin of this obsidian at the Nemrut Dağ, near Lake Van in modern Turkey (Khalidi et al. 2016; G. J. Stein 2018, 20). The dynamics of the Neolithic and Chalcolithic obsidian trade in Mesopotamia continue to be debated and refined, but the obsidian was likely obtained through networks of trade among multiple groups, in which indirect exchanges diffused obsidian and created social and economic linkages across wide areas. While finished obsidian tools may have comprised part of this trade, obsidian knapping debris both at Surezha and at other north Mesopotamian Ubaid and LC 1 sites like Zeidan, where an obsidian core was also recovered that

at least some of this material likely reached Surezha in an unfinished state and was knapped by local people (Khalidi et al. 2016, 747–49).

It has been observed at Surezha that a rough version of Canaanean blade—long, wide stone blades used for hafting onto sickles for agricultural work-was produced locally at Surezha from the Ubaid until the LC 3, at which point local production was substituted for well-made, imported tools (G. J. Stein 2018, 20).

While it is difficult to say for certain to what degree stone tool production was either specialized or limited to certain groups at LC 1 Surezha, the broad distribution of flint microdebitage across the site suggests that it was practiced widely and not limited to particular spaces or workshops, although as noted in Chapter 4, it is not often clear to what degree the lithic microdebris represents debris from primary toolmaking, retouching, or incidental breakage.

Some "hot spots" of lithic microdebris could be identified. The single most prolific sample square, with 21 fragments of 2.0-4.0 mm chipped stone/liter, more than double any other single sample square, was SR 8587, part of outdoor surface 100218, identified partly overlying the cobbled pavement 100221. While this could be an outlier due to sampling or preservation issues, it might also represent the evidence of a localized production event. 100221 itself yielded modest amounts of chipped stone debris, but not nearly so much as the single square from 100218.

In excavations at Operation 9, a large number of blade and flint fragments were identified together near the northwestern face of a wall of the then-abandoned nondomestic building. It is plausible to imagine a person taking advantage of the shade, support, and/or shelter of the wall while working on producing tools.

Further analysis of the lithic material, including specialist examination of the microdebitage recovered in the course of sampling, might shed further light on processes of manufacture, the degree of craft specialization, the spatial and social distribution of different aspects of stone tool manufacture and maintenance, and the various ways in which these tools were used across the taskscapes of LC 1 Surezha.

6.10. Textile Production

Since Crawford's (1973) article on the archaeologically "invisible" textile industry and export economy in southern Mesopotamia, it has been widely recognized that textiles must have formed a major part of the early urban economies and their immediate predecessors (Algaze 2005), perhaps even to the extent that the "fiber revolution," in which the breeding of sheep with developed undercoats allowed for the supplanting of flax by wool, was a major driver of processes of agricultural extensification and the emergence of stratified societies (McCorriston et al. 1997; Sherratt 1997; 1999). Still, the archaeological ephemerality of textiles and their inconsistent textual recording have continued to contribute to a degree of neglect in the literature (R. P. Wright 2013).

Textile production using plant fibers was practiced from the Upper Paleolithic (Soffer, Adovasio, and Hyland 2000; Soffer 2004), and Neolithic sites in the Near East have yielded both impressions of textiles (Jarmo) and fragments of textiles themselves (Catalhoyuk, Cayonu). It is possible that wool became an important industry late in the 7th millennium BCE (Rooijakkers 2012) as part of a general trend toward increased exploitation of secondary animal products such as dairy milk (Sherratt 1997; 1999). Rooijakkers has suggested that this change can be marked by the widespread appearance of clay or stone spindle whorls; whereas flax fibers may more easily be spun by hand, either between fingers or against the thigh, the shorter-staple animal

fibers are quite difficult to keep together by hand and require the consistency of a spindle (Rooijakkers 2012, 103; Barber 1991, 108). Thus, while plant fibers may also be spun on a spindle, it is plausible to associate the clay spindle whorls at Surezha with animal-fiber textile production, and most probably the spinning and weaving of sheep or goat wool or hair.

It thus appears based on the archaeological evidence that textile production was an important domestic activity for the Late Chalcolithic people of Surezha (Price, Fisher, and Stein in press). However, culling patterns of sheep and goats at Surezha show a preference for killing 6-24 month old individuals, a pattern associated with a focus on meat production rather than an intensive, dedicated textile industry (G. J. Stein and Fisher 2020, 138; Price, Fisher, and Stein in press). This does not mean that an animal-fiber textile industry was absent, but rather that if it was present in the LC 1 it is best understood as a small-scale industry for local distribution, situated within a generalized herding economy.

Price et al. have offered an interesting interpretation of divergent regional and local trends in textile production, that is, that people at LC 1 Surezha were potentially "experimenting on a low level with new forms of herd management in order to promote wool exploitation" (Price, Fisher, and Stein in press), and that, in light of other regional evidence and changing patterns in the later Late Chalcolithic, LC 1 Surezha was already on the path toward McCorriston's "fiber revolution."

The two most common artifact classes directly related to textile manufacture are loom weights and spindle whorls. We have identified both on-site at Tell Surezha, although at times distinguishing between the two causes difficulty.

A relatively common small find at the site belongs to a class of flatly conical or biconical clay objects averaging approximately 3.5 cm in diameter and 1.5-2.5 cm in height **(Fig. 6.16)**. A relatively wide hole runs through the center of these objects from top to bottom. They have most often been found made of sun-dried or very lightly baked clay, but some were also made of fired clay**,** and, in one case, stone.

Figure 6.16. Unbaked Clay Loom Weight

Several possible uses were discussed for these objects, including their employment as spindle whorls, as some reports class these items, even when unbaked (e.g., Rooijakkers 2012). However, most of these, and almost certainly the biconical ones, were loom weights. While there are ethnographic examples of the use of unbaked clay spindle whorls, the force and abrasion would have sharply limited their use life. A few of the objects have marks from string or cord on

the interior piercing supporting the loom weight interpretation. On the other hand, the objects of flatly conical baked clay or those with convex bases **(Fig. 6.17)**, although very similar in form and dimension, can plausibly be considered spindle whorls.

Figure 6.17. Baked Clay Spindle Whorl

We have also encountered a large number of pierced ceramic sherds **(Fig. 6.18)** which may, depending on their size, have served as loom weights or spindle whorls, although such pierced sherds may have had other uses, especially as jar stoppers, or perhaps as weights for nets or other purposes.

Figure 6.18. Pierced Ceramic Sherd

Also found were a variety of bone implements used in textile production or related crafts, including needles and awls, and in one case, a bone "weaving spatula" made from the metapodial bone of a cow and used to push woven threads together (G. J. Stein 2018, 20).

Figure 6.19. Bone "Weaving Spatula"

The evidence for significant textile production is in keeping with what we know about the Ubaid and LC 1 more broadly. Roaf (1989) found 8 spindle whorls (of a conical type resembling that in Figure 6.18). that he determined to be in use at the time of the destruction of the Ubaid house at Tell Madhhur. he suggested based on ethnographic parallels that each spindle whorl was used by a different individual, indicating the presence of 8 spinners in the house at the time of its destruction**.** Jasim (1983) found a "large number" of spindle whorls in the houses at Tell Abada. So the evidence from Surezha, and Price's suggestion that the period could be a moment of experimentation and early shifts toward a more intensive wool-fiber industry, fit within broader regional trends.

Because few if any of the spindle whorls, loom weights, or other textile production tools were found *in situ,* it is difficult to establish spatial patterns of this production. There is likewise no clear microarchaeological signature for such work, and it is difficult to imagine what we would expect this to look like in any case, unless fragments of tools were identifiable at such a small scale.

Based on patterns of discard, at least at first glance, we see textile manufacture tools across the site, in both domestic and nondomestic contexts. Of 27 identified loom weights, spindle whorls, and bone tools plausibly associated with textile manufacture found in Area B, 13 were identified in Operation 2, 3 in Operation 10, and 11 in Operation 9. However, one outlier potentially skews this data: fully 9 of these Operation 9 finds were loom weights and pierced sherds that may have been weights or spindle whorls from the abandonment deposit in the north room of the nondomestic building in Operation 9 (90069), suggesting that these formed part of a special-purpose deposit.

If this deposit is excluded, we might very plausibly associate textile production primarily with the domestic areas of Operation 2, although there is some imbalance in the quantity of excavated matrix between the three operations. On the other hand, the presence of textile-related objects in the refuse deposit **90069** suggests that at least to some degree, whatever institution made use of the nondomestic complex was also able to requisition textile production. All of this is in keeping with a broader picture of economy and society at LC 1 Surezha in which households were the centers of production and consumption activity while elites or public institutions were simultaneously able to mobilize labor and procure materials for their own use.

6.11. Ornament, Art, and Playthings

In this brief, final section, I discuss the production, use, and consumption of ornament, art, and playthings. There were probably a wide range of objects not preserved in the archaeological record that might fall under these broad headings, but three potentially domestically-produced objects I wish to discuss are beads, figurines, and pigment.

6.11.1. Personal Ornament

Personal ornament is an important way of expressing and creating group and individual identities, including by demonstrating status and personal preference. (Choyke and Mayer 2017). Their manufacture, trade, acquisition, and use can offer insights into economy and society, from establishing patterns of regional exchange to understanding hierarchies and divisions within society.

Beads of various kinds were encountered at LC 1 Surezha. Beads were made of clay, paste or frit, shell, and stone, including quartzes of various types, among them rock crystal and carnelian.

Figure 6.20. Stone Bead from Operation 2 Domestic Area

Figure 6.21. Carnelian Bead (SR 9082) from Nondomestic Building, Op. 9

Figure 6.22. White stone beads from LC 1-2 "feasting pit" in Op. 10

Beads may have been produced by members of many households, by experts or specialists (of a kind) working within certain households for use by members of their own and other households, or by specialists either producing for some kind of trade or purchase or “attached” to institutions. We have no clear information on bead production at LC 1 Surezha in the form of tools, workshops, or concentrated areas of debris, but the materials used for the beads encountered are all plausibly locally-obtained. There are some differences in the materials and apparent degree of care involved in the crafting of different beads or collections of beads, and

these may be significant. We do have hints of production techniques, for example, in the case of a bead where drilling from both sides was evident.

Of beads found during ordinary excavation in LC 1 exposures of Area B, 24 single beads or caches of beads apparently from the same object were identified. 7 of these came from the domestic Operation 2, 9 from the predominantly nondomestic Operation 9, and 8 from the predominantly nondomestic Operation 10. Thus there was relative parity between domestic and nondomestic findspots. On the other hand, when considering beads from the microarchaeological samples, 9 examples were found from 6 distinct loci, 4 of them domestic, 1 an outdoor work surface, and 1 of them nondomestic. I believe that this is a result of the different ways that different kinds of spaces were used: because people were working and moving more in domestic spaces than in nondomestic ones, loss and breakage of bead necklaces would have been more common in the former areas. It is noteworthy in this regard that the highest concentration of beads embedded in a floor came from kitchen 20120, from which a total of three beads were extracted.

Notable caches of beads were identified in the "feasting pit" 10003, which yielded a number of white stone beads **(Fig 6.22)** and the abandonment deposit 90120 in the nondomestic building in Operation 9, where a variety of beads of semiprecious stone in different colors were found including a large carnelian lozenge **(Fig. 6.21)**, 10 circular carnelian beads, two green stone beads, and a bead of blue stone**.** These beads of semiprecious stone differed significantly from those found in the Operation 10 pit and in the domestic areas, which were made of white paste, shell, clay, and more common stones.

I make three main observations, then, in relation to beads as they fit into our understanding of social and economic life at Surezha: first, that their more frequent presence in the floor matrices of domestic spaces is indicative of more intensive use of these spaces. Second, that their relatively even distribution across domestic and nondomestic areas in tertiary contexts is evidence that beads of some sort were worn by people in a range of contexts and potentially with a range of social positions at the site. And, third, that the difference in the kinds of beads identified in domestic and nondomestic spaces indicates a difference either in the social roles of the people who had access to the nondomestic spaces or a difference in the kinds of dress and ornament that were associated with people while they were associating themselves with the nondomestic space.

6.11.2. Pigment

While they predate the LC 1 occupation that has been the focus of this dissertation, it is worth a brief mention of the Ubaid stone palette fragment found in the domestic space in the southwest of Operation 2. These objects, found in both Halaf and Ubaid contexts throughout greater Mesopotamia, were used for mixing pigments (some examples have traces of pigment remaining). At the Ubaid potter's workshop at Kosak Shamali, it was suggested that stone palettes were used in the processing of hematite and manganese for pottery painting (Nishiaki 2001, 59). While the degree to which these palettes were prestige or trade objects is not clear, the presence of such an object suggests, at minimum, the affinities between Tell Surezha and the broader Ubaid horizon, as well as an engagement by household members in activities of decoration or ornament, possibly related to pottery production.

6.11.3. Figurines

Figurines or fragments of figurines, made of baked clay, and usually of quadrapedal animals, were not infrequently encountered during excavation, and fragments were also incorporated into the floor matrices extracted for microarchaeological research. Of the 151 squares analyzed, 8 squares (5%) yielded figurine fragments. However, when considering the figurine fragments recovered by locus, the results are somewhat different: of the 31 loci analyzed, 4 contexts (13%) all of them domestic, yielded fragments of figurines: 6 fragments came from Domestic Courtyard **20206**, 1 fragment and 1 complete figurine from Domestic kitchen **20120**, 2 fragments from domestic platform **20216**, and 1 from domestic floor **20271**.

No other figurines or figurine fragments were identified in the macroarchaeological excavation process from the surface loci sampled.

Taking only the figurines embedded in floor matrices into account, these objects were thus very spatially concentrated, especially in the Domestic Courtyard **20206** and its adjacent platform **20216**. It is noteworthy that while six figurine fragments were recovered from the matrix of Courtyard **20206**, in four separate grid squares, no figurines or fragments were identified in the immediately preceding courtyard surface **20210**.

While we have little evidence for the production of these figurines, almost all were fairly simple creations of pinched and shaped clay. The exception was an unusual conical figurine (SR 4915), from the floor of kitchen **20120**, which was very carefully shaped and whose “eyes” (if such they are) had the coffee-bean shape known from the ophidian figurines of the Ubaid period.

Figure 6.23. Figurine or Token from Operation 2 Kitchen Floor

That the figurines were found most frequently in domestic contexts suggests either that these objects had a quotidian use like play or that, if they were related to a more ritualistic or formal activity, that these activities took place in and around the home.

6.12. Conclusion

This chapter set out both to survey in detail the domestic taskscapes of the residents of LC 1 Surezha, to describe the evidence for various types of production and consumption and the ways in which various lines of evidence might combine to paint a clearer picture of these activities, and to make a case for these repeated patterns of production and consumption—eating, drinking, building, making, repairing, preparing, butchering, storing, etc.—as fundamental to understanding the lives of people at Surezha.

I also set out to examine the evidence to answer several basic questions, including the degree and kinds of economic specialization that might be observed in the evidence from Surezha, the degree of spatial segregation in production observable, the apparent continuity or transformation of domestic production and consumption over the course of the LC 1 (and, to the extent it can be observed in the data available, between the Ubaid and the LC 1).

I argue that there is not strong evidence that the LC 1 was a period of dramatic transformation in household social or economic organization, but that several indicators suggest early shifts or experiments in the direction of institutional mobilization of labor and distinct patterns of consumption. Of primary importance is that houses were and remained the central loci of production and consumption in the LC 1. Various kinds of productive activity—primary grain processing, bread baking, pottery production—were likely carried out in shared spaces; activity like threshing was almost certainly not specialized in a meaningful sense, but for other activities the degree of specialization or professionalization remains uncertain.

There were not clear indicators over the course of the LC 1 for change in social organization or economic activity. As described in Chapter 4, the microarchaeological record shows a high degree of continuity of activity and use of space, whether in terms of architectural divisions or

the kinds of work carried out in and around the LC 1 houses. Likewise, insofar as evidence exists, the impression at Surezha is of a soft and gradual boundary between the Ubaid and the LC 1 in all respects—architectural, ceramic, social, and economic.

While there is possible evidence for an increasing focus on wool textiles over the course of the LC 1 and into the LC 2, it is hard to argue for significant changes in domestic economy itself in the LC 1 at Surezha. On the other hand, Surezha does have striking evidence for emergent stratification in the form of the nondomestic building complex in Operations 9 and 10. It is to this complex I turn in the final chapter, with a discussion of the ways in which the ability to control access and activity to particular spaces should be seen as a key technology in the establishment of durable hierarchical social relations.

CHAPTER 7. PUBLIC AND PRIVATE AT THE DAWN OF COMPLEXITY: THE NONDOMESTIC COMPLEX AND THE SOCIAL PRODUCTION OF SPACE

7.1. Introduction

Alongside the domestic economy and activity described above, a fundamental feature of the use and experience of space at Surezha is the difference between the large building complex in Operations 9 and 10, the open spaces outside its walls, and the domestic spaces and courtyards to its east **(Fig. 7.1)**. In this section I focus on the unique character of the large nondomestic building complex, and specifically on the ways in which access and activity were restricted and constrained.

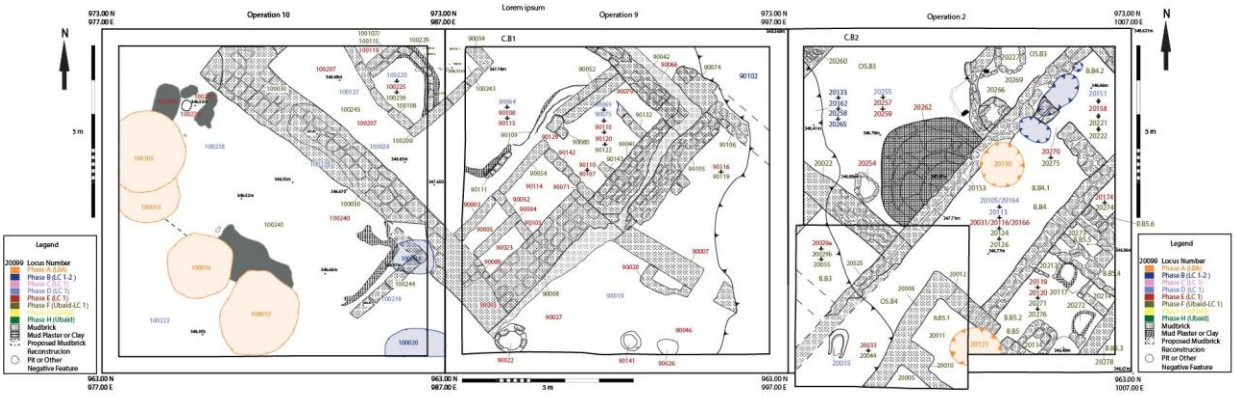


Figure 7.1. Composite-Phase Overview of Domestic/Nondomestic Structures

We are well accustomed to seeing public and/or monumental architecture as a marker of socioeconomic complexity: such architecture was one of Childe's (1950) original criteria for identifying the "urban revolution," and the investigation of large nondomestic buildings was the major preoccupation of Near Eastern archaeology for many years. Attention to the symbolic and

ideological dimensions of monumental art and architecture has run throughout the art-historical tradition in the study of the ancient Near East from the earliest history of the discipline (Perrot, Chipiez, and Armstrong 1884, 95ff) and continues to drive approaches to monumental architecture from a variety of theoretical perspectives (Trigger 1990). In addition, recent work has drawn attention to the conceptual (Bahrani 2003), political (Smith 2015), sensory-phenomenological (McMahon 2013b), and prestige (Sievertsen 2010) dimensions of public art and architecture in the Near East.

Harmanşah (2013) and Osborne (2014b) have each advocated an approach that situates monumental architecture in the context of architectural and settlement form, symbolic and ideological aspects, and the lived experience and social context of the people who came into contact with them. My own approach aims at a perspective that is similarly attentive to social context but with a different emphasis. While I call attention to the ways in which architecture like the nondomestic complex at Surezha serves ideological aims and carries potent symbolic weight, I focus especially, instead, on the ways in which the very creation of restricted space fundamentally alters social experience. The ability of an institution or collection of individuals to construct and maintain a space that is at once defined as communal (in the sense of belonging to the community as a whole and requiring labor or resource inputs from the community to build and maintain) but also restricted (in the sense of allowing only certain people to perform certain activities at certain times there) is, I argue, a fundamental technology of control. Such spaces then, should not be seen only as manifestations of inequality or, as Childe puts it, devices to "symbolize the concentration of the social surplus" (Childe 1950, 12), but rather as technologies in and of themselves, that discipline daily practice (Foucault 1995) through the restriction of

space that would otherwise be in either common or domestic use, regulated by custom and sociability rather than institutional rule (Jacobs 1961).

In this chapter, I present, first, the archaeological and microarchaeological evidence for the distinctiveness of the nondomestic building complex at LC 1 Surezha. Then I build on my discussions of the spatialized experience of activity in previous chapters with a critical review of a selection of literature on public and private space and its relevance to the nascent complex societies of the Late Chalcolithic Near East. Finally, I make the argument that nondomestic architecture should be seen as more than a result of the ability of elites to mobilize labor or control resources. Rather, spaces like the nondomestic complex at LC 1 Surezha are themselves a technology of social control and a tool for aggrandizing elites, even at an early phase, to alter the spatial contours of daily life in such a way as to reinforce the privileged status of certain individuals, institutions, and activities as separate, distinct, and perhaps superior.

7.2. The Nondomestic Building Complex at Surezha

7.2.1. The Architecture

The large nondomestic building complex in Operations 9 and 10 has been mentioned above, but I discuss it in detail here. The complex, defined as complex C.B1 in the Surezha project's recording, has been only partly excavated through the 2019 field season, so the description and interpretation below must be taken as preliminary.

The complex is defined by at least two very thick (1-1.5 m) mudbrick walls (**100030**, running northwest to southeast, and **90008**/**90041**, running northeast to southwest) forming a corner in the southwest of Operation 9 **(Fig. 7.2)**.

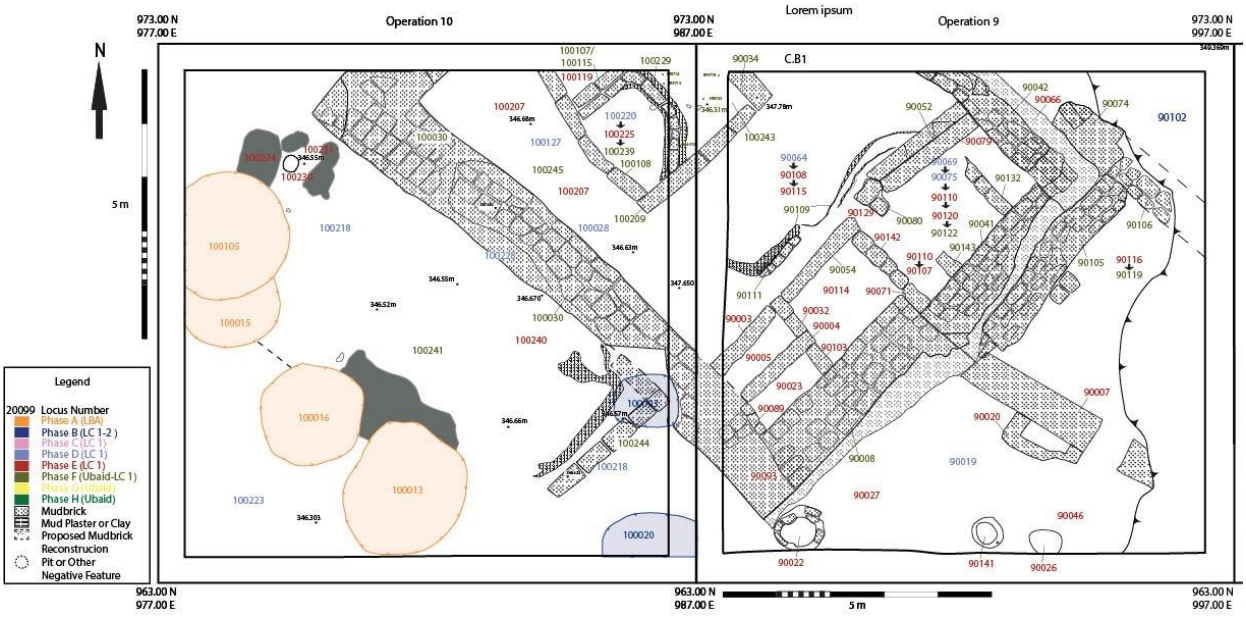


Figure 7.2. The Late Ubaid-LC 1 Nondomestic Building Complex C.B1 (composite)

These walls, as well as the interior walls, were preserved to a height of over 1.5 meters, and were built of between 4 and 6 rows of mudbrick (each brick approximately 22 cm wide and varying considerably in length from 24-44 cm). The exterior walls may have been built or rebuilt in multiple phases throughout the Ubaid and LC 1 occupation of the site. Gates or entryways to the complex are not evident to date. These walls were maintained throughout the later LC 1 Phase D as well as at least the latter part of the earlier LC 1 Phase E. It appears almost certain that the walls, both exterior and interior, existed in some form in the Ubaid-LC 1 transitional Phase F, and I expect that walls **100030** and **90008**/**90041** in particular existed in something like their Phase E/D orientations, but because exposures of Phase F architecture are quite limited, it is difficult to describe that period's architecture in any detail.

In at least two areas, there appears to be buttressing on the internal face of the monumental walls. These include two mudbrick stubs running perpendicular to the north (interior) face of Wall **100030** (although these may originally have been cross walls rather than buttresses), and eroded, heavily plastered features on the western face of wall **90003 (Fig. 7.3).**

Figure 7.3. Possible Plastered Buttress 90111

Niched and buttressed wall facades are a common feature of monumental architecture in Mesopotamia from the Ubaid on (Sievertsen 2010) appearing notably on several of the Ubaid

temple buildings at Eridu **(Fig. 7.4)**, on Building A at Tell Abada, Level II (**Fig. 7.5)** and on the buildings of the Tepe Gawra XIII acropolis **(Fig 7.6).**

Figure 7.4. Buttressing on Eridu Temple VI (Sievertsen 2010; after Safar, Muṣṭafā, and Lloyd 1981, pl. 7)

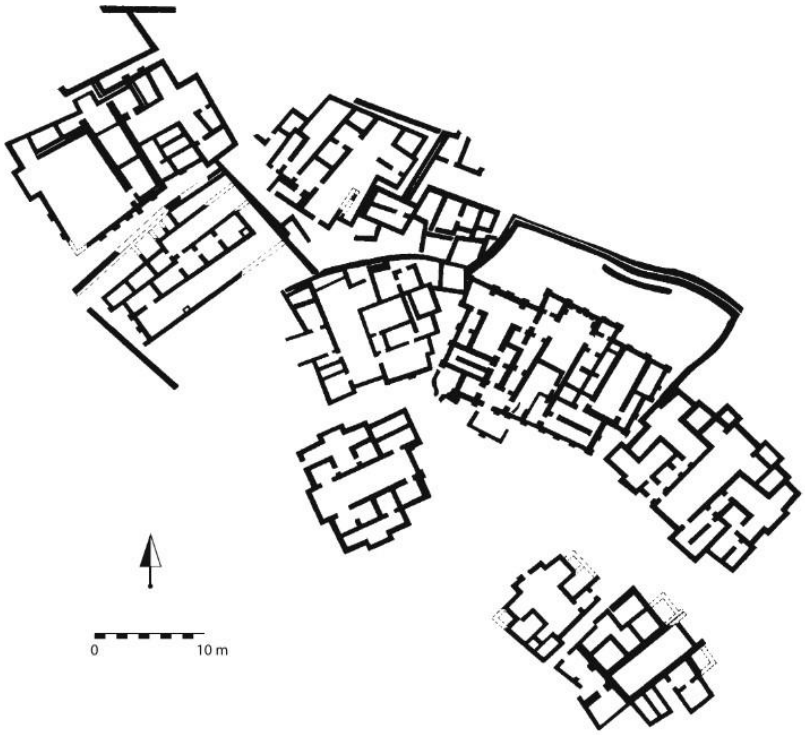


Figure 7.5. Buttressing on Building A at Tell Abada (from Sievertsen 2010; after Jasim 1983, fig. 7)

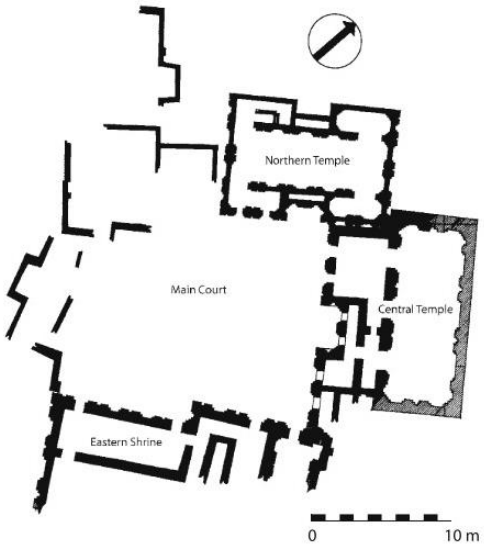


Figure 7.6. Buttressing at Tepe Gawra, Level XIII (Sievertsen 2010; after Tobler 1950)

The niched-and-buttressed form becomes increasingly elaborate and widespread in the Uruk period (and beyond), but is not well known from the LC 1, although the aforementioned small sample size of monumental or public architecture from the period is very likely a contributing factor to this scarcity. The stubs encountered on the north face of 100030 are noteworthy for being interior to the wall. Interior buttressing in the absence of exterior buttressing is uncommon, and to my knowledge mostly unknown in the Ubaid or LC 1, but, importantly, the one example I am aware of comes from the acropolis at nearby Tepe Gawra (**Fig. 7.6),** where the walls of both the "Central Temple" have interior buttressing without corresponding buttresses on the exterior. At Surezha, however, the apparent buttresses exposed to date are neither as clear nor as regular in placement as those at Gawra, and might have been something more like ad hoc support devices rather than intrinsic design elements.

These exterior walls were thickly plastered in multiple layers. In the case of one apparent buttress and the walls around it, several layers of gray plaster could be seen sloughing off the walls **(Fig. 7.3)**. In contrast to the interior faces of the walls, which were well-preserved, the outer faces were heavily eroded. The accumulation of use surfaces and debris atop the eroded exterior slopes of the walls and a comparison with the stratigraphy inside the building strongly suggests that the complex continued in use as the walls eroded on their outer faces.

At one point, late in the use life of the building, a narrower but still substantial wall (**90007**) was constructed running northwest-southeast from wall **90008**/**90041**; a small pentagonal bin 90020 was built against this wall (**Fig. 7.7)**. It appears that this wall subdivided outdoor spaces rather than enclosing a new interior space. There are traces of what might have been buttresses or might have been earlier cross walls running northwest to southeast but these remain to be clarified through excavation **(See Fig. 7.2)**.

Figure 7.7. Photographic view of Wall 90007 and Bin or Feature 90020

The two large walls **90008/90041** and **100030** enclose a complex (Complex CB1) consisting of (at minimum) a courtyard, a line of rooms against the eastern wall (Building B.B2), and a rectilinear building to the west (Building B.B1) that may be free-standing inside the courtyard, may be connected to the unexcavated northwestern wall, and/or may have been connected in an earlier phase to the southwestern wall 100030, as indicated by a line of mud brick exposed late in the 2019 season. Interior walls were constructed of a single row of mudbrick (or, in at least one case, pisé). The east building B.B2 comprises two narrow rooms (Rooms B.B2.4 and B.B2.5) on the south (approximately 1.25 x .75 and 1.40 x .5 m), presumably used for storage, (although no evidence of stored material has been retrieved), and 2 square rooms separated by another narrow space, perhaps an entry corridor) to the northeast. The room to the north of the storage areas (Room B.B2.3, approximately 1.5m x 1.5m), appears to have undergone some minor reconfiguration between Phase E (early LC 1) and Phase D (later LC 1), when it was slightly

widened and reoriented through the decision not to build upon a line of bricks (**90117**) that may have been a part of wall 90008 or may have been a support feature constructed in Phase E.

North of this room is a narrow (.5 m wide) strip (Room B.B2.2) that may have been either a kind of entry hallway or a storage nook in Phase D, and a niched approach to Room B.B2.1 in Phase E.

Finally, the northernmost of this line of rooms is a rectilinear space (Room B.B2.1, 2.0 x 1.8 m), that in the earliest excavated phases may have been further subdivided or reconfigured. In Phase E there was a mudbrick pavement laid over the floor of the room, upon which a high pisé bench or similar feature was constructed against the northwest wall. The walls of this room had been frequently and heavily plastered, including following an intense burning event that blackened three of the four walls and vitrified some of the brick faces **(Fig. 7.8)**. The surface associated with this burning event has not been definitively located, and there is reason to believe that it predates our earliest exposures.

Figure 7.8. Burnt North Wall (90042) of Room B.B2.1

The structure to the west (B.B1) was made up of at least three rooms at least in some periods, the largest of which so far exposed (**100239**) had dimensions of roughly 1.6 x 1.1 meters, with an irregularly incurving wall. The walls, especially the southeastern **100209**, were likewise preserved to a considerable height, over 2 meters in some cases. The room to the north (**100243**) has only been partly exposed but may have been somewhat larger. A door socket stone was found on a floor deposit of this room, but, as in nearly all of the rooms of the nondomestic complex, actual doorways have remained elusive. Finally, a very small portion of another room to the northwest was identified but exposures were limited. A series of many surfaces, most of them apparently fairly transient, were excavated within these walls, sometimes with changes in configuration or the building of thin interior walls. These changes will be discussed in the next section.

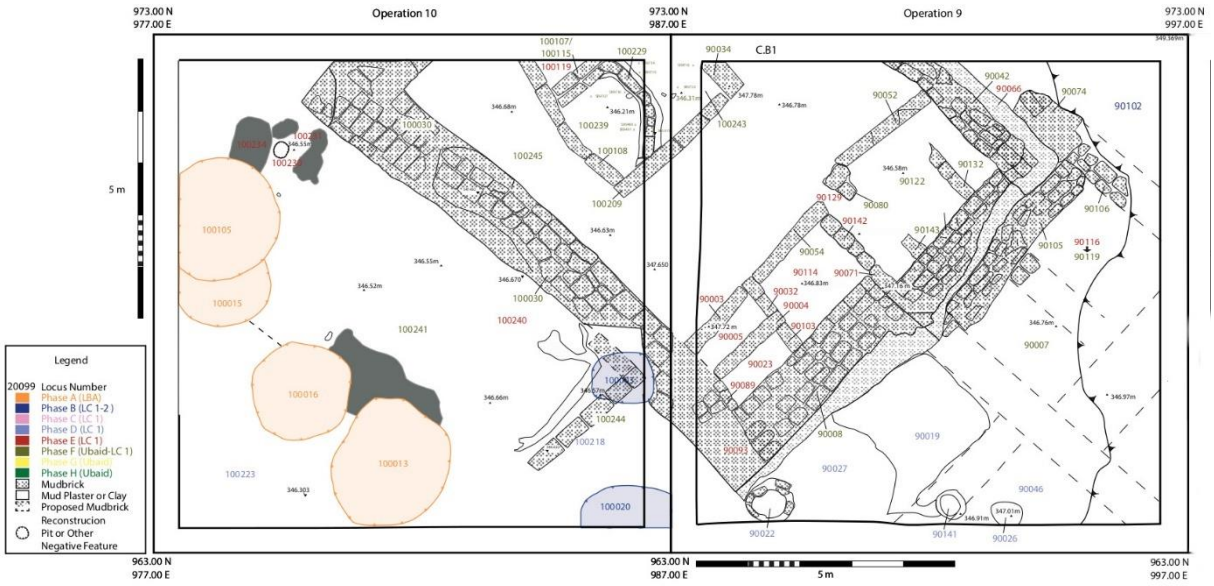


Figure 7.9. Buildings B.B1 and B.B2, Phase F and Proposed Phase F Surfaces

7.2.2. Sequence of Surfaces Over Time

In this section I briefly review the sequence of surfaces inside the nondomestic building complex C.B.1 as far as it can be understood from the excavations so far. One challenge has been understanding the correspondences between surfaces in the East (B.B.1) and West (B.B.2) buildings of the complex. This task has been facilitated in some ways by radiocarbon dates, but these dates have also posed interpretive challenges, and while preliminary phasing has been assigned, detailed analysis of the ceramic assemblage in these areas remains to be carried out.

In general, we see the complex as having been utilized in at least three phases that have been defined through excavation: Phases F (final Ubaid-LC 1 transition), E (early LC 1), and D (later LC 1). As noted above, the Phase F and E wall constructions may have been distinct, or there may have been general continuity between these phases. It should be emphasized that this phasing is provisional and may be revised based on future excavation, dating, and analysis; it is also clear that construction of the complex as a whole predated the earliest surfaces yet encountered, indicative of construction either earlier in Phase F or in an earlier phase altogether.

Chronological relationships between surfaces in the West (B.B.1) and East (B.B.2) buildings have been difficult to establish due to a scarcity of C14 dates and the sparse and similar ceramic assemblage, but on the basis of elevations and what C14 dates we do have, we can propose the following sequence and equivalencies across the nondomestic complex.

Phase F (Ubaid-LC 1, prior to ca. 5200 BCE)**:** The earliest phase of excavation to date in the West Building (B.B.1) and including loci 1000239, a floor deposit south of narrow wall 100229 and underlying a layer of brown silty wash or fill (1000237), and 100243 north of wall 100239 (see **Fig. 7.9**). Elevations at this level are around 346.3 meters above sea level. A C14 date of

5209-5002 cal BCE[1]) from a deposit above these floors provides a preliminary terminus ante quem for Phase F.

A number of flat-lying sherds and several artifacts were recovered from these floors, apparently *in situ.* These included, from southern floor 100239, an intact muller, a stamp-impressed bitumen ingot, and two small granite bowls. On the north side of wall 100229, resting above floor 1000243, a stone hammer or axe head, a fragment of a sandstone slab with one rounded and one flattened face (potentially a grinding stone), a stone bead, and an apparent door socket stone were encountered.

Figure 7.10. Granite Bowls from 100239

[1] 6140 +/- 30 BP; IRMS δ13C: -25.4 o/oo

Figure 7.11. Potential Grinding Stone from 100243

Figure 7.12. Stone Hammer or Axe Head from 100243

The structures in the east building B.B2 were in use in Phase F in at least some configuration, but exposures have been limited to date. At the lowest exposed levels of B.B2.1, we encountered what appears to be a single-row mudbrick crosswall (**100132**) partly or wholly subdividing the space from east to west. Although no clear surface was identified, small, streaky accumulations of white ash (**100122**) may represent part of the use surface at this phase. In the absence of C14 dates and almost no ceramic material with which to establish chronology, we provisionally assign this to the Ubaid-LC 1 transitional Phase F. At least the external walls of the complex predate these surfaces, and the intense burning of the walls may also have been earlier, although this remains to be confirmed. Phase F surfaces have, apparently, not yet been reached in the other rooms of the East building.

Phase E (Early LC 1, ca. 5200 BCE-5000 BCE): In architectural terms, Phase E is characterized by a renewal and rebuilding of the walls along the same or similar lines as the preceding Phase F, with some minor differences in layout as noted below.

Room B.B2.1 (the north room of the East Building) was apparently open, without the Phase F cross wall, and at some point, possibly at the beginning of Phase E, a mudbrick pavement **90110** was laid atop leveling fill. Upon this pavement and against wall **90052** was constructed a tall, rectangular pisé feature which we have referred to as a "bench," (**90079**), although its actual function is unknown, and it is important to note that the true height and its relationship to the pavement were not as clear as hoped. The mudbrick pavement, as we will discuss below, was kept scrupulously clean and showed almost no archaeological or microarchaeological evidence of activity beyond a few beads that had apparently fallen into cracks.

Figure 7.13. Phase E "Bench" 90079, against wall 90052 (in background of photo)

It appears that at this phase, B.B2.1 was open to B.B2.2 (surface 90100 in this phase), with narrow walls stubs forming a kind of niched entrance, as visible in **Fig. 7.12.** The plan below **(Fig. 14)** shows the eventual closure effected between B.B2.1 and B.B2.2 with wall 90043, likely in Phase D, but possibly at the end of Phase E.

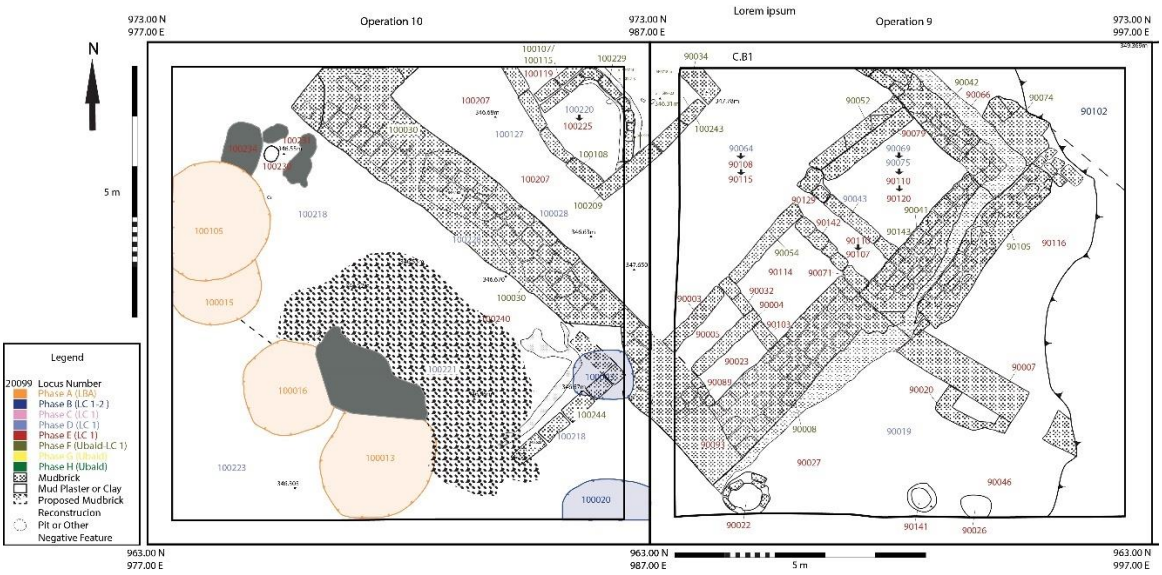


Figure 7.14. Complex C.B1 in Phases E/D

As mentioned above, Room B.B2.3 was widened slightly in Phase E as compared with Phase F, as a row of mudbrick following the line of wall **90008** was removed to create the Phase E floor **90101/90114**. Clear surfaces were difficult to identify in both B.B2.2 and B.B2.3 in this phase, but the spaces were characterized by very sparse amounts of cultural material both on the supposed floors (a very few small flat-lying sherds were encountered against the western wall of **90114**, helping define this as a surface) and in the wash or fill layers above. Occasional streaky inclusions of ash were noted. The overall impression is of a series of rather transient surfaces used very sparingly for debris-producing activities or for discard (see "Limitations on Access" below).

The narrow storage areas B.B2.4 and B.B2.5 apparently remained largely unchanged. There were no clear surfaces and still no clear openings to the room to the north (or anywhere else).

In Phase E, the excavated portion of East building B.B.1 was still divided by the thin curved mudbrick wall **100229** that defined two spaces to the north and south. The area to the south included a thick trashy buildup (**100225**) of greenish, silty matrix containing considerable amounts of trash, including a muller, several hammerstones, sealing clay, a bitumen-hafted sickle blade, and a sling pellet. Most striking in this deposit were a large number of animal bones, many of them with signs of butchery, some of them partly articulated, and including both commonly encountered domesticates (caprids, cattle, and pigs) as well as gazelle, wolf, and domestic dog.

As in Phase F, there was little to distinguish the courtyard around the buildings, and it was difficult to identify distinct surfaces.

Phase D (Later LC 1, before ca.5000-ca.4850 BCE): This represents the apparently final use phase of the nondomestic building complex. In this phase, it appears that, in the eastern building B.B.2 there was deliberate fill overtop of the mudbrick pavement; the building continued in use, although surfaces later than the pavement and predating the final abandonment deposit were very difficult to define. At some stage, possibly in conjunction with the infilling atop the mudbrick pavement, the entryway between Rooms B.B2.1 and B.B2.2 was blocked up. While the alternate pattern of access has been difficult to determine, it is possible that there was an open space between the northwestern terminus of wall **90043** and the southwestern terminus of wall **90052**.

In the East building, three successive deposits in B.B2.1 point to the final use and abandonment of the building. The earliest of these, 900075 (for which a radiocarbon sample

yielded a date of 5317-5207 cal. BCE[2]), included an intact lenticular jar **(Fig. 7.15)** similar to those found at Gawra, Eridu, and elsewhere, placed upside down just to the east of bench 90079, a grinding stone, and a stone mortar and pestle.

Figure 7.15. Lenticular vessel from Phase D Deposit in C.B2.1

Atop and intermingled with this deposit was a dense matrix of ash and mudbrick material with large quantities cultural material including sling pellets, larger bones and sherds, and geometric sealings (**90069**). Sealing this deposit was a layer of ash and mudbrick debris, also commingled with large bones and sherds. A C14 sample from this ash layer yielded a date range

[2] 6260 +/- 30 BP, IRMS δ13C: -26.4 o/oo

of 5032-4848 cal BC (95.4 confidence%).[3] The considerable gap between the two closely associated contexts suggests that one of these dates may be an outlier, but the source of this discrepancy is difficult to identify. Multiple factors, including the incorporation of old wood in the earlier deposit and lengthy preservation of the room between the final floor deposit and the accumulation of the ash layer could partly explain this difficulty, but the gap between dates is still troublingly large.

Rooms B2.2.2 (Locus 90076) and B2.2.3 (90073) in Phase D also saw, above the relatively undifferentiated underlying matrix (which may have been deliberate fill as in B2.2.1) accumulations of ash, loose silt and cultural material, including large sherds, bones, and one sling bullet. These can probably be considered the buildup of debris during and/or shortly after the abandonment of the structure for its primary use.

Phase D in West building B.B1 was characterized architecturally by the construction of a wall (**100028**), apparently designed to reinforce the older wall 100030; episodes of deliberate infilling (**100226**) also apparently occurred during this phase, possibly in order to shore up these walls.

A very thick dump of ash (**100111**/**100220**) filled the northeastern section of building B.B1. There was little ceramic material or bone intermingled with this material, but there were numerous clay sealing fragments, clay discs, figurines, sling pellets and fragments of sling pellets, and an odd cubic object of unbaked clay with comb-incised decoration. **(Fig 7.16).**

[3] 6050 +/- 30 BP; IRMS δ13C: -23.5 o/oo

Figure 7.16. Incised Cube from 100220

Two radiocarbon dates from trash deposits in both the West and East buildings that seal the ashy deposits give dates from the turn of the 5th millennium (5032-4848 cal BCE[4] from locus **90062**, and 5065-4904 cal BCE[5] from locus **100225** respectively) offer a terminus ante quem for these deposits; the close overlap between the date ranges also lends support to the theory that the ash deposit in the West building can be associated with the ashy layers from the East building. It

[4] 6050 +/- 30 BP; IRMS δ13C: -23.5 o/oo
[5] 6080 +/- 30 BP; IRMS δ13C: -25.3 o/oo

should be noted that there was no evidence for generalized burning or conflagration in either of these structures at this period.

Phase C. Above these ashy deposits in both buildings there were accumulations of mudbrick debris and rubbish which yielded the early fifth-millennium dates and probably indicate that at least much of the complex was no longer in use for its primary intended purpose, although in addition to its function as a waste disposal site it may also have been used for other purposes: an accumulation of lithic debris against the line of wall **90042** as it emerged in excavation suggests that a knapper or knappers may have taken advantage of the still-standing walls as a convenient place to make tools. Moreover, in building B.B.1, a small and transient mudbrick wall **100214** was built atop the deposits described under "Phase D" above. This might suggest both continued use of at least the Western building and also that by this time the complex was no longer a focus of labor, intensive construction, and careful preservation like that which characterized the building and renovation of the monumental walls and the replasterings of Room E1.

A final note regards the courtyard or open space around the buildings described above. In general, it was even more difficult to identify clear use surfaces here than inside the buildings. Only one outdoor surface from this area, a buildup of trash on a transient surface south of B.B1 (**100127**), was preserved in a sufficient state to be sampled for microarchaelogical purposes. The overall impression was of unfinished and irregular surfaces used throughout the use life of the complex which were not apparently used with the intensity of courtyards or outdoor spaces outside the complex.

It is not yet entirely clear for how long the complex remained in use as we have not reached the architectural foundations, but even interpreting the current radiocarbon dates as conservatively as possible and granting a construction date not long before the earliest dated layers, the structure was in use for over 200 years in roughly the same configuration. Very likely it was in use for longer, and possibly much longer.

7.2.3. Spheres of Activity and Ritual Function

The patterns of use and disposal discernible from the archaeological evidence suggest that the nondomestic building complex, however it interfaced with the rest of the settlement, was a center of ritual activity, here defined as intentionally symbolic activity consciously separated from the day-to-day. A range of activities—including storage, food production, craft production, and trash disposal—may have taken place there, and I begin with a brief review of the evidence for such activity, before turning to a discussion of the ritual activity that present evidence suggests was a major function of the complex.

Storage. Here our evidence is almost exclusively architectural, in the form of rooms E4 and E5. We have not encountered any *in situ* storage vessels, any unusually high concentrations of storage vessel sherds (although detailed proportional analysis of the pottery from these spaces remains to be done), or any caches of grain or other stored material. However, these small, narrow rooms seem appropriate for storage and for little else, unless they represent an architectural feature like a staircase, which seems unlikely. So material of some sort, for use either in the domestic complex or by people with access to it, was likely stored in the complex. It is worth noting that the size of these small rooms alone would be insufficient for communal

storage of food or other staples, and so if the materials stored here were for use by or distribution to the wider community, the scale of the materials and/or the number of recipients would almost certainly have been small or the occasions few and far between. I consider it most likely that material stored here were for the use of activities of limited scope taking place in the complex itself.

Figure 7.17. Likely Storage Areas B.B2.4 and B.B2.5 (in foreground)

Disposal. All areas of the building complex were eventually used for the disposal of rubbish. It appears that the East Building B.B2 only served this function after final abandonment. The

courtyard between the buildings accumulated debris throughout the use-life of the buildings, but the amount of such debris was less than in the open areas to the east and south of the complex walls or the domestic courtyards during and between use phases. This comparison is necessarily impressionistic as full analyses of ceramic counts by locus and by volume of excavated matrix have not been completed.

The West building B.B1, by contrast, was apparently used for the disposal of ash, animal remains, and other material during phases of the use-life of the complex. Deposit 100225 was particularly interesting as a disposal context, containing as it did multiple bones and partial skeletons, including caprids, cow, gazelle, and both domestic and wild canids. Because the skeletons showed evidence of butchery, I will also discuss them below under "food preparation," but in this context the disposal of such materials in a small, enclosed room, as opposed to an outdoor rubbish heap or other context, is worth noting, and we might consider possibilities that the remains were either defleshed before disposal here, or else buried.

Figure 7.18. Bone Refuse Deposit 100225

Above this buildup of debris, locus **100220**, consisting of multiple layers of ash interspersed with thin, laminar layers of wash, may include debris from burning taking place elsewhere in the compound or elsewhere in the settlement.

Food Preparation. The evidence for food preparation within the complex was mixed. The microarchaeological data from the East building B.B2 strongly indicated that such activities were *not* taking place during the Phase E and D uses of the building. There was very scant evidence of bone, ceramic, or chipped stone microdebris that might be associated with cooking. There were no cooking installations identified inside the complex as a whole, and there was no evidence on floor deposits of heating.

On the other hand, as just described, the west building (B.B1) was filled with ash and many animal bones, including articulated skeletons or parts thereof. The species represented included common domesticates, including sheep, goats, pig, and cattle, as well as less-common species including gazelle, wolf, and domestic dog. Butchery marks were present on many of the bones, including the domestic dog (Price, Fisher, and Stein in press), but overall there was little sign of burning on these bones. This could indicate that flesh was removed before cooking, that the meat was consumed raw, or that the meat was smoked, salt-dried or otherwise cooked or preserved at a low temperature.

In addition to the considerable accumulations of ash in the West Building, there was clear evidence of a massive conflagration in Room 1 of the East Building (B.B2.1). While there is no indication of food preparation in later phases of this room, the fact that we have not recovered the surface associated with the conflagration means we cannot disregard the possibility that this burning was associated with such activity.

On the earliest floor deposit in B.B1 (the West Building), a possible grinding stone and a ceramic muller were found. As described in Chapter 6, mullers have been established as being involved in food preparation, specifically the grinding of heated cereal grains, although additional or different uses are possible. Unfortunately it was not possible to sample this surface for microarchaeological debris, but it may be that in the early phases this room was used for some aspects of food preparation.

Craft Activity. There was not strong evidence for non-food craft production during the main use-life of the structure, but there were at least some hints, especially in periods of discard. One such hint might be a broken bone tool identified in the late trash deposit in B.B1, but this tool's

function is unclear. A spindle whorl was among the dense accumulation of debris in the apparent abandonment deposit 90069 in B.B2.1. Despite these examples, the scarcity of objects like bone needles or awls, spindle whorls, and loom weights in primary, secondary, or tertiary contexts within the complex suggests that, if craft activity was being carried out in this space, it was most likely either limited in scope as compared with the domestic and outdoor areas, of a kind unlikely to leave evidence in the archaeological record, or both.

Ritual Activity. It is infamously difficult to interpret the meaning or even the details of "ritual" activity in archaeological contexts, and the recourse to describing poorly understood deposits as ritual has become a cliché. Nevertheless, I want to make the case that the building complex was used for activity that can properly be defined as ritual in the sense of intentionally symbolic activity consciously separated from the day-to-day. I hope to avoid over-interpreting the data, but several lines of evidence support the case for ritual activity.

The building complex itself is, of course, unusual in form, and quite different from the domestic areas nearby. The scale of the walls and of the complex as a whole suggest that, if this was not an elite dwelling place, it had some kind of community function, and the unusual structures and finds do suggest something other than ordinary houses. It seems reasonable to assume, then, that this was a nondomestic structure. Some conceivable roles for nondomestic structures of the period include communal storage facilities, workshops or production centers, administrative centers, and centers of ritual or other community activity. As just described, the storage capabilities of the complex seem limited, and there is nothing that gives us a reason to believe that the excavated portion of the complex was dedicated to large-scale storage at the community level as has been proposed for Ubaid "grid" structures at Oueili and elsewhere (Özbal 2010, 298). There is likewise no evidence inside the complex for centralized productive

activity in the form of kilns, ovens, basins, concentrations of craft materials, etc. As described above, there is potential evidence for small-scale food production in Phase F of West Building B.B1, and some scattered craft-production tools in the final or post-abandonment deposits of East Building B.B2.1, but these hardly suggest a primarily productive function, and, in fact, the evidence from the microarchaeology suggests that, to the contrary, production activity was more limited here than in any other space in the LC 1 settlement excavated so far. Finally, there may have been some degree of administrative activity carried out in the complex as witnessed by the frequency of clay sealings in certain deposits, but we would expect to find administration in conjunction with storage or redistribution of goods, and these are not present.

While the potential range of functions for a structure like this is obviously broader than the categories mentioned above, we are at least justified in looking more closely at the evidence for a primarily ritual function for the complex. The precise nature of activity, ritual or otherwise, in the complex remains difficult to elucidate. Some points of comparison and difference might be drawn with other Ubaid and Late Chalcolithic spaces thought to have ritual functions. As noted in Chapter 2, such spaces are not common. The most frequently-cited example of Ubaid ritual architecture is the temple sequence at Eridu (Safar, Muṣṭafā, and Lloyd 1981); Building A at Tell Uqair (Lloyd and Safar 1943) is also a strong candidate, but there is little information available on the kinds of activity that might have been carried out there. For the LC 1, the two main, likely points of comparison in greater Mesopotamia are Tepe Gawra (Tobler 1950), where some but not all scholars have seen the level XIII acropolis as composed of ritually-significant structures, and Susa, whose LC 1 *massif* has been understood both in terms of community mobilization of labor and the elaboration of ritual (Hole 1983). In most respects, it is difficult to see points of commonality between the complex at Surezha and the Susa *massif*, so not much will be said

about that site here. Interestingly, some of the clearer points of commonality at this point are those between Surezha and the Ubaid temples at Eridu, rather than those between Surezha and nearby Tepe Gawra.

The "bench" against the wall could be thought of as comparable to the "benches" in the later Ubaid temples at Eridu (Safar, Muṣṭafā, and Lloyd 1981, 100, 107)**.** The presence of an Eridu-style lenticular vessel in Room B.B2.1 strengthens the comparison between the two sites. We must be cautious, however, as several of the clearest markers for ritual activity Temple VI at Eridu are absent at Surezha: specifically, the large concentration of fish bones and the clear evidence of burning on and around the altar (Safar, Muṣṭafā, and Lloyd 1981, 107). Small fish bones (or other animal bone) would almost certainly have been found at least to some extent either in the sieved contents of the lenticular vessel and/or in floor surfaces if they had been present at Surezha in anything like the quantities seen at Eridu: in neither case were such bones identified, suggesting that this element of practice, at least, was different. There is likewise no evidence for burning on the "bench" itself or on or around the mudbrick pavement. On the other hand, the Phase D surfaces of both B.B2 and B.B1 are quite rich in ash (and in the latter case, there appear to be multiple instances of ash deposition), and the intense burning of the interior walls of B.B2.1 indicates conflagration beginning within the room in an earlier phase.

If ritual practices are envisioned as similar between the two sites, we also must highlight the apparent absence of a basin like that found at Eridu Temple VI. A feature initially identified as a basin was observed on the exposure of the mudbrick pavement 90110 **(Fig. 7.19).**

Figure 7.19. Mudbrick Pavement 90110 with oval feature initially considered a basin

Because the feature was transient and could not be determined to be raised above the level of the pavement, and because no evidence like laminar silt layers characteristic of basins was identified, it was determined to be insufficient evidence of such a feature. On the other hand, we could at least consider the possibility that, if the space were deliberately filled after the use of the mudbrick pavement, a basin could have been demolished leaving only the oval outline of its base. I am very cautious about this suggestion but mention it here for completeness and comparability.

Finally, an interesting comparison might be drawn between the accumulations of ash and bone in B.B1 and that in Room 14 in Eridu Temple VI (Safar, Muṣṭafā, and Lloyd 1981, 107–10). The excavators at Eridu suggested that this room, which was "completely filled with a mass of ashes and debris, burnt almost to the consistency of clinker, such as one would expect to find after the destruction by fire of animal remains," was dedicated completely to the burning of "surplus" offerings (110). A key difference between the two spaces, however, is that the recovered animal remains, by and large unburnt, were largely unmixed with the ashy deposits above. Nevertheless, I suggest that the excavated room of west building B.B1.1 may indeed have been devoted to the disposal, whether by fire or not, of animals killed as part of a ritual practice.

Gawra XIII, dated to the local Ubaid-LC 1 transition but, in absolute terms, perhaps roughly contemporaneous with the final levels of the Surezha complex, does not appear on the whole to share much with the latter. Lenticular vessels at Gawra were encountered in strata XIV-XVII (Tobler 1950, 2:136); while these are conventionally assigned to the Ubaid period, in terms of expected absolute dates, they might in fact be contemporary with the use of the complex at Surezha.

The architecture at Gawra, as at Eridu, has apparently little in common with that at Surezha, at least as exposed to date: Eridu VI and the Gawra Northern Temple both take the well-recognized "tripartite" form that does not parallel the architecture at the Surezha complex, suggesting a more localized tradition. Moreover, the small finds from the Gawra buildings (including the Gawra XIII acropolis and especially the White Room building of Gawra XII) suggest more craft production and consumption activity than seems to be the case at Surezha (Rothman 2002b).

Overall, then, while it is difficult to infer in detail what activities were being carried out in the nondomestic complex, it seems probable that Room B.B2.1 was used as a center for ritual activity, carefully cleaned and maintained over many generations and with limited and restricted access. The bench may have had some sort of altar or votive function, but the evidence for this is limited. The other rooms in building B.B2 had no remaining features within their walls and little in the way of archaeological material from which to divine their function, although B.B2.2 may have been either an entry corridor, a storage niche, a less intensive disposal site, or even a latrine, and rooms B.B2.4 and 5 quite possibly had a storage function, although the aforementioned problem of access is puzzling. Building B.B1 appears, after the Phase F surface, to have been mainly used initially for disposal of animal remains and then of ash. In both cases, the nature of these disposals suggests that there was a special purpose to the materials thus disposed and that the building was not casually used as a dump but dedicated to the collection of special debris.

A final note regards activity in the Late Chalcolithic 2, after the abandonment of the nondomestic complex: at least one pit, likely associated with a feast, was dug into the space above building B.B1. There is the possibility that the area of the complex, even after its walls were either completely or wholly covered or destroyed, remained a place conceptualized as ritually or publicly significant.

While it must be admitted that we cannot be certain of the ritual character of the space, and that the exact practices remain elusive, that it was not an ordinary dwelling place or a center for storage or production is strongly indicated. I do not wish to dismiss the possibility that the nondomestic complex was in fact an elaboration of an originally domestic space, but at least by the period under investigation there was a basic distinction between the dwelling and working places elsewhere on the site and the nondomestic complex. This is, in other words, what might

be called a “public” building. But to what extent was it truly public, and what does that mean in this context? The remainder of this chapter will be devoted to working through the question of public space, limited access, and the ways in which this kind of space served as a technology for aggrandizing elites to enforce social distinction and control.

7.3.Limitations on Access

I make the argument in this dissertation that the nondomestic complex at Surezha is an example of an important social technology of utilizing the “public” built environment not only as a means of consolidating certain communal activities but of both spatially and socially separating those activities from full participation by people in the community.

The most salient feature for my analysis of the nondomestic complex is the limitation on access and activity during Phases D and E, representing the Late Chalcolithic 1. Such limitation is implied by several lines of evidence: first, the large and substantial walls and other architectural means of limiting access; second, the scarcity of macroarchaeological debris recovered from the West building; third, the unique character of the debris recovered from both the East and West Buildings; and, fourth, the evidence from the microarchaeological record suggesting very low levels of debris-producing activities within the West Building. I will treat each of these in turn to make the case that the nondomestic complex at Surezha was, whatever else it may have been, a space defined by limits on what could be done and who could do it.

7.3.1.Walls and Entryways

The first aspect of restriction of space is straightforward enough to need little elaboration, but is worth considering in light of millennia of elaboration of the basic concept: the nondomestic

complex was surrounded by massive walls. As described above, the exterior mudbrick walls were at least 1.5m in width and may, at times, have been wider. To date we have unearthed no gates or openings in these walls; as it seems that we have exposed two entire wall faces, this suggests that there were not many such entry points, and possibly only one. It is also worth noting that based on the general NE-SW orientation of architectural lines of the site, the wall facing the domestic areas exposed so far does not contain a gate or entryway. People walking or looking from the domestic spaces to the east or the areas that I have interpreted as communal cooking spaces immediately outside the walls would have quite literally found themselves facing a brick wall. How high these walls stood at any given period and whether there were any windows or apertures is unknown, but it is difficult to escape the impression that the nondomestic complex was both symbolically and literally closed to the domestic areas to the east, and the walls would at least have been sufficiently high to cast long evening shadows on the open area between the nondomestic complex and the houses to the east.

Since it is likely that a main entrance to the nondomestic complex was situated on one or both of the northern walls and thus toward the center of the settlement, we must at least be cognizant of the possibility that the complex presented a point of entry rather than a wall to at least some of the dwellings of the settlement. However, besides remaining conjectural, this only underscores the notion that the walls defined and represented an exclusive space, to which access was not universal.

Further, when we consider patterns of circulation and access within the complex, it is immediately striking that the rooms and buildings did not by any means facilitate easy access, even once within the complex. One consideration in this regard is the relatively small size of all the rooms excavated so far. Even the largest, Room B.B2.1, the north room of the East building,

had an area of some 3.6 m^2, large enough to admit a small group depending on cultural preference and the use to which the space was being put, but certainly not sufficient to admit a gathering of any substantial portion of the members of the community at any tone time. Other rooms in both buildings were smaller, and these had no clear means of access at all, in any period excavated to date.

In fact, the problem of doorways and means of access in the nondomestic complex has been perplexing, as few or no clear entryways were identified. The two exceptions were floor 100243, the earliest floor in the northeastern quadrant of Building B.B1, in which no actual door but an apparent door socket stone was discovered, and the somewhat confused situation in the north of East Building B.B2. In this situation, it seems that there was a gap at least in Phase E, later blocked, between rooms B.B2.2 and B.B2.1. If this was the case, and if we suggest that B.B2.1 was the center of ritual activity in the building, this would be an example of indirect approach noted at Eridu beginning with Temple VI (Safar, Muṣṭafā, and Lloyd 1981), at the Gawra XIII Northern Temple (Tobler 1950, 2:31), and maintained as one of the standard forms of southern Mesopotamian temples for millennia (B. R. Foster 2016, 152), but which was abandoned for a direct approach in later levels at Gawra (Tobler 1950, 2:31).

Clearly there must have been some way of accessing the rooms and buildings without identifiable doorways, but whether doorways have simply not been identified archaeologically, whether such doorways were carefully blocked in antiquity, or even whether buildings were entered through roofs or other means, it is easy to argue that facilitation of public access was not a primary consideration in the construction of the complex and, to the contrary, all architectural evidence to date argues in favor of deliberate efforts to restrict and minimize such access.

Interestingly, a similar issue of access is encountered at the Gawra XIII "Northern Temple," which, although entirely different in form from the complex at Surezha, also featured two narrow chambers with no apparent means of access (Safar, Muṣṭafā, and Lloyd 1981, 120; Tobler 1950, 2:pl. XIII).

7.3.2. Macroarchaeological Debris

As discussed in Chapter 3, there are important interpretive problems with using tertiary deposits of macroarchaeological remains as indicators of the nature or intensity of use of a space, since patterns of curation and disposal, on the one hand, and taphonomic processes, on the other, can have major effects on the macroarchaeological material that enters into the archaeological record.

However, two features of the macroarchaeology are worth considering as evidence for the kinds of activity taking place in the nondomestic complex and the potential limits to access and activity there: first, the scarcity of cultural material in the macroarchaeological record of several phases of the East Building (B.B2), and second, the distinct nature of the macroarchaeological finds in both the West (B.B1) and East buildings.

It has already been mentioned that the matrix in between the Phase E and D surfaces in Building B.B2 in general and room B.B2.1 in particular, was remarkably sterile. The relative lack of cultural material largely persisted through the occupation of the East building, making the dense accumulations of material from the proposed final use phase and abandonment all the more dramatic. This sterility has been partially attributed to deliberate fill between levels, but even the surfaces used before and after this fill episode were, in general, kept carefully clean and were not used for trash disposal (one possible exception might be the narrow room B.B2.2, as

discussed above). The microarchaeological data will offer more evidence for the claim that these spaces were sparsely and selectively used.

In addition to the scarcity of debris in some phases of building B.B2, an important line of evidence is the distinctive and often unique nature of the macroarchaeological remains from both buildings B.B1 and B.B2.

In B.B1, three of the deposits described above deserve special mention. First, the early (Phase F) floor deposit 100239, with a muller, possible grinding stone, and two stone bowls, is interesting because it combined archaeological material we might normally associate with domestic areas and activities (the muller, the possible grinding stone) and what appear to be more unusual prestige materials (the stone bowls). On balance, this surface can potentially be associated with food production as discussed above, but the stone bowls, otherwise unique at Surezha to date, suggest a somewhat special context for this production. Nevertheless, it cannot be entirely dismissed that in Phase F activity in the nondomestic complex overall was more similar to domestic activities than seems to have been the case later—hopefully, further exposures of the Phase F surfaces will offer wider context for the finds in B.B1.

In Phase E, Deposit 100225 in Building B.B1 was characterized, as described above, by an unusually high concentration of animal bone, including uncommon or unique species at the site like gazelle, wolf, and domestic dog. As described in Chapter 7, Section 1, these animal bones showed evidence of butchery but little evidence of burning. The range of species, the density of bone, and the occasionally high degree of articulation of the skeletal remains were all unusual and unlike what was commonly found in domestic or other contexts. There is no reason to

believe that either domestic dog or wolves were commonly eaten by people in or around houses, but at least three individuals were encountered here.

Above this buildup of debris was the sequence of ash and laminar wash layers recorded as Locus 100220. The unusual nature of the material incorporated into this deposit—sealings, figurines, and the incised clay cube-suggest that they represent debris from burning and/or other activities in a context or contexts that were dissimilar from those in either the houses of Operation 2 or the open, nondomestic work areas south of the walls of the nondomestic complex.

Turning back to East Building B.B2: in the final phases of the use life of room B.B2.1, the character of the macroarchaeological remains was striking: alongside accumulations of ceramic material and bone were found the lenticular vessel of the type associated with ritual architecture at Ubaid sites like Eridu and potentially ritual activity at Tepe Gawra and Tell Abada, a stone mortar and pestle (**Fig. 7.20)**, a smoothly abraded circular polishing stone, a number of clay sealings (at least 7 and probably more), including several with geometric impressions (**Fig. 7.21)** a fine almond-shaped bead or decoration (**Fig. 7.22**), and at least 13 unbaked clay sling pellets.

Figure 7.20. Stone Mortar and Pestle from 90072

Figure 7.21. Geometric Clay Sealing from 90072

Figure 7.22. Almond-Shaped Bead from 90072

The macroarchaeological record of the final deposits of the rest of the East building becomes somewhat more typical of the tertiary discard record across the site, both in terms of density and the nature of the material. I have argued that these deposits date from a phase when the building was partly or wholly abandoned and no longer served its primary function. I mention it here by way of contrast, to show how the complex, and especially building B.B2, was apparently preserved during its use life from usual patterns of both use and discard.

7.3.3. Microarchaeological Debris

Finally, as described in some detail in Chapter 4, the microarchaeological debris density from the indoor surfaces of the nondomestic building complex showed that these surfaces were dramatically cleaner than any other surface type across the LC 1 occupation of the site (**Fig. 7.23**). The composition profiles of the microdebris samples from the nondomestic complex were

not, in general, dramatically different from those of other contexts, but the extraordinarily low numbers of recovered microdebris fragments make it difficult to use compositional data in these nondomestic contexts.

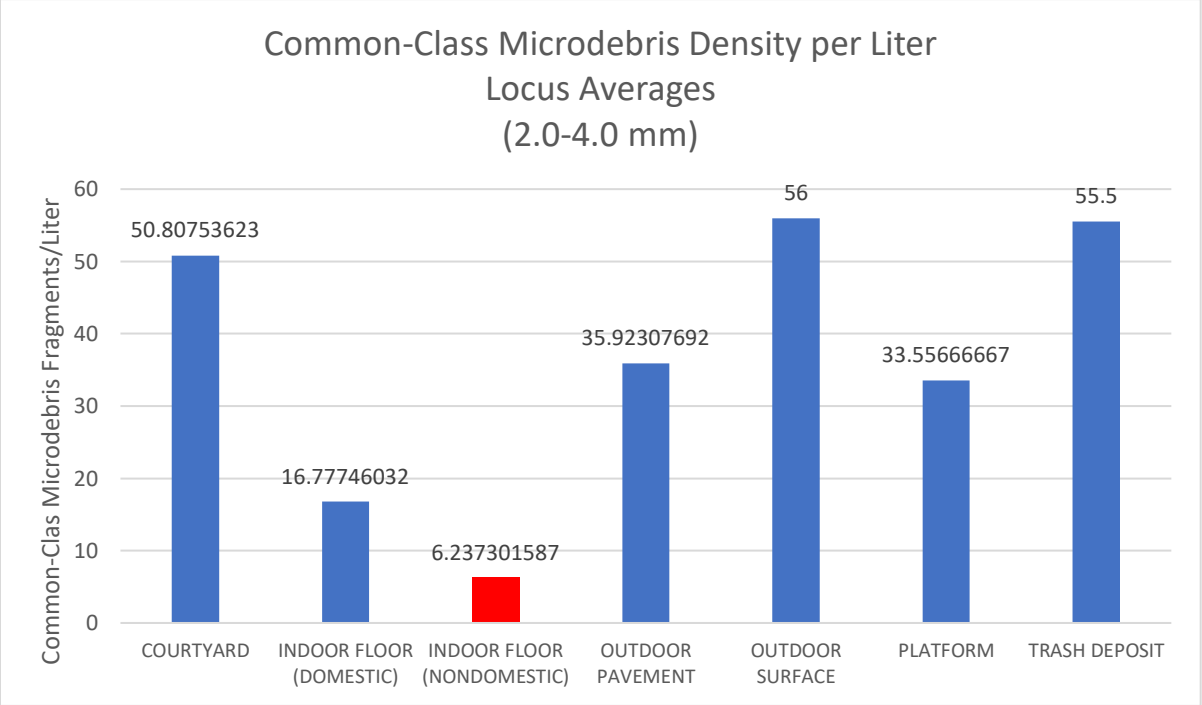


Figure 7.23. Microarchaeological Debris Density of Nondomestic Indoor Surfaces vs. Other Surfaces (Average by Locus)

The cleanliness of nondomestic indoor surfaces was evident in both the single surface sampled from the West Building B.B1, and from East Building rooms B.B2.3 and B.B2.1, and was true in B.B2.1 whether the surface sampled was that immediately underlying the proposed final use/abandonment deposit or the earlier mudbrick pavement from Phase E (**Fig. 7.24)**.

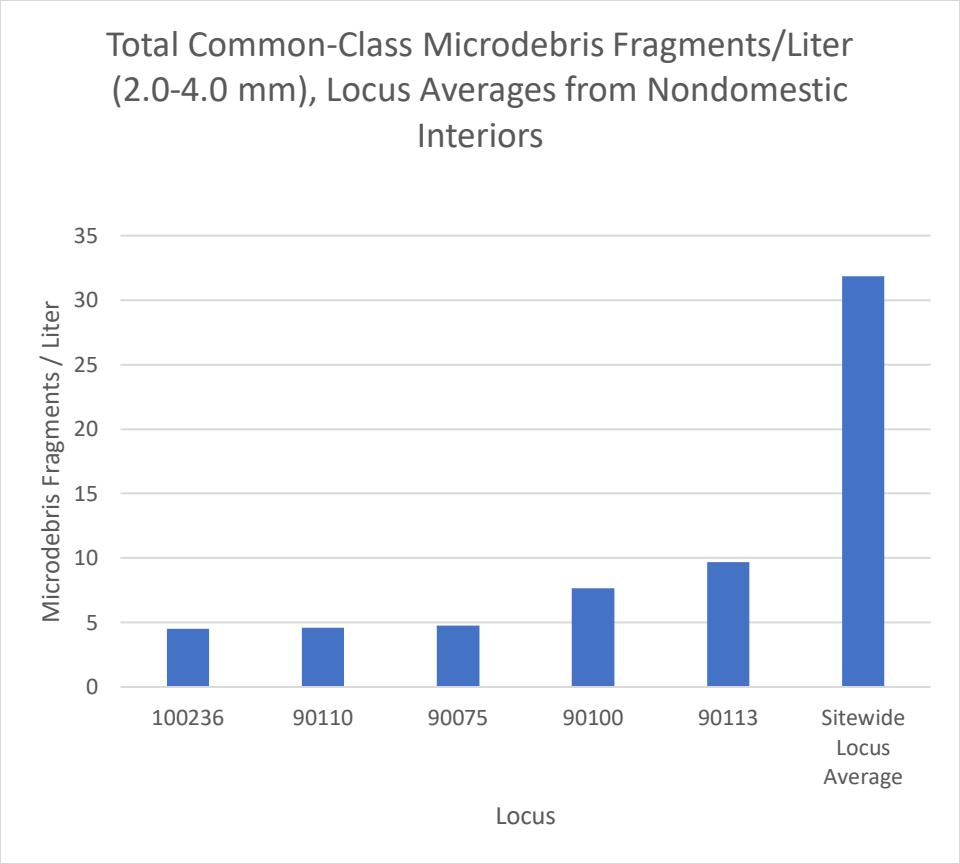


Figure 7.24. Microarchaeological Density of Nondomestic Indoor Surfaces (by locus)

As described in Chapter 4 **(Fig. 4.21)**, useful inferences can be drawn from the comparison of microarchaeological and macroarchaeological density. The rooms from the East building of the Nondomestic complex at Surezha show a dramatically less dense microarchaeological profile than all other surfaces sampled from the site. In the cases of 900110 and 90100, the Phase E deposits from the mudbrick pavement in B2.1 and B2.3 respectively, we see a situation similar to Scenario 3: low density of both micro- and macro-remains, suggesting that in these cases the spaces were both not intensively used and were preserved from the common patterns of post-use deposition of rubbish.

90075 is a somewhat different case: underlying as it does the lenticular vessel deposit, it corresponds more closely to Scenario 2: a surface not used intensively during its primary use-life for debris-producing activities and then used as a trash deposit. However, as has been mentioned, there does appear to be a deliberateness to the deposit that makes "trash" an insufficient descriptor.

7.3.4. Conclusion

The scarcity of microarchaeological debris, the unusual nature of the macroarchaeological record, the limited means of access, and the monumental walls all point toward a context in which activity and access were sharply restricted. Not only were the activities that took place in the nondomestic complex distinct from those that took place elsewhere in the LC 1 settlement, but the scope of this activity was also apparently sharply limited, resulting in by far the least production of floor debris of any spaces in the village sampled so far. Alongside the architectural aspects of the complex, this limitation of activity can also be inferred to involve limitation of access: only a limited number of people were permitted, by whatever social mechanism, to use the space. The next sections will delve into the implications of this restriction.

7.4. Public and Private on the Threshold of Complexity

The preceding two sections have shown that the nondomestic building complex was a longstanding part of the community's built environment, used for activities sharply distinct from those associated with the domestic areas to the east of the complex. They have also shown that a fundamental characteristic of this space was restriction on both access and range of activity. In the final section of this chapter, and the concluding argument of this dissertation, I will make the argument that this restriction was part of a fundamental technology of power**:** the ability to limit

access and activity in public space can both create, enact, and reinforce social power and hierarchy.

In order to make this argument, I will first lay out the theoretical basis for the social production of space. Drawing on Lefebvre, De Certeau, Soja, Bourdieu, and Rapoport, as well as archaeological applications from Ingold, Harmanşah, Smith, and others, I will emphasize the ways in which the organization of activity across space is closely intertwined with the organization of both daily life, ideology and culture, and the broader social order.

Having established the social role of space, I move to a discussion of public and private spaces in particular. From an overview of the public/private dichotomy in modern social, political, and urban thought, I turn to developing a working understanding of public and private spheres that can be applied in contexts of nonstate, village societies, one that leans heavily on spatial dimensions of house and non-house space. I then argue that "public" spaces can be further subdivided, between open-access and limited-access or privately controlled public space, and that the limitation of access to public space has the potential to be a technology of control for potentially aggrandizing elites. Thus, in addition to seeing public architecture as evidence for the ability of institutions or elites to mobilize labor, I argue that in the Ubaid and Late Chalcolithic, these new limited-access public spaces were a means for aggrandizing elites to establish and enforce difference and to constrain the fields of activity available to members of the community, even as domestic spaces, as shown above, remained relatively undifferentiated.

7.4.1. The Social Production of Space

Human space, or place, is socially mediated and shapes social experience. By the two components of this statement I mean, first, that the ways humans live, move, and act in space are constrained by and understood through social life, often as part of the unspoken habitus of daily life (Bourdieu 1977; E. T. Hall 1963) but also in more conscious ways. Second, I mean that the ways in which human places are constructed—both literally, through building and shaping, and figuratively, through activity, history, memory, custom, and rules—create the framework within which people are able to act and even think. While it is easy to think of examples from life to support these claims—think of all the things that one can and cannot do at home, or in a workplace, park, a cemetery, or a place of worship, the people who can and cannot be there, and even the thoughts and dispositions that such different categories of place direct us toward—it is striking the degree to which it has been easy to forget, even in social scientific analysis, the centrality of space to the human experience.

Edward Soja argued, heralding the "spatial turn" in postmodern critical theory and history at the close of the 1980s, that "for at least the past century, time and history have occupied a privileged position in the practical and theoretical consciousness of Western Marxism and critical social science," and that this focus on historical process has come at the expense of space (Soja 1989, 1). This eliding of spatial experience has not been exclusive to Marxism, critical theory, or history, but by now, the so-called spatial turn has been spun through most of the social sciences and humanities (Navickas 2011).

Archaeology and anthropology, especially in the Anglo-American tradition, had never quite experienced the loss of a sense of space bemoaned by Soja. Art historical traditions within archaeology have consistently considered the ideological components of the built environment,

and the phenomenological approaches of the late 20th and early 21st centuries have attempted to realize the experiential dimensions of places of all kinds, from architecture (McMahon 2013b) to landscape (Tilley 2010).

Still, especially in the study of the origins of complexity, space has tended to be subordinate to time and sequence of social development. Efforts to understand the emergence of durable hierarchy, social stratification, and socioeconomic complexity have tended to focus on questions of surplus accumulation, economic incentives, technological innovation, population growth, and conflict. That all of these factors have strong spatial components is not entirely ignored but is rarely emphasized. Key spatially-defined indicators like three-tier settlement hierarchies and the emergence of monumental architecture are generally seen as results rather than motive factors in descriptions of complexity and/or urbanization.

The spatial has been more central in recent archaeological work on later periods, particularly in terms of the spatial dimensions of ideological projects of urban and/or state polities. Recent work on cities (Harmanşah 2013), monumentality (Osborne 2014a), and the architecture of state power (Smith 2015) has created a robust theoretical environment for the exploration of the ideological dimensions of architecture in the ancient Near East.

This focus on the urban echoes the spatial emphasis in contemporary critical theory, with De Certeau's essay on walking through New York (Certeau 1984b), Benjamin's *Arcades* project (Benjamin et al. 1999), and Soja's work on Los Angeles (Soja 1996; 2010) as paradigmatic examples from different perspectives and theoretical orientations.

What of social space in non-urban places like Surezha, which was not only not a city itself but existed in a fundamentally non-urban system of settlement and social organization? How can

we use the insights of cultural geography, the "spatial turn" in critical theory, urban studies, and recent archaeological literature to investigate how space was used, mediated, and experienced on the threshold of complexity?

I have found the work of Henri Lefebvre helpful here (Lefebvre 1991; 1996; Lefebvre, Brenner, and Elden 2009; Stanek 2011). Lefebvre's *Production of Space* (1991) is taken up with an effort to refocus Marxism on conditions of production, rather than product, and specifically on the *spatial* dimensions of production. In Lefebvre's views, a key to properly understanding the social relations that structure any economic and political system is understanding the social spaces that humans create in the process of creating and enacting these relationships. It may seem obvious but is often forgotten that, as Lefebvre writes, "social relations, which are concrete abstractions, have no real existence save in and through space." Further, "*Their underpinning is spatial"* (Lefebvre 1991, 404). This last point calls our attention to the claim I make at the beginning of the section, that social life cannot be wholly understood expect spatially, for the basic reason that human action and interaction takes place exclusively in space.

While Lefebvre's work deals explicitly with modern, capitalistic, urban, and "globalized" society (Lefebvre 1968; 1996), his attention to the social production of space may be usefully applied to the quite different societies of the 6th and 5th millennia BC, and in fact precisely the structural differences between these societies and the ones about which Lefebvre writes allow his analysis to be usefully extended beyond a Marxist framework which emphasizes the workings of capital in the production of space. I argue that it is not only in the "present mode of production", as Lefebvre writes, that "space has taken on a…reality of its own" and in which space is "a means of control, and hence of domination, or power; yet that, as such, it escapes in part from those who would make use of it." (Lefebvre 1991, 26). Indeed, my argument is precisely that

social space in the Late Chalcolithic, on the threshold of urbanism, was becoming a means of control or power, and that this control was incomplete. That the context and manifestations of this control and its limitations are very different in different contexts should not be taken to mean that these mechanisms were absent.

Lefebvre (1991, 33) suggests a "conceptual triad" for understanding space:

1. Spatial practice, comprising, for him, the relations of production and reproduction - in other words, space as daily life and experience which reproduces itself and its socioeconomic structure. While Lefebvre himself cites Chomsky's conceptions of *competence* and *performance* in his description of this spatial mode, we might usefully think of Bourdieu's spatially-mediated *habitus* (Bourdieu 1977).

2. Representations of space, which might be thought of as the concretization of power relations derived (for Lefebvre) from control of the means of production. This is space as "frontal relations," as ideological projection. This has been one common way of thinking about the social role of monumental and/or public architecture, that is, as a top-down statement of "materialized ideology" (DeMarrais, Castillo, and Earle 1996).

3. Representational space, which might be thought of as the counterpoint to the second form; this mode is a re-visioning of place, the use of space as subversion of power relations, "embodying complex symbolisms, sometimes coded, sometimes not, linked to the clandestine or underground side of social life." (33). While this might be thought of as paralleling Foucault's notion of "heterotopias" (Foucault 1986), Foucault's notion, taking as it does a different point of departure in its understanding of space, cuts somewhat across Lefebvre's categories.

Any given space is experienced and can be understood in all three modes, depending on the actors present, their actions, and the perspective taken. To take an example ready to hand, a public playground is in one sense a "representation" of the authority of a municipality to declare a certain space and not others an appropriate venue for play, to attempt to funnel certain kinds of play. At the same time, the daily spatial practices of the adult and child visitors make the playground the space it is, define the favored equipment and the pathways, official and unofficial, create specific forms of sociability between individuals and groups, reproducing unwritten social patterns. And the same space may be "representational," a counter-space, insofar as the children walk up the slides rather than down them and stand on the swings, as nighttime visitors use the space to socialize outside the official remit, as protesters use the space for gathering in preparation to deliver their demands against municipal authority.

Lefebvre's "conceptual triad" also provides a framework for situating archaeological scholarship on space. The first form, spatial practice, is consonant with work drawing on traditions of *habitus*, phenomenology (Tilley 1994), space syntax (Shapiro 2005), environment-behavior studies (Rapoport 1969; 1990; 2008; Kent 1990c) and proxemics (E. T. Hall 1963). A similar approach can be seen in the work of Tim Ingold, which attempts to understand architecture, landscape, work, and even the human experience of time as parts of a connected whole emerging from embodied practices across space (Ingold 1995; 2000a; 2013). More broadly, attention to spatial practice can be understood as informing much of the explicit work on space in the household archaeology sphere and the perspectives that characterized my discussion in chapters 5 and 6.

As noted above, recent work on public and monumental architecture in Near Eastern archaeology has tended to draw on the second of Lefebvre's modes, "representation," with a

focus on the ideological components of architecture, landscape, monuments, and public space. Harmanşah emphasizes the ways in which monuments and the entire built and transformed landscape come to represent "spatialized narratives" of the state (2013, 10). Adam Smith's work in the Bronze and Iron Age Caucasus comes to similar conclusions, whether in the transformation of the landscape in the Middle Bronze Age where kurgans were emblematic of a social landscape now characterized by "violence and social segmentation" (Smith 2015, 136) and where by the mid-2nd millennium the architecture of hilltop fortresses formalized and territorialized sovereignty (ibid, 158), or in the public architecture and spectacle of the Urartian state, which served both to project the state's ideology and to situate individuals and polities within it (Smith 2006).

My intention here is to unite these two strands—spatial practice and space as representation- and draw them backward, to the late 6th and early 5th millennia, on the threshold of complexity, to show that, contrary to Lefebvre's own Marxist perspective, space was an element of social and political control as early as the Chalcolithic period in Mesopotamia. I will forego consideration of Lefebvre's third mode ("representations of space") for now. I will take this third mode up again at the end of the dissertation as I discuss the limitations on elite or official prescriptions for the use of space.

There are many ways, as Smith and others have shown, for space to serve as a representation of power relations and elite control. Monumentality (Osborne 2014a, 5; Levenson 2019) is one of these. Size and scale can be a "show of power" (Levenson 2019, 31) with regard to the ability of an individual or institution to mobilize labor and monopolize space, can project specific aesthetics of politics (Smith 2006), and can spatialize the centrality of specific individuals, institutions, or affiliations to the lives of the people encountering monumental spaces. Whether

monumental architecture is considered in crude scalar terms, or in terms of a dynamic relationship of meaning between community and object (Osborne 2014a, 4), it is often created initially at least in large part as an overt expression of ideology, whether one of elite power, community identification, memorialization or otherwise. This fact is at the heart of approaches to public space that focus on symbolism and representation (DeMarrais, Castillo, and Earle 1996).

While the nondomestic complex at Surezha can be categorized as monumental both from the perspective of relative size and substantiality, and from the perspective of social meaning as a special communal space, I wish to focus on a somewhat different aspect of its spatiality—one, in fact, apparently contrary to approaches that focus on the role of monuments as a "stage" for publics to witness the embodied power or ideological performances of institutions or elites (Takeshi Inomata 2006). That is, as described above, the function of the nondomestic complex and places like it as a way of *limiting* action and access.

As de Certeau writes, "a spatial order organizes an ensemble of possibilities (e.g., by a place in which one can move) and interdictions (e.g., by a wall that prevents one from going further)" (Certeau 1984b, 98). The nondomestic complex was certainly not bereft of social possibility, social practice, and the possibility of dynamism and "spatial representation," but I argue that one of its primary purposes was as interdiction: as limitation on who could do what, where. In other words, although it could be considered a "public" building in certain ways, in others it was controlled, and likely controlled in a way that we could call private—that is, under the control of a specific set of individuals and/or institutions rather than the unwritten habits and rules of the community.

7.4.2. Public and Private

The terms "public" and "private" have been largely absent from my discussion to this point. I have used the terms "domestic" and "nondomestic" throughout this dissertation, in large part because I believe this is a useful way of distinguishing space in a society where social identity, economic decision making, production, and consumption are centered in the home. Another reason for my hesitancy to apply the descriptors "public" and "private" is because the dichotomy in contemporary discourse has distinctly modern connotations connected to capitalist articulations of property and a host of philosophical, legal, and social understandings of politics, rights, "privacy", and the public sphere. These understandings of public and private are specifically, and necessarily, modern (Arendt 1970; Habermas 1989). But, as is the case with theories of space developed for application in modern or at least state societies, I believe there is a place for discussion of public and private space in a society like that of LC 1 Mesopotamia, especially because there is no escaping the frequent discussion of public architecture in the context of emerging urbanism, and it will be more effective to add nuance to the term than to try to dispense with it entirely. We must be careful in our definitions and applications to avoid anachronism and confusion, but it is worth thinking about public and private in light of de Certeau's notions of spatial possibility and interdiction.

The notion of public and private has been a fundamental, if often unexamined, part of discourse across a wide range of political, philosophical, and social sciences, what Weintraub (1997) describes as one of the "grand dichotomies" of Western thought. This dichotomy has a long history in Western philosophy, particularly political philosophy, extending as far back as Aristotle's distinction between the "oikos" or domestic/home sphere and the "polis" or the sphere of public action and politics in the city-state (Aristotle 1998)**;** Enlightenment thinkers like

Mill and Locke further developed the public/private dichotomy particularly with respect to the proper delineation of property rights and governmental action.

Weintraub argues that traditional communities, particularly those predating the political philosophy of the Greek *polis* and its later Roman development, do "not have a differentiated public *or* private realm." (Weintraub 1997, 13). While I am in wholehearted agreement that contemporary understandings of the public and private spheres are not readily applicable to societies like that of the Near Eastern Chalcolithic, I believe that there is in fact considerable utility in attempting to understand the ways in which public and private space and spheres may have existed in other places and times.

Hannah Arendt (1970) developed the public/private distinction with subtlety, arguing that a division between public, political and private, domestic action "has existed…at least since the rise of the ancient city-state" (28), but that modernity and the modern nation state have led to the rise of a separate, "social" sphere standing between the public and private spheres. For Arendt, a firm public/private dichotomy existing since at least the time of Aristotle has been increasingly blurred by the interpenetration of the personal and the political, with political action having major impact on domestic economy and domestic life. While I have some reservations about the strength of the public/private dichotomy in the many centuries between the Greek *polis* and the rise of the European nation state, what I am interested in here is the dimensions of public and private action millennia before Aristotle. In the context of the Neolithic, "public" and "private" may likewise have been blurry categories not because of state interpenetration but because of a relative fluidity and openness in space. Leaving aside a deep evolutionary sense of privacy rooted in territoriality or nesting, we might say that from one perspective, the emergence of private space was coeval with the emergence of the house. Walls, or any separation between the

interior and exterior of the home, concretized a distinction: this space is mine/ours and not yours. I emphasize that I do not argue for a simple transference of modern notions of private property to prehistory, but one can see the beginnings of an important shift from temporary to semipermanent to permanent shelters, as enclosed houses affiliated with kin groups created a sense that certain spaces belonged to certain people and that, in contrast to a temporary shelter, this belonging was temporally durable. This is one implication of work like Kuijt's (2000a; 2000b) and Hodder's (1990) on the making of home in the early Neolithic.

There is good reason to believe that the boundary between public and private in the Neolithic and Chalcolithic was somewhat porous, whether because patterns of access facilitated communication across house roofs or walls (as at Çatalhöyük), because of the likelihood of communal work, production, visiting, and commensality atop or inside house complexes, or because much domestic labor was done in open or semi-open spaces, as is apparently the case at Surezha.

This last point bears on a crucial distinction to draw between different kinds of public space, However sharp the distinction was between activity at home and activity in public space, the evidence is that most nondomestic spaces before and during the Late Chalcolithic were accessible for action by most of the community. Examples of such spaces would be the cobbled pavement or work area in Surezha's Operation 10, or the outdoor cooking area in Operation 9. These are spaces that I would call *unrestricted* or open-access public spaces. The uses of such space may have been limited and maintained by custom, sociability, and habitus: action human space is never wholly unrestricted. However, there is every indication that a wide range of activities were pursued in nondomestic areas at Surezha (see Chapter 4), and there is no indication that such spaces were restricted in terms of access. While the overall arrangement of

the settlement remains obscure, these nondomestic areas were apparently unwalled and open to both the houses around them and the area outside the site.

But there is another kind of public space, exemplified by the nondomestic building, which I will call *restricted*, or limited-access public space. I want to emphasize that there is not a hard and fast distinction between these two kinds of space, but rather a continuum between public spaces with wider and narrow ranges of access and scope of activity. Where any given space falls on this continuum at any given time and context is subject to change and to contestation. However, we can recognize in a variety of contexts, past and present, that there are public spaces with a relatively high degree of restriction on access and activity. It is my assertion that the Ubaid and early Late Chalcolithic of the Near East saw the emergence or at least the widespread adoption of a new and more restrictive kind of public space, largely unprecedented in terms of the degree of limitation it placed on access and activity.

I have made the argument above that the nondomestic complex at Surezha was characterized by restriction and limitation on activity as evidenced both by the architectural form and the archaeological and microarchaeological evidence for limited and special-purpose activity. In what follows, I will pursue the argument that such spaces were a potential source of power and control for aggrandizing elites, and that, while there may have existed special spaces with a certain degree of restriction in the earlier Neolithic, the nondomestic complex at Surezha is representative of a new kind of elite technology with an emphasis on symbolizing, creating, and maintaining social difference.

7.4.3. Restricted Public Space as a Technology for Aggrandizing Elites

Public space in and around the built environment can serve as a technology for the establishment and maintenance of power in several ways. First, especially in the case of monumental structures, such spaces can openly symbolize elite control of resources or ability to mobilize labor (Levenson 2019, 31; DeMarrais, Castillo, and Earle 1996, 19). Features like size, placement, permanence, level of investment, and complexity can symbolize the importance of given incidents, ideals, individuals, or institutions (Levenson 2019, 23). This is space being realized in Lefebvre's second sense, as "representation." We could regard the nondomestic complex at Surezha, with its massive walls, as functioning at least to an extent in this representational mode.

Another way of thinking about the relationship between space and power in the nondomestic complex at Surezha involves its relationship to time. As noted above, at minimum, the structure was in use for two centuries, and may have stood and functioned for much longer. Even taking into account partial rebuildings and reconfigurations, there is a temporal persistence to the complex that cannot be overlooked and that it is hard to believe was not part of the conceptual landscape of the people of Surezha in the LC 1. This is the supposed "permanence" of a monumental structure cited by Levenson (Levenson 2019, 23). The permanence of the structure at Surezha can represent, explicitly and implicitly, the permanence and durability of what it represented. Such symbolism can be weighty and might indeed have been a part of the ideological components utilized by aggrandizing elites as the apparently egalitarian ideologies of the Ubaid gave way to the explicit hierarchies of the Late Chalcolithic (Frangipane 2007, 170).

I want to focus, however, on yet another way in which the kind of restricted public space represented by the nondomestic complex at Surezha was a technology of power, that is, by

focusing on restriction itself. This is a return to Lefebvre's first mode, "space as practice." That the activity of humans in space is a key means of creating and reproducing the social order is one of Bourdieu's key themes (e.g., Bourdieu 1977). Further, that elites or institutions can use restrictions on space as a technology of power has been well-established, especially in later 20th century social theory dealing with urban society and the nation state. As Giddens (1987) writes, the power of the nation-state is grounded on control of what he calls "space-time" (7), and on the concentration of power within "locales," which for Giddens are, crucially, both physical places and sites of action (13). The restriction of possibility of action in space is a feature of de Certeau's critical geography (Certeau 1984a) and central to Foucault's account of the modern disciplining of bodies (Foucault 1995, 231).

And, of course, the notion of the arrangement of public space as a technology of power and creation of social order has been a hallmark of both urban planning at least since Hobrecht and Haussmann as well as contemporary critical urban studies (Jacobs 1961). Robert Moses in New York City and Richard J. Daley in Chicago famously used ostensibly public space and building projects, from interstate highways to state universities, to control movement and housing, particularly that of minority populations who were seen as potential threats to the political and economic systems that kept particular constellations of white elites in power (Caro 1974; Cohen and Taylor 2000).

The nondomestic complex at Surezha was potentially such a public space. It was *public* in that it was nondomestic and important to community life and identity, but it was nevertheless a space of exclusion to which access was limited and in which activities were constrained. I argue that in creating such spaces (or "locales" in Giddens' sense) members of late Ubaid and early

Late Chalcolithic societies created a new technology with the potential to concretize and reproduce exclusive social roles and activities.

Nearly all of the authors I have cited with regard to the use of public space as a technology of power situate their discussions specifically in modern, capitalist, urban contexts. Many of them (Arendt, Lefebvre, Giddens) are explicit in arguing that such constellations of space, action, and power are distinctly modern. I agree that there are fundamental differences between the contexts and potential uses of space in modern contexts and those in a non-urban society like that of Ubaid and LC 1 Mesopotamia, but I also argue that the basic connection between space and power has a history and a prehistory. It is my contention that the complex at Surezha is an early example of restricted space as part of the suite of technologies for creating and enforcing social difference and hierarchy.

To what extent was this use of space an innovation? The next and final section situates the nondomestic complex at Surezha in context.

7.4.4. Public Space From Inclusion to Exclusion

Special-purpose, non-domestic architecture existed for millennia before the Late Chalcolithic 1 and in a wide range of regional and historical contexts (Makarewicz and Finlayson 2018), and it is likely that specially restricted places existed even before the widespread adoption of sedentism or even permanent architecture. Many of the particulars of these spaces and any accompanying restrictions are incompletely reconstructible at best, and despite the growing body of evidence, the relative scarcity of such excavated buildings makes it difficult to attempt to build an understanding that takes full account of regional and local diversity and divergence,

instead of cherry-picking data from across the broader Near East to suit one's aims (Finlayson 2014, 136). A broad history of the development of nondomestic architecture from the Neolithic through the Chalcolithic is well beyond the scope of this dissertation, and I do not claim a linear trajectory in the development in the use of space across the greater Near East. However, I will argue that at least in many cases, the antecedents of Ubaid and Late Chalcolithic nondomestic architecture across the Near East do not appear to have served a function of social exclusion, and, further, that the proliferation of such exclusive spaces in the later Late Chalcolithic in both southern and northern Mesopotamia—regions in which the Ubaid material-culture complex were pervasive-suggests that the late Ubaid and the early Late Chalcolithic may have been a time in which such a use of space became common.

Prior to the emergence of centralized administration, public architecture is most frequently understood as having served either ritual or storage purposes (Kuijt and Finlayson 2009) or both, although there is some debate about the extent to which ritual in this case should be thought of exclusively "religious" ritual separated from other activities (Finlayson 2014), and nondomestic structures may also have been used for other purposes, including food and craft production (Finlayson et al. 2011). Communal storage spaces may have involved some limitations on access (Duistermaat and Akkermans 1996, 26), and, indeed, the complex shifts and overlaps between public and private storage are another major component of the social history of the Neolithic (Finlayson 2019), and the Ubaid (for in-house storage at Abada and Madhhur, see Pollock 2010; for communal storage at Tell Kurdu Özbal 2010, 298). At Surezha, we have as yet no evidence of communal storage facilities, and the portion of the nondomestic complex excavated to date does not appear to have included such a function, so I focus here, instead, on the potential

inclusive or exclusive function of spaces defined in whole or in part by their role as a site of ritual activity.

That ritual spaces in particular incorporated some limitations on activity and access is highly likely. Ethnographic comparison might lead us to suspect the existence of such restrictions on the basis of gender, age, kinship, status in the community, or life event, depending on the nature and context of the ritual (Turner 1977). But I argue that there is an important difference between spaces like that of Surezha and most ritual spaces of earlier periods in the wider Near East. It appears that, in Mesopotamia prior to the Ubaid period, such spaces were largely constructed and used to facilitate inclusion rather than restrict it, and to create lateral social bonds rather than vertical ones (Finlayson 2019).

In surveying early ritual architecture from the Pre-Pottery Neolithic across the wider Near East, Alexis McBride makes the case, based on architectural analysis and sensory reconstruction, that structures like the pillar enclosures at Göbekli Tepe, the Terazzo Building at Nevalı Çori, and the Aurochs house and other nondomestic buildings at Jerf al-Ahmar were designed to facilitate performance, participation, and community building (McBride 2013). For McBride, drawing on evidence for usable area, lighting, lines of sight, and acoustics, each of these spaces was designed for intimate, emotionally potent group experiences: "instead of emphasizing different relationships between groups of participants, the spaces created shared identity…these spaces would therefore have facilitated and maintained community cohesion through shared undifferentiated highly charged experiences." (63) Whether one agrees fully with McBride's phenomenological approach or not, the notion that spaces like these (along with public spaces at other sites like Tell 'Abr, Dja'de el-Muhara, Beidha, 'Ain Ghazal, and Çayönü) were primarily

intended to create inclusive communal identities through participatory ritual is widely shared (Sagona and Zimansky 2009, 62–63; Finlayson et al. 2011).

On the other hand, recent work at Göbekli Tepe and reevaluation of the data there suggest that perhaps these spaces were not so distinct in terms of access and function as they once appeared (Clare 2020); it has even been suggested that these spaces were not spaces for ritual or worship per se, but rather symbolically charged houses (Banning 2011). Such an argument would parallel the consensus that has emerged on ritual space at Çatalhöyük, where such rituals were incorporated into the domestic sphere, with no distinct ritual structures and no interdiction between the domestic and the ritual space (Hodder and Cessford 2004). In keeping with the blurring of distinctions between "ritual" and other purposes, Kornienko (2009) has suggested that the public structures at Hallan Çemi "could have also functioned as production centers for the settlement and/or were the communal storage-and distribution centers for imported raw materials" (83).

In sum, there is a broad consensus that ritual spaces of the Pre-Pottery Neolithic, especially in the PPNB, and particularly in those societies where emergent communal identities across the Levant and northern Mesopotamia began to center ritual activity in nondomestic buildings, were spaces for shared group experiences.

The more immediate antecedents to the Mesopotamian 'Ubaid suffer, perhaps even more than the Pre-Pottery Neolithic, from a relative lack of excavated nondomestic structures and especially evidence for ritual or cult architecture (Akkermans and Schwartz 2003, 141), so the effort to trace direct lines of development in either ritual or architecture, particularly at the

regional level, is difficult. The little evidence we do have, however, argues in favor for locating nondomestic ritual activity in places and spaces of inclusion.

Evidence of nondomestic architecture from the Mesopotamian societies of the pottery Neolithic are primarily storage facilities, such as those at Hassuna Umm Dabaghiyah, the series of large buildings at Halaf Sabi Abyad, and the Level 6 Cruciform building at Halaf Yarim Tepe II (Merpert and Munchaev 1993b, 137–38): an earlier nondomestic building at Yarim Tepe II was so damaged by later building that it is impossible to describe its character in detail (ibid., 132). If we include the early 'Ubaid, we might also look to the grid-buildings at Gawra XV-XIV, Amuq E levels of Tell Kurdu, Tell al-'Abr 7, and Oueili in southern Mesopotamia (Özbal 2010, 298).

That there are few public buildings clearly dedicated to ritual purposes from the immediate predecessors of the Ubaid in the region does not mean there is no evidence of ritual activity: the mid-sixth millennium "death pit" at Domuztepe (Campbell et al. 1999) and both the Level 3 (early Halaf) terrace and the Burnt Village at Tell Sabi Abyad (Akkermans and Schwartz 2003, 142) offer good evidence of symbolically charged activity taking place in and around settlements of the Halaf. But these are almost certainly examples of large-scale, communally-inclusive ritual activity. If the Domuztepe pit was indeed the result of a single episode of feasting, it would have involved participation by a large group, while both the Level 3 terrace at Sabi Abyad and the potential ritual component of the burning of the village ca. 6000 BC are likewise as "public" as one could imagine.

I suggest that, in contrast, the nondomestic complex at Surezha represents a different kind of public space, and an instance of the development of restricted public space as a technology for the establishment, maintenance, and justification of intracommunal social difference.

As has been argued here, the nondomestic building at Surezha was not designed, at least as we understand it at present, for broad communal access. If the north room B.B2.1 was a center for ritual activity as suggested by the bench structure and the lenticular vessel deposit, it was a meaningfully smaller space than most PPN ritual buildings (roughly 3.6 m^2 vs approximately 20 m^2 for even the smallest of the structures at Jerf el-Ahmar (EA53) (McBride 2013)), and much less open than the platform space at Sabi Abyad 3. Likewise, access was starkly limited both by architecture and by whatever custom or rules were responsible for the small amounts of debris-producing activity signified by the very small concentrations of microarchaeological debris.

If the Neolithic structures discussed above were directed toward the creation of intimate group experiences, the interior spaces of the Surezha complex appear, instead, to be aimed at limited activities by a very limited number of persons. Even if the activity taking place in the interior spaces at the Surezha nondomestic complex was *for* the community in the sense of being represented as serving their needs or interests through cult or ritual, it does not appear to have been activity *by* the community writ large. If there was public, communal activity associated with the nondomestic complex, it would almost certainly have been physically separated from the activity taking place inside the east building.

In other words, although the nondomestic building complex at Ubaid-LC 1 Surezha was very likely a “public” space in the sense that it served a communal function, it was neither an unrestricted public space like the work areas south of its walls, nor an inclusive public space in

which common identities of community members were highlighted and enhanced, but rather a *restricted* public space which functioned, at least in part, to create distinctions in practice that created and reinforced social difference.

In creating such spaces, societies like that of late Ubaid-LC 1 Surezha were making use of a technology that would be used by aggrandizing and established elites across history: restricting access to and practice within public space. At one and the same time, space was coded as belonging to the community, but also not available to all members of the community. Certain community members, whether they were distinguished by kin group, age, or other specialized social role, had access to ritual space and activity that others did not. To the extent that the wider community might have participated in the ritual or other activities of the nondomestic complex, they could not have done so on grounds of equality and shared experience.

At a more fundamental level, the existence of such a restricted space within the community implies a disciplining of spatial practice in everyday life. As described above, custom and habitus impose some restrictions on every public human space, but here we have a rather different set of restrictions—inscribed dramatically on the settlement in the form of monumental walls and interiors that are neither domestic nor open. There was a separation, literal and social, between the activities of people with access to the nondomestic complex and those without. This is, I argue, a version of Lefebvre's "space as representation," or Giddens' institutional control of "space-time".

The extent to which this use of space was part of a general trend in the Ubaid and Late Chalcolithic, and the extent to which it represented one development in the use of space among many, put into use in one society among many, is too broad a question to do full justice here,

especially because of the scattered and variable nature of the data, and the still problematic chronological correspondences between recent excavations and the well-known sites like Eridu and Gawra.

We might, however, consider a few prominent Ubaid and early Late Chalcolithic public spaces to see how study might proceed by focusing not only on the presence or elaboration of public architecture but on the ways in which such spaces were restricted or unrestricted.

The Eridu temple sequence, to take the best known southern Mesopotamian example of Ubaid public space, might be interpreted as beginning, with the small sanctuaries of XVII, XVI, and XV (Safar, Musṭafā, and Lloyd 1981, 86ff.), either with an exclusive function limited to a small group of ritual practitioners, or, based on the open plans and constrained but unobstructed viewsheds, as spaces of intimate and inclusive experience like those described by McBride (2013) for the Pre-Pottery Neolithic. I confess that without further indication of function and access, and with little information on the integration of these early structures with the surrounding settlement, I do not know how to judge objectively between these two quite different possibilities.

With the later, larger structures typified by the tripartite Level VIII rebuilding and the better-preserved Level VII and VI temples, more space was available for potential participants to access ritual proceedings, but certain features—such as the proliferation of small interior rooms, the bent-axis approaches, and the various means of separation from the rest of the settlement, from elevated positioning thick niched and buttressed walls to entry stairways—imply at least a degree of control of access. The subdivision of these buildings in particular is noteworthy. entirely unlike the more open ritual spaces of the Neolithic, and suggestive that even if certain

areas of the temples were open to larger groups (a not at all certain proposition), some of these spaces must have been restricted.

Turning to some examples closer to Surezha itself, both the Eastern and Western temples at Ubaid Qalinj Agha 3 were similarly characterized by a proliferation of rooms and indirect access to the central chambers or cellas, which were themselves, although considerably larger than any interior spaces excavated at Surezha so far, still relatively small (Kubba 1998, 235).

Tepe Gawra does not present an easy successive sequence of ritual space, and there is, as has been discussed above, considerable debate over what kind of public or ritual role the buildings of the Level XIII acropolis and the White Room building of Level XII might have served. The buildings of the level XIII acropolis, if they were indeed temples or ritual structures, have aspects of both communal public space (the central court area, the relatively large central rooms of the northern and central temples) and some of the same characteristics (proliferation of small chambers, complicated patterns of access, elevation over the settlement) noted for the later Eridu temples. Again, it is rather difficult to draw firm conclusions about the degree to which the public architecture at Gawra XIII emphasized exclusive practice or community inclusion, but I consider it important that the buildings surrounded an open courtyard, and it is easy to think of privileged community members having access to the buildings themselves, whether for ritual, administrative, or other purposes, with other community members confined to the courtyard area.

The White Room building of level XII, on the other hand, is notable for the apparently domestic character of the small finds, and, while microarchaeological and/or micromorphological data could give us a clearer view of the activities within the building during its use life, but whether the building represents a domestic house or a public structure, the

patterns of access and activity seem rather different and less oriented toward segregation of activity and exclusion of certain groups.

Especially as we have come to appreciate the wide range of regional variation across the Ubaid horizon (G. J. Stein 2010a), it seems unlikely that there was a single trajectory across Mesopotamia from inclusive to exclusive public space.

However, there is no question that the creation of public spaces with limitations on access and activity was a technique that would be employed more and more by institutions and elites throughout the history of the Near East. By the late Uruk period, temples and administrative and redistributive centers were major features of the emerging urban landscape in both northern and southern Mesopotamia. If undisputed examples of palace buildings are only evident in the Early Dynastic period, this may very well be a consequence of limited data from the Uruk, or of a hesitancy to see an early establishment of hierarchical authority (Gibson 2010).

I suggest, then, that the late Ubaid and the LC 1 were a period of experimentation, not only in technological and social fields (Fisher 2017), but with a variety of architectural, spatial, and ritual forms. Public spaces of exclusion or limited access—administrative centers, temples, palaces, gardens, even walled quarters or cities themselves—would become a major part of the urban landscape through the fourth and third millennia and beyond. As mentioned at the start of this chapter, public architecture has long been seen as evidence for socioeconomic complexity and hierarchy. I argue that it should be seen not only as a reflection of such developments, but as a key technology in creating them.

7.5. Conclusion: Heterotopias and Ruins

I conclude this chapter with a brief discussion on alternatives to the technology of power that I have argued is manifested in the construction of exclusive public spaces. Just as no human space is wholly free of constraints on activity, no such constraints are totalizing or complete. The fact that experiences and understandings of space are always subject to interpretation is at the heart of Lefebvre's third mode of spatial experience ("representations of space"), the ways in which people work under, through, and against the dominant or official meanings and intentions of a space to create different ways of acting and different ways of understanding space.

In the case of Surezha, we might think in particular of the ways in which the nondomestic complex was used with the passage of time: while still in use, the monumental wall 90008 appears to have been falling into ruin as the interior was scrupulously maintained. Ash and debris from the outdoor cooking area 90027 ran over the wall, which in such a condition must have seemed no longer quite as imposing as when first constructed. Later, when the complex had slipped entirely into ruin, the stubs of its walls may have been used as shelter for a flint knapper. Maybe the space retained something of the aura of apartness in the LC 2, as the location of the feasting pit in operation 10 might suggest, but perhaps it was simply a convenient empty ground for waste disposal.

Other potential slips in elite or institutional control are harder to identify in the archaeological record, but we should at least be attentive to the ways in which ritual places and times can be sites not only of establishing and reinforcing hierarchy but of inverting and challenging the same.

Here Foucault's concept of "heterotopias" may be useful (Foucault 1986). For Foucault, heterotopias are "place…which are something like counter-sites, a kind of effectively enacted utopia in which the real sites…are simultaneously represented, contested, and inverted" (24). Of particular interest to us here is Foucault's contention that there exist in "traditional" societies what he calls heterotopias of crisis—that is, places outside the usual order for people who are temporarily themselves outside that order (e.g., special structures or spaces for adolescents, menstruating women, or the elderly.) Foucault goes on to consider some of the complicated ways in which heterotopias can, on the one hand, expose the illusory nature of the ordinary order of spaces, and on the other, make a sort of hyper-reality out of that order (27). In this sense, he is following Victor Turner in seeing ritual times and places as providing opportunities for both reconstitution, reinforcement, and challenge to the social order and one's place within it (Turner 1977; 1995).

Without the benefit of ethnography or history, such potential inversions are obscure to us at a place like Surezha, but I mention them here to highlight that I do not see the creation of limited-access public spaces as an overwhelming and unassailable hierarchy, even if they were somehow aimed at being so.

In any case, the situation at LC 1 Surezha was very far from one in which elites had some kind of totalizing control over daily life, and the activities of people across space. As I have shown above, households continued to be the principal locus of economic decision making, and households or open public spaces were the principal centers of productive activity and social life.

However, whatever its constraints in the context of a north Mesopotamian village of the late 6th and early 5th millennium, the emergence of limited-access or institutionally-controlled public

space is a significant technology available to aggrandizing elites. The members of the LC 1 community at Surezha who had special access to the interior of the complex, and perhaps had the special status to conduct activity there, had a potent tool to hand. Not only could such a space *represent* power and hierarchy, not only does such a space serve as evidence for the ability of individuals and institutions to mobilize labor and control resources, but the control of such spaces could also shape the contours of practice, daily life, and ritual experience, and, in so doing, shape, discipline and control—to an extent—social life. In other words, while public architecture has long been considered a marker of complexity and hierarchy, the control of public space should be seen not only as a marker of such developments, but as a tool for making them.

CHAPTER 8. CONCLUSIONS & FURTHER RESEARCH

8.1. Conclusion & Summary

In this dissertation I have argued, following Lefebvre (1991), Ingold (2000a), and others, for the centrality of the use of space to human social experience. That humans live and act in space is obvious, but space and spatiality deserve more explicit engagement than they often receive. Archaeology is especially well-suited to the study of the organization of activity across space, the repeated daily activities of the embodied *habitus*, and the ways in which the use of space changes over time.

This dissertation has been both an argument and a test case for one methodological approach to a detailed analysis of space. I have become all too keenly aware of the limitations of microarchaeological analysis—the difficulties of identifying successive surfaces, the scarcity of clear use profiles, the failure of many types of activity to leave durable traces in the microarchaeological record—but I have also come to appreciate its considerable potential. Repeated daily activity is the very stuff of social life (Bourdieu 1977), and microarchaeology is uniquely well-suited to the reconstruction of such activity. Aspects of life that can easily be lost or confused by the depositional and post-depositional formation processes archaeological record are preserved in these extraordinarily "small things forgotten" (Deetz 1997) as they are ground into floors and other use surfaces. The ability to directly compare different spaces and the distribution of debris-producing activity across extensive spaces facilitates an in-depth analysis of the human use of space.

I have applied this spatial focus to a time and place in which the use of space was in flux: Mesopotamia at the turn of the 5th millennium BCE. By this time one of the truly revolutionary

aspects of the Neolithic—the adoption of durable, long-term homes—was long established (Hodder 1990; Kuijt 2000a), but the ways in which homes were built, arranged, and used are always dependent on social and historical context (Moore 2012). The arrangement of houses themselves, the organization of the household and family, and the way that domestic spaces were used are often conservative elements in a society, but changes in these patterns can be indicative of major social, cultural, or economic transformations (K. V. Flannery 2002)—just as persistence in such patterns can indicate that changes observed in other spheres may not have had as deep an impact on daily life as might be imagined.

I have attempted to reconstruct in detail the lives and practices of people in and around the LC 1 houses of Tell Surezha in terms of their entanglement with objects, other people, time, and space (Hodder 2012; Ingold 2000b). Such quotidian concerns as how meat was cooked, how many people did the cooking, and where the food was consumed open new perspectives on areas of long-standing interest: the size and constitution of households, the terms of sociability and cooperative work between individuals and groups, and the economic foundations of society. I have presented evidence that LC 1 households were the primary loci of production and consumption, that these households were likely composed of single nuclear or extended families, that activity and movement were not highly segregated among household members, that at least some aspects of production and consumption, including parts of food processing and tool making, were shared among households and/or carried out in shared public spaces, and that courtyard associated with houses were oriented toward commensality and potentially reception of guests.

I have also made the case that the nondomestic complex at Surezha is an important example of a relatively new kind of public space, one characterized not by communal access but by

limitation. I have argued that the architectural features, distinct macroarchaeological record, and sharp differences in microdebris density are all evidence for a restricted public space, and that such restriction was itself a technology for the establishment and consolidation of power. The channeling of certain people and certain kinds of activity into certain spaces creates and enforces difference. When access to activity that is considered important or necessary to the community is restricted to a subset of the community, that subset can use that differential access as a platform for expanding social capital and power. While public architecture has long been considered as evidence for inequality and social complexity—as a result of the ability to mobilize labor or as an expression of ideology—I argue that the spatial characteristics of such places are an important area of concern. Control of public space is a technology of power (Lefebvre 1968; Jacobs 1961), and it was already available and likely being employed at the turn of the 5th millennium BCE.

Combining these two broad themes of my dissertation, we are left with the impression of the late Ubaid and the LC 1 as a period in flux, in which elite power strategies were limited but more widely available than in the Neolithic. At Surezha there does not seem to be strong evidence for differential access to staple or prestige resources, although this interpretation may change with wider exposure of the settlement. There does, however, appear to be differential access to what Frangipane identifies as the "symbolic and representative" markers of leadership of the early Ubaid (Frangipane 2007, 170). I do not suggest that partial exposures at a small settlement like Surezha are sufficient to say that the transition from such symbolic leadership to a more strictly ranked society on a broad regional scale occurred only after the LC 1. Instead, I am arguing that in the village of Surezha, the control of public space was an affordance available to potentially aggrandizing elites in a context when substantial control over labor, material resources, or production is less evident. This finding contributes to a growing body of literature that moves

beyond broad covering theories of the emergence of complex societies and investigates different aspects and discrete histories of complexity (Frangipane 2007; G. J. Stein and Özbal 2007; Ur 2014; Iamoni 2016; Baldi 2016), and suggests that we should look to the control of space as a potentially very early affordance for aggrandizing elites and give careful attention to its emergence.

8.2. Future Directions

Further research at Surezha itself is crucial for building on the beginnings made in this project. First, the exposure of the domestic and nondomestic areas of the LC 1 and the Ubaid-LC 1 transition is ongoing. Continued work on microarchaeology and other proxies for the human use of space will help answer some basic questions that have not been answered definitively in the present work, especially the comparison between the use of space in different houses and a holistic view of activity in and around the nondomestic complex. The continued exposure of houses will allow us to test the hypothesis that houses were relatively undifferentiated in the LC 1 in terms of production and consumption and to understand the distribution of activity throughout entire houses.

Greater horizontal exposure of the nondomestic complex will clarify whether there were additional structure or activity areas and could confirm or complicate the hypothesis that access to and activity within the complex was sharply limited. Even if, as I have argued, significant portions of the ritual activity taking place in the complex were restricted to a small group of people, at least at any one time, it is likely that there was at least some component of wider communal participation. What might this have been and where did it take place?

Likewise, there is much to be learned from further diachronic comparisons with the use of space in the LC 1. If the area was reoccupied in the LC 2 after its apparent hiatus, were houses similarly arranged, or were there changes that might reflect changing social structures or practices? Was there a more notable shift to nondomestic production and activity? Did courtyards remain centers of consumption and sociability? In examining earlier strata, we might better answer the question of whether the Ubaid and LC 1 houses were indeed marked by a high degree of continuity in both architectural form and the use of domestic space. This appears to be the case based on present excavation, but limited domestic Ubaid exposures to date make such conclusions preliminary.

Moving from Surezha itself to the wider regional and historical context, a spatial focus like the one in this dissertation could be applied at other sites (cf. Steadman 2000) and to intersite and regional comparisons. Household archaeology approaches, as described in Chapter 5, have offered a range of theoretical and methodological tools with which to investigate the human use of space, and these should be put to use in investigating the Ubaid horizon, the Late Chalcolithic, and the phenomenon of social, economic and political complexity more broadly. Over the past decade or so, several projects researching the later prehistory of the Near East have focused on the "view from the household," (C. P. Foster 2012), and, especially as the pace of archaeological investigation in both northern and southern Mesopotamia increases, such a scalar focus will be an important complement to regional and comparative studies.

In pursuing this small-scale focus, micro-techniques can offer fine-grained data on the use of space over time and provide crucial data. Microarchaeological, micromorphological, and geochemical analyses of Ubaid and LC 1 houses could help considerably in evaluating different proposals for the organization of households and the wider society in these periods.

Microarchaeological research could offer more direct evidence for economic specialization and household differentiation, independence, and/or interdependence in the 6th and 5th millennia, and more clearly illuminate the daily practices, foodways, and conditions of production and consumption that characterized the crucial period in which new socioeconomic and political forms emerged and formed the bedrock for various iterations of state and urban societies.

As noted in Chapter 4, comparability of microarchaeological results is a major issue The establishment of standardized procedures for collection, reporting and analysis (Ullah, Duffy, and Banning 2015) and the creation of digital and physical comparative collections could make comparative microarchaeology more viable. Time and labor-saving procedures like those proposed by Ullah, Duffy, and Banning (ibid.) could make microarchaeological sampling a regular part of excavation protocols, instead of the intensive and only occasionally applied process that it is today.

Finally, as new data on the late prehistory of greater Mesopotamia continues to emerge and become incorporated into models of the emergence of complexity, the spatial component of social complexity should be taken seriously. We must question assumptions of public and private space and action, understand the spatial constraints and opportunities of various individuals and groups in different societies at different points of time, and explicitly consider the ways in which the use of space structures the human experience of life.

BIBLIOGRAPHY

Abdelmalek, Arrouf. 2006. “The Courtyard Houses of Southern Algeria.” In *Courtyard Housing: Past, Present and Future*, edited by Brian Edwards, 39–48. Abingdon, Oxon: Taylor & Francis.

Abedi, Akbar, Behrooz Omrani, and Azam Karimifar. 2015. “Fifth and Fourth Millennium BC in North-Western Iran: Dalma and Pisdeli Revisited.” *Documenta Praehistorica* 42 (January): 321–38.

Abu al-Suf, Behnam. 1969. “Excavations at Tell Qalinj Agha (Erbil).” *Sumer* 25: 3–42.

Abu al-Suf, Behnam, and Shah Es-Siwwani. 1967. “More soundings at Tell Qalinj Agha (Erbil).” *Sumer* 23 (1–2): 69–75.

Abu-Lughod, Lila. 1999. *Veiled Sentiments: Honor and Poetry in a Bedouin Society*. Updated [2nd] ed. with a new preface. Berkeley: University of California Press.

Adams, Robert McC. 1965. *Land behind Baghdad: A History of Settlement on the Diyala Plains*. Chicago: University of Chicago Press. http://pi.lib.uchicago.edu/1001/cat/bib/8956228.

Adams, Robert McC, and Hans Jörg Nissen. 1972. *The Uruk Countryside: The Natural Setting of Urban Societies*. Chicago: University of Chicago Press.

Akkermans, Peter M. M. G. 1989. “Development of the ’Ubaid in Northern Mesopotamia.” In *Upon This Foundation: The ’Ubaid Reconsidered. Proceedings from the ’Ubaid Symposium, Elsinore May 30th-June 1st 1988*, edited by Elizabeth F. Henrickson and Ingolf Thuesen, 339–67. Copenhagen: Museum Tusculanum Press.

Akkermans, Peter M. M. G., and Glenn M. Schwartz. 2003. *The Archaeology of Syria: From Complex Hunter-Gatherers to Early Urban Societies (c. 16,000-300 BC)*. Cambridge World Archaeology. Cambridge, UK ; New York: Cambridge University Press.

Al Quntar, Salam, and Khaled Abu Jayyab. 2014. “The Political Economy of the Upper Khabur in the Late Chalcolithic 1-2: Ceramic Mass-Production, Standardization and Specialization.” In *Preludes to Urbanism: The Late Chalcolithic of Mesopotamia*, edited by Augusta McMahon and Harriet Crawford, 89–108. Cambridge: McDonald Institute for Archaeological Research.

Al-Azzawi, Subhi. 1996. “Daily Impact of Climate on the Pattern of Urban Family Life: Indigenous Courtyard Houses of Baghdad Regions of the Hot-Dry Climates Part I: Daily Shifts or Daily Movements in Summer.” *Renewable Energy*, Special Issue World Renewable Energy Congress Renewable Energy, Energy Efficiency and the Environment, 8 (1): 289–94. https://doi.org/10.1016/S0960-1481(96)90145-7.

Algaze, Guillermo. 2005. “The Sumerian Takeoff.” *Structure and Dynamics: EJournal of Anthropological and Related Sciences*, no. 1: 5.

Altaweel, Mark, Anke Marsh, Jaafar Jotheri, Carrie Hritz, Dominik Fleitmann, Stephanie Rost, Stephen Lintner, et al. 2019. “New Insights on the Role of Environmental Dynamics Shaping Southern Mesopotamia: From the Pre-Ubaid to the Early Islamic Period.” *Iraq*, July, 1–24. https://doi.org/10.1017/irq.2019.2.

Antoun, Richard T. 1972. *Arab Village; a Social Structural Study of a Transjordanian Peasant Community*. Indiana University Social Science Series, 29. Bloomington: Indiana University Press.

Arendt, Hannah. 1970. *The Human Condition*. 6th impression. Chicago: University of Chicago Press.

Aridi, Sara. 2021. “How the Pandemic Has Transformed the Idea of Home.” *The New York Times*, March 14, 2021, sec. At Home. https://www.nytimes.com/2021/03/13/at-home/pandemic-home.html.

Aristotle. 1998. *Politics*. Edited by R. F. Stalley. Translated by Ernest Barker. Oxford World’s Classics. Oxford: Oxford University Press.

Arnold, Dean E. 2000. “Does the Standardization of Ceramic Pastes Really Mean Specialization?” *Journal of Archaeological Method and Theory*, no. 4: 333–75.

Arnold, Jeanne E. 2012. *Life at Home in the Twenty-First Century: 32 Families Open Their Doors*. [Los Angeles]: Cotsen Institute of Archaeology Press. http://pi.lib.uchicago.edu/1001/cat/bib/8935483.

Arzt, Jennifer Melanie. 2001. “Excavations at Tell Ziyadeh, Syria: The Northern Ubaid Reconsidered.” New Haven, CT: Yale University.

Ashmore, Wendy. 2002. “‘Decisions and Dispositions’: Socializing Spatial Archaeology: Archeology Division Distinguished Lecture 99th AAA Annual Meeting, San Francisco, CA, November 2000.” *American Anthropologist* 104 (4): 1172–83.

Atalay, Sonya, and Christine A. Hastorf. 2006. “Food, Meals, and Daily Activities: Food Habitus at Neolithic Çatalhöyük.” *American Antiquity* 71 (2): 283–319. https://doi.org/10.2307/40035906.

Austin, Anne Eliese. 2014. “Contending with Illness in Ancient Egypt: A Textual and Osteological Study of Health Care at Deir El-Medina.” Ph.D., United States -- California: University of California, Los Angeles. http://search.proquest.com/pqdtglobal/docview/1614189335/abstract/A2587E9BDE50494BPQ/1.

Bader, N. O. 1981. “Soviet Expedition’s Surveys in the Sinjar Valley.” *Sumer* 37 (1–2): 55.

Bahrani, Zainab. 2003. *The Graven Image: Representation in Babylonia and Assyria*. Philadelphia: University of Pennsylvania Press.

Baldi, Johnny Samuele. 2010. “Coba Bowls Production, Use and Discard: A View from Tell Feres al Sharqi.” In *Proceedings of the 7th International Congress on the Archaeology of the Ancient Near East, 12 April - 16 April 2010, the British Museum and UCL, London*, edited by Roger Matthews and John Curtis, 355–68. Wiesbaden: Harrassowitz Verlag.

———. 2012. “Ceramic Production and Management of the Fire between Late Ubaid and LC1. The Potter’s Kilns of Tell Feres al-Sharqi.” In *Proceedings of the 8th International Congress on the Archaeology of the Ancient Near East (ICAANE)*, edited by Piotr Bieliński, Michał Gawlikowski, Rafał Koliński, Dorota Ławecka, Arkadiusz Sołtysiak, and Zuzanna Wygnańska, 3:187–200. Wiesbaden: Harrassowitz Verlag.

———. 2016. “Regionalized Patterns and Paths to ‘Complexity’: Reflection about Ceramic Provinces and Organizational Modalities in the 6th-4th Millennia Northern Mesopotamia.” In *Trajectories of Complexity: Socio-Economic Dynamics in Upper Mesopotamia in the Neolithic and Chalcolithic Periods*, edited by Marco Iamoni, 117–38. Studia Chaburensia. Wiesbaden: Harrassowitz Verlag.

Balossi Restelli, Francesca. 2008. “Post-Ubaid Occupation on the Upper Euphrates: Late Chalcolithic 1-2 at Arslantepe (Malatya, Turkey).” In *Proceedings of the 4th International Congress of the Archaeology of the Ancient Near East, 29 March - 3 April 2004, Freie Universität Berlin*, edited by Hartmut Kühne, Rainer M. Czichon, and Florian Janoscha Kreppner, 2: Social and Cultural Transformation: The Archaeology of transitional Periods and Dark Ages, Excavation Reports:21–31. Wiesbaden: Harrassowitz Verlag.

———. 2010. “Extended Families and Nuclear Families : Daily Life and the Use of Domestic Space in the Ubaid and Post-Ubaid Communities : The Case of the Malatya Plain (Eastern Turkey).” *Origini* 32 (2010): 189–201.

———. 2012. “The Beginning of the Late Chalcolithic Occupation at Arslantepe, Malatya.” In *After the Ubaid: Interpreting Change from the Caucasus to Mesopotamia at the Dawn of Urban Civilization (4500-3500 BC)*, edited by Catherine Marro, 235–59. Paris: Institut français d’études anatoliennes-Georges Dumezil.

Balossi Restelli, Francesca, Maria Bianca D’Anna, and Paola Piccione. 2018. “Guess Who’s Coming to Dinner? Cooking Practices at Arslantepe (Eastern Turkey) from 4200 to 2000 BCE.” *Istanbuler Mitteilungen* 68: 31–58.

Balossi Restelli, Francesca, and Lucia Mori. 2014. “Bread, Baking Moulds and Related Cooking Techniques in the Ancient Near East.” *Food and History* 12 (3): 39–55. https://doi.org/10.1484/J.FOOD.5.110585.

Banning, Edward B. 2011. “So Fair a House: Göbekli Tepe and the Identification of Temples in the Pre-Pottery Neolithic of the Near East.” *Current Anthropology* 52 (5): 619–60. https://doi.org/10.1086/661207.

———. 2019. “It’s a Small World: Work, Family Life, and Community in the Late Neolithic.” In *The Social Archaeology of the Levant*, edited by Assaf Yasur-Landau, Eric H. Cline, and Yorke M. Rowan, 98–121. Cambridge: Cambridge University Press.

Barber, E. J. W. 1991. *Prehistoric Textiles: The Development of Cloth in the Neolithic and Bronze Ages with Special Reference to the Aegean*. Princeton University Press.

———. 1994. *Women’s Work: The First 20,000 Years: Women, Cloth, and Society in Early Times*. New York: Norton.

Barile, Kerri S., and Jamie C. Brandon. 2004. *Household Chores and Household Choices: Theorizing the Domestic Sphere in Historical Archaeology*. Tuscaloosa, Ala.: University of Alabama Press.

Beck, Robin A. 2007. *The Durable House: House Society Models in Archaeology*. 1st ed. Vol. no. 35. Occasional Paper ; Carbondale,, IL: Center for Archaeological Investigations, Southern Illinois University.

Bender, Donald R. 1967. “A Refinement of the Concept of Household: Families, Co-Residence, and Domestic Functions1.” *American Anthropologist* 69 (5): 493–504. https://doi.org/10.1525/aa.1967.69.5.02a00050.

Benjamin, Walter, Howard. Eiland, Kevin MacLaughlin, and Rolf Tiedemann. 1999. *The Arcades Project*. Cambridge, MA [etc.]: Belknap Press.

Binford, Lewis R. 1962. “Archaeology as Anthropology.” *American Antiquity* 28 (October): 217–25.

———. 1965. “Archaeological Systematics and the Study of Culture Process.” *American Antiquity* 31 (2): 203–10.

———. 1977. “Forty-Seven Trips: A Case Study in the Character of Archaeological Formation Processes.” In *Stone Tools as Cultural Markers*, edited by R. Wright, 24–36. Canberra: Australian Institute of Aboriginal Studies.

Boas, Franz. 1966. *Kwakiutl Ethnography*. University of Chicago Press.

Boehm, Christopher. 1999. *Hierarchy in the Forest: The Evolution of Egalitarian Behavior*. Cambridge, Mass.: Harvard University Press.

Bourdieu, Pierre. 1970. “The Berber House or the World Reversed.” *Information (International Social Science Council)* 9 (2): 151–70. https://doi.org/10.1177/053901847000900213.

———. 1977. *Outline of a Theory of Practice*. Cambridge Studies in Social Anthropology ; 16. Cambridge: Cambridge University Press.

———. 1984. *Distinction: A Social Critique of the Judgement of Taste*. Cambridge, Mass.: Harvard University Press. http://pi.lib.uchicago.edu/1001/cat/bib/12041745.

Boyd, Brian. 2017. “Archaeology and Human-Animal Relations: Thinking Through Anthropocentrism.” *Annual Review of Anthropology* 46 (1): 299–316. https://doi.org/10.1146/annurev-anthro-102116-041346.

Boz, Başak, and Lori Hager. 2013. “Living above the Dead: Intramural Burial Practices at Çatalhöyük.” In , 413–40.

Bradley, R, and M Fulford. 1980. “Sherd Size in the Analysis of Occupation Debris.” *Bulletin of the Institute of Archaeology London*, no. 17: 85.

Braidwood, Linda S., Robert J. Braidwood, Bruce Howe, Charles A. Reed, and Patty Jo Watson. 1983. *Prehistoric Archaeology along the Zagros Flanks*. Vol. 105. Oriental Institute Publications. Chicago: The Oriental Institute of the University of Chicago.

Braidwood, Robert J., Halet Cambel, Barbara Lawrence, Charles L. Redman, and Robert B. Stewart. 1974. “Beginnings of Village-Farming Communities in Southeastern Turkey−1972.” *Proceedings of the National Academy of Sciences* 71 (2): 568–72. https://doi.org/10.1073/pnas.71.2.568.

Branting, Scott. 2007. “Using an Urban Street Network and a PGIS-T Approach to Analyze Ancient Movement.” In , edited by J. T. Clark and E. M. Hagemeister, 99–108. Computer Applications and Quantitative Methods in Archaeology; Digital Discovery; Exploring New Frontiers in Human Heritage : CAA 2006. Budapest, Archaeolingua.

———. 2013. “New Geospatial Technologies Leading to New Strategies: The Case of Kerkenes Dağ, Turkey.” In *Mapping Archaeological Landscapes from Space*, edited by Douglas C. Comer and Michael J. Harrower, 229–39. SpringerBriefs in Archaeology,. New York: Springer.

Breniquet, Catherine. 1995. “La Stratigraphie Des Niveaux Préhistoriques de Mersin et l’évolution Culturelle En Cilicie.” *Anatolia Antiqua*, no. 1. https://doi.org/10.3406/anata.1995.1172.

Brumfiel, Elizabeth. 1995. “Heterarchy and the Analysis of Complex Societies: Comments.” In *Heterarchy and the Analysis of Complex Societies*, edited by Robert M. Ehrenreich, Carole L. Crumley, and Janet E. Levy, 125–31. Archaeological Papers of the American Anthropological Association 6. Washington, D.C.

Burkholder, G. 1972. “’Ubaid Sites and Pottery in Saudi Arabia.” *Archaeology* 25: 264–69.

Butzer, Karl W. 1971. *Environment and Archeology: An Ecological Approach to Prehistory*. 2nd edition. Chicago: Walter de Gruyter, Inc.

———. 1976. *Early Hydraulic Civilization in Egypt: A Study in Cultural Ecology*. Prehistoric Archeology and Ecology. Chicago: University of Chicago Press.

Campbell, Stuart. 2007. “Rethinking Halaf Chronologies.” *Paléorient* 33 (1): 103–36. https://doi.org/10.3406/paleo.2007.5209.

Campbell, Stuart, Elizabeth Carter, Elizabeth Healey, Seona Anderson, Amanda Kennedy, and Sarah Whitcher. 1999. “Emerging Complexity on the Kahramanmaraş Plain, Turkey: The Domuztepe Project, 1995-1997.” *American Journal of Archaeology* 103 (3): 395–418.

Campbell, Stuart, and Alexandra Fletcher. 2010. “Questioning the Halaf-Ubaid Transition.” In *Beyond the Ubaid: Transformation and Integration in the Late Prehistoric Societies of the Middle East*, by Robert A. Carter and Graham Philip, 69–84. Studies in Ancient Oriental Civilization 63. Chicago, IL: The Oriental Institute of the University of Chicago.

Carneiro, R. L. 1970. “Theory of the Origin of the State.” *Science* 169 (August): 733–38. https://doi.org/10.1126/science.169.3947.733.

Caro, Robert A. 1974. *The Power Broker: Robert Moses and the Fall of New York*. [1st ed.]. New York: Knopf. http://pi.lib.uchicago.edu/1001/cat/bib/35289.

Carsten, Janet., and Stephen Hugh-Jones. 1995. *About the House: Lévi-Strauss and Beyond*. Cambridge: Cambridge University Press.

Carter, Robert A., Harriet E. W. Crawford, and Mark. Beech. 2010. *Maritime Interactions in the Arabian Neolithic: Evidence from H3, As-Sabiyah, an Ubaid-Related Site in Kuwait*. American School of Prehistoric Research Monograph Series. Boston: Brill.

Carter, Robert A., and Graham Philip, eds. 2010a. *Beyond the Ubaid: Transformation and Integration in the Late Prehistoric Societies of the Middle East*. Studies in Ancient Oriental Civilization 63. Chicago, IL: Oriental Institute of the University of Chicago.

———. 2010b. “Deconstructing the Ubaid.” In *Beyond the Ubaid: Transformation and Integration in the Late Prehistoric Societies of the Middle East*, edited by Robert A.

Carter and Graham Philip. Studies in Ancient Oriental Civilization 63. Chicago, IL: University of Chicago Oriental Institute.

Casana, Jesse. 2013. “Radial Route Systems and Agro-Pastoral Strategies in the Fertile Crescent: New Discoveries from Western Syria and Southwestern Iran.” *Journal of Anthropological Archaeology* 32 (2): 257–73. https://doi.org/10.1016/j.jaa.2012.12.004.

Casselberry, Samuel E. 1974. “Further Refinement of Formulae for Determining Population from Floor Area.” *World Archaeology* 6 (1): 117–22.

Cauvin, Jacques. 1974. “Les Débuts de La Céramique Sur Le Moyen-Euphrate : Nouveaux Documents.” *Paléorient*, no. 1: 199. https://doi.org/10.3406/paleo.1974.4185.

Cauvin, Jacques, Ian Hodder, Gary O. Rollefson, Ofer Bar-Yosef, and Trevor Watkins. 2001. “Review of: The Birth of the Gods and the Origins of Agriculture.” *Cambridge Archaeological Journal* 11 (01): 105–21.

Certeau, Michel de. 1984a. *The Practice of Everyday Life*. Berkeley: University of California Press. http://pi.lib.uchicago.edu/1001/cat/bib/629337.

———. 1984b. “Walking in the City.” In *The Practice of Everyday Life*. Berkeley and Los Angeles: University of California Press.

Cessford, Craig. 2003. “Microartifactual Floor Patterning: The Case at Çatalhöyük.” *Assemblage*, no. 7 (March). https://archaeologydataservice.ac.uk/archives/view/assemblage/html/7/cessford.html.

Chang, Kwang-chih. 1968. *Settlement Archaeology*. Palo Alto, Calif.: National Press Books. http://pi.lib.uchicago.edu/1001/cat/bib/1087526.

Chayanov, A. V. 1966. *The Theory of Peasant Economy*. Translated by Daniel Thorner, Basile H. Kerblay, and R. E. F. Smith. The American Economic Association Translation Series. Homewood, Ill.: Published for the American Economic Association, by R.D. Irwin.

Chesson, Meredith S. 2003. “Households, Houses, Neighborhoods and Corporate Villages: Modeling the Early Bronze Age as a House Society.” *Journal of Mediterranean Archaeology* 16 (1): 79–102.

Childe, V. Gordon. 1936. *Man Makes Himself*. [The Library of Science and Culture,. London: Watts & Co.

———. 1950. “The Urban Revolution.” *The Town Planning Review* 21 (1): 3–17.

Choyke, Alice Mathea, and Daniella Bar-Yosef Mayer. 2017. “Introduction: The Archaeology of Beads, Beadwork and Personal Ornaments.” In *Not Just for Show: The Archaeology of Beads, Beadwork and Personal Ornaments*, 1–4. Philadelphia: Oxbow Books.

Clare, Lee. 2020. “25 Years of Research at Göbeklitepe: A Summary of Past and Recent Results.” The Oriental Institute, Chicago, March 9.

Clarke, David L. 1972. *Models in Archaeology*. London: Methuen.

———. 1973. “Archaeology: The Loss of Innocence.” *ANTIQUITY*, no. 185: 6.

Clarke, Joanne, Nick Brooks, Edward B. Banning, Miryam Bar-Matthews, Stuart Campbell, Lee Clare, Mauro Cremaschi, et al. 2016. “Climatic Changes and Social Transformations in the Near East and North Africa during the ‘long’ 4th Millennium BC:A Comparative Study of Environmental and Archaeological Evidence.” *Quaternary Science Reviews* 136: 96–121. https://doi.org/10.1016/j.quascirev.2015.10.003.

Cohen, Adam, and Elizabeth Taylor. 2000. *American Pharaoh: Mayor Richard J. Daley: His Battle for Chicago and the Nation*. 1st ed. Boston: Little, Brown.

Colledge, Sue, and James Conolly. 2014. “Wild Plant Use in European Neolithic Subsistence Economies: A Formal Assessment of Preservation Bias in Archaeobotanical Assemblages and the Implications for Understanding Changes in Plant Diet Breadth.” *Quaternary Science Reviews* 101: 193–206.

Collins, Matthew J., and Les Copeland. 2011. “Ancient Starch: Cooked or Just Old?” *Proceedings of the National Academy of Sciences* 108 (22): E145–E145. https://doi.org/10.1073/pnas.1103241108.

Cook, Sherburne Friend, and Robert F. Heizer. 1968. “Relationships among Houses, Settlement Areas, and Population in Aboriginal California.” In *Settlement Archaeology.*, edited by K.C. Chang, bs:79–116. Palo Alto, CA: National Press Books.

Costin, Cathy Lynne. 1991. “Craft Specialization: Issues in Defining, Documenting, and Explaining the Organization of Production.” *Archaeological Method and Theory* 3: 1–56.

Crawford, Harriet E. W. 1973. “Mesopotamia’s Invisible Exports in the Third Millennium.” *World Archaeology* 5 (2): 232–41.

———. 2015. *Ur: The City of the Moon God*. Archaeological Histories. London: Bloomsbury Academic.

Crowther, Alison. 2012. “The Differential Survival of Native Starch during Cooking and Implications for Archaeological Analyses: A Review.” *Archaeological and Anthropological Sciences* 4 (3): 221–35. https://doi.org/10.1007/s12520-012-0097-0.

Crumley, Carole L. 1979. “Three Locational Models: An Epistemological Assessment for Anthropology and Archaeology.” *Advances in Archaeological Method and Theory* 2: 141–73.

Curtis, John. 1981. “Arpachiyah.” In *Fifty Years of Mesopotamian Discovery*, edited by John Curtis, 30–36. London: British School of Archaeology in Iraq.

Daems, Aurelie. 2010. “A Snake in the Grass: Assessing the Ever-Intriguing Ophidian Figurines Once Again.” In *Beyond the Ubaid: Transformation and Integration in the Late Prehistoric Societies of the Middle East*, edited by Robert A. Carter and Graham Philip, 149–61. Studies in Ancient Oriental Civilization 63. Chicago: The Oriental Institute of the University of Chicago.

D’Altroy, Terence N., and Timothy K. Earle. 1985. “Staple Finance, Wealth Finance, and Storage.” *Current Anthropology* 26 (2): 187–206.

D’Anna, Maria Bianca. 2020. “Une Liaison Dangereuse: Mass-Produced Bowls and Cretulae at Arslantepe during Period VI A.” In *Pathways through Arslantepe. Essays in Honour of Marcella Frangipane*, edited by Francesca Balossi Restelli, Andrea Cardarelli, Gian Maria Di Nocera, Lucia Mori, Giulio Palumbi, and Holly Pittman. Sette Città.

D’Anna, Maria Bianca, and Carolin Jauss. 2015. “Cooking in the Fourth Millennium BCE: Investigating the Social via the Material.” In *Commensality: From Every Day Food to Feast*, edited by Susanne Kerner, Cynthia Chou, and Morten Warmind, 65–85. London: Bloomsbury.

David M. Carballo. 2011. “Advances in the Household Archaeology of Highland Mesoamerica.” *Journal of Archaeological Research* 19 (2): 133.

Deetz, James. 1965. *The Dynamics of Stylistic Change in Arikara Ceramics*. Illinois Studies in Anthropology 4. Urbana, IL: University of Illinois Press.

———. 1997. *In Small Things Forgotten*. New York: Doubleday.

Deimel, Anton. 1931. *Šumerische tempelwirtschaft zur zeit Urukaginas und seiner vorgänger*. Roma: Pontificio Istituto Biblico.

Delougaz, Pinhas. 1933. *Plano-Convex Bricks and the Methods of Their Employment*. Vol. no. 7. The Oriental Institute of the University of Chicago. Studies in Ancient Oriental Civilization,. Chicago: The University of Chicago Press.

Delougaz, Pinhas, Harold D. Hill, and Seton Lloyd. 1967. *Private Houses and Graves in the Diyala Region*. Chicago: University of Chicago Press.

DeMarrais, Elizabeth, Luis Jaime Castillo, and Timothy K. Earle. 1996. “Ideology, Materialization, and Power Strategies.” *Current Anthropology* 37 (1): 15–31.

Dietler, Michael. 1996. “Feasts and Commensal Politics in the Political Economy: Food, Power and Status in Prehistoric Europe.” In *Food and the Status Quest: An Interdiciplinary Perspective*, edited by Polly Wiessner and Wulf Schiefenhövel, 87–125. Oxford: Berghahn Books.

Dietler, Michael., and Brian. Hayden. 2001. *Feasts: Archaeological and Ethnographic Perspectives on Food, Politics, and Power*. Washington, D.C.: Smithsonian Institution Press.

Dietler, Michael, and Ingrid Herbich. 2001. “Feasts and Labor Mobilization: Dissecting a Fundamental Economic Practice.” In *Feasts: Archaeological and Ethnographic Perspectives on Food, Politics, and Power*, edited by Michael Dietler and Brian Hayden, 240–64. Washington and London: Smithsonian Institution Press.

Dilthey, Wilhelm. 1996. *Hermeneutics and the Study of History*. Edited by Rudolf A. Makkreel and Frithjof Rodi. Vol. v. 4. Selected Works / Wilhelm Dilthey ; Princeton, N.J.: Princeton University Press.

Donham, Donald L. 1981. “Beyond the Domestic Mode of Production.” *Man* 16 (4): 515–41. https://doi.org/10.2307/2801486.

Douglass, John G., and Nancy Gonlin. 2012. *Ancient Households of the Americas: Conceptualizing What Households Do*. Boulder, CO: University Press of Colorado.

Duistermaat, Kim, and Peter M. M. G. Akkermans. 1996. “Of Storage and Nomads. The Sealings from Late Neolithic, Sabi Abyad, Syria.” *Paléorient*, no. 2: 17–44.

Dunnell, Robert C., and Julie K. Stein. 1989. “Theoretical Issues in the Interpretation of Microartifacts.” *Geoarchaeology* 4 (1): 31–41. https://doi.org/10.1002/gea.3340040103.

Düring, Bleda S. 2005. “Building Continuity in the Central Anatolian Neolithic: Exploring the Meaning of Buildings at Asıklı Höyük and Çatalhöyük.” *Journal of Mediterranean Archaeology* 18 (1): 3–29.

———. 2010. *The Prehistory of Asia Minor: From Complex Hunter-Gatherers to Early Urban Societies*. Cambridge University Press.

Düring, Bleda S., and Arkadiusz Marciniak. 2006. “Households and Communities in the Central Anatolian Neolithic.” *Archaeological Dialogues* 12 (2): 165–87.

Edens, Christopher, and K. Aslihan Yener. 2000. “Excavations at Tell Kurdu, 1996 and 1998.” *American Journal of Archaeology* 104: 198–215.

Emberling, Geoff. 2016. “Structures of Authority: Feasting and Political Practice in the Earliest Mesopotamian States.” In *Social Theory in Archaeology and Ancient History: The Present and Future of Counternarratives*, edited by Geoff Emberling, 34–59. New York: Cambridge University Press.

Emery, Virginia L. 2009. “Mud-Brick.” *UCLA Encyclopedia of Egyptology* 1 (1). https://escholarship.org/uc/item/7v84d6rh.

Eren, Metin I., Adam Durant, Christina Neudorf, Michael Haslam, Ceri Shipton, Janardhana Bora, Ravi Korisettar, and Michael Petraglia. 2010. “Experimental Examination of Animal Trampling Effects on Artifact Movement in Dry and Water Saturated Substrates: A Test Case from South India.” *Journal of Archaeological Science* 37 (12): 3010–21. https://doi.org/10.1016/j.jas.2010.06.024.

Esin, Ufuk. 1989. “An Early Trading Center in Eastern Anatolia.” In *Anatolia and the Ancient Near East : Studies in Honor of Tahsin Özgüç*, edited by Kutlu Emre, 135–41. Ankara: Türk Tarih Kurumuru.

Falkenstein, Adam. 1974. *The Sumerian Temple City.* Vol. v. 1, fasc. 1. Monographs in History: Ancient Near East ; 1/1. Los Angeles: Undena Publications.

Figes, Orlando. 2002. *Natasha’s Dance: A Cultural History of Russia*. 1st ed. New York: Metropolitan Books.

Finlayson, Bill. 2014. “Houses of the Holy: The Evolution of Ritual Buildings.” In *Settlement, Survey, and Stone. Essays on Near Eastern Prehistory in Honour of Gary Rollefson*, edited by Bill Finlayson and Cherly Makarewicz, 133–43. Berlin: ex Oriente. https://www.academia.edu/7743604/Houses_of_the_Holy_The_Evolution_of_Ritual_Buildings.

———. 2019. “Getting It Together: The Creation of Community in the Neolithic.” In *The Social Archaeology of the Levant*, edited by Assaf Yasur-Landau, Eric H. Cline, and Yorke M. Rowan, 67–85. Cambridge: Cambridge University Press.

Finlayson, Bill, Mithen Steven J., Najjar Mohammad, Smith Sam, Maričević Darko, Pankhurst Nick, and Yeomans Lisa. 2011. “Architecture, Sedentism, and Social Complexity at Pre-Pottery Neolithic A WF16, Southern Jordan.” *Proceedings of the National Academy of Sciences of the United States of America* 108 (20): 8183–88.

Fisher, Michael T. 2017. “The Late Chalcolithic 1 Period in Northern Mesopotamia: Tell Zeidan, Syria, in Regional Context.” Chicago, IL: The University of Chicago.

Fladmark, K. R. 1982. “Microdebitage Analysis: Initial Considerations.” *Journal of Archaeological Science*, no. 2: 205–20.

Flannery, Kent, and Joyce Marcus. 2012. *The Creation of Inequality: How Our Prehistoric Ancestors Set the Stage for Monarchy, Slavery, and Empire*. 1st. edition. Cambridge: Harvard University Press.

Flannery, Kent V. 1972a. "The Cultural Evolution of Civilizations." *Annual Review of Ecology and Systematics* 3: 399–426.

———. 1972b. "The Origins of the Village as a Settlement Type in Mesoamerica and the Near East : A Comparative Study." In *Man, Settlement and Urbanism: Proceedings of a Meeting of the Research Seminar in Archaeology and Related Subjects Held at the Institute of Archaeology, London University*, edited by Peter J. Ucko, Ruth Tringham, G. W. Dimbleby, Research Seminar in Archaeology and Related Subjects, and University of London, 23–53. London: Duckworth. http://ls-tlss.ucl.ac.uk/course-materials/ARCLG193_48590.pdf.

———, ed. 1976. *The Early Mesoamerican Village*. Studies in Archeology. New York: Academic Press.

———. 1999. "Chiefdoms in the Early Near East: Why It's So Hard to Identify Them." In *The Iranian World: Essays on Iranian Art and Archaeology*, edited by Abbas Alizadeh, Yousef Majidzadeh, and Sadegh Malek Shahmirzadi, 44–58. Tehran: Iran University Press.

———. 2002. "The Origins of the Village Revisited: From Nuclear to Extended Households." *American Antiquity* 67 (3): 417–33. https://doi.org/10.2307/1593820.

Forest, Jean-Daniel. 1996. "Éléments de chronologie." In *Oueili: Travaux de 1987 et 1989*, by Jean-Louis Huot, 385–90. Paris: Ed. Recherche sur les civilisations.

Forest, Jean-Daniel, R. Vallet, and Johnny Samuele Baldi. 2012. "Tell Feres al Sharqi: A 5th-4th Millennium Site in the Khabur Drainage Basin." In *Proceedings of the 7th International Congress on the Archaeology of the Ancient Near East 12 April – 16 April 2010, the British Museum and UCL, London*, edited by Roger Matthews and John Curtis, 3. Fieldwork&Recent Research:33–50. Wiesbaden: Harrassowitz Verlag.

Forouzan, Firoozeh. 2010. "Small Finds From Chogha Gavaneh Site in the Islamabad Plain, Central Zagros Mountains, Iran." *Anthropology Theses*, December. https://scholarworks.gsu.edu/anthro_theses/46.

Foster, Benjamin R. 1981. "A New Look at the Sumerian Temple State." *Journal of the Economic and Social History of the Orient* 24 (3): 224–31.

———. 2016. *The Age of Agade: Inventing Empire in Ancient Mesopotamia*. Abingdon, Oxon: Routledge.

Foster, Catherine P. 2009. “Household Archaeology and the Uruk Phenomenon: A Case Study from Kenan Tepe, Turkey.” Ph.D., United States -- California: University of California, Berkeley. https://search-proquest-com.proxy.uchicago.edu/pqdtglobal/docview/304845413/abstract/1CD56A0831A24FBEPQ/3.

———. 2012. “The Uruk Phenomenon: A View from the Household.” In *New Perspectives on Household Archaeology*, edited by Bradley J. Parker and Catherine P. Foster, 437–72. Winona Lake, IN: Eisenbrauns.

Foster, Catherine P., and Bradley J. Parker. 2012. “Introduction: Household Archaeology in the Near East and Beyond.” In *New Perspectives on Household Archaeology*, 1–12. Winona Lake, IN: Eisenbrauns.

Foucault, Michel. 1986. “Of Other Spaces.” Translated by Jay Miskowiec. *Diacritics* 16 (1): 22–27. https://doi.org/10.2307/464648.

Foucault, Michel. 1995. *Discipline and Punish: The Birth of the Prison*. 2nd Vintage Books ed. New York: Vintage Books. http://pi.lib.uchicago.edu/1001/cat/bib/2668209.

Frangipane, Marcella. 1997. “Arslantepe-Malatya: External Factors and Local Components in the Development of an Early State Society.” In *Emergence and Change in Early Urban Societies*, edited by Linda Manzanilla. New York: Plenum Press.

———. 2001. “Centralization Processes in Greater Mesopotamia: Uruk ‘Expansion’ as the Climax of Systemic Interactions among Areas of the Greater Mesopotamian Region.” In *Uruk Mesopotamia & Its Neighbors: Cross-Cultural Interactions in the Era of State Formation*, edited by Mitchell S. Rothman, 307–47. Santa Fe, NM: School of American Research Press.

———. 2007. “Different Types of Egalitarian Societies and the Development of Inequality in Early Mesopotamia.” *World Archaeology*, no. 2: 151–76.

———. 2012a. “Fourth Millennium Arslantepe: The Development of a Centralised Society without Urbanisation.” *Origini* 34: 19–40.

———. 2012b. “‘Transitions’ as an Archaeological Concept. Interpreting the Final Ubaid - Late Chalcolithic Transition in the Northern Periphery of Mesopotamia.” In *After the Ubaid - Interpreting Change from the Caucasus to Mesopotamia at the Dawn of Urban Civilization (4500-3500 BC): Papers from the Post-Ubaid Horizon in the Fertile Crescent and Beyond International Workshop Held at Fosseuse, 29th June-1st July 2009*, edited by Catherine Marro, 39–62. Istanbul: Institut français d’études anatoliennes-Georges Dumezil.

Frankfort, Henri. 1933. *Tell Asmar, Khafaje and Khorsabad: Second Preliminary Report of the Iraq Expedition*. Oriental Institute Communications 16. Chicago: The Oriental Institute of the University of Chicago.

Garstang, John. 1953. *Prehistoric Mersin, Yümük Tepe in Southern Turkey; the Neilson Expedition in Cilicia.* Oxford [Eng.]: Clarendon Press.

Gavagnin, Katia, Marco Iamoni, and Rocco Palermo. 2016. "The Land of Nineveh Archaeological Project: The Ceramic Repertoire from the Early Pottery Neolithic to the Sasanian Period." *Bulletin of the American Schools of Oriental Research* 375 (May): 119–69.

Gelb, I.J. 1969. "On the Alleged Temple and State Economies in Ancient Mesopotamia." In *Sudi in Onore Di Edouardo Volterra*, 137–54. Milan: Giuffre Editore.

Gibson, McGuire. 2010. "The Dead Hand of Deimel." In *Beyond the Ubaid: Transformation and Integration in the Late Prehistoric Societies of the Middle East*, edited by Robert A. Carter and Graham Philip, 85–91. Studies in Ancient Oriental Civilization 63. Chicago, IL: Oriental Institute of the University of Chicago.

Giddens, Anthony. 1986. *The Constitution of Society: Outline of the Theory of Structuration*. 1st pbk. ed. Berkeley: University of California Press.

———. 1987. *The Nation-State and Violence: Volume 2 of A Contemporary Critique of Historical Materialism*. University of California Press.

Gillespie, Susan D. 2000a. "Beyond Kinship: An Introduction." In *Beyond Kinship: Social and Material Reproduction in House Societies*, edited by Rosemary A. Joyce and Susan D. Gillespie, 1–21. Philadelphia: University of Pennsylvania Press.

———. 2000b. "Lévi-Strauss: Maison and Société à Maisons." In *Beyond Kinship: Social and Material Reproduction in House Societies*, edited by Rosemary A. Joyce and Susan D. Gillespie, 22–52. Philadelphia: University of Pennsylvania Press.

Gonzalez-Ruibal, Alfredo. 2006. "House Societies vs. Kinship-Based Societies : An Archaeological Case from Iron Age Europe." *Journal of Anthropological Archaeology*, no. 1: 144–73.

Gopnik, Hilary, and Mitchell S. Rothman. 2011. *On the High Road: The History of Godin Tepe, Iran*. Vol. no. 1. Bibliotheca Iranica: Archaeology, Art & Architecture Series ; Costa Mesa, Calif.: Mazda Publishers in association with Royal Ontario Museum.

Graham, Philip, and Alexia Smith. 2012. "Integrating Household Archaeology and Archaeobotany: A Case Study from Ubaid Kenan Tepe, Southeastern Anatolia." In *New*

Perspectives on Household Archaeology, edited by Bradley J. Parker and Catherine P. Foster, 247–65. Winona Lake, IN: Eisenbrauns.

———. 2013. "A Day in the Life of an Ubaid Household: Archaeobotanical Investigations at Kenan Tepe, South-Eastern Turkey." *Antiquity* 87 (336): 405–17.

Gremliza, F. G. L. 1962. *Report to Khuzestan Water and Power Authority and Plan Organization of Iran on Ecology of Endemic Diseases in the Dez Irrigation Pilot Area*. New York, N.Y., U.S.A: Development and Resources Corp.

Grossman, Kathryn, and Miriam Hinman. 2013. "Rethinking Halaf and Ubaid Animal Economies: Hunting and Herding at Tell Zeidan (Syria)." *Paléorient* 39 (2): 201–19. https://doi.org/10.3406/paleo.2013.5528.

Guest, Evan., C. C. Townsend, and Ali Al-Rawi. 1966. *Flora of Iraq.* Vol. 1. [Baghdad]: Ministry of Agriculture of the Republic of Iraq.

Gurdil, Bekir. 2005. "Architecture and Social Complexity in the Late Ubaid Period: A Study of the Built Environment of Değirmentepe in East Anatolia." Ph.D., United States -- California: University of California, Los Angeles. http://search.proquest.com/pqdtglobal/docview/305032834/abstract/726C2691207A4156PQ/1.

Habermas, Jürgen. 1989. *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society*. Cambridge, Mass.: MIT Press. http://pi.lib.uchicago.edu/1001/cat/bib/936395.

Hall, Edward T. 1963. "A System for the Notation of Proxemic Behavior." *American Anthropologist* 65 (5): 1003–26.

Hall, Henry R., and C. Leonard Woolley. 1927. *Al-'Ubaid.* Vol. I. Ur Excavations. Oxford: Oxford University Press.

Hall, Martin. 2001. "Social Archaeology and the Theatres of Memory." https://doi.org/10.1177/146960530100100104.

Hamlin, Carol. 1975. "Dalma Tepe." *Iran* 13: 111–27. https://doi.org/10.2307/4300529.

Hammade, Hamido, and Yayoi Yamazaki. 2006. *Tell Al-'Abr (Syria): Ubaid and Uruk Periods*. Mémoires, no 4. Louvain ; Paris ; Dudley, MA: Peeters.

Hammel, E. A. 1984. "On the *** of Studying Household Form and Function." In *Households: Comparative and Historical Studies of the Domestic Group*, edited by Robert McC. Netting, Richard R. Wilk, and Eric J. Arnould, 29–43. Berkeley and Los Angeles: University of California Press.

Hammel, E. A., and Peter Laslett. 1974. “Comparing Household Structure Over Time and Between Cultures.” *Comparative Studies in Society and History* 16 (1): 73–109. https://doi.org/10.1017/S0010417500007362.

Haraway, Donna Jeanne. 2008. *When Species Meet*. Vol. 3. Posthumanities ; Minneapolis: University of Minnesota Press. http://pi.lib.uchicago.edu/1001/cat/bib/9199143.

Hardy, Karen, Renee van de Locht, Julie Wilson, and Osman Tugay. 2013. “Starch Granules and Complex Carbohydrates at Çatalhöyük.” In *Humans and Landscapes of Çatalhöyük: Reports from the 2000-2008 Seasons*, edited by Ian Hodder, 191–212. Cambridge: McDonald Institute for Archaeological Research.

Harmanşah, Ömür. 2013. *Cities and the Shaping of Memory in the Ancient Near East*. New York: Cambridge University Press.

Hart, Thomas C. 2014. “Analysis of Starch Grains Produced in Select Taxa Encountered in Southwest Asia.” *Ethnobiology Letters* 5 (December): 135-145-135-145. https://doi.org/10.14237/ebl.5.2014.251.

Hastorf, Christine A. 2017. *The Social Archaeology of Food: Thinking about Eating from Prehistory to the Present*. New York, NY: Cambridge University Press.

Hastorf, Christine A., and Mary J. Weismantel. 2007. “Food: Where Opposites Meet.” In *The Archaeology of Food and Identity*, edited by Katheryn C. Twiss, 308–30. Carbondale, IL: Southern Illinois University Press.

Hayden, Brian. 2009. “The Proof Is in the Pudding: Feasting and the Origins of Domestication.” *Current Anthropology* 50 (5): 597–601.

Hendon, Julia A. 2006. “The Engendered Household.” In *Handbook of Gender in Archaeology*, edited by Sarah Milledge Nelson, 171–98. Lanham, MD: AltaMira Press.

Henrickson, Elizabeth F., and I. Thuesen, eds. 1989. *Upon This Foundation: The ‘Ubaid Reconsidered*. CNI Publications 10. Copenhagen: Carsten Niebuhr Institute of Ancient Near East Studies, University of Copenhagen : Museum Tusculanum Press.

Henry, Amanda, Alison Brooks, and D.R. Piperno. 2011. “Reply to Collins and Copeland: Spontaneous Gelatinization Not Supported by Evidence.” *Proceedings of The National Academy of Sciences - PNAS* 108 (May). https://doi.org/10.1073/pnas.1104199108.

Henry, Amanda G. 2012. “Plant Foods and the Dietary Ecology of Neanderthals and Modern Humans.” Dissertation, Washington, D.C.: The George Washington University.

Henry, Amanda G., Holly F. Hudson, and Dolores R. Piperno. 2009. “Changes in Starch Grain Morphologies from Cooking.” *Journal of Archaeological Science* 36 (3): 915–22. https://doi.org/10.1016/j.jas.2008.11.008.

Hijara, Ismail. 1973. “Excavations at Tell Qalinj Agha (Erbil) Fourth Season, 1970.” *Sumer* 29: 59–80.

Hill, James N. 1970. *Broken K Pueblo: Prehistoric Social Organization in the American Southwest*. Vol. no. 18. Anthropological Papers of the University of Arizona,. Tucson: University of Arizona Press.

Hillier, Bill, and Julienne Hanson. 1984. *The Social Logic of Space*. Cambridge [Cambridgeshire]: Cambridge University Press.

Hodder, Ian. 1990. *The Domestication of Europe: Structure and Contingency in Neolithic Societies*. Oxford, OX, UK: B. Blackwell.

———. 2012. *Entangled: An Archaeology of the Relationships between Humans and Things*. Malden, MA: Wiley-Blackwell.

———. 2016. “More on History Houses at Çatalhöyük: A Response to Carleton et Al.” *Journal of Archaeological Science* 67 (March): 1–6. https://doi.org/10.1016/j.jas.2015.10.010.

Hodder, Ian, and Craig Cessford. 2004. “Daily Practice and Social Memory at Çatalhöyük.” *American Antiquity*, no. 1: 17.

Hodder, Ian, and Scott Hutson. 2003. *Reading the Past: Current Approaches to Interpretation in Archaeology*. Cambridge University Press.

Hodder, Ian, and Peter Pels. 2010. “History Houses: A New Interpretation of Architectural Elaboration at Çatalhöyük.” In *Religion in the Emergence of Civilization: Çatalhöyük as a Case Study*, edited by Ian Hodder, 163–86. Cambridge and New York: Cambridge University Press.

Hole, Frank. 1983. “Symbols of Religion and Social Organization at Susa.” In *The Hilly Flanks and Beyond: Essays on the Prehistory of Southwestern Asia Presented to Robert J. Braidwood, November 15, 1982*, edited by T. Cuyler Young, Philip E.L. Smith, and Peder Mortensen, 315–33. Studies in Ancient Oriental Civilization 36. Chicago: The Oriental Institute of the University of Chicago.

———. 1987. *The Archaeology of Western Iran: Settlement and Society from Prehistory to the Islamic Conquest*. Smithsonian Series in Archaeological Inquiry. Washington, D.C: Smithsonian Institution Press.

———. 1994. “Environmental Instabilities and Urban Origins.” In *The Organizational Dynamics of Complexity*, edited by Gil J. Stein and Mitchell S. Rothman. Monographs in World Archaeology 18. Madison, WI: Prehistory Press.

———. 2000. “Tell Ziyadeh on the Middle Khabur, Syria.” In *Proceedings of the First International Congress on the Archaeology of the Ancient Near East: Rome, May 18th-23rd 1998*, edited by Paolo. Matthiae, A. Enea, Luca Peyronel, and Frances Pinnock, 609–20. Roma: Dipartimento di scienze storiche, archeologiche e antropologiche dell’antichità.

Hull, Kathleen L. 1983. “Application of Microdebitage Analysis to Examination of Spatial Patterning.” M.A., Canada: University of Calgary (Canada). http://search.proquest.com/pqdtglobal/docview/303117603/B2CBB469613A4246PQ/1.

———. 1987. “Identification of Cultural Site Formation Processes through Microdebitage Analysis.” *American Antiquity* 52 (4): 772–83. https://doi.org/10.2307/281385.

Huot, Jean-Louis, ed. 1987. *Préhistoire de la Mésopotamie: la Mésopotamie préhistorique et l’exploration récente du Djebel Hamrin: Paris, 17-18-19 décembre 1984.* Paris: Editions du Centre national de la recherche scientifique.

———. 1989. “’Ubaidian Village of Lower Mesopotamia. Permanence and Evolution from ’Ubaid 0 to ’Ubaid 4 as Seen from Tell El’Oueili.” In *Upon This Foundation: The ’Ubaid Reconsidered. Proceedings from the ’Ubaid Symposium, Elsinore May 30th-June 1st 1988*, edited by Elizabeth F. Henrickson and Ingolf Thuesen, 19–42. Copenhagen: Museum Tusculanum Press.

———. 1992. “The First Farmers at Oueili.” *The Biblical Archaeologist*, no. 4: 188–94.

———. 1994. *Les Premiers Villageois de Mésopotamie: Du Village à La Ville*. Collection Civilisations U. Paris: A. Colin.

———. 1996. *Oueili. Travaux de 1987 et 1989*. Paris: Ed. Recherche sur les civilisations.

Iamoni, Marco. 2016. *Trajectories of Complexity: Socio-Economic Dynamics in Upper Mesopotamia in the Neolithic and Chalcolithic Periods*. Vol. volume 6. Studia Chaburensia,. Wiesbaden: Harrassowitz Verlag.

Iamoni, Marco, and Hassan Qasim. 2020. “Investigations at Asingeran in the Plain of Navkur.” In *ASOR Annual Meeting*.

Ingold, Tim. 1995. “Building, Dwelling, Living: How Animals and People Make Themselves at Home in the World.” In *Shifting Contexts: Transformations in Anthropological Knowledge*, edited by Marilyn Strathern, 57–80. ASA Decennial Conference Series: The Uses of Knowledge: Global and Local Relations. London and New York: Routledge.

———. 2000a. *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill*. London: Routledge.

———. 2000b. “The Temporality of the Landscape.” In *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill*, 189–208. London and New York: Routledge.

———. 2013. *Making: Anthropology, Archaeology, Art and Architecture*. Milton Park, Abingdon, Oxon: Routledge.

Inomata, Takeshi. 2006. “Plazas, Performers, and Spectators : Political Theaters of the Classic Maya.” *Current Anthropology* 47 (5): 805–42. https://doi.org/10.1086/506279.

Jacobs, Jane. 1961. *The Death and Life of Great American Cities.* [New York]: Random House.

Jasim, Sabah Abboud. 1981. “Excavation at Tell Abada, Iraq.” *Paléorient*, no. 2: 101–4.

———. 1983. “Excavations at Tell Abada: A Preliminary Report.” *Iraq*, no. 2: 165–85. https://doi.org/10.2307/4200200.

———. 1984. “Tell Abada excavations initial report.” *Sumer* 40 (1–2): 44–46.

———. 1985. *The ’Ubaid Period in Iraq: Recent Excavations in the Hamrin Region*. British Archaeological Reports, International Series 267. Oxford: British Archaeological Reports.

———. 1989. “Structure And Function In An ’Ubaid Village.” In *Upon This Foundation : The ’Ubaid Reconsidered : Proceedings From The ’Ubaid Symposium, Elsinore, May 30Th-June 1St 1988*, 78–90. Cni Publications. Carsten Niebuhr Institute of Ancient Near Eastern Studies : University of Copenhagen, Museum Tusculanum Press. https://ehrafarchaeology.yale.edu/document?id=mh55-018.

Johnson, Emily S., and John M. Marston. 2020. “The Experimental Identification of Nixtamalized Maize through Starch Spherulites.” *Journal of Archaeological Science* 113 (January): 105056. https://doi.org/10.1016/j.jas.2019.105056.

Joyce, Rosemary A., and Susan D. Gillespie. 2000. *Beyond Kinship: Social and Material Reproduction in House Societies*. Philadelphia: University of Pennsylvania Press.

Kabukcu, Ceren, Eleni Asouti, Nadja Pöllath, Joris Peters, and Necmi Karul. 2021. “Pathways to Plant Domestication in Southeast Anatolia Based on New Data from Aceramic Neolithic Gusir Höyük.” *Scientific Reports* 11 (1): 2112. https://doi.org/10.1038/s41598-021-81757-9.

Kassabaum, Megan C.1, mkass@sas.upenn.edu. 2019. “A Method for Conceptualizing and Classifying Feasting: Interpreting Communal Consumption in the Archaeological Record.” *American Antiquity* 84 (4): 610–31. https://doi.org/10.1017/aaq.2019.47.

Kennedy, Jason. 2012. “Commensality and Labor in Terminal Ubaid Northern Mesopotamia.” In *Between Feasts and Daily Meals: Towards Archaeology of Commensal Spaces*, edited by Susan Pollock, 125–56. E-Topoi. Journal for Ancient Studies 2. http://journal.topoi.org/index.php/etopoi/article/view/24.

Kent, Susan. 1980. “Activity Areas: An Ethnoarchaeological Study of Spatial Patterning.” Ph.D., United States -- Washington: Washington State University. http://search.proquest.com/pqdtglobal/docview/303093481/552EB4D32FB0498FPQ/5.

———. 1984. *Analyzing Activity Areas: An Ethnoarchaeological Study of the Use of Space*. 1st ed. Albuquerque: University of New Mexico Press.

———. 1987. *Method and Theory for Activity Area Research: An Ethnoarchaeological Approach*. New York: Columbia University Press.

———. 1990a. “A Cross-Cultural Study of Segmentation, Architecture, and the Use of Space.” In *Domestic Architecture and the Use of Space: An Interdisciplinary Cross-Cultural Study*, edited by Susan Kent, 127–52. Cambridge: Cambridge University Press.

———. 1990b. “Activity Areas and Architecture: An Interdisciplinary View of the Relationship between Use of Space and Domestic Built Elements.” In *Domestic Architecture and the Use of Space*, edited by Susan Kent, 1–8. New Directions in Archaeology. Cambridge: Cambridge University Press.

———. 1990c. *Domestic Architecture and the Use of Space: An Interdisciplinary Cross-Cultural Study*. Cambridge [England]: Cambridge University Press.

Khalidi, Lamya, Bernard Gratuze, Gil J. Stein, Augusta McMahon, Salam Al-Quntar, Robert Carter, Richard Cuttler, et al. 2016. “The Growth of Early Social Networks: New Geochemical Results of Obsidian from the Ubaid to Chalcolithic Period in Syria, Iraq and the Gulf.” *Journal of Archaeological Science: Reports* 9 (October): 743–57. https://doi.org/10.1016/j.jasrep.2016.06.026.

Koizumi, Tatsundo, Minoru Yoneda, Shigeru Itoh, and Koichi Kobayashi. 2016. “Excavations of the Chalcolithic Occupations at Salat Tepe on the Upper Tigris, Southeastern Anatolia.” In *Archaeological Research in the Kurdistan and Adjacent Regions*, edited by Konstantinos Kopanias and John MacGinnis, 147–62. BAR International Series. Oxford: Archaeopress.

Kopanias, Konstantinos, Claudia Beuger, and Sherry Fox. 2014. “Preliminary Results from the Excavation at Tell Nader in the Kurdistan Region of Iraq.” In *Proceedings of the 8th*

International Congress on the Archaeology of the Ancient Near East 30 April - 4 May 2012, University of Warsaw, Vol. 2, Excavation and Progress Reports, Posters, edited by Piotr Bieliński, Michał Gawlikowski, Rafał Koliński, Dorota Ławecka, Arkadiusz Sołtysiak, and Zuzanna Wygnańska, 140–63. Wiesbaden: Harrassowitz Verlag. https://www.academia.edu/4580513/Preliminary_Results_from_the_Excavation_at_Tell_Nader_in_the_Kurdistan_Region_of_Iraq.

Kopanias, Konstantinos, and John MacGinnis. 2016. *The Archaeology of the Kurdistan Region of Iraq and Adjacent Regions*. Oxford: Archaeopress.

Kornienko, Tatiana V. 2009. "Notes on the Cult Buildings of Northern Mesopotamia in the Aceramic Neolithic Period." *Journal of Near Eastern Studies* 68 (2): 81–102. https://doi.org/10.1086/604671.

Kramer, Carol. 1979. "An Archaeological View of a Contemporary Kurdish Village: Domestic Architecture, Household Size, and Wealth." In *Ethnoarchaeology: Implications of Ethnography for Archaeology*, edited by Carol Kramer, 139–63. New York: Columbia University Press.

Kubba, Shamil A. A. 1998. *Architecture and Linear Measurement during the Ubaid Period in Mesopotamia*. Oxford: British Archaeological Reports.

Kuijt, Ian. 2000a. "Keeping the Peace: Ritual, Skull Caching, and Community Integration in the Levantine Neolithic." In *Life in Neolithic Farming Communities*, edited by Ian Kuijt, 137–64. New York: Kluwer Academic/Plenum Publishers.

———. 2000b. "People and Space in Early Agricultural Villages: Exploring Daily Lives, Community Size, and Architecture in the Late Pre-Pottery Neolithic." *Journal of Anthropological Archaeology* 19 (1): 75–102.

———. 2008. "The Regeneration of Life." *Current Anthropology* 49 (2): 171–97.

———. 2018. "Material Geographies of House Societies: Reconsidering Neolithic Çatalhöyük, Turkey." *Cambridge Archaeological Journal* 28 (4): 565–90.

Kuijt, Ian, and Bill Finlayson. 2009. "Evidence for Food Storage and Predomestication Granaries 11,000 Years Ago in the Jordan Valley." *Proceedings of the National Academy of Sciences* 106 (27): 10966–70. https://doi.org/10.1073/pnas.0812764106.

Layard, Austen Henry. 1850. *Nineveh and Its Remains: With an Account of a Visit to the Chaldean Christians of Kurdistan, and the Yesidis, or Devil Worshippers; and an Inquiry into the Manners and Arts of the Ancient Assyrians.* Paris: A. and W. Galignani and Co., Baudry's European Library. http://pi.lib.uchicago.edu/1001/cat/bib/3437703.

———. 1867. *Nineveh and Babylon: A Narrative of a Second Expedition to Assyria during the Years 1849, 1850, & 1851; Abridged by the Author from His Larger Work*. London: J. Murray.

Leach, Edmund Ronald. 1954. *Political Systems of Highland Burma; a Study of Kachin Social Structure*. London: G. Bell.

Lebeau, Marc. 1987. "Aperçu de la cèramique de la phase 'Oueili (Obeid 0)." In *Larsa (10e campagne, 1983) et 'Oueili (4e campagne, 1983), Rappoty Préliminaire*, by Jean-Louis Huot, 95–120. Paris: Ed. Recherche sur les civilisations.

LeBlanc, Steven. 1971. "An Addition to Naroll's Suggested Floor Area and Settlement Population Relationship." *American Antiquity* 36 (2): 210–11. https://doi.org/10.2307/278676.

Lefebvre, Henri. 1968. *Le Droit à la ville.* Société et urbanisme. Paris: Anthropos.

———. 1991. *The production of space*. Oxford, OX, UK: Blackwell.

———. 1996. *Writings on Cities*. Edited by Eleonore Kofman and Elizabeth Lebas. 1 edition. Cambridge, Mass, USA: Wiley-Blackwell.

Lefebvre, Henri, Neil. Brenner, and Stuart Elden. 2009. *State, Space, World: Selected Essays*. Minneapolis: University of Minnesota Press.

Levenson, Felix. 2019. "Monuments and Monumentality - Different Perspectives." In *Size Matters: Understanding Monumentality Across Ancient Civilizations*, edited by Federico Buccellati, Sebastian Hageneuer, Sylva van der Heyden, and Felix Levenson, 17–40. Bielefeld: Transcript.

Lévi-Strauss, Claude. 1982. *The Way of the Masks*. Seattle: University of Washington Press.

Lloyd, Seton, and Fuʾād Safar. 1943. "Tell Uqair: Excavations by the Iraq Government Directorate of Antiquities in 1940 and 1941." *Journal of Near Eastern Studies* 2: 131–58.

Lloyd, Seton, Fuʾād Safar, and Henri Frankfort. 1943. "Tell Uqair: Excavations by the Iraq Government Directorate of Antiquities in 1940 and 1941." *Journal of Near Eastern Studies* 2 (2): 131–58.

Longacre, William A. 1999. "Standardization and Specialization: What's the Link?" In *Pottery and People: A Dynamic Link*, edited by James M. Skibo and Gary M. Feinman, 44–58. Salt Lake City: University of Utah Press.

Lowell, Julie C. 1990. "Reflections of Sex Roles in the Archaeological Record: Insight from Hopi and Zuni Ethnographic Data." In *The Archaeology of Gender: Proceedings of the*

Twenty-Second Annual Conference of the Archaeological Association of the University of Calgary, edited by D. Walde and N.D. Willows, 452–61. Calgary: University of Calgary Press.

Madgwick, Richard, and Lee G. Broderick. 2016. "Taphonomies of Trajectory: The Pre- and Post-Depositional Movement of Bones." *Archaeological and Anthropological Sciences*, no. 8: 223–26.

Makarewicz, Cheryl A., and Bill Finlayson. 2018. "Constructing Community in the Neolithic of Southern Jordan: Quotidian Practice in Communal Architecture." *PLoS ONE* 13 (6): 1–22. https://doi.org/10.1371/journal.pone.0193712.

Mallowan, M. E. L., and John Cruikshank Rose. 1935. *Prehistoric Assyria; the Excavations at Tall Arpachiyah, 1933*. London: Oxford University Press, H. Milford.

Margueron, Jean-Claude. 1989. "Architecture et Société à l'epoque d'Obeid." In *Upon This Foundation: The Ubaid Reconsidered*, edited by Elizabeth F. Henrickson and Ingolf Thuesen, 43–78. Copenhagen: Carsten Niebuhr Institute of Ancient Near East Studies, University of Copenhagen : Museum Tusculanum Press.

Marro, Catherine, ed. 2012a. *After the Ubaid: Interpreting Change from the Caucasus to Mesopotamia at the Dawn of Urban Civilization (4500-3500BC): Papers from the Post-Ubaid Horizon in the Fertile Crescent and Beyond International Workshop Held at Fosseuse, 29th June-1st July 2009*. Varia Anatolica 27. Paris: De Boccard Editions.

———. 2012b. "Is There a Post-Ubaid Culture? Reflections on the Transition from the Ubaid to the Uruk Periods along the Fertile Crescent and Beyond." In *After the Ubaid: Interpreting Change from the Caucasus to Mesopotamia at the Dawn of Urban Civilization (4500-3500 BC)*, edited by Catherine Marro, 13–38. Paris: Institut français d'études anatoliennes-Georges Dumezil.

Marsh, Anke, Dominik Fleitmann, Diary Ali Mohammed Al-Manmi, Mark Altaweel, David Wengrow, and Robert Carter. 2018. "Mid- to Late-Holocene Archaeology, Environment and Climate in the Northeast Kurdistan Region of Iraq." *HOLOCENE* 28 (6): 955–67. https://doi.org/10.1177/0959683617752843.

Matson, Richard G. 1996. "Households as Economic Organization: A Comparison between Large Houses on the Northwest Coast and in the Southwest." In *People Who Lived in Big Houses: Archaeological Perspectives on Large Domestic Structures*, edited by G. Coupland and Edward B. Banning, 107–19. Monographs in World Archaeology 27. Madison, WI: Prehistory Press.

Matthews, W., J. Wiles, and M. Almond. 2006. "Micromorphology and Microanalysis of Architectural Surface Materials and and Residues: Investigation of Source Materials and the Life-Cycle of Buildings." *Çatalhöyük Archive Report 2006*, 285–94.

Matthews, Wendy. 2005. “Life-Cycle and Life-Course of Buildings.” In *Catalhoyuk Perspectives: Themes from the 1995-9 Seasons*, edited by Ian Hodder. Cambridge: McDonald Institute for Archaeological Research and British Institute of Archaeology at Ankara. http://centaur.reading.ac.uk/3779/.

Mayewski, Paul A., Eelco E. Rohling, J. Curt Stager, Wibjörn Karlén, Kirk A. Maasch, L. David Meeker, Eric A. Meyerson, et al. 2004. “Holocene Climate Variability.” *Quaternary Research* 62 (3): 243–55. https://doi.org/10.1016/j.yqres.2004.07.001.

Mazzoni, Stefania. 1998. *The Italian excavations of Tell Afis (Syria): from chiefdom to an aramaean State*. Pisa: ETS.

———. 1999. “Tell Afis and Its Region in the Late Chalcolithic Period.” *Les Annales Archéologiques Arabes Syriennes* 43: 97–117.

———. 2000. “From the Late Chalcolithic to Early Bronze I in North-West Syria: Anatolian Contact and Regional Perspective.” In *Chronologies Des Pays Du Caucase et de l’Euphrate Aux IVe-IIIe Millénaires. (From the Euphrates to the Caucasus: Chronologies for the 4th-3rd Millennium B.C.)*, edited by Catherine Marro and Harald Hauptmann, 97–109. Paris: de Boccard.

McBride, Alexis. 2013. “Performance and Participation: Multi-Sensual Analysis of Near Eastern Pre-Pottery Neolithic Non-Domestic Architecture.” *Paléorient* 39 (2): 47–67. https://doi.org/10.3406/paleo.2013.5520.

McCorriston, Joy, S. T Evans, Jean-Louis Huot, Mario Liverani, K Morrison, D Potts, Andrew Sherratt, R. P Wright, and R. L Zettler. 1997. “The Fiber Revolution : Textile Extensification, Alienation, and Social Stratification in Ancient Mesopotamia. Comments. Author’s Reply.” *La Révolution Des Fibres : L’intensification de La Diffusion Du Textile, l’aliénation et La Stratification Sociale En Mésopotamie Ancienne. Commentaires. Réponse de l’auteur* 38 (4): 517–49.

McMahon, Augusta. 2013a. “Tell Brak, Early Northern Mesopotamian Urbanism, Economic Complexity and Social Stress, Fifth-Fourth Millennia BC.” In *100 Jahre Archäeologische Feldforschungen in Nordost-Syrien – Eine Bilanz. Harrassowitz.*, edited by D. Bonatz and L. Martin, 67–80. Weisbaden: Harrassowitz Verlag. https://www.academia.edu/6579571/Tell_Brak_Early_Northern_Mesopotamian_Urbanism_Economic_Complexity_and_Social_Stress_fifth-fourth_millennia_BC.

———. 2013b. “Space, Sound, and Light: Toward a Sensory Experience of Ancient Monumental Architecture.” *American Journal of Archaeology* 117 (2): 163–79. https://doi.org/10.3764/aja.117.2.0163.

McMahon, Augusta, Joan Oates, J Weber, S Al-Quntar, M Charles, C Colantoni, M. M Hald, et al. 2007. “Excavations at Tell Brak 2006-2007.” *Iraq*, no. 69: 145–71.

McMahon, Augusta, Arkadiusz Sołtysiak, and Jill Weber. 2011. “Late Chalcolithic Mass Graves at Tell Brak, Syria, and Violent Conflict during the Growth of Early City-States.” *Journal of Field Archaeology* 36 (3): 201–20.

Merpert, N. Ya., and R. M. Munchaev. 1987. “The Earliest Levels at Yarim Tepe I and Yarim Tepe II in Northern Iraq.” *Iraq* 49 (January): 1–36. https://doi.org/10.2307/4200262.

———. 1993a. “Yarim Tepe I.” In *Early Stages in the Evolution of Mesopotamian Civilization: Soviet Excavations in Northern Iraq*, edited by Norman Yoffee and Jeffery J. Clark, 73–114. Tucson: University of Arizona Press.

———. 1993b. “Yarim Tepe II: The Halaf Levels.” In *Early Stages in the Evolution of Mesopotamian Civilization: Soviet Excavations in Northern Iraq*, edited by Jeffery J. Clark and Norman Yoffee, 151–62. Tucson: University of Arizona Press.

Meskell, Lynn., and Robert W. Preucel. 2008. *Companion to Social Archaeology*. Hoboken: Wiley. http://pi.lib.uchicago.edu/1001/cat/bib/10001098.

Metcalfe, Duncan, and Kathleen M. Heath. 1990. “Microrefuse and Site Structure: The Hearths and Floors of the Heartbreak Hotel.” *American Antiquity* 55 (4): 781–96. https://doi.org/10.2307/281250.

Minc, Leah, John Alden, and Gil J. Stein. 2019. “A Preliminary Assessment of Ceramic Style and Chemical Composition During the Chalcolithic Era at Surezha, Iraqi Kurdistan.” *Paléorient* 45 (2): 121–36.

Moeller, Nadine. 2015. “Multifunctionality and Hybrid Households: The Case of Ancient Egypt.” In *Household Studies in Complex Societies: (Micro) Archaeological and Textual Approaches*, edited by Miriam Müller, 447–62. Oriental Institute Seminars 10. Chicago: The Oriental Institute of the University of Chicago.

Moore, Jerry D. 2012. *The Prehistory of Home*. Berkeley: University of California Press.

Moorey, Peter Roger Stuart. 1982. “The Archaeological Evidence for Metallurgy and Related Technologies in Mesopotamia, c. 5500–2100 B.C.” *Iraq* 44 (01): 13–38. https://doi.org/10.2307/4200150.

———. 1994. *Ancient Mesopotamian Materials and Industries: The Archeological Evidence*. Oxford: Clarendon Press.

Morgan, Lewis Henry. 1871. *Systems of Consanguinity and Affinity of the Human Family*. Washington: Smithsonian Institution.

Morgenstein, Maury E., and Carol A. Redmount. 1998. “Mudbrick Typology, Sources, and Sedimentological Composition: A Case Study from Tell El-Muqdam, Egyptian Delta.”

Journal of the American Research Center in Egypt 35: 129–46. https://doi.org/10.2307/40000466.

Müller, Johannes, Vesa P. J. Arponen, Robert Hofmann, and René Ohlrau. 2015. "The Appearance of Social Inequalities: Cases of Neolithic and Chalcolithic Societies." *Origini*, no. 38 (July): 65–86.

Müller, Miriam. 2015. "Introduction." In *Household Studies in Complex Societies: (Micro) Archaeological and Textual Approaches*, edited by Miriam Müller, xiii–xlii. Oriental Institute Seminars 10. Chicago: The Oriental Institute of the University of Chicago.

Naroll, Raoul. 1962. "Floor Area and Settlement Population." *American Antiquity* 27 (4): 587–89. https://doi.org/10.2307/277689.

Nash, Donna. 2009. "Household Archaeology in the Andes." *Journal of Archaeological Research* 17 (3): 205–61. https://doi.org/10.1007/s10814-009-9029-7.

Navickas, Katrina. 2011. "'Why I Am Tired of Turning': A Theoretical Interlude." *History Working Papers Project: Open Peer Review for the Humanities (Archived)*, December. https://wayback.archive-it.org/14458/20200715141646/http://www.historyworkingpapers.org/?page_id=225.

Nelson, Sarah Milledge. 2004. *Gender in Archaeology: Analyzing Power and Prestige*. Second Edition edition. AltaMira Press.

———. 2006. *Handbook of Gender in Archaeology*. Lanham, MD: AltaMira Press. http://pi.lib.uchicago.edu/1001/cat/bib/6096965.

Netting, Robert, Richard R. Wilk, and Eric J. Arnould. 1984. *Households: Comparative and Historical Studies of the Domestic Group*. Berkeley: University of California Press.

Nielsen, Axel E. 1991. "Trampling the Archaeological Record: An Experimental Study." *American Antiquity* 56 (3): 483–503. https://doi.org/10.2307/280897.

Nishiaki, Yoshihiro. 2001. *Tell Kosak Shamali: The Archaeological Investigations on the Upper Euphrates, Syria /Edited by Yoshihiro Nishiaki and Toshio Matsutani.* Oxford: Oxbow Books, in association with the University Museum, the University of Tokyo.

Nováček, Karel. 2008. "Research of the Arbil citadel, Iraqi Kurdistan, first session." *Památky archeologické* 99: 259–302.

Nováček, Karel, Narmin Ali Muhammad Amin, and Miroslav Melčák. 2013. "A Medieval City Within Assyrian Walls: The Continuity of the Town of Arbīl in Northern Mesopotamia." *Iraq* 75 (January): 1–42.

Oates, Joan. 1960. “Ur and Eridu, the Prehistory.” *Iraq*, 32. https://doi.org/10.2307/4199667.

———. 2004. “Ubaid Mesopotamia Revisited.” In *From Handaxe to Khan: Essays Presented to Peder Mortensen on the Occasion of His 70th Birthday*, edited by Kjeld von Folsach, Henrik Thrane, and Ingolf Thuesen, 87–104. Aarhus: Aarhus University Press.

———. 2010. “More Thoughts on the Ubaid Period.” In *Beyond the Ubaid: Transformation and Integration in the Late Prehistoric Societies of the Middle East*, 45–50. Studies in Ancient Oriental Civilization 63. Chicago, IL: Oriental Institute of the University of Chicago.

———. 2012. “Southern Mesopotamia.” In *A Companion to the Archaeology of the Ancient Near East*, edited by Daniel T. Potts, 1st ed., 1:466–84. Blackwell Companions to the Ancient World. West Sussex: Wiley-Blackwell.

Oates (Lines), Joan. 1953. “The Al Ubaid Period in Mesopotamia and Its Persian Affinities.” Ph.D. dissertation, Cambridge: University of Cambridge. http://pi.lib.uchicago.edu/1001/cat/bib/4826652.

Ochsenschlager, Edward L. 1993. “Sheep: Ethnoarchaeology at Al-Hiba.” *Bulletin on Sumerian Agriculture* VII (1): 33–42.

———. 2004. *Iraq’s Marsh Arabs in the Garden of Eden*. Philadelphia, PA: University of Pennsylvania Museum of Archaeology and Anthropology.

Ogden, Laura A., Billy Hall, and Kimiko Tanita. 2013. “Animals, Plants, People, and Things: A Review of Multispecies Ethnography.” *Environment and Society* 4 (1): 5–24. https://doi.org/10.3167/ares.2013.040102.

Osborne, James F. 2014a. “Monuments and Monumentality.” In *Approaching Monumentality in Archaeology*, edited by James F Osborne, 3:1–19. IEMA Proceedings. Albany, N.Y.: State University of New York Press.

———. 2014b. “Settlement Planning and Urban Symbology in Syro-Anatolian Cities.” *Cambridge Archaeological Journal* 24 (2): 195–214.

Özbal, Rana D. 2000. “Microartifact Analysis. In: K.A. Yener, C. Edens, J. Casana, B. Diebold, H. Ekstom, M. Loyet and R. Özbal. Tell Kurdu Excavations 1999.” *Anatolica* 26: 49–55.

———. 2006. “Households, Daily Practice, and Cultural Appropriation at Sixth Millennium Tell Kurdu.” Ph.D., United States -- Illinois: Northwestern University. http://search.proquest.com.proxy.uchicago.edu/pqdtglobal/docview/305297368/abstract/9298683A9974D65PQ/1.

———. 2010. “The Emergence of Ubaid Styles at Tell Kurdu: A Local Perspective.” In *Beyond the Ubaid: Transformation and Integration in the Late Prehistoric Societies of the Middle East*, edited by Robert A. Carter and Graham Philip, 293–309. Studies in Ancient Oriental Civilization 63. Chicago, IL: Oriental Institute of the University of Chicago.

———. 2012. “The Challenge of Identifying Households at Tell Kurdu (Turkey).” In *New Perspectives on Household Archaeology*, edited by Bradley J. Parker and Catherine P. Foster, 321–46. Winona Lake, IN: Eisenbrauns.

Özbal, Rana D., Fokke Gerritsen, B. Diebold, Elizabeth Healey, N. Aydin, M. Loyet, F. Nardulli, et al. 2004. “Tell Kurdu Excavations 2001.” *Anatolica : Annuaire International Pour Les Civilisations de l’Asie Antérieure* 30: 37–107.

Özdoğan, Aslı. 1999. “Çayönü.” In *Neolithic in Turkey: The Cradle of Civilization. New Discoveries*, edited by Mehmet Özdoğan, 35–63. Istanbul: Arkeoloji ve Sanat Yayınları.

Parker, Bradley J. 2012. “Domestic Production and Subsistence in an Ubaid Household in Upper Mesopotamia.” In *New Perspectives on Household Archaeology*, edited by Bradley J. Parker and Catherine P. Foster, 289–318. Winona Lake, IN: Eisenbrauns.

Parker, Bradley J., and Lynn S. Dodd. 2005. “The Upper Tigris Archaeological Research Project (UTARP) - A Preliminary Report from the 2002 Field Season.” *Anatolica* 30: 69–110.

———. 2011. “Yukarı Dicle Arkeolojik Araştırma Projesi (UTARP): 2002 Yılı Kenan Tepe Kazilarina Genal Bakış (The Upper Tigris Archaeological Reseach Project (UTARP): An Overview of the 2002 Excavations at Kenan Tepe).”

Parker, Bradley J., and Jason R. Kennedy. 2010. “A Quantitative Attribute Analysis of the Ubaid-Period Ceramic Corpus from Kenan Tepe.” *Bulletin of the American Schools of Oriental Research*, no. 358 (May): 1–26.

Parsons, Talcott. 1955. *Family, Socialization and Interaction Process, Bales, Robert Freed,; 1916-2004, ; Author.* International Library Of Sociology And Social Reconstruction.; Variation: International Library of Sociology and Social Reconstruction (Routledge & Kegan Paul). Glencoe, Ill., Free Press.

Pearsall, Deborah M. 2000. *Paleoethnobotany: A Handbook of Procedures*. 2nd ed. San Diego: Academic Press.

Pearsall, Deborah M., D. 2015. *Paleoethnobotany : A Handbook of Procedures*. Third edition. Walnut Creek, California: Left Coast Press, Inc.

Perlès, Catherine. 2001. *The Early Neolithic in Greece: ForThe First Farming Communities in Europe*. Cambridge: Cambridge University Press.

Perrot, Georges, Charles Chipiez, and Walter Armstrong. 1884. *A History of Art in Chaldæa & Assyria*. London, Chapman and Hall, Limited; New York, A. C. Armstrong and Son. http://archive.org/details/historyofartinch01perr.

Peyronel, Luca, Claudia Minniti, Daniela Moscone, Younes Naime, Valentina Oselini, Renata Perego, and Agnese Vacca. 2019. "The Italian Archaeological Expedition in the Erbil Plain, Kurdistan Region of Iraq. Preliminary Report on the 2016-2018 Excavations at Helawa." *Mesopotamia: Rivista Di Archeologia, Epigrafia e Storia Orientale Antica* LIV.

Peyronel, Luca, and Agnese Vacca. 2015. "Northern Ubaid and Late Chalcolithic 1-3 Periods in the Erbil Plain. New Insights from Recent Researches at Helawa, Iraqi Kurdistan." *Origini*, no. 37 (January): 89.

———. 2020. "Socio-Economic Complexity at the Late Chalcolithic Site of Tell Helawa, Kurdistan Region of Iraq." *Paléorient* 46 (1–2): 83–107.

Peyronel, Luca, Agnese Vacca, and Claudia Wachter-Sarkady. 2014. "Food and Drink Preparation at Ebla, Syria. New Data from the Royal Palace G (c. 2450-2300 BC)." *Food and History* 12 (3): 3–38. https://doi.org/10.1484/J.FOOD.5.110584.

Peyronel, Luca, Agnese Vacca, and Gioia Zenoni. 2016. *A New Northern Ubaid/Late Chalcolithic Site in the Erbil Plain*. Italy, Europe: Archeopress.

Pfälzner, Peter. 1996. "Activity Areas and the Social Organisation of Third Millennium B.C. Households." In *Houses and Households in Ancient Mesopotamia: Papers Read at the 40e Rencontre Assyriologique Internationale, Leiden, July 5-8 1993*, edited by Klaas R. Veenhof, 117–27. Publications de l'Institut Historique-Archéologique Néerlandaise de Stamboul 78. Leiden: Historisch-Archaeologisch Instituut in her Nabije Oosten.

———. 2012. "Household Dynamics in Late Third Millennium Northern Mesopotamia." In *Seven Generations Since the Fall of Akkade*, edited by Harvey Weiss, 145–62. Studia Chaburensia 3. Wiesbaden: Harrassowitz Verlag.

Piperno, Dolores R. 2006. *Phytoliths: A Comprehensive Guide for Archaeologists and Paleoecologists*. Lanham, MD: Altamira Press.

Polanyi, Karl. 1957. "Marketless Trading in Hammurabi's Time." In *Trade and Market in the Early Empires*, edited by Polanyi, Karl, Conrad M. Arensberg, and Harry W. Pearson, 12–26. New York: Free Press.

Pollock, Susan. 1999. *Ancient Mesopotamia*. Cambridge: Cambridge University Press.

———. 2010. "Practices of Daily Life in Fifth-Millennium B.C. Iran and Mesopotamia." In *Beyond the Ubaid: Transformation and Integration in the Late Prehistoric Societies of*

the Middle East, edited by Robert A. Carter and Graham Philip, 93–112. Studies in Ancient Oriental Civilization 63. Chicago, IL: Oriental Institute of the University of Chicago.

Postgate, J. Nicholas. 1992. *Early Mesopotamia: Society and Economy at the Dawn of History*. London ; New York: Routledge.

Pournelle, Jennifer. 2003. "Marshland of Cities: Deltaic Landscapes and the Evolution of Early Mesopotamian Civilization." University of California, San Diego.

———. 2013. "Physical Geography." In *The Sumerian World*, edited by Harriet Crawford, 13–32. Routledge Worlds. New York: Routledge.

Price, Max, Michael T. Fisher, and Gil J. Stein. in press. "Animal Production and Secondary Products in the Fifth Millennium BC in Northern Mesopotamia: New Data from Tell Surezha (Iraqi Kurdistan)."

Proctor, Lucas, Alexia Smith, and Gil J. Stein. in press. "Fuel, Farming, and Feasting: Archaeobotanical and Dung Spherulite Evidence for Late Chalcolithic Fuel Use and Subsistence Practices at Tell Surezha, Iraqi Kurdistan." *Paléorient*.

Raab, L. Mark, and Albert C. Goodyear. 1984. "Middle-Range Theory in Archaeology: A Critical Review of Origins and Applications." *American Antiquity* 49 (2): 255–68.

Rainville, Lynn. 2001. "The Organization of Domestic Activities in Upper Mesopotamian Households and Neighborhoods during the Early Bronze Age: A Micro-Archaeological and Architectural Approach." Ph.D., United States -- Michigan: University of Michigan. http://search.proquest.com/pqdtglobal/docview/304701290/abstract/3481AFD9B9534D8APQ/2.

Rainville, Lynn. 2005. *Investigating Upper Mesopotamian Households Using Micro-Archaeological Techniques*. British Archaeological Reports, International Series 1368. Oxford: Archaeopress.

Rainville, Lynn. 2012. "Household Matters: Techniques for Understanding Assyrian Houses." In *New Perspectives on Household Archaeology*, edited by Bradley J. Parker and Catherine P. Foster, 139–64. Winona Lake, IN: Eisenbrauns.

———. 2015. "Investigating Traces of Everyday Life in Ancient Households: Some Methodological Considerations." In *Household Studies in Complex Societies: (Micro) Archaeological and Textual Approaches*, edited by Miriam Müller, 1–28. Oriental Institute Seminars 10. Chicago: The Oriental Institute of the University of Chicago.

Rapoport, Amos. 1969. *House Form and Culture*. Foundations of Cultural Geography Series. Englewood Cliffs, N.J.: Prentice-Hall.

———. 1976. *Mutual Interaction of People and Their Built Environment*. The Hague : Chicago: Walter De Gruyter Inc.

———. 1982. *The Meaning of the Built Environment: A Nonverbal Communication Approach*. SAGE Publications.

———. 1990. "Systems of Activities and Systems of Settings." In *Domestic Architecture and the Use of Space: An Interdisciplinary Cross-Cultural Study*, edited by Susan Kent, 9–20. Cambridge: Cambridge University Press.

———. 2008. "Environment-Behavior Studies: Past, Present, and Future." *Journal of Architectural and Planning Research* 25 (4): 276–81.

Raviele, Maria E. 2011. "Experimental Assessment of Maize Phytolith and Starch Taphonomy in Carbonized Cooking Residues." *Journal of Archaeological Science* 38 (10): 2708–13. https://doi.org/10.1016/j.jas.2011.06.008.

Reichel, Clemens. 2006. "Hamoukar." *Oriental Institute Annual Report for 2005-2006*, 65–77.

———. 2009. "Hamoukar." *Oriental Institute Annual Report for 2008-2009*, 77–87.

Reuther, Oscar. 1968. *Die Innenstadt von Babylon (Merkes)*. Vol. 47. Wissenschaftliche Veröffentlichung der Deutschen Orient-Gesellschaft,. Osnabrück: O. Zeller.

Roaf, Michael, ed. 1984a. "Tell Madhhur, a Summary Report on the Excavations." *Sumer* 43: 108–67.

———. 1984b. "Ubaid Houses and Temples." *Sumer* 43 (1–2): 80.

———. 1989. "'Ubaid Social Organization and Social Activities as Seen from Tell Madhhur." In *Upon This Foundation: The 'Ubaid Reconsidered. Proceedings from the 'Ubaid Symposium, Elsinore May 30th-June 1st 1988*, 91–146. CNI Publications 10. Copenhagen: Carsten Niebuhr Institute of Ancient Near East Studies, University of Copenhagen : Museum Tusculanum Press.

———. 1990. *Cultural Atlas of Mesopotamia and the Ancient Near East*. New York: Facts on File.

Roger, Delphine. 2000. "The Middle East and South Asia." In *The Cambridge World History of Food*, edited by Kenneth F. Kiple and Kriemhild Coneè Ornelas, 1140–51. Cambridge: Cambridge University Press. https://doi.org/10.1017/CHOL9780521402156.004.

Rooijakkers, C. Tineke. 2012. "Spinning Animal Fibres at Late Neolithic Tell Sabi Abyad, Syria?" *Paléorient* 38 (1): 93–109. https://doi.org/10.3406/paleo.2012.5461.

Rosen, Arlene Miller. 1986. *Cities of Clay: The Geoarcheology of Tells*. Prehistoric Archeology and Ecology. Chicago: University of Chicago Press.

Rothman, Mitchell S. 1994. "Evolutionary Typologies and Cultural Complexity." In *Chiefdoms and Early States in the Near East*, edited by Gil J. Stein and Mitchell S. Rothman, 1–10. Monographs in World Archaeology 18. Madison, WI: Prehistory Press.

———, ed. 2001. *Uruk Mesopotamia & Its Neighbors: Cross-Cultural Interactions in the Era of State Formation*. 1st ed. School of American Research Advanced Seminar Series. Sante Fe, NM: School of American Research Press.

———. 2002a. "Tepe Gawra: Chronology and Socio-Economic Change in the Foothills of Northern Iraq in the Era of State Formation." In *Artefacts of Complexity: Tracking the Uruk in the Near East*, edited by J. Nicholas Postgate, 49–77. Wiltshire, England: British School of Archaeology in Iraq.

———. 2002b. *Tepe Gawra: The Evolution of a Small, Prehistoric Center in Northern Iraq*. University Museum Monograph 112. Philadelphia: University of Pennsylvania, Museum of Archaeology and Anthropology.

———. 2009. "Religion, Function and Social Networks: Tepe Gawra in the Late Fifth and Early Fourth Millennia BC." In *A Propos de Tepe Gawra, Le Monde Proto-Urbaid de Mésopotamie*, edited by Pascal Butterlin, 15–39. Subartu, XXIII. Brepols.

Safar, Fuʾād, Muḥammad ʿAlī Musṭafā, and Seton Lloyd. 1981. *Eridu*. Baghdad: Republic of Iraq, Ministry of Culture and Information, State Organization of Antiquites and Heritage.

Sagona, Antonio, and Paul Zimansky. 2009. *Ancient Turkey*. 1st edition. London ; New York: Routledge.

Sahlins, Marshall. 1972. *Stone Age Economics*. Chicago: Aldine-Atherton.

Samuel, Delwyn. 1999. "Bread Making and Social Interactions at the Amarna Workmen's Village, Egypt." *World Archaeology* 31 (1): 121–44.

Sanders, Akiva. 2015. "Fingerprints, Sex, State, and the Organization of the Tell Leilan Ceramic Industry." *Journal of Archaeological Science* 57 (May): 223–38. https://doi.org/10.1016/j.jas.2015.02.001.

Schick, İrvin Cemil. 2010. "The Harem as Gendered Space and the Spatial Reproduction of Gender." In *Harem Histories: Envisioning Places and Living Spaces*, edited by Marilyn Booth. Durham, N.C.: Duke University Press.

Schiffer, Michael B. 1983. "Toward the Identification of Formation Processes." *American Antiquity* 48 (4): 675–706. https://doi.org/10.2307/279771.

———. 1987. *Formation Processes of the Archaeological Record*. 1st ed. Albuquerque, NM: University of New Mexico Press.

Schloen, J. David. 2001. *The House of the Father as Fact and Symbol: Patrimonialism in Ugarit and the Ancient Near East*. Studies in the Archaeology and History of the Levant 2. Winona Lake, Ind: Eisenbrauns.

Schmidt, J. 1974. "Zwei Tempel Der Obed-Zeit in Uruk." *Baghdader Mitteilungen*, no. 7: 173–87.

Sellen, Daniel W., and Diana B. Smay. 2001. "Relationship between Subsistence and Age at Weaning in 'Preindustrial' Societies." *Human Nature: An Interdisciplinary Biosocial Perspective* 12 (1): 47–87. https://doi.org/10.1007/s12110-001-1013-y.

Seshia Galvin, Shaila. 2018. "Interspecies Relations and Agrarian Worlds." *Annual Review of Anthropology* 47 (1): 233–49. https://doi.org/10.1146/annurev-anthro-102317-050232.

Shapiro, Jason S. 2005. *A Space Syntax Analysis of Arroyo Hondo Pueblo, New Mexico: Community Formation in the Northern Rio Grande*. 1st ed. Santa Fe, N.M.: School of American Research Press. http://pi.lib.uchicago.edu/1001/cat/bib/5787104.

Sharifi, Arash, Ali Pourmand, Elizabeth A. Canuel, Erin Ferer-Tyler, Larry C. Peterson, Bernhard Aichner, Sarah J. Feakins, et al. 2015. "Abrupt Climate Variability since the Last Deglaciation Based on a High-Resolution, Multi-Proxy Peat Record from NW Iran: The Hand That Rocked the Cradle of Civilization?" *Quaternary Science Reviews* 123 (September): 215–30. https://doi.org/10.1016/j.quascirev.2015.07.006.

Sherratt, Andrew. 1997. *Economy and Society in Prehistoric Europe: Changing Perspectives*. Princeton, N.J: Princeton University Press.

———. 1999. "Cash-Crops before Cash: Organic Consumables and Trade." In *The Prehistory of Food: Appetites for Change*, edited by Christopher Gosden and Jon G. Hather, 13–34. One World Archaeology Series 32. London: Routledge.

Sievertsen, Uwe. 2010. "Buttress-Recess Architecture and Status Symbolism in the Ubaid Period." In *Beyond the Ubaid: Transformation and Integration in the Late Prehistoric Societies of the Middle East*, edited by Robert A. Carter and Graham Philip, 201–25. Studies in Ancient Oriental Civilization 63. Chicago, IL: University of Chicago Oriental Institute.

Silver, Morris. 1983. *Prophets and Markets: The Political Economy of Ancient Israel*. Boston: Kluwer-Nijhoff Pub.

Smith, Adam T. 2006. “Representational Aesthetics and Political Subjectivity: The Spectacular in Urartian Images of Performance.” In *The Archaeology of Performance*, edited by T. Inomata and L. Coben. Lanham: AltaMira Press.

———. 2015. *The Political Machine: Assembling Sovereignty in the Bronze Age Caucasus*. The Rostovtzeff Lectures. Princeton, N.J.: Princeton University Press.

Soffer, Olga. 2004. “Recovering Perishable Technologies through Use Wear on Tools: Preliminary Evidence for Upper Paleolithic Weaving and Net Making.” *Current Anthropology* 45 (3): 407–13. https://doi.org/10.1086/420907.

Soffer, Olga, J. M. Adovasio, and D. C. Hyland. 2000. “The ‘Venus’ Figurines.” *Current Anthropology* 41 (4): 511–25. https://doi.org/10.1086/317381.

Soja, Edward W. 1989. *Postmodern Geographies: The Reassertion of Space in Critical Social Theory*. London: Verso.

———. 1996. *Thirdspace: Journeys to Los Angeles and Other Real-and-Imagined Places*. 1st edition. Cambridge, Mass: Blackwell Publishers.

———. 2010. *Seeking Spatial Justice*. Globalization and Community Series. Minneapolis: University of Minnesota Press. http://pi.lib.uchicago.edu/1001/cat/bib/12366733.

Spence, Kate. 2015. “Ancient Egyptian Houses and Households: Architecture, Artifacts, Conceptualization, and Interpretation.” In *Household Studies in Complex Societies: (Micro) Archaeological and Textual Approaches: Papers from the Oriental Institute Seminar Household Studies in Complex Societies, Held at the Oriental Institute of the University of Chicago, 15-16 March 2013*, edited by Miriam Müller, 83–99. Oriental Institute Seminars 10.

Stanek, Łukasz. 2011. *Henri Lefebvre on Space: Architecture, Urban Research, and the Production of Theory*. Minneapolis: University of Minnesota Press. http://ebookcentral.proquest.com/lib/uchicago/detail.action?docID=765500.

Steadman, Sharon R. 1996. “Recent Research in the Archaeology of Architecture: Beyond the Foundations.” *Journal of Archaeological Research* 4 (1): 51–93.

———. 2000. “Spatial Patterning and Social Complexity on Prehistoric Anatolian Tell Sites: Models for Mounds.” *Journal of Anthropological Archaeology* 19 (2): 164–99.

———. 2015. *Archaeology of Domestic Architecture and the Human Use of Space*. Routledge.

Stein, Gil J. 1994. “Economy, Ritual and Power in ’Ubaid Mesopotamia.” In *Chiefdoms and Early States in the Near East: The Organizational Dynamics of Complexity*, edited by Gil

J. Stein and Mitchell S. Rothman, 35–46. Monographs in World Archaeology 18. Madison, WI: Prehistory Press.

———. 2009. “Tell Zeidan.” In *The Oriental Institute 2008-2009 Annual Report*, edited by Gil J. Stein, 126–38. Chicago: The Oriental Institute of the University of Chicago.

———. 2010a. “Local Identities and Interaction Spheres: Modeling Regional Variation in the Ubaid Horizon.” In *Beyond the Ubaid: Transformation and Integration in the Late Prehistoric Societies of the Middle East*, edited by Robert A. Carter and Graham Philip, 23–44. Studies in Ancient Oriental Civilization 63. Chicago, IL: Oriental Institute of the University of Chicago.

———. 2010b. “Tell Zeidan.” In *The Oriental Institute 2009-2010 Annual Report*, edited by Gil J. Stein, 103–18. Chicago: The Oriental Institute of the University of Chicago.

———. 2011. “Tell Zeidan.” In *The Oriental Institute 2010-2011 Annual Report*, edited by Gil J. Stein, 121–38. Chicago: The Oriental Institute of the University of Chicago.

———. 2012. “The Development of Indigenous Social Complexity in Late Chalcolithic Upper Mesopotamia in the 5th-4th Millennia BC - an Initial Assessment.” *Origini* XXXIV: 125–51.

———. 2018. “The Roots of Urbanism in Northern Mesopotamia: 2017 Excavations at Surezha.” *Oriental Institute News & Notes*, no. 236 (Winter): 15–21.

Stein, Gil J., Abbas Alizadeh, Loghman Ahmadzadeh, John Alden, Henrike Backhaus, Barbara Coutouraud, Hamid Fahimi, et al. 2015. “Preliminary Report on the First Season of Excavations at the Chalcolithic Site of Surezha in the Erbil Governate, Kurdistan Region, Iraq, 2013.” *Iranian Archaeology* 4: 32–41.

Stein, Gil J., and Michael T. Fisher. 2020. “Surezha Excavations 2019: Erbil Plain, Kurdistan Region, Iraq.” *Oriental Institute Annual Report* 2019–2020: 127–45.

Stein, Gil J., and Rana D. Özbal. 2007. “A Tale of Two Oikumenai: Variation in the Expansionary Dynamics of ’Ubaid and Uruk Mesopotamia.” In *Settlement and Society: Essays Dedicated to Robert McCormick Adams*, edited by Elizabeth C. Stone, 329–42. Los Angeles and Chicago: Cotsen Institute of Archaeology, UCLA and The Oriental Institute of the University of Chicago.

Stein, Gil J., and Mitchell S. Rothman. 1994. *Chiefdoms and Early States in the Near East: The Organizational Dynamics of Complexity*. Monographs in World Archaeology, no. 18. Madison, Wis: Prehistory Press.

Stein, Julie K. 1987. “Deposits for Archaeologists.” In *Advances in Archaeological Method and Theory*, edited by Michael B. Schiffer, 11:337–93. San Diego: Academic Press.

Stevens, Lora R., Emi Ito, Antje Schwalb, and Herbert E. Wright. 2006. “Timing of Atmospheric Precipitation in the Zagros Mountains Inferred from a Multi-Proxy Record from Lake Mirabad, Iran.” *Quaternary Research*, Holocene Climate and Cultural Evolution in Late Prehistoric-Early Historic West Asia, 66 (3): 494–500. https://doi.org/10.1016/j.yqres.2006.06.008.

Steward, Julian Haynes. 1937. *Ancient Caves of the Great Salt Lake Region*. Vol. 116. Smithsonian Institution. Bureau of American Ethnology. Bulletin. Washington: U.S. Govt. print. off. http://pi.lib.uchicago.edu/1001/cat/bib/2418476.

Stone, Elizabeth C., and Paul Zimansky. 2016. “Archaeology Returns to Ur: A New Dialog with Old Houses.” *Near Eastern Archaeology* 79 (4): 246–59. https://doi.org/10.5615/neareastarch.79.4.0246.

Stronach, David. 1961. “Excavations at Ras al ’Amiya.” *Iraq*, no. 2: 95–137. https://doi.org/10.2307/4199702.

Styring, Amy K., Michael Charles, Federica Fantone, Mette Marie Hald, Augusta McMahon, Richard H. Meadow, Geoff K. Nicholls, et al. 2017. “Isotope Evidence for Agricultural Extensification Reveals How the World’s First Cities Were Fed.” *Nature Plants* 3 (6): nplants201776. https://doi.org/10.1038/nplants.2017.76.

Sudo, Hiroshi. 2010. “Sudo, H. (2010). The Development of Wool Exploitation in Ubaid-Period Settlements of North Mesopotamia. In R. A. Carter & G. Philip (Eds.), Beyond the Ubaid: Transformation and Integration in the Late Prehistoric Societies of the Middle East (Pp. 169–179). Chicago/Illinois: The Oriental Institute of the University of Chicago.” In , 169–79.

Sumner, William M. 1989. “Population and Settlement Area: An Example from Iran.” *American Anthropologist*, New Series, 91 (3): 631–41.

Thuesen, Ingolf. 1988. *Hama I: The Pre- and Protohistoric Periods*. Aarhus University Press.

———. 2000. “Ubaid Expansion in the Khabur. New Evidence from Tell Mashnaqa.” In *La Djéziré et l’Euphrate Syriens de La Protohistoire à La Fin Du IIe Millénaire Av. J.-C.: Tendances Dans l’interprétation Historique Des Donné2s Nouvelles*, edited by O. Roualt and M. Wäfler. Subartu 7. Turnhout: Brepols.

Tilley, Christopher. 1994. *A Phenomenology of Landscape: Places, Paths, and Monuments*. Oxford, UK: Berg. http://pi.lib.uchicago.edu/1001/cat/bib/1718127.

———. 2010. *Interpreting Landscapes*. Geologies, Topographies, Identities; Explorations in Landscape Phenomenology 3. Walnut Creek: Left Coast Press.

Tobler, Arthur J. 1950. *Excavations at Tepe Gawra*. Vol. 2. 2 vols. Publications of the Baghdad School, Excavations. Philadelphia: University of Pennsylvania Press.

Trigger, Bruce G. 1990. "Monumental Architecture: A Thermodynamic Explanation of Symbolic Behaviour." *World Archaeology* 22 (2): 119–32.

Tringham, Ruth. 1994. "Engendered Places in Prehistory." *Gender, Place, and Culture* 1 (2): 169–203.

———. 2000. "The Continuous House: A View from the Deep Past." In *Beyond Kinship: Social and Material Reproduction in House Societies*, edited by Rosemary A. Joyce and Susan D. Gillespie, 115–34. University of Pennsylvania Press.

Turner, Victor W. 1977. *The Ritual Process: Structure and Anti-Structure*. Vol. CP-163. Symbol, Myth, and Ritual Series. Ithaca, N.Y.: Cornell University Press.

———. 1995. *The Ritual Process: Structure and Anti-Structure*. Vol. 1966. The Lewis Henry Morgan Lectures ; New York: Aldine de Gruyter.

Tybjerg, Tove. 1977. "Potlatch and Trade among the Tlingit Indians of the American Northwest Coast." *Temenos* 13: 189–209.

Ullah, Isaac I. 2012. "Particles of the Past: Microarchaeological Spatial Analysis of Ancient House Floors." In *New Perspectives on Household Archaeology*, edited by Bradley J. Parker and Catherine P. Foster, 123–38. Winona Lake, IN: Eisenbrauns.

Ullah, Isaac I., Paul R. Duffy, and Edward B. Banning. 2015. "Modernizing Spatial Micro-Refuse Analysis: New Methods for Collecting, Analyzing, and Interpreting the Spatial Patterning of Micro-Refuse from House-Floor Contexts." *Journal of Archaeological Method and Theory* 22 (4): 1238–62. https://doi.org/10.1007/s10816-014-9223-x.

Ur, Jason A. 2003a. "CORONA Satellite Photography and Ancient Road Networks: A Northern Mesopotamian Case Study." *Antiquity* 77 (295): 102–15.

———. 2003b. "CORONA Satellite Photography and Ancient Road Networks: A Northern Mesopotamia Case Study." *Antiquity* 77 (295): 102–15.

———. 2014. "Households and the Emergence of Cities in Ancient Mesopotamia." *Cambridge Archaeological Journal* 24: 249–68.

———. 2017. "The Archaeological Renaissance in the Kurdistan Region of Iraq." *Near Eastern Archaeology* 80 (September): 176–87. https://doi.org/10.5615/neareastarch.80.3.0176.

Ur, Jason A., Lidewijde De Jong, James F Osborne, Jessica Giraud, and John MacGinnis. 2013. "Ancient Cities and Landscapes in the Kurdistan Region of Iraq: The Erbil Plain Archaeological Survey 2012 Season." *Iraq*, no. 75: 89–117.

Ur, Jason A., Joan Oates, Augusta McMahon, Phillip Karsgaard, and Salam Al Quntar. 2007. "Early Mesopotamian Urbanism: A New View from the North." *Antiquity -Oxford-*.

U.S. Census Bureau. 2019. "Subject Definitions." 2019. https://www.census.gov/programs-surveys/cps/technical-documentation/subject-definitions.html.

Vallet, Régis. 2014. "Tell Feres al Sharki 2010: Recent Discoveries on the Ubaid and Late Chalcolithic in North Syria." In *Proceedings of the 8th International Congress on the Archaeology of the Ancient Near East, 30 Avril – 4 Mai 2012, Warsaw*, edited by Piotr Bieliński, Michał Gawlikowski, and Rafał Koliński.

———. 2018. "Tell Feres, a Failed Pathway towards Urbanism in Northern Mesopotamia." *Études Mésopotamiennes - Mesopotamian Studies*, 156-173, 1.

Vallet, Régis, and Johnny Samuele Baldi. 2016. "Tell Feres (Hassake)." In *A History of Syria in One Hundred Sites*, edited by Youssef Kanjou and Akira Tsuneki, 91–97. Oxford: Archaeopress.

Van Loon, Maurits N. 1988. *Hammam Et-Turkman I: Report on the University of Amsterdam's 1981-1984 Excavations in Syria*. Istanbul: Nederlands Historisch-Archaeologisch Instituut te Istanbul.

Vignola, Cristiano, Francesca Balossi Restelli, Alessia Masi, Laura Sadori, and Giovanni Siracusano. 2014. "Investigating Domestic Economy at the Beginning of the Late Chalcolithic in Eastern Anatolia: The Case of Arslantepe Period VIII." *Origini* 36: 7–36.

Vignola, Cristiano, Fabio Marzaioli, Francesca Balossi Restelli, Gian Maria Di Nocera, Marcella Frangipane, Alessia Masi, Isabella Passariello, Laura Sadori, and Filippo Terrasi. 2019. "Changes in the Near Eastern Chronology between the 5th and the 3rd Millennium BC: New AMS 14C Dates from Arslantepe (Turkey)." *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms* 456 (October): 276–82. https://doi.org/10.1016/j.nimb.2019.01.033.

Vita-Finzi, Claudio, and Eric Syndey Higgs. 1970. "Prehistoric economy in the mount Carmel area of Palestine: site catchment analysis." *Proceedings of the prehistoric society* 36: 1–37.

Voigt, Mary M., and Jr. Dyson, Robert H. 1992. "The Chronology of Iran, c. 8000-1500 B.C." In *Chronologies in Old World Archaeology*, edited by Robert W. Ehrich, 3rd ed., 1:122–78. Chicago: University of Chicago Press.

Voigt, Mary M., and Richard H. Meadow. 1983. *Hajji Firuz Tepe, Iran: The Neolithic Settlement*. Philadelphia: University Museum, University of Pennsylvania.

Wales, H. G. Quaritch. 1959. "The Cosmological Aspect of Indonesian Religion." *Journal of the Royal Asiatic Society of Great Britain and Ireland*, no. 3/4: 100–139.

Waterson, Roxana. 1995. "Houses and Hierarchies in Inland Southeast Asia." In *About the House: Lévi-Strauss and Beyond*, edited by Janet Carsten and Stephen Hugh-Jones, 47–68. Cambridge: Cambridge University Press.

Watson, Patty Jo. 1979. *Archaeological Ethnography in Western Iran*. Viking Fund Publications in Anthropology, no. 57. Tucson: University of Arizona Press.

Wedeen, Lisa. 1999. *Ambiguities of Domination: Politics, Rhetoric, and Symbols in Contemporary Syria*. Chicago: University of Chicago Press.

Weeks, Lloyd, Cameron A. Petrie, and Daniel T. Potts. 2010. "Ubaid-Related-Related? The 'Black-on-Buff' Ceramic Traditions of Highland Southwest Iran." In *Beyond the Ubaid: Transformation and Integration in the Late Prehistoric Societies of the Middle East*, edited by Robert A. Carter and Graham Philip, 245–76. Studies in Ancient Oriental Civilization. Chicago: The Oriental Institute of the University of Chicago.

Weintraub, Jeff. 1997. "The Theory and Politics of the Public/Private Distinction"." In *Public and Private in Thought and Practice: Perspectives on a Grand Dichotomy*, edited by Jeff Weintraub and Krishan. Kumar, 1–42. Morality and Society. Chicago & London: The University of Chicago Press.

Wengrow, David. 1998. "'The Changing Face of Clay' : Continuity and Change in the Transition from Village to Urban Life in the Near East." *Antiquity* 72 (278): 783–95.

Wernick, Nicholas. 2014. "Slings in the Ancient Near East with Reference to the Egyptian Material." *Zeitschrift Für Ägyptische Sprache Und Altertumskunde* 96 (1): 97–103. https://doi.org/10.1515/zaes-2014-0008.

Wilk, Richard R. 1985. "Is Household a Noun or a Verb?" Presented at the Annual Meeting of the Latin American Studies Association, Albuquerque, NM. https://www.academia.edu/2763186/Is_Household_a_Noun_or_a_Verb.

Wilk, Richard R., and Wendy Ashmore. 1988. *Household and Community in the Mesoamerican Past*. Albuquerque: University of New Mexico Press.

Wilk, Richard R., and William L. Rathje. 1982. "Household Archaeology." *American Behavioral Scientist* 25 (6): 617–39.

Wilkinson, Tony J. 1994. “The Structure and Dynamics of Dry-Farming States in Upper Mesopotamia.” *Current Anthropology* 35 (5): 483–520.

———. 2000. “Regional Approaches to Mesopotamian Archaeology: The Contribution of Archaeological Surveys.” *Journal of Archaeological Research*, no. 3: 219–67.

Wilkinson, Tony J., Charles French, Jason A. Ur, and Miranda Semple. 2010. “The Geoarchaeology of Route Systems in Northern Syria.” *Geoarchaeology* 25 (6): 745–71. https://doi.org/10.1002/gea.20331.

Wilkinson, Tony J., B. H. Monahan, and D. J. Tucker. 1996. “Khanijdal East: A Small Ubaid Site in Northern Iraq.” *Iraq* 58: 17–50. https://doi.org/10.2307/4200417.

Wilkinson, Tony J., Graham Philip, J. Bradbury, R. Dunford, D. Donoghue, N. Galiatsatos, D. Lawrence, A. Ricci, and S. L. Smith. 2014. “Contextualizing Early Urbanization: Settlement Cores, Early States and Agro-Pastoral Strategies in the Fertile Crescent During the Fourth and Third Millennia BC.” *Journal of World Prehistory* 27 (1): 43–109.

Willey, Gordon R. 1953. *Prehistoric Settlement Patterns in the Virú Valley, Perú.* Vol. 155. Smithsonian Institution. Bureau of American Ethnology. Bulletin. Washington: U.S. Govt. Print. Off. http://pi.lib.uchicago.edu/1001/cat/bib/2418571.

Willey, Gordon R., and Philip Phillips. 1958. *Method and Theory in American Archaeology*. Chicago and London: The University of Chicago Press.

Wilson, Peter J. 1988. *The Domestication of the Human Species*. Yale University Press.

Woolley, C. Leonard, and Max E. L. Mallowan. 1986. *Ur Excavations VII: The Old Babylonian Period*. London: British Museum Press.

Wright, Henry T. 2001. “Cultural Action in the Uruk World.” In *Uruk Mesopotamia & Its Neighbors: Cross-Cultural Interactions in the Era of State Formation*, edited by Mitchell S. Rothman, 123–47. Santa Fe, NM: School of American Research Press.

Wright, Henry T., R. Redding, and Susan Pollock. 1989. “Monitoring Inter-Annual Variability: An Example from the Period of Early State Development in Southwestern Iran.” In *Bad Year Economics: Cultural Response to Risk and Uncertainty*, edited by Paul Halstead and J. O’Shea, 106–13. Cambridge: Cambridge University Press.

Wright, Karen. 2014. “Domestication and Inequality? Households, Corporate Groups and Food Processing Tools at Neolithic Çatalhöyük.” *Journal of Anthropological Archaeology* 33 (March): 1–33. https://doi.org/10.1016/j.jaa.2013.09.007.

Wright, Rita P. 2013. “Sumerian and Akkadian Industries: Crafting Textiles.” In *The Sumerian World*, edited by Harriet Crawford, 395–418. Routledge Worlds. London and New York: Routledge.

Wylie, Alison. 2002. *Thinking from Things: Essays in the Philosophy of Archaeology*. Berkeley: University of California Press.

Yamazaki, Yayoi. 2012. “The Terminal Ubaid Assemblage of Tell Al-’Abr and Its Identity.” In *After the Ubaid - Interpreting Change from the Caucasus to Mesopotamia at the Dawn of Urban Civilization (4500-3500 BC): Papers from the Post-Ubaid Horizon in the Fertile Crescent and Beyond International Workshop Held at Fosseuse, 29th June-1st July 2009*, edited by Catherine Marro, 183–204. Istanbul: Institut français d’études anatoliennes-Georges Dumezil.

Yener, K. Aslihan, Christopher Edens, Jesse J. Casana, B. Diebold, H. Ekstrom, M. Loyet, and Rana D. Özbal. 2000. “Tell Kurdu Excavations 1999.” *Anatolica : Annuaire International Pour Les Civilisations de l’Asie Entrérieure* 26: 31–117.

Yoffee, Norman. 1993a. “Mesopotamian Interaction Spheres.” In *Early Stages in the Evolution of Mesopotamian Civilization: Soviet Excavations in Northern Iraq*, edited by Norman Yoffee and J. J. Clark, 257–69. Tucson: University of Arizona Press.

———. 1993b. “Too Many Chiefs? (Or, Safe Texts for the 90’s).” In *Archaeological Theory: Who Sets the Agenda?*, edited by N. Yoffee and A. Sherrat, 60–78. Cambridge: Cambridge University Press.

———. 2005. *Myths of the Archaic State: Evolution of the Earliest Cities, States and Civilizations*. Cambridge, UK ; New York: Cambridge University Press.

Zeder, Melinda A. 1994. “After the Revolution: Post-Neolithic Subsistence in Northern Mesopotamia.” *American Anthropologist*, no. 1: 97.

APPENDIX A: MICROARCHAEOLOGICAL DEBRIS DENSITIES PER LITER BY SAMPLE SQUARE

SR #	OP	LOCUS	LOT	Context Type	1.0 mm PT #/LITER	1.0 mm UNBURNT BN #/LITER
4613	2	120	44	Indoor Floor	1.714285714	1.428571429
4618	2	120	44	Indoor Floor	14.33333333	6
4623	2	120	44	Indoor Floor	6	4
4625	2	120	45	Indoor Floor	3.6	1.2
4627	2	114	46	Domestic Fire Installation	10.33333333	7.666666667
4640	2	120	49	Indoor Floor	18.5	8.5
4641	2	120	49	Indoor Floor	6.666666667	8.666666667
4642	2	120	49	Indoor Floor	24.66666667	6.666666667
4643	2	120	49	Indoor Floor	6	0.666666667
4644	2	141	53	Domestic Fire Installation	2	0
4645	2	120	49	Indoor Floor	16	4
4646	2	120	49	Indoor Floor	21	15.33333333
4647	2	120	49	Indoor Floor	18	46
4648	2	120	49	Indoor Floor	10.33333333	9.333333333
4649	2	120	49	Indoor Floor	17.91666667	10.83333333
5707	2	157	124	Indoor Floor	23.66666667	8
5708	2	157	124	Indoor Floor	4	2
5709	2	148	125	Intramural Burial	7.333333333	37.33333333
6251	2	146	227	Platform	23	31
6252	2	146	228	Platform	13	3
6253	2	146	229	Platform	17	8
6254	2	146	229	Platform	18	9
6255	2	146	229	Platform	9	10.5
6263	2	151	230	Indoor Floor	24	10
6264	2	151	230	Indoor Floor	6	0
6265	2	151	230	Indoor Floor	6	3
6266	2	151	230	Indoor Floor	6	0
6501	2	206	231	Courtyard	27	2
6502	2	206	231	Courtyard	24	19
6503	2	206	231	Courtyard	6	23.33333333
6504	2	206	231	Courtyard	16	5
6505	2	206	231	Courtyard	24	19
6506	2	206	231	Courtyard	32.5	6.5
6507	2	206	231	Courtyard	10.5	13.5
6508	2	206	231	Courtyard	10.66666667	28
6509	2	206	231	Courtyard	8	8
6510	2	206	231	Courtyard	12.5	9.5
6511	2	206	231	Courtyard	20	5
6512	2	206	231	Courtyard	6	8
6513	2	206	231	Courtyard	12	11
6514	2	206	231	Courtyard	13	6
6515	2	206	231	Courtyard	7.333333333	13.33333333
6516	2	206	231	Courtyard	20	22
6517	2	206	231	Courtyard	18	3
6518	2	206	231	Courtyard	6	12.5
6519	2	206	231	Courtyard	28	33
6520	2	206	231	Courtyard	19.5	6.5
6521	2	206	231	Courtyard	5	1
6522	2	206	231	Courtyard	16	10
6523	2	206	231	Courtyard	14.5	6.5
6530	2	208	232	Indoor Floor	8	1

SR #	1.0 mm BURNT BONE #/LITER	1.0 mm TOTAL BONE #/LITER	1.0 mm CS #/LITER	1.0 mm SHL #/LITER
4613	0.571428571	2	1.142857143	3.428571429
4618	1	7	1	0.666666667
4623	0	4	0.666666667	1.333333333
4625	0	1.2	2	2
4627	1.333333333	9	0.333333333	4.666666667
4640	1	9.5	1	3.5
4641	1	9.666666667	0.333333333	3.666666667
4642	0.666666667	7.333333333	1.333333333	2.333333333
4643	0	0.666666667	1.333333333	4.666666667
4644	0	0	0	4
4645	0	4	1	1.666666667
4646	3	18.33333333	2.333333333	4.666666667
4647	9	55	2	1
4648	0.666666667	10	0.333333333	1
4649	1.25	12.08333333	1.25	3.75
5707	1.666666667	9.666666667	2	1
5708	0	2	0	2
5709	2	39.33333333	2	1.666666667
6251	0	31	0	0
6252	3	6	0	0
6253	0	8	2	0
6254	0	9	1	0
6255	0.5	11	0.5	0
6263	2	12	0	0
6264	1	1	0	1
6265	0	3	0	2
6266	1	1	0	1
6501	1	3	1	0
6502	20	39	1	2
6503	1.333333333	24.66666667	0.666666667	0
6504	0	5	0	7
6505	20	39	1	2
6506	10	16.5	0	1
6507	1	14.5	0	0.5
6508	1.333333333	29.33333333	0	0
6509	4	12	0	0
6510	0.5	10	1	0
6511	0	5	0	7
6512	8	16	0	1.333333333
6513	1	12	0	0
6514	0	6	0	1
6515	2.666666667	16	0.666666667	0.666666667
6516	1	23	1	1
6517	7	10	0	1
6518	6	18.5	0	1.5
6519	6	39	1	0
6520	18.5	25	0.5	1
6521	0	1	1	1
6522	4.5	14.5	0.5	1.5
6523	5	11.5	0	0.5
6530	0	1	0	0

SR #	1.0 mm FIGURINE FRAGMENT	1.0 mm BEAD	1.0 mm CHARRED SEED	1.0 mm CHARCOAL
4613	0	0	0	0
4618	0	0	0	0
4623	0	0	0	0
4625	0	0	0	1
4627	0	0	0	0
4640	0	0	0	0
4641	0	0	0	0
4642	0	0	0	0
4643	0	0	0	2
4644	0	0	0	0
4645	0	0	0	0
4646	0	0	0	0
4647	0	0	0	0
4648	0	0	0	0
4649	0	0	0	0
5707	0	0	1	0
5708	0	1	0	1
5709	0	0	0	0
6251	0	0	0	0
6252	0	0	0	0
6253	0	0	0	0
6254	0	0	0	0
6255	0	0	0	0
6263	0	0	0	0
6264	0	0	0	0
6265	0	0	0	0
6266	0	0	0	0
6501	0	0	0	0
6502	0	0	0	0
6503	0	0	0	0
6504	0	0	0	0
6505	0	0	0	0
6506	0	0	0	0
6507	0	0	0	0
6508	0	0	0	0
6509	0	0	0	0
6510	0	0	0	0
6511	0	0	0	0
6512	0	0	0	0
6513	0	0	1	0
6514	0	0	0	0
6515	0	0	0	0
6516	0	0	0	1
6517	0	0	0	0
6518	0	0	0	0
6519	0	0	0	0
6520	0	0	0	1
6521	0	0	0	0
6522	0	0	0	1
6523	0	0	0	1
6530	0	0	0	0

SR #	2.0 mm PT #/LITER	2.0 mm UNBURNT BN #/LITER	2.0 mm BURNT BONE #/LITER
4613	1.714285714	1.714285714	0.857142857
4618	8.333333333	3	1
4623	4.333333333	3.333333333	0
4625	4.8	0.4	0.4
4627	7	1.333333333	0.333333333
4640	11.5	9	0
4641	8.333333333	7.666666667	3
4642	5.666666667	4.333333333	0
4643	6.666666667	3	0
4644	5	0	0
4645	17	3	0.666666667
4646	14.66666667	10	3
4647	9	40	13
4648	6.666666667	5	0.666666667
4649	12.08333333	6.666666667	0.416666667
5707	11.66666667	4.666666667	0.333333333
5708	2	3	0
5709	24.33333333	21.66666667	1.666666667
6251	33	23	4
6252	20	10	1
6253	22	8	0
6254	18	7	0
6255	10	4.5	0.5
6263	39	13	1
6264	5	1	0
6265	14	2	2
6266	5	1	0
6501	33	6	8
6502	15	20	17
6503	19.33333333	40	1.333333333
6504	26	7	0
6505	20	14	50
6506	38	8.5	19
6507	21	25	6
6508	18	28	2.666666667
6509	16	19	2
6510	16.5	8.5	0.5
6511	20	10	1
6512	14.66666667	8.666666667	14.66666667
6513	15	9	6
6514	16	11	0
6515	14	6.666666667	2.666666667
6516	21	15	5
6517	23	10	5
6518	9.5	11	8.5
6519	27	43	5
6520	11	17	16
6521	4	0	0
6522	31.5	15.5	6.5
6523	30.5	8.5	11
6530	1	3	3

SR #	2.0 mm TOTAL BONE #/LITER	2.0 mm CS #/LITER	2.0 mm SHL #/LITER	2.0 mm FIGURINE FRAGMENT
4613	2.571428571	1.142857143	0.571428571	0
4618	4	1	0.666666667	0
4623	3.333333333	0	0.666666667	0
4625	0.8	1.6	0.8	0
4627	1.666666667	0	1.333333333	0
4640	9	0.5	2.5	0
4641	10.66666667	1	0.333333333	0
4642	4.333333333	0.333333333	1	0
4643	3	2	1.333333333	0
4644	0	0	1	0
4645	3.666666667	2	0.666666667	0
4646	13	0	2.666666667	0
4647	53	0	1	0
4648	5.666666667	0	1.333333333	0
4649	7.083333333	1.25	0.416666667	0
5707	5	2	0	0
5708	3	0	1	0
5709	23.33333333	5	2	0
6251	27	0	0	0
6252	11	0	1	0
6253	8	0	1	0
6254	7	3	1	0
6255	5	2.5	0.5	0
6263	14	4	1	0
6264	1	2	0	0
6265	4	0	0	0
6266	1	2	0	0
6501	14	0	0	0
6502	37	0	2	0
6503	41.33333333	0.666666667	0	0
6504	7	1	6	0
6505	64	4	1	0
6506	27.5	0.5	0	0
6507	31	2	0	0
6508	30.66666667	0	0	0
6509	21	1	0	0
6510	9	0.5	0.5	0
6511	11	1	0	0
6512	23.33333333	0	0	1
6513	15	0	0	0
6514	11	0	0	0
6515	9.333333333	2.666666667	0	0
6516	20	2	0	0
6517	15	1	0	0
6518	19.5	2.5	0.5	0
6519	48	1	0	0
6520	33	0.5	0	0
6521	0	0	0	0
6522	22	1	0	0
6523	19.5	0.5	0.5	0
6530	6	0	0	0

SR #	2.0 mm BEAD	2.0 mm CHARRED SEED	2.0 mm CHARCOAL	4.0 mm PT #/LITER
4613	0	0	0	0.571428571
4618	0	0	0	2.333333333
4623	0	0	0	0.666666667
4625	0	0	0	0.8
4627	0	0	0	0.333333333
4640	0	0	0	2
4641	0	0	0	0.333333333
4642	0	0	0	1
4643	0	0	0	1.666666667
4644	0	0	0	1
4645	0	0	0	3
4646	0	0	0	1.333333333
4647	0	0	0	0
4648	0	0	0	2
4649	0	0	0	2.083333333
5707	0	0	0	3.666666667
5708	0	0	0	4
5709	0	0	0	8.333333333
6251	0	0	0	10
6252	0	0	0	8
6253	0	0	0	19
6254	0	0	0	7
6255	1	0	1	3.5
6263	0	0	0	25
6264	0	0	0	5
6265	0	0	0	6
6266	0	0	0	2
6501	0	0	0	18
6502	0	0	0	7
6503	0	0	0	8.666666667
6504	0	0	0	5
6505	0	0	0	0
6506	0	0	1	20
6507	0	0	0	2.5
6508	0	0	0	8.666666667
6509	0	0	0	16
6510	0	0	0	6
6511	0	0	0	13
6512	0	0	0	4
6513	0	0	0	2
6514	0	0	0	9
6515	0	0	0	8
6516	0	0	1	5
6517	0	1	0	6
6518	0	0	0	3.5
6519	0	0	0	8
6520	1	0	0	2.5
6521	0	0	0	1
6522	0	0	1	16.5
6523	0	0	0	13.5
6530	0	0	0	3

SR #	4.0 mm UNBURNT BN #/LITER	4.0 mm BURNT BONE #/LITER	4.0 mm TOTAL BONE #/LITER
4613	0.285714286	0.571428571	0.857142857
4618	0	0	0
4623	0.666666667	0	0.666666667
4625	0	0	0
4627	0.333333333	0	0.333333333
4640	0.5	0	0.5
4641	2.666666667	0	2.666666667
4642	0.666666667	0	0.666666667
4643	0.666666667	0	0.666666667
4644	0	0	0
4645	0.333333333	0	0.333333333
4646	1.333333333	0	1.333333333
4647	7	1	8
4648	1.333333333	0	1.333333333
4649	0.416666667	0	0.416666667
5707	0.666666667	0.333333333	1
5708	0	0	0
5709	5	0	5
6251	5	0	5
6252	0	0	0
6253	2	0	2
6254	2	0	2
6255	1	0	1
6263	6	0	6
6264	0	0	0
6265	0	0	0
6266	0	0	0
6501	1	0	1
6502	2	6	8
6503	10	2	12
6504	0	0	0
6505	0	23	23
6506	1.5	5	6.5
6507	5.5	2.5	8
6508	20	0	20
6509	1	0	1
6510	1	0	1
6511	0	0	0
6512	1.333333333	4	5.333333333
6513	4	0	4
6514	3	1	4
6515	0.666666667	0.666666667	1.333333333
6516	3	0	3
6517	0	1	1
6518	2	1.5	3.5
6519	6	0	6
6520	2	8	10
6521	0	0	0
6522	2.5	1	3.5
6523	2	3	5
6530	1	0	1

SR #	4.0 mm CS #/LITER	4.0 mm SHL #/LITER	4.0 mm FIGURINE FRAGMENT	4.0 mm BEAD
4613	0	0	0	0
4618	0	0	0	0
4623	0	0	0	0
4625	1.2	0	0	0
4627	0.333333333	0	0	0
4640	1	0	0	0
4641	0	0	0	0
4642	0	0	0	0
4643	0	0.333333333	0	0
4644	0	0	0	0
4645	0	0	0	0
4646	0	0.333333333	0	0
4647	1	0	0	0
4648	0.333333333	0	0	0
4649	0	0	0	0
5707	0	0	0	0
5708	0	0	0	0
5709	1.333333333	0.666666667	0	0
6251	1	0	0	0
6252	0	0	0	0
6253	1	0	0	0
6254	1	0	0	0
6255	0.5	0	0	0
6263	1	0	0	0
6264	0	0	0	0
6265	0	0	0	0
6266	0	0	0	0
6501	0	0	0	0
6502	1	0	0	0
6503	0	0	2	0
6504	0	0	0	0
6505	0	0	0	0
6506	0	0	0	0
6507	0	0	0	0
6508	0	0	1	0
6509	0	0	0	0
6510	0.5	0	0	0
6511	1	0	0	0
6512	0	0	0	0
6513	0	0	0	0
6514	1	2	0	0
6515	0.666666667	0	0	0
6516	0	0	0	0
6517	0	0	0	0
6518	0.5	0	0	0
6519	0	0	0	0
6520	1	0	1	0
6521	1	0	0	0
6522	0	0	0	0
6523	0	0	0	0
6530	0	0	0	0

SR #	4.0 mm CHARRED SEED	4.0 mm CHARCOAL	6.3 mm PT #/LITER	6.3 mm UNBURNT BN #/LITER
4613	0	0	0	0
4618	0	0	1	0
4623	0	0	0.333333333	0.333333333
4625	0	0	1.6	0
4627	0	0	0	0
4640	0	0	4	1.5
4641	0	0	1.333333333	4.666666667
4642	0	0	2	0.666666667
4643	0	0	2.666666667	0
4644	0	0	1	0
4645	0	0	3.333333333	1
4646	0	0	2.333333333	0
4647	0	0	2	1
4648	0	0	0.333333333	0.333333333
4649	0	0	1.666666667	0
5707	0	0	6.666666667	0
5708	0	0	0	0
5709	0	0	3.666666667	0.666666667
6251	0	0	7	1
6252	0	0	6	1
6253	0	0	13	0
6254	0	0	6	0
6255	0	0	4.5	0.5
6263	0	0	19	1
6264	0	0	3	0
6265	0	0	1	0
6266	0	0	2	1
6501	0	0	18	1
6502	0	0	3	2
6503	0	0	10	8
6504	0	0	2	0
6505	0	0	9	0
6506	0	0	17.5	1.5
6507	0	0	6	3
6508	0	0	4.666666667	0
6509	0	0	5	0
6510	0	0	8	0
6511	0	0	10	1
6512	0	0	8.666666667	1.333333333
6513	0	0	4	5
6514	0	0	15	0
6515	0	0	5.333333333	0
6516	0	0	11	0
6517	0	0	4	0
6518	0	0	4	1
6519	0	0	5	1
6520	0	1	4	1
6521	0	0	2	0
6522	0	0	9.5	2
6523	0	0	7.5	0
6530	0	0	4	0

SR #	6.3 mm BURNT BONE #/LITER	6.3 mm TOTAL BONE #/LITER	6.3 mm CS #/LITER	6.3 mm SHL #/LITER
4613	0.285714286	0.285714286	0.285714286	0
4618	0	0	0	0
4623	0	0.333333333	0	0
4625	0	0	1.2	0
4627	0	0	0	0
4640	0	1.5	0	0
4641	0	4.666666667	0	0
4642	0	0.666666667	0	0
4643	0	0	0	0
4644	0	0	0	0
4645	0	1	0	0
4646	0	0	0	0
4647	0	1	0	0
4648	0	0.333333333	0.666666667	0
4649	0	0	0	0
5707	0	0	0	0
5708	0	0	0	0
5709	0	0.666666667	1.666666667	0
6251	0	1	0	0
6252	0	1	0	0
6253	0	0	0	0
6254	0	0	0	0
6255	0	0.5	0	0
6263	0	1	1	0
6264	0	0	0	0
6265	0	0	0	0
6266	0	1	0	0
6501	2	3	1	0
6502	3	5	0	0
6503	0	8	0	0
6504	0	0	0	0
6505	4	4	0	0
6506	1	2.5	0	0
6507	2	5	0.5	0
6508	1.333333333	1.333333333	0	0
6509	0	0	0	0
6510	0	0	0	0
6511	0	1	0	0
6512	1.333333333	2.666666667	0.666666667	0
6513	0	5	0	0
6514	0	0	2	0
6515	0.666666667	0.666666667	0	0
6516	0	0	0	0
6517	0	0	0	0
6518	0.5	1.5	0	0
6519	1	2	0	0
6520	3	4	0	0
6521	0	0	0	0
6522	0	2	0.5	0
6523	0	0	1	0
6530	0	0	1	0

SR #	6.3 mm FIGURINE FRAGMENT	6.3 mm BEAD	6.3 mm CHARRED SEED	6.3 mm CHARCOAL	ALL PT #/LITER
4613	0	0	0	0	4
4618	0	0	0	0	26
4623	0	0	0	0	11.33333333
4625	0	0	0	0	10.8
4627	0	0	0	0	17.66666667
4640	0	0	0	0	36
4641	0	0	0	0	16.66666667
4642	0	0	0	0	33.33333333
4643	0	0	0	0	17
4644	0	0	0	0	9
4645	0	0	0	0	39.33333333
4646	0	0	0	0	39.33333333
4647	0	0	0	0	29
4648	0	0	0	0	19.33333333
4649	0	0	0	0	33.75
5707	0	0	0	0	45.66666667
5708	0	0	0	0	10
5709	0	0	0	0	43.66666667
6251	0	0	0	0	73
6252	0	0	0	0	47
6253	0	0	0	0	71
6254	0	0	0	0	49
6255	0	0	0	0	27
6263	0	0	0	0	107
6264	0	0	0	0	19
6265	0	0	0	0	27
6266	0	0	0	0	15
6501	0	0	0	0	96
6502	0	0	0	0	49
6503	0	0	0	0	44
6504	0	0	0	0	49
6505	0	0	0	0	53
6506	0	0	0	0	108
6507	0	0	0	0	40
6508	1	0	0	0	42
6509	0	0	0	0	45
6510	0	0	0	0	43
6511	0	0	0	0	63
6512	0	0	0	0	33.33333333
6513	0	0	0	0	33
6514	0	0	0	0	53
6515	0	0	0	0	34.66666667
6516	0	0	0	0	57
6517	0	0	0	0	51
6518	0	0	0	0	23
6519	0	0	0	0	68
6520	0	0	0	0	37
6521	0	0	0	0	12
6522	0	0	0	0	73.5
6523	0	0	0	0	66
6530	0	0	0	0	16

SR #	ALL UNBURNT BN #/LITER	ALL BURNT BONE #/LITER	ALL TOTAL BONE #/LITER	ALL CS #/LITER
4613	3.428571429	2.285714286	5.714285714	2.571428571
4618	9	2	11	2
4623	8.333333333	0	8.333333333	0.666666667
4625	1.6	0.4	2	6
4627	9.333333333	1.666666667	11	0.666666667
4640	19.5	1	20.5	2.5
4641	23.66666667	4	27.66666667	1.333333333
4642	12.33333333	0.666666667	13	1.666666667
4643	4.333333333	0	4.333333333	3.333333333
4644	0	0	0	0
4645	8.333333333	0.666666667	9	3
4646	26.66666667	6	32.66666667	2.333333333
4647	94	23	117	3
4648	16	1.333333333	17.33333333	1.333333333
4649	17.91666667	1.666666667	19.58333333	2.5
5707	13.33333333	2.333333333	15.66666667	4
5708	5	0	5	0
5709	64.66666667	3.666666667	68.33333333	10
6251	60	4	64	1
6252	14	4	18	0
6253	18	0	18	3
6254	18	0	18	5
6255	16.5	1	17.5	3.5
6263	30	3	33	6
6264	1	1	2	2
6265	5	2	7	0
6266	2	1	3	2
6501	10	11	21	2
6502	43	46	89	2
6503	81.33333333	4.666666667	86	1.333333333
6504	12	0	12	1
6505	33	97	130	5
6506	18	35	53	0.5
6507	47	11.5	58.5	2.5
6508	76	5.333333333	81.33333333	0
6509	28	6	34	1
6510	19	1	20	2
6511	16	1	17	2
6512	19.33333333	28	47.33333333	0.666666667
6513	29	7	36	0
6514	20	1	21	3
6515	20.66666667	6.666666667	27.33333333	4
6516	40	6	46	3
6517	13	13	26	1
6518	26.5	16.5	43	3
6519	83	12	95	2
6520	26.5	45.5	72	2
6521	1	0	1	2
6522	30	12	42	2
6523	17	19	36	1.5
6530	5	3	8	1

SR #	ALL SHL #/LITER	ALL FIGURINE FRAGMENT	ALL BEAD	ALL CHARRED SEED	ALL CHARCOAL
4613	4	0	0	0	0
4618	1.333333333	0	0	0	0
4623	2	0	0	0	0
4625	2.8	0	0	0	1
4627	6	0	0	0	0
4640	6	0	0	0	0
4641	4	2	0	0	0
4642	3.333333333	0	0	0	0
4643	6.333333333	0	0	0	2
4644	5	0	0	0	0
4645	2.333333333	0	0	0	0
4646	7.666666667	0	0	0	0
4647	2	0	0	0	0
4648	2.333333333	0	0	0	0
4649	4.166666667	0	0	0	0
5707	1	0	0	1	0
5708	3	0	0	0	0
5709	4.333333333	0	0	0	0
6251	0	0	0	0	0
6252	1	0	0	0	0
6253	1	0	0	0	0
6254	1	0	0	0	0
6255	0.5	0	1	0	1
6263	1	0	0	0	0
6264	1	0	0	0	0
6265	2	0	0	0	0
6266	1	0	0	0	0
6501	0	0	0	0	0
6502	4	0	0	0	0
6503	0	2	0	0	0
6504	13	0	0	0	0
6505	3	0	0	0	0
6506	1	0	0	0	1
6507	0.5	0	0	0	0
6508	0	2	0	0	0
6509	0	0	0	0	0
6510	0.5	0	0	0	0
6511	7	0	0	0	0
6512	1.333333333	1	0	0	0
6513	0	0	0	1	0
6514	3	0	0	0	0
6515	0.666666667	0	0	0	0
6516	1	0	0	0	2
6517	1	0	0	1	0
6518	2	0	0	0	0
6519	0	0	0	0	0
6520	1	1	1	0	2
6521	1	0	0	0	0
6522	1.5	0	0	0	2
6523	1	0	0	0	1
6530	0	0	0	0	0

SR #	OP	LOCUS	LOT	Context Type	1.0 mm PT #/LITER	1.0 mm UNBURNT BN #/LITER
6531	2	210	253	Courtyard	19	8
6532	2	210	253	Courtyard	29	9
6533	2	210	253	Courtyard	24	9.333333333
6534	2	210	253	Courtyard	18	8
6535	2	210	253	Courtyard	10	14
6536	2	210	253	Courtyard	16	15
6537	2	210	253	Courtyard	27	3
6538	2	210	253	Courtyard	14.4	7.2
6539	2	210	253	Courtyard	21	12
6540	2	210	253	Courtyard	23	122
6541	2	210	253	Courtyard	26	16
6542	2	210	253	Courtyard	9	12
6543	2	210	253	Courtyard	15	11
6544	2	210	253	Courtyard	16	7
6545	2	210	253	Courtyard	25	36
6546	2	210	253	Courtyard	45	55
6547	2	210	253	Courtyard	14	9
6548	2	210	253	Courtyard	15.2	16
6549	2	210	253	Courtyard	11	29
6550	2	210	253	Courtyard	22	21
6595	10	116	250	Trash Deposit/Outdoor Surface?	30	7
6807	2	210	253	Courtyard	11.33333333	12.66666667
6808	2	210	253	Courtyard	13	20
6809	2	210	253	Courtyard	23	5
6813	2	213	254	Basin	18	1
6851	2	216	265	Platform	10	0
6852	2	216	265	Platform	69.6	5.6
6853	2	216	265	Platform	18.4	4
6854	2	216	265	Platform	17.6	8
6855	2	216	265	Platform	11.33333333	4.666666667
6856	2	120	268	Indoor Floor	22.5	1
6857	2	120	268	Indoor Floor	24.66666667	24
6858	2	120	268	Indoor Floor	14	4
6859	2	120	268	Indoor Floor	8	3.2
6860	2	120	268	Indoor Floor	9	3
6861	2	120	268	Indoor Floor	12	5
6862	2	120	268	Indoor Floor	14	2
6867	2	217	273	Platform	16	1
6868	2	217	273	Platform	17	8
6869	2	217	273	Platform	8.666666667	8.666666667
6870	2	217	273	Platform	16	4
6871	2	217	278	Platform	14	5
6872	2	218	274	Courtyard	52	6
6873	2	220	278	Platform	13	0
6874	2	220	278	Platform	10	1
6875	2	220	278	Platform	32	4
6876	2	220	278	Platform	12	7
6877	2	220	278	Platform	34	11
6879	9	70	228	Outdoor Surface	17	13
7291	10	127	286	Outdoor Surface	24	21
7292	10	127	287	Outdoor Surface	54	6

SR #	1.0 mm BURNT BONE #/LITER	1.0 mm TOTAL BONE #/LITER	1.0 mm CS #/LITER	1.0 mm SHL #/LITER
6531	0	8	1	0
6532	0	9	1	0
6533	1.333333333	10.66666667	0	0
6534	0	8	0	0
6535	6	20	1	0
6536	2	17	0	0
6537	0	3	0	0
6538	0.8	8	0	0
6539	0	12	0	0
6540	22	144	0	0
6541	0	16	2	0
6542	0	12	0	1
6543	13	24	1	0
6544	1	8	2	0
6545	0	36	1	0
6546	4	59	0	0
6547	0	9	1	0
6548	0	16	0	2.4
6549	0	29	0	0
6550	2	23	0	1
6595	1	8	2	0
6807	0	12.66666667	0.666666667	0
6808	0	20	3	0
6809	4	9	0	0
6813	1	2	1	2
6851	0	0	0	0
6852	11.2	16.8	0.8	0.8
6853	1.6	5.6	1.6	1.6
6854	4.8	12.8	2.4	2.4
6855	0.666666667	5.333333333	0.666666667	2
6856	0.5	1.5	1	1.5
6857	5.333333333	29.33333333	1.333333333	0.666666667
6858	1	5	0	2
6859	0.8	4	0	0.8
6860	4	7	2	1
6861	1	6	0	1
6862	5	7	0	2
6867	1	2	0	0
6868	4	12	0	2
6869	2	10.66666667	1.333333333	2.666666667
6870	3	7	0	2
6871	6	11	1	3
6872	9	15	2	0
6873	0	0	0	3
6874	0	1	0	0
6875	1	5	0	3
6876	11	18	3	2
6877	0	11	1	2
6879	0	13	0	2
7291	1	22	4	1
7292	3	9	0	2

SR #	1.0 mm FIGURINE FRAGMENT	1.0 mm BEAD	1.0 mm CHARRED SEED	1.0 mm CHARCOAL
6531	0	0	0	0
6532	0	0	0	0
6533	0	0	0	0
6534	0	0	0	0
6535	0	0	3	0
6536	0	0	0	0
6537	0	0	0	0
6538	0	0	0	0
6539	0	0	0	0
6540	0	0	0	0
6541	0	0	0	0
6542	0	0	0	0
6543	0	0	0	0
6544	0	0	0	0
6545	0	0	0	0
6546	0	0	0	0
6547	0	0	0	0
6548	0	0	0	0
6549	0	0	0	0
6550	0	0	0	0
6595	0	0	0	0
6807	0	0	0	0
6808	0	0	0	0
6809	0	0	0	0
6813	0	0	1	0
6851	0	0	0	0
6852	0	0	2	0
6853	0	0	0	0
6854	0	0	0	0
6855	0	0	0	0
6856	0	1	0	0
6857	0	0	0	0
6858	0	0	0	0
6859	0	0	0	0
6860	0	0	0	0
6861	0	1	0	0
6862	0	0	0	0
6867	0	0	0	0
6868	0	0	0	0
6869	0	0	0	0
6870	0	0	0	0
6871	0	0	0	0
6872	0	0	0	0
6873	0	0	0	0
6874	0	0	1	0
6875	0	0	0	0
6876	0	0	1	0
6877	0	0	0	0
6879	0	0	0	0
7291	0	0	0	0
7292	0	0	0	0

SR #	2.0 mm PT #/LITER	2.0 mm UNBURNT BN #/LITER	2.0 mm BURNT BONE #/LITER
6531	19	9	1
6532	26	8	0
6533	24	9.333333333	0
6534	12	4	0
6535	8	14	2
6536	11	12	4
6537	18	2	5
6538	11.2	8	1.6
6539	7	8	0
6540	23	119	6
6541	20	12	0
6542	12	12	1
6543	12	11	66
6544	13	7	2
6545	21	11	0
6546	31	24	4
6547	13	8	1
6548	27.2	13.6	3.2
6549	15	20	0
6550	26	12	2
6595	67	19	4
6807	8.666666667	12	0
6808	21	36	3
6809	48	12	4
6813	19	5	2
6851	16	8	3
6852	65.6	3.2	12
6853	22.4	2.4	3.2
6854	24	4	0
6855	12.66666667	2.666666667	1.333333333
6856	20	3	1
6857	24	32.66666667	8.666666667
6858	15	4	0
6859	5.6	12	0
6860	3	5	2
6861	16	4	1
6862	18	4	3
6867	12	4	0
6868	26	12	2
6869	11.33333333	7.333333333	6
6870	22	6	1
6871	10	2	4
6872	61	23	8
6873	13	0	0
6874	14	0	0
6875	37	10	2
6876	12	2	7
6877	43	10	0
6879	16	5	0
7291	22	11	2
7292	48	8	2

SR #	2.0 mm TOTAL BONE #/LITER	2.0 mm CS #/LITER	2.0 mm SHL #/LITER	2.0 mm FIGURINE FRAGMENT
6531	10	1	0	0
6532	8	2	0	0
6533	9.333333333	1.333333333	0	0
6534	4	0	0	0
6535	16	0	0	0
6536	16	0	0	0
6537	7	0	0	0
6538	9.6	0	0	0
6539	0	0	0	0
6540	125	3	0	0
6541	12	2	0	0
6542	13	1	0	0
6543	77	0	0	0
6544	9	0	0	0
6545	11	2	0	0
6546	28	0	0	0
6547	9	1	0	0
6548	16.8	1.6	0	0
6549	20	1	0	0
6550	14	0	1	0
6595	23	3	0	0
6807	12	0	0	0
6808	39	2	1	0
6809	16	0	3	0
6813	7	3	1	0
6851	11	1	2	0
6852	15.2	3.2	4	0
6853	5.6	6.4	0	0
6854	4	2.4	0	1
6855	4	1.333333333	1.333333333	1
6856	4	0.5	1.5	0
6857	41.33333333	2	1.333333333	0
6858	4	0	1	0
6859	12	0.8	0.8	0
6860	7	0	0	0
6861	5	0	1	0
6862	7	0	0	0
6867	4	0	0	0
6868	14	4	2	0
6869	13.33333333	1.333333333	0	0
6870	7	4	1	0
6871	6	1	0	0
6872	31	2	0	0
6873	0	0	1	0
6874	0	0	1	0
6875	12	2	1	0
6876	9	0	3	0
6877	10	2	0	0
6879	5	2	1	0
7291	13	4	0	0
7292	10	2	3	0

SR #	2.0 mm BEAD	2.0 mm CHARRED SEED	2.0 mm CHARCOAL	4.0 mm PT #/LITER
6531	0	0	0	3
6532	0	0	0	10
6533	0	0	0	1.333333333
6534	0	0	1	8
6535	0	0	0	3
6536	0	0	0	1
6537	0	0	0	8
6538	0	0	0	2.4
6539	0	0	0	4
6540	0	0	1	5
6541	0	0	0	10
6542	0	0	0	0
6543	0	0	0	3
6544	0	0	0	4
6545	0	0	1	3
6546	0	0	0	4
6547	0	0	0	7
6548	0	0	0	9.6
6549	0	0	0	2
6550	0	0	0	16
6595	0	0	0	35
6807	0	0	0	3.333333333
6808	0	0	0	8
6809	0	0	0	27
6813	0	1	0	4
6851	0	0	0	10
6852	0	2	0	28
6853	0	1	0	8.8
6854	0	0	0	7.2
6855	0	2	0	2
6856	0	0	0	4.5
6857	0	0	0	7.333333333
6858	0	0	0	5
6859	0	0	0	1.6
6860	0	0	0	1
6861	1	0	1	2
6862	0	0	0	7
6867	0	0	0	4
6868	0	0	0	4
6869	0	1	0	3.333333333
6870	0	0	0	12
6871	0	0	0	5
6872	0	0	0	28
6873	0	0	0	4
6874	0	0	0	5
6875	0	0	0	16
6876	0	1	0	3
6877	0	0	0	18
6879	0	0	0	5
7291	0	0	0	11
7292	0	0	0	27

SR #	4.0 mm UNBURNT BN #/LITER	4.0 mm BURNT BONE #/LITER	4.0 mm TOTAL BONE #/LITER
6531	0	0	0
6532	1	0	1
6533	1.333333333	0	1.333333333
6534	0	0	0
6535	0	0	0
6536	0	0	0
6537	0	0	0
6538	0	0	0
6539	0	0	0
6540	15	1	16
6541	14	0	14
6542	3	2	5
6543	10	10	20
6544	2	0	2
6545	2	0	2
6546	0	0	0
6547	2	0	2
6548	2.4	0.8	3.2
6549	5	0	5
6550	0	0	0
6595	3	0	3
6807	2	0	2
6808	3	2	5
6809	1	0	1
6813	2	0	2
6851	1	0	1
6852	0	2.4	2.4
6853	0	0	0
6854	0.8	2.4	3.2
6855	1.333333333	0	1.333333333
6856	0	0	0
6857	3.333333333	0	3.333333333
6858	3	0	3
6859	1.6	0	1.6
6860	1	0	1
6861	0	0	0
6862	1	0	1
6867	2	1	3
6868	1	1	2
6869	2.666666667	0	2.666666667
6870	4	0	4
6871	3	2	5
6872	3	0	3
6873	0	0	0
6874	0	0	0
6875	1	1	2
6876	1	2	3
6877	1	0	1
6879	4	0	4
7291	2	1	3
7292	2	0	2

SR #	4.0 mm CS #/LITER	4.0 mm SHL #/LITER	4.0 mm FIGURINE FRAGMENT	4.0 mm BEAD
6531	0	0	0	0
6532	0	0	0	0
6533	1.333333333	0	0	0
6534	0	0	0	0
6535	0	0	0	1
6536	0	0	0	0
6537	0	0	0	0
6538	0	0	0	0
6539	0	0	0	0
6540	0	0	0	0
6541	0	0	0	0
6542	0	0	0	0
6543	0	0	0	0
6544	0	0	0	0
6545	0	0	0	0
6546	1	0	0	0
6547	0	0	0	0
6548	0.8	0	0	0
6549	0	0	0	0
6550	0	0	0	0
6595	2	0	0	0
6807	0.666666667	0	0	0
6808	0	1	0	0
6809	0	0	0	0
6813	0	0	0	0
6851	0	0	0	0
6852	0.8	0	0	0
6853	0.8	0	0	0
6854	0	0	0	0
6855	0.666666667	0	0	0
6856	0	0	0	0
6857	0	0.666666667	0	0
6858	0	0	0	0
6859	1.6	0	0	0
6860	0	0	0	0
6861	0	0	0	0
6862	1	0	0	0
6867	1	0	0	0
6868	0	0	0	0
6869	1.333333333	0	0	0
6870	1	0	0	0
6871	0	0	0	0
6872	0	0	0	0
6873	0	1	0	0
6874	0	1	0	0
6875	0	0	0	0
6876	1	0	0	0
6877	1	0	0	0
6879	0	0	0	0
7291	0	0	0	0
7292	0	0	0	0

SR #	4.0 mm CHARRED SEED	4.0 mm CHARCOAL	6.3 mm PT #/LITER	6.3 mm UNBURNT BN #/LITER
6531	0	0	2	0
6532	0	0	6	1
6533	0	0	1.333333333	1.333333333
6534	0	0	8	1
6535	0	0	4	0
6536	0	0	0	0
6537	0	0	3	1
6538	0	0	6.4	0
6539	0	0	6	0
6540	0	0	4	0
6541	0	0	2	0
6542	0	0	2	0
6543	0	0	3	1
6544	0	0	2	0
6545	0	1	2	0
6546	0	0	0	0
6547	0	0	3	1
6548	0	0	8	0.8
6549	0	0	3	0
6550	0	0	16	0
6595	0	0	22	1
6807	0	0	4	0
6808	0	0	10	0
6809	0	0	14	1
6813	0	0	3	1
6851	0	0	6	0
6852	0	0	15.2	1.6
6853	0	0	6.4	0
6854	0	0	12	2.4
6855	0	0	5.333333333	0
6856	0	0	1	0
6857	0	0	4.666666667	4
6858	0	0	4	1
6859	0	0	0.8	0
6860	0	0	1	0
6861	0	0	2	1
6862	0	1	10	0
6867	0	0	3	1
6868	0	0	4	4
6869	0	0	0.666666667	0
6870	0	0	7	0
6871	0	0	3	1
6872	0	0	35	2
6873	0	0	1	1
6874	0	0	4	0
6875	0	0	14	0
6876	0	0	2	0
6877	0	0	15	1
6879	0	0	8	3
7291	0	0	6	0
7292	0	0	6	0

SR #	6.3 mm BURNT BONE #/LITER	6.3 mm TOTAL BONE #/LITER	6.3 mm CS #/LITER	6.3 mm SHL #/LITER
6531	0	0	1	0
6532	0	1	0	0
6533	0	1.333333333	0	0
6534	0	1	0	0
6535	0	0	0	0
6536	0	0	0	0
6537	0	1	0	0
6538	0	0	0.8	0
6539	0	0	0	0
6540	0	0	0	0
6541	0	0	0	0
6542	0	0	0	0
6543	0	1	1	0
6544	0	0	0	0
6545	0	0	0	0
6546	0	0	1	0
6547	0	1	0	0
6548	0	0.8	0.8	0
6549	0	0	0	0
6550	0	0	1	0
6595	0	1	1	0
6807	0	0	0	0
6808	0	0	0	0
6809	0	1	0	0
6813	0	1	0	0
6851	0	0	0	0
6852	3.2	4.8	0	0
6853	0	0	0	0
6854	0	2.4	0	0
6855	0	0	0	0
6856	0	0	0	0
6857	0	4	0	0
6858	0	1	0	0
6859	0	0	0	0
6860	0	0	0	0
6861	0	1	0	0
6862	0	0	0	0
6867	0	1	0	0
6868	1	5	0	0
6869	0	0	0	0
6870	0	0	2	0
6871	1	2	2	0
6872	0	2	0	0
6873	0	1	0	0
6874	0	0	0	0
6875	0	0	0	0
6876	1	1	0	0
6877	0	1	2	0
6879	0	3	0	1
7291	0	0	0	0
7292	0	0	0	0

SR #	6.3 mm FIGURINE FRAGMENT	6.3 mm BEAD	6.3 mm CHARRED SEED	6.3 mm CHARCOAL	ALL PT #/LITER
6531	0	0	0	0	43
6532	0	0	0	0	71
6533	0	0	0	0	50.66666667
6534	0	0	0	0	46
6535	0	0	0	0	25
6536	0	0	0	0	28
6537	0	0	0	0	56
6538	0	0	0	0	34.4
6539	0	0	0	0	38
6540	0	0	0	0	55
6541	0	0	0	0	58
6542	0	0	0	0	23
6543	0	0	0	0	33
6544	0	0	0	0	35
6545	0	0	0	0	51
6546	0	0	0	0	80
6547	0	0	0	0	37
6548	0	0	0	0	60
6549	0	0	0	0	31
6550	0	0	0	0	80
6595	0	0	0	0	154
6807	0	0	0	0	27.33333333
6808	0	0	0	0	52
6809	0	0	0	0	112
6813	0	0	0	0	44
6851	0	0	0	0	42
6852	0	0	0	0	178.4
6853	0	0	0	0	56
6854	0	0	0	0	60.8
6855	0	0	0	0	31.33333333
6856	0	0	0	0	48
6857	0	0	0	0	60.66666667
6858	0	0	0	0	38
6859	0	0	0	0	16
6860	0	0	0	0	14
6861	0	0	0	0	32
6862	0	0	0	0	49
6867	0	0	0	0	35
6868	0	0	0	0	51
6869	0	0	0	0	24
6870	0	0	0	0	57
6871	0	0	0	0	32
6872	0	0	0	0	176
6873	0	0	0	0	31
6874	0	0	0	0	33
6875	0	0	0	0	99
6876	0	0	0	0	29
6877	0	0	0	0	110
6879	0	0	0	0	46
7291	0	0	0	0	63
7292	0	0	0	0	135

SR #	ALL UNBURNT BN #/LITER	ALL BURNT BONE #/LITER	ALL TOTAL BONE #/LITER	ALL CS #/LITER
6531	17	1	18	3
6532	19	0	19	3
6533	21.33333333	1.333333333	22.66666667	2.666666667
6534	13	0	13	0
6535	28	8	36	1
6536	27	6	33	0
6537	6	5	11	0
6538	15.2	2.4	17.6	0.8
6539	20	0	12	0
6540	256	29	285	3
6541	42	0	42	4
6542	27	3	30	1
6543	33	89	122	2
6544	16	3	19	2
6545	49	0	49	3
6546	79	8	87	2
6547	20	1	21	2
6548	32.8	4	36.8	3.2
6549	54	0	54	1
6550	33	4	37	1
6595	30	5	35	8
6807	26.66666667	0	26.66666667	1.333333333
6808	59	5	64	5
6809	19	8	27	0
6813	9	3	12	4
6851	9	3	12	1
6852	10.4	28.8	39.2	4.8
6853	6.4	4.8	11.2	8.8
6854	15.2	7.2	22.4	4.8
6855	8.666666667	2	10.66666667	2.666666667
6856	4	1.5	5.5	1.5
6857	64	14	78	3.333333333
6858	12	1	13	0
6859	16.8	0.8	17.6	2.4
6860	9	6	15	2
6861	10	2	12	0
6862	7	8	15	1
6867	8	2	10	1
6868	25	8	33	4
6869	18.66666667	8	26.66666667	4
6870	14	4	18	7
6871	11	13	24	4
6872	34	17	51	4
6873	1	0	1	0
6874	1	0	1	0
6875	15	4	19	2
6876	10	21	31	4
6877	23	0	23	6
6879	25	0	25	2
7291	34	4	38	8
7292	16	5	21	2

SR #	ALL SHL #/LITER	ALL FIGURINE FRAGMENT	ALL BEAD	ALL CHARRED SEED	ALL CHARCOAL
6531	0	0	0	0	0
6532	0	0	0	0	0
6533	0	0	0	0	0
6534	0	0	0	0	1
6535	0	0	1	3	0
6536	0	0	0	0	0
6537	0	0	0	0	0
6538	0	0	0	0	0
6539	0	0	0	0	0
6540	0	0	0	0	1
6541	0	0	0	0	0
6542	1	0	0	0	0
6543	0	0	0	0	0
6544	0	0	0	0	0
6545	0	0	0	0	2
6546	0	0	0	0	0
6547	0	0	0	0	0
6548	2.4	0	0	0	0
6549	0	0	0	0	0
6550	2	0	0	0	0
6595	0	0	0	0	0
6807	0	0	0	0	0
6808	2	0	0	0	0
6809	3	0	0	0	0
6813	3	0	0	2	0
6851	2	0	0	0	0
6852	4.8	0	0	4	0
6853	1.6	0	0	1	0
6854	2.4	1	0	0	0
6855	3.333333333	1	0	2	0
6856	3	0	1	0	0
6857	2.666666667	0	0	0	0
6858	3	0	0	0	0
6859	1.6	0	0	0	0
6860	1	0	0	0	0
6861	2	0	2	0	1
6862	2	0	0	0	1
6867	0	0	0	0	0
6868	4	0	0	0	0
6869	2.666666667	0	0	1	0
6870	3	0	0	0	0
6871	3	0	0	0	0
6872	0	0	0	0	0
6873	5	0	0	0	0
6874	2	0	0	1	0
6875	4	0	0	0	0
6876	5	0	0	2	0
6877	2	0	0	0	0
6879	4	0	0	0	0
7291	1	0	0	0	0
7292	5	0	0	0	0

SR #	OP	LOCUS	LOT	Context Type	1.0 mm PT #/LITER	1.0 mm UNBURNT BN #/LITER
8351	9	100	310	Indoor Floor (Public)	7	9
8352	9	100	310	Indoor Floor (Public)	5	2
8353	9	100	310	Indoor Floor (Public)	8	3
8354	9	75	330	Indoor Floor (Public)	2	0
8355	9	75	330	Indoor Floor (Public)	2	0
8356	9	75	330	Indoor Floor (Public)	1	5
8357	9	75	330	Indoor Floor (Public)	0	0
8358	9	113	339	Indoor Floor (Public)	4	0
8359	9	110	338	Indoor Floor (Public)	1.714285714	0.571428571
8360	9	110	338	Indoor Floor (Public)	0	0
8361	9	110	338	Indoor Floor (Public)	1.333333333	0.666666667
8362	9	110	338	Indoor Floor (Public)	1	4
8363	9	110	338	Indoor Floor (Public)	1	2
8364	9	110	338	Indoor Floor (Public)	0	2
8365	9	113	339	Indoor Floor (Public)	4	4
8366	9	110	338	Indoor Floor (Public)	1	1
8367	9	110	338	Indoor Floor (Public)	4	8
8368	9	113	339	Indoor Floor (Public)	4	4
8369	9	110	338	Indoor Floor (Public)	2	1
8370	2	259	331	Outdoor Surface	14	2
8371	2	259	331	Outdoor Surface	8	1
8372	10	221	361	Outdoor Pavement	17	13
8373	10	221	361	Outdoor Pavement	13	1
8374	10	221	361	Outdoor Pavement	23	14
8375	10	221	361	Outdoor Pavement	40	7
8376	10	221	361	Outdoor Pavement	17.6	8.8
8377	10	221	361	Outdoor Pavement	22	27
8378	10	221	361	Outdoor Pavement	23.2	28.8
8379	10	221	361	Outdoor Pavement	11	10
8380	10	221	361	Outdoor Pavement	15	11
8381	10	221	361	Outdoor Pavement	16.5	9
8382	10	221	361	Outdoor Pavement	18	32
8383	10	221	361	Outdoor Pavement	19	5
8384	10	221	361	Outdoor Pavement	13	1
8388	2	269	347	Courtyard	27.2	12
8389	2	269	347	Courtyard	20	32
8390	2	269	347	Courtyard	11	1
8391	2	227	348	Trash Deposit/Bin	11	4
8392	2	266	349	Basin	36	4
8395	2	271	356	Indoor Floor	11	4
8396	2	271	356	Indoor Floor	15	3
8397	2	271	356	Indoor Floor	18	0
8398	2	271	356	Indoor Floor	11.5	3.5
8399	2	271	356	Indoor Floor	10	1
8400	2	271	356	Indoor Floor	9.6	6.4
8587	10	218	343	Outdoor Surface	48	32
9401	2	271	356	Indoor Floor	10.66666667	0
9403	2	273	357	Indoor Floor	7	3
9470	10	236	383	Indoor Floor (Public)	2	3

SR #	1.0 mm BURNT BONE #/LITER	1.0 mm TOTAL BONE #/LITER	1.0 mm CS #/LITER	1.0 mm SHL #/LITER
8351	0	9	0	2
8352	1	3	0	2
8353	0	3	0	7
8354	0	0	0	2
8355	0	0	1	3
8356	1	6	0	3
8357	0	0	0	1
8358	0	0	0	0
8359	0	0.571428571	0	3.428571429
8360	0.666666667	0.666666667	0	2
8361	0	0.666666667	0.666666667	2
8362	0	4	2	1
8363	0	2	0	0
8364	0	2	0	4
8365	0	4	0	2
8366	0	1	0	1
8367	0	8	0	1
8368	0	4	0	0
8369	0	1	0	3
8370	0	2	3	0
8371	2	3	0	1
8372	0	13	0	4
8373	0	1	1	1
8374	2	16	1	1
8375	0	7	5	0
8376	0	8.8	0	1.6
8377	0	27	0	2
8378	0	28.8	1.6	4
8379	0	10	0	1
8380	2	13	0	2
8381	1.5	10.5	0	2.5
8382	5	37	1	1
8383	0	5	0	1
8384	0	1	2	0
8388	0	12	0	0.8
8389	0	32	4	0
8390	2	3	1	2
8391	1	5	1	3
8392	0	0	0	0
8395	1	5	2	1
8396	0	3	1	4
8397	0	0	0	1
8398	0	3.5	0	5
8399	0	2	5	0
8400	2.4	8.8	1.6	3.2
8587	3	35	15	8
9401	0	0	0	4
9403	0	3	0	2
9470	0	3	0	4

SR #	1.0 mm FIGURINE FRAGMENT	1.0 mm BEAD	1.0 mm CHARRED SEED	1.0 mm CHARCOAL
8351	0	0	0	0
8352	0	0	0	0
8353	0	0	0	0
8354	0	0	0	0
8355	0	0	0	0
8356	0	0	0	0
8357	0	0	0	0
8358	0	0	0	0
8359	0	0	0	0
8360	0	0	0	0
8361	0	0	0	0
8362	0	0	0	0
8363	0	0	0	0
8364	0	0	0	0
8365	0	0	0	0
8366	0	0	0	0
8367	0	0	0	0
8368	0	0	0	0
8369	0	0	0	0
8370	0	0	0	0
8371	0	0	0	0
8372	0	0	0	0
8373	0	0	0	0
8374	0	0	0	0
8375	0	0	0	0
8376	0	0	0	0
8377	0	0	0	0
8378	0	0	0	0
8379	0	0	0	0
8380	0	0	0	0
8381	0	0	0	0
8382	0	0	0	0
8383	0	0	0	0
8384	0	0	0	0
8388	0	0	0	0
8389	0	0	0	0
8390	0	0	0	0
8391	0	0	0	0
8392	0	0	0	0
8395	0	0	0	0
8396	0	0	0	0
8397	0	0	0	0
8398	0	0	0	0
8399	0	0	0	0
8400	0	0	0	0
8587	0	0	0	75
9401	0	0	0	0
9403	0	0	0	0
9470	0	0	0	0

SR #	2.0 mm PT #/LITER	2.0 mm UNBURNT BN #/LITER	2.0 mm BURNT BONE #/LITER
8351	1	4	0
8352	1	0	1
8353	13	1	0
8354	1	0	2
8355	1	3	0
8356	2	3	0
8357	2	1	0
8358	3	4	0
8359	0.571428571	0.571428571	0
8360	0	0.666666667	0.666666667
8361	3.333333333	1.333333333	1.333333333
8362	2	1	0
8363	2	1	0
8364	0	1	0
8365	0	6	0
8366	2	2	0
8367	4	1	0
8368	8	0	0
8369	5	0	1
8370	31	4	0
8371	16	3	6
8372	13	15	0
8373	18	2	0
8374	26	7	1
8375	36	6	1
8376	32.8	4.8	2.4
8377	23	15	1
8378	0.8	27.2	0.8
8379	20	9	0
8380	16	12	4
8381	24	9	1.5
8382	23	29	0
8383	19	10	4
8384	15	7	0
8388	31.2	14.4	2.4
8389	24	28	0
8390	12	3	1
8391	7	6	1
8392	48	4	0
8395	13	3	0
8396	16	6	1
8397	19	1	0
8398	14	6	0
8399	17	7	0
8400	12.8	4.8	0.8
8587	55	16	0
9401	12	0	0
9403	7	4.333333333	0
9470	3.5	1	0

SR #	2.0 mm TOTAL BONE #/LITER	2.0 mm CS #/LITER	2.0 mm SHL #/LITER	2.0 mm FIGURINE FRAGMENT
8351	4	2	0	0
8352	1	0	0	0
8353	1	0	0	0
8354	2	0	1	0
8355	3	0	0	0
8356	3	0	2	0
8357	1	0	1	0
8358	4	0	2	0
8359	0.571428571	0	2.285714286	0
8360	1.333333333	0	2	0
8361	2.666666667	0.666666667	0	0
8362	1	0	2	0
8363	1	0	1	0
8364	1	0	0	0
8365	6	0	2	0
8366	2	0	1	0
8367	1	1	0	0
8368	0	0	4	0
8369	1	1	0	0
8370	4	9	0	0
8371	9	0	0	0
8372	15	0	0	0
8373	2	1	0	0
8374	8	2	0	0
8375	7	3	1	0
8376	7.2	4	2.4	0
8377	16	1	0	0
8378	28	0.8	0	0
8379	9	1	1	0
8380	16	4	1	0
8381	10.5	1	0.5	0
8382	29	3	1	0
8383	14	0	1	0
8384	7	2	1	0
8388	16.8	0.8	0	0
8389	28	4	0	0
8390	4	0	0	0
8391	7	3	1	0
8392	0	0	0	0
8395	3	2	0	0
8396	7	5	0	0
8397	1	4	0	0
8398	6	1	5.5	0
8399	7	8	1	0
8400	5.6	0.8	0	2
8587	16	21	1	0
9401	0	2.666666667	0	0
9403	4.333333333	0.333333333	1	0
9470	1	0	0	0

SR #	2.0 mm BEAD	2.0 mm CHARRED SEED	2.0 mm CHARCOAL	4.0 mm PT #/LITER
8351	1	0	0	1
8352	0	0	0	2
8353	0	0	0	4
8354	0	0	0	4
8355	0	0	0	2
8356	0	0	0	2
8357	0	0	0	3
8358	0	0	0	0
8359	0	0	0	0
8360	0	0	0	1.333333333
8361	0	0	0	2
8362	0	0	0	1
8363	0	0	0	1
8364	0	0	0	0
8365	0	0	0	2
8366	0	0	0	3
8367	0	0	0	0
8368	0	0	0	0
8369	0	0	0	2
8370	0	0	0	5
8371	0	1	0	6
8372	0	0	0	3
8373	0	0	0	4
8374	1	0	0	17
8375	0	0	0	13
8376	0	0	0	15.2
8377	0	0	0	13
8378	0	0	0	8.8
8379	0	0	0	6
8380	0	0	0	9
8381	0	0	0	10.5
8382	0	0	0	7
8383	0	0	0	10
8384	0	0	0	12
8388	0	0	0	5.6
8389	0	0	0	12
8390	0	0	0	3
8391	0	0	0	7
8392	0	0	0	16
8395	0	0	0	4
8396	0	0	0	7
8397	0	0	0	6
8398	0	0	0	2.5
8399	0	0	0	3
8400	0	0	0	3.2
8587	0	0	73	19
9401	0	0	0	2.666666667
9403	0	0	0	2.333333333
9470	0	0	0	2

SR #	4.0 mm UNBURNT BN #/LITER	4.0 mm BURNT BONE #/LITER	4.0 mm TOTAL BONE #/LITER
8351	0	0	0
8352	1	0	1
8353	0	0	0
8354	0	0	0
8355	2	0	2
8356	0	0	0
8357	0	2	2
8358	0	0	0
8359	0	0	0
8360	0	0	0
8361	0.666666667	0.666666667	1.333333333
8362	0	0	0
8363	1	0	1
8364	0	0	0
8365	0	0	0
8366	0	0	0
8367	0	0	0
8368	0	0	0
8369	0	0	0
8370	0	0	0
8371	1	1	2
8372	4	0	4
8373	0	0	0
8374	0	0	0
8375	3	0	3
8376	1.6	1.6	3.2
8377	2	0	2
8378	11.2	0.8	12
8379	3	0	3
8380	1	0	1
8381	2	0	2
8382	13	0	13
8383	4	1	5
8384	0	0	0
8388	3.2	0	3.2
8389	6	0	6
8390	0	0	0
8391	0	0	0
8392	0	0	0
8395	0	0	0
8396	0	0	0
8397	0	0	0
8398	1	0	1
8399	3	0	3
8400	1.6	0	1.6
8587	4	0	4
9401	1.333333333	0	1.333333333
9403	0	0	0
9470	0	0	0

SR #	4.0 mm CS #/LITER	4.0 mm SHL #/LITER	4.0 mm FIGURINE FRAGMENT	4.0 mm BEAD
8351	0	0	0	0
8352	0	1	0	0
8353	0	0	0	0
8354	0	0	0	0
8355	0	0	0	0
8356	0	0	0	0
8357	1	0	0	0
8358	0	0	0	0
8359	0	0	0	0
8360	0	0	0	0
8361	0	0	0	0
8362	1	0	0	0
8363	0	0	0	0
8364	0	0	0	0
8365	0	0	0	0
8366	0	1	0	0
8367	0	1	0	0
8368	0	0	0	0
8369	0	0	0	0
8370	2	0	0	0
8371	0	0	0	0
8372	1	0	0	0
8373	4	0	0	0
8374	1	0	0	0
8375	2	1	0	0
8376	1.6	0	0	0
8377	1	0	0	0
8378	1.6	0	0	0
8379	0	0	0	0
8380	0	0	0	0
8381	1	0	0	0
8382	2	0	0	0
8383	0	0	0	0
8384	0	0	0	0
8388	2.4	0	0	0
8389	0	0	0	0
8390	1	0	0	0
8391	1	0	0	0
8392	0	0	0	0
8395	0	0	0	0
8396	0	0	0	0
8397	5	0	0	0
8398	0	0	0	0
8399	0	0	0	0
8400	0	0	0	0
8587	11	0	0	0
9401	0	0	0	0
9403	0	0	0	0
9470	0	0	0	0

SR #	4.0 mm CHARRED SEED	4.0 mm CHARCOAL	6.3 mm PT #/LITER	6.3 mm UNBURNT BN #/LITER
8351	0	0	0	0
8352	0	0	1	0
8353	0	0	6	0
8354	0	0	0	0
8355	0	0	1	0
8356	0	0	1	0
8357	0	0	0	0
8358	0	0	0	0
8359	0	0	0.571428571	0
8360	0	0	0	0
8361	0	0	0	0
8362	0	0	1	0
8363	0	0	2	1
8364	0	0	0	0
8365	0	0	2	0
8366	0	0	0	0
8367	0	0	0	0
8368	0	0	0	0
8369	0	0	0	0
8370	0	0	5	0
8371	0	0	2	0
8372	0	0	15	9
8373	0	0	5	0
8374	0	0	10	0
8375	0	0	13	5
8376	0	0	20	1.6
8377	0	0	26	1
8378	0	0	15.2	6.4
8379	0	0	11	1
8380	0	0	9	3
8381	0	0	24	2
8382	0	0	17	8
8383	0	0	19	1
8384	0	0	17	0
8388	0	0	5.6	2.4
8389	0	0	8	2
8390	0	0	7	0
8391	0	0	5	0
8392	0	0	16	0
8395	0	0	2	0
8396	0	0	3	0
8397	0	0	3	0
8398	0	0	4.5	0.5
8399	0	0	0	0
8400	0	0	2.4	0
8587	0	17	9	0
9401	0	0	2.666666667	0
9403	0	0	1.333333333	0.333333333
9470	0	0	5.5	0

SR #	6.3 mm BURNT BONE #/LITER	6.3 mm TOTAL BONE #/LITER	6.3 mm CS #/LITER	6.3 mm SHL #/LITER
8351	0	0	0	0
8352	0	0	1	0
8353	0	0	0	0
8354	0	0	0	0
8355	0	0	3	0
8356	0	0	0	0
8357	0	0	0	0
8358	0	0	0	0
8359	0	0	0	0
8360	0.666666667	0.666666667	0	0
8361	0	0	0	0
8362	0	0	0	0
8363	0	1	0	0
8364	0	0	0	0
8365	0	0	0	0
8366	0	0	0	0
8367	0	0	0	0
8368	0	0	0	0
8369	0	0	0	0
8370	0	0	0	0
8371	0	0	0	0
8372	0	9	0	0
8373	0	0	0	0
8374	0	0	1	0
8375	0	5	0	0
8376	0.8	2.4	2.4	0
8377	0	1	0	0
8378	0	6.4	0.8	0
8379	0	1	2	0
8380	0	3	0	0
8381	0.5	2.5	2.5	0
8382	0	8	4	0
8383	0	1	2	0
8384	0	0	2	0
8388	0	2.4	0	0
8389	0	2	0	0
8390	0	0	4	0
8391	0	0	0	0
8392	0	0	0	0
8395	0	0	0	0
8396	0	0	0	0
8397	0	0	0	0
8398	0	0.5	0	0
8399	0	0	0	0
8400	0	0	0	0
8587	0	0	4	0
9401	0	0	0	0
9403	0	0.333333333	0	0
9470	0	0	0	0

SR #	6.3 mm FIGURINE FRAGMENT	6.3 mm BEAD	6.3 mm CHARRED SEED	6.3 mm CHARCOAL	ALL PT #/LITER
8351	0	0	0	0	9
8352	0	0	0	0	9
8353	0	0	0	0	31
8354	0	0	0	0	7
8355	0	0	0	0	6
8356	0	0	0	0	6
8357	0	0	0	0	5
8358	0	0	0	0	7
8359	0	0	0	0	2.857142857
8360	0	0	0	0	1.333333333
8361	0	0	0	0	6.666666667
8362	0	0	0	0	5
8363	0	0	0	0	6
8364	0	0	0	0	0
8365	0	0	0	0	8
8366	0	0	0	0	6
8367	0	0	0	0	8
8368	0	0	0	0	12
8369	0	0	0	0	9
8370	0	0	0	0	55
8371	0	0	0	0	32
8372	0	0	0	0	48
8373	0	0	0	0	40
8374	0	0	0	0	76
8375	0	0	0	0	102
8376	0	1	0	0	85.6
8377	0	0	0	0	84
8378	0	0	0	0	48
8379	0	0	0	0	48
8380	0	0	0	0	49
8381	0	0	0	0	75
8382	0	0	0	0	65
8383	0	0	0	0	67
8384	0	0	0	0	57
8388	0	0	0	0	69.6
8389	0	0	0	0	64
8390	0	0	0	0	33
8391	0	0	0	0	30
8392	0	0	0	0	116
8395	0	0	0	0	30
8396	0	0	0	0	41
8397	0	0	0	0	46
8398	0	0	0	0	32.5
8399	0	0	0	0	30
8400	0	0	0	0	28
8587	0	0	0	8	131
9401	0	0	0	0	28
9403	0	0	0	0	17.66666667
9470	0	0	0	0	13

SR #	ALL UNBURNT BN #/LITER	ALL BURNT BONE #/LITER	ALL TOTAL BONE #/LITER	ALL CS #/LITER
8351	13	0	13	2
8352	3	2	5	1
8353	4	0	4	0
8354	0	2	2	0
8355	5	0	5	4
8356	8	1	9	0
8357	1	2	3	1
8358	4	0	4	0
8359	1.142857143	0	1.142857143	0
8360	0.666666667	2	2.666666667	0
8361	2.666666667	2	4.666666667	1.333333333
8362	5	0	5	3
8363	5	0	5	0
8364	3	0	3	0
8365	10	0	10	0
8366	3	0	3	0
8367	9	0	9	1
8368	4	0	4	0
8369	1	1	2	1
8370	6	0	6	14
8371	5	9	14	0
8372	41	0	41	1
8373	3	0	3	6
8374	21	3	24	5
8375	21	1	22	10
8376	16.8	4.8	21.6	8
8377	45	1	46	2
8378	73.6	1.6	75.2	4.8
8379	23	0	23	3
8380	27	6	33	4
8381	22	3.5	25.5	4.5
8382	82	5	87	10
8383	20	5	25	2
8384	8	0	8	6
8388	32	2.4	34.4	3.2
8389	68	0	68	8
8390	4	3	7	6
8391	10	2	12	5
8392	8	0	0	0
8395	7	1	8	4
8396	9	1	10	6
8397	1	0	1	9
8398	11	0	11	1
8399	11	0	12	13
8400	12.8	3.2	16	2.4
8587	52	3	55	51
9401	1.333333333	0	1.333333333	2.666666667
9403	7.666666667	0	7.666666667	0.333333333
9470	4	0	4	0

SR #	ALL SHL #/LITER	ALL FIGURINE FRAGMENT	ALL BEAD	ALL CHARRED SEED	ALL CHARCOAL
8351	2	0	1	0	0
8352	3	0	0	0	0
8353	7	0	0	0	0
8354	3	0	0	0	0
8355	3	0	0	0	0
8356	5	0	0	0	0
8357	2	0	0	0	0
8358	2	0	0	0	0
8359	5.714285714	0	0	0	0
8360	4	0	0	0	0
8361	2	0	0	0	0
8362	3	0	0	0	0
8363	1	0	0	0	0
8364	4	0	0	0	0
8365	4	0	0	0	0
8366	3	0	0	0	0
8367	2	0	0	0	0
8368	4	0	0	0	0
8369	3	0	0	0	0
8370	0	0	0	0	0
8371	1	0	0	1	0
8372	4	0	0	0	0
8373	1	0	0	0	0
8374	1	0	1	0	0
8375	2	0	0	0	0
8376	4	0	1	0	0
8377	2	0	0	0	0
8378	4	0	0	0	0
8379	2	0	0	0	0
8380	3	0	0	0	0
8381	3	0	0	0	0
8382	2	0	0	0	0
8383	2	0	0	0	0
8384	1	0	0	0	0
8388	0.8	0	0	0	0
8389	0	0	0	0	0
8390	2	0	0	0	0
8391	4	0	0	0	0
8392	0	0	0	0	0
8395	1	0	0	0	0
8396	4	0	0	0	0
8397	1	0	0	0	0
8398	10.5	0	0	0	0
8399	1	0	0	0	0
8400	3.2	2	0	0	0
8587	9	0	0	0	173
9401	4	0	0	0	0
9403	3	0	0	0	0
9470	4	0	0	0	0

APPENDIX B: MICROARCHAEOLOGICAL DEBRIS DENSITIES/LITER BY LOCUS

(2.0-4.0 MM)

UNIQUE LOCUS	LOCUS CONTEXT TYPE	2.0 mm PT #/LT (LOCUS AVG.)	2.0 mm UNBURNT BN #/LT (LOCUS AVG.)	2.0 mm BURNT BONE #/LT (LOCUS AVG.)	2.0 mm CS #/LT (LOCUS AVG.)	2.0 mm SHL #/LT (LOCUS AVG.)	TOTAL 2.0mm Common Microdebris #/LT
20114	Domestic Fire Installation	7	1.33333333	0.33333333	0	1.33333333	10
20120	Indoor Floor (Domestic)	10.6182143	8.08904762	1.93369048	0.70630952	0.97940476	22.3266667
20141	Domestic Fire Installation	5	0	0	0	1	6
20146	Platform	20.6	10.5	1.1	1.1	0.7	34
20148	Burial	24.3333333	21.6666667	1.66666667	5	2	54.6666667
20151	Indoor Floor (Domestic)	15.75	4.25	0.75	2	0.25	23
20157	Indoor Floor (Domestic)	6.83333333	3.83333333	0.16666667	1	0.5	12.3333333
20206	Courtyard	20	14.8405797	8.16666667	0.94927536	0.45652174	44.4130435
20208	Indoor Floor (Domestic)	1	3	3	0	0	7
20210	Courtyard	18.5681159	16.6927536	4.6	0.77971015	0.21739130	40.8579710
20213	Basin	19	5	2	3	1	30
20216	Platform	28.1333333	4.05333333	3.90666667	2.86666667	1.46666667	40.4266667
20217	Platform	16.2666667	6.26666667	2.6	2.06666667	0.6	27.8
20218	Courtyard	61	23	8	2	0	94
20220	Platform	23.8	4.4	1.8	0.8	1.2	32
20227	Trash Deposit/Bin	7	6	1	3	1	18
20259	Courtyard??	23.5	3.5	3	4.5	0	34.5
20266	Basin	48	4	0	0	0	52
20269	Courtyard	22.4	15.1333333	1.13333333	1.6	0	40.2666667
20271	Indoor Floor (Domestic)	14.8285714	3.97142857	0.25714286	3.35238095	0.92857143	23.3380952
20273	Indoor Floor (Domestic)	7	4.33333333	0	0.33333333	1	12.6666667
90070	Outdoor Surface	16	5	0	2	1	24
90075	Indoor Floor (Public)	1.5	1.75	0.5	0	1	4.75
90100	Indoor Floor (Public)	5	1.66666667	0.33333333	0.66666667	0	7.66666667
90110	Indoor Floor (Public)	2.10052910	0.95238095	0.33333333	0.29629630	0.92063491	4.60317460
90113	Indoor Floor (Public)	3.66666667	3.33333333	0	0	2.666666667	9.666666667
100116	Trash Deposit/Outdoor Surface?	67	19	4	3	0	93
100127	Outdoor Surface	35	9.5	2	3	1.5	51
100218	Outdoor Surface	55	16	0	21	1	93
100221	Outdoor Pavement	20.5076923	11.7692308	1.20769231	1.75384615	0.68461539	35.9230769
100236	Indoor Floor (Public)	3.5	1	0	0	0	4.5

APPENDIX C: RESULTS OF MICROARCHAEOLOGICAL CLUSTER ANALYSIS

CASE NO.	LOCUS	CONTEXT TYPE	Cluster (2 Clusters)	Cluster (3 Clusters)	Cluster (4 Clusters)	Cluster (5 Clusters)
1	20206	Courtyard	1	2	3	3
2	20210	Courtyard	1	2	3	3
3	20218	Courtyard	1	2	1	5
4	20269	Courtyard	1	2	3	2
5	20114	Dom. Floor	2	3	2	1
6	20120	Dom. Floor	2	3	3	2
7	20141	Dom. Floor	2	3	2	1
8	20151	Dom. Floor	2	3	3	2
9	20157	Dom. Floor	2	3	2	1
10	20208	Dom. Floor	2	3	3	2
11	20271	Dom. Floor	2	3	2	1
12	20273	Dom. Floor	2	3	2	1
13	90075	Nondom. Floor	2	3	2	1
14	90100	Nondom. Floor	2	3	2	1
15	90110	Nondom. Floor	2	3	2	1
16	90113	Nondom. Floor	2	3	2	1
17	100236	Nondom. Floor	2	3	2	1
18	100221	Pavement	2	3	3	2
19	20259	Pavement	2	3	3	2
20	90070	Outdoor	2	3	2	1
21	100127	Outdoor	2	3	3	2
22	100218	Outdoor	2	1	4	4
23	20146	Platform	2	3	3	2
24	20216	Platform	2	3	3	2
25	20217	Platform	2	3	3	2
26	20220	Platform	2	3	3	2