

BOSTON UNIVERSITY
GRADUATE SCHOOL OF ARTS AND SCIENCES

Dissertation

**BEYOND THE MOUND: LOCATING COMPLEXITY IN NORTHERN
MESOPOTAMIA DURING THE 'SECOND URBAN REVOLUTION'**

by

CAITLIN J. CHAVES YATES

B.A., Cornell University, 2006

Submitted in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

2014

Approved by

First Reader

Christopher Roosevelt, Ph.D.
Associate Professor of Archaeology

Second Reader

Michael D. Danti, Ph.D.
Assistant Professor of Archaeology

Third Reader

Marilyn Kelly-Buccellati, Ph.D.
Professor Emerita of the Department of Art
California State University, Los Angeles

Acknowledgements

No dissertation is written without a number of supporters – academic, financial and personal – helping to turn an idea into a finished work. I have been extremely lucky to have been part of several communities that have encouraged and supported my work.

At Boston University, I have greatly benefited from the collegial atmosphere and the friendships I formed. Chris Roosevelt has served as more than a reader, as a mentor and as a compassionate guide through what is always a difficult journey. He has been an invaluable resource as I tackled survey data and GIS systems and without his help, and valuable editing skills, this dissertation would never have been completed. Michael Danti supervised me through the numerous steps of the Ph.D. including coursework, exams and the proposal for which I am grateful. Andrea Berlin's sharp insights made this dissertation much stronger than it would have been otherwise. I benefitted greatly from my coursework with Mary Beaudry, M. Rafique Mughal, and Kathryn Bard, all of whom shaped my early graduate school experience. I am thankful for the valuable class discussions and guidance they provided.

Working at Tell Mozan has been one of the great privileges of this dissertation process, and I hope to be able return to Mozan, and Syria, in a more peaceful future. As directors at Mozan and supervisors for my work, Giorgio Buccellati and Marilyn Kelly-Buccellati have taught me so much about archaeology, Syria, and the value of teamwork. Their insights and guidance have been hugely influential in shaping me as a scholar. I wish to thank them for allowing me to work at Mozan and for permission to use their data

in this dissertation. I would also like to thank them for all the personal support they have provided, particularly in some difficult times. They have assembled a wonderful group of people on the Mozan team and the friendship and academic collegiality of the team has served me well. I would like to thank Jim Walker for many cups of tea and thoughtful comments on my work and career. Lorenzo Crescioli, Hiba Qassar, Yasmine Mahmoud, and Patrizia Camatta provided friendship and hospitality across continents and made my field experience that much better. I cannot forget Federico Buccellati who has served as supervisor and friend, and taught me valuable field skills. Many thanks for the shared pints of beer – both Syrian and German. He also introduced me to the next group of people who have also been influential in the development of my dissertation.

In addition to the Mozan team, I have also had the privilege to work with the Tell Chuera team at Goethe-Universität Frankfurt. I am grateful to Prof. Jan Meyer for granting me permission to use unpublished data from Chuera for my dissertation. His team, in particular, Tobias Helms and Alex Tamm, have provided valuable information on the archaeology at Chuera. I am grateful to their whole team for welcoming an outsider and treating me as one of their own, welcoming me into their homes and offices. I am happy to count them friends and look forward to the day when we can collaborate in the field. I would also like to acknowledge Katja Burger who served as the field supervisor for the field data I used for this dissertation.

Financial support has come from a variety of places. The Tell Mozan project has supported my project with logistical support and facilities since 2007. The Alan Flaherty and Patti Myers Scholarship supported my travel to Mozan for two years. The Graduate

Research Abroad Fellowship (GRAF) at Boston University supported my time in Germany working on the Tell Chuera project materials. Both the Graduate Student Association (GSO) and American Schools of Oriental Research (ASOR) have provided financial assistance for conference travel.

It takes more than an academic community to sustain a graduate student and I have been very fortunate in the support of my friends and family. The group of women who formed my graduate class is a supportive and friendly community and I hope we will continue to be good friends. Special thanks to Karen Hutchins and Eliza Wallace who listened to various complaints as we all worked to complete our projects. Many friends and family have encouraged me, especially Amanda Newhouse and Kristin Kuntz, to whom I am grateful for all the non-academic chats and support. My husband, Anthony, has been my greatest support throughout this journey, although when I began graduate school he probably had no idea what he was in for. I am extraordinarily grateful for his patience, his unconditional belief in me and his ability to crack a joke in the tensest moments. However, before any of these people came into my life, it was my parents, Marc and Heidi Chaves, who put me on the path of lifetime learning and have supported me along every step down that path. This dissertation is dedicated to them with love and admiration.

**BEYOND THE MOUND: LOCATING COMPLEXITY IN NORTHERN
MESOPOTAMIA DURING THE ‘SECOND URBAN REVOLUTION’**

(Order No.)

CAITLIN J. CHAVES YATES

Boston University Graduate School of Arts and Sciences, 2014

Major Professor: Christopher Roosevelt, Associate Professor of Archaeology

ABSTRACT

In this dissertation, I investigate the organization of urban activities in Early Bronze Age cities of Northern Mesopotamia. I combine evidence from archaeological survey, magnetometric studies, and excavations to demonstrate that cities were broadly integrated in terms of function and use of space: inhabitants in outer cities, lower towns, and extramural areas all pursued a range of diverse activities. The organization of urban life in Northern Mesopotamia is best described as “distributed,” a conclusion at odds with the prevailing belief that public institutions were concentrated in city centers and outer city areas were solely residential.

I analyze new excavations and surveys from two major cities—Tell Mozan and Tell Chuera—and compare those remains with information from other excavated cities across third-millennium BCE Northern Mesopotamia. I identify nine individual components of urbanism within third-millennium cities: city walls, water resources, roads and streets, agricultural and pastoral land, houses, workshops, temples and shrines,

burials, and administrative buildings. The spatial distribution suggests regular correlations between certain components, particularly houses/workshops, houses/burials, city walls/administrative buildings, and extramural workshops/roads. This overall pattern reveals multifunctional neighborhoods with a range of ceremonial, domestic, and production-related activities situated within the stable boundaries of city walls, water courses, and major roads. Single-function areas often occur alongside other activity or mixed-use areas. I found the distribution of activities to be similar across cities, despite variations in overall layout and size.

Widespread co-occurrence, especially of houses and workshops, indicates a kind of "dual economy" of elite and non-elite production, with lower-class inhabitants producing their own lithics, ceramics, and agricultural/pastoral products. Furthermore, although large temples and palaces are located in city centers, the existence of smaller shrines and non-domestic buildings in lower towns indicates that religious and administrative functions also occurred beyond the city center. The surveys and excavations illuminate two important patterns: first, that administrative, productive, and religious activities took place throughout the city; and second, that social rank did not preclude the pursuit of a range of activities. The stability afforded by this broadly integrated organization and heterarchical social organization may have been instrumental in a city's longevity.

Table of Contents

Acknowledgements.....	iii
Abstract.....	vi
Table of Contents.....	viii
List of Tables.....	xiii
List of Figures.....	xiv
List of Abbreviations.....	xviii
Chapter 1. Introduction.....	1
1.1. Introduction.....	1
1.2. Research Aims.....	2
1.3. Geographic and Chronological Scope of the Study.....	5
1.3.1. Geography.....	6
1.3.2. Chronology:.....	7
1.4. Methodology.....	11
Chapter 2. Archaeology of Urbanism.....	14
2.1. Introduction.....	14
2.2. Recognizing Urbanism.....	15
2.2.1. Micro-Regions: Scale and the Definition of Cities.....	18
2.3. Urban Complexity and Meaning in Cities.....	20
2.4. Analyzing Cities.....	25
2.4.1. Analyzing Cities: Methods and Datasets.....	26
2.4.2. Analyzing Cities: Theoretical Models and Approaches.....	29
2.5. Archaeology of Urbanism as Applied to Cities of the SUR.....	32
Chapter 3. Northern Mesopotamian Cities of the Second Urban Revolution.....	35
3.1. Introduction.....	35
3.2. The Jezireh: Outer Cities and Extramural Investigations.....	37
3.2.1. Surveys – Site Distribution.....	39
3.2.2. The Khabur.....	40
3.2.2.1. Tell Brak.....	41
3.2.2.2. Tell Leilan.....	44
3.2.2.3. Tell Mohammed Diyab.....	51
3.2.2.4. Tell Hamoukar.....	53
3.2.3. The East Jezireh: Northern Iraq.....	57
3.2.3.1. Tell Taya.....	58
3.2.3.2. Tell Khoshi.....	63
3.2.3.3. Tell al-Hawa.....	64
3.2.4. The West Jezireh and the Kranzhügel Question.....	66
3.2.4.1. Tell Beydar.....	68
3.2.4.2. Kharab Sayyar.....	71

3.2.4.3. Discussion	72
3.3. Broader Scope – Greater Northern Mesopotamia.....	73
3.3.1. The Balikh.....	73
3.3.1.1. Hammam et-Turkman.....	75
3.3.1.2. Bi'a.....	76
3.3.1.3. Discussion.....	77
3.3.2. The Euphrates Valley.....	77
3.3.2.1. Tell es-Sweyhat.....	79
3.3.2.2. Tell Hadidi.....	84
3.3.2.3. Tell Banat.....	86
3.3.3. Anatolia.....	89
3.3.3.1. Titriş Höyük.....	89
3.3.3.2. Kazane Höyük.....	93
3.3.4. Major Regional Powers.....	95
3.3.4.1. Ebla.....	95
3.3.4.2. Mari.....	97
3.4. Discussion.....	99
Chapter 4. The Outer City of Tell Mozan: Urbanism off the Central Mound	103
4.1. Introduction.....	103
4.2. Historical and Environmental Context.....	104
4.2.1. Chronology	104
4.2.2. Environment.....	109
4.2.2.1 Agriculture.....	111
4.2.2.2 Local Villages.....	115
4.2.2.3. Local Environment.....	116
4.2.3. Mozan in Context: Discussion.....	120
4.3. Data Analysis of Mozan's Outer City.....	122
4.3.1 Maps and Imaging.....	127
4.3.2. Thompson-Miragliuolo Survey – 1985.....	128
4.3.2.1. Thompson-Miragliuolo Survey: Ceramic Distribution Analysis.....	131
4.3.2.2. Thompson-Miragliuolo Survey: Small Find Types and Analysis	142
4.3.2.4. Thompson-Miragliuolo Survey: Conclusions.....	145
4.3.3. Pilot Surveys: 2009 and 2010	146
4.3.3.1. 2009 Pilot Survey Methodology	148
4.3.3.2. OG50: Stones and Northern Transects	151
4.3.3.3. OH40: Eastern Transect.....	157
4.3.3.4. OD40: Southeast Transect	160
4.3.3.5. OG51: Northern Transect	164
4.3.3.6. OE40: Southwest Transects 2010	169
4.3.3.7. Pilot Survey Analysis and Conclusions	174
4.3.4. Geophysical Survey	176
4.3.5. Excavations.....	181
4.3.5.1. Burials: OB1, OA4, and OD50.....	183

4.3.5.2. OH2: Outer City Administrative Area.....	187
4.3.5.3. OH1: Possible City Wall.....	190
4.3.5.4. OJ1: Mozan Village.....	191
4.3.5.5. OR1: Deep Sounding.....	191
4.3.5.6. Excavation Conclusions.....	193
4.3.6 Urban Development.....	193
4.4. Urbanism off the Central Mound.....	198
4.4.1. Outer City Layout.....	199
4.4.1.1. City Wall.....	200
4.4.1.2. Streets.....	202
4.4.1.3. Extramural Areas.....	204
4.4.1.4. Overall Layout: Discussion.....	205
4.4.2. Outer City Activities.....	206
4.4.2.1. Workshops and Production Areas.....	207
4.4.2.2. Administrative Areas.....	208
4.4.2.3. Houses.....	211
4.4.2.4. Burial and Mortuary Structures.....	211
4.4.3. Urbanism around Mozan: Discussion.....	213
4.5. Conclusions.....	213
Chapter 5. An Extramural Work Area at Tell Chuera: Urbanism beyond the walls.....	216
5.1. Introduction.....	216
5.2. Tell Chuera in Context.....	217
5.2.1 Local Environment.....	217
5.2.2 Chronology.....	220
5.2.3 The Site.....	226
5.2.3.1. The Kranzhügel Form.....	228
5.3. Urbanism in the Lower Town and Extramural Areas.....	230
5.3.1. The Lower City.....	232
5.3.2. Extramural Areas.....	233
5.4. Area ASA.....	234
5.4.1 Phase 4.....	237
5.4.1.1. Phase 4: Area I.....	238
5.4.1.2. Phase 4: A Sounding in Area V.....	240
5.4.3 Phase 3.....	243
5.4.3.1 Phase 3: Area I/II/III.....	244
5.4.3.2. Phase 3: Area IV and Area V.....	252
5.4.3.3. Phase 3: Area VI/VII/VIII.....	258
5.4.3.4. Phase 3: Discussion.....	267
5.4.4. Phase 2.....	271
5.4.4.1. Phase 2: Area I/II/III.....	272
5.4.4.2. Phase 2: Area IV/V.....	273
5.5. Discussion.....	285
5.5.1. Area ASA within its Urban Context.....	285

5.5.2. Function of Area ASA	287
5.5.2.1: ASA Use	287
5.5.2.2. Comparanda for ASA Finds.....	293
5.5.3. Change in Use Over Time.....	294
5.5.4. Conclusions.....	296
5.6. Conclusions.....	297
Chapter 6. A Modular Approach to SUR Urbanism	300
6.1. Introduction.....	300
6.2. A Modular Approach for Studying Cities.....	301
6.2.1. Understanding Urban Organization	302
6.2.2. The Building Blocks of the Modular Approach	304
6.2.3. Complexity, Integration, and the Urban Network	305
6.2.4. A Modular Approach: Distributed Urbanism	307
6.3. Components and Modules in Northern Mesopotamian Cities.....	310
6.3.1. Overall Urban Layout	312
6.3.1.1. City Walls	314
6.3.1.2. Agricultural Land and Uncultivated Land	315
6.3.1.3. Roads and Streets.....	317
6.3.1.4. Water Resources	320
6.3.1.5. Urban Plans on the City-Wide Level.....	322
6.3.2. Urban Structures: The Components of SUR Cities	323
6.3.2.1. Workshops	323
6.3.2.2. Administrative Structures	326
6.3.2.3. Houses.....	328
6.3.2.4. Burials and Mortuary Structures.....	330
6.3.2.5. Temples and Shrines.....	332
6.3.3. Urban Overlap: The Modules of SUR Cities.....	334
6.4. Conclusions: Modular Approach to SUR Cities.....	336
Chapter 7. Distributed Urbanism: A Model for Urbanism during the SUR.....	338
7.1. Introduction.....	338
7.2. Analyzing SUR Cities.....	339
7.2.1. Modeling SUR Cities.....	339
7.2.2. The Semi-Lattice of Northern Mesopotamian Cities.....	342
7.3. Conclusions.....	344
7.4. Future work.....	347
Appendix A – Thompson-Miragliuolo Survey Sherd Data	349
Appendix B – Thompson-Miragliuolo Survey Small Finds	362
Appendix C – ASA Small Finds.....	365
Appendix D – ASA Features	372
Appendix E – Area ASA Plans.....	397
Appendix F – ASA Section Drawings.....	407

Bibliography	419
Curriculum Vitae	449

List of Tables

Table 1.1 Early Bronze Age chronology.....	8
Table 1.2 Fourth millennium chronology chart	9
Table 4.1 Comparative Chronology Chart.....	105
Table 4.2 Table of Outer City investigations	124
Table 5.1 Comparative chronology chart.	222

List of Figures

Figure 1.1 Map of Northern Mesopotamia	6
Figure 2.1 Models of Urban Development in Urban Geography and Sociology.	22
Figure 3.1 Area of the Jezireh (in gray) with third millennium cities labeled.....	38
Figure 3.2 Location of the dry-farming plains of the Khabur triangle	40
Figure 3.3 Tell Brak 1968 Corona image with major landscape areas highlighted.....	42
Figure 3.4 Tell Leilan outline with major areas of excavation	45
Figure 3.5 Schematic of distribution of activities in and around Tell Leilan	50
Figure 3.6 Tell Mohammed Diyab with soundings and excavations indicated.	52
Figure 3.7 Hamoukar with excavation areas and possible city wall locations indicated.	54
Figure 3.8 Hamoukar schematic of urban layout.....	56
Figure 3.9 Tell Taya areas and excavations.....	59
Figure 3.10 Taya schematic	62
Figure 3.11 Tell Khoshi with Corona image showing small high mound, off center, with extensive lower town	63
Figure 3.12 Tell al-Hawa overview of layout with areas investigated.	64
Figure 3.13 Tell al-Hawa Schematic.....	65
Figure 3.14 Tell Beydar showing Kranzhügel shape and radial street pattern.	69
Figure 3.15 Beydar schematic of Kranzhügel with mixed use lower town and extramural cemetery.....	70
Figure 3.16 Round tell of Kharab Sayyar.	72
Figure 3.17 Map of major sites on the Euphrates.	78
Figure 3.18 Sweyhat schematic, with habitation areas and production areas in the lower town.....	83
Figure 3.19 Hadidi schematic showing mixed cultic and housing in the lower town.	84
Figure 3.20 Banat schematic with mortuary monuments and subsidiary temple area at Tell Kabir.....	87
Figure 3.21 Titriş schematic of urban layout.	91
Figure 3.22 Kazane schematic with major religious and administrative areas in the lower town.....	94
Figure 4.1 Map of Syria. Major sites discussed in text indicated.	110
Figure 4.2 View of Mardin Pass from northern part of central mound	111
Figure 4.3 Disturbances visible in Corona image with known archaeological sites labeled.	113
Figure 4.4 1967 Corona image of Tell Mozan showing relict water channels (above). Locations of possible waterways highlighted (below).....	118
Figure 4.5 Topographic map of the site and a Corona image of site.	120

Figure 4.6 Tell Mozan and its surroundings	123
Figure 4.7 Survey density across all surveys.	126
Figure 4.8 Distribution of surveys and excavations in the Outer City.....	126
Figure 4.9 Distribution and labels of Thompson-Miragliuolo Survey units.....	130
Figure 4.10 Percentages of ceramic ware types from Thompson-Miragliuolo survey..	131
Figure 4.11 Density distribution of Thompson-Miragliuolo survey	133
Figure 4.12 Wares from Thompson-Miragliuolo survey in total number of sherds.	134
Figure 4.13 Percentage of identifiable Wares from Thompson-Miragliuolo survey	134
Figure 4.14 Distribution of Simple ware in Thompson-Miragliuolo survey.	136
Figure 4.15 Distribution of Wet-smooth ware in Thompson-Miragliuolo survey.....	136
Figure 4.16 Distribution of Metallic Ware in Thompson-Miragliuolo survey	139
Figure 4.17 Co-occurrence of bone finds from Thompson-Miragliuolo survey with distribution of Metallic Ware.....	139
Figure 4.18 Pebble Temper Ware distribution from Thompson-Miragliuolo survey....	141
Figure 4.19 Distribution of lithic finds from Thompson-Miragliuolo survey.	143
Figure 4.20 Ceramic kiln waste finds from Thompson-Miragliuolo survey	143
Figure 4.21 Location of all Pilot survey collection units.....	147
Figure 4.22 Density of Pilot survey collection units.....	147
Figure 4.23 Example collection unit from Pilot survey	149
Figure 4.24 OG50 q-lot distributions.....	152
Figure 4.25 View looking north of large stones removed during the winter from area OG50.....	153
Figure 4.26 Density distribution of OG50 sherds.	154
Figure 4.27 Finds from area OG50.	155
Figure 4.28 Densities of OG50 collection units (light gray) compared to nearby collection units from the Thompson-Miragliuolo survey (dark gray).	156
Figure 4.29 Topographic Map and Corona images of site.....	157
Figure 4.30 OH40 location (above) and collection units with q-lot labels	158
Figure 4.31 Density distribution of OH40 collection units.....	159
Figure 4.32 Average density for surveys.	159
Figure 4.33 OD40 transect.	161
Figure 4.34 OD40 Sherd density distribution.	162
Figure 4.35 Distribution of collection units with q-lots labeled (top) and location of area OG51 (bottom).....	165
Figure 4.36 Density of sherds in OG51.	166
Figure 4.37 Kiln waste and ceramic kiln wasters found in Area OG51.	167
Figure 4.38 Ceramics found in Area OG51. Mix of time periods and types.	168
Figure 4.39 Overview looking south toward the freshly plowed field, OE40.	169
Figure 4.40 Location of area OE40 (above) and distribution of collection units with q- lots labeled (below).....	170
Figure 4.41 Density of sherds in area OE40.	171
Figure 4.42 Density across the q-lots of area OE40	172
Figure 4.43 Distribution of LC sherds in area OE40.	173

Figure 4.44 Location of Geophysical and ceramic surface survey conducted by Pflazner <i>et al.</i> (2004).....	178
Figure 4.45 Magnetometry results from outer city.....	178
Figure 4.46 Localization of excavations conducted in the Outer City.....	182
Figure 4.47 Drawing of finds from Tomb OB1	184
Figure 4.48 Overhead drawing of tomb OA4.	186
Figure 4.49 Complete Metallic ware vessels recovered from surface of area OD50. ...	187
Figure 4.50 Seal impressions from excavations in OH2.....	189
Figure 4.51 Outer City Zones at Mozan.	201
Figure 4.52 Streets detected in geophysical survey.....	203
Figure 4.53 Distribution of ceramic wares and kiln waste from all surveys	208
Figure 4.54 Magnetometry highlighting area with rectilinear structures.....	209
Figure 4.55 Burial locations across the outer city.....	212
Figure 4.56 Schematic of area around Mozan showing the ‘distributed urbanism’ during the third millennium.....	214
Figure 5.1 Map of Syria showing location of Tell Chuera and other sites mentioned in the text.....	217
Figure 5.2 Corona satellite image of Tell Chuera (1968) showing the clear upper and lower mound and depressed center.....	218
Figure 5.3 Map of areas investigated in Tell Chuera’s Lower Town and Outer City..	227
Figure 5.4 Schematic urban layout of Tell Chuera.....	228
Figure 5.5 Google Earth satellite image of Tell Chuera.....	235
Figure 5.6 Full geomagnetic survey of Tell Chuera	236
Figure 5.7 View looking west of Area I.....	239
Figure 5.8 Phase 4a ceramics from upper levels of deep sounding in Area V.	242
Figure 5.9 Phase 4b ceramics from lower levels of deep sounding Area V.	243
Figure 5.10 View looking east in Area I.....	245
Figure 5.11 Geomagnetic Map of Chuera showing location of Area ASA. At right is an enlargement of ASA geomagnetics, showing the area of the ditch/wadi.	246
Figure 5.12 Corona image from 1968, highlighting wadi locations	247
Figure 5.13 View North of Area I and III.....	249
Figure 5.14 View of Area IV looking east.....	253
Figure 5.15 View of Area V looking west.....	256
Figure 5.16 View of Area VIII, looking North.....	259
Figure 5.17 Overall View of Area VII looking west	260
Figure 5.18 View of Area VIII, looking North.....	266
Figure 5.19 Phase 3 small finds	268
Figure 5.20 Phase 3 ceramics from f240 and f364.....	269
Figure 5.21 Phase 3 complete vessels. Scale 1:2	270
Figure 5.22 Phase 2 Small Finds.....	278
Figure 5.23 Phase 2 Ceramics. Scale 1:2.....	279
Figure 5.24 Decorated sherds from Phase 2. Scale 1:2.....	280
Figure 5.25 Small finds from Phase 1.....	282

Figure 5.26 ASA Phase 1 Ceramics.....	284
Figure 5.27 Potter’s wheel (i215) from topsoil layer in Area VIII (f286).....	289
Figure 5.28 Tanning operation in modern day Fez, Morocco.	292
Figure 5.29 Schematic of Tell Chuera activity and distribution of urban components.	298
Figure 6.1 Semi-lattice of Jezireh sites based on concept from Alexander (1965).	309
Figure 6.2 Close up of section of Jezireh semi-lattice from Figure 6.1.....	334
Figure 7.1 Commonly implied concentric model for Ancient Near Eastern Cities.....	340
Figure 7.2 Modified pie/sector layout for urbanism.....	341

List of Abbreviations

ANE	Ancient Near East
ASA	Aussenstadt A
BCE	Before Common Era
EBA	Early Bronze Age
ED	Early Dynastic
EJ	Early Jezireh
LC	Late Chalcolithic
MB	Middle Bronze
N5	Ninevite 5
SUR	Second Urban Revolution
TCH	Tell Chuera

Chapter 1. Introduction

1.1. Introduction

According to the New Cities Foundation, by the year 2030 60% of the world's population, or 5 billion people, will live in cities.¹ The city revolutionized the world in the fourth millennium BCE and endures more than 6000 years later as a significant aspect of human society. The 'Urban Revolution' served to irrevocably alter the fabric of society, introducing a level of complexity and integration on a scale never seen before.

It has been 30 years since Adams' (1981) groundbreaking work, *Heartland of Cities*, revolutionized how archaeologists investigated urbanism in Mesopotamia. Using survey as a window on centralization and the growth of urbanism, Adams was able to place major cities in their broader context. Survey has been similarly applied in Northern Mesopotamia and excavations have continued apace at major urban sites. Since the beginning of widespread excavations in Syria related to the salvage projects of the 1980s and 1990s and the first Iraq war and ensuing exodus of archaeologists from Iraq, the historical and archaeological development of Northern Mesopotamia has become much clearer. The concept of Northern Mesopotamia as an illiterate cultural backwater has been discarded and replaced with a nuanced understanding of indigenously inspired development and complex societies.

This dissertation explores the cities of Northern Mesopotamia during the major urban expansion of the mid-third millennium BCE. This expansion, often termed the

¹ The New Cities Foundation is a non-profit dedicated to the study of modern cities and to "build[ing] more inclusive, dynamic and creative cities benefiting people and society" Their website can be found at <http://www.newcitiesfoundation.org/>, and their focus on modern urban development is explained further at <http://www.newcitiessummit2013.org/>.

‘Second Urban Revolution’ (hereafter SUR)² because of its secondary nature both in time and in relation to southern Mesopotamia, is characterized by the rapid growth of numerous urban centers and the rise of an urbanized society with craft specialization, hierarchical administration, large monumental buildings, and a centralization of population into cities.

Investigation into urbanism during the SUR has focused on the two opposing poles of the settlement distribution – centers of major cities and rural villages/pastoralists. In this dissertation a micro-regional scale is used to investigate cities and complexity within the urban environment. Focusing away from the high mounds of major urban centers, this dissertation presents an analysis of lower towns, outer cities, and extramural areas.³

1.2. Research Aims

The concept of the ancient city has been much discussed, often drawing on a complex and ever-changing list of characteristics that, when checked off, indicate a site is a city (see Chapter 2). More complicated, however, is what those cities look like, and few discussions treat the distribution of activities that supposedly ‘mark’ a city. This dissertation will address not only the specific aspects of ‘urbanism’ that are found at sites deemed to be cities in the third millennium, but also the locations of urban activities

² Akkermans and Schwartz (2003:233) popularized the term ‘Second Urban Revolution’ although it has been applied earlier and in varied contexts. In relation to Northern Mesopotamia, Mazzoni (1991) also used this term relative to Ebla and northern Mesopotamia. Outside of Northern Mesopotamia it was also used by Soja (2000) but applied to what is now considered the primary instance of urbanization in Southern Mesopotamia, due to a misidentification of Jericho and Catal Hoyuk as cities.

³ Among archaeologists working at major urban sites the terms lower town, lower city, and outer city are used indiscriminately and do not represent different types of areas. In this dissertation the terminology of the site excavators is generally preserved and the terms are used with no distinction.

beyond well-known palaces and temples to explore the richer fabric of cities, the smaller components that allow the creation and sustenance of large urban centers. This dissertation investigates two major interrelated questions. First, are lower towns primarily residential or do they have a broader role in urban society? Second, how can the distribution of activities in lower towns and extramural areas help illuminate the degree of complexity in society?

Over time, Mesopotamian archaeologists have struggled to define the urban character of sites, often drawing distinctions that would not have existed for ancient peoples. As Ristvet (2005:18) points out, the ancient Mesopotamian city was not conceived of as separate from its supporting hinterland. In fact, most urban inhabitants likely retained their agricultural roots and took part in agricultural and pastoralist pursuits (Ristvet 2005: 18, citing Schloen 2001:101). The common conception that the ancient northern Mesopotamian city was divided into a citadel (raised mound with only administrative and religious functions) and an extensive lower town where the population resided continues to persist without critical interpretation. Ur et al. (2011:10) describe Brak's lower town as solely residential, writing "Brak would approximate the "classic" form of northern Mesopotamian urbanism: a high citadel with largely monumental structures and an adjacent lower, presumably residential, settlement area." Laneri (2007:243) writes "the city-state appears to have been topographically divided into two areas: (1) an upper citadel characterized by the presence of buildings devoted to public ceremonial, administrative, and political activities [... and] (2) a lower town with private dwellings inhabited by individual households." Ristvet (2005:68) similarly describes

cities of the Jezireh as “a platform-temple, palace and town square on the Acropolis, connected to outlying domestic quarters through radial streets.” Her description builds on the urban analysis of Dohman-Pfälzner and Pfälzner (1996) who also described outer cities as primarily domestic. Cooper (2006:76) extends the discussion and writes the following regarding the ‘citadel cities’: “power and authority were concentrated on a central high place, strongly safeguarded and demarcated from the remainder of the settlement by fortification walls.” This dissertation investigates the validity of this generalization, focusing on the evidence for various activities in lower towns and also extramural areas.

The second part of the investigation here focuses on what can be learned from the unique perspectives offered by these lower towns and extramural areas. In the last few decades studies of Mesopotamian cities have shifted away from the view of cities as hierarchical, highly centralized polities focusing instead on “heterogeneity, contingency, and competition” (Stein 1994:12). Areas outside high mounds provide avenues for exploring these aspects of urbanism, particularly through the interrelation of various activities. Localizing urban activities can help ‘localize complexity’ during the mid-third millennium, emphasizing the role of areas off the main mounds in the religious, political, production, and social spheres of ancient urbanism.

Research in Northern Mesopotamia has focused on specific aspects of urbanism including craft specialization (Wattenmaker 1994, Blackman et al. 1993), households (Pfalzner 2001), burial practices (Porter 2002a, Cooper 2006, Laneri 2013), and rural settlement (Stein 1994, Hole 1991, 1999, Curvers and Schwartz 1990). A few attempts to

explore cities on a broader scale have utilized survey and geomagnetics to understand the broader layout of cities (Reade 1973, Matney and Algaze 1995, Peregrine 1996, Peregrine *et al.* 1997, Ur 2002, Creekmore 2008, Nishimura 2008, Ur *et al.* 2011, Meyer 2007, 2010c). Surface surveys have often focused on identifying diachronic change at sites as the populations of cities ebb and flow. Geomagnetic research has often been used to provide a wider view of major infrastructure such as streets and city walls. Research focusing on urban layout and distribution of specific activities within urban environments is rare (e.g. Creekmore 2008, Nishimura 2008). A micro-regional approach to the distribution of urban structures, including the broader categories such as roads and city walls, as well as attention to the distribution of other activities, such as production, burial, religious activity, and habitation, will provide new views on the role of outer cities in third-millennium urbanism. Exploring the relationships between different aspects of urban society can help determine the degree of segregation and centralization within the city.

1.3. Geographic and Chronological Scope of the Study

This study is necessarily limited both geographically and chronologically. The two major case studies include data from major urban sites of the SUR – Tell Mozan and Tell Chuera – which are located in the main plains of Northern Mesopotamia. Comparative sites are drawn from broader Northern Mesopotamia including the Euphrates region and Anatolia. The major expansion of cities to include lower towns is dated primarily to the mid-third millennium (approx. 2600 BCE), while the pre-urban

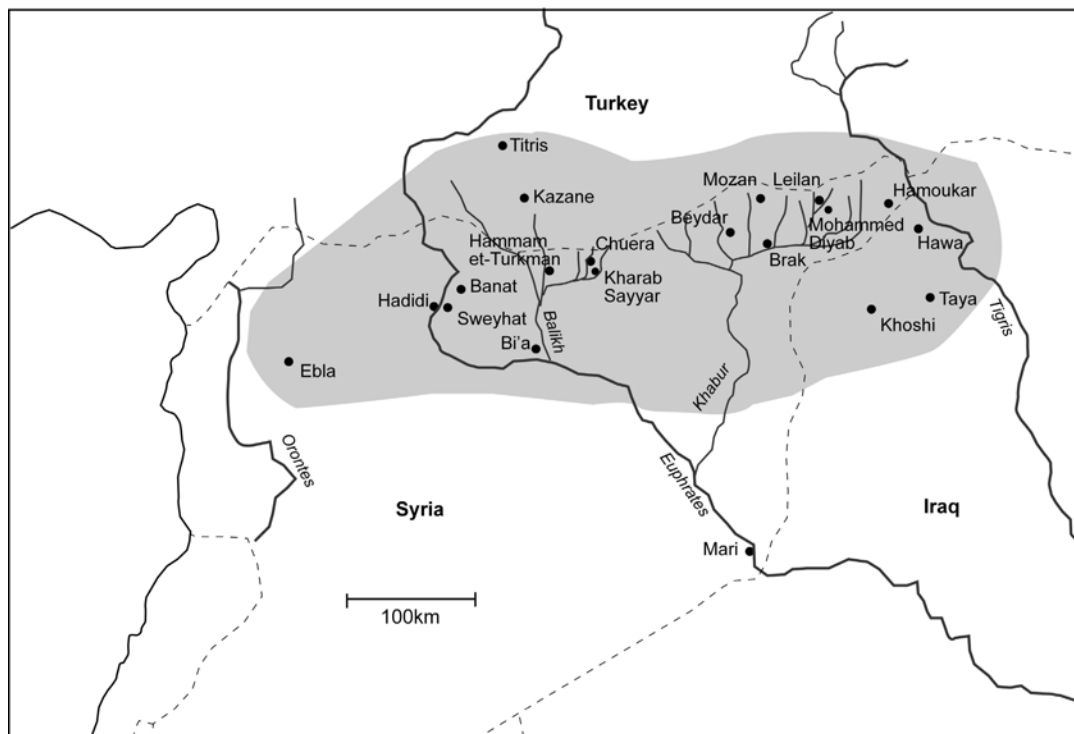


Figure 1.1 Map of Northern Mesopotamia (shaded area) with urban sites discussed in the text.

Ninevite 5 (N5) phase and the post-Akkadian decline provide bookends to the period of urban florescence and frame the chronological scope of the research.

1.3.1. Geography

Northern Mesopotamia is a broad area that encompasses parts of modern day Syria, Iraq, and Turkey (Figure 1.1). Northern Mesopotamia is distinguished from Southern Mesopotamia primarily by the variation in environment between the two. The landscape of much of Northern Mesopotamia in antiquity included steppe-like conditions (Deckers and Reihl 2007). Annual rainfall can range from 200–350mm in the south to 350–500mm in the north (Wilkinson 1994). Northern Mesopotamia is wet enough in most places to support rainfall agriculture and the wide plains are prime agricultural land

supporting a dry-farming economy during the third millennium (Weiss 1986). Some of the sites, particularly Tell Chuera and Tell Sweyhat, are located in a more marginal zone with ancient annual rainfall in the range of 250–300mm, creating a more brittle economy (Wilkinson 1994, Danti 2010).

Rivers also play an important role in Northern Mesopotamia, as sites are clustered along the tributaries of the Khabur River as well as along the Balikh River and, of course, along the northern Euphrates River, as well. Despite the preference for location along these waterways, there is no third-millennium evidence for irrigation in Northern Mesopotamia. Reliance on rainfall agriculture in the north provides a distinct difference from the urban counterparts in the south. Southern Mesopotamia is characterized by the river valleys of the Tigris and Euphrates and their reliance on irrigation agriculture, as well as the presence of extensive marshes.

Third-millennium cities are distributed across the region, with the major clusters of sites in the Khabur region, along the Balikh and its upper tributaries and along the Euphrates. The majority of the urban sites range from around 50–100 hectares (ha) with a few cases where they are slightly smaller (e.g. Sweyhat) or larger (e.g. Mozan).

1.3.2. Chronology:

Across Northern Mesopotamia there has been a continual making and remaking of complex civilizations as the area was occupied for millennia. These “cycles of civilization” represent the adaptability of the region and its long-term environmental viability (Ur 2010a). The process of urbanization in Northern Mesopotamia has defied easy categorization or explanation. The influence of urbanized southern Mesopotamian

	Early Jezireh	Early Bronze Age	Southern Mesopotamia	Euphrates Valley (Cooper 2006)
2000	EJV	MB	Ur III	Phase 6
2100				
2200	EJIV	EBIVb	Akkadian	Phase 5
2300				
2400	EJIII	EBIVa	EDIIIb	Phase 4
2500		EBIII		
2600	EJII	EBII	EDIIIa	Phase 3
2700				
2800	EJ1/N5	EBI	EDI-EDII	Phase 1 and Phase 2
2900				
3000	EJO			

Table 1.1 Early Bronze Age chronology chart showing relationship of various Mesopotamian chronologies. The shaded sections represent roughly contemporary cultural periods that are often discussed as being chronologically equivalent (After Ur 2010a, Cooper 2006, Akkermans and Schwartz 2003)

society as a direct influence on urbanization processes in the north has increasingly been challenged and a narrative of indigenous formation of cities has developed (Matthews 2003b; Oates *et al.* 2007; Ur *et al.* 2007, 2010; Weiss 2003). Urbanization, or the process of the appearance of cities and complex society, took place in two distinct periods in ancient Syria. The two periods of urbanization show some striking similarities yet remain two independent events. The research presented in this dissertation focuses on the second wave of urbanization during the third millennium.

Various chronologies have been developed based on regional ceramic sequences and radiocarbon dates (Table 1.1). The Early Bronze Age (EBA) chronology is broadly used in the Euphrates region, but relies on ceramic types not widely found in the Jezireh region. The Early Jezireh (EJ) sequence was an attempt to establish a more localized chronology for the region (Lebeau 2000). Because the majority of the sites discussed in this dissertation are located in the Jezireh, this sequence will be used. The EJ sequence spans the third millennium and is divided into five sub-phases, with an occasional use of EJ0 to add a sixth sub-phase at the beginning of the millennium.

	Late Chalcolithic	Southern Mesopotamia
3000		
3100		
3200	LC5	Late Uruk
3300		
3400		
3500	LC4	Middle Uruk
3600		
3700		
3800	LC3	
3900		
4000	LC2	Early Uruk
4100		
4200		
4300	LC1	Late Ubaid
4400		

Table 1.2 Fourth millennium chronological chart showing the Northern Mesopotamian Late Chalcolithic sequence and the traditional Southern Mesopotamian sequence (After Ur 2010a).

Predating the EJ sequence is the Late Chalcolithic (LC) sequence that spans the fourth millennium and saw the introduction of urbanism in Northern Mesopotamia (Table

1.2). The first period of urban growth in the Khabur region is often correlated with the Uruk expansion and dates to phases 2–5 of the Late Chalcolithic in the chronology of the Khabur. The second period of urbanization occurs in the Early Jezirah III (EJIII).

The first wave of urbanization is best documented at the site of Tell Brak, where large institutional buildings and complex, stratified society are represented in the earliest levels dating to the LC2 (Ur *et al.* 2010). Increased urbanism, however, characterizes numerous LC3–4 period sites. At Brak, several small, scattered LC occupations begin to amass and eventually coalesce into a large urban center during the LC3–4 (Wright *et al.* 2007; Ur *et al.* 2007, 2010; Ur 2012). The Uruk expansion and the contemporary urbanization of Northern Mesopotamia were relatively short-lived, and at the beginning of the third millennium Northern Mesopotamia was once again populated by small decentralized sites (Akkermans and Schwartz 2003). Although the first wave of urbanization was not sustained, it created a landscape of important sites, many of which were later reoccupied during the SUR.

The second introduction of urbanism or the “second urban revolution” (Akkermans and Schwartz 2003) occurred in the mid-third millennium, about 2600–2200 BCE, corresponding to the EJII-IV periods. The EJII-IV periods represent the main period of growth and expansion at sites such as Brak, Chuera, Leilan, Beydar, Hamoukar, and Mozan (Weiss *et al.* 1993; Lebeau 1997; Ur 2002; Akkermans and Schwartz 2003; Ur, *et al.* 2007; Meyer 2007). Centralized institutions, increased political organization and other indications of a new social order not based on kinship developed during the

mid-third millennium at numerous sites across northern Mesopotamia.⁴

The rapid expansion of cities during the third millennium and the relative lack of reoccupation in lower towns thereafter make lower towns valuable avenues for exploring third-millennium urbanism.

1.4. Methodology

To approach the question of the societal roles of outer cities, lower towns, and extramural areas in cities of the SUR, a comparative and micro-regional approach is used. This micro-regional approach examines cities using from the perspectives of areas outside high mounds. This approach enables a view of cities that complements and acts as a counterpoint to current narratives privileging high mounds or citadels.

Smith (2007) identifies two major components of urban planning. He argues that urban planning is a continuum and can be understood based on the spatial relationships of urban features and the degree of standardization among cities. In order to understand the cities of the SUR, two different approaches are used here. First, a spatial analysis of the distribution of activities and urban components at various sites is performed. Second, a comprehensive analysis of the similarities and differences across the sites is provided.

This dissertation approaches the urban complexity of SUR cities from an archaeological basis, focusing on creating a schematic overview of the distribution of urban activities and buildings as recoverable through archaeological methods. The results of both surface surveys and excavations inform investigation of the distribution of

⁴ The urbanization process of Northern Mesopotamia includes sites that currently located in Syria both in the Khabur and Euphrates valley and as far west as sites like Ebla and Umm el Marra. The designation “North Mesopotamia” also includes sites that are located in northern Iraq and southern Turkey.

features across the urban landscape. An approach that emphasizes the spatial relationships between the different components of urbanism allows us to identify recurring patterns in the urban fabric that may reflect broader social, political, and religious connections.

The first step in understanding the relationship between the various urban features is identifying common components occurring at most urban sites. Texts, landscape studies, and archaeological excavations establish a baseline of different landscape features within third millennium cities. Zaccagnini (1979) outlines several important features of ancient landscapes based on a close reading of the texts from Nuzi. His volume, *The Rural Landscape of the Land of Arraphe*, provides a valuable insight into how land was distributed and utilized. The main categories he is able to identify are watercourses, mounds, woods and forests, districts, towns and villages, urban structures, arable land, uncultivated land, houses, stables, roads, and wells. These textually attested structures and land uses provide a jumping off point for further archaeological investigation. Although the cities of Nuzi and Arraphe are located in the south, and thus parts of the system of irrigation agriculture, the set up and organization of the countryside is likely very similar in the north, absent the canals. Building on Zaccagnini's basic components, additional 'urban structures' can be identified across the various sites. The urban structures include workshops, houses, religious buildings (temples and shrines), mortuary structures, and administrative buildings. Although only a portion of these landscape features would be contained within the actual city boundaries it is clear that the overall ancient urban system relied on these component parts.

This dissertation builds on the current knowledge of urbanism (Chapter 2) to provide a more nuanced view of third millennium urbanism in Northern Mesopotamia. Chapter 3 presents complete review of outer city, lower town and extramural projects across the Jezireh with comparative examples from broader Northern Mesopotamia to demonstrate the variety of activity within the urban environment. Evidence from sites across the Jezireh is collected and analyzed for spatial relationships at each individual site, focusing on the available data to provide a schematic overview of each city. Chapters 4 and 5 include case studies with new data from outer cities and extramural areas at two important urban sites – Tell Mozan and Tell Chuera. While Chapter 4 explores the complexity of the greater outer city at Mozan, through a variety of excavations, surveys, geomagnetics and other finds – the Tell Chuera area Aussenstadt A (ASA) excavations offer a pointed look at one among the variety of types.

Comparative analysis of the schematic views of the various cities is conducted (Chapter 6) to examine the possible connections between the different segments of society. Using the identified categories of landscape features as a base, Chapter 6 reviews land use in urban areas associated with important third millennium cities. Activities in lower towns and extramural areas are examined to determine consistencies and differences between the various sites. In Chapter 7, the co-occurrence of activities, buildings and their spatial relationships are examined to determine if certain overlaps have political, religious, social or economic implications. The final chapter brings together an analysis of the variations in the urban form across Northern Mesopotamia for a comparative view of the connections within the off-mound areas.

Chapter 2. Archaeology of Urbanism

2.1. Introduction

Cities – their rise, their various forms, and their significance in ancient societies – have been an important research topic in archaeology since the first discovery of major ancient sites. Wirth (1938), in his seminal article “Urbanism as a Way of Life,” recognized that urbanism is more than just the study of cities, but is actually the study of the organization of urban society. He wrote “while the city is the characteristic locus of urbanism, the urban mode of life is not confined to cities” (Wirth 1938:1). An urban society is more than just a society with cities, but rather one that is fundamentally shaped by an urban way of life. Similarly, Monica Smith (2003:13) identifies urbanism as the “general phenomenon of cities in their political, social and economic aspects.”

Studying urbanism requires a two-step approach. First, cities and urban environments must be defined and identified through archaeologically recoverable elements. Identification of urbanism includes recognizing that the scale and scope of urbanism extends beyond city centers and elite institutions. Second, the study of urbanism requires the development of methods for analyzing archaeological remains to extract information regarding the social, economic, religious, and political complexity of cities. Cities often serve as a convenient unit of analysis, particularly in comparative studies. As a major indicator of complex society, numerous approaches have been developed for the study of cities.

This chapter explores theories of urbanism and cities in general, various approaches to studying urban areas, and current understandings of ancient Near Eastern

(ANE) cities. This review of the field provides the background for the study of Northern Mesopotamian cities and creates a framework for understanding networks and relationships within urban areas as is discussed in the following chapters.

2.2. Recognizing Urbanism

To approach the study of the cities of the Second Urban Revolution (SUR), it is helpful first to review approaches to studying cities in archaeology, generally. The study of the city and the “urban revolution” in archaeology is always implicitly or explicitly tied to V. Gordon Childe’s “The Urban Revolution” and his checklist of what makes a city and an urban society (Childe 1950). His ten criteria – large size, craft specialization, surplus creation, monumental public architecture, a ruling class, sciences, writing, arts, long distance trade and a community based on residence instead of kinship – form the basis of most attempts to identify cities. While any one criterion may be disputed or discarded, as a whole he paints a clear picture of what differentiates urban society. Childe’s criteria focused on defining and recognizing cities and urban societies archaeologically. Earlier attempts to analyze the development of cities identified various ‘phases’ of societal development but lacked the archaeological data to fully elaborate these theories (Smith 2009). His work opened the door for exploring the variety of shapes and forms that cities can take and for establishing a basis for cross-cultural comparison. Cross-cultural comparison has been invaluable in establishing characteristics of cities that are universal, and those that are indicative of a broader social or political structure within society (Adams 1966, Charlton and Nichols 1997, Trigger 2003, Smith 2011, 2012, Smith and Peregrine 2012).

Childe's list of criteria focused on "urban functions" rather than "urban structural features" (Renfrew 2008:47). While functions are what make a place urban (i.e., what make a city a city), structural features are the archaeologically recoverable aspect of urban functions; thus the gap between functions and structures must be bridged. As Smith (2009) discusses, Childe's criteria are part of a network analysis of ancient cities with interlocking and overlapping functions.

Trigger (1972, 2003) also developed a functional definition of cities. He argued that a "key identifier of an urban centre is that it performs specialized functions relative to a broader hinterland" (Trigger 2003:120). Specialized functions of cities include political and administrative activities, religious activities, art and writing, trade-related activities, and specialized craft production (Trigger 2003). Again, these activities mirror Childe's criteria, but place them in a broader context. Functional definitions often highlight the urban in opposition to the rural, with greater specialization and a reliance on a rural hinterland (primarily in the form of agricultural production).

Marcus and Sabloff (2008) emphasize the diversity of cities, moving away from a definition of "the city" toward a more complex explication of "a city" that recognizes the variety of types of cities. Their elements of urbanism include heterogeneity in the urban population, diverse buildings and personnel, building density, a monumental 'core' of buildings, a maximum building height at the center of a city, a central focus (administrative or religious), and organizational features such as neighborhoods, plazas, and street layouts (Marcus and Sabloff 2008:13). Their criteria focus on archaeologically recognizable structures and move away from functional definitions in relation to broader

landscapes.

The study of cities has often focused on central institutions such as palaces and temples. As major seats of power in ancient cities, these institutions are reasonable places to begin to understand the structure, form, and meaning of cities. As Childe and Trigger's definitions show, however, it is necessary to move beyond the center of centers, as it were, to examine the full variety of urban experiences. Although temples and palaces may be locations of major organizational aspects of urban society, urban functions are not limited to the central parts of cities and other important urban functions (such as craft specialization) take place in various locations. Locating urban functions and understanding their relationships build understanding of ancient society and its organization.

Because the current study is concerned not with recognizing the transformation of sites into cities, or even with the first emergence of urbanism in the region (because cities first appeared in the fourth millennium), a functional approach to cities is preferred. The characterization of certain mid-third millennium places as cities is widely accepted based on archaeological markers, but their functions relative to surrounding micro-regions is less well known. Recognizing the function of cities in relation to their broader contexts, in particular areas immediately around sites, allows analysis of the significance of various city layouts. The largest and most important cities of third-millennium Northern Mesopotamia can be identified through textual and archaeological data, from both survey and excavation. These large sites fulfilled the functional duties of religious and political centers and were important nodes in craft production, trade, art, and writing. Lampl

(1968:6) defines ancient Near Eastern cities as “large, permanently settled, organized communities of people bound together by religious, political and economic interests, complementary and interdependent through a division of labor and stratification of society and headed by a priest, governor, prince or king, with a temple compound as a religious, and a palace or citadel as a political center.” This general definition is broadly applicable to the cities of Northern Mesopotamia.

2.2.1. Micro-Regions: Scale and the Definition of Cities

While the city became a useful unit of analysis for studying ancient civilizations, some scholars have found it limiting, particularly in cases where cities, rather than empires or territorial states, are the largest unit of societal organization. Cities do not exist in isolation but instead are always embedded within larger contexts. Smith (2007:4) defines urban places as “centers whose activities and institutions – whether economic, administrative, or religious – affect a larger hinterland.” The concept of the city embedded in and influencing a greater hinterland is well attested in the literature (Blanton 1976, Hansen 2000, 2008, Nichols and Charlton 1997, Trigger 2003, Marcus and Sabloff 2008). Fox (1977) has argued that cities must be understood on the basis of the society within which they are embedded. For Fox, this translated into the separation of cities into three types: mercantile, regal/ritual, and administrative. In city-state cultures, however, the capital city or town must serve all of these functions, making the distinction immaterial.

Some scholars have used the concept of the city-state as a framework for understanding cities. The value of this approach is that it provides broader contexts for

cities, both in its political aspects (state-level structure) and scale (which includes the area supporting the city). City-states are different from their counterparts, territorial states, which include numerous cities and a larger area of control (Trigger 2003, Hansen 2000, 2008).⁵ Still, city-state analysis also relies on understanding larger cultural contexts. City-states are usually part of a larger city-state culture that is inter-dependent and connected (Hansen 2000). The city-state model includes the hinterland as a part of the urban, rather than in opposition to it. Hansen (2000:19) describes the city-state as:

“a highly institutionalized and highly centralised micro-state consisting of one town (often walled) with its immediate hinterland and settled with a stratified population, of whom some are citizens, some foreigners and sometimes, slaves. Its territory is mostly so small that the urban centre can be reached in a day's walk or less, and the politically privileged part of its population is so small that it does in fact constitute a face-to-face society. The population is ethnically affiliated with the population of neighbouring city-states, but political identity is focused on the city-state itself and based on differentiation from other city-states. A significantly large fraction of the population is settled in the town, the others are settled in the hinterland, either dispersed in farmsteads or nucleated in villages or both. The urban economy implies specialisation of function and division of labour to such an extent that the population has to satisfy a significant part of their daily needs by purchase in the city's market. The city-state is self-governing but not necessarily an independent political unit.”

The scope of the city-state presents a clear unit for study. The micro-region of the city-state, generally confined to an area of one day's walk, represents the broader urban environment. Cities can dramatically influence the immediate hinterlands (Harmanşah 2013). Using Hansen's description it is clear that the “where” of activities – their locations – are important aspects of city-states, focusing on the distribution of various people and activities within the urban landscape and circumscribed within a set boundary.

⁵ Hansen (2000) prefers the term ‘macro-state’ over ‘territorial state’.

It is also clear that the city, using this definition, extends beyond the walls or immediate settled area to include a broader supporting area.

In the case of Northern Mesopotamian cities, Hansen's definition fits very neatly with the known organization of cities. Since the cities of the SUR were city-states, it is necessary to consider them within their broader setting, including lower towns and extramural areas in understandings of the distribution of specialization, population, and political activities. Functions, however, must be detected through archaeological correlates and the 'where' of an activity can illuminate the political, religious, economic, and social nature of relationships. The micro-region of the city-state provides an important framework for studying cities, emphasizing their place in the landscape and the need to understand more than the centralized aspects of society.

2.3. Urban Complexity and Meaning in Cities

Urban theory in sociology and the study of modern cities offers some useful frameworks for understanding ancient cities.⁶ The limited nature of archaeological data is incompatible with many recent sociological theories and approaches that rely on surveys or more complex datasets, but many early urban theories remain useful for archaeology. Since the Industrial Revolution and the exponential growth of urban populations, the city has become a major focus of study. Urban sociologists such as Wirth (1925, 1938), Burgess (1925), Hoyt (1939), and Harris and Ullman (1945) created explanatory models for the growth of cities and the shifting distribution of various major categories of activity

⁶ See Smith (2010) or Marcus and Sabloff (2008) for a review of sociological urban theory and its applicability and relationship to archaeology.

including administration, residence, and manufacturing.

The Chicago school of sociologists (Burgess, Wirth, etc.) created the first models of urban areas. The concentric-ring model of urbanism places important institutions at the center, manufacturing in the second ring, and, in the third ring and beyond, poorer neighborhoods with workers' residences and commuters. Criticisms of the concentric model led to the development of the sector model, which predicted a more wedge-like outgrowth of the variety of areas as each area expanded but continued its specific function. Diversity of city types was also recognized through the multiple nuclei model, which is used to describe those cities that grow and absorb different areas that continue to maintain their own centers. Urban models such as those discussed here help place ancient cities in context and the explanation of these better known cities can provide a starting place for identifying different zones in ancient cities and their inter-relationships.⁷ These models were designed to apply to modern, industrial cities, but they have a certain level of applicability to ancient cities, where smaller city sizes favor a concentrated center of elite activity. Sjoberg (1960) modified these approaches to be more applicable for pre-industrial cities and suggested a concentric city model, with elites concentrated in the center, and lower classes in outer rings, with outcasts in the furthest ring (Sjoberg 1960, see also Smith 2010: Fig 1.). This concept is also rooted in the more economic approach of Van Thünen (1826 [1966]), which predicted the distribution of agricultural and pastoral activities based on diminishing returns owing to transport costs. While Van Thunen's approach was economically derived, sociologists approached the city from

⁷ The concept of zones in ANE cities is discussed further in Chapter 7.

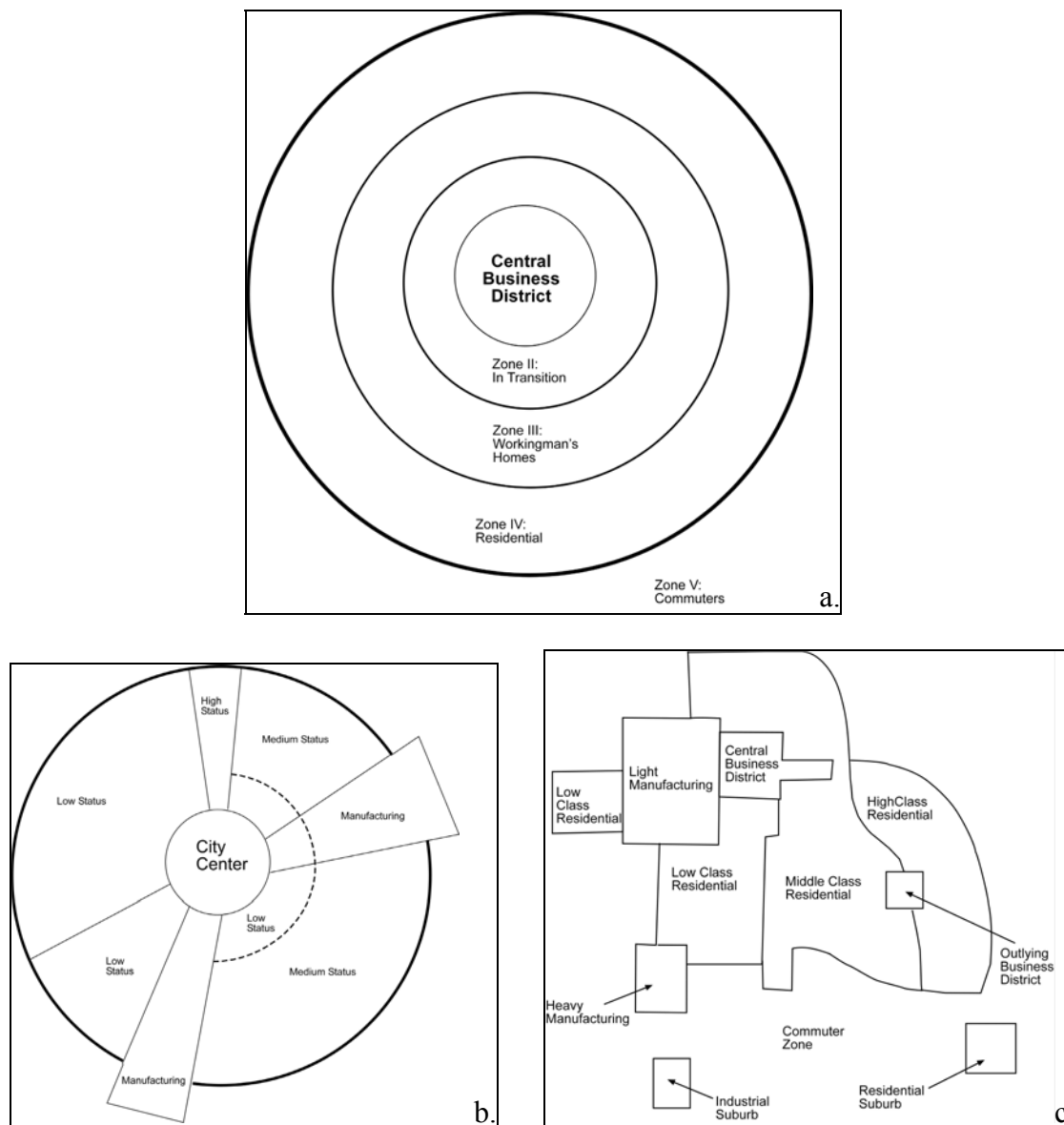


Figure 2.1 Models of Urban Development in Urban Geography and Sociology.

a. Burgess' Concentric Model for Urbanism (Burgess 1925). He used this model to explain Chicago and other modern cities.

b. Sector Model of Urban Development. Developed by Homer Hoyt (1939), this model explains urban growth based on transit routes and perception. (Image after Hoyt 1939 and Marcus and Sabloff 2008: Fig. 1.2)

c. Multiple Nuclei Model for Urban growth. In this model, new 'centers' form in outlying areas as industry forms around new areas. (Image after Harris and Ullman 1945 and Marcus and Sabloff 2008: Figure 1.4).

more social perspectives, focusing on the distribution of people, economic resources, authority, and shifts in these distributions over time (Figure 2.1).

Alexander (1965) approaches cities as a series of systems all part of a more complex, larger system. He refers to the different aspects of the city as units, and the units can overlap partially, be nested, or not overlap at all. These various levels of interaction form a 'semi-lattice' pattern, with specific overlaps defining the city. He later expanded his concept of the semi-lattice to detecting patterns in the built environment (Alexander *et al.* 1977). He proposed that patterns occur in cities that grow 'naturally' just as they do in the natural world.⁸ Perhaps the most applicable aspect of this theoretical approach is in understanding that the city is defined not solely by its individual elements, but rather by the interaction between those elements. Using a network approach to understanding ancient cities, one can begin to approach urbanism 'as a way of life.' In the case of the cities discussed in this dissertation, several points of overlap between various components of urbanism are identified (See Chapter 6).

Sociological, anthropological, and archaeological work has been able to demonstrate the social construction of space and the role of places in social interaction (Rapoport 1977, Clark 1982, Ashmore 2002). Most theories regarding the role of space in the social construction of society are based on the work of social theorists such as Giddens (1984) and Bourdieu (1977). Such social theories have been expanded in both archaeology and other fields to the study of cities and the idea that the distribution of different urban components within the city reflects the broader social structure of society

⁸ In this context, "naturally" is used not to imply a lack of government or planning, but rather to distinguish from intentionally planned settlements like Roman military encampments and modern planned suburbs.

(Flannery 1998, Stone 1997, 1999, M.L. Smith 2003, M.E. Smith 2007). It seems clear from comparative analysis of modern and well-documented cities that urban form and layout are linked to social and political structure.⁹ Cities are shaped not only by elite power brokers and leaders, but also by all inhabitants (M.L. Smith 2003). Adam Smith (2003) argues that the built environment should be considered to be an active part of the creation and legitimization of authority, rather than only a passive location for these processes.

Complexity in archaeology is often linked to ideas of complex societies and evolutionary perspectives on the procession of society towards more complex iterations (i.e. band, tribe, chiefdom, state). In this context, complexity represents a level of advancement that reaches the height of complexity with state-level societies. Stein and Rothman (1994) define complexity as “the degree of functional differentiation among societal units.” In their definition of societal units, they include “households, economic enterprises, political associations, classes, villages or urban districts” (Stein and Rothman 1994). For Rothman (2004:76) complexity is interdependence within the governmental, economic, and religious spheres. In this dissertation, the term “complexity” is used similarly to Stein and Rothman (1994), as a concept embodying a whole composed of numerous parts arranged in an intricate (complex) pattern. In the case of ancient societies, degrees of complexity are manifested at various scales and in various contexts – in the physical, spatial distribution of activities, such as the supply chain, craft specialization, or

⁹ See below for a discussion of the types of analysis conducted in the ANE within the framework of city analysis to determine economies, political structures, religious beliefs and social and family relationships. See also M.E. Smith (2007), M.L. Smith (2003), Stone (1987, 1997) and Butzer (2008).

distribution networks, or in religious, political or social networks. Cowgill (2004: 538) identifies a three-tier hierarchy of inhabitants that influence what he terms the “urban anatomy” of a city. In particular, the focus of this dissertation is on the complexity (intricacies and networks) of off-mound activities at major urban sites and how such activities are connected to the larger complex system that is urban society.

Studies of complex societies often focus on power, authority and control in society. Flannery (1972) viewed complex societies as a network of relationships, hierarchically arranged, that become more integrated and more important as societies become more complex. Matthews (2003a:96) suggests using monumental constructions, regional hierarchies, craft specialization between and within sites, temples with priests, and evidence of “growth, flux, collapse” as major archaeological correlates for identifying ranked societies. Recognizing the relationships between the various people, institutions, and power structures is difficult, and archaeologists have used various lenses to address complexity and integration within urban environments. Social organization can be charted along three main axes: scale, complexity, and integration (Blanton et al. 1993, Stein 1994b).

2.4. Analyzing Cities

In order to study the ‘social construction’ of cities, different aspects of society must be localized. Smith (2007) proposes a model for understanding urban planning based on two main characteristics: spatial relationships and standardization.

Understanding the complexity of urban environments requires careful study of the overlap of different functions, in particular those functions that always or never co-occur,

suggesting significant divides within the spheres of urban life. Degrees of standardization across cities highlight uniform characteristics that were the basis of urban society, while variations may suggest meaningful deviations from standard modes.

Before any analysis of ‘urban complexity’ can take place, a body of data needs to be collected on the cities themselves. The most successful studies of urban areas are those that approach the problem not from any specific theoretical approach, but rather that fit their middle-range theory to the data available (see Smith 2011a).

2.4.1. Analyzing Cities: Methods and Datasets

In the archaeology of the ancient Near East (ANE), a variety of approaches have been used to attempt the study of cities. The excavations of the 19th and early 20th centuries exposed huge expanses of Southern Mesopotamian cities such as Nineveh, Babylon, Nippur, Uruk, and Kish. These excavations provided a baseline of knowledge about the architecture, urban layout, and ceramics of the various epochs of ancient Mesopotamia. The extensive corpus of texts has allowed the examination of urbanism through the lens of the economic, historical, religious, and property texts (e.g. Zaccagnini 1979, Liverani 1996, Stone 1987, 1997a, Adams 2008, Bracci 2008, Baker 2007, 2009, 2011, Van Koppen 2001, Biga 2013). In some cases, the increasing specialization of scholars has led to a growing disjoint between philological and archaeological approaches (Pollock 1999, Zettler 2003). The rise of landscape studies has also enabled the study of cities within their particular landscapes (Adams 1965, 1966, 1981, Adams and Nissen 1972, Wilkinson and Tucker 1995, Wilkinson 1994, 2000, Wilkinson *et al.* 2004, Ur 2010b). As is always the case in archaeology, interpretations are much richer

when various datasets can be combined (e.g. Stone 2007, Sallaberger and Ur 2004).

An idealized form of ‘the city’ can be parsed from various texts, although they almost always come from periods post-dating the Early Bronze Age. Certain underlying realities pertain across time in urban environments, however, such as the need for productive land, pastoral steppe, etc., allowing us to use textual evidence as a starting point for examining third-millennium cities. Carlo Zaccagnini (1979) studied the landscape around the second-millennium urban center of Arraphe, in modern day northern Iraq. Using a textual analysis he identified the main components of the urban settlement system including both natural and man-made elements.¹⁰ In his model cities are nested within a network of smaller settlements and arable land, connected by roads and watercourses. His textual analyses provided evidence for several critical aspects of urban society, including towns and villages, mounds, watercourses, woods and forests, arable land, uncultivated land, houses, stables, roads, wells and urban structures. Simona Bracci (2008) used a similar textual approach to study the Nuzi countryside in the mid-second millennium. In archives, she was able to find land-ownership links between households within the city proper and land immediately outside the walls. Her work shows the importance of the areas immediately outside the walls for maintaining urban households. In the cases examined it also appears that households exercised control over the city gates within their sub-sections of the city (or neighborhoods).

Archaeological explorations of cities have often focused on the central mounds and the important institutions of the third millennium, including palaces and temples. In

¹⁰ See also discussion in Chapter 1 and Chapter 6.

some cases research has expanded to include an attention to lower towns and extramural areas. These areas have usually been subjected to intensive surface survey (e.g., Hamoukar, Brak, Mozan), with only a few scattered excavations. Excavations in lower towns, when conducted, are often preceded by geophysical surveys (e.g., Tiriş, Chuera, Mozan).

Landscape studies including survey and geoarchaeological approaches have greatly expanded the study of ANE cities by placing them within larger contexts. These studies have been able to identify ancient watercourses, the locations of supporting villages, and the boundaries of agricultural lands. Wilkinson has pioneered the technique of using geoarchaeology to examine areas around tells (landscapes) to determine patterns of land use. His identification of the hollow ways around third-millennium sites has been used to determine the boundaries of ancient fields (Wilkinson 1994). He also identified several landscape features that can be associated with Zaccagnini's textual analysis of Nuzi (Wilkinson 2003:119).

Survey has been invaluable for exploring diachronic change across the Ancient Near East, particularly in the Jezireh. Adams' pioneering surveys demonstrated the changing landscape of cities and settlement over several millennia. Adam's first survey, *The Land Behind Baghdad*, was published in 1965. Adams went on to conduct two more major surveys including *The Uruk Countryside* (1972), with Hans Nissen, and then *Heartland of Cities* (1981). Since these groundbreaking surveys, survey methods have become much used in the archaeology of the region, in particular for identifying periods of urbanization in the Jezireh (Wilkinson and Tucker 1995, Wilkinson 1990, 1994, 1998,

Eidem and Warburton 1996, Stein and Wattenmaker 1990, 2003, Ur 2002a, 2002b, 2012).¹¹

Nucleation of population during the mid-third millennium is a hallmark of the SUR. On-site surface surveys of extensive lower towns have recently become more popular (Thompson-Miragliuolo 1988, Pfalzner *et al.* 2004, Chapter 4, Ur *et al.* 2007, 2010, Oates *et al.* 2007, Ur 2002a, 2002b). These surveys have helped to establish periods of urban expansion and contraction. In some cases, such as Brak, survey results show the city was formed as a result of an agglomeration of small settlements.¹²

Combined approaches have produced excellent results in understanding urban areas, particularly off-site areas. Sallaberger and Ur (2004) used a combined landscape and textual approach to study the third-millennium landscape of Tell Beydar. As mentioned above, Wilkinson used a combined textual and geoarchaeological approach to explain features around tells. A benefit of such combined approaches is the ability to verify interpretations. For example, Zaccagnini recognized two different types of roads or tracks in the texts – one for short distance travel and one connecting sites (Zaccagnini 1979). Subsequently, Wilkinson (2003:119) was able to identify two corresponding types of hollow ways – those that dissipate at a fixed distance from the site and those that continue over long distances (Wilkinson 2003).

2.4.2. Analyzing Cities: Theoretical Models and Approaches

Using the different methods and datasets discussed above, a number of different

¹¹ See Wilkinson 2000, Table 1 for a comprehensive review of Mesopotamian surveys.

¹² This only applies to the fourth millennium at Brak, where the LC3 appears to the phase of maximum extent of the city. During the third millennium the city was much more restricted (see Chapter 3).

theoretical approaches and models have been applied to ancient Near Eastern cities.

These studies attempt to bridge the divide between the preserved materials and a broader understanding of society and social structures.

Perhaps the most common approach is to examine social structures through analysis of urban layouts. Elizabeth Stone (1987) pioneered this type of study, combining archaeology with textual records in her book *Nippur Neighborhoods*. Her study was able to demonstrate differences between two different social groups within the city, as reflected in the urban layout and confirmed through textual evidence. She argues that the Old Babylonian city of Nippur was organized based on neighborhoods with varying degrees of urban/rural and institutional ties. The presence of these semi-autonomous neighborhoods shows the heterogeneity of the urban environment and suggests that the city had a weak central authority. Comparison with other cities of the ANE showed a common pattern of distinct neighborhoods with a mix of high- and low-status households indicating a degree of social mobility in society (Stone 2007).

Stone followed up her study with another on city planning with Zimansky, this time using surface survey to examine the distribution of neighborhoods and zones within the ancient city of Mashkin-Shapir (Stone and Zimansky 2004). The authors argue that the centralization of concentrations of elites indicates a more hierarchical society, while the intermixing of elite and non-elite residences represents a more consensual arrangement of government (Stone and Zimansky 2004:4). Because physical spaces and the layout of urban areas are archaeologically recoverable, connections between physical spaces and social structures allow the archaeological investigation of society through the

lens of the preserved materials.

Everyday life can also be explored through the concept of neighborhood studies, as Keith (2003) demonstrated through her study of Old Babylonian neighborhoods. By studying the household and the spatial patterning of Old Babylonian neighborhoods, she was able to recognize a widespread distribution of craft workshops that indicates that individual households and neighborhoods were the primary decision makers regarding the number and placement of workshops, households, and even small religious buildings. Shifts and changes in households and their associated features (bakeries, shops, small alleys) can be attributed to changing familial relationships (inheritance), continuation of inherited family businesses, and other formal and informal social interactions (Keith 2003:77–78). Texts have also provided Baker (2007, 2009, 2011) with the data for analysis of first millennium Babylonian cities. In her work she has emphasized non-elite buildings and spaces to better understand religious practice, community, wealth and social status (Baker 2009).

Buccellati (2005b) examines the rise of the city in the context of the fragmentation of social interactions. In an urban environment social interactions become impossible to maintain based solely on face-to-face interactions with known individuals but instead are based on more complex social roles (Buccellati 2005b:485). The study of this separation of people from the face-to-face interactions of a smaller society can be investigated archaeologically through the study of concepts of industrialization. In an industrialized society one person does not control all aspects of procurement and production. Instead there is a set system that allows for different actors to work together

to produce necessary goods. Again, this type theoretical approach allows for a connection between archaeologically recoverable materials, such as supply chains and workshops, and translates into ideas about the urban experience.

Creekmore (2008) has explored the overall plan of several cities, focusing on Kazane Höyük, to trace changes over time as representative of “dynamic human processes”. Using the concept of ‘life histories,’ Creekmore examines several cities of Northern Mesopotamia, comparing them to see what changes and adaptations are visible as evidence for the production of space and the social implications of space. He found that cities showed evidence of heterogeneity and duality, with central institutions managing major planning objectives and individual households managing relatively autonomous actions (Creekmore 2008:363). His study is limited by the uneven nature of the data from different sites.

Overall, there is an emphasis on linking recoverable data with social structures. As Smith (2007) has argued, there is a false dichotomy between planned and unplanned cities, and the approaches highlighted above attempt to locate cities on this continuum between planned and unplanned. The role of household agency within the individual household and on the neighborhood level indicates the intermediate levels of organization and control within the urban centers of the ANE. These concepts can also be applied to the study of Northern Mesopotamian cities, although the data is much more sparse due to the restricted scale of excavations at most sites and the limited textual data.

2.5. Archaeology of Urbanism as Applied to Cities of the SUR

Previous scholarship provides the methods and frameworks for identifying and

analyzing cities of the SUR. What we find from these studies is that the idealized ancient Near Eastern city is often described as a version of the ‘concentric model’ as identified by early urban sociologists (e.g. Burgess 1925, Van Thünen 1826 [1966], Sjoberg 1960). In the concentric model the center is an urban epicenter with public buildings and the location of major administrative and ritual activities. The next ring is full of residences and habitation areas, with a third zone outside of that with lower class homes and farms. This dissertation brings together data on the areas off the high mounds of the major cities of the SUR in Northern Mesopotamia, focusing on the second and third rings. The goal is to illuminate the distribution of activities as a vehicle for understanding the complexity of the ancient urban form. The city’s micro-region is examined as a location of urban complexity and urbanism is explored through the lens of the interconnected networks of places and functions in the outer towns and extramural areas. The significance of the study is rooted in the concept that space is culturally meaningful and that the distribution of people and their institutions inside of cities reflect the broader social structure (Ashmore 2002, Clark 1982, Smith 2003, Stone 1997).

Following Childe, Trigger and M.E. Smith, cities can be defined through the functions they fulfill in society. Since cities, by definition, must have a broader hinterland, the study of the areas in and around cities is interrelated. The focus on high mounds and their elite institutions has obscured the nature of urbanism in this region, creating a vision of a hierarchical society completely controlled by elites through the management of either staple or wealth finance. The lower towns and extramural areas are the locations of important social interactions, economic and political activities, craft

workshops, and manufacturing activities. All of these activities, and their interrelationships, form the substance of the city, the urban landscape. Current archaeological research has identified a broad range of locations of urban activity including lower towns, outer cities and extramural areas. The studies presented above show the importance of understanding the off-mound locations of important urban functions. In particular, Zaccagnini's study on the landscape of Arraphe provides a window on the different zones of use around cities. Linking back to Smith's (2007) concepts, the rest of this dissertation will discuss the spatial relationships within the various cities of the SUR and the degree of standardization found across these sites. The next three chapters will cover a variety of urban layouts at important third-millennium sites of Northern Mesopotamia. Chapter 3 introduces the current state of knowledge about outer cities, lower towns, and extramural areas across the Jezireh and broader Northern Mesopotamia. The following two chapters introduce case studies from two major sites, Tell Mozan and Tell Chuera.

Chapter 3. Northern Mesopotamian Cities of the Second Urban Revolution

3.1. Introduction

Widespread excavations and surveys in Northern Mesopotamia during the last 30 years have greatly illuminated the urban character of the north. Major third-millennium cities have been identified across Northern Mesopotamia and during this period a full-fledged urban society emerges. Although urbanism first arose in Northern Mesopotamia during fourth millennium in a period called the Late Chalcolithic (LC), the region returned to a regionalized non-urban distribution of sites in the end of the fourth millennium and first few centuries of the third millennium. Around 2600 BCE there was an explosion of urbanism with many sites expanding rapidly into large urban centers. Akkermans and Schwartz (2003:233) described the SUR as a time when Syria was filled with a “mosaic of city-states of varying power and scale”. The larger sites of third millennium northern Mesopotamia are clearly urban, fulfilling all of Childe’s criteria. Embedded in a socio-political matrix of pastoralists, territorial city-states and small villages, the large sites are implicitly accepted as cities. Surveys, textual analysis and excavation have sought to place them within their larger context, yet the study of the city-state itself, the micro-regional analysis, has rarely been conducted. The different approaches above have left the field with a fragmented understanding of the form, shape and structure of urban centers of the third millennium. Many reports describe sites as ‘typical’ of the third millennium without explaining what makes them so.¹³

¹³ See Chapter 1.

The questions of urban layout and the relationship of the extensive lower towns has been an area of interest since the distinctive citadel towns were first discovered. Few projects, however, were designed to address the extensive lower towns. The Tell es-Sweyhat project, under Richard Zettler, was designed to address the gap in the data on lower towns. In 1997 he addressed the need for a systematic investigation of lower towns and wrote:

“Did outer towns contain dense residential architecture or were there open spaces such as gardens or orchards, or undeveloped land that could have served to accommodate herds of sheep and goat or trash dumps? What was the extent, if any of the extramural settlement? Were city citadels occupied exclusively by palaces and temples and their dependencies? If houses existed in the citadels, did their size, architectural elaboration, and/or artifacts set them apart as a group from houses in outer towns? Did the occupants of the citadels and outer towns have differential access to natural resources, for example, meats and cereals? Were public administrative buildings and temples located in outer towns? Did houses in outer towns occur in distinct clusters that might be suggestion of ethnic, kin, or occupation-based quarters? Did the size and architectural elaboration of houses within outer towns vary? What industries (as opposed to household productions) were localized in northern cities? Were workshops located in both citadels and outer towns or only in the latter? If both, were certain industries concentrated in one area or the other? Were outer town workshops physically segregated or were they dispersed and/or perhaps embedded in largely residential areas, or do they manifest a dual pattern?” (Zettler 1997a:8-9)

Now, 15 years later, by bringing together data on the numerous excavations that have been conducted in lower and outer towns and extramural areas, one can begin to approach some of Zettler’s questions. With these questions in mind, the following section explores the third millennium cities of the Jezireh with additional examples drawn from greater Northern Mesopotamia.

Smith’s (2007) model for studying urban planning focuses on two different aspects – spatial relationships and standardization (see Chapter 2). This chapter discusses

the urban layouts of several sites across Northern Mesopotamia and examines their spatial relationships. Analysis of urban form in Northern Mesopotamia has been hampered by the lack of systematic attention to the distribution of activities off central mounds and the focus on larger scale planning issues. Some infrastructure, such as roads, city walls, and hollow ways leading away from sites, has been investigated since these features are often visible without excavation. A closer examination of the literature, however, shows that numerous sites have conducted research on the lower and outer towns. As discussed in Chapter 1, areas off high mounds are generally believed to be major loci of occupation and fairly non-complex. This chapter synthesizes data on the lower towns, outer cities, and extramural areas of major urban centers to explore what they can add to the understanding of the layout of ancient cities and their complexity.

3.2. The Jezireh: Outer Cities and Extramural Investigations

The Jezireh is a steppe-like area between the Tigris and the Euphrates in upper Mesopotamia, cutting across parts of Iraq, Syria and Turkey (Figure 3.1).¹⁴ The mean annual rainfall ranges between 200mm in the southern steppe to 500 mm in the more well-watered north (Wilkinson 1994). The main area of occupation is focused on the areas that are most suitable for dry-farming, in particular the well-watered plains around the Khabur triangle. The Khabur triangle includes a broad area of wadis and tributaries coming down from the mountains to the north and joining the Khabur River, before draining into the Euphrates.

¹⁴ The river valleys have a slightly different developmental trajectory and should really be discussed separately (see Section 4 below). In the east, the Balikh really serves to separate those site associated with the sites of the Euphrates valley, however, the Jezireh is traditionally considered to include this area.

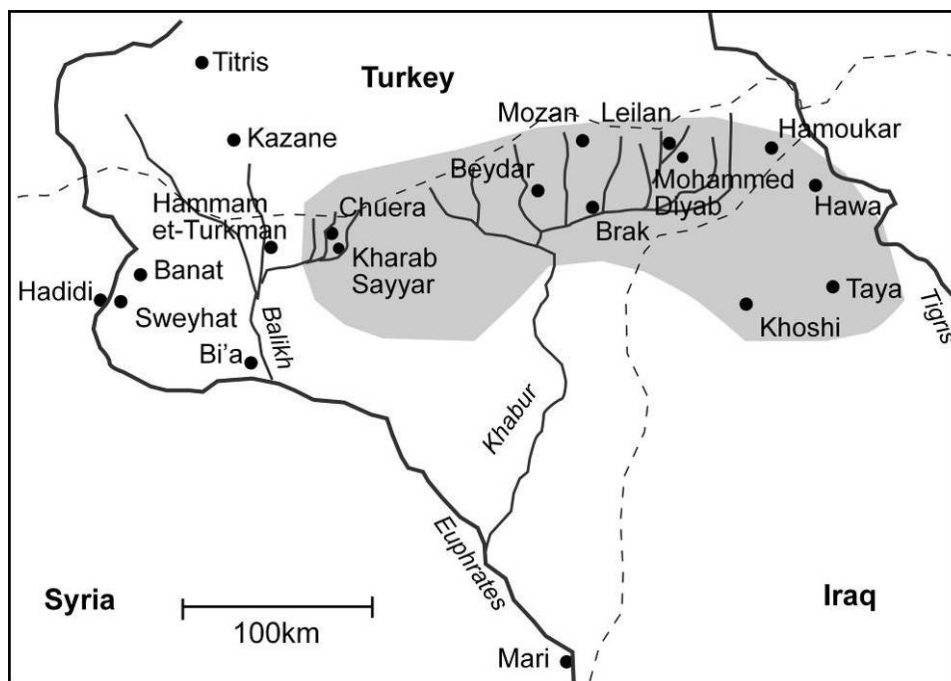


Figure 3. 1 Area of the Jezireh (in gray) with third millennium cities labeled

The sites across the Jezireh show similarities and a degree of interconnectedness that allows them to be discussed together. The “Kranzhügel” distribution in the west represents a possible divergence from the other sites, but as will be discussed below, they are actually very similar in their underlying urban development.

The two sites that form the major case studies of this dissertation (Chapter 4 and 5) are found within the boundaries of the dry-farming Jezireh. It is within this region that the closest comparisons can be made regarding the distribution of activities within the urban context. In Section 4 (below) a broader scope is explored, however, as will be shown, outside the Jezireh there is a greater variation in the form of cities.

3.2.1. Surveys – Site Distribution

A number of surveys in the region have helped to identify the major urban centers of the third millennium (Mallowan 1936, 1937, Wilkinson 1990, 1998, 2001, 2002, Wilkinson and Tucker 1995, Eidem and Warburton 1996, Lyonnet 1996, Ur 2002a, 2002b, Stein and Wattenmaker 1990, 2003, Ristvet 2005, Wright *et al.* 2007, Kouchoukos 1998, Ur and Wilkinson 2008, Ur *et al.* 2011, Deckers and Dreschler 2011). The surveys have covered both extensive areas and immediate hinterlands of individual sites.¹⁵

A four tier hierarchy of sites can be recognized across the region during the main phase of urbanism, although the relationship between sites and across the region changes and shifts over the course of the third millennium. Despite the regional variations, an explosion of settled urban centers happens across the region in the mid-third millennium. During this phase, Tell Leilan, Tell Brak, Tell Hamoukar and Tell Mozan are the largest sites, dominating the Khabur plains. Some smaller, but also urban, sites are linked to these larger sites – in particular Tell Mohammed Diyab and Tell Beydar. Large urban centers including Tell Taya and Tell al-Hawa are also found to the east in the Iraqi Jezireh. In the western Jezireh sites are slightly smaller, but Tell Chuera and the other Kranzhügel sites maintain an urban character.

Overall, third millennium sites are well distributed across the Jezireh's landscape. Many of the sites are located along watercourses, indicating the ancient preference for proximity to these routes for both water resources and transport (Eidem and Warburton

¹⁵ See Wilkinson 2000 for a comprehensive review of surveys and survey methodology in Syria and greater Mesopotamia.

1996). Many of the waterways are now dry; however, they would have contained water, at least perennially, during the third millennium.

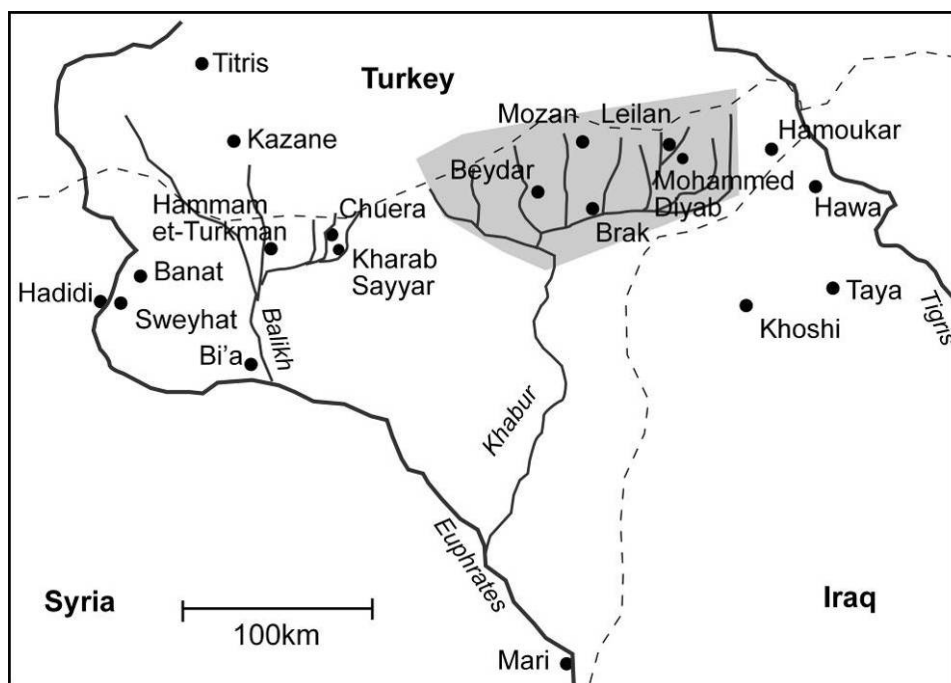


Figure 3.2 Location of the dry-farming plains of the Khabur triangle

3.2.2. *The Khabur*

The Khabur plains form the heart of the Jezireh region. Bounded by the north by the Tur Abdin and Taurus Mountain foothills, the region is crossed with numerous wadis and tributaries of the Khabur River. The Khabur River eventually feeds into the Euphrates river in the south (Figure 3.2).

At the top of the hierarchy of sites are extremely large cities, pushing the boundaries of sustainability in the region. Mozan (see Chapter 4) is the largest at almost

120 hectares. Other large sites include Tell Brak, Tell Leilan and Tell Hamoukar. Second-tier sites such as Tell Beydar and Mohammed Diyab are spread throughout the region.

The agricultural potential of the Khabur plains made it a desirable location for dry-farming settlements. To this day it remains important agricultural land in Syria. Cities in this region were poised to take advantage of the agricultural land and valuable northern trade connections.

3.2.2.1. Tell Brak

Tell Brak is one of the largest and best-known of the urban sites in Khabur (Figure 3.3). Brak reached urban status during the fourth millennium and represents one of the earliest known cities world-wide (Oates *et al.* 2007, Ur *et al.* 2011). Several surveys have been conducted in the off-mound areas at Tell Brak including general surveys and systematic surface surveys as well as some test trenches and excavations (Eidem and Warburton 1996, Wright *et al.* 2007, Emberling *et al.* 1999, Emberling and McDonald 2001, Ur *et al.* 2011, Ur 2012). The Tell Brak Suburban survey developed a coherent picture of the development of the site from its first urban origins in the late fifth/early fourth millennium through its late occupation during the Abbasid period (Ur *et al.* 2011).

Tell Brak's urban history varies significantly from that of its near neighbors of Mozan and Leilan. Reaching its maximum extent during the fourth millennium it covered

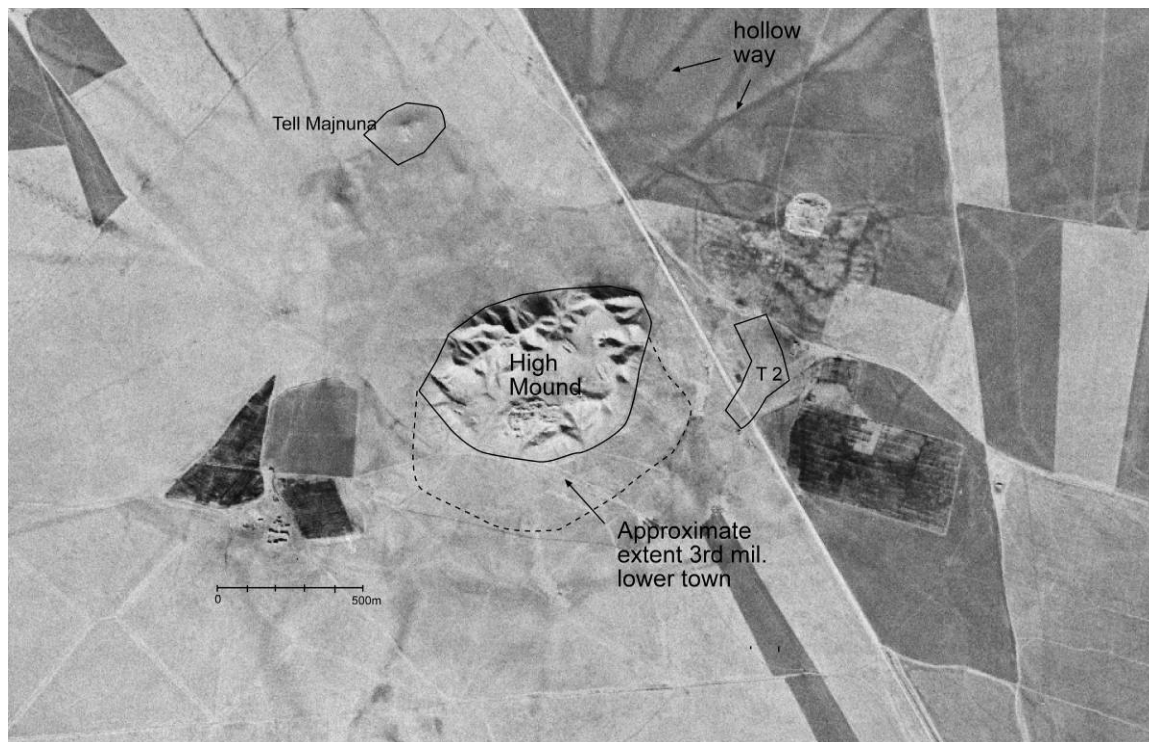


Figure 3.3 Tell Brak 1968 Corona image with major landscape areas highlighted. Lower town estimate based on Ur et al. 2011: Fig.5. Corona image courtesy Center for Advanced Spatial Technologies, University of Arkansas/U.S. Geological Survey

an area of about 130 hectares. By the time of the SUR, however, occupation was primarily concentrated in the area of the high mound, with a small extension to the south. The outer city was never walled, unlike Mozan, Leilan and Beydar. Brak's location at the crossroads of numerous cities may play a role in its unique development. The lack of city wall and unusual developmental trajectory at Brak may be related to its role as a 'gateway community' acting as a point of interaction between the south and the north, east and west. Over the millennia, Brak has exhibited connections and interactions with the numerous sites to the south, north and east.

Since Brak has no wall surrounding its lower or outer town it is difficult to

establish the boundaries of the site. Surface survey in the area surrounding the mound shows that the city extended over an area of about 70 hectares during the second half of the third millennium (Emberling *et al.* 1999, Ur *et al.* 2011). The main period of occupation in Brak's outer town appears to be during the fourth millennium when the site was as large as 130 hectares (Ur *et al.* 2007, Ur *et al.* 2011, Emberling *et al.* 1999). The primacy of the fourth millennium remains is also confirmed through test trenches which found very little evidence of third millennium occupation (Emberling *et al.* 1999).

Based on the surface survey, the mid to late third millennium occupation of the outer town appears to be confined to an extension to the south (Ur *et al.* 2011, fig. 5). Almost no Ninevite 5 material was found in the survey, suggesting that settlement was confined to the central mound during that phase. Ceramics from the second half of the third millennium were found, but they also include the Akkadian period so it is difficult to determine (based on the available documentation) when the southern lower town was first settled.

Numerous excavations have been conducted in Brak's lower town, but until now no third millennium structures have been recovered. Tell Majnuna to the north appears to be associated with a fourth millennium cemetery and the 'death pit' (Emberling *et al.* 1999, Soltysiak 2008, McMahon *et al.* 2007, 2011). To the east Temmi village and Tell T2 were also investigated but, again, consist primarily of fourth millennium remains including small houses and pit kilns (Emberling and McDonald 2001; Emberling *et al.* 1999). Above the fourth millennium structures of T2 were "intrusive" third millennium materials including one Ninevite 5 burial (Emberling and McDonald 2001). T2 then may

represent a similar N5 period extramural burial like is found at nearby Mozan (see Chapter 4).

An extensive system of hollow ways was found incised into the landscape radiating out from the site (Wilkinson *et al.* 2010). The network of pathways, believed to be evidence of long-term movement of people and animals across the landscape, have two main divisions. Some hollow ways appear to dissipate at a fixed distance from the site, while others act as connectors to other smaller subsidiary sites (Wilkinson 1994, Ur and Wilkinson 2008). At Brak, both types of hollow ways are found, placing Brak within its network of smaller sites and as a major point of connection for further travel (Wilkinson *et al.* 2010).

Overall, Brak seems to represent a special case, related to its location as a ‘gateway’ community; it is not subject to the same expansion and urban intensification in the outer town as its nearby peers (such as Leilan, Hamoukar, or Mozan). While the process of urbanization and the growth of an urban community are certainly attested at Brak on its high mound, it is not accompanied by a large scale development of a lower town.

3.2.2.2. *Tell Leilan*

Among the sites of the Khabur region, Leilan has the most extensive work conducted in its lower town. Based on ceramic dating and radiocarbon dates from the city gate operations, the expansion of the site from 15 hectares to 90 hectares took place



Figure 3.4 Tell Leilan outline with major areas of excavation (after Weiss 1990, Weiss et al. 1990). Corona image (Composite 1967, 1968, 1969) courtesy Center for Advanced Spatial Technologies, University of Arkansas/U.S. Geological Survey.

around 2600 BCE (Weiss *et al.* 2002, Ristvet *et al.* 2004, Ristvet 2007).¹⁶ The expansion at Leilan is accompanied by the increased urbanization of the landscape, with population increasingly concentrated into the largest centers (Stein and Wattenmaker 2003).

Excavations in the lower town have revealed remains spanning the third and second millennium (Figure 3.4). Overall, around 9 different excavations have been reported in

¹⁶ Early reports indicated the wall was built during the Akkadian period (Weiss 1983, 1986, Weiss et al. 1990), but further excavations show that the Akkadian wall is a later addition to the preexisting wall (Ristvet *et al.* 2004, Ristvet 2007).

the various Tell Leilan articles and excavations reports.¹⁷ Research included excavations in the area of the city wall and within the relatively flat portions of the lower town. The third millennium finds include the outer city wall, a residential area, several burials including a small cemetery and workshop areas.

City wall excavations were conducted in three locations (Op 3¹⁸, Op 4, Op CG). Both Op CG and Op 4 have provided information on the construction, dating and use of the areas associated with the city wall during the third millennium. The Op CG excavations revealed a sequence of 9 phases that span the third millennium (Ristvet *et al.* 2004, Ristvet 2007). A modern development project created a deep cut through the rise of the outer city wall providing a profile to examine the development of the city wall (Ristvet 2007). The earliest phase, Phase 1 is associated with Leilan IIIId. It appears that from its earliest establishment, the area near the city wall was associated with administration with the presence of discarded clay sealings (Ristvet 2007). Over the succeeding five phases the area continues to be used for administration of movable goods until the site is generally abandoned at the end of the third millennium (Ristvet 2007). Over the course of the third millennium the wall is constructed and modified with several phases.

Op 4 in the northeast is about 0.5 km from the high mound (Weiss *et al.* 1990).

The earliest levels in this trench included Phase II remains directly on sterile soil. The

¹⁷ Op. 2 (Weiss 1983, 1985), Op 3/57FO2 (Weiss et al 1990:535; Weiss et al 1990:542), Op. 4 (Weiss et al. 1990), Op 5 (Weiss et al. 2002:9; Weiss 1990b; Weiss et al 2002:7; Senior and Weiss 1992), Op 6 (Weiss 2002; Pulhan 2000), Op 7/8: Lower Town South (Weiss 2002, Weiss et al. 2002, Pulhan 2000), Op CG (Ristvet et al. 2004, Ristvet 2007), Lower Town Palace (Weiss 1983, Weiss et al. 1990). Only those excavations with third millennium remains are discussed in the text.

¹⁸ This excavation was originally labeled 57FO2.

Phase II remains included subterranean rooms dug into the sterile soil that were reused and modified over the course of Phase II (Weiss *et al.* 1990). West of these two rooms a burial with four individuals was found. The burial was reused over time and included several high status artifacts including an animal design cylinder seal, metal objects and numerous vessels (Weiss *et al.* 1990). The lack of Phase IIIc finds (i.e. Ninevite 5) in this area has led Weiss (Weiss *et al.* 1990) to suggest that this area represents an expansion of the lower town during Phase IIa although later reevaluation suggests that the area did in fact include some Leilan IIIc sherds (see Weiss 1990b:205). Although the Op 4 excavations were in the area of the city wall, they did not detect a third millennium city wall, instead only revealing habitation areas and burials dating to the second half of the third millennium (i.e. Phase II).

Op 3 was an early excavation in the middle of the flat part of the lower town to the east of the high mound (Weiss *et al.* 1990, Weiss 1990a). The earliest remains were dated to Phase II, or the mid-third millennium. The earliest recovered layers were damaged. Akkermans, the excavator, believes they represent domestic structures (Weiss *et al.* 1990). Although the architecture was not well preserved, the recovery of numerous kiln wasters, including fused stacks of bowls, indicate this area was also used for ceramic production in addition to its domestic character during Leilan II (Weiss *et al.* 1990, Blackman *et al.* 1993). The ceramics show a high level of standardization to ensure even firing, however, there was a significant variation amongst the different workshops (Blackman *et al.* 1993). The standardized sizing and type of the bowls has been used to argue that these bowls represent a centralized control of ceramic production and the

distribution of rations during the phase of Akkadian imperialism at Leilan (Senior and Weiss 1992). Since the workshops themselves were not recovered it is impossible to determine if they are centralized workshops or embedded in households.

In the Lower Town South an area of 600 square meters was excavated (Weiss 1990b). The area revealed residential occupation with straight streets, planned drainage and (in Phase IIIId) evidence for ceramic production (Weiss 1990b). Since none of the excavated houses appear to open outward toward the paved street, Weiss has suggested that the street represents centralized planning in the placement of roads, but not of the houses (Weiss 1990b). The walls bordering the street may have been built to create 'quarters' and restrict movement across the different groups of houses (Weiss 1991). The streets were planned and laid during the Leilan IIIId phase and continued in use without major alteration into Leilan IIb. Analysis of the botanical material collected from the houses includes cleaned wheat samples which led to the conclusion that the households were receiving their grains in the form of rations (Weiss 1990b, Weiss 1991, Wetterstrom 2003).

Burials were recovered in several areas around the site. To the southwest of the high mound, a cemetery of Leilan III period was found (Pulhan cited in Ristvet 2005: 99). The burials were all adults and the burial goods included Metallic ware vessels. Burials of neonates, infants and adults were found in the Lower Town South excavations, dating to the IIa and IIb (Weiss 1990b). These burials are probably associated with households although their exact contexts are not described. In Op 4 burials were also found associated with households.

The extensive research on Leilan's lower town allows the construction of a sketch model of the distribution of activities across the site. Like many of the sites the main central institutions appear to be located on the high mound.¹⁹ The important temples, palaces and administrative buildings at Leilan that have been discovered so far are all confined to the high mound (Weiss 1985, 1986, 1990a, 1990b, Weiss *et al.* 1990, Weiss *et al.* 2002, Ristvet and Weiss 2005, de Lillis Forrest *et al.* 2007).

In the lower town at Leilan there is evidence for administrative, residential, burial and manufacturing activities. No religious structures have yet been identified in the lower town. The lower town clearly shows evidence of both planned and generative processes. The administrative areas associated with the city gate and the planned city streets indicate that there was a level of planning and administration that governed the activities of the lower town. The distribution of houses, production areas and burial however, show there is significant variation in the kinds of activities and the distribution of those activities within the lower town. The intramural burials may be related to an attempt to establish a connection to the new city by the new inhabitants as the city grew. At sites in the Euphrates intramural tombs are often associated with the establishment of cities and used as an affirmation of political power and continuity (Porter 2002a, Ristvet 2005).

Leilan's lower town shows a similar distribution and mix of activities that is found at other sites in the Khabur (Figure 3.5). Like the other major urban sites the production and habitation areas appear to be mixed. Although there is some evidence for

¹⁹ Since Tell Leilan's high mound is not centered, the term 'high mound' will be used instead of 'central mound'

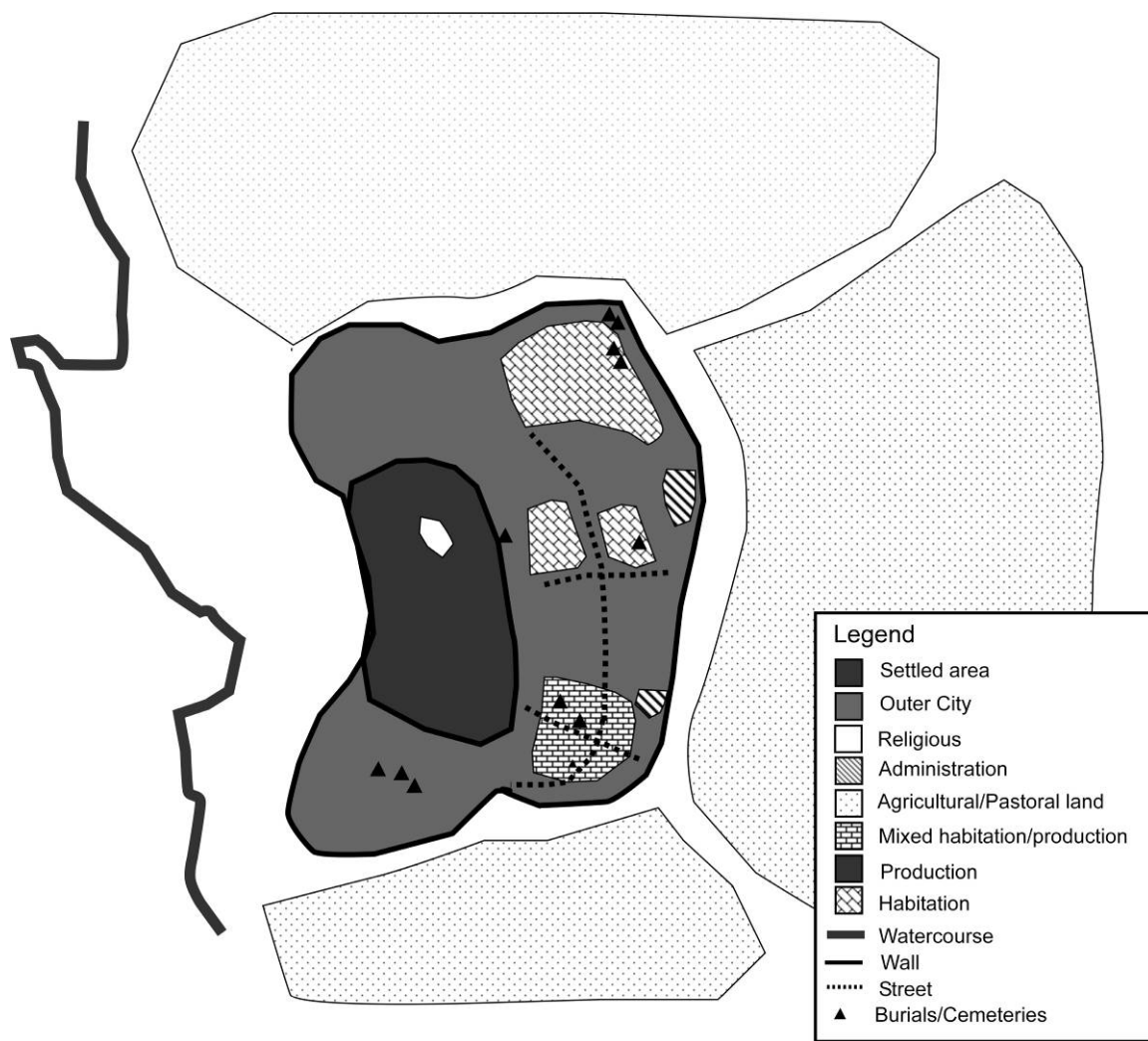


Figure 3.5 Schematic of distribution of activities in and around Tell Leilan. The schematic is not to scale and is only intended to give a general overview of the types of activities and their arrangement, rather than indicate any specific find.

standardization (Blackman *et al.* 1993, Senior and Weiss 1992), there is significant variation among the different workshops. Furthermore, the faunal remains indicate that there was a level of independence and individual provisioning with the presence of pigs (Weiss 2002, Weiss *et al.* 2002). During Phase II, the period of Akkadian imperialism, Weiss argues that the Lower Town south area was receiving cleaned rations from the

central administration – which may indicate the inhabitants were not directly involved in agriculture, but does not necessarily indicate they were employed directly by the state.

Overall, Leilan's lower town is a dynamic part of both the everyday processes and the centralized administration. Certain aspects, such as the main streets seem to be organized on a city-wide basis while individual households and burials show a broader variation in type, size and associated small finds.

3.2.2.3. Tell Mohammed Diyab

Mohammed Diyab is a 55-hectare, second-tier, third-millennium site located about 7.5 km from the larger Tell Leilan (Figure 3.6). The site is a multi-period site with important second millennium occupation, but excavations have revealed the site was also broadly occupied during the Ninevite 5 and later third millennium (Durand 1992, Nicolle 2006). The expansion of the site from 15 hectares to approximately 50 hectares is dated to the mid-third millennium, roughly contemporaneous with the Leilan IIIId development (Lyonnet 1996, Stein and Wattenmaker 2003).

During the 1990 campaign seven soundings were conducted in the lower town. The majority of the remains recovered dated from the later periods of occupation rather than the third millennium, however, Sondage 1 and Sondage 2 both revealed late Ninevite 5 remains (Castel 1992). The small soundings can shed only a little light on the activities, but the tannurs, ashy layers and grinding stones seem to suggest a residential



Figure 3.6 Tell Mohammed Diyab with soundings and excavations indicated. Excavation areas adapted from Castel 1992. Corona image (composite 1967, 1968) courtesy Center for Advanced Spatial Technologies, University of Arkansas/U.S. Geological Survey.

occupation in both areas. Sondage 2 is on a slight rise to the east while Sondage 1 is in the southern part of the lower town. The excavators believe that the site was broadly occupied during this period, although they acknowledge the finds may represent small, scattered occupation in the lower town rather than continuous occupation (Castel 1992). A possible third-millennium construction of basalt stones was found in Sondage 7 at the base of the main mound, but the date of these stones was unclear (Castel 1992).

An EDIII period burial was also found in the area of the modern village, but no

map in the publication showed if the burial was inside the boundaries of the third millennium city or was extramural (Verardi 2006). Located 200 meters to the west of the central mound it may have been placed at the limits of the third millennium settlement. The tomb included metal items suggesting a connection to Anatolia and the Kura-Araxes culture (Verardi 2006).

Based on the few excavations available and the surface survey, it appears that Mohammed Diyab expanded to include an extensive lower town during the mid-third millennium. Activities in the area immediately surrounding the main mound include habitation and burial activities. The lower town is not surrounded by an outer city wall; instead it is a series of low rises – more similar to the Brak case of development than the rapid expansion and wall construction associated with Leilan.

3.2.2.4. *Tell Hamoukar*

Located to the east of the Khabur triangle, Hamoukar is one of the largest sites in the region (Figure 3.7). During the third millennium it reached an approximate size of 105 hectares, with a substantial lower town (Ur 2002a, 2002b).

Although Hamoukar does not have a raised outer ring that may be conclusively interpreted as an outer city wall, the radiating ‘hollow’ ways at the site seem to converge on several points along the perimeter of the site leading to the suggestion that it was indeed walled and access to the lower town restricted (Gibson *et al.* 2002b, Ur 2002b). A geomagnetic survey was able to reveal a section of the wall in the south part of the outer city with possible gates identified. Streets appear to extend radially out from the gate locations (similar to Mozan, see Chapter 4).

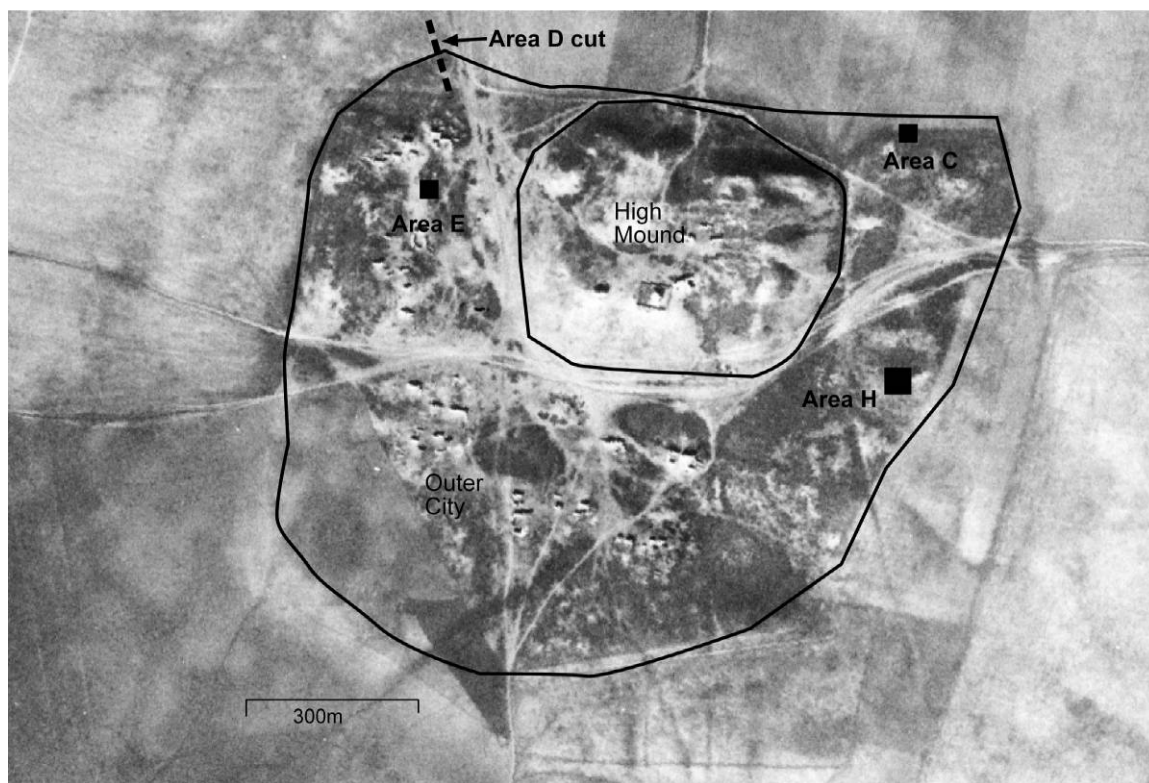


Figure 3.7 Hamoukar with excavation areas and possible city wall locations indicated. Excavation locations adapted from Colatoni and Ur 2011. Corona image (1968) courtesy Center for Advanced Spatial Technologies, University of Arkansas/U.S. Geological Survey.

Excavations in the lower town were conducted in 2000, 2001 and 2006 but a full report has not yet been published.²⁰ Based on the summary field reports the majority of the finds can be dated to the later third millennium, however, when excavated further a lower level of late Ninevite 5 is found underneath suggesting the expansion of Hamoukar's lower town is contemporaneous with the Leilan IIIId late Ninevite 5 expansion.

Excavations in the lower town were conducted in five main locations (Areas C, D,

²⁰ See 2008-09 Field Report by C. Riechel available from the Oriental Institute at http://oi.uchicago.edu/pdf/08-09_Hamoukar.pdf

E, H, and K). These excavations have found preserved third millennium architecture ranging from the Ninevite 5 through a post-Akkadian period. The majority of the buildings appear to be residential in nature (Gibson *et al.* 2002b). The cuts in Area D were conducted to investigate the extramural hollow ways. Based on the finds the hollow ways were dated to the third millennium (Wilkinson 2002).

Area C is located in the lower town to the east of the high mound, in the northeastern corner of the site. A building with a buttress and niche was found dating to the third millennium (Gibson *et al.* 2002a). Expanded excavations identified the building as an administrative building. It was along a small street. Across the street several other buildings were found (Gibson *et al.* 2002b). A tannur and several clay strips and sealings were found in one of the rooms, suggesting this room was also used for administrative purposes (Gibson *et al.* 2002b). The Area C administrative buildings suggest that portions of the lower town were controlled by the centralized administration. More than 400 square meters were exposed in Area H, in the eastern part of the lower town. The excavations revealed a complex of six buildings arranged around streets and other open, public spaces (Colantoni and Ur 2011). The houses were dated to the end of the third millennium and unburied skeletons recovered indicate it was the final period of occupation in this area (Gibson *et al.* 2002b). The houses appear to be the typical central courtyard type and the excavators believe the houses belonged relatively affluent inhabitants (Colantoni and Ur 2011). The small street separating the buildings is not a main street, and the buildings, although roughly aligned do not show any evidence of centralized planning (Colantoni and Ur 2011). Near Area H, just to the south, excavations

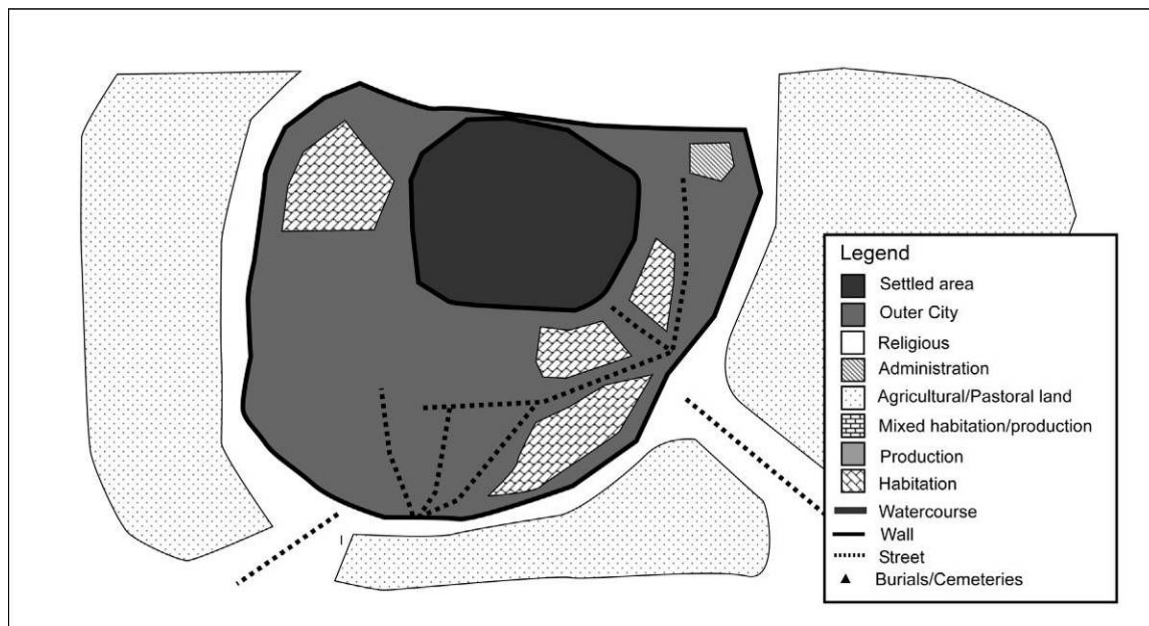


Figure 3.8 Hamoukar schematic of urban layout. The schematic is not to scale and is only intended to give a general overview of the types of activities and their arrangement, rather than indicate any specific find.

in Area G also revealed late third millennium residential buildings (Gibson *et al.* 2002b). Area E, to the west, was opened in an attempt to find a contrast to the Area H residential area but it also revealed a grouping of houses (Gibson *et al.* 2002b). The Area H, G and E finds show the lower town was likely densely occupied with houses during the second half of the third millennium.

Based on the information available thus far from the Hamoukar lower town investigations only a rough sketch can be given of its layout (Figure 3.8). Although function may have shifted over the half millennium of occupation, by deflating the different levels to represent a general overview the outer city begins to develop an outline. Unlike some other sites across the region Hamoukar does not take a round or oval shape, but instead is more square or rectangular in its distribution with the lower

town surrounding the high mound on three sides, with the north having little expansion beyond the base of the mound (Ur 2002a, 2002b, 2010b, Colantoni and Ur 2011). Despite the unorthodox shape the city follows some similar patterns. Gates appear to be spaced throughout the outer city wall with streets radiating outwards from the gates. The later third millennium houses are relatively well-off and show evidence of continuity and reuse over time. Curiously, no evidence for craft or manufacturing was associated with these houses – leading Ur and Colantoni (2011) to suggest that agricultural or pastoral pursuits may have been enough within the urban context to maintain a comfortable existence for Hamoukar’s urban inhabitants.

The central mound was likely the location of the central administrative buildings. The existence of an inner city wall was established as early as the fourth millennium (Gibson *et al.* 2002b, Ur 2002b). Residential areas are known in the lower town. Streets seen in the geomagnetics are wide and radiate out from the city gate perhaps hinting at the importance of trade and the movement of goods throughout the city. The distribution of activities around the city is much clearer regarding the distribution of small towns and villages and the presumed extent of the local fields have been calculated (Ur 2010b).

3.2.3. The East Jezireh: Northern Iraq

The Iraqi Jezireh covers the area east of the Khabur triangle, stretching to the Tigris in the east. This region is also called the North Jezireh by some projects, defining its relationship to southern Mesopotamia. Several projects in this region focused on third millennium remains at sites like Tell Taya, Tell Khoshi, and Tell al-Hawa. Wilkinson and Tucker (1995) conducted a survey of the North Jezireh. They identified a period of

urbanization and population nucleation in the mid-third millennium, contemporaneous with the growth of sites in the Khabur and west Jezireh.

3.2.3.1. Tell Taya

Tell Taya is located east of the Syrian Jezireh, in northern Iraq. The site was investigated from 1968-1973 and revealed third millennium citadel mound and extensive outer town. Overall, the site size is estimated between 70 and 160 hectares in the third millennium (Reade 1973).²¹ The site has four main components; the central citadel, the lower town, the outer town extending out and the scattered occupation beyond the main limits of occupation (Figure 3.9).

The architecture of the lower and outer town had stone foundations and so a general plan of the outer town could be determined without excavations. Based on the surface ceramics the excavators believe the outer town was established and occupied during the late third millennium, probably ranging from approximately 2400–2100 BCE (Reade 1968, 1973).

The citadel is a small raised area, probably cultic and administrative in function surrounded by a large wall (Reade 1968, 1971, 1973). The lower town is enclosed by an ‘irregular’ wall that is at varying distances from the base of the citadel, enclosing a space of approximately 5 ha. (Reade 1971). The Wadi Taya cuts through the lower town, separating the northern extension of the lower town from the citadel. The lower town

²¹ Based on the provided map in the 1973 article the site appears to cover approximately 120 hectares, with the majority of the occupation concentrated over 70 hectares. The map, however, does not extend to the west and south of the citadel due to time constraints in the mapping program (Reade 1973). If the site were rounded out around the citadel then an estimate of 120 hectares of densely occupied area seems more appropriate.

wall was excavated at area W1 in the northwest and in area SW6 in the southwest. Based on the sherds found at the base of the wall, the lower town wall was built during Taya IX, at approximately the same time as the earliest recovered layers from the citadel. The W1 ‘mansion’ was built slightly later up against the wall (Reade 1971).

Excavations were conducted in only in a few places around the lower and outer town but they provided important results. A large building, called a ‘mansion’ by the excavators was found in the west, Area W1. The building is large with two open

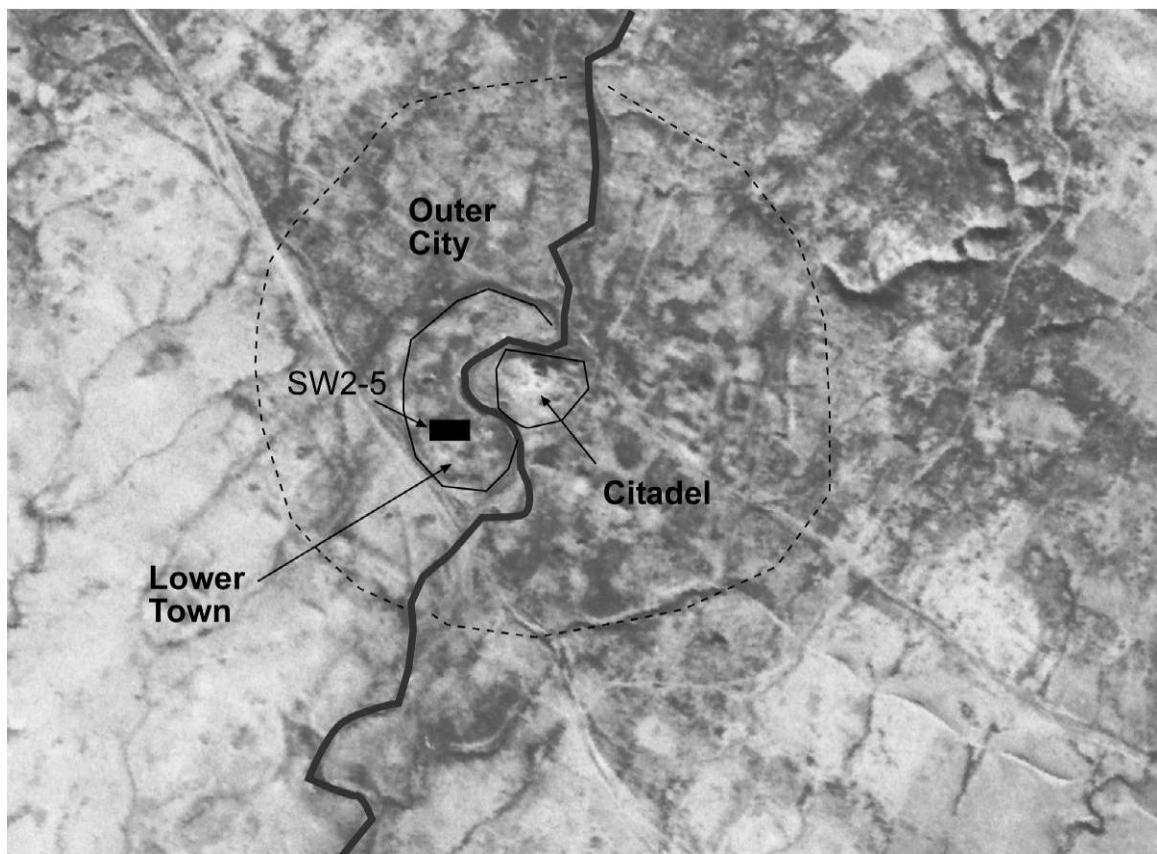


Figure 3.9 Tell Taya areas and excavations. Corona image (1968) courtesy Center for Advanced Spatial Technologies, University of Arkansas/U.S. Geological Survey.

courtyards, paved floors and a drainage system (Reade 1973). The ceramics from this building were dated to Taya Level VII, probably the late Akkadian period.

The outer town is quite extensive, covering more than 100 hectares. Only the north and east have been mapped (see Reade 1973) but the surface mapping has allowed the researchers to identify multiple activities around the site as well as make some suggestions about the layout and function of the outer town. The majority of the outer town structures were only mapped and an extensive plan appears in the 1973 report (Reade 1973).

Just west of the lower town, north of the cut of the Wadi Taya a large enclosure was found (Reade 1971). Based on the drawings it covers a very large area extending 100m on its north-south axis and almost 200 meters east-west (See Reade 1971, Plate XXIV). Excavations in areas SW2-5 revealed a double-walled series of rooms with small separations. The excavators suggest it may represent a barracks (Reade 1971), however the small rooms seem more reminiscent of storage rooms than living quarters.

Two houses were excavated in area S1 about 200 meters south of the large outer enclosure (SW2-5). The main house recovered had a central courtyard with several rooms arranged around it including a kitchen area and a storage cellar (Reade 1971, fig. 3). Underneath one of the cellars was a tomb with three skeletons sealed off by a stone opening. The burials seem to represent the continual interment of the bodies over the lifetime of the house (Reade 1971).

The outer town has no clear boundary, although habitation appears to taper off at a distance of approximately 450-500 meters from the base of the citadel in all

directions²². Beyond this boundary is a scattering of possible walls, artifact scatters and other features. The initial survey identified a flint-working production area in the north (Reade 1973). The finds included only flint materials, with no obsidian although obsidian is sometimes found at the site. Some structures to the north area also thought to be animal enclosures (Reade 1973).

Three possible temples, or shrines, were also identified in the outer town from the surface remains, generally identified by their rectangular shape with no attached walls (Reade 1973). The possible temples seem to be spread across the town, with one even outside the boundaries of the city to the east (Reade 1973). It appears that religious activities were not confined to the centralized citadel mound.

A ceramic workshop, as indicated by the large quantities of kiln waste and the presence of kilns was found in the eastern part of the outer town, near the outskirts of the site (Reade 1971). During the mapping of the buildings a mix of large and small buildings were detected, with some grouping by size, but not significantly so.

Some of the major streets converge on two suspected gates in the lower town wall, connecting the outer town to the citadel. Other streets appear to cross different sections of the outer town with some terminating in alleys. Some streets appear to have been blockaded or closed with doors at the end (Reade 1973). Extending out from the site, some smaller subsidiary sites were detected, perhaps extending the agricultural zone of the main site. Approximately 3km to the east is a small site that may have been a small

²² Farrant (in Reade 1973) notes that there are several possible lines of fortification of the city with thick outer walls on houses. He suggests that these may represent 'growth rings' of the city. As the city expanded the outer edge was fortified but eventually subsumed as buildings were built outside, until another fortification was added. This may explain why the site has not set outer city wall such as is found at the sites of the Khabur (e.g. Leilan, Mozan, Beydar).



Figure 3.10 Taya schematic. The schematic is not to scale and is only intended to give a general overview of the types of activities and their arrangement, rather than indicate any specific find.

fortified site or watchtower (Reade 1971).

The stone foundations provide a unique window on the layout of the city at Tell Taya. The irregular shape of the city, with a high citadel, enclosed lower town and extensive outer town without a wall is unique in the cases studied here. The widespread distribution of activities, including workshops, ritual areas and houses gives a picture of an expanding city without any significant planning (Figure 3.10). The major institutional buildings, such as the large SW2-5 building are clustered near the high citadel, while a mix of habitation, religious, and workshop areas are spread throughout the rest of the city.

3.2.3.2. Tell Khoshi

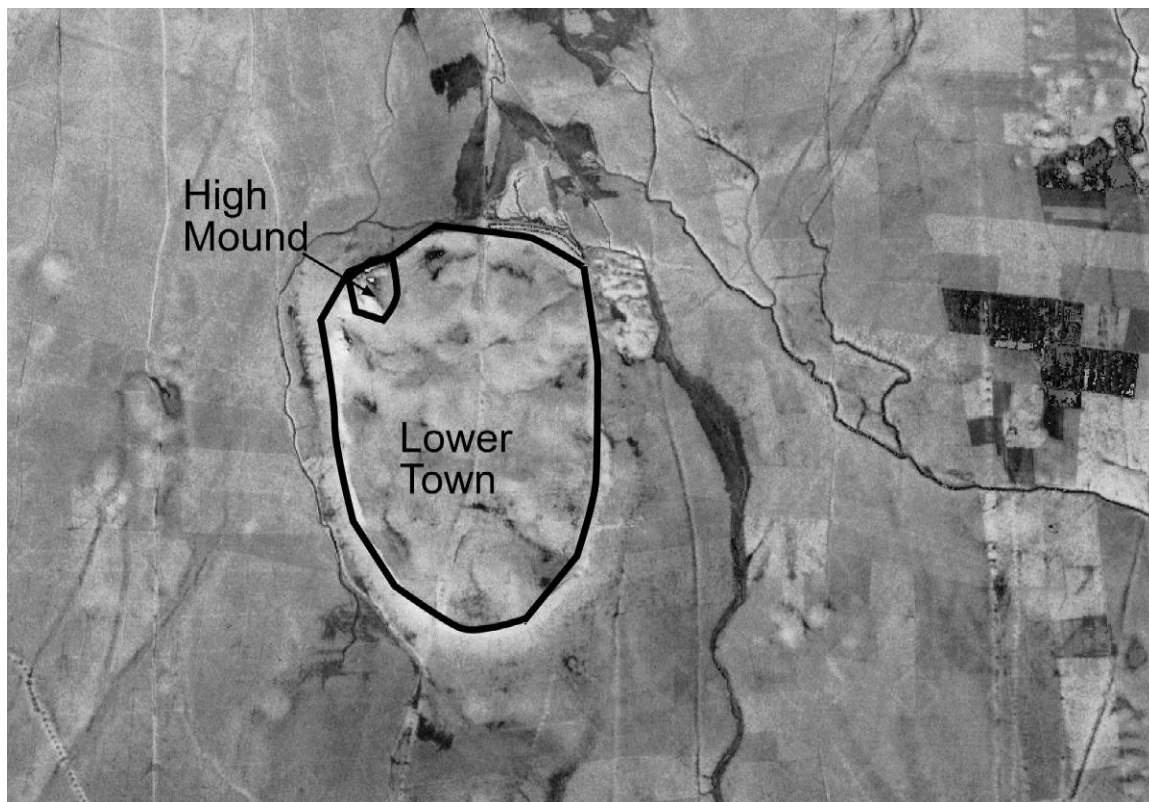


Figure 3.11 Tell Khoshi with Corona image showing small high mound, off center, with extensive lower town. Corona image courtesy Center for Advanced Spatial Technologies, University of Arkansas/U.S. Geological Survey.

Tell Khoshi is located in the Iraqi Jezireh, near Tell Taya. Seton Lloyd identified the site as an important third millennium site during the 1930s, and it was briefly investigated in 1989.²³ Kepinski reports the tell is about 90 ha with a smaller upper city in the north east part of the site and an expansive walled lower town (Nashef 1990) (Figure 3.11).

No excavations have been conducted in the lower town, but based on survey it appears to date to the late third millennium, suggesting Khoshi was part of the same

²³ Further work was prevented by the Iraq war in 1991.

process of urbanization found across the Jezireh (Kepinski in Nashef 1990).

3.2.3.3. Tell al-Hawa

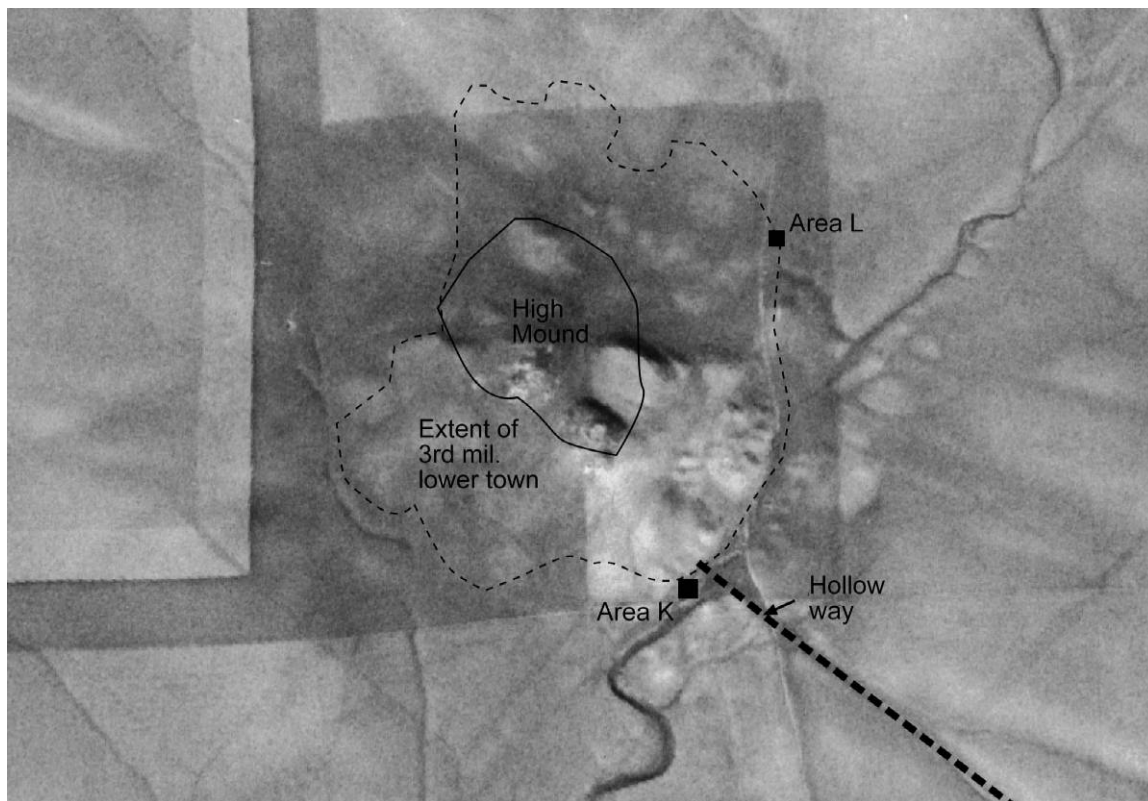


Figure 3.12 Tell al-Hawa overview of layout with areas investigated. Layout and areas excavated adapted from Ball *et al.* 1989, Fig.2. Corona (1967) image courtesy Center for Advanced Spatial Technologies, University of Arkansas/U.S. Geological Survey.

Like the other urban sites discussed in this chapter, Tell al-Hawa expanded into a large urban site in the mid-third millennium. At its maximum extent it reached a size of approximately 80 ha and a height of 30 meters (Ball *et al.* 1989). A raised acropolis forms the center of the site, with a lower town extending out, composed of several small mounds (Figure 3.12).

Survey at al-Hawa, both on-site and off, have allowed the reconstruction of the distribution of some urban features (Ball *et al.* 1989, Wilkinson and Tucker 1995,

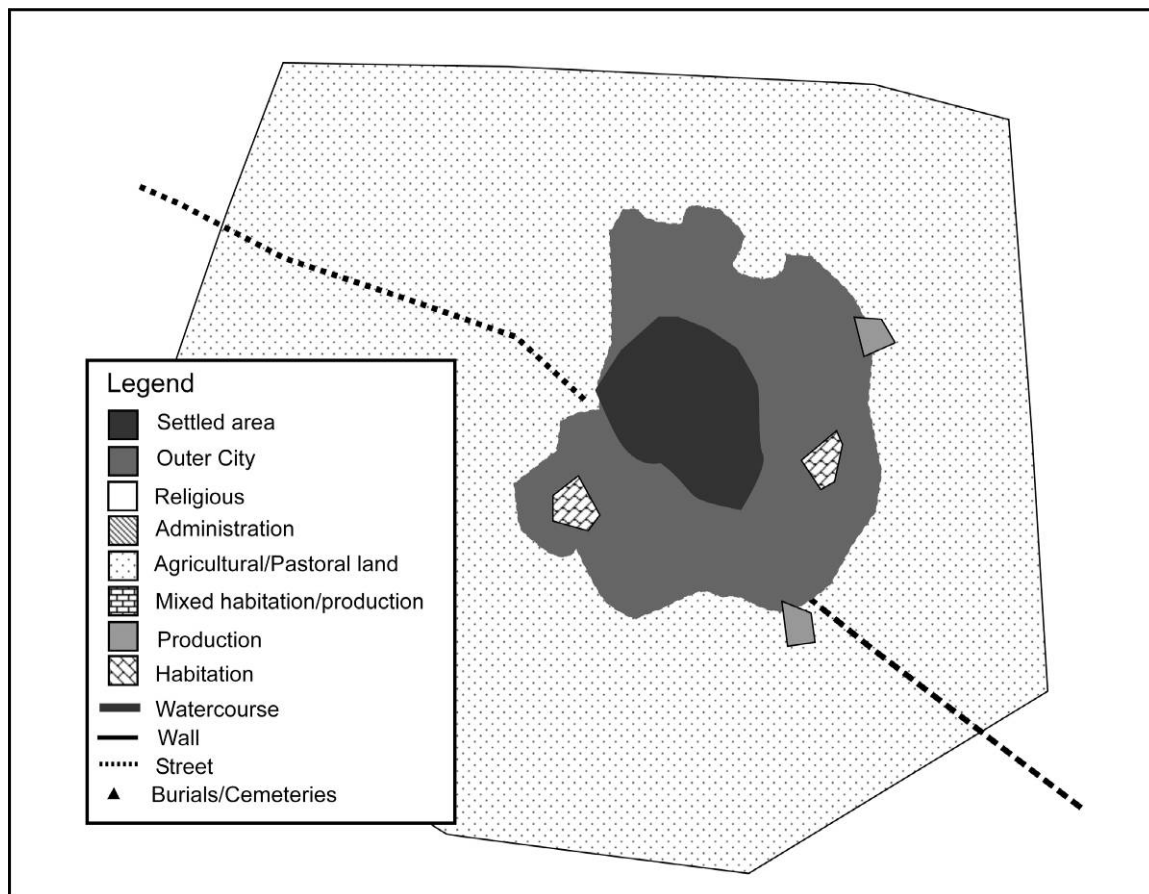


Figure 3.13 Tell al-Hawa Schematic. Schematic illustrates irregular shape of lower town, workshops outside the main occupied area and possible roads (hollow ways). Schematic is intended to give a general overview rather than indicate any specific find.

Wilkinson 2003). During the Ninevite 5 period the site was occupied on the central mound and across several smaller surrounding mounds ranging from 100-300m from the base of the central mound (Ball *et al.* 1989: fig. 9). By the second half of the third millennium the space between the mounds was filled in and a continuous occupation covering 80 hectares was realized (Ball *et al.* 1989).

Two possible ceramic production areas were found just outside the urban boundaries. Area K was a kiln with third millennium ceramics, including wasters, kiln

slag and misfired bricks (Ball *et al.* 1989, Wilkinson and Tucker 1995). Area L, nearby, had dense scatters of ceramics and wasters. The extramural location of these activities may be related to the smoke and waste byproducts, and their location along an identified hollow way could facilitate the transport of both fuel and finished goods (Wilkinson and Tucker 1995:56). The outskirts of town appear to be integrated with the urban center (Figure 3.13). An extensive route system of hollow ways was detected around Hawa, giving an approximation of its site catchment, with an approximate radius of 5 km of agricultural land in use around the site during second half of the third millennium (Wilkinson and Tucker 1995, Wilkinson 2003). As the site expanded from the Ninevite 5 settlement, the overall population from the countryside was increasingly concentrated into the urban center with a decrease in the number of observable satellite sites (Wilkinson and Tucker 1995).

3.2.4. The West Jezireh and the Kranzhügel Question

The western part of the Jezireh is more sparsely occupied and is defined by the proliferation of Kranzhügel sites and the lack of any major rivers. Perhaps the most curious aspect of the Kranzhügel sites is their distribution across areas marginal for reliable rainfall agriculture, usually below the 250mm isohyet. Kranzhügel sites are characterized by their distinctive ‘crown’-shaped morphology.²⁴ The sites are generally distributed between the Balikh and Khabur rivers and around the area of the Jebel Abd al-Aziz (Moorgat-Correns 1972).

Meyer (2007) has recently posited that the term “Kranzhügel” is not always

²⁴ See Chapter 5, Section 5.2.3.1.

accurate for these distinctive cities. Since the double-wall structure is incidental rather than intentional, it appears that these cities were never designed to be Kranzhügeln. He argues that the unifying element is their round shape rather than their distinct double-wall morphology. Across the western Jezireh there are a number of round sites, some with the Kranzhügel morphology, and some without a lower town.

The Kranzhügel sites have often been treated separately, as a different group of sites with their specific distribution (Lyonnet 1998, 2009, Kouchoukas 1998). Past attempts to explain the unusual shape and distribution of Kranzhügel sites has focused on the possible use as urban shelters for pastoralist groups (Lyonnet 1998, 2009, Kouchoukas 1998); however, new research at Tell Chuera argues against this interpretation (Meyer 2010d, Chapter 3). Despite the unique characteristics of the Kranzhügel there are numerous parallels with the supposedly ‘normal’ sites, particularly in the types of activities and the distribution of habitation, burial, production and other activities. Although the site morphology appears to be different, the social organization and activities conducted at these sites is, in actuality, very similar to its counterparts across the rest of the region. Tell Chuera typifies the Kranzhügel sites and is also one of the most extensively excavated (see Chapter 5). Many of the Kranzhügel sites have only been identified through aerial photography and satellite imagery and have not been excavated. The Corona images from the 1960s and 1970s show a clear distribution of round cities across the dry section of middle Syria. Identified Kranzhügel sites include Bogha (Bowgha), Muqair (Mughr), Abu Sheikha (Abu Shakat), Mabtuh, Tell Mu’azzar

and Malhat adh-Daharu.²⁵

In this section a brief overview of lower town and extramural excavations from Tell Beydar, the other excavated Kranzhügel, is discussed. Tell Beydar is a typical Kranzhügel site with the wreath shape. Kharab Sayyar shows many similarities to Chuera, but lacks the secondary wall, making a ‘round city’ rather than a Kranzhügel.²⁶

3.2.4.1. Tell Beydar

Tell Beydar is located in the Northwest part of the Khabur triangle and is the easternmost Kranzhügel site. It has a clear inner and outer city wall with a raised central mound (Figure 3.14). The diameter of the outer city is about 600 meters and at only about 28 hectares, Tell Beydar is significantly smaller than its urban counterparts such as Brak, Leilan, and Mozan. The smaller size is correlated with its secondary status in the urban hierarchy of the region. The EJIII period texts found at the site clearly indicate that the city, known as ancient Nabada was subservient to the larger city of Nagar, now known to be Tell Brak (van Lerberge 1996, Archi 1998, Sallaberger and Ur 2004).

The upper mound at Beydar includes a mix of administrative, religious, residential and workshop buildings. Thus the upper city is not an acropolis, with only elite and administrative buildings, but instead represented a mix of use areas. The inner city was enclosed by a wall as early as the EJI, and had already partially gone out of use by the EJIIIa (Milano *et al.* n.d.). An EJII burial was set into this wall, a practice that may

²⁵ No comprehensive list of Kranzhügel sites has been compiled, in part due to the fluid definition of the sites and in part due to lack of systematic investigation of the central part of Syria. See Moorgat-Correns 1972 and McClellan and Porter 1995.

²⁶ The site of Mari (see below) has also been posited as a Kranzhügel site but since it is greatly eroded it is difficult to determine if it truly followed a round shape.



Figure 3.14 Tell Beydar showing Kranzhügel shape and radial street pattern. Excavated areas in Lower town are also marked. Corona image courtesy Center for Advanced Spatial Technologies, University of Arkansas/U.S. Geological Survey.

have been common (Bluard 1997). A depression, or moat, surrounds the inner city wall. The excavators have suggested seven gates in both the inner and outer city walls, with the streets following a radial pattern out from the center (Bluard 1997, Fig 2). The early date of the external wall suggests that the full extent of the city was occupied from its initial urbanization.

The lower town and extramural excavations are not broad enough to provide a clear picture of the activities conducted there, however, the Area H and Area K

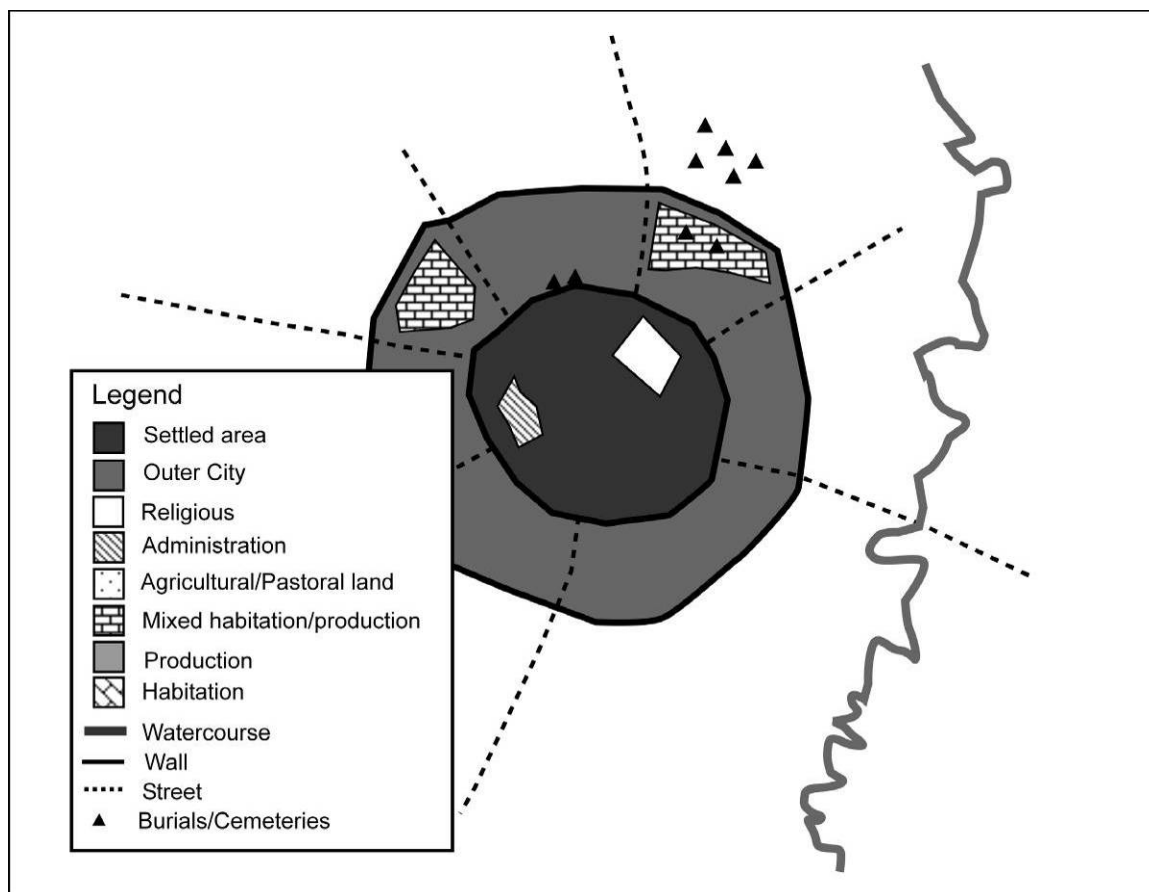


Figure 3.15 Beydar schematic of Kranzhügel with mixed use lower town and extramural cemetery. The schematic is not to scale and is only intended to give a general overview of the types of activities and their arrangement, rather than indicate any specific find.

excavations give a small glimpse of the variety of activities. The Area H excavations cut across the area of the expected outer city wall, a 4.5 meter thick brick structure was found, probably the base of the wall, yet the upper wall was not preserved (Milano *et al.* n.d.). Burials dating to the EJII and EJIIIa were dug into the wall. Fifteen burials were found in Area H, including an extramural cemetery located just outside the walls (Bluard 1997, Bretschneider 1997, Debruyne 2003a). The burials included a mix of simple inhumations and three rectangular brick tombs. Dating to the EJI (EDII and early EDIII),

the tombs are part of the use of the area after the wall is well established, damaging it in part (Lebeau 1997). On the inside face of the outer city wall, EJIIIa period houses and workshops were found (Bluard 1997). In some cases the houses and workshops were found above additional burials (Bretschneider 1997).

Excavations in Area H and K have revealed a mix of activities that took place in the outer city and just beyond its walls. Just inside the walls a mix of residential and workshop areas is similar to the mixed activities found and numerous other sites discussed in this chapter (Figure 3.15). The houses seem to be relatively small with simple ceramics – in contrast to the administrative areas found near the city wall at other sites such as Leilan and Mozan. The overall picture that emerges of Beydar is a mixed use upper mound with religious, administrative, craft production and households (Lebeau 1997, 2010, Tonussi 2008, Lebeau and Sulieman 2009). This portion of the city is surrounded by an inner city wall. The inner city wall appears to be associated with administrative and other functions (Lebeau 2010). The lower town is also encircled by a wall, approximately 4.5 meters thick. Houses and workshops line the wall and intramural burials are found beneath many houses. Outside the walls are more burials as part of an extramural cemetery. The distribution of activities has some similarities to Tell Chuera, with intramural burials, and houses and workshops directly against the outer city wall.

3.2.4.2. *Kharab Sayyar*

Located near Tell Chuera, Kharab Sayyar is closely linked to the development of its larger neighbor. Although it does not have the double-wall morphology, Meyer (2007) has suggested it belongs in the same group as the Kranzhügel or “round” city group. The



Figure 3.16 Round tell of Kharab Sayyar. The rectangular remains at the base of the high mound date to the Abbasid Islamic Period. Corona image courtesy Center for Advanced Spatial Technologies, University of Arkansas/U.S. Geological Survey.

city wall has several phases of construction, and appears to be constructed in an ad hoc manner similar to the corporate construction of the outer city wall at Chuera (Meyer 2007, 2010a, 2010d). The site itself follows a similar urban layout as Chuera, with a round plan, fortified city, and radial streets (Figure 3.16).

3.2.4.3. Discussion

The understanding of Kranzhügel sites is extremely limited by the small number excavated. The distinctive round plan has some parallels more broadly, at Mari to the southeast and Rawda in the southwest. Within the Jezireh they could be perhaps

addressed as one end of a continuum of planning. With a highly organized plan of radial streets, drains, and a central plaza they represent a more controlled plan. Sites like Mozan, with the double-wall morphology and a central plaza are lacking the round city morphology but also show evidence of some centralized planning with streets cutting through the lower town. Sites like Tell Taya and Tell Leilan show a more disorganized approach to the lower town with a more organic shape.

The location in marginal environments remains an open question, but a strong centralized authority and maximization of agricultural and pastoral resources may have been enough to maintain these large centers. Meyer (2010d: 210) proposes a political organization at Chuera based on a “tribally organized society [...] with a well-defined political leadership.”

3.3. Broader Scope – Greater Northern Mesopotamia

The Jezireh represents an interesting case study on the distribution of activities within an urban context because it is situated at a crossroads between numerous areas and clearly cultivated and maintained relationships with a broader region. The following section presents an overview of other important or comparable sites with lower/outer towns in the broader Northern Mesopotamian region. The areas discussed include the Balikh River Valley, the Euphrates Valley, Anatolia, and two special cases.

3.3.1. The Balikh

The Balikh River cuts through the middle part of Syria, stretching from the Turkish border to the Euphrates. In the Balikh, several Bronze Age sites have been

identified extending along the river valley (Wilkinson 1998: Fig 6). Like the neighboring regions, settled area increased during the mid-third millennium and some fortified urban sites appeared at the same time (Akkermans and Schwartz 2003²⁷). Although there was a process of nucleation of population in the EBA, the sites generally did not exceed 15 ha. (Wilkinson 1998). The small size of sites was probably restricted by the availability of water resources (Wilkinson 1998). Hritz (2013a, 2013b) has studied the relative stability of the settlement distribution in the Balikh, and she concludes that the Bronze Age network of sites seems to lack the strict urban/rural dichotomy, with few urban centers and broader distribution of small sites. For this reason, there are few, if any sites large enough to expand to include a lower town. The distribution of smaller sites, however, suggests that the Balikh drainage represents a different urban form than is seen in the dry-farming areas of the Jezireh.

Although several Bronze Age settlements have been identified, excavations have been scarce in the Balikh valley and the more recent projects have focused on the earlier phases (such as Sabi Abyad and Zeidan). The two major EBA excavations were at Tell Hammam et-Turkman in the northern Balikh valley and Tell Bi'a at the confluence of the Balikh and Euphrates. Unfortunately for this study, very little work has been done in this region regarding the lower towns, outer cities and extramural areas. The sites of the Balikh never grew to the size of their counterparts in the Jezireh region, perhaps explaining why they did not expand to include expansive lower towns. The extramural areas are largely unexplored and so it remains to be discovered if these areas were

²⁷ Akkermans and Schwartz cite Curvers' 1991 dissertation as a source for this information; however, the dissertation remains unpublished and unavailable.

utilized similar to the ASA finds at Chuera or if they represent primarily unoccupied agricultural and pastoral land.

3.3.1.1. Hammam et-Turkman

The site of Hammam et-Turkman was excavated beginning in 1981 and continuing through 2001. During the Early Bronze Age the site was likely only approximately 22 hectares in size and was primarily occupied with large residential buildings, and encircled by a fortification wall (van Loon 1988a, 1988b). The city wall was 8 meters thick and was associated with small plastered rooms that were used for domestic and other activities (van Loon and Miejer 1988). The EBA remains are obscured by a significant Middle Bronze settlement that has been the focus of the recent excavations (Miejer 1997). The excavations at the base of the mound in the south were the closest thing to an “off site” or lower town excavation at the site, and the findings revealed a small village of Middle Bronze date (Miejer 1996, 1997).

The settlement pattern around Hammam et-Turkman retains a rural character through the Bronze Age, with a small peak in centralization during the EBA, but not dramatically as is the case in the Jezireh (Hritz 2013a). The inhabitants practiced a diverse subsistence strategy relying on agricultural, pastoralism and wetland exploitation (Hritz 2013a).

Hammam appears to be a small urban center, controlling an area around it, but with a diverse approach that sets it apart from the major sites of the Jezireh, or even from Bi’a (discussed below). The narrow river valley, inhospitable conditions and dry environment may have played a role in restricting the growth of major urban centers at

Hammam and in the broader Balikh valley (Wilkinson 1998, Hritz 2013a).

3.3.1.2. Bi'a

Tell Bi'a is located at the confluence of the Balikh and Euphrates valley. It has been identified as the ancient city of Tuttul and was an important cult-site for the god Dagan during the third millennium. The site shows strong connections towards the Euphrates and toward Mari, with less in common with sites located more northerly on the Balikh (Miglus and Strommenger 2002). During the mid third millennium the site is between 35-40 hectares and enclosed by a city wall (Strommenger and Kohlmeyer 2000). The city, despite being slightly smaller size than the sites of the Jezireh, has significant urban components. The settlement structure around the site shows a pattern of smaller sites that may have been subsidiary sites helping to sustain the larger urban center (Hritz 2013a).

The site is best known for its monumental buildings which are linked to six high-status mudbrick tombs. Other urban structures such as workshops, kilns, houses, silos, and administrative buildings have been found dating to the third millennium (Miglus and Strommenger 2002). The city walls were excavated three places, to the west (Area A, C), south (Area H) and north (Area K). The excavations show a complex defensive system including gates and towers. The site reports do not indicate any excavations were conducted beyond the city walls.

Despite the lack of lower town, Bi'a does have strong parallels to the urban development across the region with its monumental structures and strong material cultural ties to the east and west. Instead of the dispersed urban layout characteristic of

the Jezireh, Bi'a favored a more compact urban settlement, possibly for defensive reasons as it was strategically located along the river.

3.3.1.3. Discussion

What little data is available from the Balikh during the Bronze Age seems to indicate a different distribution and form of urban society compared to that of the broader Jezireh region. In general sites are smaller, and despite growth during the third millennium, they fail to take on neither the round shape associated with the Kranzhügel nor a double-walled structure. More than 120 sites dating to the third millennium were identified in different surveys with the majority less than 2 hectares in size (Wossink 2009:77). Most appear to be small settlements although a few seem to have specialized functions based on the surface remains. Extramural cemeteries are known throughout the region, but their connection to urban settlements remains unclear, and they may instead represent pastoral nomadic groups (Wossink 2009).

Conflict and competition for resources may have made the walled fortifications necessary, as walls have been detected and most of the larger sites such as Hammam et-Turkman, Jidle and Sahlan (Mallowan 1946, Thissen 1989, Wossink 2009). The competition for water resources may have restricted the growth of the cities, limiting their size and their potential for expansion (Wossink 2009).

3.3.2. The Euphrates Valley

The Euphrates Valley has been a major focus of research since the 1970s and

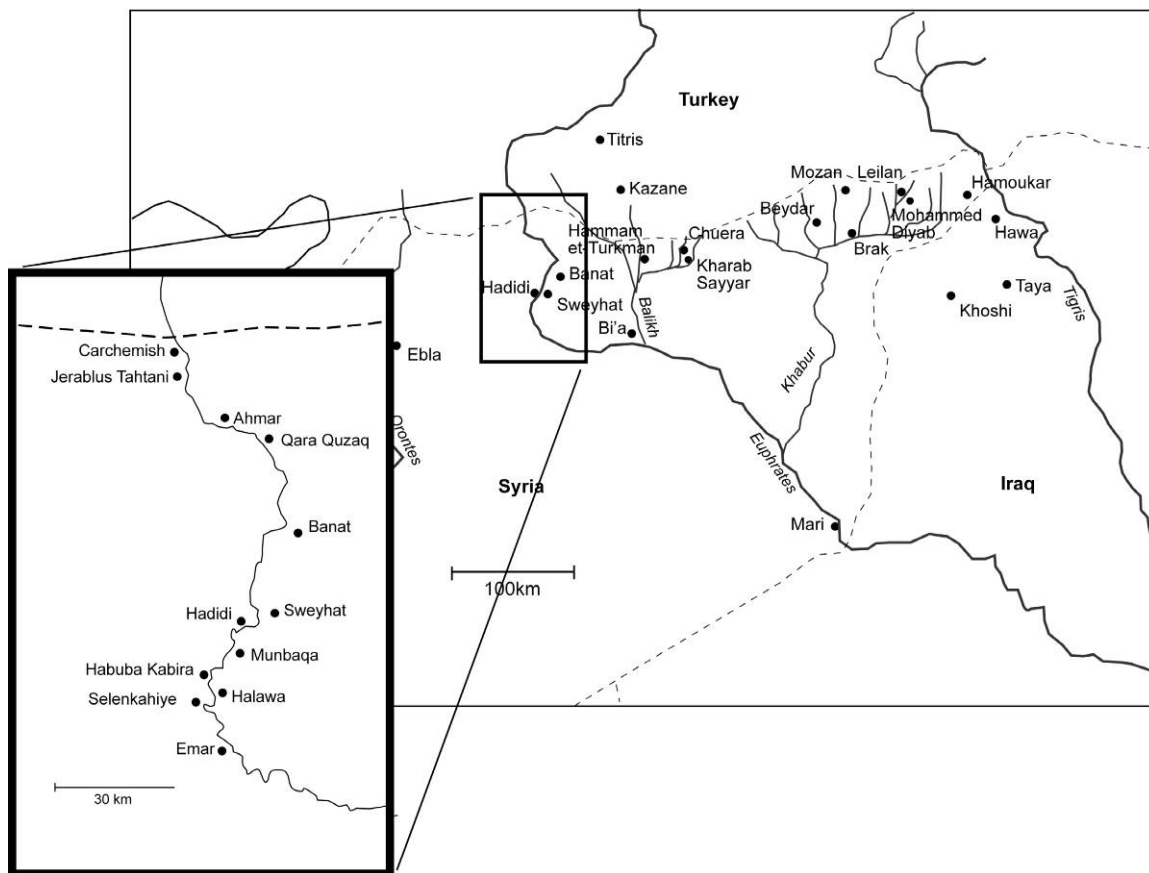


Figure 3.17 Map of major sites on the Euphrates (Inset after Cooper 2006, Figure 1.1). several large-scale excavations have been conducted.²⁸

Major third millennium urban sites include Carchemish, Jerablus Tahtani, Amarna, Ahmar, Banat, Sweyhat, Hadidi, Munbaqa, and Selenkahiye (Figure 3.17). The Euphrates sites have a developmental trajectory that is slightly different from that of the Khabur and the greater Jezireh. The pottery assemblages are more western oriented toward Ebla, and the major phase of urbanization is dated to Phase 4, roughly contemporaneous with the EBIII/EBIVa or late EJIII.

²⁸ See Cooper (2006) *Early Urbanism on the Syrian Euphrates* for a comprehensive discussion of the Euphrates valley sites during the Early Bronze Age.

The rise of urbanism in the Euphrates valley is accompanied by many of the same features and urban structures that are found in the Jezireh; including city walls, extensive lower towns, large administrative and religious buildings and a variety of households and workshops. Survey in the region has shown that many of the sites of the EBA are relatively small (ca. 5 ha.), with the major large urban sites spaced out along the valley, occasionally appearing in pairs on either side of the river (Cooper 2006). Many of the sites are located on high points along the river and did not have the space available to form the extensive lower towns that are found at sites located on more level areas (Cooper 2006). Like the sites of the Jezireh, few of the Euphrates valley excavations have paid systematic attention to the lower towns or extramural areas (Cooper 2006:55).

3.3.2.1. *Tell es-Sweyhat*

The site of Tell es-Sweyhat grew from a small village to a 40 ha urban center during the EBIVb.²⁹ Located in an embayment about 3km inland from the Euphrates River, it was situated to capitalize on the agricultural land and nearby upland steppe for a diverse economy (Danti and Zettler 1998, Danti 2000, Wilkinson 2004). The city is composed of a fortified upper mound, or citadel, and a larger fortified lower town. The upper town was divided into a raised high inner citadel and a lower inner town (Danti 2009, Danti 2010). The lower town was enclosed by a wall and also includes an extramural extension to the south (Zettler 1997b, Danti and Zettler 2007). Sweyhat provides a good comparison for the study of outer cities and extramural areas as its lower

²⁹ Holland (2006) gives an earlier date for Sweyhat's florescence, closer to the EBIVa, but radiocarbon dates from the inner city indicate a later date for the urban settlement during the EBIVb (Danti and Zettler 2007, Danti 2010).

town has been subject to numerous systematic studies including excavation, survey and magnetometry (Zettler 1997b, Peregrine 1996, Peregrine *et al.* 1997, Danti and Zettler 1998).

The expansion of the site to include the lower town appears to be incremental during the third millennium. During the first half of the third millennium occupation was confined to about 4 ha on the central mound. Over the following few centuries the site slowly expanded to include part of the northern and eastern lower town reaching a size of around 10-15 ha with an associated extramural cemetery (Danti and Zettler 1998:219). The site was dramatically reorganized between Sweyhat Phase 3 and Phase 4 (approximately 2150 BCE) and in the last part of the third millennium the site expanded to 40 ha and was surrounded by an outer city wall (Danti 2009, 2010).

Excavations on the central mound dating to the period of urbanism at Sweyhat (Sweyhat Phase 4, approx. 2150-2050 BCE) include an inner city wall, centralized grain storage, workshops and administrative buildings, as well as a temple (Holland 1976, 1977, Zettler 1997a, 1997b, Danti and Zettler 1998, 2007, Danti 2009, 2010). Residential buildings are also found inside the inner city wall. The upper mound shows a diverse spread of activities associated with almost all the urban structure categories.

Surface survey in the lower town showed it was almost exclusively dated to the late third millennium (Zettler 1997b). Densities of ceramics across the lower town indicate that it was broadly occupied, with no notable open spaces although some areas of higher concentration of sherds were found to the west and east (see Zettler 1997b: Fig 3.2). A magnetometry survey showed the area to be occupied as well, although the results

were partially obscured by modern irrigation channels (Peregrine 1996, Peregrine *et al.* 1997).

Some concentrations of lithic discard and pottery wasters were detected and may indicate specialized craft areas in the lower town (Zettler 1997b). Excavations found evidence of ceramic production in two areas (Op. 16 and Op. 23). Located to the east of the site they correspond to detectable features in both the surface survey and the geomagnetics. Op. 16 exposed three levels of occupation. Some small buildings of the first and second levels are probably residential in nature; overlying these features are three kilns, two with a preserved horseshoe shape (Zettler 1997b).³⁰ Op. 23 revealed a 2.5 meter diameter kiln that could not be securely dated. It appears, however, that at least at the later phase of use in the lower town there were concentrated areas associated with production – specifically ceramic firing.

Residential buildings were also detected in Op. 4 and Op. 9 which are both located to the west of the high mound, approximately halfway between the high mound and the outer city wall. The finds from Op. 4 showed a larger than average house (110m²) with multiple functions including weaving, liquid pressing and baking (Zettler 1997b). Op. 9 exposed portions of three buildings, probably houses (Danti and Zettler 1998; Zettler 1997b). Two small test trenches in the south (S.1. and S.2) revealed only small finds and one wall, possibly associated with houses as well (Holland 2006). Based on the excavations and geomagnetics, it appears that households and other buildings were found across most of the lower town; although some spaces may have remained open (Peregrine

³⁰ The levels associated with the kilns could not be securely dated so it is possible they post-date the phase of urban occupation in the lower town (see Zettler 1997b).

et al. 1997).

A number of shaft and chamber tombs (Tomb 1, 2 and 5) are associated with a large cemetery in the northwest part of the lower town. They predate the expansion of settlement into the area and the outer city wall overlays them (Zettler 1997b). The cemetery seems to be an extramural burial area that went out of use when the settlement area expanded. The tombs date to the mid-third millennium and include multiple interments. Tomb 5 included at least 10 burials with an assortment of grave goods including more than 100 vessels, 6 daggers and a variety of animal offerings (Zettler 1997b).

The outer city wall is dated to around the last quarter of the third millennium. Excavations in Areas VI, VII and VIII were first placed to determine the nature of the outer city rampart, and found stone foundations and an earth rampart (Holland 2006). In Area VI (to the southeast) the wall foundations were also associated with residential occupation (Holland 2006). Excavations in Ops 15, 18 and 25 have exposed mudbrick walls on stone footings that are associated with the outer city wall. The wall had a large stone rampart in sections (excavated in Op. 25) and may have been of casemate construction (Zettler 1997b).

The Lower Town South excavations were conducted to the south of the outer city wall, outside the boundaries of the city proper. The results were inconclusive but showed remains of third millennium buildings with stone footings similar to those found within the lower town (Zettler 1997b). The excavators suggest it may be a trading colony or extramural workshop area (Zettler 1997b:51). The mixed remains, however, are

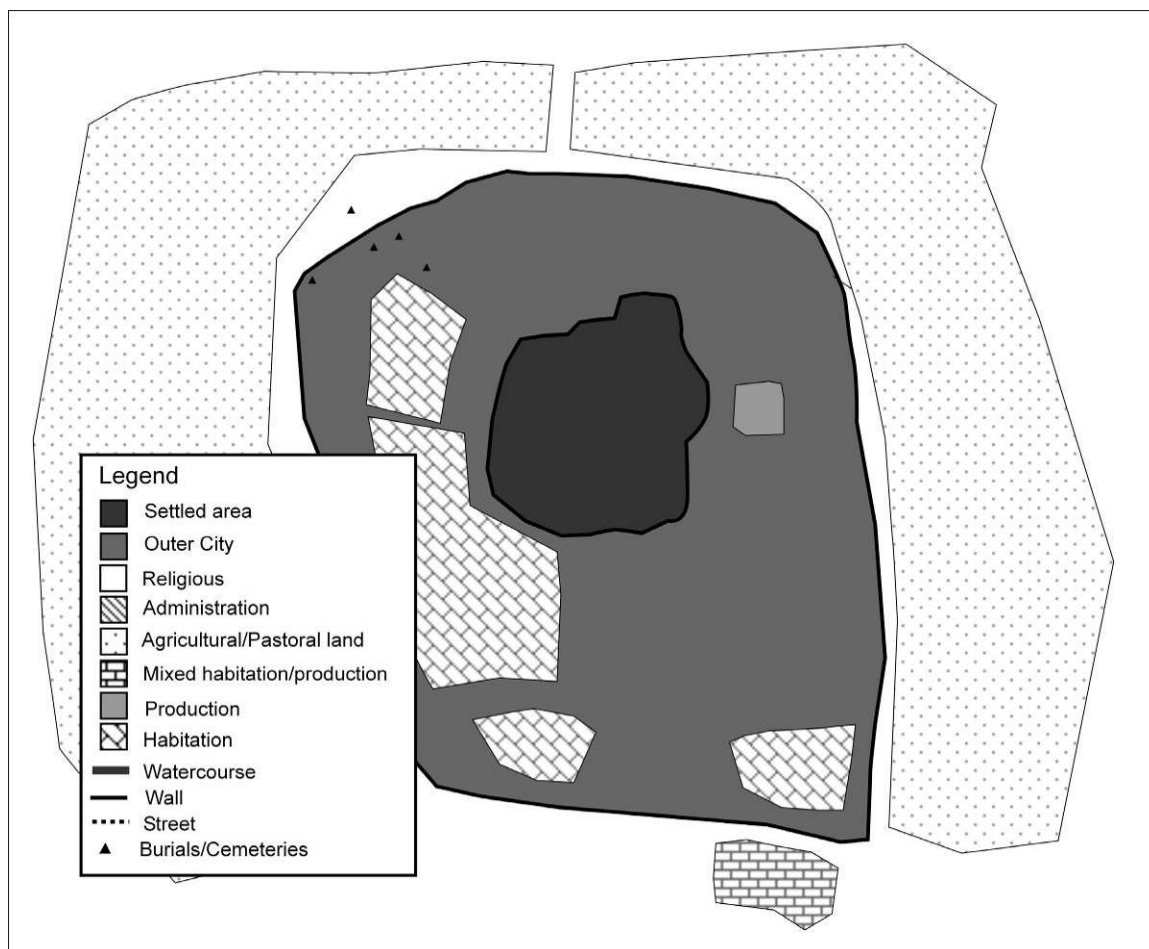


Figure 3.18 Sweyhat schematic, with habitation areas and production areas in the lower town. Mixed use outside the walls to the south. (See Sweyhat website at http://www.jezireh.org/sweyhat_topoLg.html for map of excavations in lower town).

reminiscent of the extramural mixed use area of ASA at Tell Chuera (see Chapter 5).

Overall the distribution of activities across the lower town of Sweyhat shows similarities to its earlier counterparts in the Jezireh (Figure 3.18). The expansion of the city and the eventual circumvallation appears to have taken place at a slower rate than the rapid expansion of the Jezireh sites, but takes a similar form. The excavated houses showed no specific orientation toward specialized activities but rather a diversification of activities.

The work areas also appear to be spread across the lower town with no specific quarters associated with production. The cemeteries are dated to a time before the use of the area for settlement, a common pattern that emerges at urban sites.

3.3.2.2. *Tell Hadidi*

Tell Hadidi is located along the great bend of the Euphrates, on the opposite bank across from Tell es-Sweyhat. The site was settled in the late fourth millennium or early third millennium and continued to be occupied through the Late Bronze Age (Dornemann 1985). Covering approximately 55 hectares, the site is one of the largest in the Euphrates Valley.

The site has an upper tell and a lower tell. The upper tell is mainly covered by Middle Bronze remains, obscuring the earlier EBA remains. Lower tell excavations,

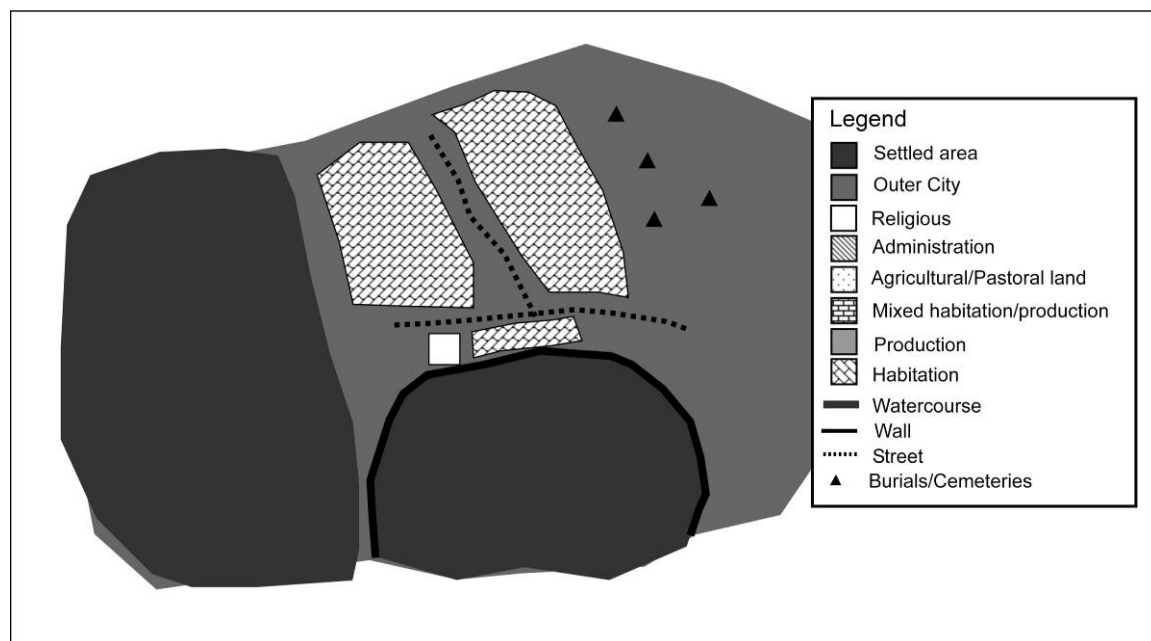


Figure 3.19 Hadidi schematic showing mixed cultic and housing in the lower town. Part of the lower town was walled. The upper town to the west was walled during the MBA, which obscures the earlier EBA remains, but it was probably walled in the EBA as well.

however, were able to retrieve preserved EBA architecture dated to last quarter of the third millennium (EBIVb). A portion of the lower town was enclosed by a fortification wall during the late EBA.

Excavations in the lower town were conducted in Areas C, D, L, M, O and S (Dornemann 1979: Fig. 2, 1985). The most substantial EBA remains were found in Area C. Several rooms and buildings were found leading to the interpretation as a mixed residential and cultic area (Dornemann 1979, Cooper 2006, Boor 2012). A niched and buttressed building, 'Room 5', is believed to be a neighborhood shrine or other cultic area (Dornemann 1979). Based on the ceramic finds it appears that nearby rooms (Room 6 and Room 7) are associated with the cultic area as food preparation and ceramic storage for cultic activities (Boor 2012). The rooms are arranged along a straight street, extending more than 48 meters, suggesting a degree of urban planning in the lower town (Cooper 2006). Area C is dated to the EBIV, or late third millennium (Dornemann 1979).

Shaft and chamber tombs were found in Areas D and L (Dornemann 1979). Area D is within the center part of the lower town, and Area L is located to the east. These tombs are from the EBIII, and appear to predate the expansion of settlement into the lower town (Dornemann 1979, 1988). Since the tombs were looted it was not possible to determine their exact relationship to the other remains (Dornemann 1979).

Hadidi is likely a paired site with Sweyhat representing a possible crossing point for trade along east-west routes (Wilkinson 2004). During the late EBA, when the city expanded, the additional residential neighborhoods appear to be placed along planned

thoroughfares with some evidence for individual neighborhood development, such as the placement of a local shrine (Figure 3.19).

3.3.2.3. *Tell Banat*

Tell Banat is another third millennium site located alongside the Euphrates River. Rather than one central mound, Banat is characterized as a “settlement complex [...] consist[ing] of a group of contemporaneous sites of varying size and function” (Porter 2004:71). Since the site is composed of a more or less contiguous grouping of features, it is difficult to determine which activities are ‘on-site’ or ‘off-site’. The main part of the site is Tell Banat itself, about 25 ha in size with an irregular shape. There are two main periods of occupation. Founded around 2700/2600, the site was built up with extensive residential/workshop areas and large public buildings. Around 2400 the site was reorganized but there was no break in occupation and the small finds show continuity (Porter 2002a).

The main mound has evidence for households, ritual buildings, workshops and funerary structures in both periods (Porter and McClellan 1998, Weiss 1997). The workshop areas are integrated with households as is found at many other sites although the scale of the production seems to be larger at Banat (see Cooper 2006). There is a wall at the site, but it does not fully enclose the city. It may, instead, have been more of a flood protection system protecting the city from the wadi (Porter 2008).

To the east of the main settlement a smaller tell, Tell Kabir, is found. Occupied at the same time as Banat, excavations revealed a temple structure (Porter 1995, McClellan

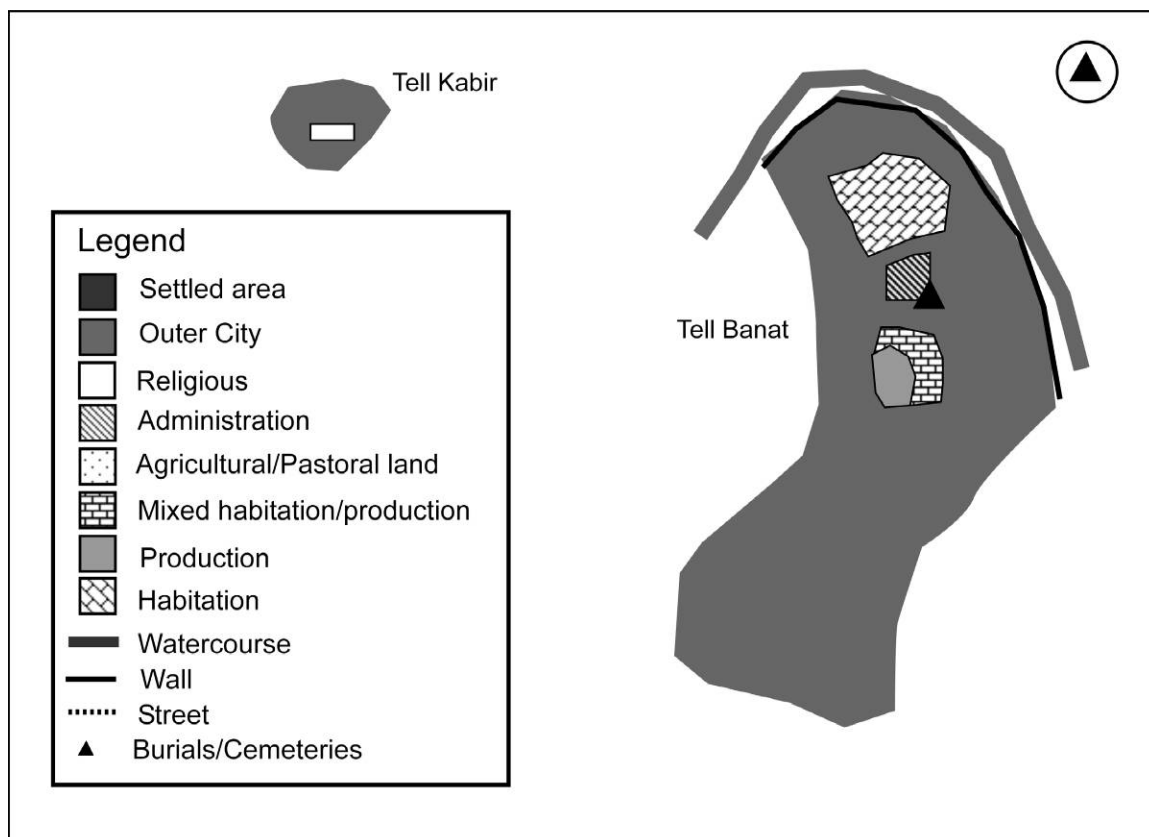


Figure 3.20 Banat schematic with mortuary monuments and subsidiary temple area at Tell Kabir.

and Porter in Weiss 1997). The Tell Kabir mound exhibits characteristics of independence and dependency over the course of the third millennium (Porter 1995). During Banat III (mid-third millennium) Tell Kabir was the location of a temple in antis, similar to Building 6 found at Banat (Porter 2002a).³¹ After the temple went out of use, Tell Kabir was used for agricultural storage. During this phase, in the later third millennium, the site probably functioned as a less important subsidiary to Tell Banat.

³¹ It has been suggested, however, that the temple at Kabir pre-dates the main settlement at Banat, therefore making it not a subsidiary of Banat but a precursor that was displaced when Banat rose to urban proportions (Porter 1995). The continuity of forms throughout the third millennium makes it difficult to determine with certainty.

The mortuary finds from Banat are unique and provide an insight on possible different forms of urbanism in the Euphrates valley. The mortuary monuments include a large complex of tombs in the public sector of the inner city (Tomb 7) and a large monument just north of the settlement (white monument, Tell Banat North) (Porter and McClellan 1998, Porter 2002a, 2002b). The White Monument (or Tell Banat North) is a conical mound with a diameter of 100 m and a height of 20 m (Porter 2002a). The earliest levels of this mound have not been reached, however, it is clear from the excavations that it was a man-made monument from its initial conception. The monument is constructed of soil and stone layers, mixed with secondary burials (Porter 2002a). The earliest levels excavated are from Banat period IV, or around the middle of the third millennium (Porter and McClellan 1998). Porter (2002a, 2002b, 2008) has argued that the white monument is part of a pastoralist landscape, marking the place of the dead and indicating a 'corporate state' rather than an 'exclusionary' state.

Although the mortuary and ritual finds from the White Monument and Tell Kabir represent unique uses of land surrounding an urban site, they reflect activities that were also carried out within the city proper. The settlement complex at Banat reflects a different urban form (Figure 3.20). Porter (2002a, 2002b, 2004) has discussed the Banat monuments in a context of a pastoralist urban society, a theory that may explain Banat's deviations from the urban 'norm' of the Euphrates. The ritual use of the off-site structures emphasizes the importance of considering areas beyond the central settlements for understanding urban sites.

3.3.3. *Anatolia*

The modern day state boundary between Syria and Turkey creates an artificial divide among the third millennium sites of Northern Mesopotamia. Many of the sites just across the Syrian border into Turkey are clearly integrated within the greater urban network of Northern Mesopotamia during the third millennium. Like the Euphrates valley cases, the environment around the Anatolian sites also plays a role in their development. Tiriş Höyük and Kazane Höyük, two major cities from the area north of the Syrian Euphrates, are discussed below.³²

3.3.3.1. *Tiriş Höyük*

During the second half of the third millennium Tiriş grew into a 43 ha site with a small high mound (around 3.3. ha), two lower town lobes and an outer town. Beyond the outer town were some small suburbs, an extramural cemetery and other evidence for dispersed activities (Matney and Algaze 1995). Much of the research at Tiriş was focused on the lower town and outer town. A magnetometry survey and subsequent excavations in the lower and outer town have produced a valuable data set for understanding urban layout at Tiriş.

Tiriş has an oblong shape, with two lobes extending to the northeast and southwest, called the lower town. The outer town extends to the west. Several excavations were opened in both the lower town and the outer town, revealing more than

³² See Creekmore 2008, and Nishimura 2008 for a more comprehensive discussion of settlement and urbanism in this region.

3000 m² of residential buildings. Very few excavations were conducted on the high mound due to the overburden of later materials, however, it is generally assumed by the excavators that the high mound contains the administrative and religious structures of the city (Matney and Algaze 1995, Nishimura 2008).

Burials were found in both extramural and intramural contexts (Matney and Algaze 1995, Laneri 2007, Nishimura 2008). The extramural cemetery was located to the southeast of the city and included a mix of cist and chamber tombs (Laneri 2007). Most of the tombs were looted in antiquity and damaged by modern activity (Matney and Algaze 1995). Laneri (2007) detected a shift from the extramural cemetery to intramural subfloor tombs around the period of intensification of the urban settlement (approx. 2400 BCE).

In the suburbs to the northeast about 320 meters from the outer town boundary was an area with more than 100 flint blade cores and evidence for a flint tool workshop (Matney and Algaze 1995). The excavations in this area revealed small rectilinear structures and features clearly associated with the production of Canaanite flint blades (Hartenberger *et al.* 2000, Hartenberger 2003). The inhabitants of the area were involved both in specialist production of the blades and normal agricultural activity, perhaps on a seasonal basis (Hartenberger 2003). The area was occupied from 2600 until around 2400 when the activity at Titriş was more concentrated within the central part of the site (Hartenberger 2003).

In the lower town the excavations revealed 13 houses of varying size dating to the late EBA. The houses were arranged perpendicular to the street, with anywhere from 15-

20 rooms and were arranged around a central courtyard (Nishimura 2007, 2008). The houses showed similar assemblages of artifacts indicating the inhabitants were involved in a number of activities including food preparation, cooking, storage, butchering, tool retouching, and weaving (Nishimura 2008). None of the households, however, seem to be engaged in specialized production rather only producing goods in a domestic context for household consumption (Nishimura 2008).

A magnetometry study covered approximately 60% of the site. Since the lower and outer town areas were not reoccupied following the Early Bronze Age the magnetometry study gives a picture of the EBA city. In the magnetometry survey several main roads were detected. They appear to follow relatively straight lines, converging on

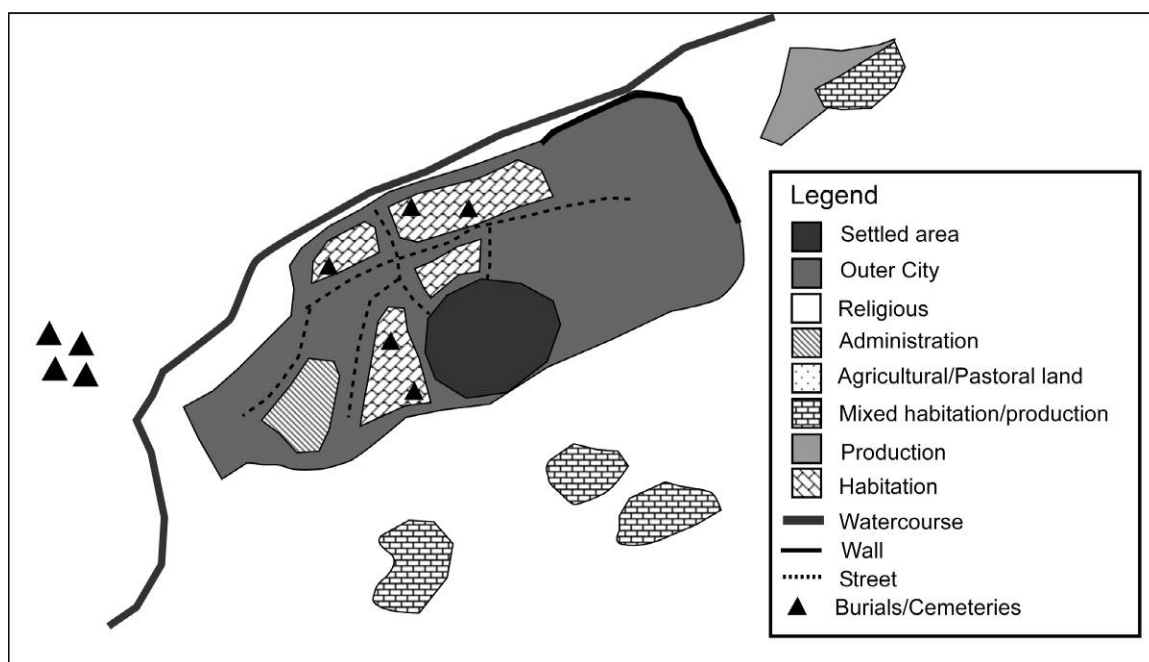


Figure 3.21 Titriş schematic of urban layout, note in particular the suburbs with primarily production activity.

the high mound (Nishimura 2008, Matney and Algaze 1995). They are not laid in an orthogonal plan but instead follow the natural contours of the site with an overall east-west and north-south directionality. Overall, the street layout suggests the planned nature of the late Early Bronze Age city (Nishimura 2008). The streets were laid before many of the houses were constructed clearly indicating that the city was designed according a greater plan before the houses were filled in (Matney 2001).

Although an outer city wall was detected (both in excavation and magnetometry) it did not encircle the complete site, but instead was restricted to the eastern part of the site (Nishimura 2008). A possible centralized storage area was found in the western part of the outer town. The excavated remains of silos and pits led the excavators to suggest it was an area used for institutional storage of agricultural products (Algaze and Misir 1994: 109). It does not appear as a monumental structure, however, in the magnetometry, suggesting it may be a smaller scale storage area (Nishimura 2008).

Overall, the plan for Tiriş can be well elaborated based on the surveys and excavated data (e.g. Matney and Algaze 1995, Nishimura 2008). Although the central mound has not been excavated down to the EBA levels, it is the presumed location of the centralized administrative buildings and ritual activities (Matney 2001). Extending out from the central mound the city is composed of a densely occupied residential area, cross-cut by roughly east-west/north-south streets (Figure 3.21). The excavations revealed tightly packed rectangular households with intramural family tombs. No

specialized workshops, production areas, or administrative buildings were detected.³³

Partially enclosed by a city wall, the city tapers off with some possible garden or orchard areas to the south (Nishimura 2008). Outside the city walls are an extramural cemetery and several suburb sites. The suburban sites seem to be connected to the production of everyday goods (i.e. non-status bearing objects) and are only used in the initial phase of urbanization (i.e. mid EBA) before activity in the surrounding countryside is reduced and activities are concentrated into the city proper. The extramural cemetery also appears to be discontinued at this time as well.

3.3.3.2. *Kazane Höyük*

Kazane is a large third millennium urban center located on the Harran Plain in the Upper Euphrates region. The city reached a size of 100 hectares at its maximum extent during the mid-third millennium. The upper mound has two peaks, connected by a low saddle. Both peaks and the saddle were likely enclosed by a wall in the EBA (Creekmore 2008: Fig 9.3). The lower town extends around the citadel area in all directions, taking a squared-off oblong shape, also enclosed by a wall.

Area C, in the middle part of the lower town between the high mound and the outer city wall, holds a large fortified building, likely a palace (Creekmore 2008). To the southeast of the high mound Area 1 was investigated using geomagnetics and excavation. The finds from this area revealed a mix of storage buildings and possible temple architecture. Two different storage facilities were found. The first was an open storage

³³ Although see Nishimura (2008) for discussion of possible likely locations of important structures or administrative buildings in the lower town.

town (Wattenmaker 1998). Numerous finds associated with textile weaving were found in an open area next to a large building, possibly a courtyard for a weaving complex. The large scale of the building, coupled with high status food consumption patterns and lack of agricultural implements leads the excavators to conclude that the workshop was not independently operated by a household, but instead the textile weaving in this workshop was an elite-sponsored craft activity (Wattenmaker 1998)

A geomagnetic study and excavations have been conducted in Kazane's lower town, allowing for initial study on the urban layout (Creekmore 2008). Excavations and geomagnetics in the lower town show evidence of city planning with straight streets and strategic placement of state/temple storage structures (Creekmore 2008). The lower town has strong evidence for elite control and intervention with storage structures, temples and elite-sponsored workshops (Figure 3.22).

3.3.4. Major Regional Powers

As major regional powers, the two sites of Mari and Ebla represent special cases in the study of urbanism in the region. Since their influence extended well beyond their immediate hinterlands, they were more in the realm of territorial states than their city-state counterparts across the Jezireh, or in the Euphrates Valley. Some variation in the form of cities might be expected, as they were able to rely on a broader hinterland to supply and sustain the city.

3.3.4.1. Ebla

The ancient city of Ebla, modern Tell Mardikh, is located about 60 km south of

Aleppo. The 60 ha site was the seat of a major third millennium kingdom that influenced and controlled a broad swath of Syria. The city was in direct competition with Mari, to the south (see below). Excavated since 1964, the site has provided an important window on the EBA urbanism in Syria.³⁴

The sprawling palace, Palace G, probably covered a large portion of the central city, or acropolis. More than 17,000 tablets were found in various archives within Palace G, giving a broad insight on the third millennium administration of the Eblaite kingdom. The excavations of Palace G and its associated storerooms show the complex economy and trade connections maintained by the royal elites.

Although numerous craft goods were found stored in the Palace itself, the administration appears to be concerned only with elite goods (Mazzoni 2003). The production of ceramics seems to be outside the purview of the royal administration, and based on the lack of ceramic wasters seen in the outer city, may have taken place outside the city altogether (Mazzoni 2003).

Most of the excavations in the lower town have focused on the Old Syrian period (or Middle Bronze Age) remains, leaving the urban layout of the EBA city somewhat unclear. Middle Bronze temples recovered in the lower town, in particular Temple N, appear to have precursors in the EBA (Milano 1995).

Based on an analysis of the texts relating to textiles from the archive, several types of places in the Ebla landscape can be identified, in particular the *uru-bar*, or area

³⁴ A complete review of the literature relating to Ebla is impossible in such a short discussion, but see the recent publication of *Ebla and its Landscape: Early State Formation in the Ancient Near East*, Paolo Matthiae and Nicolò Marchetti (Eds.), 2013.

“outside the city” (Biga 2013:265). Workers are sent out to this area to work, especially on activities such as dying which is both fragrant and requires large open spaces and lots of water (Biga 2013). The storage of oils is also mentioned in relation to the *uru-bar*, perhaps suggesting that storage of products produced outside the city were stored there, at least temporarily (Biga 2013).

What Ebla shows is a complex urban system, integrated with numerous small sites and controlling other urban centers (Milano 1995, Biga 2013). The acropolis appears to be a true acropolis, with only elite activities attested. The lower town remains unknown but appears to be also concerned primarily with elite functions due to the lack of ceramic production byproducts, the presence of temples, and the attestations of craft workshops outside the city. This variation from the mixed use seen at the other sites studied may be a result of Ebla’s unique position at the top of the political structure of the EBIV period.

3.3.4.2. *Mari*

Mari (Tell Hariri) is located on the Euphrates, near the border between Syria and Iraq. During the third millennium it was the capital of an important kingdom that vied for power with Ebla for control of northern Mesopotamian cities and the control of important trade routes. Mari appears to be a ‘round city’ and shares some characteristics with the Kranzhügel sites (see above). It is located well outside the normal distribution of the Kranzhügel sites.

The long history of excavations at Mari have produced significant finds including a major palace of the third millennium, thousands of texts, and the exposure of large

swaths of the EBA city. The site is greatly eroded, but it believed to have had a round shape from its inception. A channel cut through the middle of the site and Margueron believes the channel was a canal built to facilitate transport between the city and the Euphrates River (Margueron 2004).

Margueron (2004) has provided a detailed reconstruction of the city layout and its development, and only a short description based on his work will be given here. Mari was founded approximately 2950 BCE, and took an urban form from its earliest settlement. This level, Ville I, lasted until about 2650 BCE. Ville II was built around 2500 BCE after a period of general abandonment. Ville II appears to follow a similar plan to Ville I.

Broadly, the city has a double-wall morphology with a round inner city surrounded by a wall, and then an extension of the lower city also enclosed by another city wall. A series of radial streets cut across the outer city, extending from the gates of the inner city wall.

Excavations from Ville I revealed a temple dedicated to Ishtar toward the outer edge of the inner city, and a residential quarter with associated craft workshops (Area L) nearby. Intramural vaulted mudbrick tombs were also found in the inner city. Just outside one of the inner city gates, two excavations (J1 and J2) held small buildings and a possible metal-working area. Lyonnet (2009) sees this phase as more village based, and not reaching the level of planning associated with urbanization. The monumental outer rampart and inner city wall, however, seem to suggest a level of urban planning.

The upper city during Ville II had a network of streets, not arranged in any pattern, but with several major roads extending over long distances. Margueron has

reconstructed several of them connecting to the area of the Palace, which was not centered on the high mound. The majority of the excavations have focused on the high mound, with the Palace, seven identified temples, administrative areas, artisans' quarters and several residential areas (See Margueron 2004: Fig. 120). The city seems to have retained its double-wall structure and lower town with radial streets during this phase as well. Excavations were not reported from the lower town or Ville II.

Overall, Mari shows a plan very similar to the Kranzhügel sites, and in fact, many have categorized it as a Kranzhügel (Lyonnet 2009 in particular). Until further excavations are conducted in the lower town, the question of connection to the Kranzhügel sites of central Syria, or to pastoralists must remain open.

3.4. Discussion

As is shown in this chapter, although few projects have focused on extensive exposures in lower towns, there is a considerable amount of data on these spaces within the urban context. The broader examination of sites across Northern Mesopotamia begins to shed light on the differences between sites, and can give insight on which differences are perhaps the result of cultural, ecological or chronological differences. The differences allow the separation of the wheat from the chaff in understanding which differences are idiosyncrasies of the record, and which have significance for the development of a model of urbanism.

Although Ur *et al.* (2011) describe Brak as typifying the northern Mesopotamian city, in reality the comparative analysis in this chapter shows that it has significant differences, particularly the minimal expansion during the third millennium, lack of outer

city wall and apparent restriction of major activities (excepting habitation) to the central mound. Due to the focus of this study on the role of outer towns, the city forms presented above represent a selection bias, with those cities with expanded urban layouts at the core of the analysis. In the Balikh none of the cities had an extensive lower town, and in the Euphrates, numerous urban sites lacked any differentiation within the city. Nevertheless, the focus has been on the sites of the Jezireh, with Chuera and Mozan forming the core of the analysis, and all of the major urban sites of the Jezireh show an urban expansion around their central cities during the mid-third millennium. A pattern not found uniformly in the river valleys emerges in the dry-farming plains that privilege this type of expansion. The Anatolian examples also provide a valuable counterpoint as they show irregular growth and various distributions of activities, in particular the craft specialization in the suburbs at Titriş.

The Euphrates Valley sites show a greater variation in shape and layout than their counterparts in the Jezireh. The river valley and limited agricultural plains likely served as a limiting factor (Wilkinson 2004, Cooper 2006). Among the Euphrates sites, Sweyhat has the most in common with the Jezireh sites – probably due to its location on a broad open area that did not restrict the growth of the site allowing it to expand out like the Jezireh sites. The interaction between pastoralists and sedentary populations likely shaped the landscape as well and may explain the limited size of the sites in the region as urban centers were only one small part of the settlement system. The Euphrates valley also has more diversity in the burial data with monuments, hypogea, intramural and extramural burials and significant variation in the types of extramural burials such as cist,

shaft and chamber tombs (Akkermans and Schwartz 2003, Cooper 2006).

In general, the broader comparisons can help separate the unique characteristics of the Jezireh urban form. The comparisons also provide insight on some important locations of activities that appear in the record that could provide avenues of research for future work in the Jezireh. For example, the specialized workshops and the textual evidence for extramural storage and other activities at Ebla may shed light on areas like ASA at Chuera.

City planning is not only adherence to a cosmological or orthogonal plan, but can be more subtle and linked to concepts of privacy, ideology, formality and monumentality. Planned and unplanned are not strictly dichotomies but rather poles of a continuum (Smith 2007). Although the schematic plans at a glance appear to represent 'unplanned' cities, in that they do not have orthogonal layouts or organized streets, they do exhibit varying degrees of planning. Coordination between buildings and spaces is one aspect of urban planning (Smith 2007:8). The schematic view of the cities of this chapter provides a way of viewing the spatial relationships of the various components of the urban environment. The high mounds of most of the third millennium cities, while mixed in use, were still dramatically separated from the lower towns, both by height and by substantial city walls. Lower towns often replicate activities also occurring on the high mounds, including religious and administrative buildings and elite housing. Excavated houses from both Hamoukar and Leilan suggest that houses were built according to the specific needs of the residents, rather than as part of the larger city street plan, with semi-private cul de sacs at Hamoukar and houses closed to the main street at Leilan.

Double-walled cities appear to have similar distributions of activities across the lower towns with evidence for habitation, craft production and burial found at almost all sites (see Chapter 6). Evidence for administrative and religious activities is found less frequently, but still evidenced both within the Jezireh and from the broader examples. Functional use appears to be a major factor in the arrangement of activity including the co-occurrence of habitation and workshops as well as extramural work areas for activities that may produce undesirable byproducts such as smell or ash. The rapid growth of the urban sites means that the outer cities do not represent a slow accretion of additional buildings, but rather a planned inclusion of a set area into the urban landscape (with the clear exception of Taya).

Overall, the areas off the high mound demonstrate that urban complexity is not confined to the central high mounds, but rather the characteristics of urbanism are found distributed throughout cities. Two additional case studies are presented in the following chapters focusing on the numerous projects in Tell Mozan's outer city and a small extramural area at Tell Chuera.

Chapter 4. The Outer City of Tell Mozan: Urbanism off the Central Mound

4.1. Introduction

Tell Mozan, ancient Urkesh, provides a unique case study on the distribution of activities within an urban environment. Over the last 25 years numerous studies have been conducted in the outer city and the results of these investigations can be used to analyze the distribution, density and character of urbanism off the central mound.

The investigations in the outer city have revealed a variety of uses within the outer city including habitation, burial, administration, and production – each taking place within the larger matrix of the urban environment. The data demonstrates the widespread distribution of habitation and production areas in the outer city. Surface survey provides an overview of the density and distribution of activity in the outer city. Targeted excavation has provided evidence on some of the activities in the outer city, in particular burial and administration. A magnetometry study gives a glimpse of the overall city plan in the southern section of the city. Together, the data allows for a tentative reconstruction of the urban system at Mozan.

Certain features display the planned aspects of the city, including the city wall and the patterning of roads and streets. The framework of the urban area is defined by several structures and boundaries and divided by a series of built and natural features. The categories of landuse and distributed activities as described by Zaccagnini (1979) are

represented in the area off the central mound at Mozan.³⁵ In order to ‘localize’ the activities of the third millennium city survey, excavation and geophysical data will be examined.

4.2. Historical and Environmental Context

The development of urbanism across the Khabur during the third millennium provides the framework for understanding the rise of urbanism at Mozan. The preexisting fourth millennium settlement helped shape the distribution of urban components in the third millennium. Similarly, the physical environment is a constraining factor on the placement of activities within the landscape.

4.2.1. Chronology

The historical framework of development, both at Mozan and the wider Khabur is necessary to understand the specific form of the city at Mozan. The long history of occupation at Mozan formed the basis of the development of the larger urban center of the third millennium. Despite roots in earlier phases, the expansion into the outer city and inclusion of the outer city into the integrated fabric of the city represents a distinct change from the earlier periods. The combination of continuity and significant change is the hallmark of the process of urbanization at Mozan, and across the Khabur.

A regional chronology for the Khabur and the greater Jezireh region (the Late Chalcolithic/Early Jezireh Sequence) was developed to provide a better proxy for Northern Mesopotamian sites than the preexisting Southern Mesopotamian chronology

³⁵ The various categories of urban landuse, as described by Zaccagnini (1979) are discussed in depth in Chapter 1 and Chapter 6.

	MZ	Early Jazira	Southern Mesopotamia	Early Bronze Age
2000	Phase 5			
2100				MB
2200		EJIV	Akkadian	
2300	Phase 4			EBIVb
2400	Phase 3l-3u	EJIII	EDIIIb	EBIVa
2500				EBIII
2600		EJII	EDIIIa	
2700				EBII
2800	Phase 3b-3j	EJ1/N5	EDI-EDII	
2900		EJO		
3000				EBI

Table 4.1 Comparative Chronology Chart

(Pfälzner 1998, Lebeau 2000, Akkermans and Schwartz 2003). Based on radiocarbon dates and ceramics from sites across the region, the Early Bronze Age is subdivided into five sub-phases, the Early Jezireh I-V (EJ I-V) (Table 4.1). The EJ sequence begins with the decentralized EJI, through a period of urbanization in the EJII and III, with a fully formed urban society flourishing in the EJ IV, before the decline of the EJ V.

Following the collapse of the ‘Uruk world system’ and the decline of Late Chalcolithic urbanism in the Khabur, the region returned to a state of relative regionalization. The Early Jezireh I (EJI) (2900–2650 BCE), or Ninevite 5 period, is generally described as a period of ruralization and non-urban settlement across the Khabur (Akkermans and Schwartz 2003). Numerous surveys have documented a reduction in both the size and number of sites compared to the previous period (Stein and

Wattenmaker 2003, Wright *et al.* 2007, Weiss 2003, Ristvet 2005, Ur 2010a). Stein and Wattenmaker's (2003) analysis of the distribution of sites around Leilan during the EJI (Leilan phase III) suggests sites were arranged into small networks, with a two-tier hierarchy of sites. Many of the cities of the mid-third millennium evolved out of sites that were already established in the EJI period (Weiss 2003, Akkermans and Schwartz 2003, Stein and Wattenmaker 2003, Ristvet 2005, Ur and Wilkinson 2008). Despite the return to a more ruralized pattern of settlement after the urban societies of the fourth millennium collapsed, elements of social complexity remained (Schwartz 1985, 1987, Weiss 1990, Bielinski 2007, Akkermans and Schwartz 2003).

Across the Khabur region the EJI is more commonly called the Ninevite 5 period, named after the ceramics found in the 5th level from the site of Nineveh in northern Iraq (Mallowan 1964). The ceramics are distinguished by their distinctive incised and excised decorations following geometric patterns. Some examples are also painted. The total size of Ninevite 5 sites is difficult to estimate since they are almost uniformly occupied in the following period, and excavations at most large sites have not achieved significant exposure of Ninevite 5 remains due to their depth and continued occupation. Significant Ninevite 5 exposures have been uncovered at some smaller sites including Tell Arbid (Bielinski 2005) and some Ninevite 5 levels have been excavated at Tell Barri (Valentini 2008). The level of complexity at Ninevite 5 sites seems to suggest a pre-urban or proto-urban level of integration and complexity. Schwartz (1985, 1987) refers to it as a "complex chiefdom" characterized by some social stratification and craft specialization but lacking in certain aspects of complexity such as writing. Despite hints at social

stratification and craft specialization, as well as centralized control of staple crops (at some locations), there is little evidence of monumental architecture, a major hallmark for recognizing urban settlement. Small settlements along the middle Euphrates show evidence of storage and control of staple finance, but their small size and unclear function has not helped to clarify the understanding of the pre-urban characteristics of the Ninevite 5 period (Curvers and Schwartz 1990, Fortin 1997, Hole 1991, 1999, Routledge 1998). Some monumental architecture dating to the Ninevite 5 period has been found at Tell Arbid, near Mozan, and its excavators have argued that Arbid maintained an urban form throughout the Ninevite 5 period (Bielinski 2007). Although the subsequent EJII/III phase cities are much larger and more integrated, they seem to draw inspiration from their earlier Ninevite 5 complexity and proto-urban nature.

The EJII is relatively short, spanning just 100 years (roughly 2600–2500 BCE) and appears to be tied to the EJIII (2500–2350 BCE) across the Khabur. The material culture of the EJII has strong continuities with the subsequent EJIII period, making the two periods difficult to distinguish, particularly in cases where the general trends of increase and decrease of specific types of ceramics relative to percentages are not available.³⁶ Because of the difficulties in identifying the differences between the two phases, they are often discussed as one period. Across the Khabur, this is a period of growth and expansion of urban sites, particularly those with substantial Ninevite 5 remains such as Leilan, Brak, and Hamoukar (Ur 2010a). Survey reveals the development of a much more complex hierarchy of sites with the large cities now dominating smaller

³⁶ This is particularly problematic in cases like Mozan where the primary data set of ceramics from the outer city relies on survey data.

cities, towns and villages (Stein and Wattenmaker 2003). Along with Mozan, sites like Leilan are also developing into urban centers during this phase (Leilan phase IIIId) with the settlement of the lower town there (Weiss 1986, 1990, Weiss *et al.* 1990, Ristvet 2007). The circumvallation of the lower town at Leilan is dated to around 2600 BCE (Ristvet 2007). At nearby Arbid, the flourishing Ninevite 5 city continued in use, albeit with some apparent rearrangements of the habitation quarters (Bielinski 2005, 2007). Tell Brak expands substantially and begins a period of construction of monumental buildings (Steele *et al.* 2003).

The EJIV period (2350–2100 BCE) correlates across the Khabur with the expansion of the Akkadian empire. The current evidence for the influence of the Akkadian empire remains ambiguous with the only evidence for direct control at Brak (Ur 2010). Interaction, however, is unambiguous at many sites with textual references and material culture indicating connections with the southern Mesopotamian empire. At Mozan, the site is linked to the southern Empire through the apparent royal marriage of Taram-Agade, daughter of the Akkadian king Naram-Sin, to the local ruler at Urkesh (Buccellati and Kelly-Buccellati 2002). Most sites already reached their peak expansion in the EJII and III, yet they continue to develop into the EJIV. Monumental construction continues at Mozan (with Palace AK), Leilan, and Beydar, as well as at Brak (Naram-Sin building). Craft production is increasingly specialized (Wattenmaker 1998).

Across the Khabur the EJV (2100–2000 BCE) is seen as a period of decentralization and decline. Weiss and colleagues have attributed this decline to climatic events (Weiss *et al.* 1993). Since their first proposal, however, new research has

demonstrated that not all sites are abandoned, and a more dynamic understanding of decline based on cultural and climatic influences has been developed (Wilkinson 1997). Some sites continue to be occupied, including Mozan, and are reformulated into new urban structures with a Hurrian influence – in particular, the rise of the kingdom of Urkesh and Nawar.

The reorganization of society in the EJV represents the end of the Early Bronze Age in the Khabur. Mozan continues to be an important site during the second millennium, but the outer city seems to play little role during this period.

4.2.2. Environment

While the historical development of the region and the neighboring sites obviously played a role in how Mozan developed into an urban site, the environment similarly shapes urbanism at Mozan. The site of Mozan is uniquely situated (Figure 4.1). The proximity to the Tur Abdin Mountains, particularly the proximity of the pass at Mardin, places Mozan in a position to take advantage of trade from Anatolia passing through to the Khabur plains (Figure 4.2). Located on the plain itself, the city relied on the fertile agricultural land surrounding the site. Mozan is located well above the threshold for sustainable rainfall agricultural with an average mean rainfall of 450mm in the third millennium (Riehl 2010). Research on the plant remains from Mozan has consistently shown that the area was wetter during the third millennium than it is in modern times. Furthermore, although the area is entirely converted to agricultural fields now, in the early third millennium it was a mixed steppe forest with more abundant plant types and wildlife (Deckers and Riehl 2007, Deckers 2010, Doll 2010).

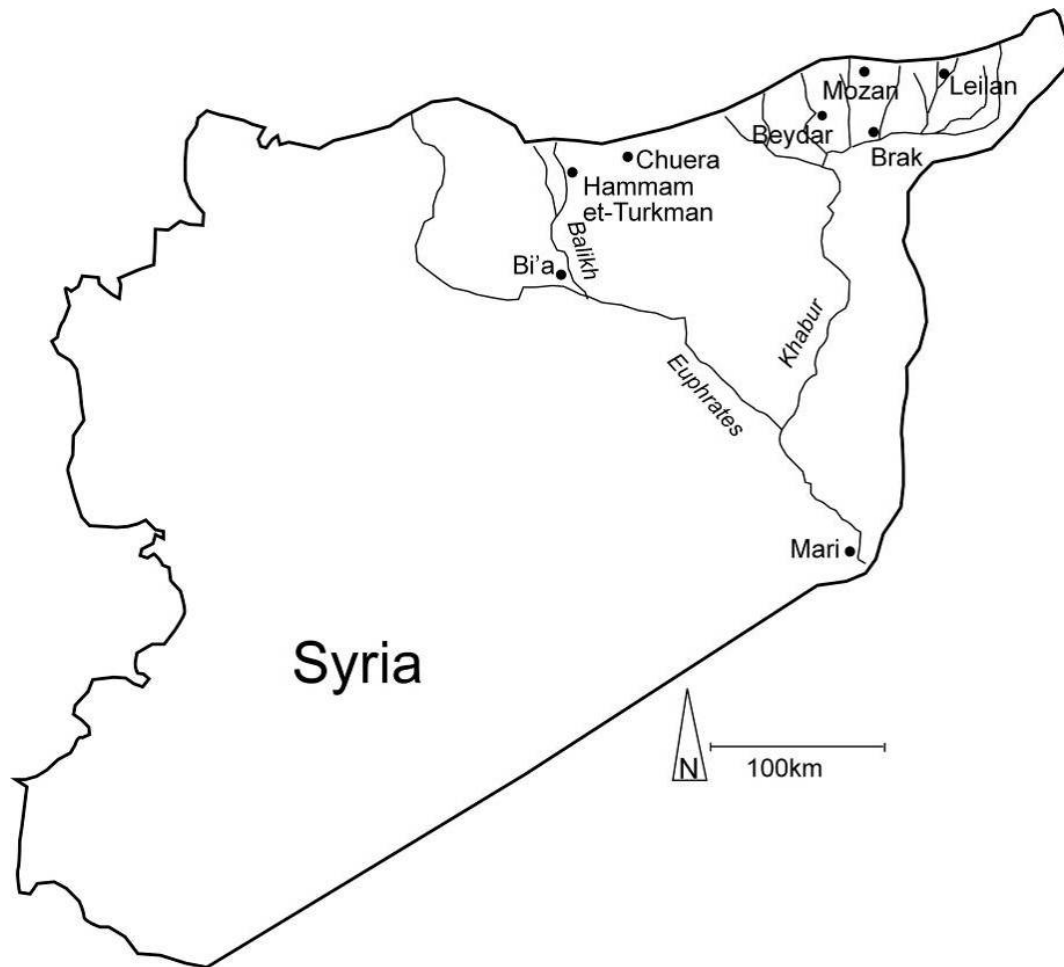


Figure 4.1 Map of Syria. Major sites discussed in text indicated.

At Mozan the outer city is the space between the central urban mound and the rural countryside. Within the boundaries of the outer city many of Zaccagnini's categories are represented such as watercourses, urban structures, uncultivated land, roads, wells, and likely houses and stables. The picture of the surrounding countryside and the role of the outer city can be developed by looking at the constraining factors on urban growth and the evidence regarding the local environment.



Figure 4.2 View of Mardin Pass from northern part of central mound. Mozan's proximity to the Tur Abdin Mountains, particularly this important pass helped the site maintain its importance across the millennia. Photograph by author.

4.2.2.1 Agriculture

The local environment served as a constraining factor on the growth of the city. Wilkinson (1994) has estimated that the upper size limit of dry-farming settlements in the Khabur is approximately 100 hectares. At its full extent Mozan was almost 20% larger than this, although it may have included enclosed areas that were not densely occupied. Sites of this size could only be maintained through control of a network of smaller sites that helped provide the agricultural and pastoralist base for the city. Some surveys have suggested that the entire Khabur region would have to have been densely populated and converted to farmland; however, reanalysis of productivity of the area has led to the suggestion that, in fact, the area was productive enough to allow large open spaces

(Deckers and Reihl 2008, Deckers and Dreschler 2011). Based on estimated population densities and the agricultural productivity of the region, the necessary sustaining area for a site of Mozan's size can be predicted to include land within a radius of 5–8 km surrounding the site (Wilkinson 1994, 2004, Deckers 2010, Deckers and Dreschler 2011, Chaves Yates forthcoming). Of course the size of the sustaining area required is dependent on the density of population within the city. Open spaces within the inner city, in particular the large Plaza at the center of the site, suggest it was not densely occupied. The evidence from the outer city, however, suggests this area was occupied with widespread habitation. The surface ceramics are very dense and the magnetometry survey in the southern outer city indicates the presence of densely packed buildings (See below; Pfälzner *et al.* 2004). The outer city at Mozan is approximately 100 ha in size, the same size or larger than the whole of neighboring sites (including their high mounds) such as Brak, Beydar, and Leilan. Even if the high mound at Mozan were completely devoid of habitation areas, the site's population would be still be among the largest in the region.

Although a full site survey of the area around Mozan has not yet been conducted, we can begin to piece together a reasonable picture of the local landscape and its use. Corona images show several tells in the immediate surrounding areas and preliminary reconnaissance suggests that at least two are significant archaeological sites (Barnard 2013, Davidson and McKerrel 1976)³⁷ (Figure 4.3). Until the contemporaneity of these tells with the third-millennium settlement at Mozan can be established, it is unclear what,

³⁷ Deckers and Dreschler (2011) indicated that there are 16 villages in the area around Mozan, although it is unclear if and how they determined these villages are associated with the period of urbanization at Mozan.

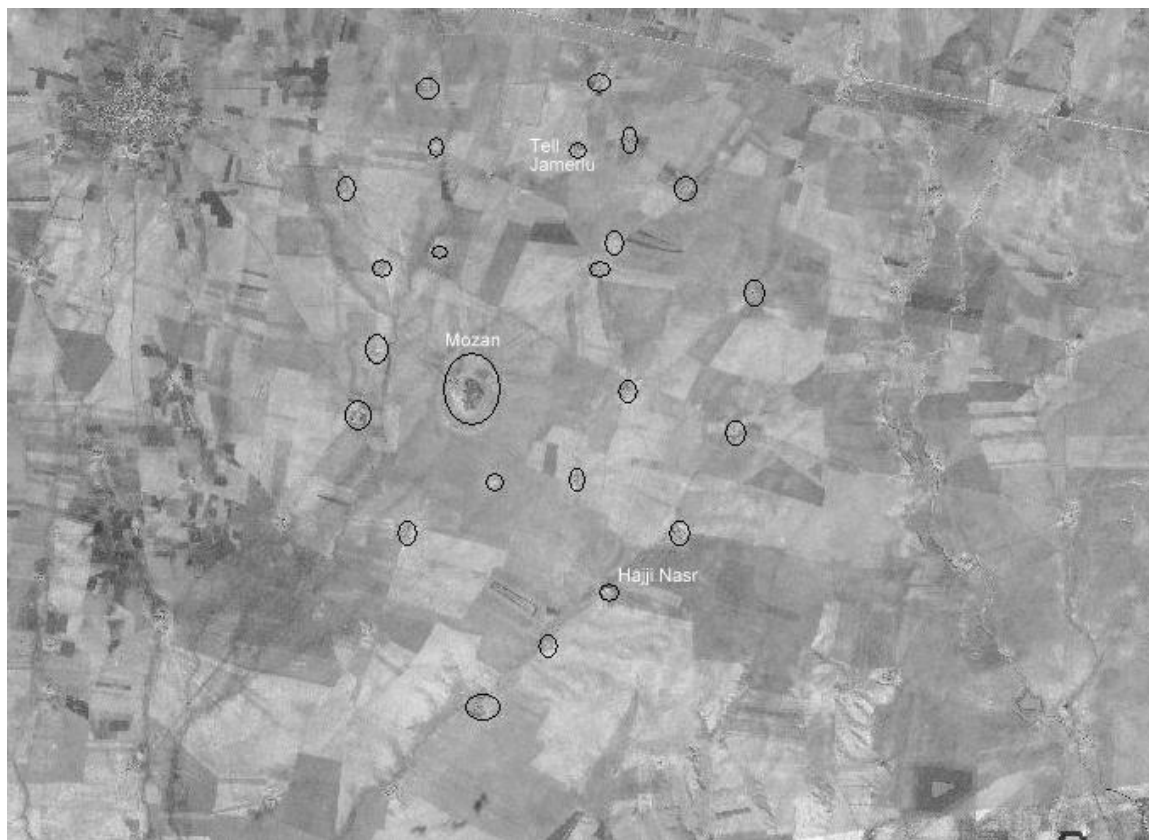


Figure 4.3 Disturbances visible in Corona image with known archaeological sites labeled. Corona image courtesy Center for Advanced Spatial Technologies, University of Arkansas/U.S. Geological Survey

if any, relationship these sites have to Mozan. Further study is needed for a better understanding of the role and significance of Mozan's villages.³⁸

Plant and animal remains from EJ contexts suggest the economy of ancient Urkesh was mixed, including both agricultural and pastoralist pursuits (Deckers 2010, Doll 2010, Riehl 2010). This is quite similar to the modern situation at Mozan where agriculture and sheep and goat herding are practiced in the immediate surroundings of the

³⁸ Survey is planned in connection with the establishment of the Urkesh Eco-Archaeological Park and for a complete discussion see contributions in Buccellati and Chaves Yates (forthcoming), particularly Barnard (forthcoming).

site. The intermixing of agricultural and pastoralist subsistence strategies is well-documented across the Jezireh. Texts from Beydar dating to the third millennium suggest that the centralized administration was involved in the administration and distribution of some flocks (Milano *et al.* 2004). Pustovoytov *et al.* (2010:11) demonstrated that the ditch south of the tell was used both for agriculture and for pasturing herbivores, indicating the mixed agricultural and pastoral pursuits of Mozan's inhabitants in the area surrounding the city.

Zaccagnini (1979) observes that very few households around Nuzi and Arraphe are located outside of the main settlements and concludes that the farmers likely commuted to their fields and stayed in temporary shelters in the fields when necessary. This observation meshes well with the settlement pattern seen in mid-third millennium Khabur region, with the populations increasingly nucleated into urban centers and a proliferation of small sites with low populations (Stein and Wattenmaker 2008, Wilkinson 1990, Ur and Wilkinson 2008). At Mozan there are no known secondary sized sites (towns) in the immediate hinterlands, suggesting that it was able to grow to such a large size by dominating the countryside entirely and exacting agricultural products from the small villages for sustenance of the urban population (Deckers and Dreschler 2011). The divergent populations suggest that a high percentage of the urban residents were still engaged in agricultural activities during at least part of the year. Overall, the concentration of the regional populations into newly developing urban centers during the EJII/EJIII, accompanied by agricultural intensification, shows that despite the urban nature of these settlements the majority of the population probably continued to be

involved in agricultural and pastoralist pursuits on both a household level and within the larger structure of an urban society.

4.2.2.2 Local Villages

Although the urban center was invested in managing the agricultural products of the local area, small villages, presumably agricultural in nature, likely also served to support the large center at Mozan. Texts discovered in a private house on the northern part of the central mound (Area F1) dating to the EJIV (Akkadian) period mention five villages.³⁹ Since these villages are otherwise unknown from contemporaneous texts it is believed that they are local to the site of Mozan (Milano 1991). In the tablets at least five villages are identified, but only two village names are completely preserved. The texts mention several occupations and tasks to be completed in the villages. Despite the limited nature of the texts, it is clear that during the Akkadian period the city had contact with various villages. The texts discuss sending out workmen under the supervision of different administrators (Milano 1991). Although these tablets were found in what may be a private residence, they still indicate that rural villages were integrated with the urban center, regardless if it was on a household administration level or a broader city-wide administration level. Comparable texts from nearby Beydar indicate that both household and city-wide administration occurred (Sallaberger and Ur 2004).

The variety of occupations found in just two tablets indicates the strong integration of the urban and rural economies. The inclusion of a fuller in the listed

³⁹ Full publication and translation of the texts and a discussion of the related stratigraphic record can be found in Milano 1991

professions, being sent out to the village, suggests that the villages were involved in pastoral activities. Additionally, a fowler indicates the exploitation of resources from the surrounding countryside. The importance of the urban specialists is highlighted by the inclusion of several skilled laborers in the list of workers sent out including a scribe, smith, physician and upholsterer. The evidence from the sealings at the Palace also shows the interconnectedness of the city with the hinterland. The sealings found within the Palace preserve evidence of the types of containers they sealed, and the majority seems to come from local areas into the Palace for storage and redistribution (Kelly-Buccellati 1998b:41).

As Figure 4.3 above shows, there are numerous tells in the hinterland around Mozan. Future research will focus on identifying the time periods of these sites and their relationship to the third-millennium city.

4.2.2.3. Local Environment

The local environment was more than just a physical place but also was rooted in the ideology of the local Hurrian populations. The imposing tell has been suggested to emulate their mountain homelands, and when the temple mound is viewed from the Plaza area on the central mound it is viewed against the backdrop of the Tur Abdin Mountains (Buccellati 2009). The inner city rises more than 20 meters above the outer city and the temple on the highest point seems reminiscent of the mountains. The site would have been visible for miles around and dominating when viewed from within the outer city, or from the surrounding countryside. Later Hurrian texts from the period of the Mitanni Empire suggest that Urkesh retained significant religious and cultic importance well into

the second millennium (Stienkeller 1998, Salvini 1998). This religious importance extended well beyond Urkesh's main periods of political dominance in the region. The physical and ideological connections with the mountain hinterland was particularly important for the continued occupation at Mozan and the ideological and physical connection to the mountains helped the city achieve its monumental size and status during the third millennium.

In addition to the mountains, local watercourses also play a role in the broader settlement patterning also on the small scale, even within the boundaries of the outer city at Mozan. Surveys have indicated that sites are preferentially located along watercourses throughout the third millennium (Wright *et al.* 2007; Deckers and Riehl 2008, Deckers and Dreschler 2011), suggesting the importance of these waterways for the sustenance of sites. The importance of waterways appears to be twofold. First, available water for people and animals is a key component of sustaining an urban site. Second, the waterways provided easy and reliable long distance transport and connection with other sites and, in the case of Mozan, with the nearby mountains. Textual evidence from Chagar Bazar suggests that during the third millennium wadis were used for transport of goods such as grains; the distribution of small villages along the wadis connecting major sites also suggests the waterways acted as major communication routes (Eidem and Warburton 1996:53).

At Mozan the area received sufficient rainfall and the site did not require rivers for supplementary irrigation agriculture, making the rivers less significant for site placement than in the irrigated areas of Southern Mesopotamia. It seems more likely that

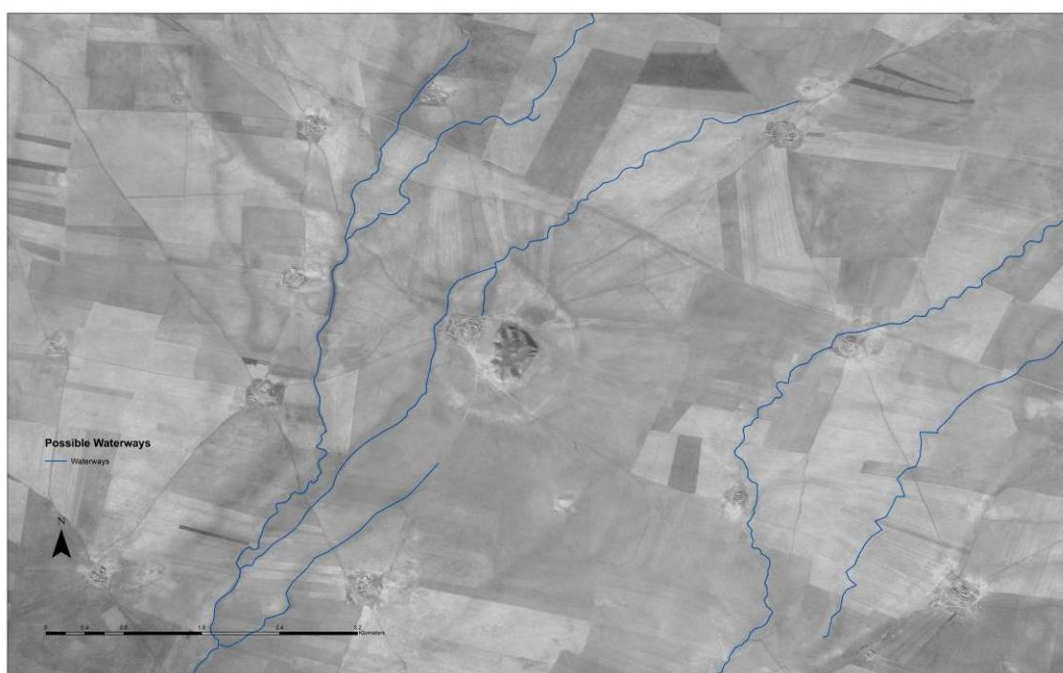
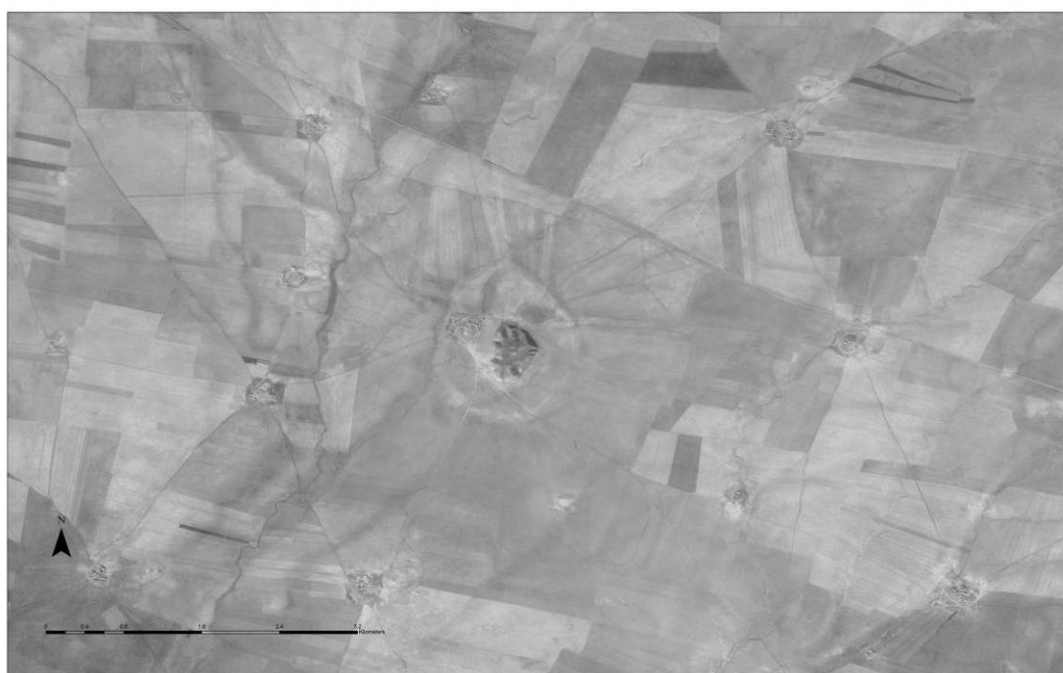


Figure 4.4 1967 Corona image of Tell Mozan showing relict water channels (above). Locations of possible waterways highlighted (below). Corona image courtesy Center for Advanced Spatial Technologies, University of Arkansas/U.S. Geological Survey

at Mozan the main importance of the waterways was transport along north-south lines connecting Mozan with the northern mountains and providing a trade avenue.

Several possible ancient watercourses have been identified in the area around Mozan, with the wadi on the eastern side of the site possibly even cutting through the outer city of the third millennium (Deckers and Riehl 2007) (Figure 4.4). The ancient watercourses have not been conclusively dated; however, the mixed ceramic sherds suggest a date within the range of the third millennium (Deckers 2010). The OR1 excavations seem to indicate that the stream ran through the outer city (Deckers and Riehl 2007; See section 4.3.5.5. below). The watercourses are important for understanding the western outer city, as the presence of watercourses there shaped the third millennium city by restricting the size and shape of the city to the west. Furthermore, continued presence of water in the western outer city has shaped the currently available data as a post-depositional process at work. The sherd densities, as described below, are much lower in the west and this may be a result of continual presence of water through to the present day. Until further excavations can be conducted it remains unclear if the wadi's trajectory took it through the western outer city, or if it represented the western edge of the city, until it was later diverted and the outer city wall in the west was constructed. The Corona images seem to suggest that a wall does exist in the western half of the outer city, however, the topographic survey is less clear (Figure 4.5). The rise is not as clearly indicated with a height difference of only about two meters over the internal areas of the outer city. This difference in height contrasts the eastern side where the difference reaches four meters in several places. Likely, the western outer city represents an area



Figure 4.5 Topographic map of the site (left), showing only a slight rise in the topography in the western part of the outer city. A Corona image (right) shows a pronounced lighter line in the west that appears to be a continuation of the outer city wall. This remains an avenue for future investigation at the site.

of change and flux during the more than one thousand year history of the outer city.

Anthropogenic changes to the local environment remain an important avenue for future investigation, particularly in relation to the western side of the city.

4.2.3. Mozan in Context: Discussion

The environment served as a constraining factor on the development of the city during the third millennium. It is clear that the residents used adaptive strategies to take advantage of the fertile dry-farming soils around the site, the local watercourses, and their links with the mountains. These factors were incorporated into the urban way of life and may provide the answer for how Mozan was able to expand to such a large size, pushing

the upper boundaries of size that seem to have limited other neighboring sites. Mozan was not an isolated urban center, but rather relied on its integration with the countryside, through agricultural villages, intensification of agricultural and pastoralist pursuits in the area immediately around the city, and through ideological connections with the mountain hinterland.

The rise of the outer cities is only one aspect of the growth that accompanied the growth of urban sites across the Khabur during the mid-third millennium. Numerous studies have indicated an intensification of agricultural production, focusing on new crop species and increased involvement of centralized administrations (McCorrison and Weisberg 2002, Wetterstrom 2003, Sallaberger and Ur 2004). The importance of agricultural activities during the third millennium is reflected in all aspects of Mozan's cultural record, including art (Kelly-Buccellati 1998b). The outer city served as the locus of habitation for a large population, yet this population was not necessarily urban in the sense that they still were largely involved in agricultural pursuits. The environment is an indivisible aspect of the larger settlement pattern and also influences the design of Urkesh's outer city.

At Mozan, the local environment is increasingly incorporated into the urban space. For example, the concept of the mountain is brought into the physical space of the city. On the eastern boundary of the outer city, the wadi serves as a point of connection with the world and landscape outside the city, and yet also constrains the points of contact between the city and the hinterlands to specific areas within the outer city.

The site was clearly established as an important trade gateway and religious

center even as early as the fourth millennium as the high fourth-millennium mound and scattered outer city finds attest. Following the widespread collapse of the Uruk system across the Khabur, the Ninevite 5 period represents a locally based indigenous movement, with remnants of complex society but a less stratified settlement pattern. Ninevite 5 sites continued to interact on a regional scale but without the broad interaction that characterized the Uruk expansion. Certainly, the growth of urbanism across the Khabur resulted in greater interaction between the sites within the region and across greater Mesopotamia.

4.3. Data Analysis of Mozan's Outer City

In order to explain the development and use of the urban area of Mozan, a series of surveys and excavations were conducted in the outer city. The area of the outer city is defined as the occupied space surrounding the central mound. It includes the area between the inner and outer city walls as well as any structures just outside the outer city wall. Since the beginning of archaeological work at Mozan in 1983, the excavations and research at the site have included attention to the outer city. Even without systematic study, a topographic rise encircling the main mound at a distance ranging from 200-400 meters from the base of the central mound is clearly visible. In the eastern portion of the outer city there is a difference of elevation up to 4 meters.⁴⁰ Densities of surface ceramics dramatically decline outside the rise, leading to the suggestion that this rise represents an

⁴⁰ Continuous plowing in the outer city has likely reduced the height of the rise over the last five millennia, yet the rise remains visible in both satellite photographs and on the ground.



Figure 4.6 Tell Mozan and its surroundings. Top: Google image of Tell Mozan (2008). Bottom: Corona image of site (1967) Corona image courtesy Center for Advanced Spatial Technologies, University of Arkansas/U.S. Geological Survey

outer city wall and boundary of the outer city (Thompson-Miragliuolo 1988, Section 4.3.3.7 below).

Field-walking reveals a dense scatter of sherds and artifacts across the area. The total area of the outer city is difficult to estimate since no apparent boundary is preserved on the western side. Based on recent reexamination of the CORONA images, Google

Area	Location	Brief Description
OR1	NW	Excavation: Ancient watercourse
OB1	NE	Excavation: Grave
OG50	N	Pilot Survey transect
OG51	N	Pilot Survey transect
OH40	E	Pilot Survey transect
OE40	SW	Pilot Survey transect
OD40	S	Pilot Survey transect
ON	S	Geomagnetic and Surface survey
OL	S	Geomagnetic and Surface survey
OS9-12	N	Cuts for power lines
OH1	n/a	Excavation: possible wall
OH2	NE	Excavation: administrative area
OJ1	W	Excavation: Mozan village
OD50	S	Surface collection: disturbed burials
OA4	NE	Excavation: Grave

Table 4.2 Table of Outer City investigations

Maps and field-walking, the total area of the site can be estimated at around 100-120 hectares in size (Figure 4.6). When the area of the central mound is subtracted, the remaining area of the outer city is somewhere between 82-102 hectares. During the excavations of area OR1, in the Northwest part of the outer city, virgin soil was identified approximately 3.5 meters below the surface. In areas associated with the rise of the outer city wall, the archaeological deposits are expected to be much thicker.

Investigation of the Mozan outer city includes surveys as well as both planned salvage work and chance finds. The areas of the outer city are named with two letters and a number, with the letters indicating the approximate location and the numbers assigned sequentially within the area. The first letter is always O, indicating the area is in the outer city. The second letter corresponds to an area on the main mound. These areas

are approximate and do not represent specific boundaries. In general, excavations have smaller numbers while surveys have been assigned to numbers in the 40s. Numbers in the 50s were used to reflect informal surface surveys and collections with surveyed points (Table 4.2).

A scatter of sherds and other artifacts is visible across the entire surface of the outer city, although survey has revealed significant variation in the densities (Figure 4.7).⁴¹ The scatter of artifacts clearly identifies the area as a portion of Mozan's urban system. Densities in the outer city are well above the 0.3 sherds/meter² level that represents the general survey standard for identifying sites in the region (e.g. Wilkinson and Tucker 1995, Ur 2002, Wright *et al.* 2007:9). Generally, the sherds are small sized and are often abraded. This pattern is common when sherds are left exposed on the surface for a long time. Very few fresh breaks are found indicating that the current plow zone is not disturbing any potentially preserved contexts below the surface.

This section will address the data collected in the outer city at Mozan over the last 28 years. Data come from a variety of research contexts including salvage projects, excavation and surface survey. The material from three surface surveys comprises the majority of the data. The surveys include a random sample survey from 1985 (Thompson-Miragliuolo 1988), unpublished survey data collected across five transects by the author, and a surface survey conducted to accompany a geophysical survey by Pfälzner *et al.* (2004). Excavations were conducted in several locations throughout the

⁴¹ A complete analysis of the surveys, including the significance of the density variations is discussed below.

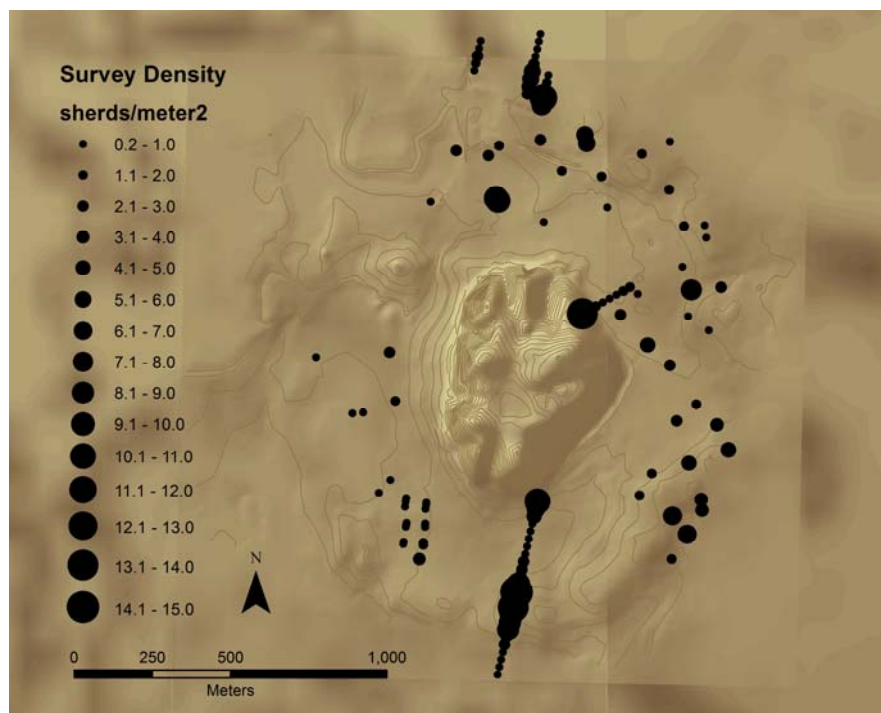


Figure 4.7 Survey density across all surveys (Thompson-Miragliuolo survey and Pilot Survey).

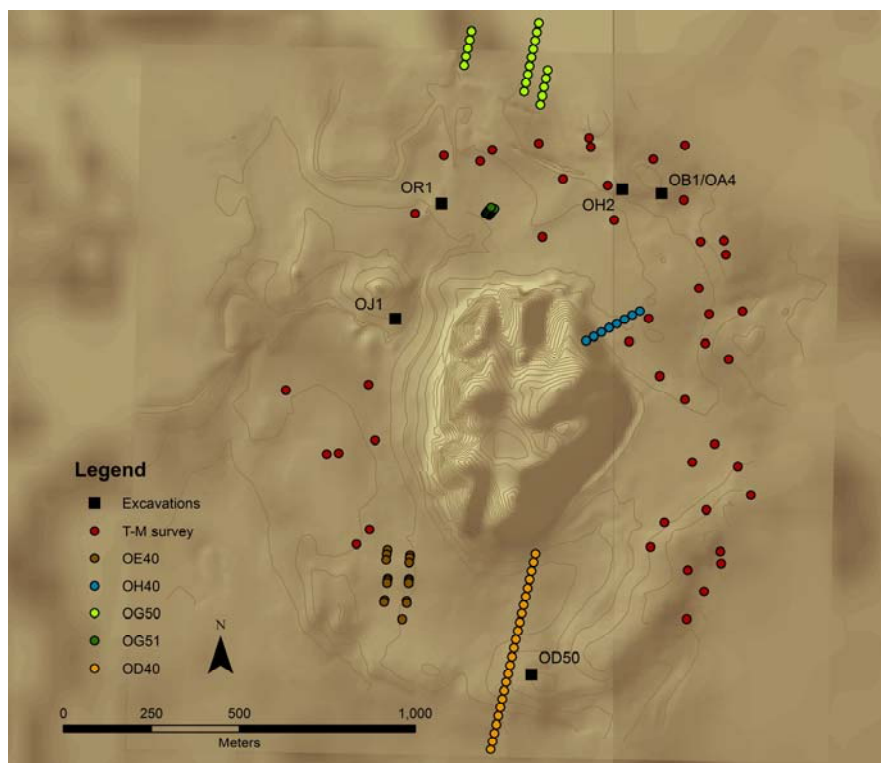


Figure 4.8 Distribution of surveys and excavations in the Outer City

outer city with the most substantial results coming from the excavations in OH2, OR1, OB1 and OB4 (Figure 4.8). Other small excavations help fill in the view of the nature and distribution of the outer city settlement.

4.3.1 Maps and Imaging

The site was mapped during the 1985 and 1986 seasons by Steve Hughey and Barbara Pritzkat and the resulting topographic map was published in the Mozan 1 and Mozan 3 volumes (Hughey 198, Buccellati 1998a). The published topographic map serves as the basis of the maps for this dissertation, produced using ArcGIS 10 to provide georeferenced data for all the surveys and excavations. The topographic lines were converted to a hillshade model to highlight the topography of the outer city, particularly the ring of the outer city wall. The points were georeferenced using GPS coordinates collected by Hans Barnard in 2008 and 2010 (Barnard forthcoming). The site-wide grid was converted to a UTM projection. The hillshade and one meter interval topographic map were overlaid on ASTER Global Digital Elevation Maps (GDEM) for the area around Mozan.

Thompson-Miragliuolo's collection squares were projected on the hillshade model to give a sense of where the ceramics were located relative to the topography.⁴² Mapping the Thompson-Miragliuolo survey data in the new system also allows comparison with the collection units from subsequent surveys. A series of Corona images was also georeferenced with the survey units. Corona images are declassified American

⁴² Thompson-Miragliuolo made detailed and informative notes about the topography of each collection square, however, she did not have the completed topographic map available for her analysis of the distribution of ceramics from the survey.

satellite photographs from the 1960s and 1970s. The black and white images are particularly valuable as they show the landscape in the outer city prior to the introduction of mechanized plowing. In many images of the area around Mozan, the ring of the outer city wall is much more pronounced than in modern satellite photographs. The images are also valuable in preserving traces of relict water channels (discussed above).

4.3.2. Thompson-Miragliuolo Survey – 1985

The outer city was clearly recognized by the directors since the beginning of research at the site (Buccellati and Kelly-Buccellati 1988). The earliest study of the outer city was a surface survey with ceramic collection undertaken in the winter of 1985 by Judith Thompson-Miragliuolo (hereafter Thompson-Miragliuolo survey) and the preliminary results of the survey were published in the Mozan 1 volume (Thompson-Miragliuolo 1988, Buccellati and Kelly-Buccellati 1988). The survey was limited to a 7% sample of the presumed extent of the outer city; nevertheless, the scope was wide enough to provide a preliminary understanding of the outer city and forms the basis of subsequent investigations. The surface survey revealed mainly third-millennium ceramics indicating the outer city was primarily occupied in the mid-to-late third millennium. The excavations on the central mound over the last 28 years support this observation. The main phases of construction including the Temple BA, Palace AK, and the Plaza JP date to the mid- to- late third millennium as well (Buccellati and Kelly-Buccellati 1988, 1998, 2000).

Thompson-Miragliuolo collected and analyzed more than 14,000 artifacts from 62

collection areas (Thompson-Miragliuolo 1988).⁴³ Forty-nine of the collection areas were randomly selected while an additional 13 units were sampled based on finds.⁴⁴

Thompson-Miragliuolo identified an area of 72 hectares that was both part of the presumed outer city and passable for surface survey (this excluded areas of the main mound, areas under cotton cultivation, the modern village of Mozan and a few other places). Seventy 25 by 25 meter squares were randomly selected to be surveyed. In the end, it was only possible to survey 62 of these areas. Total collection was used in a 10 by 10 meter area of each unit, with diagnostic collection across the whole 25 by 25 meter square. The total area surveyed by Thompson-Miragliuolo was approximately 6.2 hectares, or about 7% of the outer city area. All ceramics collected were analyzed according to the ceramic typologies established during the first two years of excavation and total sherd counts were provided. In some cases sketch drawings of shape sherds were made. Small finds of non-ceramic types such as figurines and lithic objects were also collected and recorded. Thompson-Miragliuolo's published data and field notes regarding the survey's sherds and other artifacts were compiled into a spreadsheet and mapped using the GIS database (Appendix A; Figure 4.9).

The random sampling methodology used to select the distribution of collection units leaves some areas underrepresented in the overall picture. For example, the southwest portion of the outer city has very few sample units and this may give the

⁴³ The following paragraph is adapted from Thompson-Miragliuolo's published description of her methodology in the Mozan 1 volume (Thompson-Miragliuolo 1988) supplemented by her unpublished field notes.

⁴⁴ Each collection area was assigned a unique loci number. In the Mozan system the lowercase letter "k" is used to indicate a locus, followed by the number. Each location then had one "lot" of pottery collected, which is labeled using the letter q, and called a q-lot. Thompson-Miragliuolo's qlots are labeled q1-q62. Unfortunately data on q22, q28, q55 and q62 was lost.

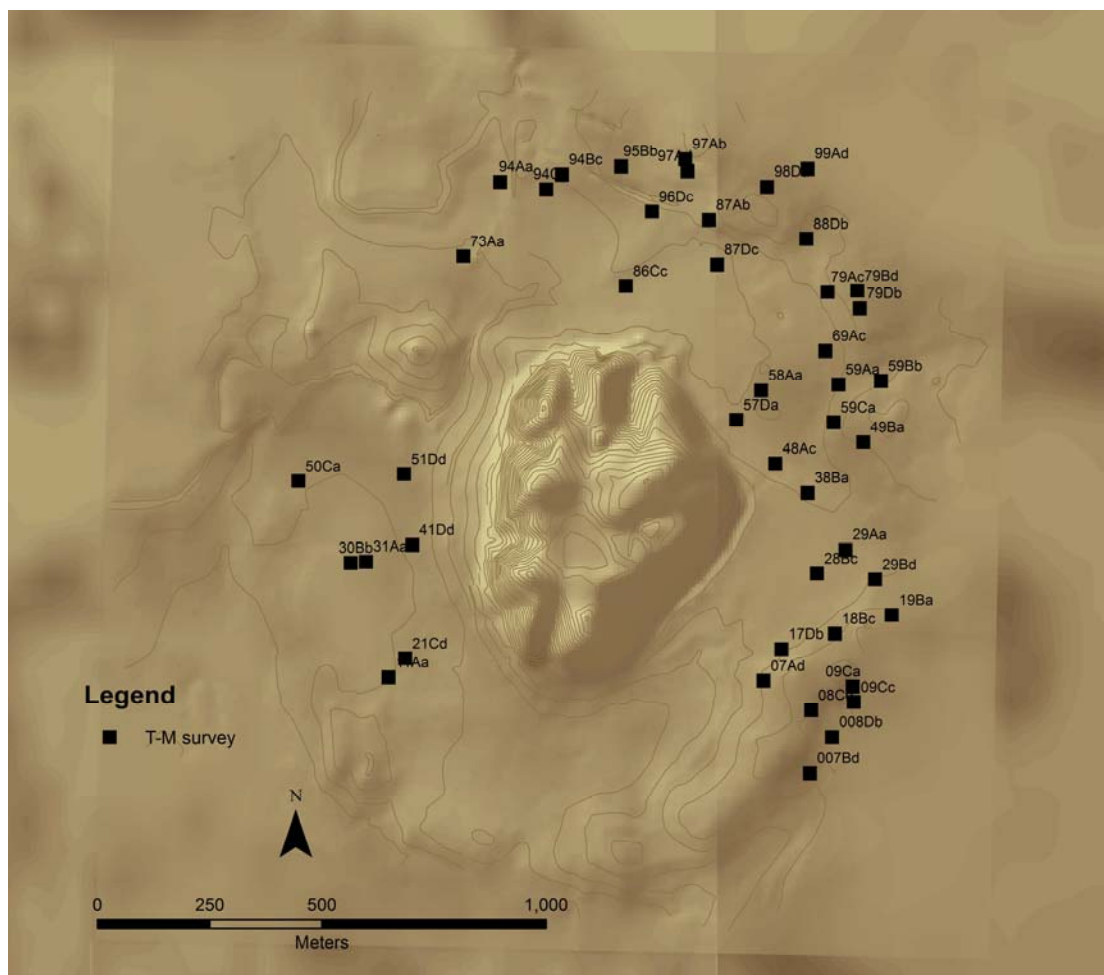


Figure 4.9 Distribution and labels of Thompson-Miragliuolo Survey units.

impression in some of the maps that occupation or distribution of ceramics is absent in these areas, but in reality there is simply very little data about these areas.⁴⁵ The ceramic categorizations used by Thompson-Miragliuolo were refined using the current ceramic catalog, developed by M. Kelly-Buccellati based on the stratified finds from the excavations. Each collection unit was defined by a set of letters and numbers indicating its location (Figure 4.9, see also Figure 3.4 in Thompson-Miragliuolo 1988).

⁴⁵ The Pilot survey in area OE40 was specifically designed to compensate for this lacuna, and its results are discussed below, Section 4.3.3.6.

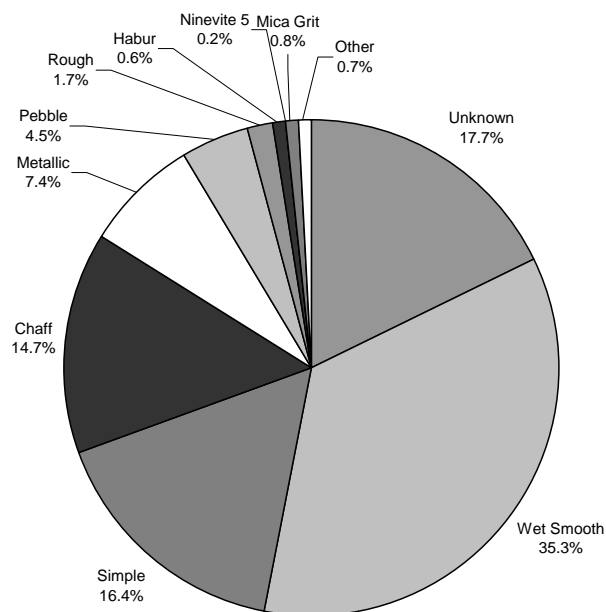


Figure 4.10 Percentages of ceramic ware types from the Thompson-Miragliuolo survey. Nine major wares were identified in addition to the unidentifiable or unknown types. The “Other” category includes identified wares with on a few sherds. See Appendix A for a complete list of wares and sherd totals.

4.3.2.1. Thompson-Miragliuolo Survey: Ceramic Distribution Analysis

The ceramic collection is the primary data source from the survey. Thompson-Miragliuolo identified 27 ceramic ware types in her survey; however, the majority of the sherds can be grouped into 11 groups (Figure 4.10). Of the nine primary wares identified, excluding the “other” group, only Mica-grit categorization is no longer used in the current corpus. It most likely correlates to Red-Orange Calcite or Fine Pebble-temper ware.

In order to investigate the distribution and co-occurrence of different wares and small finds across the outer city, the data from Thompson-Miragliuolo’s survey was

converted to a format compatible with other work completed in the outer city. Ceramic distributions are projected onto a composite of a topographic map and a Corona satellite image of the outer city, allowing for a better understanding of the distribution of wares in relation to the topography (Figure 4.11).

The density of artifact scatter in the survey was highly variable and the densities range from 0.1 sherds/meter² to 13.4 sherds/meter². The average density is 3.5 sherds/meter² but 81% of the collection units have densities below 4.0 sherds/meter². Thompson-Miragliuolo noted a higher concentration of ceramics on the rise and the slopes of the rise during the survey (Thompson-Miragliuolo 1988:56). The differential densities first led to the suggestion that the ring was indeed the outer city wall. When the densities are mapped on the full, completed topographic map, however, we can see the pattern is less distinctive (see Figure 4.11). While it is true that the highest densities only occur associated with the rise, the converse is not true as lower than average densities are found in the low flat sections of the outer city, on the rise, and even beyond the rise. The high concentration on the rise may be a result of modern plowing eroding the archaeological layers. The southeast and east areas have the highest concentration of sherds, both in individual collection units and collectively. This applies to collection units in the southeast that are located on and off the rise. In the north, however, the densities are fairly uniform with only two collection units with higher density. In the northeast, we see a cluster of lower density collection units. While, overall, the low-lying portions of the outer city have the lowest densities, there is still significant variation, perhaps suggesting a variable density of occupation within the city walls. The lower densities of

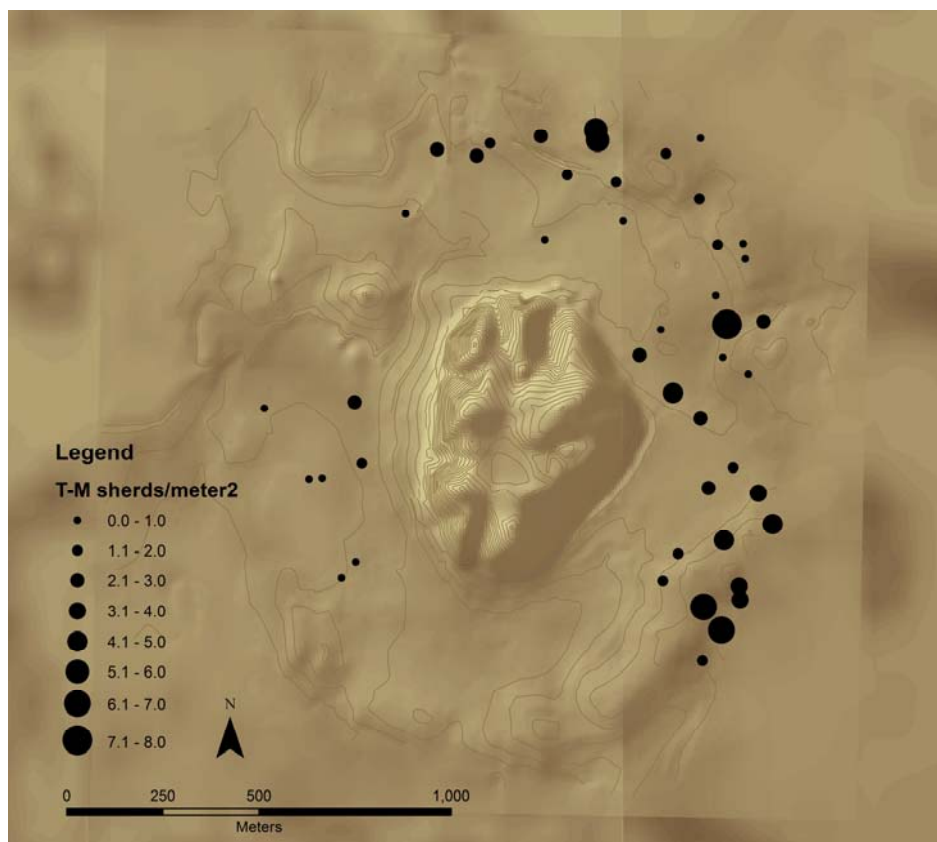


Figure 4.11 Density distribution of Thompson-Miragliuolo survey

the areas off the city wall may be attributed to less buried cultural debris, or a result of continual plowing which serves to bury cultural layers in the low-lying areas. The extremely low densities in the western outer city may be a result of post-depositional process and the presence of a watercourse in that area.

The high number of unidentifiable sherds (Figure 4.12) is also likely a result of the depositional processes. Because the area of the outer city is under cultivation, surface sherds are subject to abrasion and other damage due to plowing and exposure. A total of 2166 sherds were unable to be identified by ware, representing 17.7% of all sherds collected.

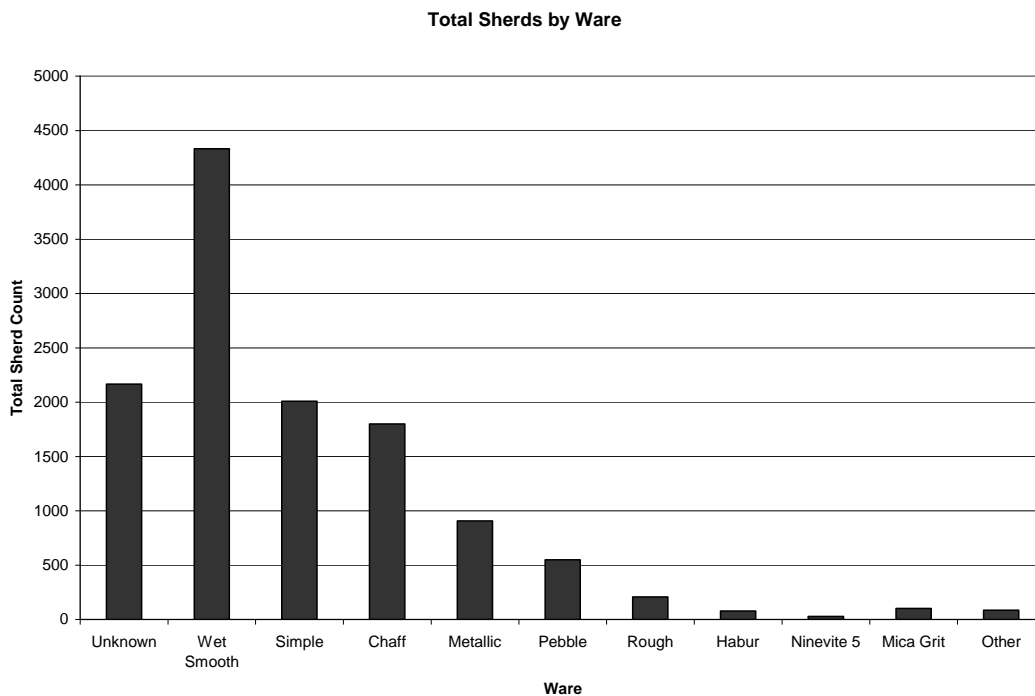


Figure 4.12 Wares from Thompson-Miragliuolo survey in total number of sherds.

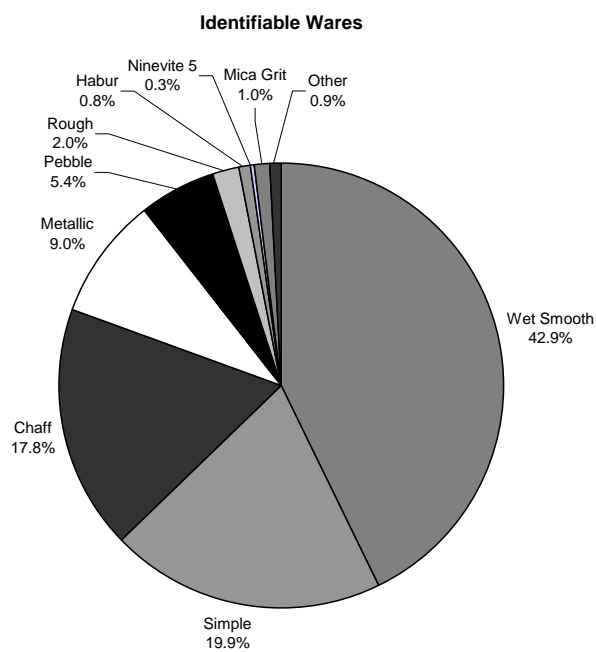


Figure 4.13 Percentage of identifiable Wares from Thompson-Miragliuolo survey

Of the nine major wares identified, the majority date to the mid to late third millennium (Figure 4.13). There are interesting cases of earlier sherds, including those dating to the early third millennium (such as Ninevite 5 types). Diagnostic ceramics from the later periods are not widely represented in the collection (For example, Khabur ware represents less than 1% of the total). As can be seen from Figures 4.10 and 4.13, the most common wares in the survey were Simple Ware, Chaff-temper ware and Wet-smooth ware. Together these three wares form 80.5% of the identifiable wares and 66.4% of the total sample. Simple ware and Wet-smooth ware are most commonly used during the EJII and EJIII period.

Fine wares are primarily used for small cups and bowls (Kelly-Bucellati 2011), and are thus more likely to represent household occupation than storage or transport. Simple ware and Wet-smooth wares are the main fine wares found in the outer city.⁴⁶ At Mozan, Simple ware is widely found in the majority of excavated contexts dating from 2600–2200 BCE. Wet-smooth wares also serve as a chronological marker since it is considerably less common in excavated contexts after the EJIII period (Kelly-Bucellati 2011). The two wares are broadly spread throughout the survey collection units with a few concentrations of each ware (Thompson-Miragliuolo 1988, Figure 4.14, Figure 4.15). Simple ware is concentrated in the area of the SE, with a few high concentrations on the rise in the NE as well. The percentages of Simple ware are extremely low in the west part of the outer city, correlating with the low overall ceramics collected in that area. As the most prevalent ceramic type in the survey, Wet-smooth is found in almost all collection

⁴⁶ Metallic ware is a special type of fine ware and is discussed separately.

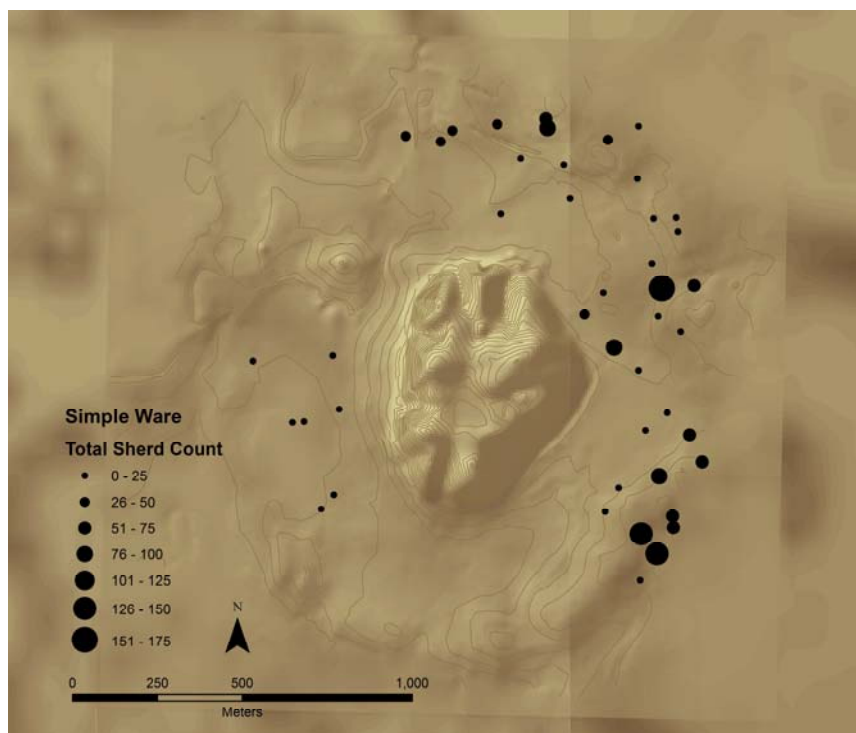


Figure 4.14 Distribution of Simple ware in Thompson-Miragliuolo survey. Sherds by total number collected.

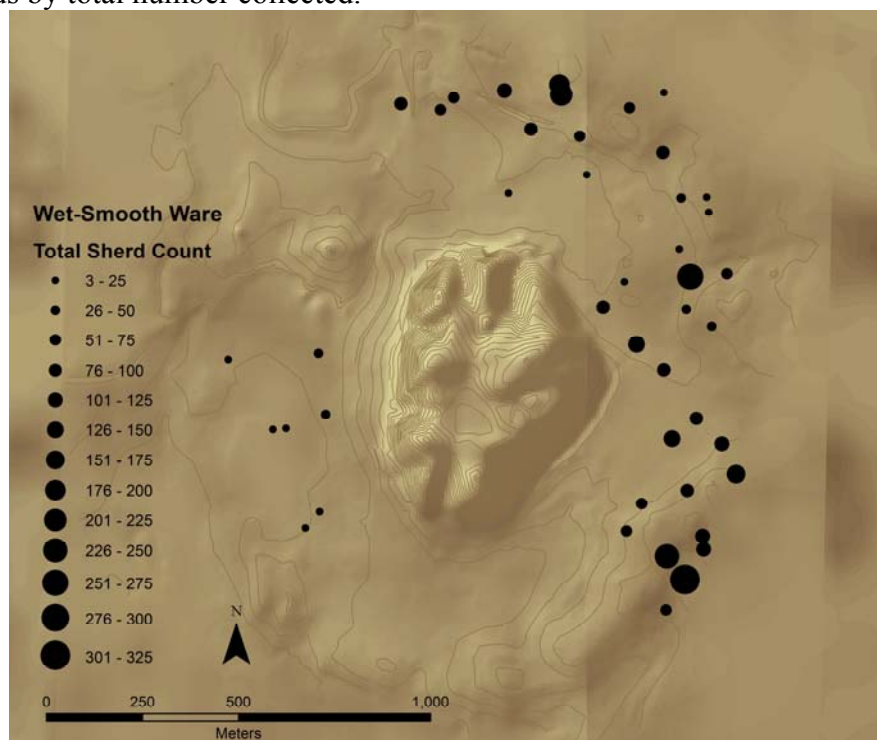


Figure 4.15 Distribution of Wet-smooth ware in Thompson-Miragliuolo survey. Sherds by total number collected.

units and is spread fairly evenly across the area. There are no regular collection units with less than 10% of Wet-smooth ware indicating its ubiquity in the outer city. Collection units with higher than average percentages are rarer, with only one fifth of the collection units totaling more than the average of 42% of Wet-smooth ware. Units with higher percentages are not concentrated in any one area of the outer city. Overall, the fine wares seem to support Thompson-Miragliuolo's conclusion that the outer city was a locus of widespread occupation, particularly habitation, during the mid-third millennium.

Ninevite 5 ware is distinctive but only the decorated (incised, excised, or painted) portions are considered diagnostic. Since only a portion of the vessels are decorated, this ware is likely underrepresented in the survey. Ninevite 5 wares otherwise look similar to Wet-smooth wares (Kelly-Buccellati 2011). Shapes help determine if the material is Ninevite 5 or Wet-smooth; however, diagnostic shapes are not often preserved in the survey collections. The inability to separate definitively the Wet-smooth and Ninevite 5 undecorated sherds may suggest that there is a higher percentage of Ninevite 5 than is indicated by the statistics. This bias, combined with the high percentage of Wet-smooth may indicate a slightly earlier date for initial settlement of the outer city.

Rough ware represents only 1.7% (n=207) of the sample but remains an important chronological indicator. In excavated contexts Rough ware is found only in EJII (EDIIIa) contexts (Kelly-Buccellati 2011). Rough ware appears only in small percentages in the collection units where it is found, however, at 0008Db in the SE a small concentration of Rough ware representing 4.7% of the collection unit is found. Since this is double the average percentage of Rough ware in the survey, it represents a considerable spike.

Unsurprisingly, this collection unit is also one of the units with the highest overall density of ceramics. In contrast to area 0008Db, approximately half of the collection units contained no Rough ware. A deposit directly on top of the inner city wall included numerous Rough ware sherds (Bunnens and Roobeart 1988). The relatively high percentage of Rough ware and its appearance at the moment of abandonment of the primary use of the inner city wall is an important indicator for the period of expansion of the outer city.

Chaff-temper wares are less diagnostic since they remain in use from the fourth millennium, across the third and into the second millennium for a number of vessel types, from large storage jars to small vessels. The percentage in the outer city survey, however, is indicative of the short-lived nature of the outer city. The Chaff-temper wares represent a higher percentage of overall finds on the main mound since Chaff-temper wares continue in use over a long period of time, into the second millennium. The lower percentage of the Chaff-temper finds in the outer city indicates that it did not have the same longevity – otherwise the Chaff-temper percentage would be higher to account for its widespread use in the late third and into the second millennium.

Metallic ware is a distinctive, imported gray ware that was introduced at Mozan in the late EJI/Early EJII period (see OB1 excavation below).⁴⁷ Although Metallic ware rarely represents more than 6% of sherds of an individual collection unit, as noted by

⁴⁷ Imitation Metallic Ware is also known at Mozan. It is very similar in color and consistency but has a different composition and is not fired at as high temperatures as Metallic Ware. It is difficult to differentiate simply by viewing, but can be easily separated based on the noise it makes when hit against a table. At the time of the Thompson-Miragliuolo survey, Imitation Metallic had not yet been identified so any Imitation Metallic will be grouped within the Metallic category from this survey. This is of little significance, however, since subsequent surveys (such as the Pilot survey and OD50) have shown that almost all sherds appearing as Metallic Ware in the outer city are, in fact, true Metallic Ware.

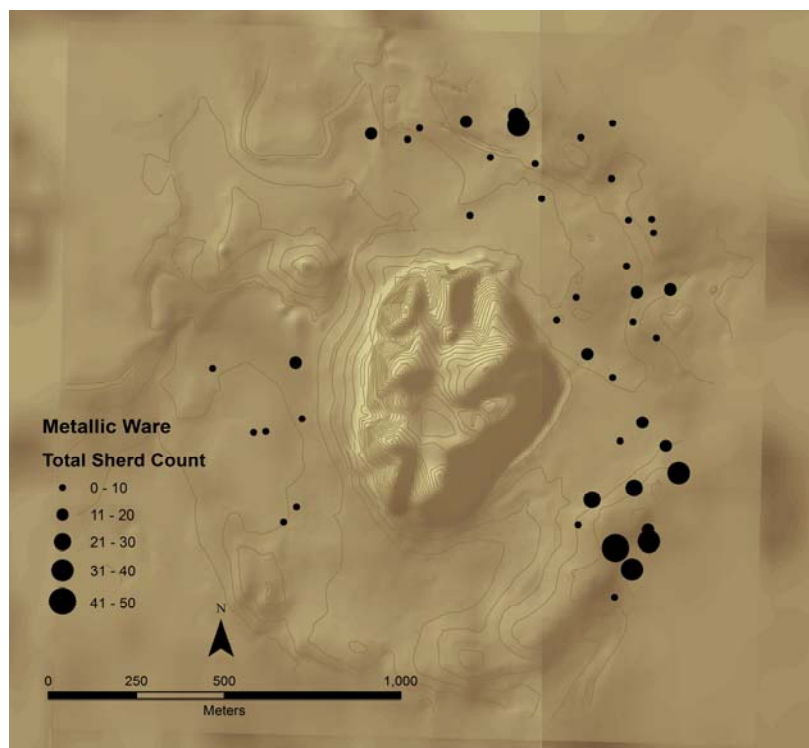


Figure 4.16 Distribution of Metallic Ware in Thompson-Miragliuolo survey. Sherds by total number collected

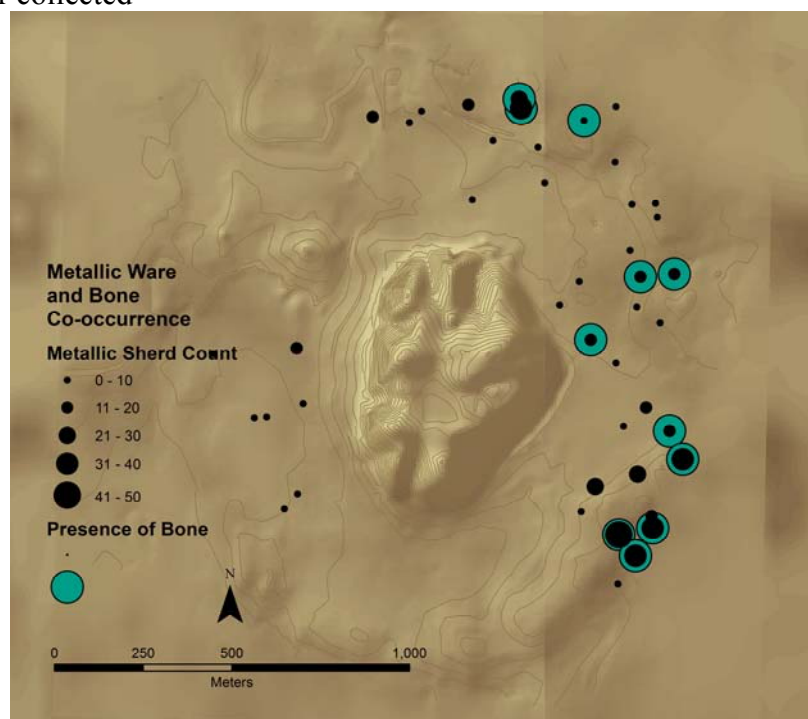


Figure 4.17 Co-occurrence of bone finds from Thompson-Miragliuolo survey with distribution of Metallic Ware.

Thompson-Miragliuolo, it does have several concentrations. It appears frequently on the areas associated with the rise of the outer city wall, particularly in the SE corner of the outer city (Figure 4.16). These concentrations are confirmed by finds from areas such as OD50 (as discussed below). It is unclear if the imported Metallic ware represents a true occupation of the outer city since it is often found co-occurring with human remains (Figure 4.17). Nevertheless, as an imported ware, the abundance of Metallic ware indicates that Mozan was an integrated part of a larger trade network and was able to procure large quantities of trade goods, for both elite and non-elite contexts.⁴⁸

Certain types of ceramics can be more commonly associated with households, such as Pebble-temper wares and Mica-grit, and some forms of household storage vessels. The distribution of Pebble-temper and Mica-grit wares is probably the most indicative of the distribution of houses in the outer city since it is primarily used as a cooking ware. The Pebble-temper wares appear in some concentrated areas but are generally well-spread across the sample areas suggesting wide-spread distribution of household activities in the outer city (Figure 4.18). Pebble-temper wares and Mica-grit wares were observed to be slightly more common in the outer city than on the central mound (Thompson-Miragliuolo 1988:56). The discrepancy may suggest that residential occupation concentrated in the outer city during the third millennium, rather than the central mound. The Pebble-temper wares make up 4.5% of the sherds in the survey. Mica-grit composes an additional 0.8% of the wares (see Figure 4.10). In the survey data, cooking wares represent more than 10% of wares in nine collection units. An additional

⁴⁸ See Rova (1996) for a discussion of the distribution of Metallic ware across Northern Mesopotamia and its possible use for identifying east-west trade and diplomatic connections.

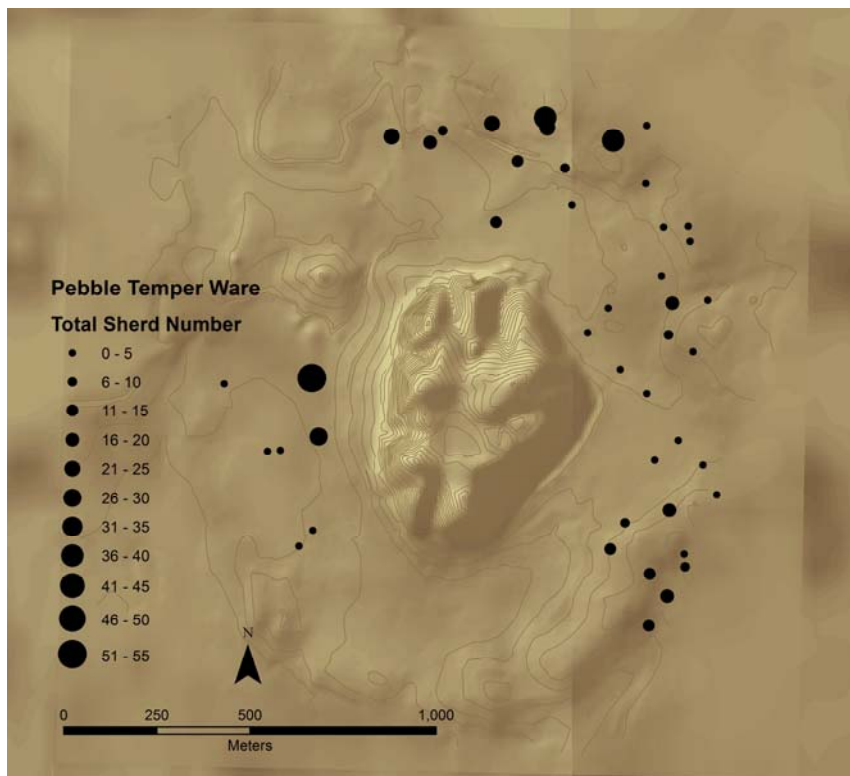


Figure 4.18 Pebble Temper Ware distribution from Thompson-Miragliuolo survey.

eleven units have more than 5% cooking wares. These units can reasonably be associated with habitation based on the represented surface finds. Since the overall percentage of cooking wares in the sample (combined Pebble and Mica-grit) is approximately 5.3%, anything above that percentage represents a deviation from the standard distribution.

Thompson-Miragliuolo notes a concentration of Pebble-temper ware associated with Simple ware at Square 98Da, a likely candidate for an occupation area. The ceramics in this collection unit have typical EJII/III shapes including interior grooved rims and fine thin pointed rims on Simple ware bowls. In area 95Bb, north of the tell, more than 10% of the identifiable sherds are Pebble-temper. Additionally, two flint blade fragments were found. At comparable sites these kinds of blades are often found in domestic contexts

(Helms 2012). Two collection units with a high concentration of cooking wares are also found in the western part of the outer city. The frequency of cooking wares in the outer city, combined with the distribution both within the city walls and associated with the rise of the city wall seem to indicate that households were spread throughout the outer city with certain areas perhaps more concentrated.

Overall, the ceramics from the survey show a pattern of third millennium occupation including ceramics likely from habitation and mortuary contexts. The appearance of Rough ware, alongside the presence of Metallic and Ninevite 5 wares, seems to suggest that the outer city was first occupied during the transition from the EJI to EIII, while the overwhelming percentages of Metallic, Rough, Simple and Wet-smooth wares show a clear rapid expansion in the mid-third millennium.

4.3.2.2. Thompson-Miragliuolo Survey: Small Find Types and Analysis

A total of 204 small finds (q-items) were recorded (Appendix B). The small finds include ceramic figurines, human bone, clay wheels, beads and lithic items such as blade fragments and grinding stones. The distribution of these finds provides a glimpse of the breadth of activities in the outer city.

The lithic items are widely distributed across the outer city, with no areas of increased concentration (Figure 4.19). This may be a collection bias since it is often much more difficult to identify worked lithic fragments during a surface survey where they are often mixed with the naturally occurring stone. The lithics are primarily of flint (78%). Only three obsidian chips were recovered. The low number of obsidian pieces is in contrast with the finds on the central mound where obsidian is much more abundant. This

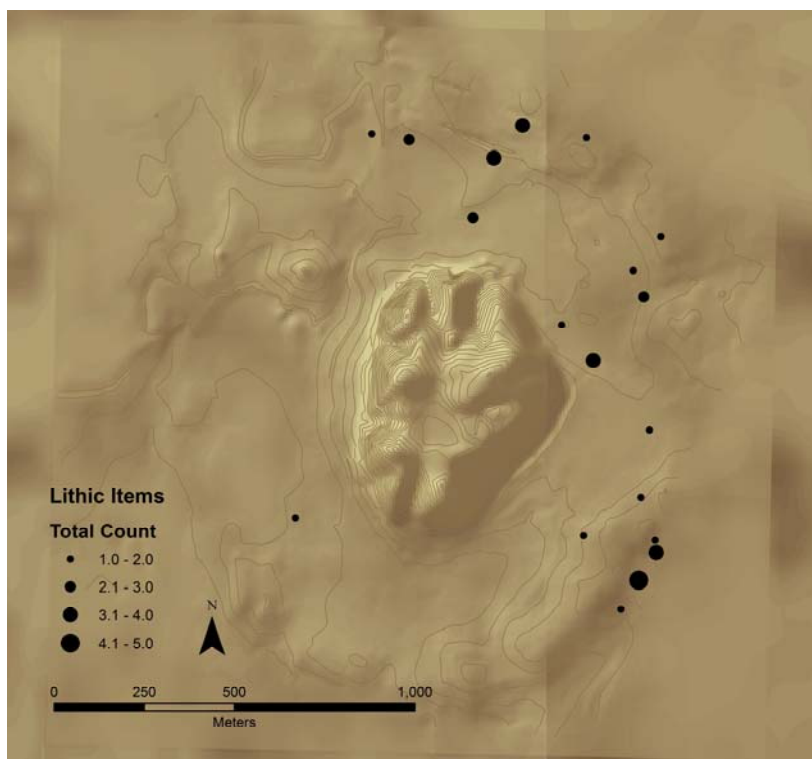


Figure 4.19 Distribution of lithic finds from Thompson-Miragliuolo survey.

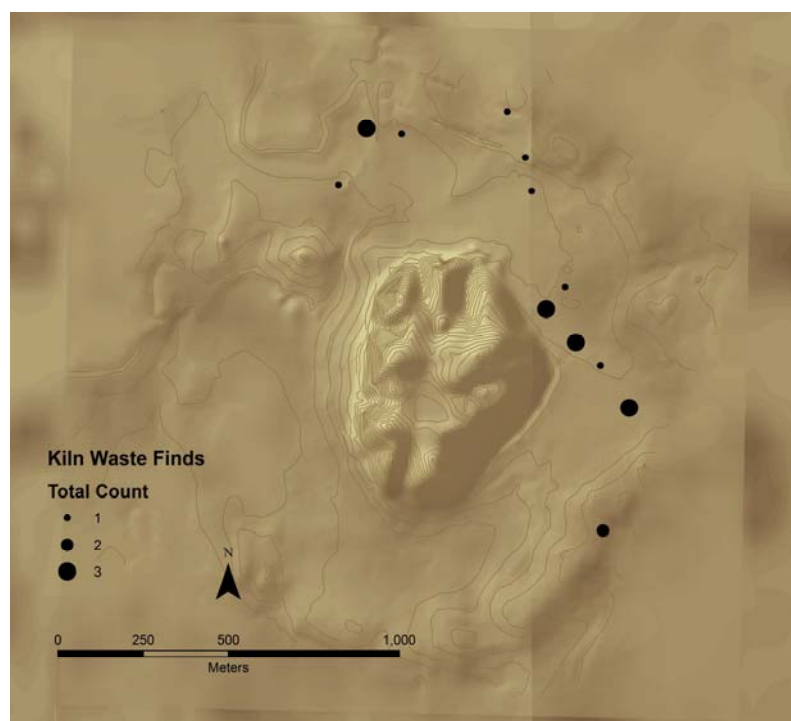


Figure 4.20 Ceramic kiln waste finds from Thompson-Miragliuolo survey

may be due to the early occupation on the central mound during which obsidian use was more common.⁴⁹

Several areas can be noted with multiple indicators of ceramic production by-products (Figure 4.20). Kiln waste and misfired ceramics (kiln wasters) may be associated with pottery production.⁵⁰ These areas are generally located in the more level area between the main mound and the outer wall rise, suggesting that the inner area was the location of production, while the rise can be associated with non-production activities. Since production and habitation are often found to be integrated when households are excavated it is difficult to identify any purely “industrial” areas from the Thompson-Miragliuolo survey data.⁵¹

4.3.2.3. *Thompson-Miragliuolo Survey: Special Collections*

Thirteen of the collections from the survey were based on observations of interesting phenomena, such as dense scatters, disturbed contexts or a well location (Thompson-Miragliuolo 1988:52). The ceramics from the southern special collections, Os7 and Os9, have some larger vessels, perhaps indicating occupation and storage in those locations (Thompson-Miragliuolo 1988, Figure 29). At Os5, a high percentage (30% of total) of cooking wares was found, another possible location of residential occupation. Stone-lined wells were identified at Os8 and Os3. Third millennium pottery

⁴⁹ Frahm and Feinberg’s (2013a, 2013b) research on the lithic objects from Mozan’s central mound indicate that one third of all the lithic objects from the central mound were obsidian.

⁵⁰ Kiln waste is a vitrified, sometimes friable, ceramic waste. See Figure 4.37 for an illustration of typical kiln waste and kiln wasters found at Mozan. Kiln wasters differ from kiln waste in that they are the remains of misfired ceramics, often misshapen or otherwise damaged.

⁵¹ See Section 4.3.3.5. below for a discussion of OG51 and Section 4.4.2.1. for an overall discussion of production in the outer city.

was associated with the wells at both locations, indicating their ancient, rather than modern, construction. Area Os6 was subsequently excavated as area OB1, discussed below.

The special collections provide complementary information about the survey. The in situ vessels of areas Os7 and Os9 clearly indicated that the outer city remains were intact below the surface in some areas. The presence of wells suggests the diversity of water management strategies at the site, with local wells, as well as probably access to a (now-dry) wadi.

4.3.2.4. Thompson-Miragliuolo Survey: Conclusions

The survey by Thompson-Miragliuolo provided a clear starting point for all future work in the outer city. Her conclusions that the outer city was primarily dated to the mid-third millennium, and that occupation is reduced outside the rise (then unsure as the city wall) are all confirmed by follow-up work. Taking the ceramic data a step further, we can refine the dating of the primary expansion to the EJII period based on the high percentages of Simple ware, Wet-smooth ware and the presence of Rough ware. Based on the initial survey we can detect an early settlement in the outer city followed by a mid-third millennium expansion. This survey was incredibly significant since it established the history of the outer city and placed it within the larger site-wide framework. The outer city was clearly widely occupied during the third millennium.

In addition to being used to date the outer city expansion, the data can also provide information on the distribution of activities in the outer city. As Thompson-Miragliuolo suggests in her initial report, the distribution of production areas, habitation

areas, and other use-areas could be determined with further study (Thompson-Miragliuolo 1988:56). Based on the mapping of ceramics with production related finds we can see that the Thompson-Miragliuolo survey has the underlying data to begin to outline the distribution of households and production in the outer city. Both are found widely distributed and often co-occur, suggesting household level production. The subsequent surveys and excavations were able to realize this goal, and the results are a full analysis of the urban system in the outer city, presented in Section 4.4 below.

4.3.3. Pilot Surveys: 2009 and 2010

The Pilot surveys are a combination of five surface survey transects collected by the author in 2009 and 2010 (Figure 4.21). The 2009 survey was initially designed to determine if surface survey was still viable in the cultivated areas of the outer city. Additionally, localized finds in the area north of the central mound indicated there were substantial remains in the area that should be documented. The 2010 Pilot survey was a follow-up surface survey to investigate an area previously lacking systematic study. The Pilot surveys, by themselves, were not enough for a full analysis of the outer city, but were designed to fill some gaps in our knowledge and to build upon the results for the Thompson-Miragliuolo survey.

The 2009 surveys consisted of four transects, covering an area of 6300 square meters. Each transect was selected to investigate a different area of the mound, or to address surface finds. The first area of the 2009 survey was OG50, north of the central mound where large stones and ceramics had been discovered by the landowner. Also surveyed was one transect south of the mound (OD40), one transect to the east of the

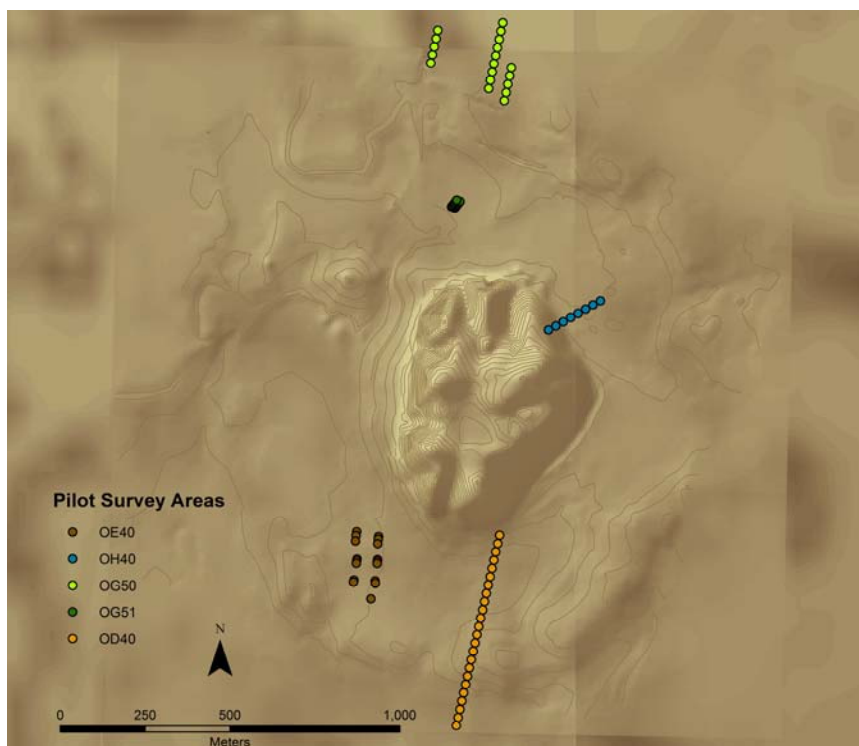


Figure 4.21 Location of all Pilot survey collection units

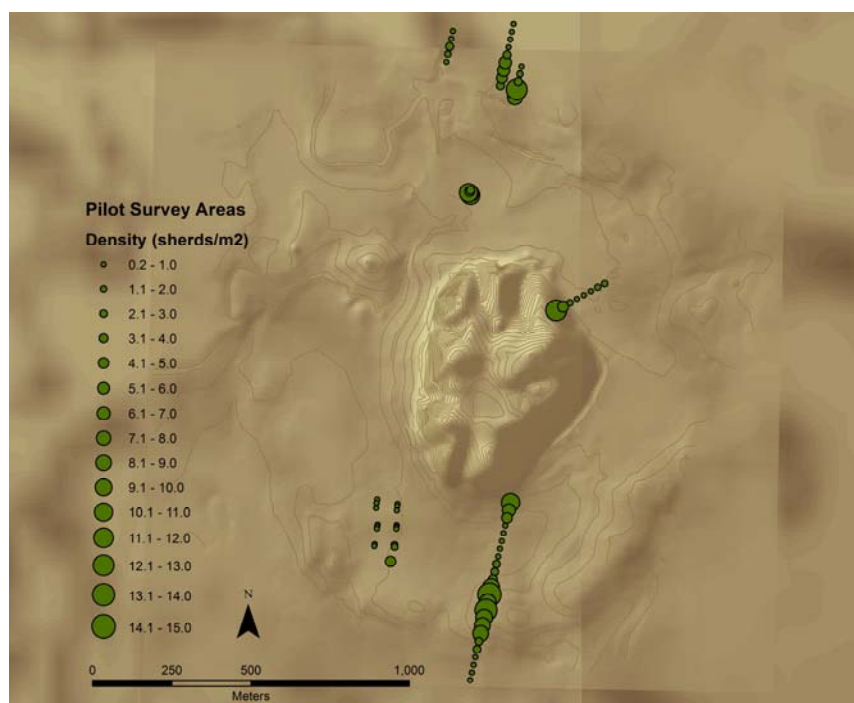


Figure 4.22 Density of Pilot survey collection units

mound (OH40), and, after a dense concentration of ceramics was found in the north, another smaller transect (OG51). In the survey it was possible to see differences in ceramic densities spread over the outer city with a noticeable decline in the density immediately outside of the rise (Figure 4.22).

In 2010 planned excavations were unable to be conducted due to engineering problems.⁵² Instead, a small-scale survey was conducted to the southwest of the mound in area OE40. This survey was designed to give a better picture of the distribution and density of ceramics in the western portion of the outer city in anticipation of resuming the planned excavations in 2011 in the area of Mozan village on the western side of the city. Due to the political unrest in Syria beginning in the spring of 2011, this excavation was never undertaken. The OE40 survey provides important insight on the western side of the outer city which has not received as much systematic study as the eastern side.

4.3.3.1. 2009 Pilot Survey Methodology

For each transect a point at the base of the central mound was selected as a starting point. A transect was then laid using the cardinal directions to allow the surveyor to stay on the transect using a compass. The originating point was surveyed with a total station and recorded using the excavation grid. Then, using a 100m surveyor's tape, a line was laid out from the point using a small compass. A smaller measuring tape was laid from the 0 point of the main tape perpendicular at an approximate right angle to form an

⁵² The planned excavations for 2010 were part of a development project in the modern village of Mozan, situated within the outer city. The installation of sewage system was planned; however, engineering problems related to the central sewer line postponed the sewer installation and accompanying excavations until 2011. Unfortunately due to political unrest, the excavation team was unable to realize these plans in 2011.



Figure 4.23 Example collection unit from Pilot survey. Yellow tape is primary survey tape. White tapes are 5 meters apart and 5 meters long. Total collection practiced within the square. Photograph by author.

edge of a square. A small string, cut exactly to the length of the hypotenuse of a 5x5m right triangle (7.07m) was extended from the 5 meter mark on the main tape and then used the end point of the string to correct the 5m mark of the perpendicular tape. This procedure was repeated in opposite from a perpendicular tape on the 5m line. The western edge of the square was then closed off using the same string extending from the two 5m marks of the small tape, creating a uniform 5x5 meter square for surveying (Figure 4.23). Total collection of all ceramics inside of the square was practiced, and the sherds were bagged for analysis back in the sherd yard. This procedure was repeated every 25 meters along the transect. Thus, for each 100-meter by 5-meter transect, a total

area of 100 square meters was collected, or about 20% of the 500 square meter transect. At the end of the 100-meter tape a stake was placed and the 100 meter tape was relocated, originating from the new stake point. In general, transects were extended until sherds were few enough to reasonably determine that we reached the outer limits of the outer city. Along the entire transect any visible q-items (small finds such as figurines, beads, lithics, etc.) were collected.

Collected ceramics were washed and tabulated in the sherd yard. The sherds were separated into fine, medium and coarse wares. The shape sherds (bases and rims) and decorated body sherds were assigned individual numbers.⁵³ Shape sherds were briefly described and photographed but not drawn due to time constraints. Since the purpose of the survey was to determine average densities and to look for specific activities in the outer city in preparation for further survey it did not seem expedient to define each sherd by ware type. A complete database of recorded shape sherds from the Pilot Surveys is available within the Urkesh Global Record (UGR), and representative sherds are presented below.

Each of the survey areas is discussed in detail below, with an overall summary of results at the end.

⁵³ Within the Urkesh Global Record (UGR) each shape or decorated sherd is assigned a number based on its q-lot (see above footnote 10) and then sequentially within that q-lot. Shape sherds begin numbering at 1, while body sherds are numbered beginning at 70. As an example, the first rim sherd catalogued from q-lot 1 would be labeled q1-p1. Only body sherd with decoration or other important identifiers are given individual numbers. Sherds from the excavations are generally typed by ware and counted. For this survey, however, ware typing was not conducted.

4.3.3.2. OG50: Stones and Northern Transects⁵⁴

The initial pilot survey was spurred by finds of large stones and intact ceramics in a field north of the central mound during the winter of 2008/2009. To assess the different kinds of finds in the area, now labeled OG50, a two-part approach was adopted. First, a inventory of stones recovered from the area was conducted followed by a walking survey of three transects north of the area where the stones were located (Figure 4.24).

A census of the disturbed remains recorded 386 large stones (40-60cm across) and 111 smaller stones (20-40 cm across), equal to 497 stones total (Figure 4.25; Chaves Yates 2009). The stones had been removed from the area of the irrigated field by the landowner. The field is approximately 140 by 150 meters, or about 2 hectares. The stones are the same unshaped limestone as the stones utilized in the monumental constructions on the central mound for structures including the palace foundations and the temple terrace. Since the stones were no longer in their original context, it was impossible to determine if they belonged to a structure. The quantity of stones, however, clearly indicates aspects of monumentality in the outer city area that were previously unrecorded. The surface survey of three transects was designed to address the ceramic data that had been collected and to see if a clear date could be established for the area, and possibly the stones. Overall, 20 loci were surveyed, with 20 q-lots collected. Each locus (k) was assigned to one q-lot. The densities of ceramics ranged from 0.5 to 11 sherds/meter² (Figure 4.26). In other regional surveys 0.2-0.3 sherds/ meter² is considered indicative of occupation (Wilkinson and Tucker 1995; Ur 2002; Wright *et al.* 2007:9). The densities

⁵⁴ The complete database of finds from the OG50 survey is available as part of the Urkesh Global Record (UGR), published at Urkesh.org.

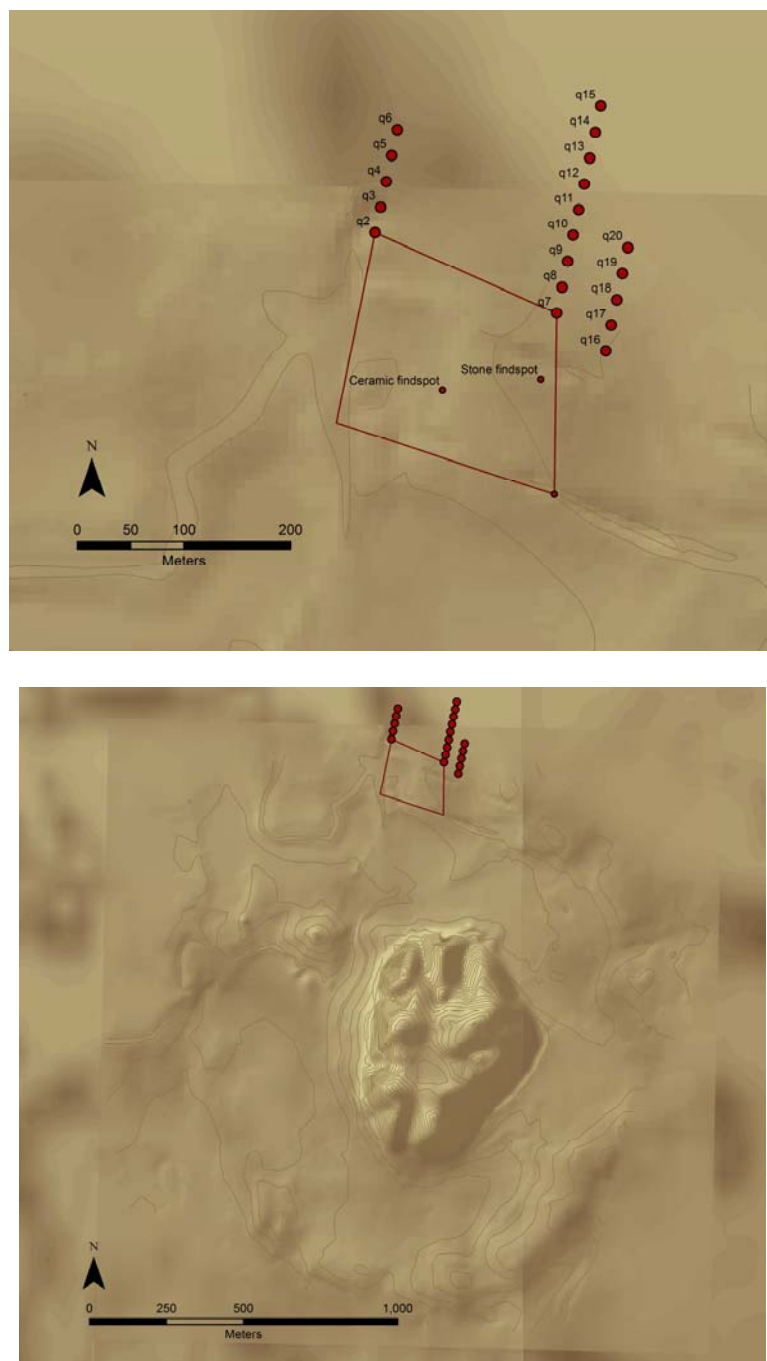


Figure 4.24 OG50 q-lot distributions. Top: Close view showing distribution of OG50 collection units and find spots. Red boundary represents major area of finds of large stones. During the field season (2009) the field was covered by a watermelon field and surface survey could not be conducted. Bottom: Wide view showing location of OG50.



Figure 4.25 View looking north of large stones removed during the winter from area OG50. More than 600 stones were recorded. (OG50v4). Photograph by author.

were lower as the collection units moved north but at no point did the scatter totally disappear. This does not, however, indicate that occupation necessarily extended into these areas but simply that they were integrated into the urban area of the city. The highest densities of materials were found in the eastern-most transect. Here, the density of sherds reaches 11 sherds/ meter².

In general, the sherds collected from OG50 were heavily abraded. The sherds collected from the q-lots furthest away from the mound tended to have the most highly

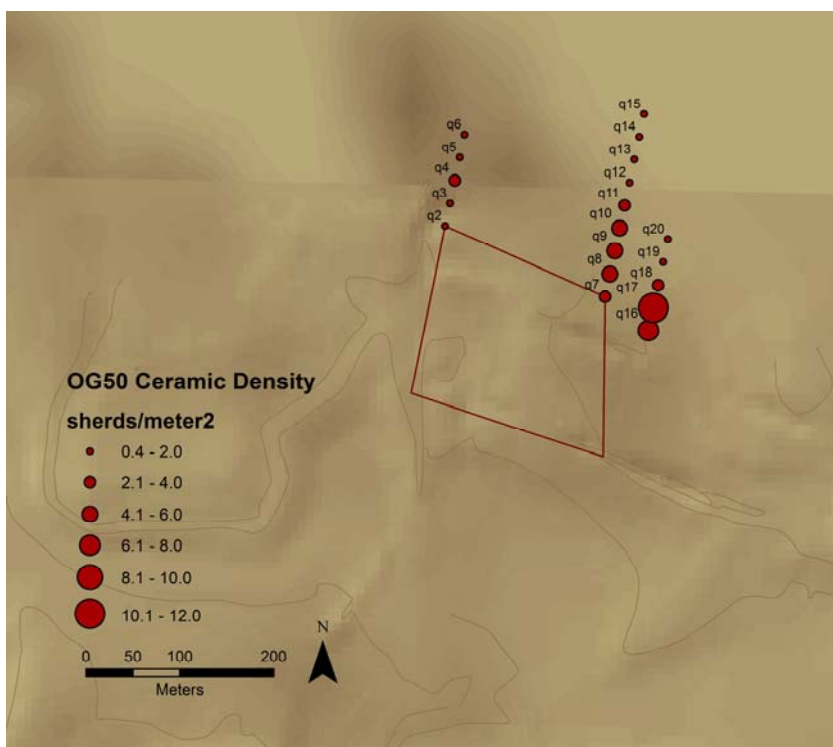


Figure 4.26 Density distribution of OG50 sherds. Note decreasing density moving north away from central mound.

abraded sherds, and in lots q2, q5, q6, q14, q19 and q20 there were few or no classifiable sherds. Of the 1289 sherds collected only 63 (or 4.9%) were identifiable shape sherds. A few additional body sherds could be considered diagnostic, particularly the distinctive Metallic ware type. When it is possible to assign a date to the ceramics, they can be generally assigned to the mid-third millennium based on comparisons with materials from the stratified excavations on the central mound. This includes the presence of Metallic ware, interior grooved rims, and fine greenish buff wares of the Simple Ware and Wet-smooth types. A possible incised Ninevite 5 sherd was identified in q9.



OG50q16.1: Fragment flint blade



OG50q1.2: Unknown clay artifact



OG50: Large door socket stone, without context.



OG50q1.1: Small clay vessel, Fine chaff temper

Figure 4.27 Finds from area OG50 including a complete vessel and large stone door socket.

There were some possible Mitanni sherds in OG50q8 and q15 including a ring base, but they were rare in the survey of this area. A range of other finds accompanied the ceramics including a large door socket and a flint blade (Figure 4.27). The densities of sherds are consistent with densities found elsewhere in the outer city, suggesting that the transects may still be within the boundaries of the city wall (Figure 4.28). The northern section of the city wall is difficult to identify, although in the Corona it appears to have an irregular shape (Figure 4.29). As seen in Figure 4.29, when the excavation team's

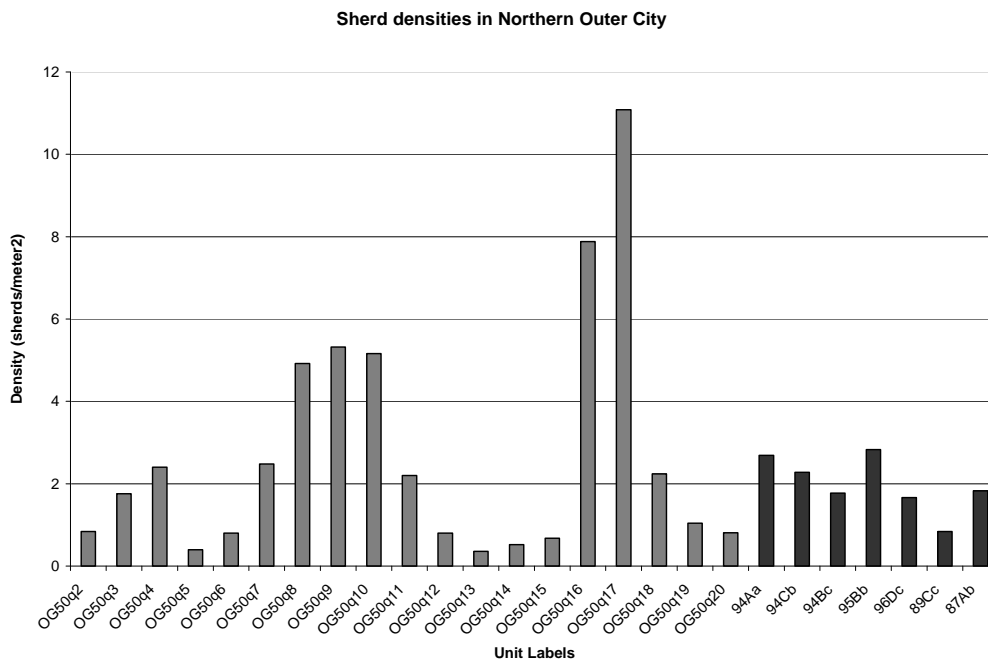


Figure 4.28 Densities of OG50 collection units (light gray) compared to nearby collection units from the Thompson-Miragliuolo survey (dark gray). OG50 has a much greater variation, and in many cases has higher density than units from Thompson-Miragliuolo survey.

topographic map is overlaid on the Corona, it appears the rise may extend north of the northernmost point of the topographic survey. Bricks were found in the area of k1, found near some disturbed complete ceramics (Chaves Yates 2009). Combined with the presence of stones and ceramics it appears that the northern part of the outer city was densely occupied. Although no conclusive date can be established, the majority of the identifiable ceramics confirm the mid-to-late third millennium date indicated by the Thompson-Miragliuolo survey. The high densities in the eastern transect may indicate the presence of the city wall in that area, extending slightly north of its original presumed location.

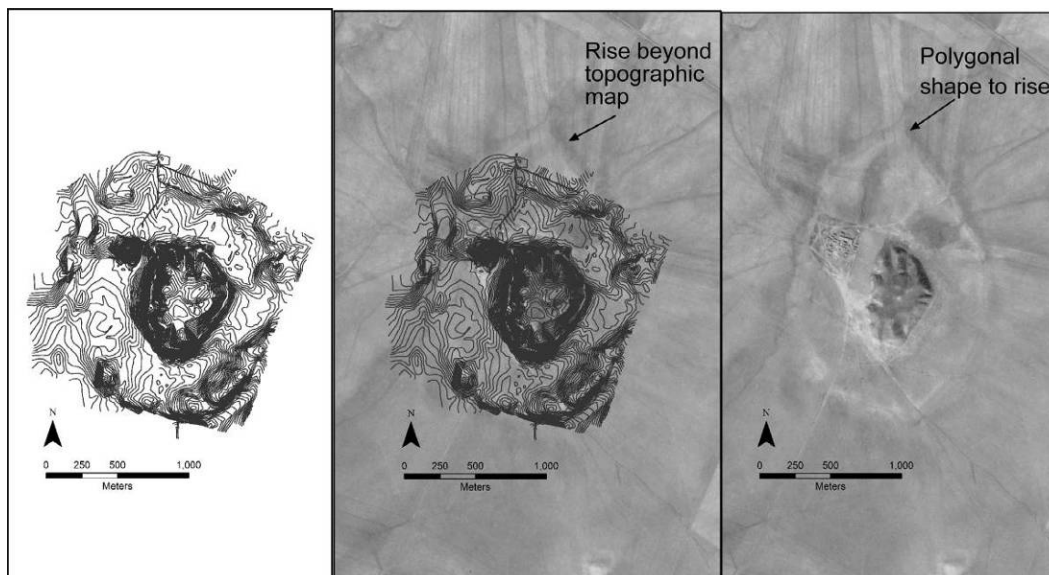


Figure 4.29 Topographic Map and Corona images of site. In the north the polygonal shape of the rise can be seen in the Corona image (far right). The center image demonstrates how the outer city may extend beyond the area originally believed to be part of the outer city. Far left is the original topography map of the outer city. Topographic map after Hughey 1988, Corona image 1968 courtesy Center for Advanced Spatial Technologies, University of Arkansas/U.S. Geological Survey

4.3.3.3. OH40: Eastern Transect

The OH40 transect of the pilot survey was laid out to investigate the density of material in the eastern portion of the outer city (Figure 4.30). Only 200 meters were sampled before priorities shifted investigation to other areas. Of the 1000 square meters of the transect, 8 collection units (q-lots), or 20%, were sampled using total collection.

The first lot, OH40q1, was disregarded since it consisted primarily of slope wash off the main mound, including modern roofing material from the excavation house. In the remaining q-lots the average density was only 1.4 sherds/meter² (Figure 4.31), much lower than other Pilot survey transects (Figure 4.32). The densities in the area near OH40

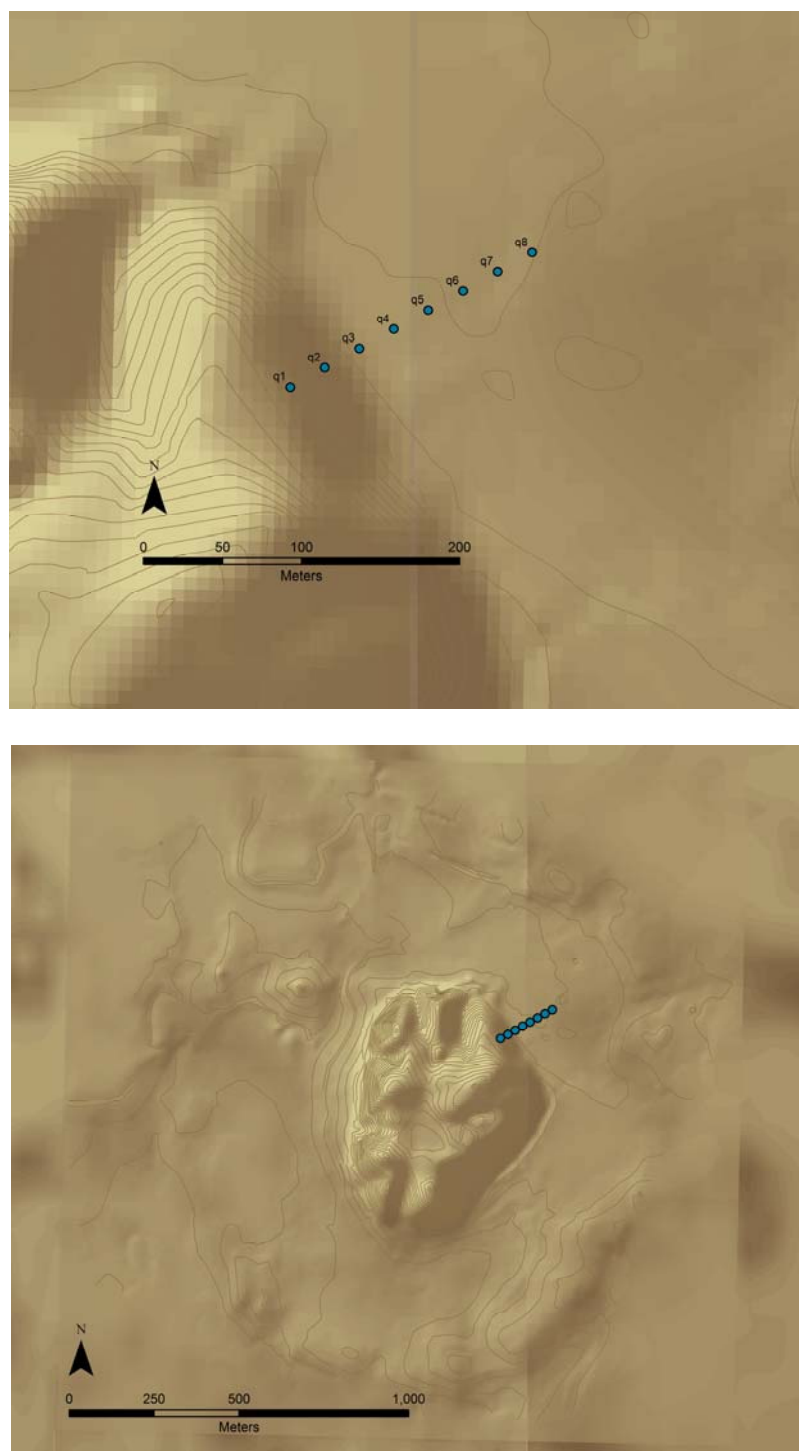


Figure 4.30 OH40 location (above) and collection units with q-lot labels (below).

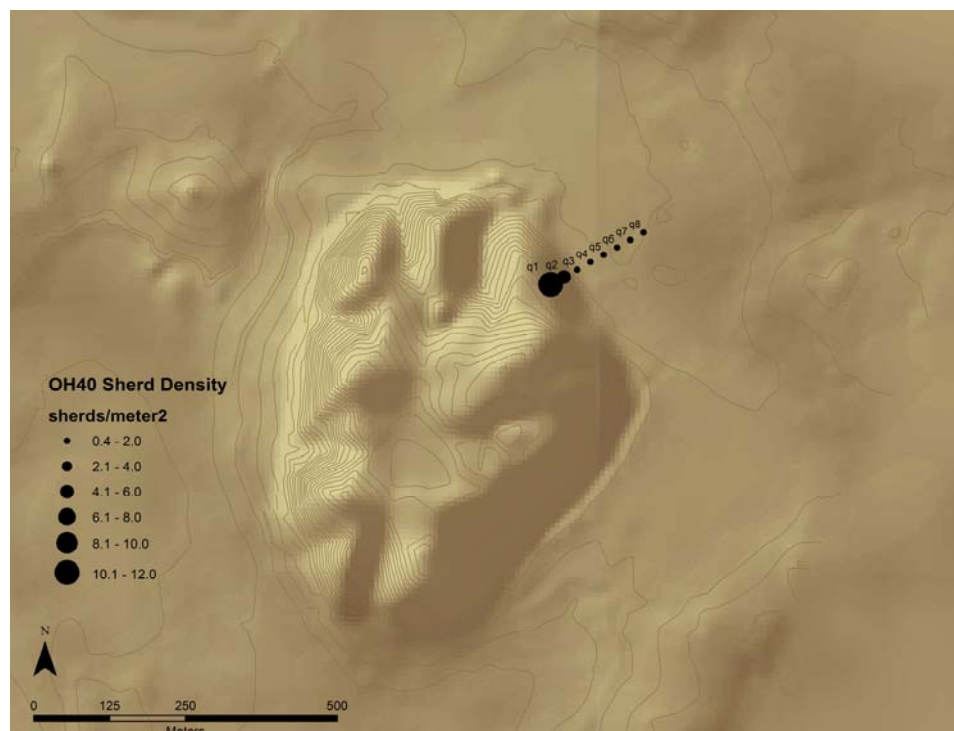


Figure 4.31 Density distribution of OH40 collection units. The first unit, q1, included slope wash, leading to a much higher density.

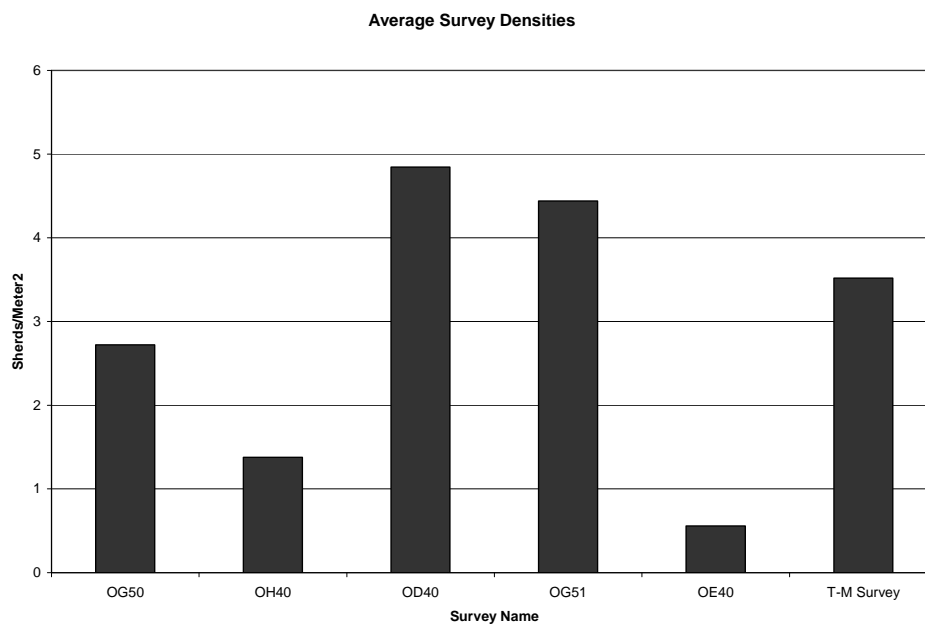


Figure 4.32 Average density for surveys.

from the Thompson-Miragliuolo survey are similar, ranging from around 0.2 sherds/meter² to 4.1 sherds/meter².⁵⁵ The transect did not extend far enough to reach the rise in the east. If it had we would expect a much higher density of ceramics in that area based on comparisons with other surveys.⁵⁶ The sherds were primarily categorized as medium wares representing 72% of the sample (n=383). Coarse wares made up an additional 14.5% (n=77), while the fine wares represent the smallest sample at around 8% (n=44). Since the sherds were not categorized by ware it is difficult to compare directly to the Thompson-Miragliuolo survey but in the same area, Thompson-Miragliuolo recorded primarily Wet-smooth and Simple wares, both Medium-Fine wares similar to the pilot results.

Overall, this small survey confirms the earlier observations that densities of ceramics are much lower in the outer city area between the main mound and the rise of the outer city wall. Furthermore, the survey in this area demonstrates that ceramic densities are still relatively stable, even 25 years after the initial survey suggesting survey remains a reliable method for determining occupation in Mozan's outer city.

4.3.3.4. OD40: SE Transect

The longest transect of the Pilot survey, covering a length of 600 meters, the OD40 survey produced 24 q-lots collected from 24 loci (k) (Figure 4.33). The transect showed a distinct patterning in the density distributions. High densities were found close

⁵⁵ These ranges are approximate since she used total collection in a 10x10 square supplemented by selective sampling in a 25x25 square. Nevertheless, they remain close to the ranges here, although slightly elevated by the collection strategy.

⁵⁶ The Thompson-Miragliuolo survey found densities ranging from 4.5-7.8 sherds/meter² on sample squares in the east (see Thompson-Miragliuolo 1986, Fig 6 and this chapter, Figure 4.11)

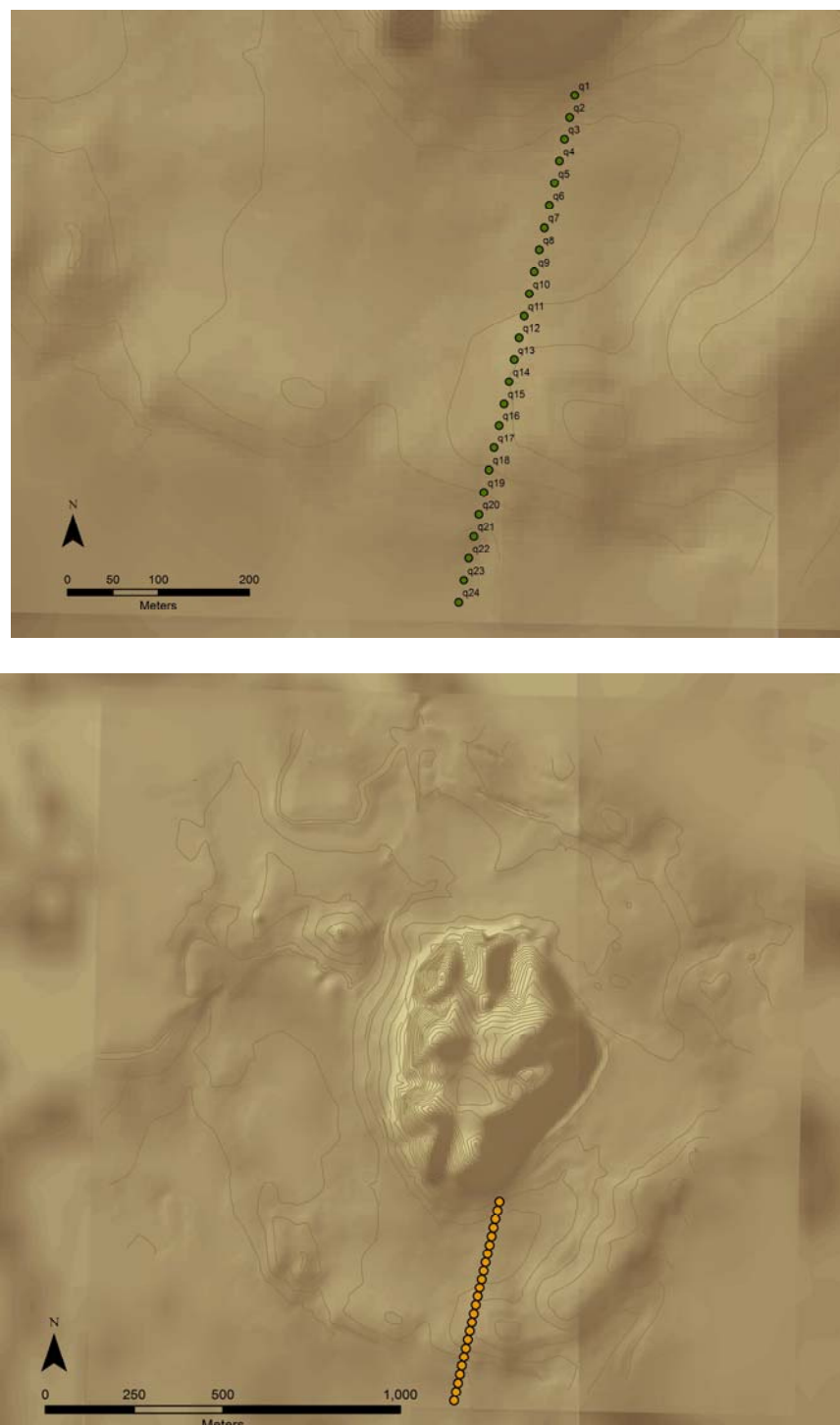


Figure 4.33 OD40 transect with wide view showing location (above) and collection units with q-lots labeled (below).

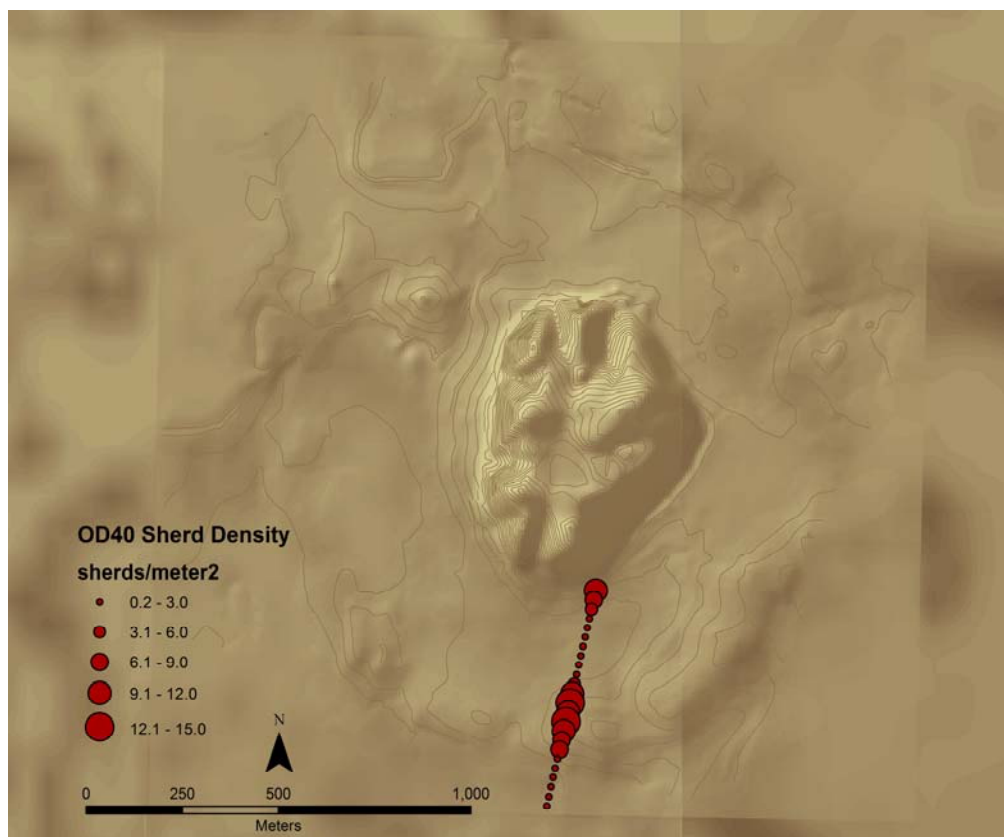


Figure 4.34 OD40 Sherd density distribution.

to the main mound, probably a result of slope wash. The density then decreased in the enclosed area of the outer city. A sharp rise in density crossing the rise of the outer city wall is detected with decreased density outside the city wall. A total 2907 sherds were collected. The average density was 4.8 sherds/meter², with a range of 0.2-14.5 sherds/meter² (Figure 4.34). At 275 meters from the base of the mound, in q12, the total ceramic count jumps dramatically. The densities remain relatively higher for the next 150 meters. From q11 through q18 densities range from 8.2 sherds/meter² to 14.5 sherds/meter². This area covers the rise of the presumed outer city wall and the dip of the depression outside the city wall. In contrast, the densities of the first 250 meters range

from as low as 0.2 to only as high as 6.76 sherds/meter².

The sherds collected were primarily medium wares. About 68% (n=1998) of the sherds collected were classified as medium. Another 7.5% (n=222) were so badly abraded that they could not be classified. Almost 10% (n=282) were fine wares. The remaining 13.5% (n=405) were coarse wares. The most distinctive characteristic of the corpus was the prevalence of interior groove rims. This appears on both coarse and medium rims and is a distinctive characteristic of third millennium vessels. Some incised sherds, belonging to the Ninevite 5 tradition, were recovered in the q-lots with high densities (e.g. q11, q12, q17).

The distribution of artifacts in OD40 reflects the overall pattern found in the outer city, with lower densities in the central area. The unique aspect of the OD40 survey was the high concentration of sherds in the depression outside the city wall. This concentration perhaps represents slope wash from the rise that collected in the depression. Coring in the depression did not indicate occupation layers (Pustovoytov *et al.* 2010). As noted above, the depression and area beyond contained substantial sherd scatters extending up to a distance of 475 meters from the base of the mound. Even at 575 meters out from the base of the mound (q23, q24) the densities remain similar (0.76 sherds/meter²) to some collection units found between the walls (e.g. q8, 0.72 sherds/meter²). The distance covered by this transect highlights how far the scatter of artifacts extends from the main mound, emphasizing the degree to which this area was an integrated part of the urban system.

4.3.3.5. OG51: Northern Transect

OG51 is located 150 meters north of the mound, between the base of the mound and the outer city wall (Figure 4.35). It covers an area of 300 square meters. The dense artifact scatter was brought to our attention by the site guard. Since the area was relatively small compared to other Pilot survey transects, we were able to do a total collection. The transect was laid out at an oblique angle, rather than oriented to the cardinal directions, in order to best capture the materials. The transect was 10 meters wide and 30 meters long. It was divided into twelve 5x5 meter squares. A total of 1383 sherds were collected. The densities ranged from 0.9 sherds/meter² to 9.9 sherds/meter². The average density was 4.4 sherds/meter² (Figure 4.36).

Immediately noticeable was the large quantities of kiln waste, with multiple fragments found in each collection unit. Some sherds were also recognized as kiln wasters, that is, misshapen, misfired fragments of ceramic vessels. Once the fragments were cleaned, sorted and catalogued a total of 49 kiln waste fragments were found in addition to 3 clear kiln wasters (Figure 4.37). Collection units, q4 and q10 had the most kiln waste fragments. These two units are located towards the center of the collection area and may represent the epicenter of the finds.

As in the other Pilot transects, the majority of the sherds were medium wares (67%, n=927). The coarse ware sherds make up 23% (n=329) of the remaining sherds,

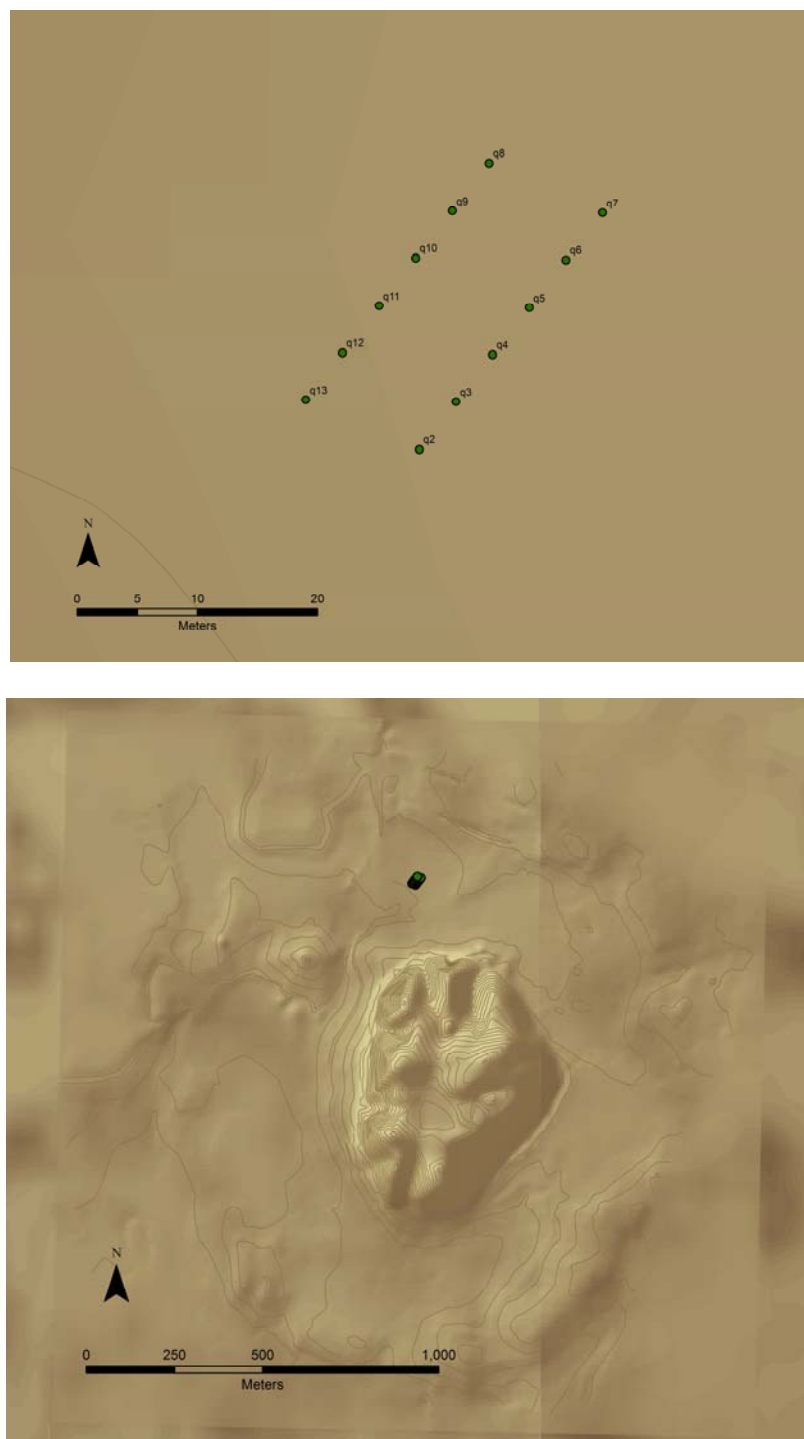


Figure 4.35 Distribution of collection units with q-lots labeled (top) and location of area OG51 (bottom).

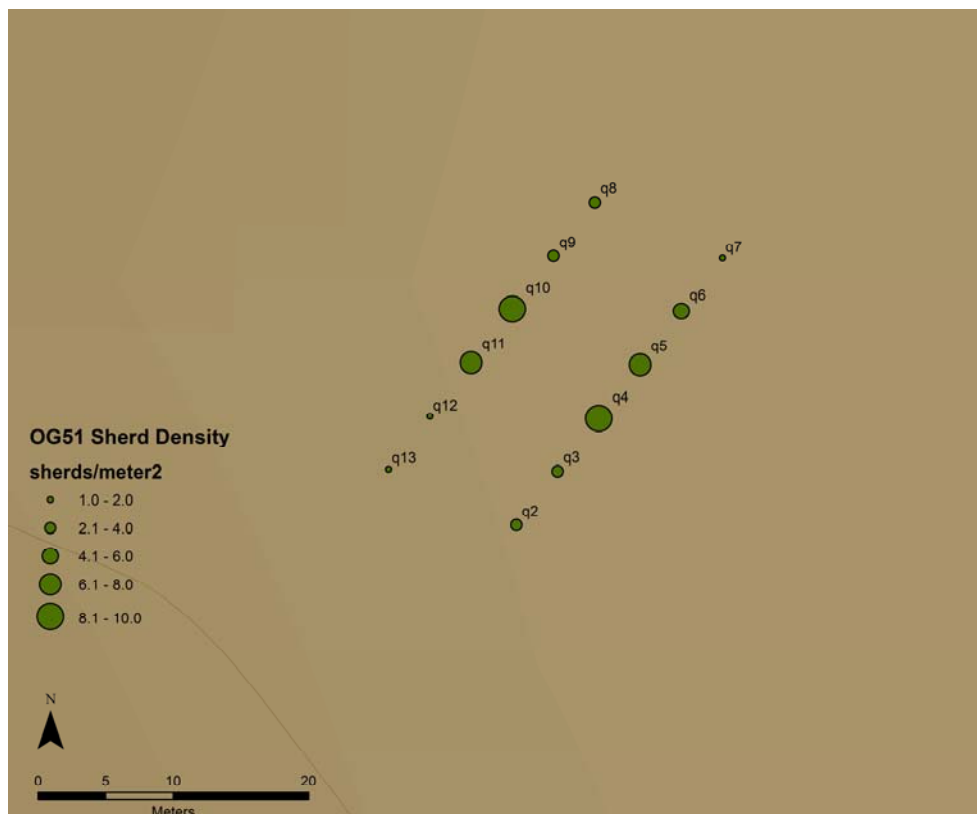


Figure 4.36 Density of sherds in OG51. Concentration of higher density toward the center suggests area was freshly disturbed.

with another 7.5% (n=104) composed of fine ware sherds. Relatively few sherds were unidentifiable (1.5%, n=23). A small complete bottle was also found. The sherds appear to be relatively unabraded and are not as small overall as some of the other outer city areas. The complete vessel and larger sherd size suggests the area was freshly disturbed. The range of types of identifiable ceramics in OG51 is broad. It includes incised sherds, painted sherds, Metallic ware, coarse storage jars and small fine ware cups (Figure 4.38). In contrast with the other Pilot survey areas where the shape sherds are primarily rims, there are a number of bases in the OG51 assemblage.



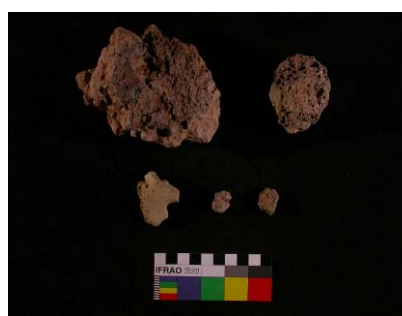
Kiln waster (q1.2):



Kiln waster (q10.2)



Assemblage of kiln waste from q5



Assemblage of kiln waste from q10



Kiln waster (q10.3)



Assemblage of kiln waste from q4

Figure 4.37 Kiln waste and ceramic kiln wasters found in Area OG51.

The high quantities of kiln waste and the presence of kiln wasters suggests this area may be associated with pottery production, either as a pottery production area or discard area for waste products. The variety of ceramic types, in both ware and shape, make it difficult to pinpoint a date for this discard. The transect, however, demonstrates the breadth of activities taking place in the outer city.



Small bottle (q1.1)



Incised sherd: q6-p70



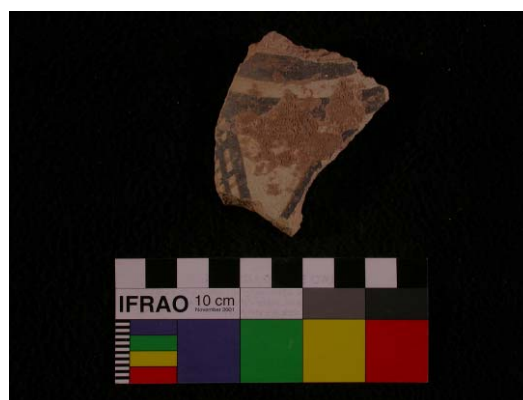
q11-p3: Jar rim



q1-p3: Jar rim with capacity markers



q10-p6 tray base



q10-p70 Painted body sherd (Mitanni or Khabur period).

Figure 4.38 Ceramics found in Area OG51. Mix of time periods and types.



Figure 4.39 Overview looking south toward the freshly plowed field, OE40. Photograph by author.

4.3.3.6. OE40: Southwest Transects 2010

Area OE40, in the southwest section of the outer city, was chosen for survey in 2010 for two main reasons. First, the area of the SE outer city was underrepresented in previous surveys. Second, a large field had been freshly plowed bringing up significant remains (Figure 4.39). The boundary of the survey area was set as the recently plowed field. Endpoints of each transect were surveyed with the total station. The survey planned to cover 30% of the area, which was approximately 2 hectares in size (200 m North-South, 100 m East-West), however, the final survey was only able to cover approximately 20% of the area due to time constraints. Transects were spaced along the field, crossing it

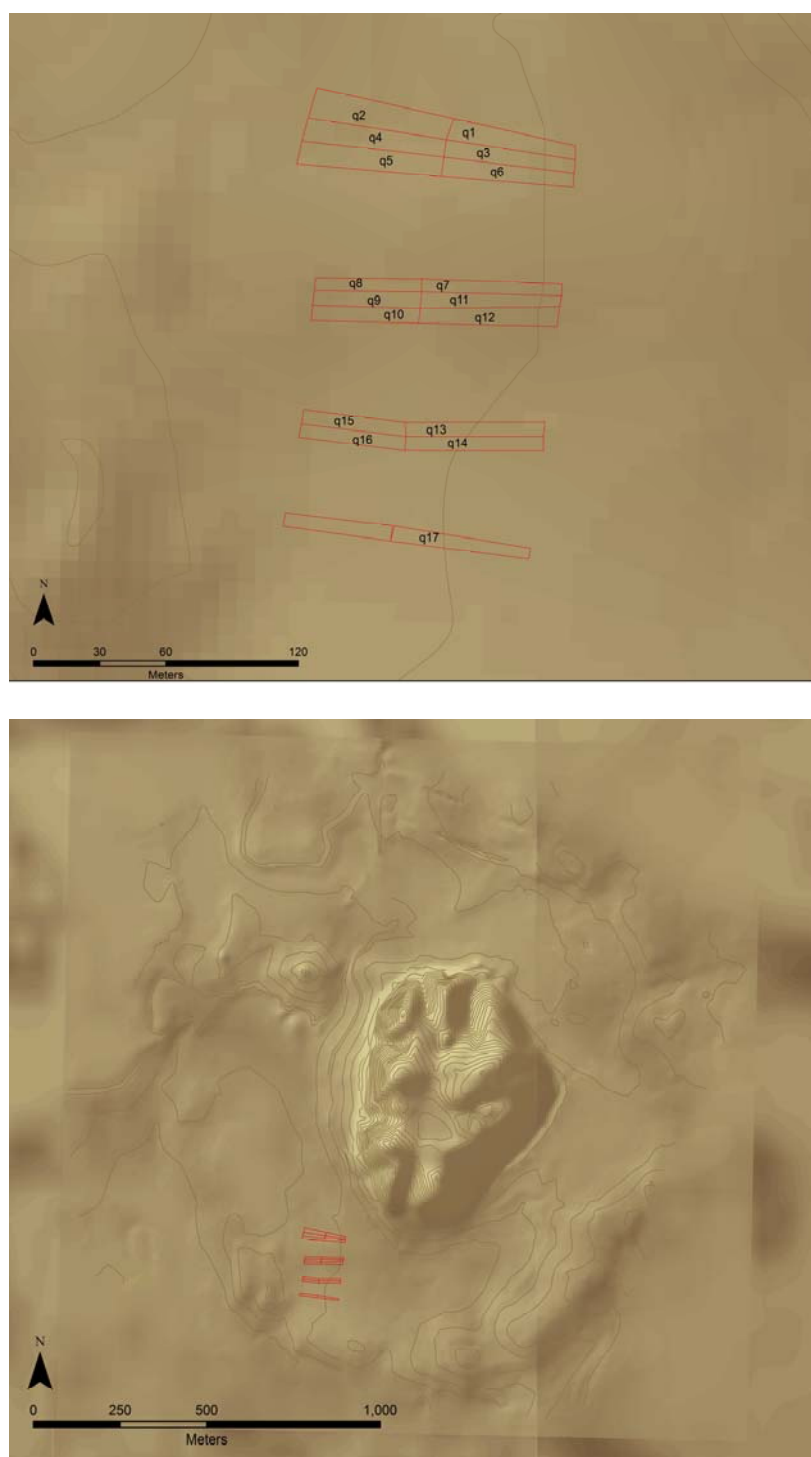


Figure 4.40 Location of area OE40 (above) and distribution of collection units with q-lots labeled (below).

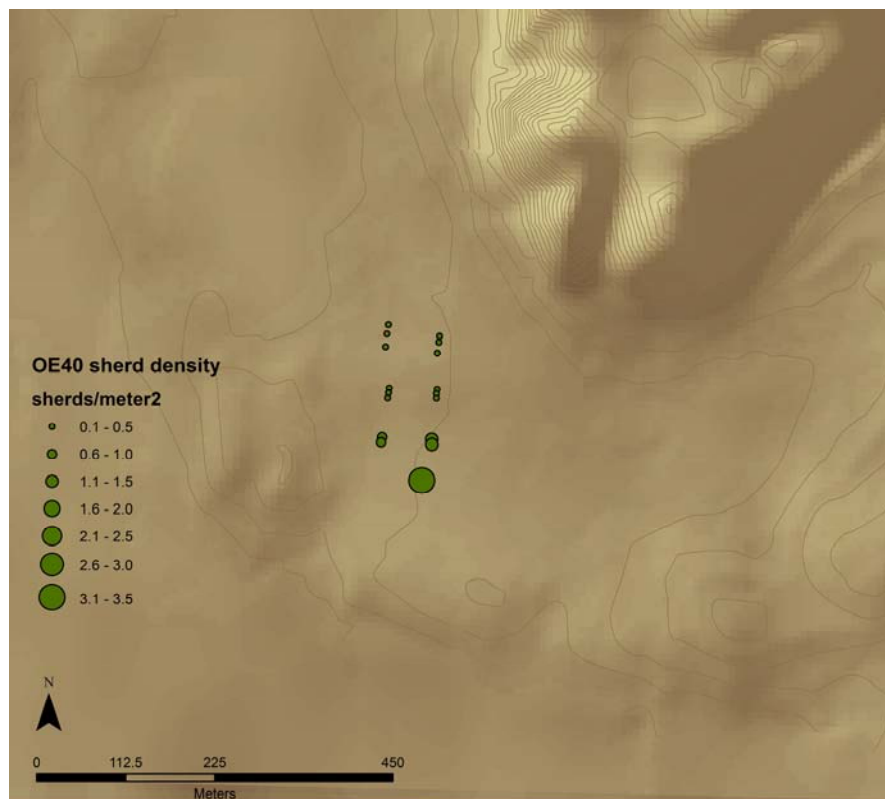


Figure 4.41 Density of sherds in area OE40.

completely from east to west at even intervals along the north-south edge of the field. Overall 9 transects, each 5 meters wide and approximately 100 meters in length were surveyed (Figure 4.40). Each transect was divided into two collection units (q-lots). A total area of 3895 square meters was surveyed, with 2235 sherds collected.⁵⁷ The densities of the collection units ranged from 0.09 sherds/meter² to 3.2 sherds/meter² (Figure 4.41).⁵⁸

⁵⁷ The field was not exactly 100 meters across in all locations so the western q-lots of each transect were of variable size.

⁵⁸ The densities, on average, are lower than the results from the other pilot transects. Two possible explanations pertain: 1) because the collection units are within the boundaries of the outer city, they may have lower densities similar to other collection units not near the outer city wall; 2) it is possible the low

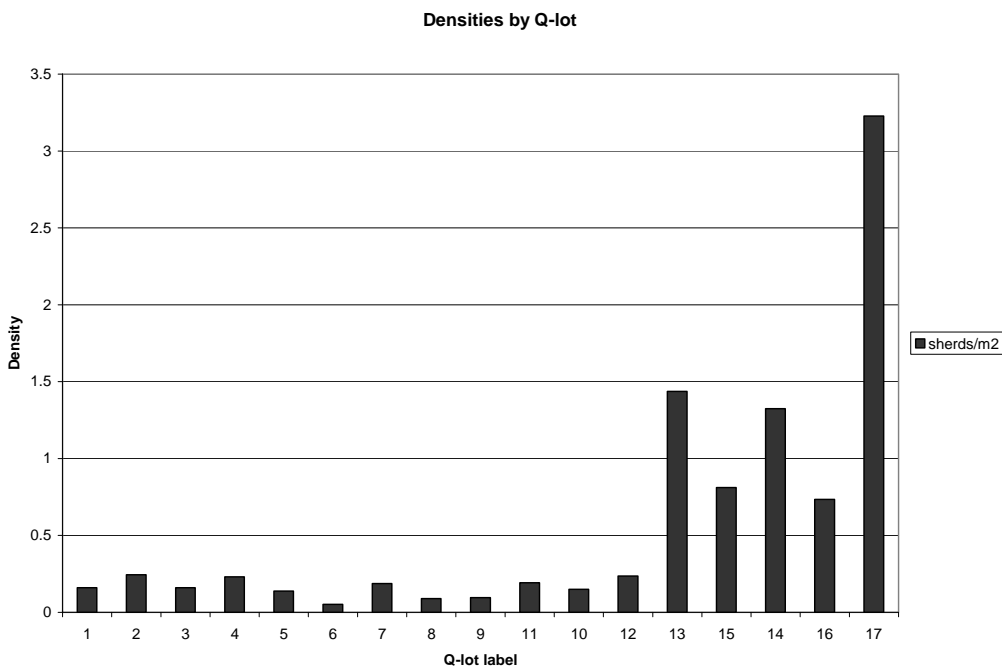


Figure 4.42 Density across the q-lots of area OE40. Density is relatively low compared to overall survey average (see Figure 4.32 above).

As can be seen from the chart (Figure 4.42), the densities are mostly less than 0.5 sherds/meter², a relatively low density for the outer city distributions. The densities increase as the collection units move toward the rise of the outer city wall, reaching their highest point at the collection unit most distant from the base of central mound (OE40q17). The OE40 ceramics are overall consistent with the finds from the previous surveys with a range of wares, shapes and time periods. The sherds, in general, were highly abraded and often difficult to identify. This suggests that despite the deep plowing in the area, the plow was not causing fresh disturbances. In three collection units almost no sherds had identifiable remaining shapes (q1, q5 and q9).

densities are a result of the collection strategy. The q-lots of OE40 are much larger than those of the 2009 surveys, thus making it more difficult to ensure a total collection of artifacts.

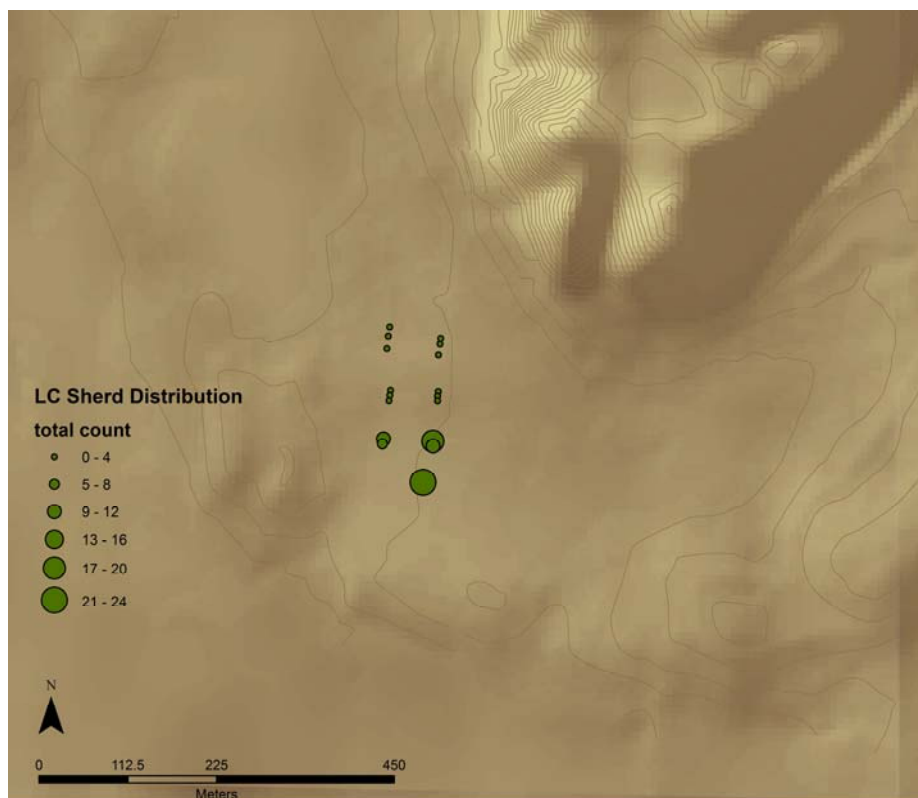


Figure 4.43 Distribution of LC sherds in area OE40.

Mid-third millennium ceramic types, including Metallic ware and fine ware sherds of Simple and Wet-smooth wares, are common throughout the collection units. Later third millennium sherds, such as Chaff-temper with incised template lines and some second millennium painted sherds were found as well.

The most interesting ceramic type in the OE40 corpus was the Late Chalcolithic (LC) sherds. Refined knowledge of the LC wares and forms from the 2010 excavations in area J3 on the central mound provided the comparative material needed to identify LC sherds in the outer city. The OE40 survey data produced 81 identifiable LC sherds spread across 9 collection units (Figure 4.43). Although LC3 sherds were found in the lower levels of the OR1 excavations, they were not previously recorded in the surface surveys.

Overall, the OE40 data helped fill in the gaps of knowledge on the distribution of materials in the outer city. Based on the poor results of the geomagnetics in the east and the lack of sampling from earlier surveys, it appeared that the southwest portion of the outer city was less densely occupied. The OE40 survey, however, shows that the densities in this portion of the outer city are similar to those found across the site. Furthermore, this portion of the outer city may have some earlier occupation, dating to the Late Chalcolithic – a period that is generally not yet well-known in the outer city.

4.3.3.7. Pilot Survey Analysis and Conclusions

The Pilot survey was originally designed as a starting point for a full survey that was never conducted due to the change in political situation in Syria. Despite the lack of full survey, a fairly clear picture of the outer city begins to emerge from the pilot data. Perhaps the most important result of the Pilot survey was the confirmation of several earlier observations. The finds from the Pilot transects can begin to create an understanding of the types of activities that took place in the outer city. Additionally, the ceramics can help refine the understanding of the periods of occupation of the outer city. The data also serve to expand the spatial extent of the surveyed area to include areas under-represented by the earlier Thompson-Miragliuolo survey.

One of the more significant discoveries of the Pilot Survey was the discovery of a potential pottery production area in OG51. This concentration of kiln waste and kiln wasters demonstrates not only the presence of such production in the outer city, but also the possibility of identifying production from surface finds. Since it is virtually impossible to excavate the outer city fully we must rely on surveys (surface and

geophysical) to understand the distribution of these kinds of activities.

The large stones recorded in area OG50 are another important find from the Pilot surveys. The quantity and size of the stones suggests a monumental structure, likely dating to the third millennium based on comparisons with constructions on the central mound. An alternative explanation is that the stones were stored in the outer city before being transported to the central mound for use in construction projects. The mix of sizes of stones is consistent with stones used in the construction of the monumental architecture on the central mound. Comparisons with the EJII structures of the temple terrace would suggest that the stones were also brought to the site some time in the early mid-third millennium. Their location on the northwest part of the city may indicate the place where the stones entered the city since they probably came via the wadi that cut through this portion of the city, coming down from the north. Unfortunately the disturbed nature of the finds makes it impossible to know if the stones belonged to a structure or not.

The ceramics from the Pilot transects were overall very similar to those from the previous Thompson-Miragliuolo survey, confirming the interpretation that the outer city was primarily occupied in the mid-late third millennium. The wares and shapes suggest an early mid-third millennium date for the densest population in the outer city. One surprising result was the discovery of Late Chalcolithic sherds in the southeast portion of the outer city (area OE40). The 81 detected LC sherds suggest there may be an earlier occupation in the outer city that is overlaid by later third millennium finds, making it less observable on the surface. Further survey, focusing specifically on identifying fourth

millennium wares could help decipher if the OE40 finds are an anomaly or representative of a larger pattern.

The differential distribution of ceramics – high density collections on the rise and low densities on the flat portions of the outer city – could either represent a genuine difference in occupation density, or could be a result of post-depositional processes. It may be that the densities are much higher on the city wall since the cultural material is continuously plowed down until it is level, thereby bringing more cultural material to the surface. The area in between is much more level, so the upper layers may be protecting the preserved remains underneath, leading to less ceramics coming to the surface.

Geomagnetic survey (see below) in the south does appear to show some open spaces between the inner and outer city wall with buildings primarily concentrated closer to the outer city wall. In the published report the researchers suggest that the open spaces could be a reflection of obscured geomagnetics caused by overburden and modern plow lines, rather than extensive open spaces (Pfalzner *et al.* 2004). The street patterns also suggest that there may have been occupation in at least some of the area since the streets are arranged to form small islands of space with irregular shapes, perhaps reflecting movement around existing buildings (see below). It seems likely that occupation was densest closest to the wall where it is detectable in both the survey data and the geomagnetics, with some, likely less dense, occupation covering the area between the walls. Without excavation the density of buildings in this area remains an open question.

4.3.4. Geophysical Survey

In 2002, Peter Pfälzner headed a team from the University of Tübingen that

conducted a geophysical study, focused on the high mound and portions of the outer city. The preliminary results are published in the *Mitteilungen der Deutschen Orient-Gesellschaft* article titled “Urbanismus in der Unterstadt von Urkes” (Pfälzner *et al.* 2004).

The team surveyed a total area of 10.9 hectares in the Southern portion of the outer city, in the zones known as ON and OL (Figure 4.44). The survey consisted of a magnetometry study accompanied by a surface ceramic survey. Magnetometry was also conducted to the east and west in the outer city but was not accompanied by surface survey (Figure 4.45). Because of plowing and erosion processes the association between the subsurface remains and the ceramics is not clearly established. The magnetometry revealed a variety of subsurface features including streets, buildings, walls, pits, and open spaces.

The magnetometry results confirmed the interpretation of the outer rise around the site as a mudbrick wall, several meters thick.⁵⁹ A break in the line of the wall was detected and the widening of the wall on either side of the gap was interpreted as two towers. Based on the geomagnetic results the researchers also came to the conclusion that the outer city wall was polygonal in shape, rather than round, based on joins that appear in the geomagnetic record. The bent corners were then presumably used as gateways. Excavations are needed to confirm these results.

⁵⁹ The following three paragraphs of discussion of the geomagnetics are based on the reports published in Pfälzner *et al.* 2004.

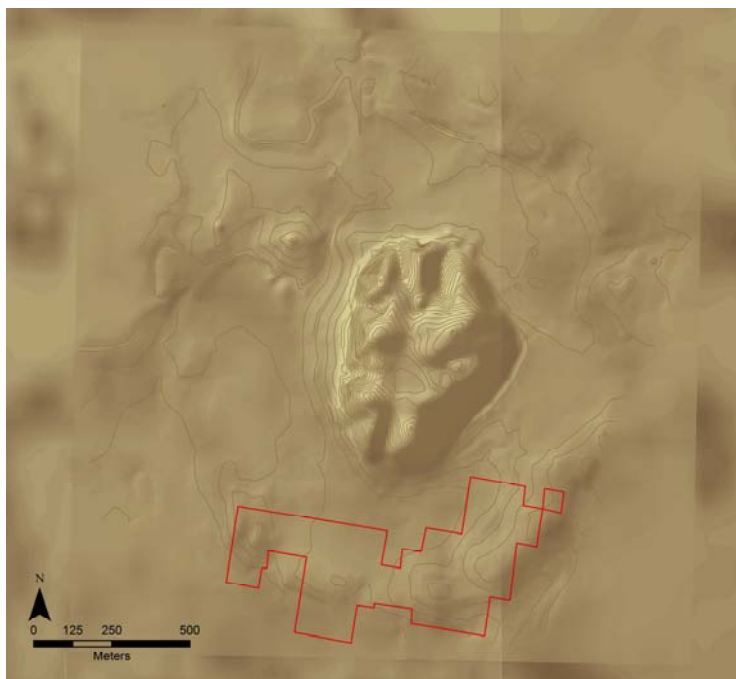


Figure 4.44 Location of Geophysical and ceramic surface survey conducted by Pflazner *et al.* (2004).

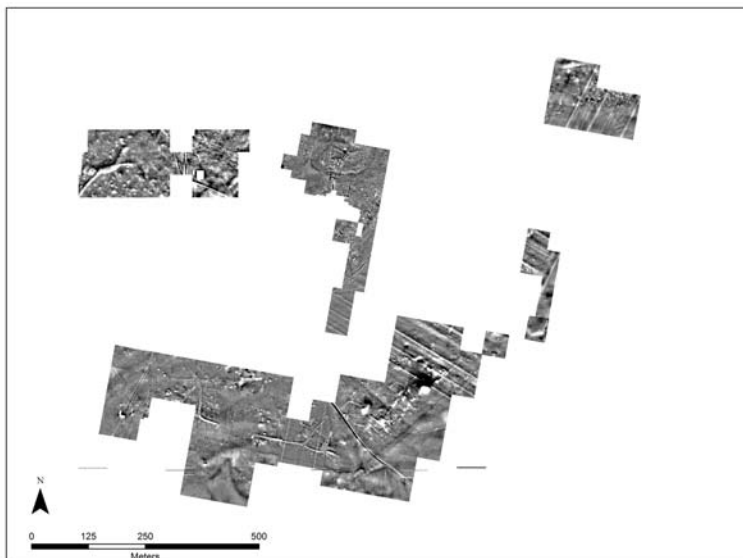


Figure 4.45 Magnetometry results from outer city. Streets, rectilinear structures and outline of the city wall can be seen (see Pflazner *et al.* 2004 for complete interpretation of southern finds). The results to the west (from 2005) were not clear and may have been obscured by modern activity related to the village just to the north. Western magnetometry conducted by Christian Hübner on behalf of the Tell Mozan project, southern magnetometry after results published in Pflazner *et al.* 2004.

The magnetometry also appears to indicate the presence of streets, which were interpreted as extending radially from presumed city gate. One interior road, called “Strasse E”, extends over more than 200 meters. Other roads are more fragmentary and appear to form small neighborhoods. Small walls, detected across the area suggest the outer city was densely occupied in the area surveyed. The structures are interspersed with roads. In addition to the small structures, interpreted as houses, there were some magnetic anomalies that were difficult to interpret. Pfälzner *et al.* (2004) suggest that some of these magnetic anomalies, when correlated with high levels of kiln waste on the surface may represent pottery production areas. The magnetometry results also found some structures outside the city walls, to the south and east. Some of these extramural areas may also be associated with pottery production, or firing of some material based on the high magnetic anomalies detected. According to these results, the outer city, including the area beyond the walls, can be understood as a complex system of neighborhoods including both occupation and production areas.

The ceramic inventory from the surface survey was consistent with other investigations in the outer city.⁶⁰ While there are some Ninevite 5 sherds (FGII/EJI) represented in the survey finds, they represent only 1.1% of the total finds. The following period is represented by a grouping of early EJIII ceramic types including Metallic Ware and is dated approximately 2700–2500 BCE by the investigators. They date the construction of the outer city wall to this phase, with 6.3% of the sherds dated to this

⁶⁰ The German team used a slight variation on the chronology. The Fruh-Gazira sequence they used is roughly correlated as follows: FGII=EJI; FGIIIa=EJII/early EJIII, FGIII=EJIII; FGIV=EJIV (see chronology discussion earlier in this chapter).

period. The concentrations were also especially high in the collection areas associated with the city wall, perhaps indicating its date. The highest percentage of sherds reported dated to the EJIII/EJIV (FGIII+IV) period, from approximately 2500–2100 BCE, with the projected period of intense urbanization focused on the dates 2500–2250 BCE (Pfälzner *et al.* 2004). It should be noted, however, that only four of the sherds in this group could be conclusively dated to the EJIV, suggesting that by this time the outer city may have already been declining in importance.

The relative infrequency of later types of ceramics such as Khabur ware and painted Mitanni types leads Pfälzner *et al.* to suggest that the outer city was abandoned towards the end of the third millennium, with occupation retreating to the central mound. The ceramics from the Pilot surveys also indicate that the southern portion of the outer city did not continue with widespread occupation in the second millennium. Residential occupation on the main mound in area C2 dated to the EJIV period indicates that residential areas contracted from the outer city back onto the high mound at the end of the third millennium (Dohman-Pfälzner and Pfälzner 2002). Second millennium houses dating to both the Khabur and Mitanni periods are found as well, indicating that residential occupation continues in the central mound during the second millennium (Buccellati 2005). This conforms to the findings from the Thompson-Miragliuolo survey and the Pilot survey.

Further geomagnetic studies were conducted in 2005 to the west of the site, just south of the modern village of Mozan. These results are less clear than the OL results, with some areas largely empty or obscured. This may be due to the continued occupation

of the village of Mozan to the west of the tell. A modern paved road and several dirt tracks create interference.

4.3.5. Excavations

In addition to the previously discussed surveys, several small excavations have been conducted in the outer city (Figure 4.46). When viewed individually they provide only a small insight on the outer city, but when combined they can paint a fairly comprehensive picture of the overall uses of the outer city. The excavated areas have revealed various architectural remains, burials, administrative artifacts and evidence for a changing local landscape.

The first test excavations in the outer city took place in 1986, associated with the finds from the Thompson-Miragliuolo surface survey. All five test trenches produced evidence of occupation or burial (Kelly-Buccellati 1990). One of the trenches revealed a burial containing more than 100 vessels (OB1, see below). Another trench, OH1, produced possible evidence of a larger structure. Over the next several years different investigations were conducted in the outer city as the need arose. Several deep cuts made for power lines were inspected (OS9-OS12). The cuts show that cultural accumulations proceed down for a few meters. Some Halaf sherds were found at the lowest levels of the cuts, suggesting that occupation in the area extends back as early as the 6th millennium. One of the cuts reached virgin soil fairly quickly and confirmed the limit of settlement in that area. Another cut, OS11, led to the hypothesis that a stream bordered the settlement to the west. In 1998 the first full-scale excavation was conducted in the northeast part of

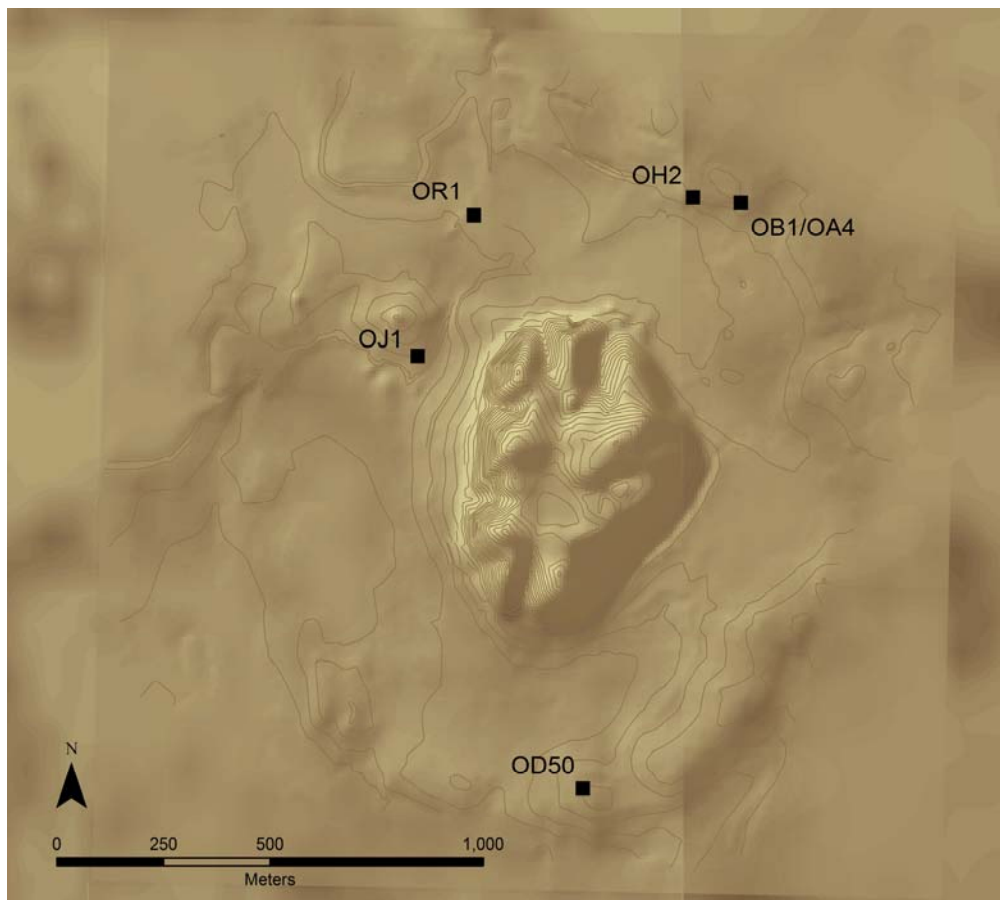


Figure 4.46 Localization of excavations conducted in the Outer City. Localization of OH1 was not available and does not appear on the map.

the outer city, in area OH2, where remains from an administrative building were found (see below). In 2006 a test trench (OR1) was dug in the northwest outer city to test the hypothesis that a wadi or other watercourse passed the tell in the area as suggested by the OS11 pit. The OR1 excavations confirmed this hypothesis and became part of a wider geoarchaeological study of the site (Deckers and Reihl 2007, Deckers *et al.* 2010, Deckers 2011). In 2010, a small test trench – OJ1, was placed in the Mozan village in preparation for large-scale excavations planned for 2011. Unfortunately the 2011 excavations were not conducted due to political unrest, however, the OJ1 trench revealed

a previously unknown, possible Middle Assyrian occupation in that portion of the outer city.

Each excavation contributes a small piece to the larger understanding of the kinds of activities that took place in the outer city. They are grouped by type and discussed individually below with references to publications where available.

4.3.5.1. Burials: OB1, OA4, and OD50

Burials and grave goods have been found in the outer city in excavations and also indicated through the surface surveys. The excavated burials appear to be primarily dated to the early mid-third millennium with Late Ninevite 5 and early Metallic ware. The surface finds of co-occurring ceramics and human bones commonly include dense scatters of Metallic ware as well.⁶¹

The grave of OB1 was a simple pit grave with evidence for burial of multiple individuals (Thompson-Miragliuolo 1986). The tombs from area OB1 have been referenced in numerous publications from the excavation team (Kelly-Buccellati 1990; Buccellati and Kelly-Buccellati 1991b, 1997) and are recorded in the unpublished notes of the excavation. The grave was a simple pit, possibly with a shaft, indicated by loose soil north of the pit. The burial was relatively shallow, about 40 cm below the current surface, extending to a depth of approximately 70 cm below the surface (Figure 4.47). Interestingly, under the excavated grave goods was a mixed layer of “occupation” debris including red-brown clay with Pebble-temper wares, other cooking wares and flint blade

⁶¹ The co-occurrence of Metallic ware with burials has been noted at other sites as well (see Broekmans *et al.* 2006).

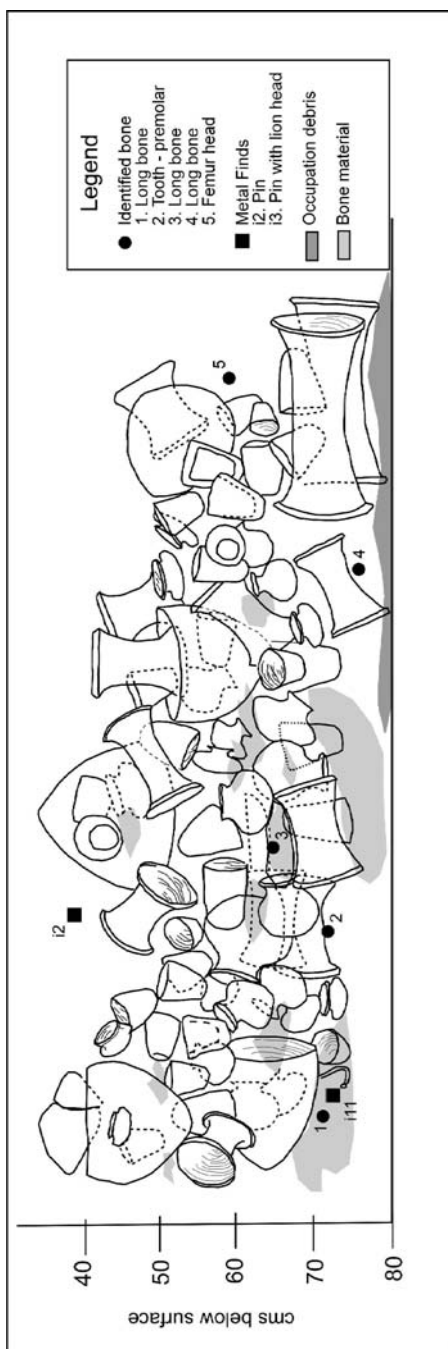


Figure 4.47 Drawing of finds from Tomb OB1. Vessels are not arranged, but instead are mixed with no particular orientation. Original drawing by Thompson-Miraguilo (1985), inked by Chaves Yates (2013).

fragments (Thompson-Miragliuolo 1986). The excavator suggests this may indicate the burial was placed on top of an area that was previously occupied. Since the dating of the tomb is late EJI, the occupation in this portion of the outer city would be the earliest excavated context in the outer city thus far.⁶² The tomb itself included a minimum of 138 vessels and 6 metal objects. The human bones indicate more than one adult was buried within the tomb. The vessels were not placed in an organized fashion, but rather dumped haphazardly, mixed in with the human bones (Thompson-Miragliuolo 1986). The tomb includes 52% of Metallic ware but also included a significant (9%) amount of Ninevite 5 incised wares. A large number of stands, including painted scarlet ware stands, were also found. Simple ware cups with conical bases were also prevalent (Thompson-Miragliuolo 1986). The quantity of cups combined with the indiscriminate placement of the vessels suggests they were not placed in the grave as containers for grave goods. The OB1 tomb suggests a thriving community at Mozan in the EJI period, with the outer city possible a locus of occupation but also a significant place for mortuary rituals.

Near the OB1 tomb, a second tomb was also found (OA4). It was a stone-lined tomb, with additional large stones disturbed on the modern surface indicating that it was covered with large stones as well (Kelly-Buccellati 1990) (Figure 4.48). The tomb was robbed in antiquity and contained only a few ceramics and thus could not be dated.

⁶² Survey finds from area OE40 (see above) suggest there may have been LC occupation in the outer city, however, no excavated contexts have returned fourth millennium remains from the outer city. LC occupation is known from the high mound (Kelly-Buccellati 2010, 2013).

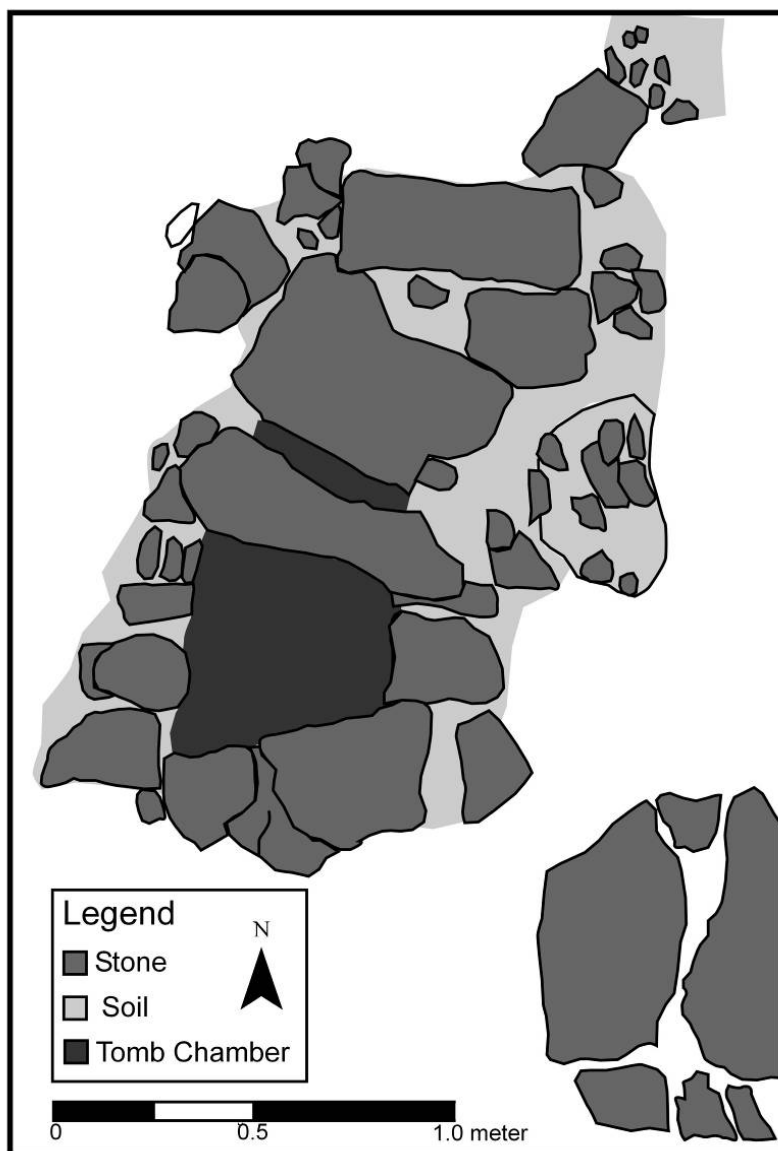


Figure 4. 48 Overhead drawing of tomb OA4. Tomb was disturbed in antiquity. Original drawing by Thompson-Miraguilo (1985), inked by Chaves Yates (2013).



Figure 4.49 Complete Metallic ware vessels recovered from surface of area OD50.

Plowing in the southeast part of the outer city (OD50) in 2008 brought some fresh material to the surface, including almost complete Metallic ware jars (Figure 4.49). A team from the excavation collected and analyzed the surface material but it was not possible to conduct an excavation of the area. The surface remains included ceramics dating to the EJI/EJII periods (Kelly-Buccellati 2008). Human bones were also identified. Ashy material suggested that perhaps the area was not only for burial but also included some reuse (Buccellati 2008). Ten q-lots were collected and analyzed. The ceramics include Metallic ware, Ninevite 5, and Simple and Wet-smooth types. The OD50 collection typifies the kinds of finds known from the outer city. The ceramics are uniformly dated to the mid-third millennium, with dense Metallic ware clusters correlated with human bone finds.

4.3.5.2. OH2: Outer City Administrative Area

In 1998, the Mozan expedition team conducted systematic excavations in an area northeast of the main mound. A local villager had proposed a new well in the area, and an

exploratory excavation was conducted to determine if a well would disturb the outer city remains (Buccellati 1998b). The area was assigned as OH2, and was excavated under the supervision of James Walker and John Lynch. The excavations were conducted to a depth of two meters below the surface (approximately an elevation of 7642 in the site-wide system) across a 4 by 4 meter square. The first 50 cm of excavated material included numerous abraded sherds of various dates representing the depth of modern plowing and disturbed layers. Beneath the plow line, however, were several preserved layers, including a layer with extensive preserved seal impressions (Walker 1998). The ceramics from below the plow line were uniformly dated to the mid-third millennium, contemporaneous with the main phase of the Temple BA on the main mound, dating to the EJII (Chaves Yates 2011). The OH2 excavations demonstrated that intact third-millennium deposits still exist in the areas of the outer city currently under cultivation.

The most impressive discovery of the OH2 excavations was 35 preserved sealings. These sealings were found in a clayey layer (f5) 70 cm below the surface. The excavators believe that a third-millennium administrative structure is nearby, but the building itself was not discovered due to the limited scope of the excavations. The stratigraphy suggests that the sealings washed a short distance from the building or were discarded outside of the building (Buccellati and Walker 1998). The sealings come from a layer (f5, f6) just above a layer (f8) that includes thin laminations, indicating trapped water. This suggests the deposit formed in a contained area that was open to the elements (Buccellati 1998b). The sealings were analyzed by M. Kelly-Buccellati (1998) who

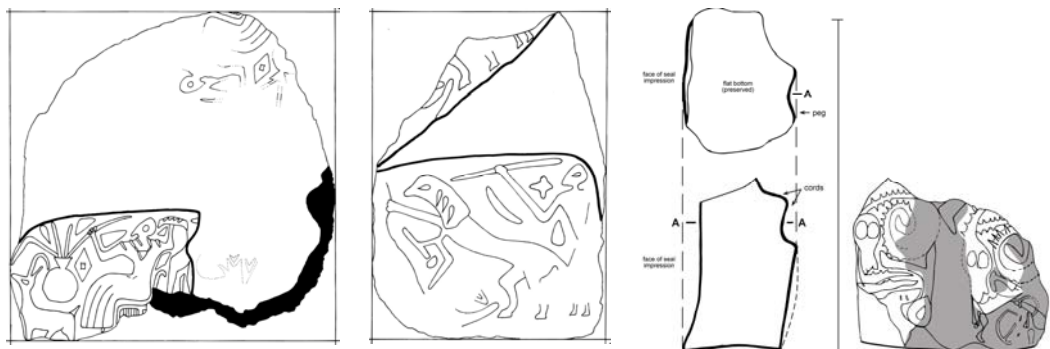


Figure 4.50 Seal impressions from excavations in OH2.

determined that the sealings date to the early EDIII period (or EJII) (Figure 4.50). The presence of so many sealings indicates that the outer city was constructed and already an integral part of the administration of the urban system by the mid-third millennium. Sealings similar to OH2 were also found in a small room at Tell Leilan during their city gate excavations (Ristvet 2007). Of the 35 total sealings, eight have identified seal impressions (Chaves Yates 2011). There is a variety of identifiable impressions on the sealings in addition to those with seal impressions. There are 12 with cord impressions, six with peg impressions, four with wood impressions, three with fiber impressions, and an additional three with fingernail impressions (Chaves Yates 2011). One sealing appears to preserve the impression of a jar rim. Thirteen impressions were unable to be positively identified. Those with a combined peg and cord impression may have been applied to sealing of a door or administrative storage room. The other sealings appear to be associated with the administration of movable objects such as jars, or wrapped bundles. The iconography of the seal impressions includes human and animal figures as well as geometric shapes (Kelly-Buccellati, 1998).

Although the building associated with the sealings was not recovered, the data clearly demonstrates that administrative buildings were located within the outer city. Sealings are not exclusively associated with centralized administration in the third millennium, however, and can sometimes be found in private contexts. The variety and scope of these sealings, however, seems to indicate a sophisticated administrative operation – whether of an elite residence or governmental administration remains unclear. An almost complete Simple Ware bowl and a double-mouthed jar, attest to the high-status of this area, supporting the idea that it was part of the city-wide administration (Buccellati 1998b). OH2 is located on the rise that circumvallates the site. This location on the presumed city wall lends credence to the idea that OH2 was part of the administration of goods entering and exiting the city via the outer city gates. Although extending the excavations in the area around OH2 could help clarify some of these issues, an expansion was unable to be carried out in 1998 due to time constraints. Since the excavation returned such valuable results the well was never constructed and the area remains agricultural land to this day.

4.3.5.3. OH1: Possible City Wall

To explore the possible location of the outer city wall, a small test was placed on the peak of the rise that circumvallates the site excavation at area OH1.⁶³ The final results were inconclusive, as they did not reveal baked bricks or a definitive structure, but the layers of stones and pebbles were suggestive of a planned construction. Buccellati

⁶³ The publication (Buccellati 1988:18) does not indicate the dimensions of this excavation, noting that the exposure was “limited”.

(1988a:18) suggested that this may be the internal portion of a casemate wall, a hypothesis that gains credence when compared with the excavated casemate walls at Tell Chuera that were also filled with debris and small stones in some areas (Helms, forthcoming).

4.3.5.4. OJ1: Mozan Village

The OJ1 excavations were designed as a feasibility study for planned excavations in 2011 (Chaves Yates 2010). A small test trench was laid in the area of the modern Mozan village, near where the sewer was planned and was excavated to a depth of approximately 50 cm. Some initial observations can be made based on the small sounding. A line of small stones associated with Middle Assyrian ceramics was excavated immediately below the surface. It appears to be a single line of stones and not a part of a larger wall, but its use as a foundation for a small wall cannot be ruled out. Since the stones were so close to the surface, any upper structure would have been long destroyed. The finds indicate that although the data is sparse in the outer city regarding the late periods, intact remains may be found in some of the higher elevations of the outer city, such as the raised village.

4.3.5.5. OR1: Deep Sounding

OR1 was chosen for excavation to test the hypothesis that a wadi, or watercourse, ran through the Northwest part of the outer city. The excavations were conducted as part of a larger geoarchaeological study on the ancient environment and landscape (see Deckers and Reihl 2007; Deckers *et al.* 2010; Deckers and Pustovoytov 2011; Deckers

2011; Deckers and Dreschler 2011; Goldberg 2011; Pustovoytov *et al.* 2011). A 2x2 meter excavation was conducted down to a depth of 3.3 meters (Deckers and Pustovoytov 2011). The anthropogenic deposits in the outer city were found to extend to a depth of 3 meters with ceramics collected from q-lots extending down to this depth. The ceramics included a mix of Late Chalcolithic and third-millennium shapes and wares. The lowest q-lots contained higher percentages of LC ceramics, indicating the deposits were still stratified and not a result of random scattering from the central mound.

The lowest excavated materials did not have any sherds incorporated in them and consisted of heavy sorted gravels (Deckers and Pustovoytov 2011). These gravels suggested to the excavator that a watercourse was present in the area as the gravels would be a result of the deposition by water (Deckers and Pustovoytov 2011). Corona images taken during the 1960s, show numerous possible watercourses in the area around Mozan, although the most pronounced is the wadi that passes the tell just to the west (see Figure 4.4 above). The abundance of possible watercourses supports the interpretation that the area was generally wetter during the Bronze Age (see above). No structures were detected during the excavation and so it is not clear if the sherds were deposited after the wadi was no longer flowing, or if they came to be deposited while the wadi was flowing. Follow-up geoarchaeological investigation (Deckers and Reihl 2007; Deckers and Pustovoytov 2011) identified several locations of watercourses, although none could be securely dated based on the available evidence. The OR1 excavations, however, clearly demonstrate the depth of build-up in the outer city.

4.3.5.6. Excavation Conclusions

The excavations provide another avenue of insight on the outer city remains. The overall variety of types of finds – administrative, mortuary, and natural – clearly demonstrate the vibrancy of the outer city in the third millennium. The administrative sealings from OH2 are the most significant evidence for elite control in the outer city and provide a counterpoint to the idea that the outer city was simply a result of urban sprawl and composed of solely residential areas. Furthermore, the geoarchaeological research in OR1 shows that the local environment played an important role in shaping the outer city. Finds from OJ1 and OR1 also indicate that the history of the outer city spans several millennia. Despite the widespread third millennium ceramics represented in the surface surveys, the excavations suggest that in specific areas there may have been concentrated occupations both well before, and well after the main period of occupation.

4.3.6 Urban Development

Based on the surveys, excavations and geophysical research described above, a history of the development of the urban environment at Mozan can be developed. The timing of the development of different features across the city, in particular the outer city, can shed light on changes to the distribution of activities associated with urbanism. Using the outer city as a lens, the historical development of Mozan is discussed below.

The outer city undergoes several developments over the course of the third millennium. As discussed above, there are sporadic LC finds in the outer city, but they appear unrelated to the third millennium development. At the beginning of the third millennium, in the EJI period, graves are detected in the area of the outer city. Low

densities of EJI ceramics were detected in the surveys suggesting that the area was not a primary focus of activity in this phase. The subsequent EJII and III periods are the main phases of settlement in the outer city and it is during this time period that the outer city wall is constructed and the outer city plan is established. The outer city continues to maintain an urban form through the EJIV period before it is reduced in size during the EJV.

The ge archaeological investigations provide a rough framework for the settlement in the outer city. Coring in the depression south of the site by Pustovoytov *et al.* (2010) produced soil formation layers and radiocarbon dates indicating that the depression cannot be older than approximately 2700 BCE. This fits well with the timeline established for construction of the outer city wall, since the depression was likely formed at the same time. Based on the ceramics from the area around the outer city wall it appears to be dated to approximately 2600 BCE (see below). The upper levels of the cores were too disturbed by modern plowing to determine a limit on the youngest date of the depression. In the north, the excavations in OR1 produced dates suggesting the lowest anthropogenic layers date to 2800 BCE (Deckers and Pustovoytov 2011). An intensification of anthropogenic changes to the soil is seen in the layers dated 2800–2100 BCE, confirming the periods of intensified settlement in the outer city through the use of geoarchaeological methods.

The EJI period, as represented by the Ninevite 5 ceramics, is sparsely represented in the surveys. The data from the outer city survey has few ceramic types that are exclusively dated to the Ninevite 5, however, but only a small number of clearly

identifiable incised Ninevite 5 sherds were found. These sherds are fairly evenly distributed across the outer city. As previously discussed, similarities between the undecorated Ninevite 5 and the Wet-smooth type wares make it difficult to determine the exact extent of the distribution of Ninevite 5 occupation at Mozan due to the fragmentary nature of the survey data. Data from the preliminary surveys suggests that the outer city was not widely settled in the Ninevite 5 period since it was being used for burials even into the late Ninevite 5 period as evidenced by the finds in Tomb OB1. The possible occupation debris below the OB1 tomb finds indicate the intriguing possibility of larger Ninevite 5 period occupation in the outer city, but this cannot be confirmed. Ninevite 5 period outer cities are known at other Khabur sites, but have not been widely excavated (Reichel 2009). The OB1 tomb with mixed Ninevite 5 and Metallic ware is indicative of the process of transition in this period. The older traditions are not abandoned in favor of the new ceramics, but rather incorporated slowly and used side by side.

The excavation and survey data supports an EJII date (approximately 2700/2600 BCE) for the addition of the outer city at Mozan. The EJII is the period of incipient urbanism at Mozan with the growth and construction of several monumental structures on the central mound. The temple and its attendant monumental temple terrace are begun during this phase (Buccellati 2005). As discussed above, the outer city was not an empty expanse prior to this period, it included possible small settled areas, temporary encampments and burials. The excavations in area K1, the inner city wall, provide another date for the expansion of the outer city. Numerous sealings in the style of the EDII and EDIII periods were found discarded on top of the inner city wall, indicating it

already existed by the EJII period (Kelly-Buccellati 1988b). On the glacis the base of the inner city wall an ashy garbage deposit dating to the early EJII was found (Bunnens and Roobeart 1988; Kelly-Buccellati 1990). The deposit included diagnostic Early Dynastic style sealings and Rough ware ceramic types (Kelly-Buccellati 1990). The dumping essentially destroyed the defensive characteristic of the inner city wall, perhaps suggesting that by this period the inner city wall no longer functioned primarily as a defensive wall due to the presence of the outer city wall (Buccellati 1998a:16). This would date the construction of the outer city wall potentially as early as 2600 BCE. While the OR1 finds indicate that settlement in the outer city was beginning as early as 2800 BCE, the major construction postdates the terminus post quem 2700 BCE date for the depression, and places the construction of the city wall around 2600 BCE based on the data from the inner city wall and OH2. The outer city was already settled as early as the EJI, even if the outer city wall may not have been fully completed. Additionally, the OH2 sealing impressions date to the earlier traditions of the Early Dynastic III styles, placing them in the EJII period. If the sealings were indeed associated with the administration of goods entering and leaving the city then it seems likely the outer city was already completed by this period. The appearance of the administrative buildings and activities in the outer city during this period indicates its full integration into the urban system.

While the earlier periods clearly laid the groundwork for the development of urbanism, it is not until the EJIII that Mozan reaches its maximum extent of approximately 120 hectares. The outer city is widely occupied during the EJIII, with a majority of ceramic wares and types dating to this phase. The surface surveys indicate

widespread distribution of EJIII ceramics including the Wet-smooth and Simple wares characteristic of this period on the central mound. Pfälzner *et al.* (2004) have suggested that the construction of the city wall is dated to the beginning of the EJIII. They link the high percentage of Metallic ware and other EJIII ceramic types on the rise of the city wall with the period of construction. Without excavation, however, it is impossible to date the wall securely. Based on the K1 and OH2 excavations, however, an earlier date (EJII) is inferred for the outer city wall. Ceramic types from the survey indicate that during this phase the outer city was mainly a locus of habitation and production.

The outer city continues to be occupied in the EJIV, or Akkadian, period. The widespread Chaff-temper wares with decorations such as incised template lines and rope decorations indicate the continued occupation in the outer city. Pfälzner *et al.* (2004) have suggested that during the later Akkadian period settlement begins to retract to the central mound based on the overall lower percentages of identifiable Akkadian wares in the southern survey.

The evidence from Mozan suggests it was aligned with, but not controlled by, the Akkadian Empire (Buccellati and Kelly-Buccellati 2002). The presence of Taram-Agade, the daughter of the Akkadian ruler Naram-Sin, as a queen at Urkesh demonstrates the use of royal marriage as political strategy during the late third millennium. The presence of the Palace and royal storehouse on the western edge of the central mound provided a link between the royal household and the greater urban area and indicate that during this phase the outer city wall continued to be the main boundary. The storehouse managed goods coming in for redistribution throughout the royal household. The numerous

sealings seem to indicate that the goods came from various agents of the Palace likely located throughout the city and also further abroad in the villages associated with Urkesh (Buccellati and Kelly-Buccellati 1999).

Texts from a building on the north part of the tell dating to Akkadian period suggest that the urban core was intimately involved in the administration and extraction of goods from the countryside (Milano 1991; See above Section 4.2.2.2.). Additionally, the urban core provided administrative and skilled labor to the countryside (Chaves Yates forthcoming).

The outer city is less intensively occupied beginning with the end of the Akkadian period. There are limited ceramic finds dating to the Post-Akkadian period (EJV) and even fewer dating to the second millennium. It is clear that settlement after the Akkadian period retracts to the central mound (Thompson-Miragliuolo 1988; Buccellati 1998a; Pfälzner *et al.* 2004). Houses dating to the EJV have been excavated on the central mound in area C2 and Khabur period houses are found in A16 (Dohman-Pfälzner and Pfälzner 2002; Buccellati 2005). Contraction and abandonment of sites is known across the Khabur dating to the end of the Akkadian period (Weiss *et al.* 1993; Akkermans and Schwartz 2003). Mozan, overall, is not abandoned but the total settled area is significantly reduced. The outer city is no longer widely occupied; however, the OJ1 excavations clearly indicate that during some subsequent periods there was sporadic occupation across the outer city.

4.4. Urbanism off the Central Mound

The outer city research provides the necessary data for understanding the

‘localization’ of activities of urban Mozan. As is seen in Section 4.3.6 (above), the historical development of Mozan is based on the expansion and growth of the city to build and enclose the outer city area as a designated part of the city proper. Within this historical framework the distribution, density and character of the outer city finds can be discussed. The focus is on localizing the various activities within the outer city in order to understand the spatial relationships between the components of urbanism as they are distributed throughout the outer city.

The surveys and excavations illuminate the urban character of the outer city. The evidence from the outer city shows an area of integrated urban activities including administration, production, habitation and mortuary ritual. Magnetometry and satellite imaging have aided in the identification of the outer city wall and provided a glimpse of certain aspects of the city layout such as street patterning. The geoarchaeological studies have expanded our knowledge of the local environment, helping us to understand how the city was sustained during the third millennium by now-relict watercourses.

4.4.1. Outer City Layout

The outer city is a huge expanse, covering between 80 and 100 hectares. Without a total magnetometry survey it is difficult to determine the exact layout of the city but the data collected gives numerous clues to the distribution of activities and features across the outer city. The outer city is clearly bounded by the rise that circumvallates the central mound. Based on the magnetometry, surface survey and test excavations in OH1, it is clear now that the rise represents an outer city wall. The city wall acts as a boundary for the outer city; however, it is apparent that some activities took place outside the city walls

as well. Traces of possible buildings outside the wall were detected in the magnetometry survey, and ceramic densities on the surface indicate there may be sporadic areas of occupation outside the city wall. Within the city walls, magnetometry has revealed a network of streets and alleys. The city wall, streets and natural features form the boundaries and restrictions for the distribution of activities in the outer city (see Section 4.2). A structured urban plan is already evidenced at Mozan in the layout of the early site, with placement of the elevated temple, and the approach from the Plaza to the south indicates a planned city designed for maximum visual impact (Buccellati 2005, 2009).

4.4.1.1. City Wall

The urban core is defined by several concrete boundaries (Figure 4.51). The series of city walls, comprised of an inner and outer city wall, provide clear separation between the zones of the city. Other sites with double-wall construction seem to indicate that the two-wall system was not systematically designed but rather a result of natural expansion of urban areas (Meyer 2007, Chapter 5). At Mozan, this also appears to be the case as the maximum extent of the outer city is dated after the abandonment of the inner city wall. Even though the double-wall system was not intentionally constructed as a pair, the walls still served as dividers and separators within the city. Several locations for the gates have been hypothesized; however, until now it has not been possible to test these locations (Pfälzner *et al.* 2004).

The non-circular shape of the outer city wall is brought into sharper focus through

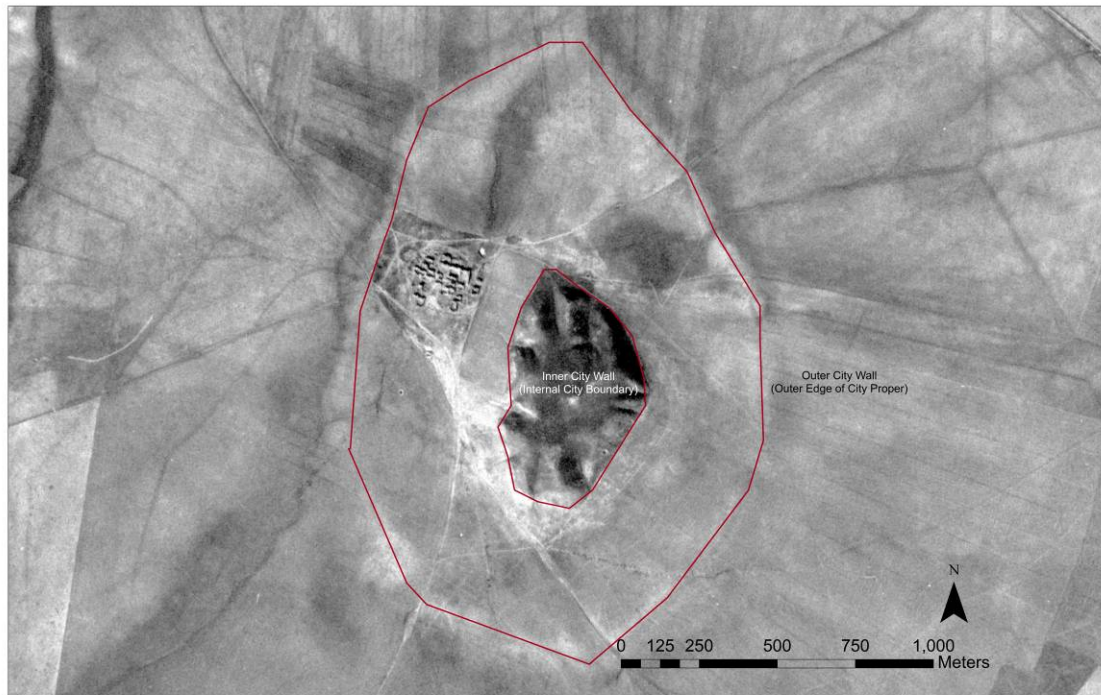


Figure 4.51 Outer City Zones at Mozan. The outer city is located between the inner and outer city wall. These walls act as a physical boundary to mediate space and movement within the city. Corona image courtesy Center for Advanced Spatial Technologies, University of Arkansas/U.S. Geological Survey.

the use of Corona images and the magnetometry survey. The geomagnetic results are the most conclusive for understanding the shape and layout of the city wall. Some “jumps” or small inconsistencies in the straight line indicating the wall were noted by the geomagnetics team (Pfälzner *et al.* 2004). Comparative material from the city wall excavations at Tell Chuera (Chapter 5) indicate that the outer city wall there had a “saw-tooth” edge, which may be the case at Mozan as well, providing an explanation for the inconsistencies in the line of the outer city wall. The polygonal shape of the wall may suggest it was built not as one single construction but as several disjointed parts. At Chuera, the outer city wall may have been constructed as a cooperative undertaking with

each section of the city responsible for building and maintaining the section of the wall that it borders (Meyer 2007).

4.4.1.2. Streets

Habitation, production, administration and agricultural activities are part of the interconnected network of urbanism. These activities are often connected by set pathways or travel routes. Although Wilkinson (1994, 2003) has identified pathways or ‘linear hollows’ around third millennium sites likely serving to connect cities with their agricultural hinterlands, these have not yet been subject to research at Mozan. Within cities, roads, streets and alleys provide access to different parts of the city and create patterns of movement. At Mozan the geomagnetics in the southern outer city offer a glimpse of this road network.

The streets in the southern outer city detected by the geomagnetic survey radiate outward from the city gate and appear to lead off towards other destinations within the outer city (Figure 4.52; Pfälzner *et al.* 2004, Abb. 5). The main street leading away from the outer city gate does not appear to run directly toward the central mound, but rather at an angle, possibly passing inside the inner wall to the west, suggesting a more circuitous route through the outer city was the norm (F. Buccellati pers.comm.).⁶⁴ The radiating pattern of the streets seem to indicate the desire to move about the outer city, perhaps without having to enter the central mound at all. This would facilitate movement of people throughout the outer city and the city in general without clogging the central areas

⁶⁴ I am grateful to the participants of the “Household and Household Economies in 3rd millennium BC Syro-Mesopotamia” Workshop at Goethe University, Frankfurt for discussing this topic with me at length and providing useful comparative materials.

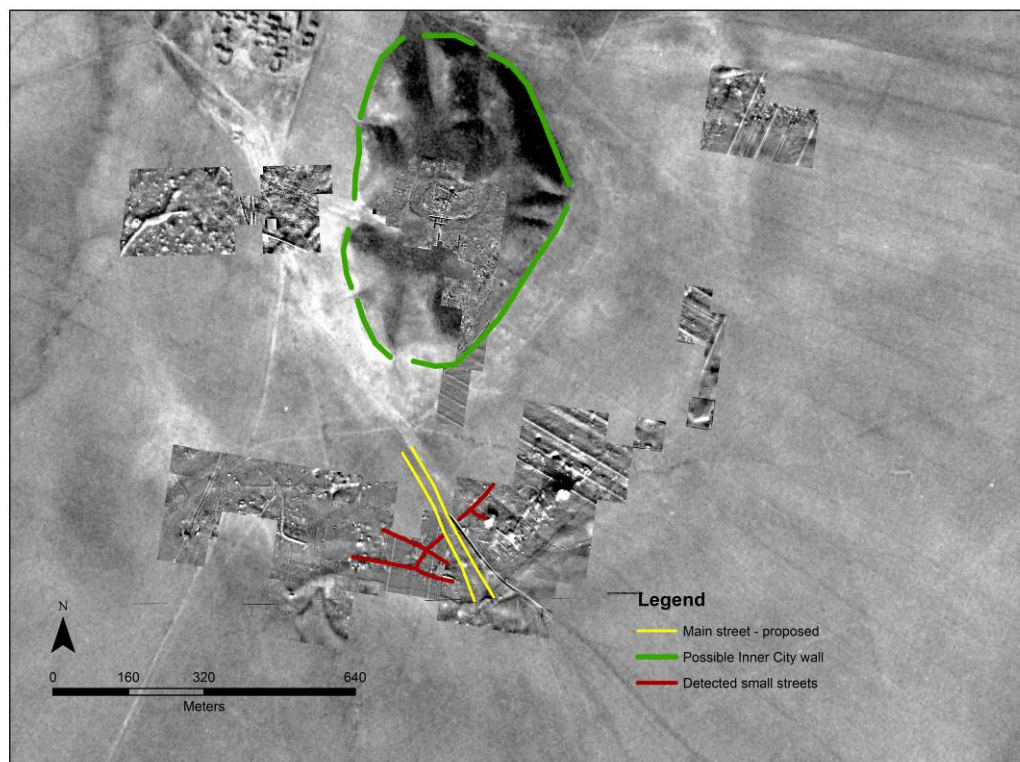


Figure 4.52 Streets detected in geophysical survey. Numerous streets were detected during the 2002 geophysical survey. The streets are interpreted as radiating out from the city gate (Pfalzner *et al.* 2004). The main street appears to head directly toward the central mound, but not directly toward a gate location. (See Pfalzner *et al.* 2004, Abb. 5 and Pfalzner 2010, Fig. 2 for comparison). Corona image courtesy Center for Advanced Spatial Technologies, University of Arkansas/U.S. Geological Survey.

of the urban center. The patterning of the roads does not reveal a completely organized pattern but rather an agglomeration of streets, alleys and major roadways. Roads seen in the geomagnetics (e.g., “Strasse J and Strasse A” (Pfalzner *et al.* 2004, Abb. 5)) appear to spread away from the gate to the east and west, not directly toward the central mound (see Figure 4.52 above). These roads have parallels at Tell Chuera, where a complete geomagnetic study of the Lower Town indicates that a road passed entirely around the lower town without passing the Upper Town, in the style of modern bypass roads

allowing transit throughout the city without entering the city center (Tamm 2012, Chapter 5). The modern road in the area of the gate at Mozan causes a geomagnetic disturbance which prevents us from knowing if a road also extended directly from the city gate to the city center. An open space just inside the presumed gate demonstrates the possibility of open spaces across the outer city.

Streets in the outer city, thus, appear to support the movement of people in day to day to life, rather than reflect a planned itinerary throughout the city. Numerous small streets seem to split off the central streets with little organization. Overall the streets evidence a mix of planned and unplanned development within the outer city.

4.4.1.3. *Extramural Areas*

Survey data from the OD40 survey in the south shows significant ceramic densities even beyond the outer city wall.⁶⁵ At a distance of 575 meters from the base of the central mound, well outside the rise of the outer city wall, densities remain as high as 0.76 sherds/meter² (see Section 4.3.3.4 above). The high densities could possibly be correlated with work areas and residences outside the city wall. The geomagnetics in this area also indicate possible structures outside the city wall (Pfälzner *et al.* 2004); although the cores from micromorphological testing in the southern depression nearby did not find evidence of occupation surfaces instead showing only mixed anthropogenically-derived debris (Goldberg 2011). Together, the evidence suggests the settlement and use outside

⁶⁵ One might attribute the extra-mural ceramic scatters to manuring (see Wilkinson 1994), but ceramic densities off-site, that is beyond the area surveyed, are much lower and a dramatic drop-off in density can also be seen extramurally in the north and east suggesting that not all areas outside the walls were occupied. Further investigation is clearly needed to clarify the reasons for the differential distributions.

the city walls was scattered and not dense.

Although some structures were seen outside the city wall in the magnetometry the majority of the area appears to have been used as agricultural and pastoral land. Coring in the depression south of the city wall indicated ancient plowing as well as soil signatures indicative of animal grazing (Pustovoytov *et al.* 2010). This pattern is similar to the current situation in the area where local flocks are grazed on the fields after the harvest. The ancient economy surrounding the ancient city appears to have functioned similarly.

The western side of the outer city remains somewhat enigmatic. The geoarchaeological research has shown that a wadi ran past this side of the site, possibly intermittently, during the third millennium (Deckers and Pustovoytov 2011). The wadi would have played an important role in connecting Urkesh to the other cities in the region, and in particular, serving as a connection to the north and the important trade routes dealing in natural resources from Anatolia. Survey data in the west part of the outer city shows lower densities of ceramics, but this may be due to the continue presence of water in this area which washed away or otherwise redistributed ceramics. Local workmen have indicated that even to this day the western outer city can become wet or even have portions filled with standing water in the spring.

4.4.1.4. Overall Layout: Discussion

The area around Mozan's central mound is a complex area with a network of structures, streets and natural formations that create the setting for the distribution of activities conducted by the inhabitants. The city wall clearly acted as a boundary, but as the extramural evidence indicates, this did not preclude extramural areas from also being

integrated with the urban system. Evidence from the extramural areas indicates that the wadi and possible extramural buildings were part of the urban system and certainly the extramural areas were subject to agricultural and pastoralist exploitation. Between the inner city wall and outer city wall a mix of buildings, streets and potential open space has been detected. The city wall and the street patterns indicate a certain degree of urban planning in the outer city, focused on control and access to the city.

The next section will discuss the distribution of activities within the urban matrix.

4.4.2. Outer City Activities

Within the city walls there is evidence from both the surveys and excavations for the kinds of activities that took place, as well as their distribution throughout the city. The most obvious activity that took place in the outer city is habitation. As Urkesh grew as an urban center, it seems reasonable that the city would expand to accommodate the influx of citizens. Finds associated with habitation are clearly seen spread across all portions of the outer city (see Sections 4.3.2 and 4.3.3. above) supporting the idea that during the mid to late third millennium the outer city was the main locus of habitation for Urkesh's residents. Alongside the widespread habitation debris, we also find evidence for ceramic production – a possible indicator that production activities were spread throughout the various neighborhoods of the outer city. The production may have been on a household level and integrated into their household economies (Wattenmaker 1998). The OH2 excavations and the finds from OG50, however, show a more integrated and urban system at work in the outer city. The monumentality of the OG50 finds combined with the administrative character of the OH2 sealings clearly show that the centralized

administration controlled and utilized the outer city as part of the urban space supporting the central institutions, namely the Temple BA and Palace AK.

4.4.2.1. Workshops and Production Areas

As discussed above, evidence for pottery production was widespread in the outer city. It is not possible to pinpoint these finds to any specific period of occupation but the general frequency of the finds suggests that ceramic production was taking place within the city walls. Kiln waste fragments were found in all surveys including the 1985 Thompson-Miragliuolo survey, the 2002 geomagnetic survey and the 2009 and 2010 pilot surveys.⁶⁶ The broad distribution across the outer city shows that the workshops were not confined to any specific area of the outer city (Figure 4.53). Broad distribution can be extrapolated to represent small neighborhood or household-level workshops. Household workshops are found frequently across Northern Mesopotamia (Stein and Blackman 1993, Wattenmaker 1998, 2008; Mazzoni 2003, Chapter 6). The widespread intermixing of ceramic kiln waste with other indicators of habitation in the Mozan outer city surveys indicates the likelihood that this kind of mixed habitation production areas also occurred at Mozan. Even the intense concentration of ceramic slag and ceramic wasters found in area OG51 finds parallels with occupation in Area W at the lower town of Tell Chuera in which a large amount of ceramic slag (200kg) was found in a residential building and a makeshift kiln was found in another nearby house (Tamm, forthcoming).

⁶⁶ The kiln waste finds are generally indicative of the waste from ceramic production. At Ebla there is no surface finds of kiln waste, leading Mazzoni (2003) to suggest that the ceramics were produced extramurally, unlike the apparent case at Mozan where production areas are clearly within the boundaries of the outer city wall (for example, OG50).

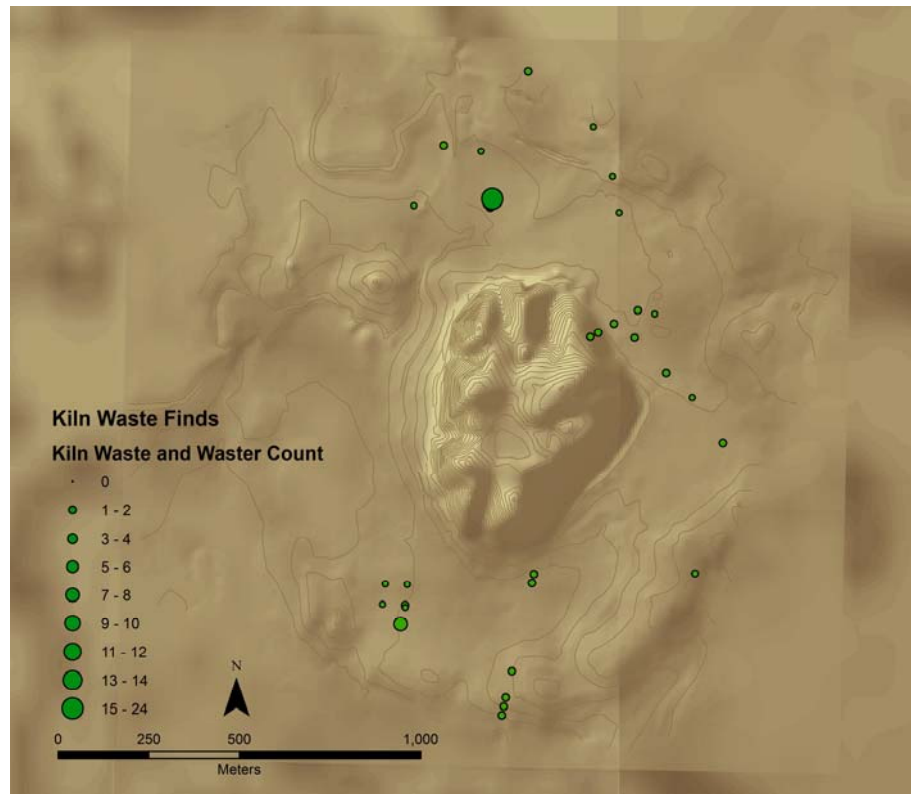


Figure 4.53 Distribution of ceramic wasters and kiln waste from all surveys. Widespread distribution of production waste in outer city

Kelly-Buccellati's analysis of the seals and sculpture from the palace are taken as evidence for workshops with specific patrons during the Akkadian period (Kelly-Buccellati 1998b). Her analysis suggests a differentiation in the production of everyday goods versus goods for elite consumption. She does, however, confirm that even these high-status goods were sourced, designed and made locally. The indigenous nature of production at Mozan is part of its cultural continuity and its longevity.

4.4.2.2. Administrative Areas

Although the city appears to have evolved and developed organically to meet the

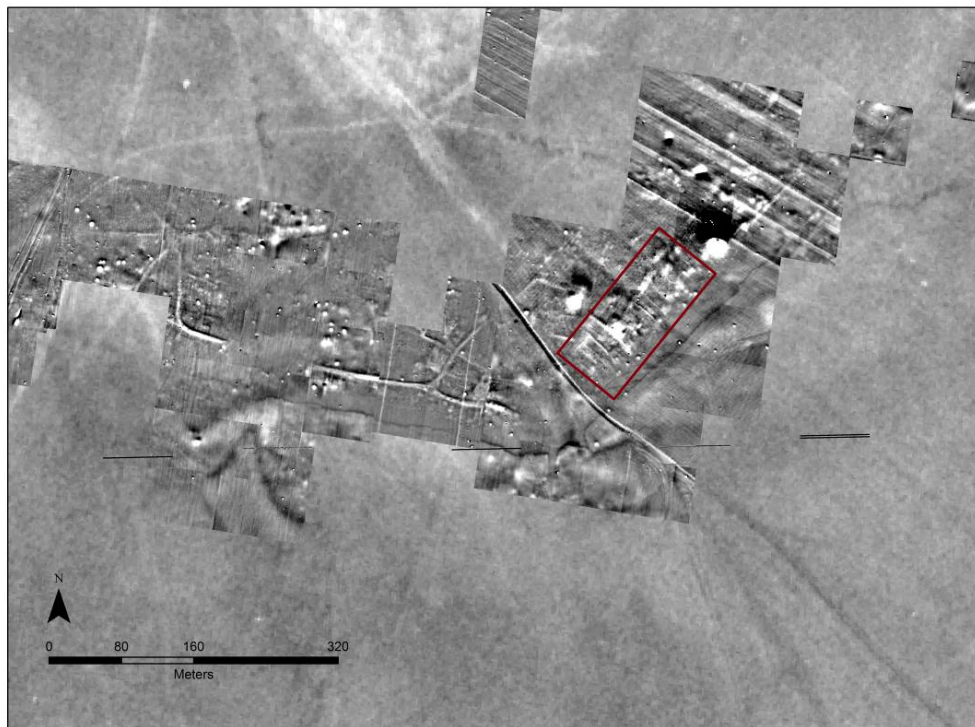


Figure 4.54 Magnetometry highlighting area with rectilinear structures. Magnetometry after Pfälzner *et al.* 2004, Corona image courtesy Center for Advanced Spatial Technologies, University of Arkansas/U.S. Geological Survey.

everyday needs of the local population, certain aspects are clear manifestations of the top-down control of the central administration. Political power during this phase seems to be concentrated on the control of staple finance systems (Akkermans and Schwartz 2003). Texts from nearby Tell Beydar demonstrate a preoccupation with the control and distribution of numerous agricultural and pastoral products (Milano *et al.* 2004). As of yet, no centralized storage institutions dating to the EJJII have been uncovered at Mozan; however, there is ample evidence for the control and administration of goods from Palace AK during the Akkadian period and from OH2 during the EJJ. The city gates are natural points for control of materials. A series of rectilinear structures just to the east of the

southern city gate detected in the geophysical survey may be indicative of a storage structure (Figure 4.54). The organized grouping of structures may represent a series of structures related to administration or storage. The ceramics associated with these buildings are primarily dated to the EJIII. There are no major concentrations of ceramic production waste, so it seems unlikely that the buildings are workshops. Further excavation is needed to understand the layout and function of buildings detected by the magnetometry. Since no major storage structures such as granaries have yet been found on the central mound it may be that these structures are located in the outer city.

The widespread use of seals and sealings on both movable and immovable objects has often been used as evidence for a preoccupation with control and distribution of goods (Akkermans and Schwartz 2003). Unfortunately the data from OH2 and elsewhere in the outer city has not yet revealed any specific data on the types of goods that were under the centralized administration and stored in the outer city, although clearly OH2 was involved in the sealing of both movable goods and storerooms. This contrasts with the extensive data on the types of goods controlled by the royal palace in the later third millennium (Kelly-Buccellati 1998b; Buccellati and Kelly-Buccellati 2000, 2002). OH2's proximity to the outer city wall seems to suggest that the centralized administration was involved in the control of goods entering and leaving the city during the EJIII period. The storeroom of Palace AK was situated right on the border between the outer and inner city, probably alongside a gate, allowing administrative control of goods entering the Palace and the inner city (Buccellati and Kelly-Buccellati 2002).

4.4.2.3. Houses

As of yet no houses have been excavated in the outer city at Mozan. The distribution of ceramics from the surface surveys, however, clearly indicates a widespread distribution of houses within the outer city. The ceramic wares of the outer city are consistent with habitation including cooking wares and serving wares. Magnetometry has revealed small rectilinear structures in the southern outer city that are interpreted as houses (see Section 4.3.4 above; Pfälzner *et al.* 2004).

Houses on the central mound have only been excavated dating to the second half of the third millennium and into the second millennium. Houses dating to the EJII period have not yet been found at the site but the site was clearly a large settlement by this point, and the material from the outer city suggests that it was beginning to be occupied already in this period. Houses excavated on the central mound represent a fairly conservative development, with the houses apparently undergoing very little change in size or layout over time (Dohman-Pfälzner and Pfälzner 2001, 2002).

4.4.2.4. Burial and Mortuary Structures

Scatters of Metallic ware in OD50 and the OB1 and OB4 tombs suggest that during the EJI and EJIII the area of the outer city was broadly used for burials (Figure 4.55). The tomb at OB1 contained more than 100 vessels, representative of an elite tomb including metal objects as well (Thompson-Miragliuolo 1986). The tomb included a mix of Ninevite 5 and Metallic ware, leading the excavators to suggest a late Ninevite 5 date for the tomb. Because the tomb included the remains of multiple individuals (Thompson-Miragliuolo 1986), it is difficult to say if the inclusion of so many vessels and the metal

objects indicates a high status burial, or an accumulation of grave goods over time. At other sites across the region, including Telul-eth-Thalathat, Tell Mohammed Arab, and

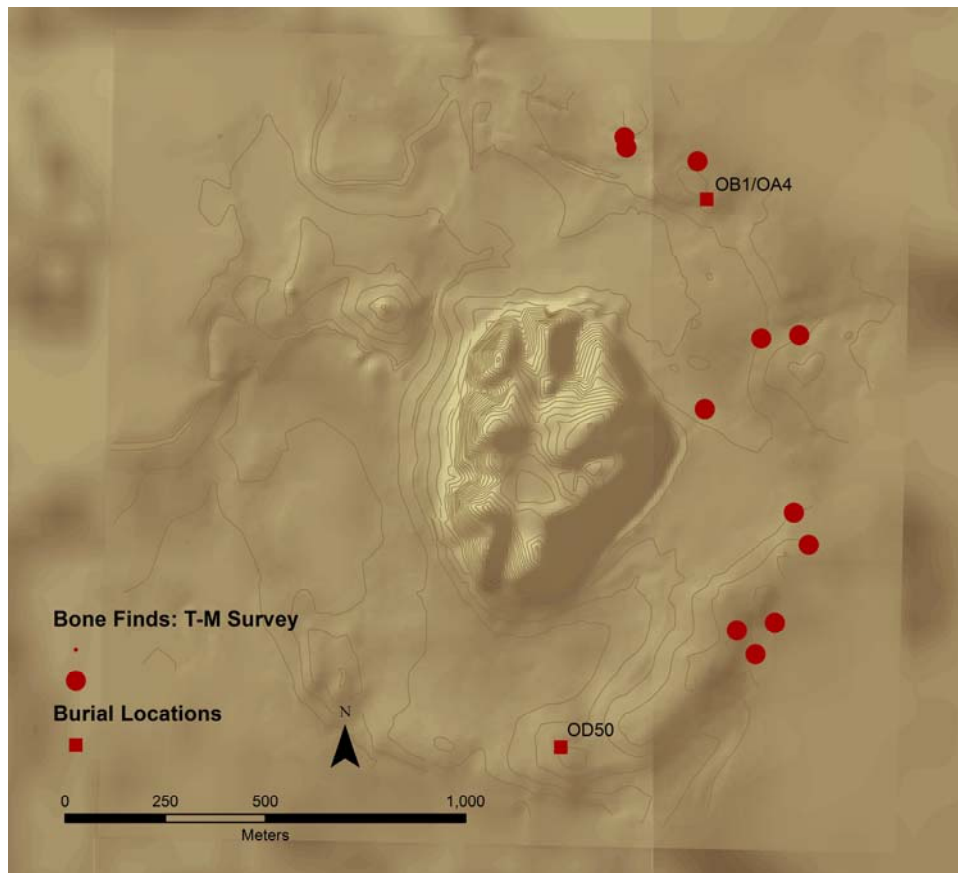


Figure 4.55 Burial locations across the outer city

Tell Leilan, metal objects have also been found in Ninevite 5 grave contexts that may hint at social stratification (Schwartz 1985). The burial data suggests that during the EJI the outer city was viewed as an extramural area suitable for burial rather than as a settlement area. This is not to discount the possibility of EJI settlement in the outer city, only suggesting it was limited until the subsequent period. Burial in the outer city appears to have continued through the EJII with the frequent finds of Metallic ware and human bones but as of yet no tombs from this date have been excavated. Comparison with other

sites suggests that intramural tombs are common at third millennium sites (Chapter 6).

4.4.3. Urbanism around Mozan: Discussion

The broad distribution of habitation and production materials on the surface of the outer city seems to suggest that neither habitation nor production was constrained to a particular section of the outer city. Intermixing of habitation and production is possible evidence for self-sufficient neighborhoods and the coexistence of living quarters and workshops. Areas of intense burning were also detected in the geomagnetic survey (Pfälzner *et al.* 2004). It is possible that these burned locations represent areas of pottery firing, or they may be indicative of food production associated with the use of tannurs. Since production needs could be met within each quarter of the city, it seems reasonable to assume that these quarters were relatively self-sufficient and represent something akin to neighborhoods within the outer city.

4.5. Conclusions

The data from Mozan's outer city and surrounding areas allows the beginnings of the reconstruction of the urban form during the third millennium (Figure 4.56). Mozan's outer city and surrounding environment show all the hallmarks of the categories that Zaccagnini (1979) identified including watercourses, towns and villages, arable land, uncultivated land, houses, stables, roads and wells. Urban structures can clearly be identified including evidence for production, habitation, administration and burial.

The central mound, as always, remains the core of the urban system with the centralized institutions and monumental structures that are most commonly associated

with urbanism. Mozan's central mound reflects an extraordinary continuity with the continual use and rebuilding of the monumental temple and temple terrace at the heart of

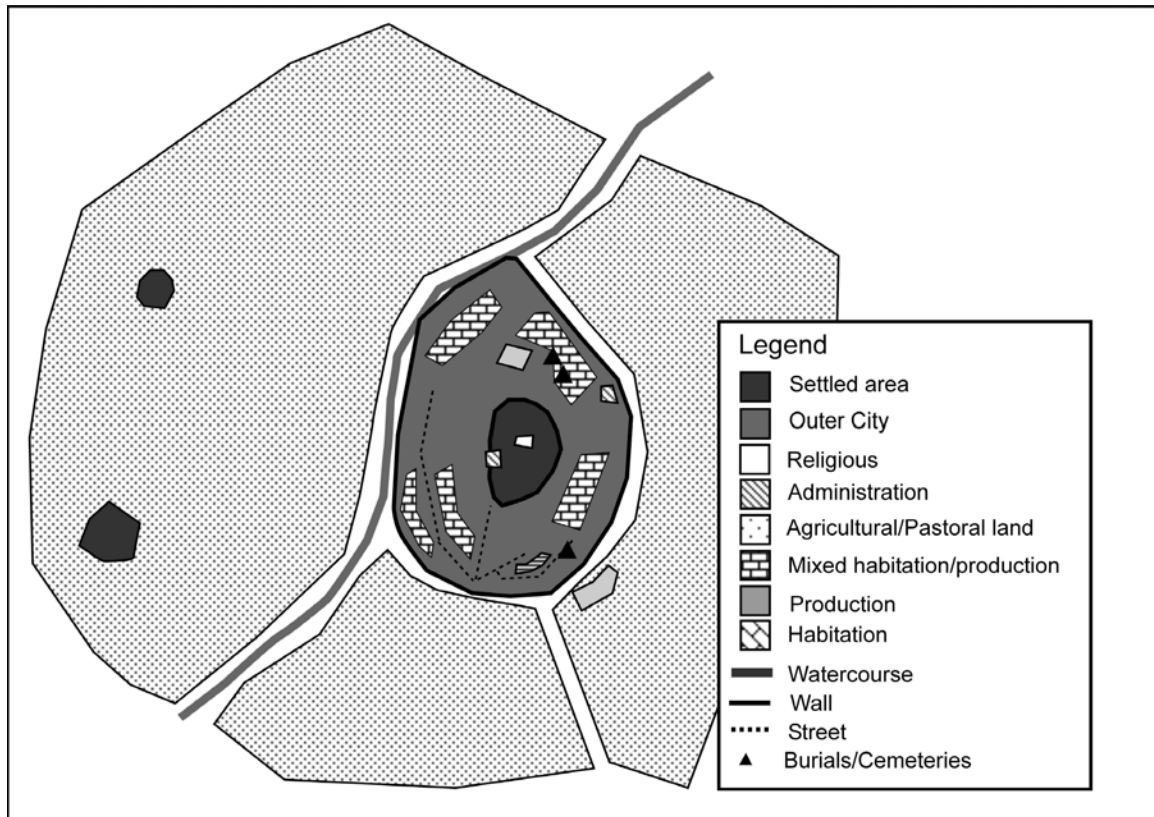


Figure 4.56 Schematic of area around Mozan showing the ‘distributed urbanism’ during the third millennium.

the city. Toward the end of the third millennium the Palace is added to the central mound, indicating the continued use of the central mound as the location of centralized control and elite members of society.

Despite the concentration of monumental activities on the central mound, the data presented in this chapter provides evidence for the distributed nature of urbanism in the third millennium. Activities such as habitation, administration, burial and production all took place in the outer city. Administration appears to be targeted in specific areas,

possibly near city gates, or other entry points to the city (such as the wadi). Habitation and production are much more widespread. Production probably took base on a localized basis, perhaps in individual households or neighborhoods. Based on the geophysics several areas of occupation can be identified in the southern outer city. Some areas within the outer city may have remained open for gardens or other uses (as is attested from later texts in the south), but it is clear that at least near the walls the outer city contained areas of compact occupation. It appears that while extramural burial was practiced in the outer city before it was circumvallated, burials continued to be conducted even after the outer city was enclosed (See Chapter 6 for possible shift burial patterns across the region).

Expanding out from the activities that were conducted within the city wall, there is evidence for extramural exploitation of the area as well. Geomorphological research has shown that the inhabitants made use of the surrounding area for both agriculture and pastoral activities. Not only was the landscape used for agricultural pursuits but the urban use of the landscape also included the exploitation of now-relict watercourses detected through satellite imaging and excavation.

Mozan's outer city serves as a comprehensive view of the types of activities at a third millennium site and serves as a useful comparison for the other sites discussed in Chapter 3. The following chapter will explore extramural exploitation at Tell Chuera. Together, the sites act as a case study for creating a model of distributed urbanism in the third millennium.

Chapter 5. An Extramural Work Area at Tell Chuera: Urbanism beyond the walls

5.1. Introduction

In line with the goal of this dissertation to ‘localize’ activities within an urban context, new data on an extramural area from the site of Tell Chuera is presented. The excavations were located in Area ASA outside the city walls to the east.⁶⁷ The excavated area was designed to investigate possible use areas that were seen in the geomagnetic study of site.⁶⁸ Overall an area of 600 square meters was opened in the eastern area outside the city walls over the course of two campaigns.

The excavations from area ASA present a new way of thinking about the ‘empty’ space around major urban sites during the third millennium. The urban areas did not stop at the boundaries of the cities and were not constrained within the walls. Cities were nested in a complex web of activities and interactions. Complexity at Chuera is manifest not only in the central institutions, but also in its lower town and beyond its walls. The area around Chuera, outside its monumental walls, is still part of the urban system. Extramural buildings at Chuera were previously discovered, including the Aussenbau located SE of the site. Area ASA is another extramural area that adds to the understanding of the density, distribution and type of activities that were conducted in the immediate hinterlands of the urban site.

⁶⁷ The area was called AS A by the initial excavations, a shortened form of Aussenstadt A. It indicated it was the first excavation area in the “outer city” or area outside the walls. It has been shortened here to ASA for ease of discussion.

⁶⁸ A complete geomagnetic survey of the site was conducted, the most comprehensive in the region. It is published in Meyer 2007, Meyer 2010c.

This chapter examines the development of the ASA extramural area over the course of the second half of the third millennium and situates that development within the larger cultural developments at Chuera and the greater region. The ASA material also allows for the expansion of our understanding of the urban layout of major cities in third millennium Northern Mesopotamia.

5.2. Tell Chuera in Context



Figure 5.1 Map of Syria showing location of Tell Chuera and other sites mentioned in the text.

5.2.1 Local Environment

Tell Chuera is located just south of the Syrian-Turkish border in the central part of Syria, along the Wadi Hamar between the Balikh and the Khabur rivers (Figure 5.1). The

Wadi Hamar is a tributary of the Balikh River. The site is known as a ‘Kranzhügel,’ or ‘wreath-mound’ type of site, characterized by its round shape and double-walled construction with a distinctive upper and lower town (Figure 5.2). The site is one of the largest in the region with the area enclosed within the walls reaching a maximum of 80 hectares. As will be discussed in this chapter, however, the settlement is not entirely contained within the walls and may, in fact, be larger.

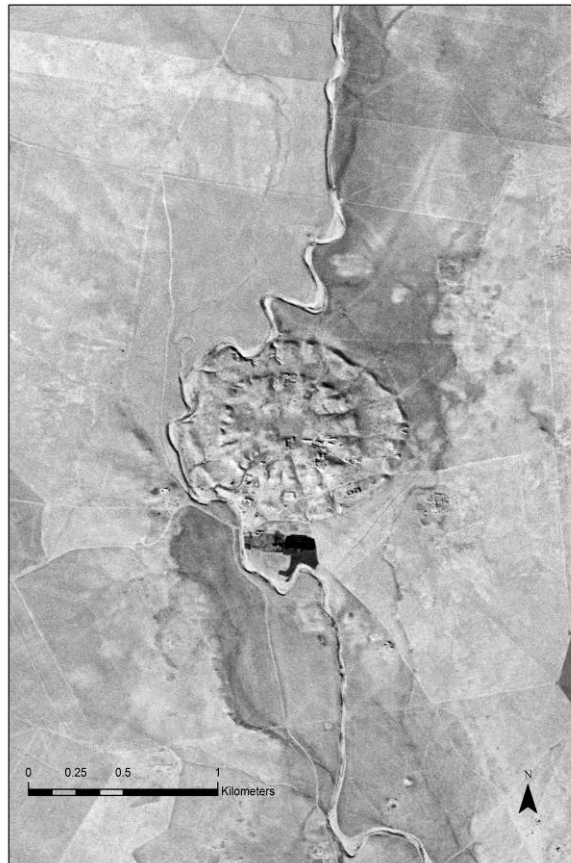


Figure 5.2: Corona satellite image of Tell Chuera (1968) showing the clear upper and lower mound and depressed center. Corona image courtesy Center for Advanced Spatial Technologies, University of Arkansas/U.S. Geological Survey

The modern environment is very dry, and the surrounding area is marginal for sustainable rainfall agriculture. The surrounding landscape is steppe-like and cut by numerous seasonal wadis. The site is currently within the 200mm isohyet for rainfall but may have been wetter in antiquity; rainfall agriculture was probably risky in most periods, however (Wilkinson 1998). Satellite images and photographs reveal numerous channels, and it has been suggested that these may be channels associated with water management, connecting various wadis or acting as canals (Meyer 2010d). Geomorphological research in the region suggests that the flood plain was well established in the third millennium and underwent no significant changes or dramatic climatic fluctuations (Kraetschell 2011).

The Wadi Hamar Survey has found numerous sites dating to the third millennium showing a range of small sites (15–20 ha) and villages.⁶⁹ Chuera is the largest site in the region, and would have been at the top of the site hierarchy, although direct control of smaller sites has not been established. It is unclear to what extent Chuera maintained control over any neighboring settlements during its florescence, however, it seems likely that some of the small villages found along the Wadi Hamar were linked to the site (Meyer 2010b). A three tier hierarchy is proposed for the early part of the third millennium, developing into a four-tier hierarchy with sites like Chuera epitomizing the top tier and smaller urban sites like Kharab Sayyar as second-tier sites surrounded by small towns and villages (Meyer 2010d). Survey, using new remote sensing methodologies, has demonstrated that settlement is widespread in the region and not

⁶⁹ This survey is briefly discussed in Meyer 2010a, but the final report has not yet been published.

confined solely to the river valleys, making Chuera's location in the dry steppe less anomalous (Lawrence 2012, *contra* Cooper 2006). Nevertheless, water and the management of water resources was an important factor of settled life across the millennia in the Balikh, with periods of densest population showing evidence for management and exploitation of water resources (Wilkinson 1998). The marginal environment has been used as an argument for a pastoralist economy (Lyonnet 1998, 2009). The excavations at the sites, however, have found evidence such as animal remains, stone tools, and a complex series of water channels suggesting the site practiced diverse subsistence strategies (Meyer 2010a). Analysis of the animal remains from the site demonstrate an increased focus on ovicaprids towards the end of the third millennium, but a more diverse range of exploitation in the earlier half of the third millennium (Vila 2010).

Tell Chuera's location along the northern part of Wadi Hamar allowed the site to maintain connections to the north with Anatolia. Although the site was situated at no important connection point, contrasting sites like Bi'a at the base of the Balikh, near the Euphrates, it was situated to take advantage of connections between east and west Syria and southern Anatolia.

5.2.2 Chronology

Tell Chuera's occupation dates back as early as the Halaf with Late Chalcolithic settlement as well, although these levels have not been excavated. The primary periods of occupation are the Early and Middle Bronze Age, with some Middle Assyrian reoccupation. A site-wide chronology has been established at Chuera that can be fit in

with the broader chronologies used across Northern Mesopotamia. Several chronologies for the bordering regions have been developed including the Jezireh sequence, the Euphrates Valley sequence, and the general Early Bronze Age sequence (see Chapter 1). The rise of urban society in the Jezireh, specifically in the area between the Balikh and the Khabur Rivers and the area around Tell Chuera, is linked to the different developmental trajectories of the Euphrates, the Khabur, Southern Mesopotamia, and Southern Anatolia. Processes of urbanization in these regions are interconnected but show specific local differences and subtleties. The relative independence of urbanization processes is reflected in the various urban forms found across the region, in particular the Kranzhügel and non-Kranzhügel sites and the rise of sites like Chuera in marginal environments.

The chronological sequence at Chuera has two major subdivisions. Tell Chuera I (TCH I) belongs to the Early Bronze Age layers, while Tell Chuera II (TCH II) refers to the Middle Bronze layers. All phases treated in this dissertation belong to TCH I. Because the EBA, and the corresponding occupation at Chuera, is relatively long (about a thousand years), the sequence is further subdivided into TCH IA through IE (Table 5.1). The site-wide sequence has been developed from Kühne's 1976 volume on Tell Chuera ceramics and revised by the continued stratigraphic excavations through Orthmann to the current project (Kühne 1976, Orthmann 1990, Meyer 2006, Hempelmann 2013). The site maintained some continuity through its development – particularly in the preservation of the open plaza space in the center of the mound (Meyer 2007, 2010d). The only major disruption during the third millennium is at the end of the EBA III with a burned

	Tell Chuera	Early Bronze Age	Early Jezireh	Southern Mesopotamia
2000				
2100		MB		
2200	IE		EJIV	Akkadian
2300		EBIVb		
2400	ID	EBIVa	EJIII	EDIIIb
2500		EBIII		
2600	IC		EJII	EDIIIa
2700	IB	EBII		
2800	IA/IB		EJ1/N5	EDI-EDII
2900				
3000		EBI	EJO	
3100	IA			

Table 5.1 Comparative chronology chart. The shaded sections represent roughly contemporary cultural periods that are often discussed as being chronologically equivalent (Based on Akkermans and Schwartz 2003, Cooper 2006, Ur 2010, Hempelmann 2013).

layer; however, the site is immediately reoccupied with no break in continuity (Moortgat-Correns 1975, Orthmann 1995). Overall, Chuera's material culture is most closely related to the Balikh valley and southern Anatolia during the Early Bronze Age, although there are also some similarities to the Khabur region and the Euphrates Valley (Meyer 2010a).

The rise of urbanism during the Early Bronze Age at Chuera begins with the site's origins in the EB I/II and develops through the EB IVb with the peak period of occupation in the EB IVa. Each period is discussed below.

Following the collapse of Uruk-period networks the region is characterized by regionalization and independent development (Akkermans and Schwartz 2003; Cooper 2006; Meyer 2010a). The origins of the Early Bronze Age are found in the EBI period (approximately 2900–2700 BCE), with regional assemblages, small, scattered settlements, and a non-urban emphasis in society. Although variations in the ceramic assemblages are common in the Euphrates valley to the Balikh and into Anatolia, this period is known for the introduction of the *cyma recta* cups, a distinct small sinuous-sided cup, usually with a ring base that eventually becomes a widespread type across eastern Syria (Cooper 2006:10).

Based on the earliest recovered layers, it appears that Chuera was settled in the early EBA I, at the beginning of the third millennium, ca. 2900/2800 BC (Meyer 2010a). The extent of the site during this phase is unknown because of extensive overlying settlement layers. Although the remains are not well known, the early date of foundation of the site suggests that the origins of Kranzhügel sites, at least of their inner mounds, occurred before the widespread urban expansion of the Second Urban Revolution in the mid-third millennium (Meyer 2010a).

The EBII period is characterized by incipient urban development. Correlated with Phase TCH IB and coeval with the late Ninevite 5 period (see Chapters 1 and 4), this phase is linked to the beginning of urban development at Chuera and across the region.

During this phase most of the sites were probably relatively small and economically independent. TCH IB assemblages at Chuera include Metallic Ware, excised Ninevite 5 wares and painted Karababa wares (Meyer 2010a). The 'Anton Moortgat Plaza' is established as early as TCH IB, and the earliest levels of inner-city wall are also dated to this phase. The earlier city wall at Kharab Sayyar was also established during TCH IB, suggesting that this period is one of general development in the region east of the Balikh (Meyer 2010a). Some changes are made to the layout and orientation of the residential areas, but overall the settlement at Chuera maintains continuity with the preceding phase, where the earlier phase has been recovered. The emergence of urbanism in the Balikh and the Wadi Hamar during the EBII phase, as evidenced by the size and monumentality of the city walls at Chuera and Kharab Sayyar, precedes the slightly later EBIII rise of urbanism in the Euphrates Valley.

The Early Bronze III period is roughly correlated with TCH IC. EBIII is associated with the rise of urbanism in the Middle Euphrates and expansion of numerous sites across Northern Mesopotamia, including the growth of Mozan and Leilan in the Khabur. The sites in the Euphrates valley show greater homogeneity in the material culture of this period, indicating the increased interconnectedness of the region during this phase (Cooper 2006).

Excavations in the area of the outer city wall at Chuera (Area Z, Area P) indicate that the outer city wall was added toward the beginning of this phase, or perhaps just at the end of the EBII (Meyer 2010a). The buildings and workshops of the lower town (Area W) are primarily dated to TCH IC and TCH ID, that is the EBIII and EBIVa

periods (Tamm, pers. comm.). The extension of the city during this period is indicative of its increased population and urban status. The end of the EBA III is marked by burned layers at both Kharab Sayyar and Tell Chuera, although both sites continue to be occupied in the subsequent EB IVa period (Meyer 2010a).

The main period of occupation at Chuera is TCH ID, correlated with the EB IVa period (approximately 2400–2300 BCE). Across greater Northern Mesopotamia this is a period of intensive urban settlement with many sites reaching their largest expansion. It is during this phase that most of the Euphrates valley sites reach their maximum extent (Cooper 2006). The rise of the kingdom of Ebla in the west and the expansion of Mari's control from the east marks this period as a time of interaction and conflict between two major powers: Mari and Ebla. Palace G at Ebla, with its preserved archive, provides insight on the geography and distribution of cities across Northern Mesopotamia. Cities like Chuera were situated between the two major influences of Mari and Ebla. An identification of Chuera with the site of Abarsal mentioned in the Ebla texts has been suggested (Archi 1998, Meyer 2010a). If Chuera is indeed Abarsal, it was linked together with the expansion and control of Ebla, at least during the main period of Ebla's kingdom, namely the EBIVa.

During this phase Chuera reaches its largest expansion, with the full occupation of the lower town (see Meyer *et al.* forthcoming on Area W) and expansion into the surrounding extramural areas (See section 5.5). On the central mound the cult area was built up with building complex Steinbau I–IV, and the surrounding residential area grew.

TCH IE is the latest phase associated with the Early Bronze Age at Chuera. It is a time of reduced settlement area. Across Northern Mesopotamia a general period of decline is associated with the EB V period. Settlements are abandoned or reduced in size during this phase.

The trajectory of the development across Northern Mesopotamia follows the relatively same pattern of rise and decline of urbanism with some distinct regional variations in the exact timing or the specifics of the material culture. Chuera follows along with the general pattern and exhibits a mix of the various influencing areas, from Southern Mesopotamia to the Khabur to Southern Anatolia. The site exhibits a continuous development and expansion over the course of the EBA, reaching its peak during TCH ID, or EBA IV. The distinctive urban form of the ‘Kranzhügel’ is a result of the unique location and influences at Chuera.

5.2.3 The Site

Since 1958 the central mound has been the focus of systematic excavations, although some soundings were conducted earlier in the twentieth century. The first excavations were supervised by Anton Moortgat and concentrated on the central mound. Beginning in 1986, another series of campaigns were undertaken by W. Orthmann – focusing on connecting the different excavations and providing a stratigraphic sequence for the site. Since 1998, Jan-Waalke Meyer has been serving as director. The preliminary reports of these excavations are published in *Tell Chuera: Vorberichte zu den Grabungskampagnen 1998 bis 2005*. The goal of these excavations was to explore the settlement structure and the development of the city plan. In service of that goal the Tell

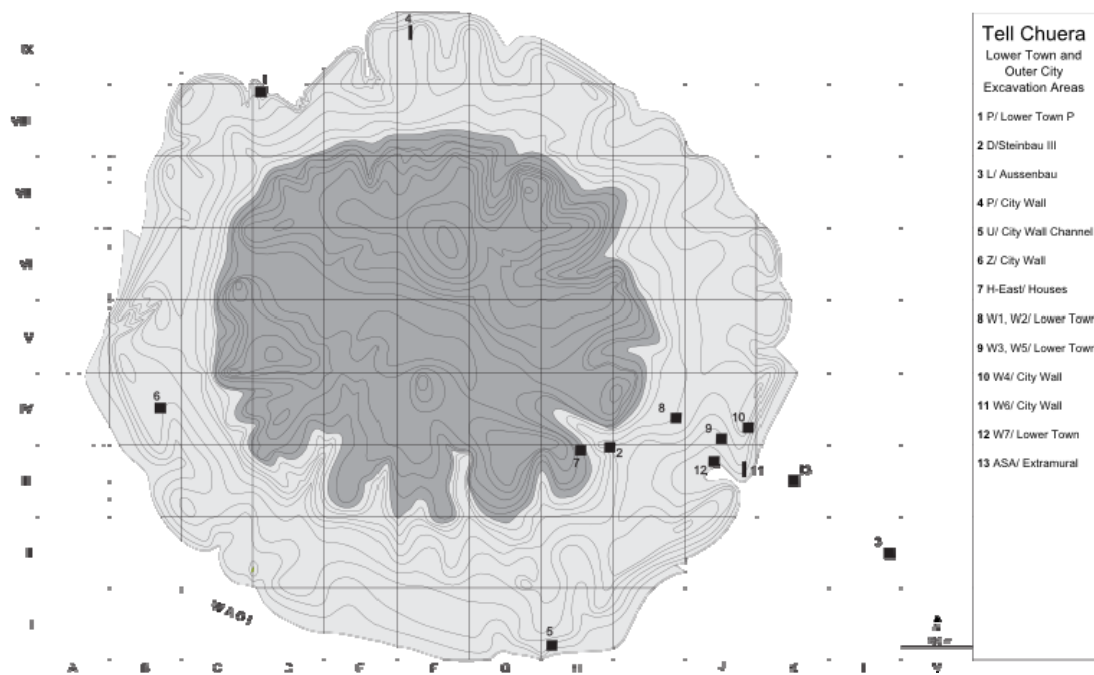


Figure 5.3 Map of areas investigated in Tell Chuera's Lower Town and Outer City. (Topographic Map courtesy of Anne Binder).

Chuera team designed numerous research projects to explore the lower town, the city walls, and the outer city area over the last decade (Figure 5.3). Preliminary reports on the lower-town and city-wall projects are available and the final reports are in preparation.

A complete magnetometry survey of the site was conducted in 2001, with further campaigns to clarify certain anomalies (Meyer 2010a). The results of the recent campaigns and the geomagnetic survey have provided an initial perspective on the city layout. Based on the excavations and geomagnetics, certain aspects of the urban layout have been determined (Figure 5.4).

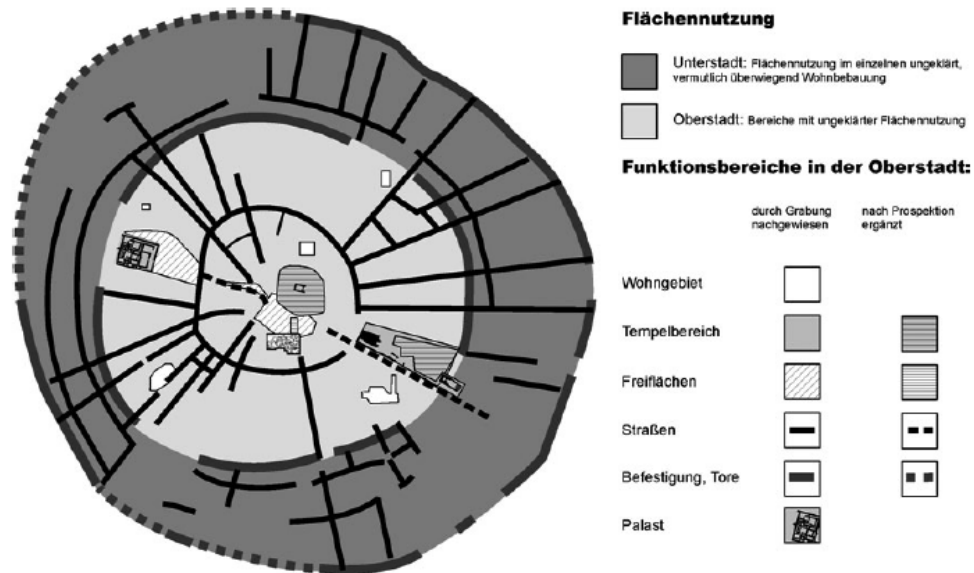


Figure 5.4 Schematic urban layout of Tell Chuera showing mix of religious and profane buildings, ring roads and radial street patterning (Meyer 2007, used with permission).

The city was designed from its foundation with radial streets and a central square (Meyer 2010a, 2010b). The upper town includes a mix of religious and residential buildings. The temples are of the temple *in antis* type, and appear to be part of a larger religious complex including monumental stone terraces and a stone staircase. A third millennium palace (Palace F) is also located on the upper mound. The lower town is encircled by a monumental city wall, and excavations there indicate it was also a location of mixed habitation and production.

5.2.3.1. The Kranzhügel Form

The most distinctive aspect of Tell Chuera is the “Kranzhügel” form. Oppenheim coined the term ‘Kranzhügel’ for the distinctive ‘wreath-shaped’ mounds he saw during

his travels across Syria in the 1920s. Kranzhügel sites are distributed across Northern Mesopotamia in the dry region between the Balikh and Khabur (Akkermans and Schwartz 2003, Meyer 2010a). They are defined by a round city with a raised upper town and a ring-like lower town. Attempts to categorize Kranzhügel sites have focused on those with a depressed versus raised center to the central mound (Meyer 2007). Chuera's center is depressed, a depositional result of the presence of a plaza that was occupied from the earliest periods at the site. The site, however, was not designed specifically as a Kranzhügel, since during its initial phases it was a 'normal' tell with only one city wall (Meyer 2010d). The monumental inner city wall, dating to TCH IB, is evidence for its early urban character (Meyer 2007). The later expansion of the site, into the Kranzhügel form, was a result of urban expansion, with the outer city established in TCH IC. The expansion also took on planned characteristics with radial roads and water channels similar to the layout and design of the central mound (Meyer 2010b, 2010c).

The double-wall is often considered a defining characteristic of the Kranzhügel; however, the dating of the walls at Chuera demonstrates the walls were not intended as a system, but rather were the result of an unintended, yet planned, expansion. Some have proposed that the Kranzhügel was designed by pastoralists, who needed enclosed space for protection of herds (Lyonnet 1998, 2009; Kouchoukos 2008). This hypothesis, however, seems no longer tenable when faced with evidence of dense settlement in lower towns and non-contemporaneous construction of the city walls (Meyer 2010a). Despite the evidence against specific herd-focused design of the city, the excavators still see links to a pastoralist population through intramural burial and ancestor worship (Hempelmann

2010, Meyer 2010d) A possible link with the Hurrian population has also been posited, based on distinctive material culture and some tenuous textual references.⁷⁰

The study of the Kranzhügel sites has focused on their distinctive double-wall structure and circular plan. The evidence from Chuera, however, suggests that the urban layout of Kranzhügel sites included also an integrated network of areas outside the walls. The following section discusses the extramural data from the ASA at Chuera located outside the city walls.

5.3. Urbanism in the Lower Town and Extramural Areas

The urban layout at Chuera explored so far evinces many of Zaccagnini's categories of urban forms including watercourses, districts, arable land, houses, roads, wells, and various types of urban structures including burials, production, habitation, and administrative and ritual areas. Many of these characteristics of the urban layout are found within the lower town and in the extramural areas around the site.

As part of the overall research project at Tell Chuera numerous excavations were conducted in the areas off the central high mound (See Figure 5.2 above). Excavations were conducted across the outer city wall (P, U, Z), against the base of the inner city wall (H-east), and over an expanse of the lower town including the outer city wall (W). The Aussenbau, to the SE of the site, was also excavated. Together these finds represent one of the most comprehensive studies of outer/lower cities of the third millennium.⁷¹

⁷⁰ Meyer's (2005) review of *A view from the highlands. Archaeological Studies in Honour of Charles Burney* discusses the use of Hurrian loan words for 'upper town' and 'lower town' in Akkadian and the possible implications for a Hurrian identity at Kranzhügel sites.

⁷¹ Other notable cases such as Titriş Höyük are discussed in Chapter 3.

As usual, the main trappings of urbanism are found centrally located in the upper city. The upper city is not an ‘acropolis’ in the sense of a location of solely elite religious and administrative buildings. Instead, Chuera’s upper town demonstrates a planned mix of public and private structures arranged around an open plaza (Anton Moortgat Plaza). The temples and monumental structures seem to be arranged on a central axis from the earliest levels, again indicating the planned nature of the city’s layout from its foundation (Meyer 2010a, 2010b). The inner city wall provides the boundary to the upper city.

Beyond the central mound, in the lower city and outside the walls are a mix of activities. The lower town is clearly an expansion of the city, adding additional space to the bounded city for habitation, production, and other urban activities. Beyond the outer city wall is more evidence for the integrated nature of the urban landscape including ASA, a religious building called the Aussenbau, landscape features including watercourses, and areas for extramural burial.

The lower town has a ring-road that passes around, but not through, the central mound (Tamm, pers. comm.). The lower town excavations (Area W) have shown that the area was densely occupied with residential and workshop areas (Tamm and Helms, pers. comm.). Creekmore (2008) recently argued that most third-millennium cities demonstrate a mix of planned and organic development. Chuera appears also to illustrate this with a mix of planned features (e.g., roads, the placement of Steinbauten) and organic development (e.g., houses, lower town areas).

The magnetometry survey helped locate some of the activities associated with the urban environment. Extramural settlement, in the area of the Aussenbau east of the site

includes a mix of workshops and temples, and has a canal connecting it to the wadi. It has been suggested possibly as the *kar Abarsal*, or Abarsal city port or trading post (Meyer 2010b:202). Two extramural burial areas were also detected, one to the northeast and one to the southwest (Meyer 2010b). Further excavation in the extramural areas is needed to clarify their relationship to the third-millennium city; however, it is becoming clear that the area around the site was an integrated part of the urban landscape.

5.3.1. *The Lower City*

The lower-city expansion, dated to TCH IC, represents an organic expansion of the city. The geomagnetics and excavations in the lower town have demonstrated that the roads of the lower town follow a similar pattern as the upper city with ring roads and radial street patterns (Meyer 2010c). The Area W excavations demonstrate a planned settlement in the lower town with residential and workshop areas organized between the planned roads (Helms and Tamm, forthcoming). Also in the lower town, Area U has revealed residential buildings (Meyer 2010b).

In Area U not all of the radial lines detected in the geomagnetics were streets (Meyer 2010c, Kromberg 2005). The findings from this area showed a channel passing between the buildings of the residential area and exiting the city through the city wall. The channel suggests that water management within the city walls was practiced on a city-wide level with integrated channels moving water throughout the city.

The excavations of the city wall reveal a complex structure built of mudbrick with buttresses, bastions and a glacis (Orthmann 1985; Meyer 2010b; Helms and Tamm, forthcoming). Various construction methods were used to create the different sections of

the city wall, perhaps indicating the collaborative nature of the work (Helms and Tamm, forthcoming). The outside edge of the city wall appears to have had a saw-tooth edge in some places with several bastions. The monumentality of the outer city wall is indicative of the urban character of the site, including during the secondary expansion during TCH IC.

5.3.2. *Extramural Areas*

Despite the expansion of the city in TCH IC to include the large space of the lower town, some activities remained beyond the walls. The landscape around the site also plays a role in the distribution of activities outside the city walls.

Water resources are obviously an important facet of urban planning in the area between the Balikh and Khabur rivers, where rainfall is only in the marginal range for rainfall agriculture. The landscape around urban Chuera indicates a level of attention to maximizing access to water. The site itself is positioned close to the edge of the Wadi Hammar to the west. In the east, another channel (see above) is detected that suggests an additional watercourse was likely exploited in antiquity.

The Aussenbau, with its *in antis* temple and associated with two rows of stelae, is located outside the city walls. The temple and associated workshops place religious activity not only on the central high mound at Chuera, but also in the peripheral areas around the site. The rows of stelae imply a proscribed route for moving through specific aspects of the landscape related to religious activities in the area around the site.

Extramural religious activity could also be linked to the extramural burial detected around the site as well. Large cemeteries in extramural areas have been argued

to be associated with pastoralist groups (Meyer 2010d, Porter 2002b). At Chuera, however, some of the nearby cemeteries seem to be associated with the periods of occupation at the site possibly indicating the pastoralist or tribal tendencies of the local inhabitants (Meyer 2010d).

Area ASA, as discussed below, demonstrates another aspect of the diversity of activity conducted in the extramural areas around Chuera. ASA's production areas are perhaps situated to make use of the water passing the site (possibly seasonally) to the east. Like the location of the burials and ritual activities found around the site, ASA represents the overall exploitation of the landscape by the urban inhabitants.

5.4. Area ASA⁷²

Area ASA is located on a small, low rise outside the outer city wall of the lower town at Tell Chuera. It is positioned east of the mound, just outside the city wall (Figure 5.5). Geomagnetic prospecting in the area suggested there may have been a wadi or ditch in this area (Figure 5.6). The initial large excavation trench crossed the ditch anomaly, covering a portion of the rise to the west and extending beyond the ditch to the east. The first trench of area ASA, Area 1, was opened in 2006. The goal of this excavation was to explore the ditch, presumed to be a wadi or roadway, which appeared in the geomagnetic survey from the area. After the first trench of 2006 discovered working areas, six more

⁷² The excavations in Area ASA were supervised by Katja Burger, Goethe University, Frankfurt, Germany. Her unpublished magister's thesis provided the first analysis of the material. Much of the data in this section relies on a reanalysis of the material as presented in her thesis and the additional drawings and notes that were stored at Goethe University. Where indicated, some of the drawings are based on her initial inking of field drawings.



Figure 5.5 Google Earth satellite image of Tell Chuera (September 2011) with approximate location of area ASA indicated (not to scale). The channel on the east side of the tell is clearly visible in this image.

areas (Areas II-VIII) were opened over 2006 and 2007 to give a fuller picture of the use of the area. The excavations revealed a mix of small rooms, basins, installations, tannurs, pebble and sherd pavements, and work areas. ASA was originally excavated in seven

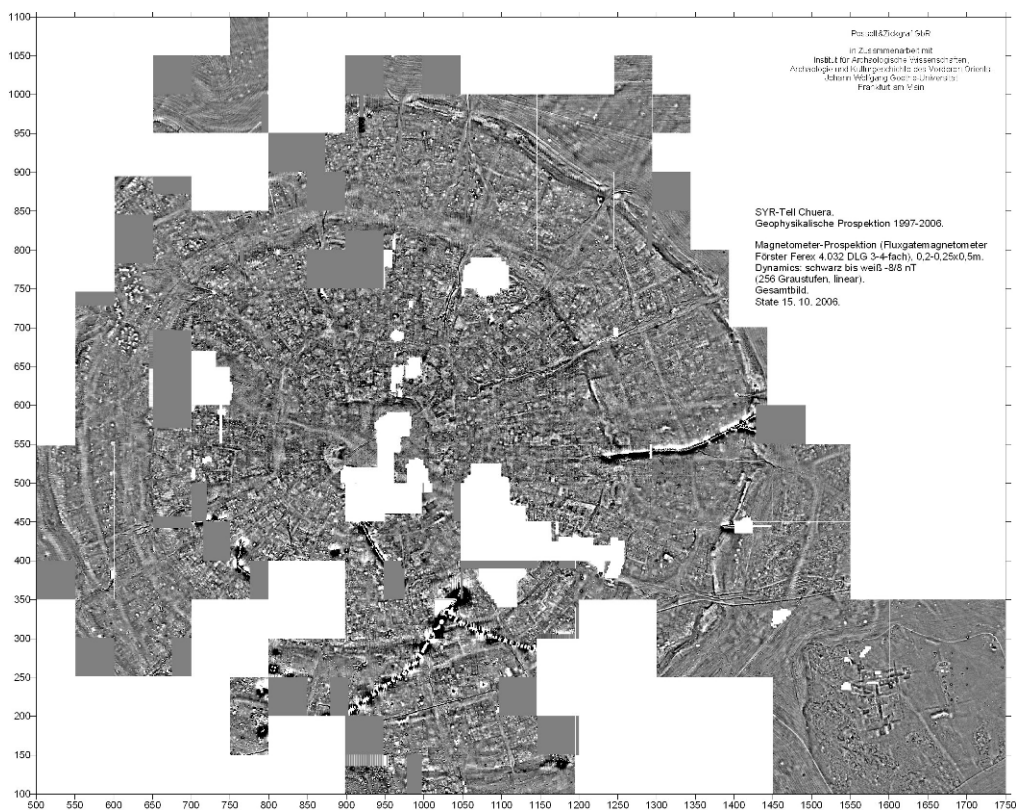


Figure 5.6 Full geomagnetic survey of Tell Chuera. The ditch/wadi is seen as a light color passing the tell on the eastern side. Image courtesy J.W. Meyer.

areas, and several of them can be viewed as complete units⁷³ (Plan E-1).⁷⁴ Area I has been subdivided into three areas, the east (Area I-E), the central cut (Area I-C), and the western part (Area I-W). Area I-W was excavated together with Area II and Area III without baulks so they will be discussed together here. Area IV and V represent a northern extension and appear connected. To the west, Area VI, VII and VIII represent a complex of rooms, walls and work areas arranged along a central alley. These three areas will be discussed together.

⁷³ I have chosen to retain the original Area numbers in this work, but simply group them together. Keeping the original numbers will facilitate any future attempts to cross-check the work with materials still stored in the field or any original notes.

⁷⁴ All plans (Plan) are found in Appendix E. Section Drawings (Drawing) are found in Appendix F.

The excavations were supervised by Katja Burger during both years. Features (Befunde) were numbered sequentially as they were identified. Small finds were also numbered sequentially, and locational data was recorded according to the feature with which the item was associated. Sections and plans were drawn in the field and inked by Katja Burger. They were revised and updated for inclusion in this dissertation by the author. A complete list of features found in Appendix C and small finds is found in the accompanying Appendix D.

Based on the excavated materials, area ASA appears to have been occupied first in the Late TCH IC, with the main period of occupation dating to TCH ID, and some scattered reuse during TCH IE. Overall, five phases can be identified in the ASA finds.⁷⁵ The lowest layers of virgin soil are assigned to Phase 5. The earliest two use levels (Phase 5, Phase 4) were only found in the deep sounding of Area V with Phase 4 remains also found in Area I-W. Phase 3 is the main period of use in ASA and is associated with numerous buildings, structures, installations and work surfaces. After the work areas went out of use at the end of Phase 3, the area was sporadically reoccupied and reused with new accumulations of ash and pits. This phase has been assigned to Phase 2. The topsoil and modern accumulations are assigned to Phase 1.

5.4.1 Phase 4

Most of area ASA was excavated only down to Phase 3 level remains, that is, the

⁷⁵ The Tell Chuera project has generally assigned building phases from the top down as they are excavated. I have followed that method in this chapter. The phases discussed here are a revised version by the author and do not correspond to the “Bauphase” designations of Burger 2008 or as published in the interim reports.

first substantial remains found below the surface. Deeper excavations revealed earlier occupation in ASA in two areas. As part of the initial investigation of ASA, the cut of Area I was excavated to a lower depth than the surrounding areas (i.e., Phase 4). Later, a sounding was conducted in Area V to explore earlier remains. Virgin soil was found in Area V, under the Phase 4 remains, so Phase 4 represents the earliest known occupation of ASA.

5.4.1.1. Phase 4: Area I

The western part of the cut of Area I (Area I-W) was excavated down to Phase 4 remains (Plan E-2). The finds include a mix of pits, small structures and three tannurs. The elevation of Phase 4 levels can be followed to the east to the top edge of the ditch, suggesting that the ditch already existed in this phase. The sloping fills of the ditch begin only during the Phase 3 occupation in Area I and II (see below).

A small room, Room C, was found against the north baulk constructed of red mudbrick walls (Figure 5.7). The preserved height of the walls was only a few bricks high. The room fill (f26) was empty and no floor surface was detected. West of Room C, a plaster basin was found. The plaster was not well preserved but it was likely subject to multiple replastering events. Further to the west, embedded in the north profile were a tannur (f19) and a larger ash pit (f28). The tannur is poised at the top level of the ash pit, suggesting the pit was dug next to the tannur to hold the ash produced. The ash pit contained a mix of ash and ceramics. In addition, two shells (i15, i23), a bronze fragment (i16), a fragment of a flint blade (i58), and a stone tool (i59) were found within the pit.



Figure 5.7 View looking west of Area I. Room C is in the foreground, the ash pit and associated tannur are found in the north profile. The raised area in the background is Area III. Photography by Burger 2006.

To the west of the ash pit a low wall (f30) serves as the western edge of the ash pit, running into the western baulk of Area I-W (See Drawing F-3). The whole area was covered with a reddish floor surface. In the southern part of Area I two more tannurs were found (f11, f13). The tannurs were found below the layers of Room A, indicating that Room A (discussed below) was built after these tannurs were no longer in use. In the fill of one tannur (f11), two vessels were found as well as a shell (i67, i142, i143).

Overall the Area I-W Phase 4 remains represent an open work area with tannurs and ash deposits. The function of the small Room C is unclear. The area was filled in toward the end of Phase 4 (i.e., Phase 4a) before being reoccupied with the Phase 3 remains, mostly in adjoining Area II (see below).

5.4.1.2. Phase 4: A Sounding in Area V

A small sounding was conducted in Area V to investigate the development of the work complex (Drawing F-2). The sounding was 1.5 meters (east/west) by 3 meters (north/south) and was located in the southeast corner of Area V. The sounding was approximately a meter and half deeper than the general exposure of Area V (i.e. Phase 3 layers). The small size of the sounding limits the interpretation of the development of the larger ASA area, but the sounding did reveal that area ASA had multiple building phases. Virgin soil was reached at the lowest levels of the deep sounding (approximate elevation of 96.0). The virgin soil (f381) is a relatively even surface across the area. Overlaying the virgin soil is small complex including a wall with an associated installation. The use of this installation belongs to the first part of the earliest phase, Phase 4b. In the north part of the sounding an installation (f417, f418) was dug into f381. This installation appears to

be an oven based on the burned nature of the surrounding features and the large quantities of ash nearby. The exact purpose of the installation is unclear. To the south of the installation a small wall, 7 bricks high, was placed on an east/west axis. It does not appear to be connected to any other walls or form a structure.⁷⁶ A thick build-up of brickly material bordered the installation to the west (f421). The installation and walls were eventually covered with ash and fill before another surface, attributed to the end of Phase 4 (Phase 4a), was established over the installation and walls. A floor level (f431) covered the installation and both walls. A short period of reuse of the area including a plaster surface (f424) and associated ash layer indicate the area continued to be used for production activities, perhaps similar to the same activities that took place in the earlier phase. Eventually the plaster floor and ash layer were superseded by the work area associated with Phase 3, ASA's main period of occupation and use.

Very few small finds were found in the sounding, all of them in upper layers. The small finds include 4 lumps of bronze, 6 flint blade fragments, 2 bone needle fragments, 1 mussel shell, 1 snail shell, and 2 flat stones.⁷⁷ The proximity of the finds to the layers associated with the main use phase may indicate their connection to the Phase 3 use, rather than the Phase 4 use associated with the installation, which had no small finds found in or around it. The ceramics from the sounding were relatively sparse and provided few diagnostic types (Figure 5.8, Figure 5.9). Those sherds that were identifiable seem to indicate a slightly earlier date than the Phase 3 occupation,

⁷⁶ No plan is available of the sounding. The layout is reconstructed from the available section drawings and notes.

⁷⁷ See Appendix D for a complete list and description of small finds.

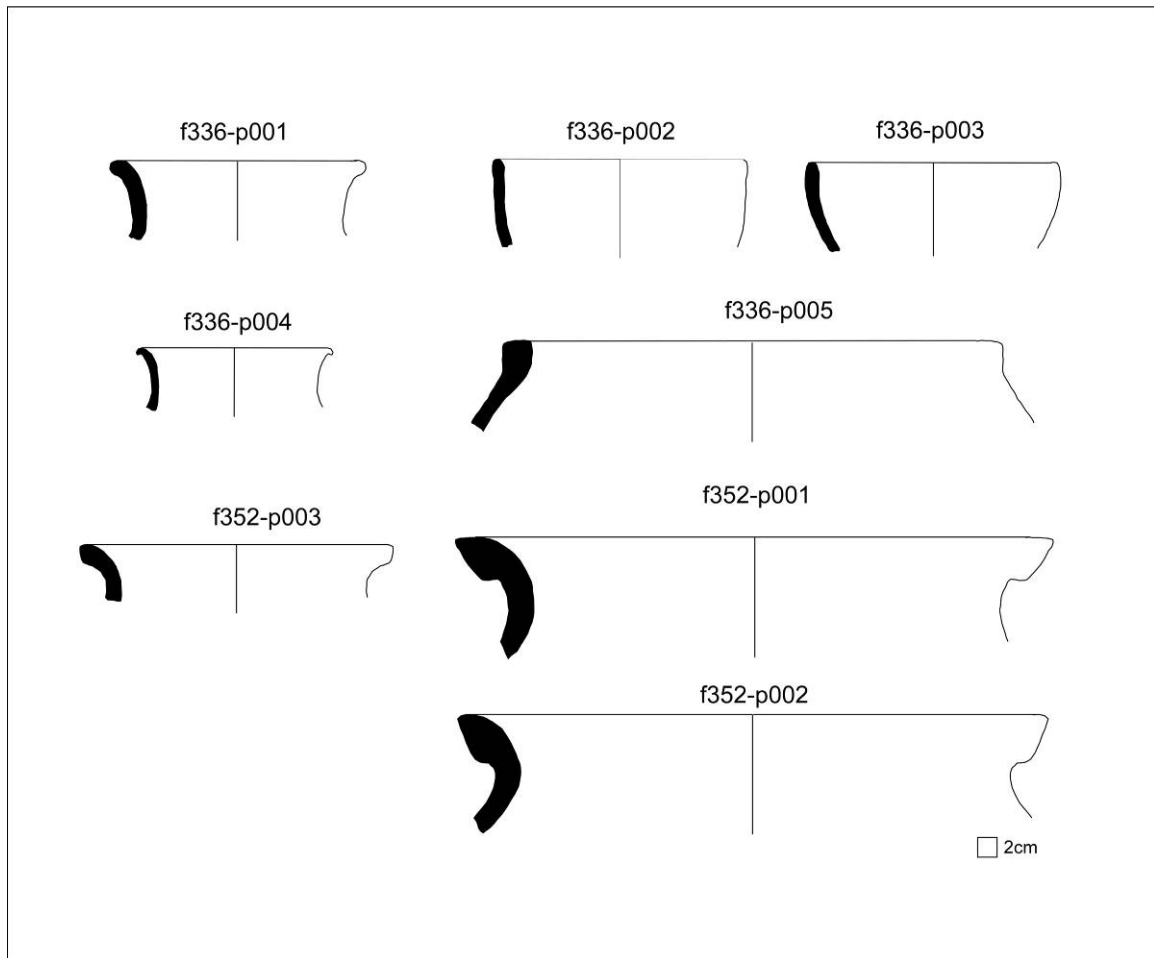


Figure 5.8 Phase 4a ceramics from upper levels of deep sounding in Area V.

and the date has been placed towards the end of TCH IC and beginning of the TCH ID.⁷⁸

The Area V sounding provides a small window on the earlier occupation in area ASA. Based on the findings, namely the installation of f417/f418, it is clear that from its first establishment ASA was associated with work activities, in particular work activities which involved fires and burning. As in the later levels, the Area V sounding was filled

⁷⁸ The ceramics were identified and dated in the field by R. Hempelmann (see Burger 2008:23 n.124).

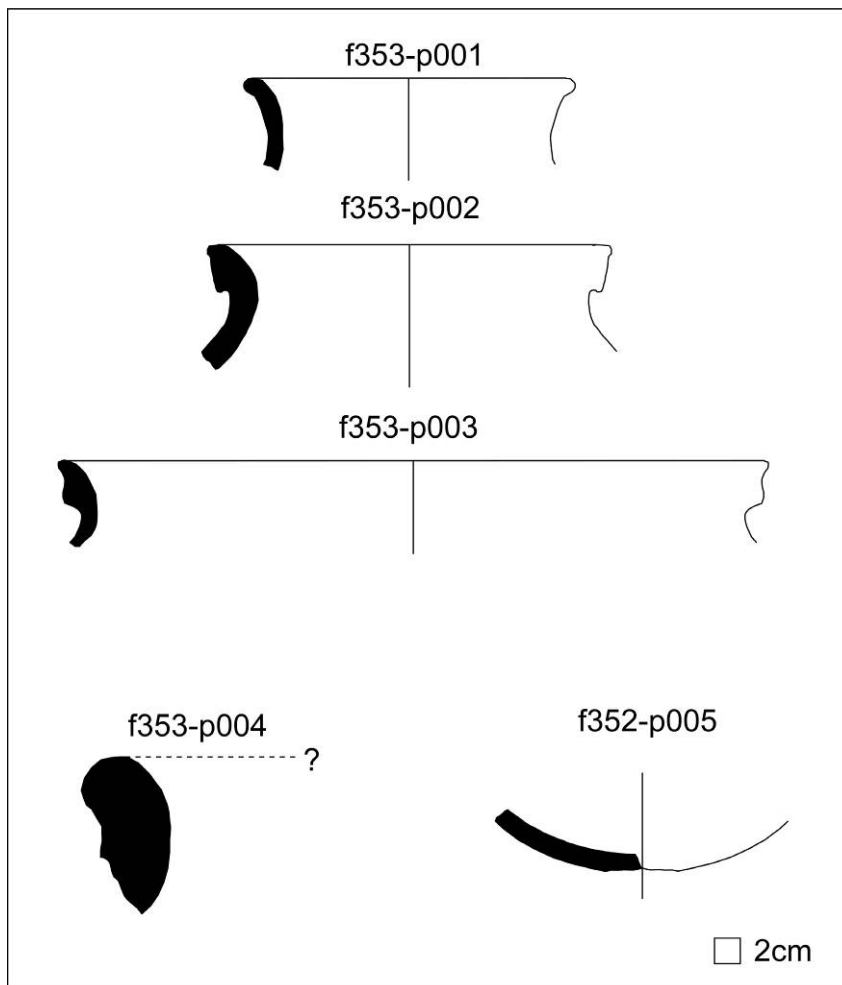


Figure 5.9 Phase 4b ceramics from lower levels of deep sounding Area V.

with small installations and low walls. Because of the small exposure, an exact use of the installation could not be determined.

5.4.3 Phase 3

Phase 3 represents the main phase of occupation in area ASA. During this phase, ASA was filled with stone installations, small rooms, low mudbrick walls, tannurs, and work areas (Plan E-3). Phase 3 is divided into two sub-phases: Phase 3a and Phase 3b.

Some continuity is seen between the two sub-phases with reuse of certain rooms. Overall, the character of use remains the same with burning installations (tannurs, etc), ash pits, and small rooms and open-air work areas. During Phase 3a the area appears to become slightly more crowded with the addition of some installations.

The occupation is divided into three main groupings: the broad exposure of Area I and the two extensions of that trench including Area II and III, the north extensions of Area IV and V, and the west extension of Area VI, VII and VIII (see Plan E-1).

5.4.3.1 Phase 3: Area I/II/III

Areas I, II, and III were excavated during the 2006 campaign. The initial trench (Area I) was positioned to cross a ditch seen in the geomagnetic testing of the area, and extended to both the east and west of the ditch. The Area I/II/III finds cover an area of 45 meters from east to west, with 10 meters along the north-south axis (Plan E-4). The eastern finds (Area I-E) were sparse and excavations were not expanded in that area. The ditch was investigated in one cross section. At the eastern end of the trench (Area I-E) some small installations and rooms were found (Plan E-5). Eventually Area II and III were expanded bordering the Area I-W finds to a total exposed area in the west of 150 square meters.

The eastern finds of Area I are difficult to place within the ASA sequence due to their distance from the rest of the finds (Figure 5.10). The open trench (or ditch) physically separates the installations from the rest of the ASA finds. The presence of multiple tannurs and small non-room installations has more in common with the Phase 3a



Figure 5.10 View looking east in Area I. The deep cut to investigate the trench is seen to the left. In the background the small remains of Area I-E can be seen. (Photo: Burger 2006).

remains across ASA based on function. The eastern edge of the central ditch also does not show the same build-up of material that is found in the west with its more substantial and earlier Phase 3b remains. In the east part of Area I, three tannurs (f10, f11 and f6) were found. A small low mudbrick wall (f432) was found south of two of the tannurs.

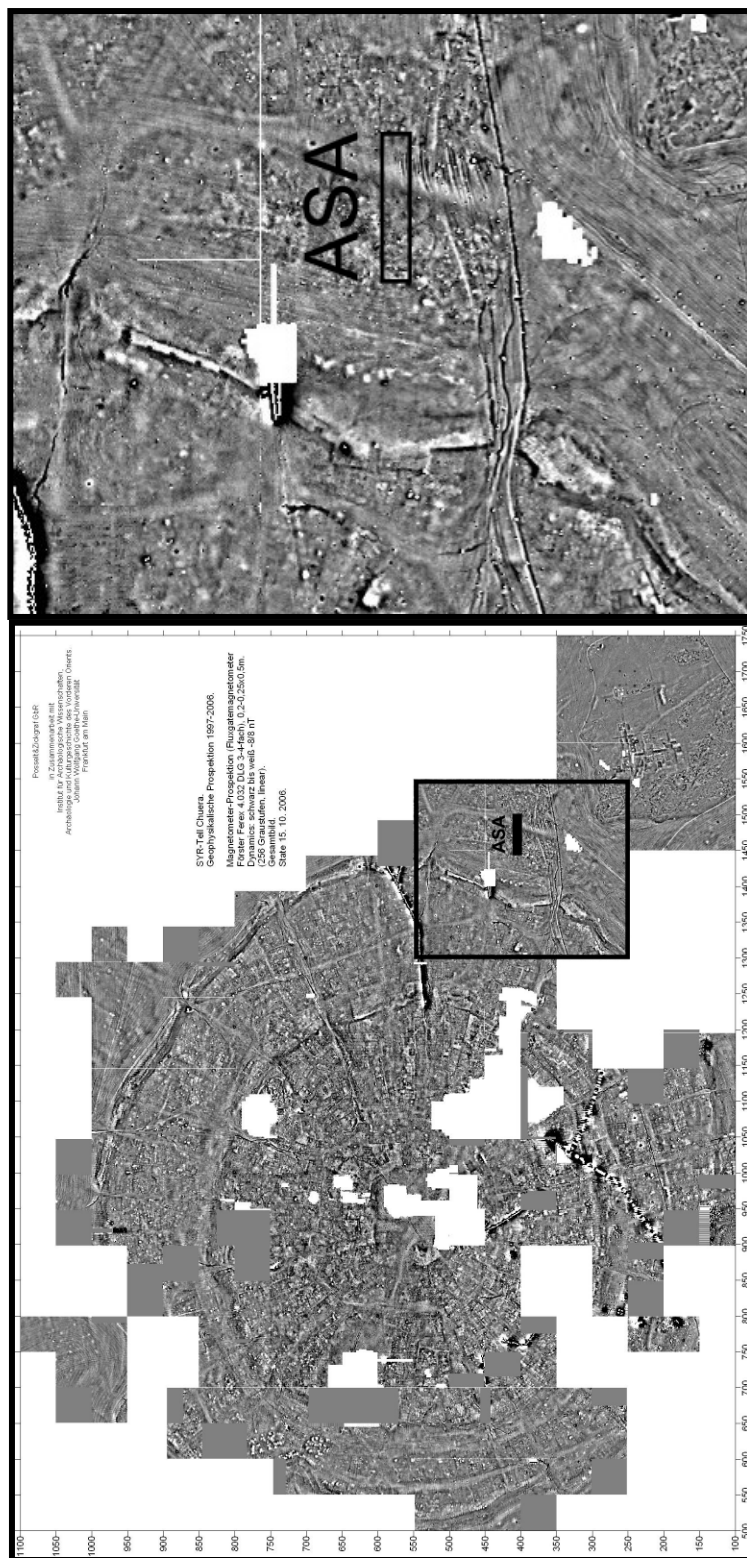


Figure 5.11 Geomagnetic Map of Chuera showing location of Area ASA. At right is an enlargement of ASA geomagnetics, showing the area of the ditch/wadi.

The sparse finds in the east are separated from the main occupation of area ASA by the ditch. Geomagnetic excavations conducted in the area (Figure 5.11) indicated a depression in this area. The excavations were designed to investigate the nature of that depression. At the top it is almost 16 meters wide, while the bottom is only about 3

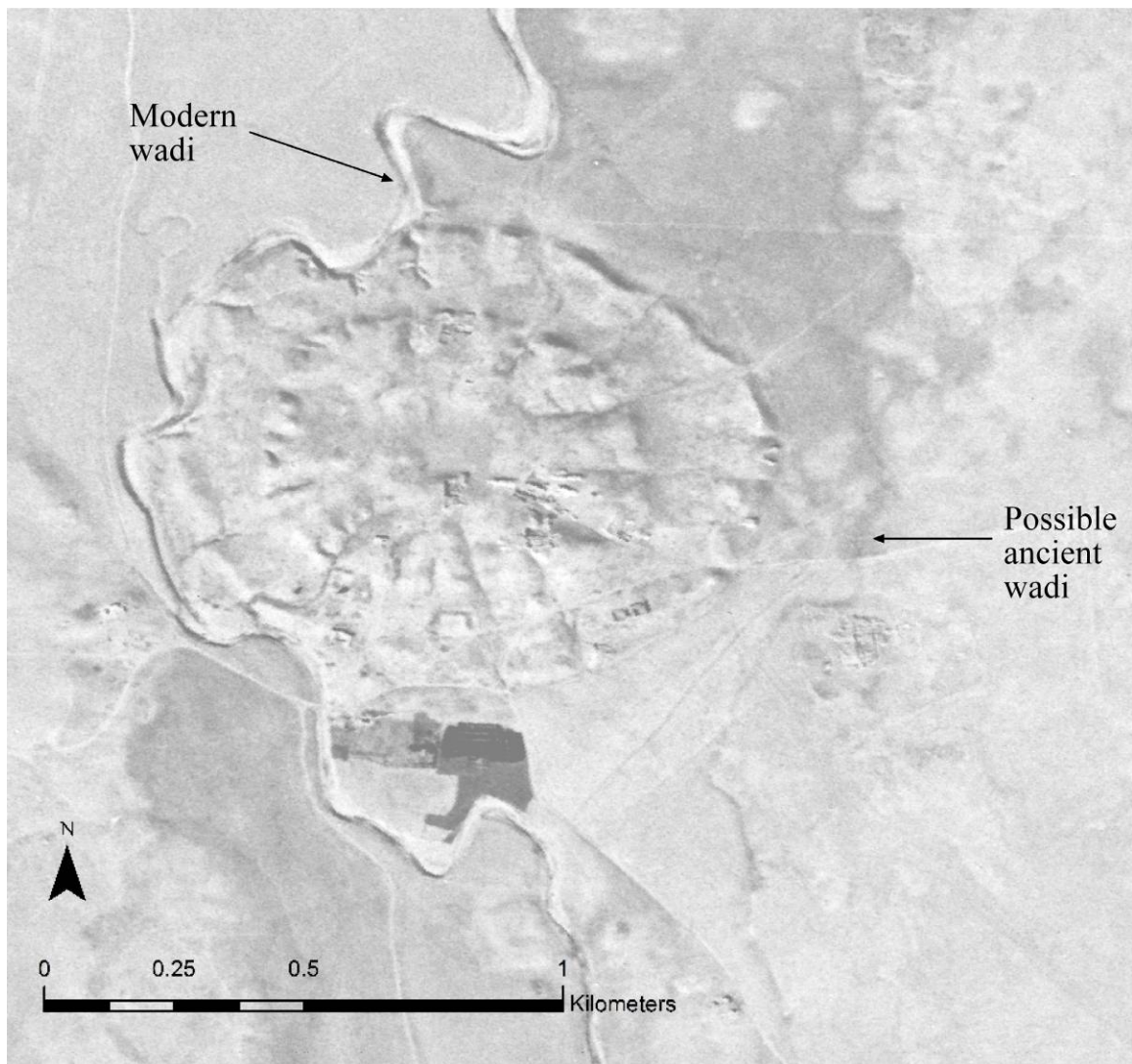


Figure 5.12 Corona image from 1968, highlighting wadi locations. The possible ancient wadi to the east may be what was found in the trench in ASA Area I-Central. Corona image courtesy Center for Advanced Spatial Technologies, University of Arkansas/U.S. Geological Survey.

meters wide (see Drawing F-1). The most likely interpretation of this feature is as a wadi or other seasonal waterway. The Corona images seem to indicate a channel connection to the main wadi north of the site (Figure 5.12). During Phase 3 the ditch appears to have not been kept clear and gradually was filled with trash material. Eventually the entire area was filled in by a thick fill, probably during the major build-up of trash and ash associated with Phase 2 (see below). The Phase 3 deposits in the trench are sloping down from the west, but have some level layers seen in them, suggesting that the area had time to level off and continue in use during Phase 3. The sloping layers probably date to Phase 3a, or late in Phase 3. The small finds from the Phase 3 layers (f64 and f59) include a wagon wheel (i68), a fragment of a wagon model (i104), a terracotta fragment (i81), and two bronze pieces (i138, i140). The mix of items may suggest that during Phase 3, particularly late in Phase 3, the area was no longer subject to intensive use and began to be used for the dumping of trash.

The central area bordering Area I and Area II is filled with Room A, which is a mudbrick room with a door opening on the northern side (Plan E-6). The walls are constructed of red mudbricks and were preserved to a height of four bricks. The room fill (f38) was relatively hard, with some plaster but devoid of small finds. No preserved floor surface was recovered. To the east and south of Room A were numerous installations and floor surfaces, probably part of an open-air work area. Contemporaneous with the construction and use of Room A, during Phase 3b, a small L-shaped mudbrick structure (f105, f106) was constructed to the south of Room A. It serves to create a protected space for a pebble-lined pit (f103). Southeast of the pit is a pebble pavement (f60). A small

bronze piece (i97) was found embedded in the pavement. Lying in the fill just above the pavement were some interesting finds. An anthropomorphic figurine (i79) and a wagon wheel (i89), along with a shell fragment (i90) were found. In the southwest corner of Area II a plaster surface (f87) and another pebble pavement were found (f88).

The Phase 3b remains in Area III are a continuation of the open work areas and rooms that characterize Area II (Figure 5.13). The Phase 3b remains are built up over the



Figure 5.13 View North of Area I and III. Room B is seen on the left. In the background is tannur (f434). The Phase 4 remains of Area I are seen in the north section. (Photo by Burger 2006).

Phase 4 remains of Area I as seen in the western section of Area I and II (Drawing F-3). The main feature is Room B, formed by mudbrick walls with the inside faces plastered. The room was occupied during Phase 3b and reoccupied in Phase 3a. The Phase 3b floor surface (f151) had a plaster-lined pit in the center (f152). The floor surface was covered with a thin ashy layer (f100). A piece of flint shaped into a ring was found in the ashy layer (i162).

Outside of Room B the rest of Area III is filled with an outdoor work area. Along the western part of Room B a plaster surface (f112) was found. The nearby pebble pavement (f76) probably was an addition during the subsequent Phase 3a, but may have been multi-phased with Phase 3b remains as well. In the southwest corner three installations (f153, f121 and f158) were found. Feature f153 is a raised mudbrick structure with rounded edges and an ashy deposit in the center (f154). It may have been used as a type of open oven. South of the oven-like installation is a figure-eight shaped pit (f121) lined with plaster. Just south of the plaster pit a raised brick and plaster fixture (f158) was found. The function of these two installations is not clear.

South of Room B is a small L-shaped mudbrick structure (f433) protecting a multi-phase pit (f107). The pit was lined with mud rather than plaster and appears to have been re-lined over time. The fill (f108) had a fragment of a flint blade (i144) and a piece of bronze (i99) in it. In the SE corner of Area III the same mix of floor surfaces is found connecting to Area II.

The Phase 3a remains in Area II include a mix of pits, tannurs and newly reworked pebble surfaces. In the area of the f60 pebble pavement a new plaster surface

was added (f50) and a pit (f74) was dug into the pavement as well. A tannur was added along the eastern edge of Room A (f55). The Southwest corner was filled with a series of accumulations and floor surfaces (f114, f115, f86). Overall the Phase 3a finds are characterized by a re-use and modification of the outdoor work surfaces. The small finds from Phase 3a were found mainly in the eastern part, where the open workspace included some tannurs and small pits. The finds included a zoomorphic figurine (i38) from an ash pit (f66), and a complete vessel (i141) and a piece of shell (i62) found within the tannur (f62).

Phase 3a was also a period of re-use with slight modification in Area III. Room B was re-used during this phase, with a new plastered floor surface (f99). The room use appears to be the same, however, as a plastered pit (f80) was placed in the same location as the pit from Phase 3b. A flint blade fragment (i148) was found on the floor layer.

Outside of Room B a new pebble pavement (f76) was added as well as two tannurs (f77, f109) on the western edge of the building. Another tannur (f434) was also added north of the Room. The open areas appear to continue to be used until the end of Phase 3.

Phase 3 in Area I/II/III shows a development over time that indicates both changes and continuity in the use of space. The small finds, in general, indicate no specific production process or work activity. The open areas, however, are filled with installations, pebble surfaces and plastered pits, suggesting that care was given to the open areas as dedicated workspaces. The zoomorphic figurine and anthropomorphic figurine found in Area II are interesting as they represent the only non-functional finds

attributed to Phase 3 across all of ASA. It is possible that they are intrusive and were introduced through the modifications and pits of Phase 2. Overall, the Area I/II/III use is consistent with the finds across area ASA.

5.4.3.2. Phase 3: Area IV and Area V

Area IV and V were opened north of the Area I-W, II and III excavations. Excavations in this area also found a mix of small pisé walls, mudbrick walls, installations, tannurs, work surfaces, and a street or drain made of pebbles (Plan E-7). None of the structures constructed in this area appear to be designed as complete rooms or buildings. Most are open on one or more sides. The walls are low and seem to be designed to delineate work areas rather than living quarters.

The Phase 3 use of Area IV/V is characterized by small, enclosed spaces and work areas. Three rooms were identified: Room Q, R, and O. Other enclosed spaces appear to have been used for containment of ash rather than as functional spaces. During Phase 3, Area IV/V had two periods of use, Phase 3a and 3b. The remains are damaged in several places by cuts from pits dating to Phase 2 (see below). The Phase 3 remains of Area IV/V are a continuation of the work areas that characterized the Area I-W, II, and III remains just to the south. The dearth of small finds is interesting, as it indicates the dumps are not simply the result of dumping trash debris, but rather the discard of specific production processes.

Several different activities appear to be taking place across Area IV/V (Plan E-8). In the southeast corner, an ash pit (f319) is enclosed by small pisé walls (f317, f318). It is unclear if it was fully enclosed as it was cut off in the east and south by baulks. The



Figure 5.14 View of Area IV looking east. The S-shaped pavement (f314, f315) is clearly visible. The extant wall is f305/f306. Photograph by Burger 2007.

eastern side was not exposed so it is unclear if it would have also been closed on that side. It is open to the south in Area I-W. Across the pebble pavement (f314, f315) to the east, another ash pit (f313) bounded by pisé walls is found. The source of the ash is not immediately clear as the closest tannur is across the pebble pavement and to the south in Area I-W/II/III. An ashy pit (assigned f435) with some associated stones was found just south of the ash pit f313 and could possibly be an open pit for burning.

Between the two bounded ash pits is an S-shaped pebble pavement (Figure 5.14). The baulk prevents any direct connection with the southern exposure of Area I-W/II/III, but a large pebble pavement was also found in the western part of that area (f76), and the pavement of Area IV may be a continuation of that pavement. The pavement appears to form a walkway alongside the eastern side of the room structures. The pavement apparently stayed in use and was maintained because two phases were detected (similar to the multi-phase use of f76).

The central part of the Area IV/V is filled with a series of three rooms extending from the ash pit of f313 with its boundary walls to the northern most part of Area V, where Room O presumably continues into the baulk and north. In between are the remains of three rooms Rooms Q, R, and O.

The southernmost room, Room Q, borders the ash pit (f313) and shares a wall (f309) with Room R. No distinguishable floor surface was found in Room Q. The walls are low. The room fill (f310) was devoid of small finds leaving no indication of this room's use. Since it measured only approximately 2.5 meters by 1 meter, it is relatively small to have functioned as a living space. No evidence was found to indicate that the

space was roofed.

North of Room Q, sharing wall f309 and wall f308, is Room R. Room R has several openings, including a possible door at the west end of wall f309, which provided access to Room Q. The excavation of Room R is cut by the baulk that remains between Area IV and Area V. Room R appears to have multiple openings, although the presence of the baulk makes the situation unclear. The western side is damaged by pits and cuts from Phase 2 (f208, f245), but it appears that a mudbrick wall (f224) served as the western edge. The wall may continue south into Area IV, but because of the baulk and the pit (f208) the connection to the wall of Area IV (i.e. f306) remains unclear. To the north the room is mostly defined by a mudbrick wall (f213) that forms Room O. Several surface levels were found inside of Room R and the floor levels have been divided into Phase 3a and Phase 3b. The earliest floors (Phase 3b), belonging to the period of construction of the walls are hard, with gray ash and plaster. A tannur is embedded in this level. No small finds were recovered from the earliest levels. The Phase 3a floors are a continuation of use in the room, with a series of additional floors with plaster (f246, f247, f248). Within these floors several small finds were recovered including eight shell fragments and two complete shells (i247, i245), as well as a fragment of flint (i232). Room R may have been used in conjunction with Room Q since there appears to be a door connecting them. Room R is substantially larger than Room Q, approximately 4.5 by 4 meters.

Room O, in the north half of Area V, appears to continue to the north in the unexcavated area. The walls are not very high and it appears that the space was unroofed.



Figure 5.15 View of Area V looking west. The deep sounding is seen in the foreground. Room O on the left with two visible tannurs (f243, f241) in Room O assigned to Phase 3b. A later Phase 3a tannur (f262) is seen in the NW corner. Photograph by Burger 2007.

The excavated area of the room is defined by three mudbrick walls. The southern wall (f213) is shared with Room R. The western wall separates Room O from the outdoor workspace (f227, see below). Inside of the room a stone work surface (f222) and a small possible hearth (f223) were found in the later use layers of the room (i.e. Phase 3a). Below the floor surface associated with the hearth and pebble floors (floor f217) were several other floor surfaces, and embedded tannurs (f241 and f243). The two tannurs are

fairly well preserved and located in the southwest corner of Room O (Figure 5.15). The lower floor levels and tannurs have been assigned to Phase 3b. The small finds from Room O all come from the floors associated with the second phase of use, Phase 3a (f237/f239). Two complete bowls were found within Room O (i213, i263) (Figure 5.21c, h). The remaining small finds were lithics. Three blade fragments were recovered (i187, i207, i210) with evidence of retouch on one (i207). Additionally, a piece of flint debitage (i186) was also found in this room. The remaining object was a stone tool or implement of unknown type (i187). The blade fragments and debitage in the room hint at the possible local production of stone tools from more distantly sourced raw materials.⁷⁹ The use of Room O remains enigmatic, but it appears to fulfill multi-functional uses, with the presence of two tannurs, and later, an open hearth, small stone work surface, and lithic discard.

A door opening to Room O is found to the west, at the northern end of the western wall (f214). Just outside of the door are an inverted storage jar (f271) and a tannur (f273). Two more jars were found south of the tannur, broken but reconstructable (f275) (Figure 5.21e). The tannur together with the vessels probably indicate an outdoor workspace associated with the rooms O and R. A small cup found inside of the storage jar may indicate that whatever was stored in the jar was being scooped out and used in the immediate area, possibly in the tannur. The lack of grinding stones or other domestic finds in the area argues against the tannur and storage jar being associated with a domestic context or household.

⁷⁹ See Helms, forthcoming for a complete analysis of lithics from Tell Chuera.

The western third of both Area IV and Area V has sparser remains. Two walls (f287, f261) run east-west but appear unconnected to the other walls and features that make up the eastern two thirds. The surfaces are hard and show traces of ash. Based on the presence of significant ash dumps around the area, it appears that these surfaces were open-air floors used for unknown work processes. The ash was likely incorporated into the floors since it was so widespread in the area in general. Small pebble and sherd groupings may be workspaces (e.g. f290, f289). The floor surface composed of f291 is cut by an ashy pit deposit (f288). Again, no clear source for the ash, such as a tannur or hearth, was found in the immediate area. Numerous small finds were found associated with the mudbrick wall that cuts across Area V (f261). The small finds represent a mix of objects, including a small stone bead (i204), 2 shells (i205, i209), a broken flint blade (i256), and an additional blade fragment (i211) as well as unformed bronze pieces (i212). The assemblage from the open-work area appears to be more diverse than those within the rooms, suggesting the open areas may have been used for a wide variety of activities, while the indoor areas were more constrained (See Appendix D).

The two sub-phases attested in the Phase 3 occupation of Area IV/V may indicate a seasonal, or other periodic reoccupation of the area. The rooms seem to be reused for generally the same purpose, although the second phase of occupation appears to be less permanent with open hearths and burning installations rather than the installation of tannurs or other ovens.

5.4.3.3. Phase 3: Area VI/VII/VIII

The Area VI/VII/VIII Phase 3 occupation is a continuation of the scattered rooms,



Figure 5.16 View of Area VIII, looking North. Photograph by Burger 2007.

installations, pavements and work areas that are found in Area IV/V and Area I-W/II/III (Plan E-9). A series of rooms and installations line a central alleyway that runs north-south through the area. The rooms are a mix of mudbrick structures and small pisé wall constructions (Plan E-10). Like in the other areas, a definitive craft activity or production processes is difficult to pinpoint.

The development of the area can be charted over the two subdivisions of Phase 3. The initial establishment and use of the buildings and installations is generally dated to the earlier phase, Phase 3b. Phase 3a is characterized by the reuse of the area and the addition of some new installations, primarily tannurs. During both sub-phases, however, the overall shape and layout of the area remained static. Open-air work areas and small rooms are characteristic of all of ASA.

An alleyway (f402/f403), partially paved with pebbles extends from the southern



Figure 5.17: Overall View of Area VII looking west. The channel of f365 is visible in the center, running toward the west. Photograph by Burger 2007.

balk through all of Area VI, and extends into Area VII (Figure 5.16). At the north end of the alley a channel feature (f365) was found, turning towards the east, perpendicular to the alley. It may be a drainage channel to control run-off from the street area (Figure 5.17). The sides of the alley are slightly raised. The excavator described them ‘like sidewalks’ but they are very narrow (Drawing F-4).

To the east of the alley is a sequence of five rooms. The southernmost two rooms, Room D and Room E, contain some installations and features that may indicate the type

of use. Rooms F and G are smaller with pisé walls and ashy deposits. Room M is truncated by both the north and east baulk and its size and function are not clear.

Room D is the southernmost room, located in the SE corner of Area VI. It is bonded to Room E in the north. The southern border of the room was not excavated as the room extended into the baulk. The walls were originally of mudbrick, but they were poorly preserved and could not be differentiated during excavation.⁸⁰ Inside the room, brick collapse was found, indicating the walls were higher than the preserved height (Burger 2008). The floor surface (f264) had a grinding stone embedded in it. No small finds were recovered from the floor surface, although several bronze fragments (i200, i201) were found in the fill over the floor, perhaps relating to the second phase of use of the room.

Room E is relatively small, approximately 2.5 by 2.5 meters, and enclosed on all four sides. A tannur (f266) was embedded into the south wall and two complete vessels (f275) were found inside the room as well. No other items were found on the floor. The presence of the tannur and the two jars could indicate a domestic function for this room.

Room F is surrounded by low walls on three sides without defined mudbricks. The western side of the room appears to have been open, similar to the two ash pits found in Area VI which were both open to their southern side (f313, f319). A substantial, ash pit (f161) was enclosed by the walls. The bottom of the pit was not reached during the excavation, but it was excavated to a depth of more than 1.5 meters (see Figure 5.16 above). Over the top of this pit was a harder ashy layer, perhaps the result of exposure of

⁸⁰ Due to the decomposition of the brick the brick outlines could not be drawn and therefore do not appear in the plans.

the top layers of the pit fill to the elements. The space showed no evidence of having been roofed. Numerous small finds were found in the upper layers of the ash pit (f200/f204). It appears that this harder ashy layer can be attributed to the continued use of the pit in Room E during Phase 3a. Particularly interesting are four vessels from the layer f204 (i167, i168, i181, and i199) (Figure 5.21a, 5.21f). The other small finds include a bronze piece (f170), shell fragments (i178), flint tools (i188) and two flint pieces, one with retouch (i206). An obsidian blade fragment was also found (i237). The mix of small finds suggests that the ash pit was used as a dumping place for trash in the Phase 3a period. The vessels were mostly found broken, and while reconstructable, would have been discarded in antiquity. The fact that the pieces of the vessels are mostly all present indicates the trash did not originate from any major distance but rather was discarded close to its use area.

Room G is just north of Room F. It is a very small area, probably designed as an installation rather than a room. It is formed by three low mudbrick walls and is open to the west, toward the alley. It was likely constructed along with the other structures during Phase 3b. The lowest surface associated with the interior of the space (f429) has a plastered surface. No small finds were associated with this level. In Phase 3a, the room appears to be reconfigured to hold two side-by-side tannurs (f147, f149). The tannurs could be accessed from the alleyway, which continued to be used during Phase 3a.

The northernmost room is Room M. It is only partially exposed in the Northwest corner of Area VII. The lowest surfaces in Room M are an ashy layer (f384) overlaid with a floor surface (f383). No small finds were recovered. Another ashy layer (f364)

overlaid the floor surface and is probably associated with the Phase 3a reuse of this room. The size and use of the room cannot be determined because of its limited exposure.

The alley is also lined with installations and rooms on its western side. In the south is the largest room found in area ASA, Room I, approximately 5 x 4.5 meters. It is composed of mudbrick walls and has an apparent opening, or doorway, in the southeast corner. Collapsed mudbrick from the upper layers (see Phase 2 discussed below), indicates that the walls of this building were probably higher than they appeared in excavation. Inside of Room I are two plaster-covered bench structures (f260, f413), one each along the north and east wall. The room continues slightly into Area VIII in the west. The northwest corner of the room was damaged by a Phase 3a ash pit (f337) associated with the installation and work area L. Inside of the room, a floor surface (f412) was reached, but no small finds were found. The floor was coated with plaster like the benches. A bricky collapse layer (f231) was found over the floor, indicating that toward the end of Phase 3 the walls had collapsed inward, at least partially. Other collapse debris and mudbricks were found to the west of the room in Area VIII. The size of the room and its presumed wall height make this the most substantial room uncovered in ASA. The bench structures may indicate it functioned as a living space.

North of Room I is a double-roomed installation, Installation H. It is formed of pisé walls with no defined bricks. It is bordered by the alley on the east, and by the open work area T on the west. The southern room of Installation H is formed by low mud walls (f399, f400 and f401) and is separated from the northern part of Installation H by another small dividing wall (f398). The southern half of the installation is filled with a large ash

pit (f232). The ash pit and its fill extend to a depth of more than 1 meter and numerous small finds were found mixed in the ash. The small finds are a mix of artifacts. Three bronze fragments (i203, i179, i183) were found within the pit. The lithics include three flint fragments (i180), a piece of a flint blade (i196) and two pieces of flint debitage (i182, i189). A gray and red ceramic cup with ribbing design was also found (i192) as were some small decorated sherds (i191, i193). The northern half of Installation H also contains an ash pit (f391), enclosed by small pisé walls. Set in to the ash pit is a tannur (f234), which is a later reuse of the installation during Phase 3a. The tannur was filled with ash (f235). No small finds were recorded from either period in the northern half of Installation H.

Installation H is surrounded by open work areas, notably pavement surfaces to the west and north. The work area to west has been labeled 'T' while the pavements and floors to the north are part of open areas labeled 'S' and 'N'. The pavement in the northern part of Area VI (f394) may be a continuation of the alley. The small pebbles of the pavement cover an area from west to east, toward the pebbles and sherds of the alley in the north (f403). The pavement appears to have multiple uses, as it has a lower pebble layer (f394) overlaid by another level of stones, pebbles, and sherds (f236/f240). The build-up suggests the pavement was used during both Phase 3b and Phase 3a. West of Installation H, adjoining the pebble pavement is an open work area with scattered stone and sherd groupings, probably open-air work areas (f284). Two more work areas extend north of the pavement. The western half of Area VII is an open workspace with no structures. Two small floors (f385, f386) are separated by a divider of small pebbles

(f390), and a round plaster installation (f387) is raised up on the western surface (f386). The pebble divider may connect to the pebble pavement found in northern Area VI, but the baulk prevents any conclusive connection. The two floors are both made of reddish clay material and have plastered surfaces. Two tannurs are located in the western part of Area S (f375, f350). A ring of sherds was found around the smaller tannur. These two tannurs are associated with a floor surface (f373) with an embedded storage vessel (f377).

To the east of the open work area S, another small open area, Area N, was found. It is bounded to the north and east by small mudbrick walls (f359, f360). The protected space had a floor surface (f414). The floor was made of a hard reddish material, roughly the same as the bordering surface of f385, although without any plaster. The floor in this enclosed space, and the enclosing walls were probably situated to separate the workspace from the channel and alley areas. In Phase 3a, Area N was covered with a fill layer (f361), and a small intact vessel of Euphrates Ware was found in this layer (i257) (Figure 5.35e).

A pebble-lined channel (f365) was detected crossing Area VII in an east west direction, beginning at the north part of the alley and continuing to the east. It appears to end in the general vicinity of the tannur (f350). A floor surface (f373) appears to cover the channel at least partially. When excavated the fill of the channel consisted mostly of ashy material. Since the floor surfaces around the channel appear to be associated with the Phase 3b work surfaces, it seems that the channel belonged to Phase 3b as well.



Figure 5.18 View of Area VIII, looking North. Photograph by Burger 2007.

In Area VIII, extending west of the main excavation area of Area VI, there is a mix of small rooms and installations (Figure 5.18). Neither of the rooms – Room K and Room J – was fully exposed. Room J, in the southwest corner of Area VIII, has three small walls exposed. The walls do not have visible mudbrick in the construction and are likely made using a pisé construction. The room's floor (f410) had no installations or associated small finds.

In the northwest corner of Area VIII, another room, Room K, was partially exposed. The southern and eastern walls of mudbrick are within the excavated area (f320, f321). The Phase 3b floor (f411) was covered by a later Phase 3a fill (f322). Neither the floor nor the fill contained any small finds.

In the northeast corner of Area VIII is a multi-phase plaster basin (f300). When cut, the section showed that the basin had been repeatedly replastered. The basin is

separated from a series of installations (f329, f330, f333) by a small low wall (f349). A tannur and a bin-like structure were set into a hard, gray and red layer. These features represent the earlier Phase 3 use of the area and were subsequently covered by reuse during Phase 3a. During this phase of reuse new installations and a small wall were added in the open space between Area VI and Area VIII and new floors and small walls were added. A small wall-like installation was placed at an oblique angle from SE to NW (f250). North of the wall was placed another small wall of only a few bricks (f269). South of the wall two tannurs (f339 and f341) were set into an ash pit (f337). The ash pit and the installation disturb the corner of Room I, indicating their later construction and use. West of the installation a floor surface (f325) extends to the baulk. Two small pisé walls (f408 and f409) cross into the open area.

Overall, the Area VI/VII/VIII complex of buildings, pathways, installations, and work areas makes up the bulk of the structures of ASA. The majority of the features can be dated to the earlier part of Phase 3, Phase 3b, with definite signs of reuse and modification during the subsequent Phase 3a. The crowded complex of buildings and installations is slightly different than the more open spaces found in the other areas and may relate to its central position. Since Area VI/VII/VIII is located on the high part of ASA it may have been the longest occupied area, with the work areas expanding outwards, until eventually they were forced to expand even across the ditch in Area I.

5.4.3.4. Phase 3: Discussion

During Phase 3, area ASA develops into a major craft production area with numerous installations and small rooms. As discussed above, the exact nature of the craft

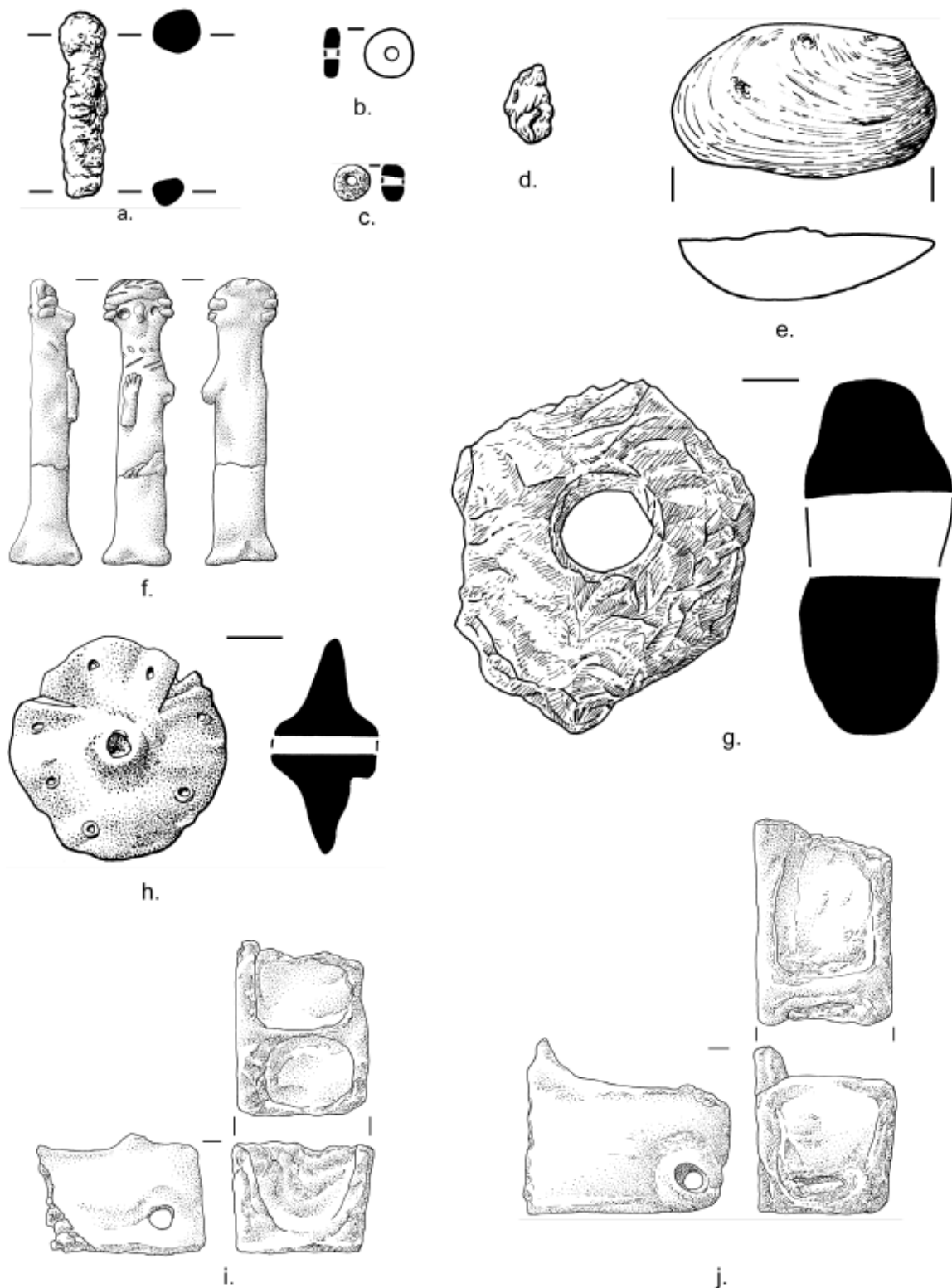


Figure 5.19 Phase 3 small finds. Scale 1:1, except 9-10 which are 1:2. a). i97 bronze pin, b). i259 stone bead c). i204 stone bead d). i209 shell e). i205 shell f). i79 clay figurine g). i162 pierced stone hammer h). i89 clay wheel i). i86 wagon model j). i85 wagon model. Drawings by Karlheinz Engemann.

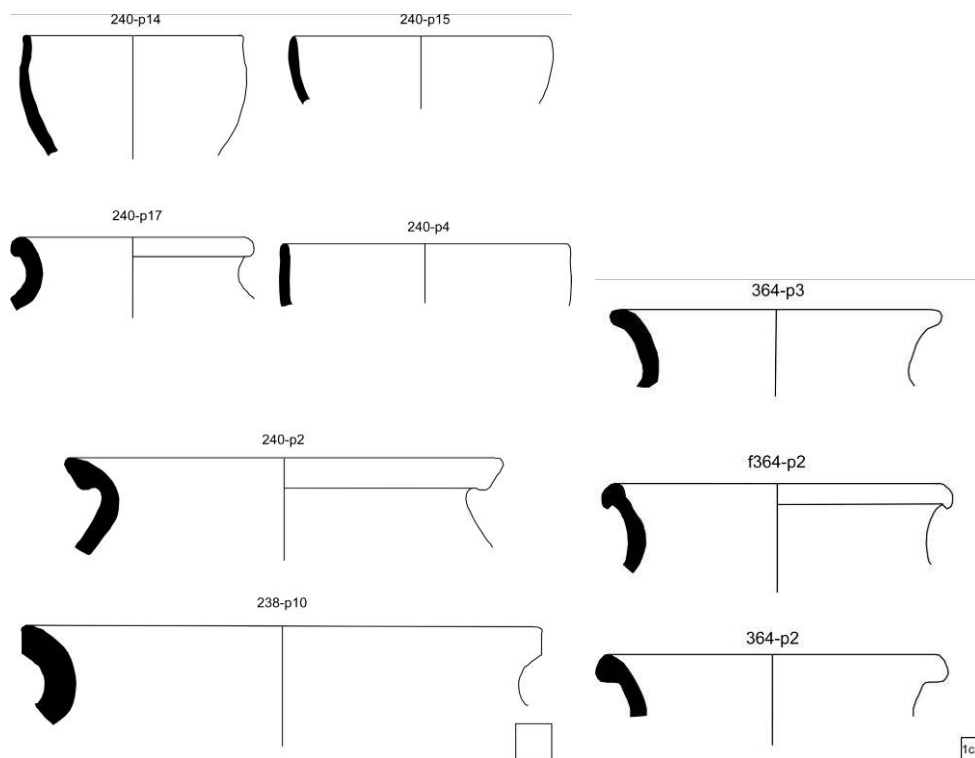


Figure 5.20 Phase 3 ceramics from f240 and f364.

production is difficult to determine. The small finds from Phase 3 represent a mix of items with no specific focus of craft activity (Figure 5.19). The small finds are generally similar to those found on the central mound or in the lower town excavations (Burger 2008). Both phases belong to TCH ID with similar ceramic types found across the site (Figure 5.20, Figure 5.21). The large quantities of ash may give insight into the type of activity (see Section 5.4 below). Overall, the two sub-phases seem to indicate a periodic reoccupation of the area and modification. In particular, the continual replastering of the bins (such as f300 of f107) and the re-paving of the pebble pavements (f76 and f314/f315), demonstrate the attempts at continuity and reuse over both the short

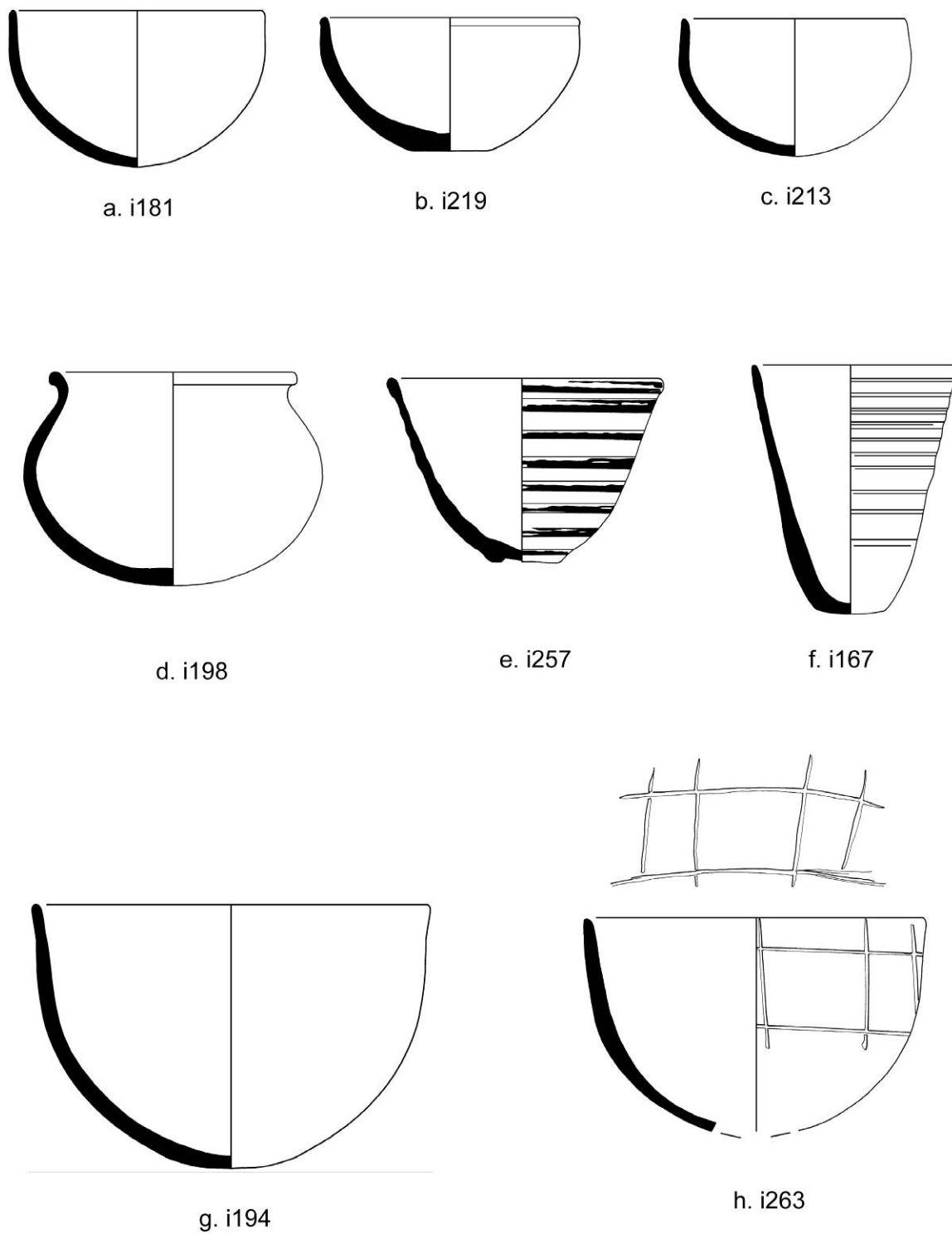


Figure 5.21 Phase 3 complete vessels. Scale 1:2. Drawings by Karlheinz Engemann.

and longer term. The addition of numerous tannurs during Phase 3a may indicate an intensification of activity in the area, focusing on crafts involving burning. The reuse and modification may indicate that the area was continually used and reused during TCH ID, particularly during Phase 3, before it was reoccupied during late TCH ID, ASA Phase 2.

5.4.4. Phase 2

Phase 2 is divided into three sub-phases. There are no structures attributed to this phase and it appears to be the result of transient re-use after the decomposition of the Phase 3 work areas. The sub-phases are most clearly seen in the sections, which often show the decomposed remains of the Phase 3 buildings covered with an ashy layer and then cut with pits filled with additional ash.

The earliest Phase 2 materials can be attributed to the breakdown of the features of Phase 3. This sub-phase is labeled 2c. In some areas collapsed mudbrick and melted brick material were found overlying the buildings and open areas. The fact that the buildings had time enough to collapse and were exposed to create melted brick material indicates that Phase 2c may have lasted for some time. The reoccupation during Phase 2b includes some scattered tannurs and thick ash layers. The small finds from these layers are much more plentiful and diverse than the preceding Phase 3 finds. The tannurs, pits and ashy material combined with the numerous small finds but without structures may indicate a seasonal or part-time reoccupation of the area. It is also possible that this area was used primarily as a dumping location for some neighboring, as yet undiscovered, occupation area. The Phase 2a finds are generally sparse, and cut into the Phase 2b remains. The two phases may not be separated by much time as suggested by the

proximity of both sub-phases to the topsoil and modern surface.

5.4.4.1. Phase 2: Area I/II/III

In general, the Phase 2 levels in this area are associated with ashy accumulation and limited, scattered use. Phase 2c – the breakdown and collapse of the Phase 3 materials – is not clearly represented in these three areas. No mudbrick collapse was found around either Room B or Room A. The relatively low profile of these rooms may explain why they were not very degraded before being covered by the Phase 2b layers.

In the easternmost part there are no substantial layers that can be attributed to Phase 2. There is some build-up seen in the north section over the Phase 3a remains, but the majority of the overburden can be attributed to the topsoil layers (See Drawing F-1).

During Phase 2b there is evidence of sporadic occupation across Area I/II/III. As mentioned, there is no 2b occupation in the easternmost part of Area I. In the ditch the sloping accumulations of Phase 3 are overlaid by more level accumulation (f43), attributed to Phase 2b. In Area the western part of Area I and in Area II the layers associated with this phase generally consist of ashy layers or fill material (e.g. f35, f68, f161, f162) (Drawing F-5). Some small installations, mainly shallow pits, were attributed to Phase 2b in Area II (e.g. f46, f44). Some possible open-air floor surfaces were also identified (e.g. f48, f49).

The most interesting Phase 2b features are in Area III where the area was reused with a substantial accumulation in Room B (f70), and several tannurs seen along the northern part of area (f79, f82, f85) (See Drawing F-1). A mineral temper vessel was also found from this phase set in the north profile (f95). Fill and ashy layers are also

associated with Phase 2b in Area III (e.g. f96).

The small finds associated with the Phase 2b finds represent a wide range of materials and artifact types (See Figure 5.22 below). Twenty-one finds were found within the f43 fill alone. Among the finds were three zoomorphic figurines (i54, i60, i75), three wagon wheels (i44, i55, i56), and a fragment of a wagon model (f115). In Area II another zoomorphic figurine was found (i87). In Area III, a Phase 2b fill layer (f68) contained seven small finds, including another fragment of a wagon model (i108) and a complete cup (i106). Most interesting from this feature was the recovery of the head (i109) and body (i156) of a terracotta figurine. Other finds from Phase 2b include shell (i153), bronze pieces (i98) and flint tools (i154).

Phase 2a is a period of organic build-up and very sporadic use. The ditch in the central area of Area I continues to be filled with level accumulations (f41, f42). Build-up in Area I/II/III is generally slow and there are no pits or other later cuts like those that are found in Area IV/V. Eventually the whole area is covered with topsoil. The majority of the small finds come from layers associated with the topsoil. The large quantities of finds may be the result of deflation and other taphonomic processes as the soil became deflated over time, particularly on the rise associated with ASA.

5.4.4.2. Phase 2: Area IV/V

The Phase 2 levels in Area IV/V cover the extant Phase 3 structures. Composed mostly of ash and clay with some small installations, the Phase 2 materials are relatively shallow and close to the modern surface. Phase 2c is not clearly represented in Area IV/V, although some clayey material (f190) was detected in the western profile of Area

IV (Drawing F-6). The relatively low height of the structures might have prevented any substantial collapse. Several layers and installations belonging to Phase 2b are seen.

Phase 2a is conflated with the topsoil.

In the upper layers of Area IV several ash pits were dug (f131, f133, f135). They are clustered around the southeast part of Area IV. Two tannurs (f127, f129) were also used during Phase 2b. Two stone groupings were found, the top layer was composed primarily of broken groundstone (f156) while the underlying stone lens was made of natural stones (f157). Together the ash pits, tannurs, and stone lenses are likely indicative of open-air work areas. In Area V, two tannurs (f176, f194) were found over the Phase 3 remains. Numerous pits were dug into the area, with several of them cutting into and disturbing the earlier walls (f174, f179, f208, f210, f215, f218, f220) (See Drawing F-9).

Several plaster-lined basins were found scattered across Area IV/V (f155, f197, f199). A plaster-lined basin (f199) is seen clearly in the east section of Area IV, and two additional plastered basins (f174 and f179) were found in Area V (Drawing F-7). These basins are relatively shallow and are overlaid with some thin plaster and ash layers. Another basin, un-plastered, was located in the southern part of Area V (Drawing F-8).

When the Phase 2b levels were removed in Area IV (f226, f258) several small finds were recovered (See Figure 5.22). The small finds were almost exclusively lithics. Together there were 13 flint blades or blade fragments, and two flint fragments (i166, i218, i253, i222, i223, i224, i225). The lithics show signs of retouch and several of the blade fragments had cortex still remaining. The quantity of fragments, along with the debitage and pieces with remaining cortex seem to suggest the area was at least

temporarily used for blade production. One fragment of an obsidian blade (i224) was also recovered. In addition to the lithics, there was a small cache of shell including both mussel and snail shells (i258). No small finds were associated with the Phase 2b finds in Area V.

The Area IV/V Phase 2 remains are indicative of a period of re-use in the area after the buildings and features of Phase 3 are no longer in use. The pits and tannurs cut into the earlier features with little regard to walls, pavements or other Phase 3 features. There is less evidence for ash in Area I/V during Phase 2, although ash is found in many of the neighboring excavation areas. Lower quantities of ash, together with the presence of the basins may indicate a shift in activity in this area between Phase 2 and Phase 3. The basins, tannurs, and pits suggest an open-air work area with no defined boundaries during Phase 2.

5.4.4.3. Phase 2: Area VI/VII/VIII

The three sub-phases of Phase 2 are most clearly seen in the remains from Area VI/VII/VIII (Drawing F-9). The earliest phase, Phase 2c, is assigned to the collapse and decay of the Phase 3 structures and remains. Phase 2b in this area is similar to the ash layers found across ASA, with numerous pits. Phase 2c is similar to 2b, but cuts into and through the Phase 2b finds.

Collapsed brick was found surrounding some of the rooms and overlying the street areas (f198, f263, f407, f415) (See Drawing F-4). In some cases the bricks are still intact but in the majority of the Phase 2c remains, the bricks are heavily degraded and

form layers of decomposed mudbrick (e.g. f190, f193). Phase 2c was a period of exposure and non-use of the Phase 3 buildings that lead to the decomposition and covering of these buildings before the re-use of the area during Phase 2b.

Phase 2b is characterized by a thick layer of ash covering most of the area (f164, f184, f191, f206, f348) (Drawing F-10). Several installations and pits are found associated with the ash showing that the area continued to be used even as it was filling with ashy material. One tannur (f296) was found in Area VIII, associated with a floor-like surface (f295). Nearby were two small walls (f301, f302) only one brick in height that surrounded a pit (f303). Another small wall (f369) was badly decomposed and damaged by the Phase 2a pits (Drawing F-11). Numerous other pits (f170, f182, f269a, f323, f347) were found across Area VI/VII/VIII belonging to Phase 2b. A possible hearth (f201) was found in the southeast corner of Area VI. In the ashy layer across Area VII (f348) a flat worked stone (i231), a piece of flint debitage (i244), and a complete bowl (i246) were found. Several small finds including three bronze fragments (i175) and a fragment of a thin metal needle or nail (i174) came from a layer of clay and ash in Area VI belonging to the transition of Phase 2c/2b. Also in this layer were two lithics – a flint blade fragment (i177) and a piece of debitage (i173) – as well as some small shell fragments (i176). The Phase 2b small finds are of mixed types across Area VI/VII/VIII and are not indicative of any specific activity.

Phase 2a is composed of pits that cut into the Phase 2b layers (Drawing F-12). In general these layers are very close to the modern surface and may be mixed with the topsoil in some cases. The pits (f186, f293, f298) are filled with ash and are very similar

to the Phase 2b pits. Small finds from Phase 2a come from one ashy layer just below the surface in Area VI (f327). The finds included a flint blade fragment (i229) and an obsidian blade fragment (i236), as well as a base of terracotta (i233). The lithic finds have similarities to the 2b finds in Area IV/V with the presence of both obsidian and flint blades.

5.4.4.4. Phase 2: Discussion

Although there are slight variations in the finds across the different areas of ASA, the overall character of the use is the same. There is no evidence for structures or installations on the scale of the Phase 3 finds. Phase 2 represents a much more scattered occupation with shallower pits, basins, and tannurs. The relative quantity of small finds is much higher in Phase 2 compared to Phase 3. This change may indicate a shift in the nature of the occupation from a dedicated craft area to a more diverse activity area.

The large quantities of unconstrained ash indicate a more relaxed approach to keeping the area viable for future work. In the Phase 3 contexts the ash was generally contained by small walls or dumped into deep pits. In Phase 2, there is a shift and the ash builds up fairly evenly across the area, with new pits simply dug into the existing ash layer during Phase 2a. This may indicate a seasonal or part-time use of the area rather than a more permanent occupation and use.

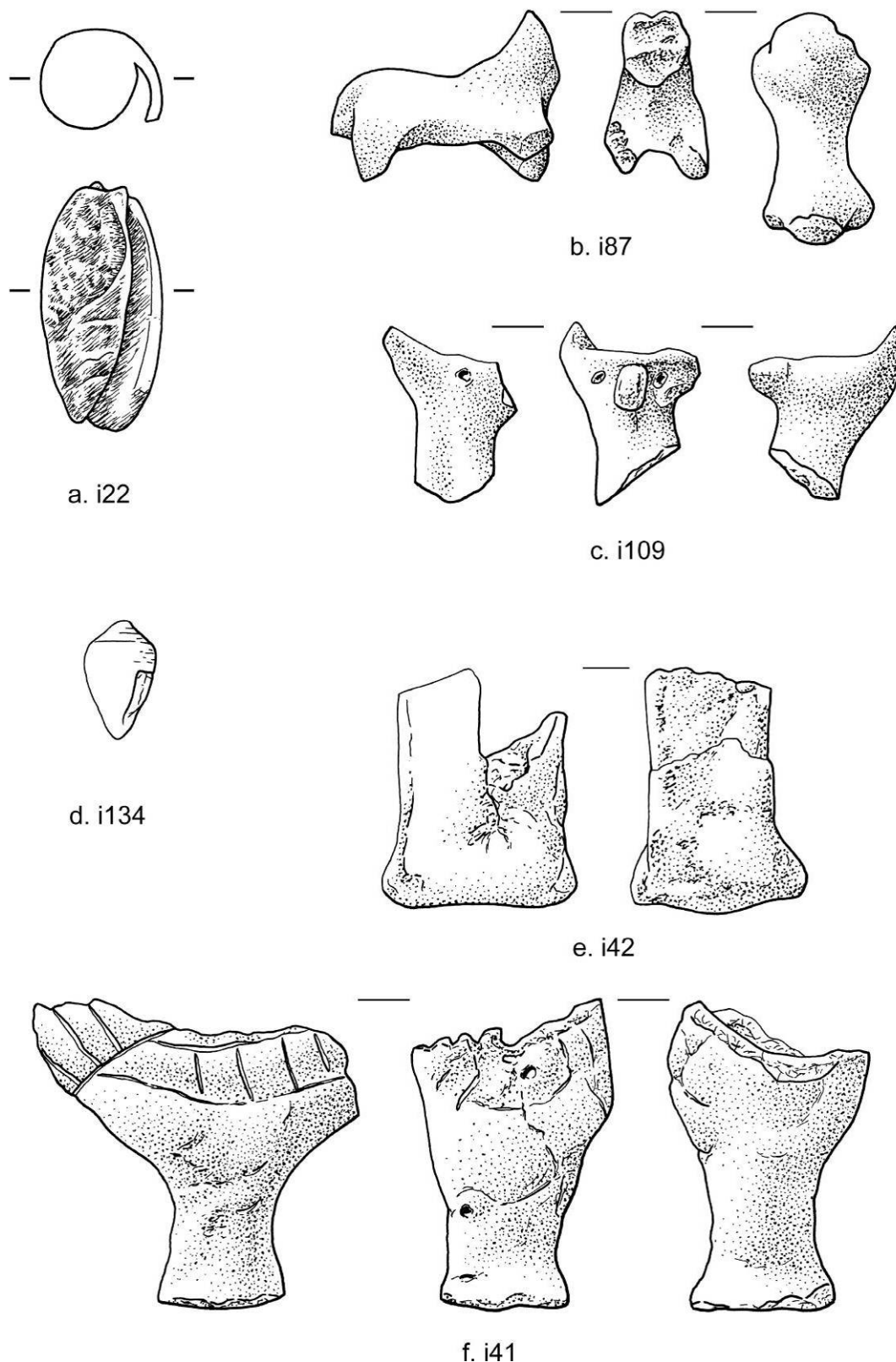


Figure 5.22 Phase 2 Small Finds. a). shell b). clay animal figurine c). clay figurine head d). shell e). figurine base f). clay whistle shaped like a bird. Scale 1:1. Drawings by Karlheinz Engemann.

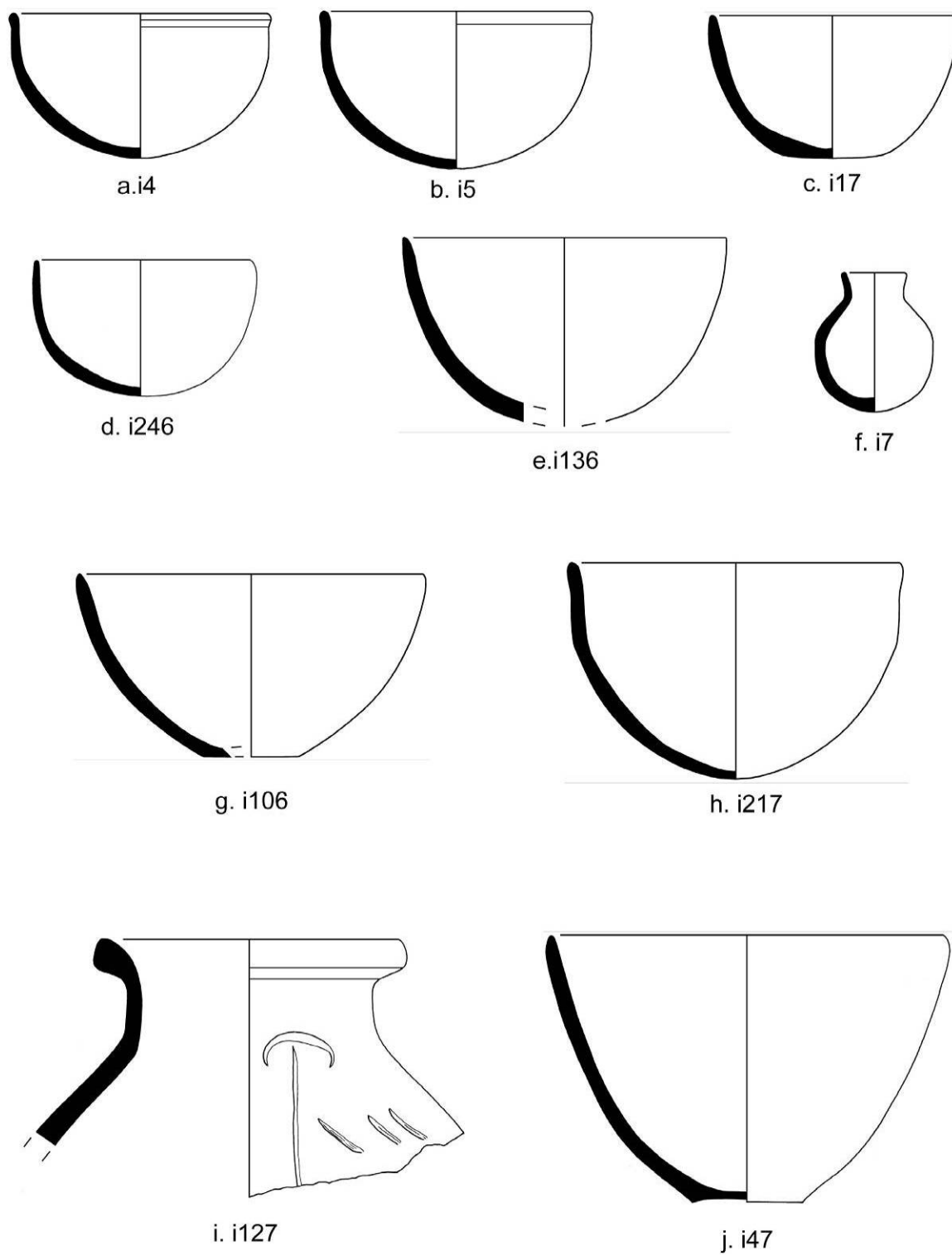


Figure 5.23 Phase 2 Ceramics. Scale 1:2. Drawings by Karlheinz Engemann.

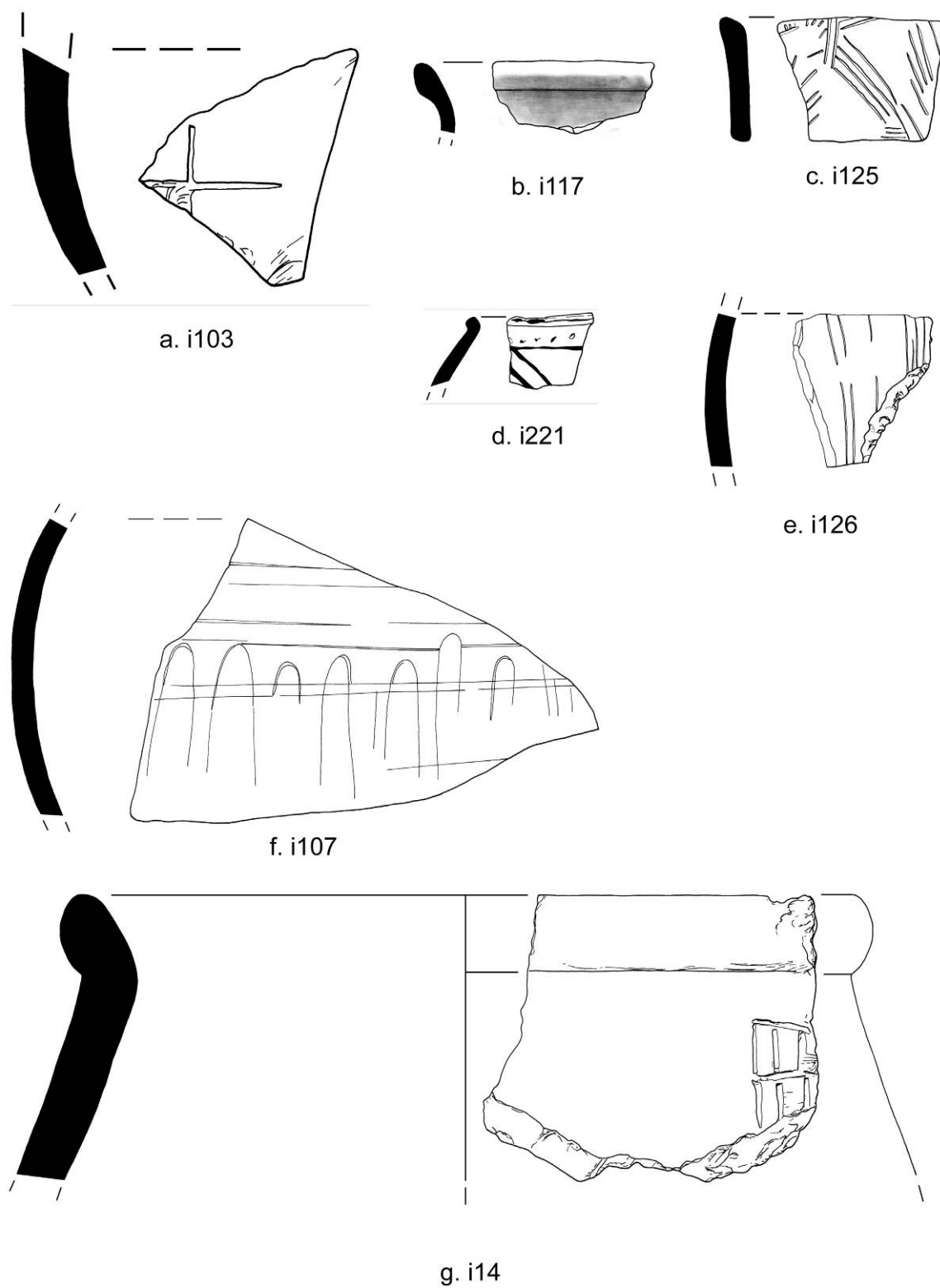


Figure 5.24 Decorated sherds from Phase 2. Scale 1:2. Drawings by Karlheinz Engemann.

The small finds represent a mix of types (Figure 5.22). The assemblage is similar to those found in non-religious contexts across the site, although lacking in distinct domestic items such as grinding stones or food preparation tools. The small finds included both anthropomorphic and zoomorphic figurines, flint blades, shells, and some vessels.

Ceramics from Phase 2 include a range of cups and bowls (Figure 5.23). A potter's mark was found on the shoulder of a jar (Figure 5.23i). Other sherds had incised decorated designs and one painted sherd was recovered (Figure 5.24). No distinct functional areas, with the exception of the possible stone working area were detected.

5.4.5. Phase 1: Complete ASA Area

The Phase 1 remains are composed of the topsoil layers and the modern surface. No features or installations were identified in the topsoil. Instead, a layer of soil varying in thickness was spread across the entirety of Area ASA. Despite not having any identifiable features, numerous small finds were found in these layers, including complete vessels. Almost 30% of the ASA small finds were recovered from the topsoil or surface. The small finds are a mix of objects, similar in diversity and type to the finds of Phases 2 and 3 (Figure 5.25). In an ashy layer (f286), a stone potter's wheel was found (see Figure 5.27). It is unclear if pottery was produced nearby in the later phase or if the stone was being reused for a different reason. It was found close to the surface so it may not represent *in situ* use. Comparisons from elsewhere on the tell, particularly area W, seem to indicate that garbage and general refuse were not transported very far from living and working spaces. It can reasonably be assumed that this kind of object was used near area ASA (Helms, pers. comm.).

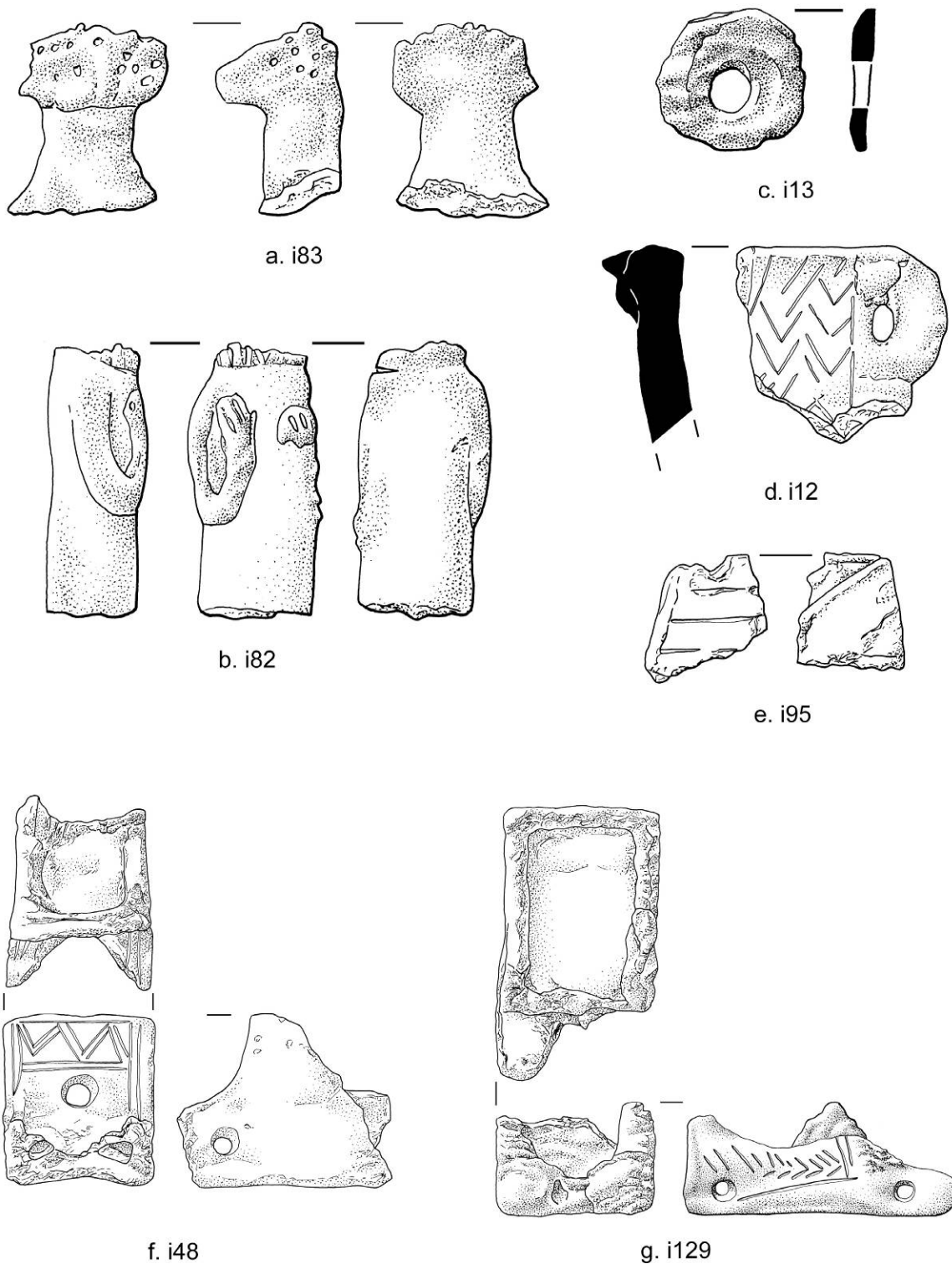
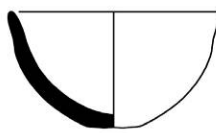


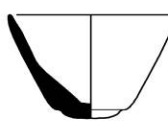
Figure 5.25 Small finds from Phase 1. See also Figure 5.50 below. a). Terracotta figurine head b). Terracotta figurine body c). Pierced mother of pearl shell d). Clay chariot fragment e). Clay chariot fragment f). Chariot model g). Chariot model. Scale 1:1, except f-g 1:2. Drawings by Karlheinz Engemann.



a. i6



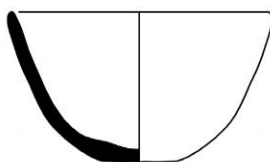
b. i53



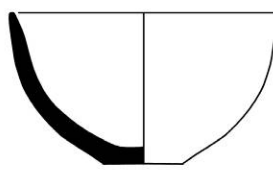
c. i94



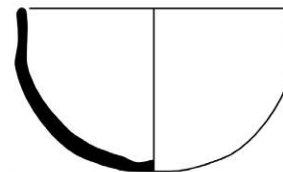
d. i121



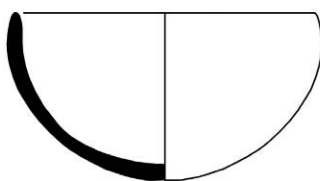
e. i135



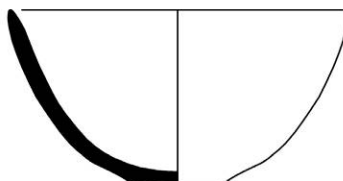
f. i93



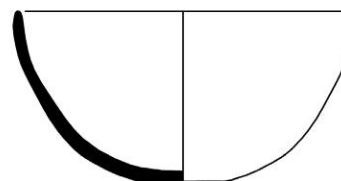
g. i49



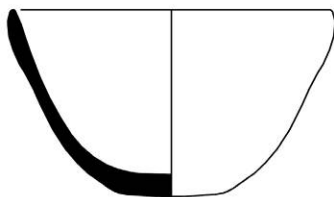
h. i91



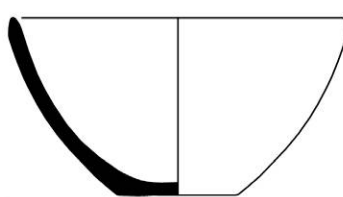
i. i92



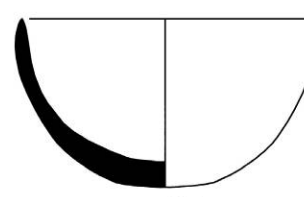
j. i243



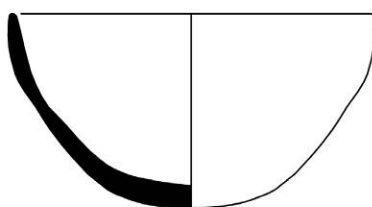
k. i32



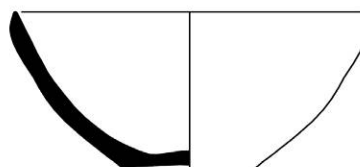
l. i78



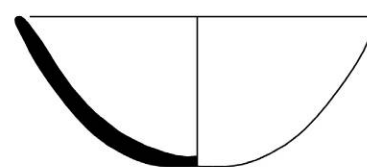
m. i21



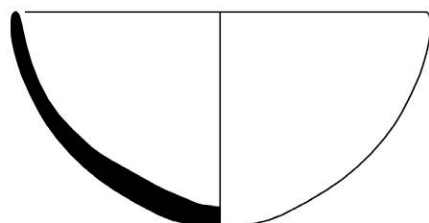
n. i132



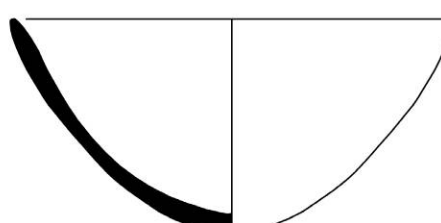
o. i105



p. i112



q. i114



r. i113

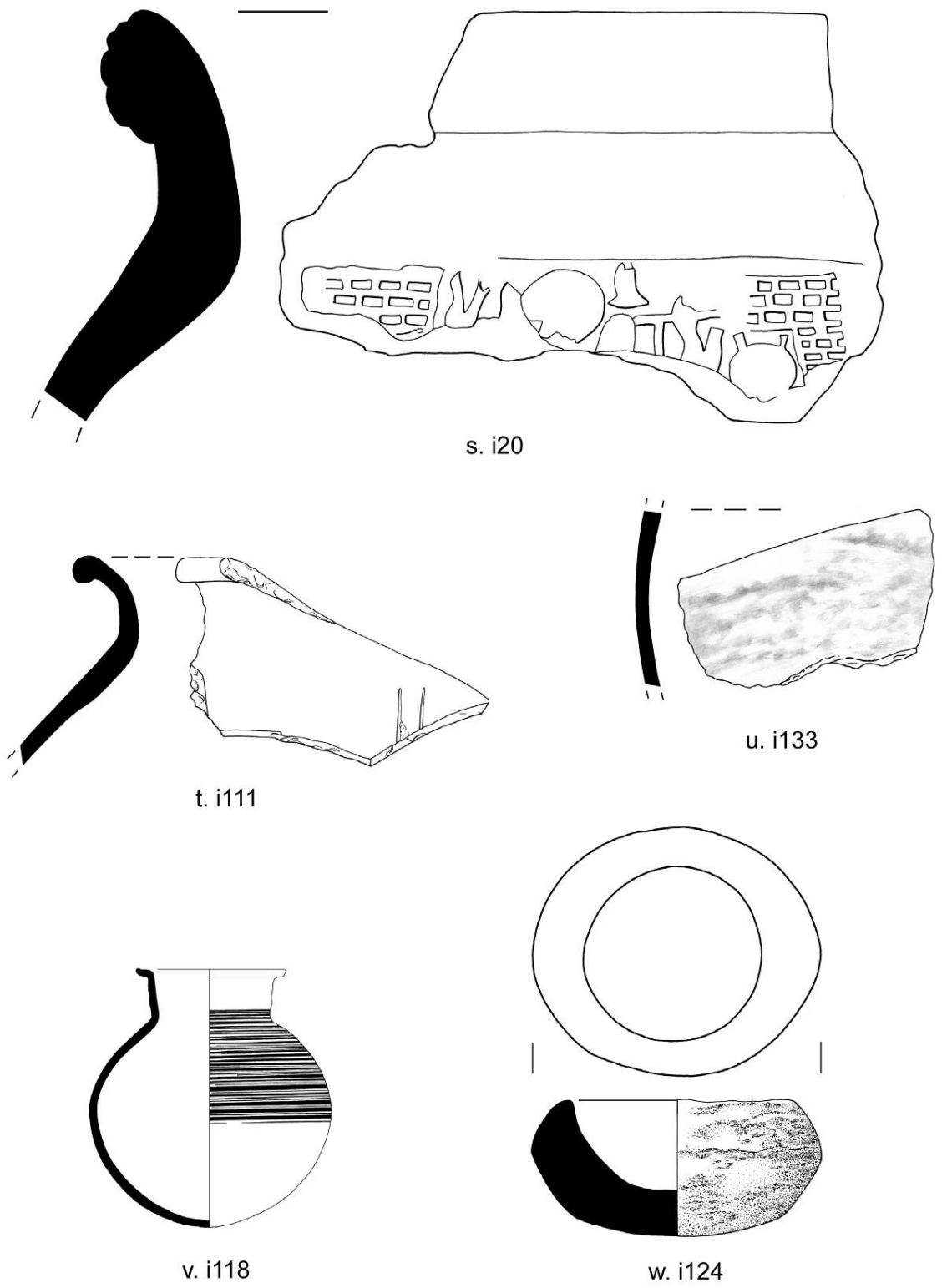


Figure 5.26 ASA Phase 1 Ceramics. Scale 1:2, except sherd s., Scale 1:1. Drawings by Karlheinz Engemann.

Ceramics from the topsoil are similar to those from the earlier phases with a range of cups and bowls (Figure 5.26). A large storage jar (i20) with a sealing on its shoulder was found without context in the Phase 1 layers (Figure 5.26s). The small finds and ceramics in Phase 1 are more plentiful and represent a wider range of material. ASA may have been an open area subject to use, dumping, and discard in Phase 1. The proximity to the surface of the remains of Phase 2, and in some cases Phase 3, may suggest that the uppermost levels of ASA are the disturbed remains of occupation layers. Over the millennia these layers may have been erased or disturbed by natural and cultural changes leading to the relatively uniform layer with a high quantity of artifacts.

5.5. Discussion

In order to better understand the ASA excavations, it is necessary to situate them within the larger site-wide context and look at possible comparisons for the workshop areas. The location of the small structures between the outer city wall and presumed waterway (Area I ditch) may have been a strategic choice based on the production needs of the area. The mix of installations, ash deposits, and open work areas seems to classify ASA as a dedicated workshop area.

5.5.1. Area ASA within its Urban Context

The establishment and development of Area ASA must be understood in the context of the larger development of the urban area at Tell Chuera. The earliest materials recovered from ASA in Area I and the Sounding in Area V have ceramics that primarily date to the site-wide period TCH ID. Some possible finds dating to TCH IC were found in the lowest levels but they were mixed with TCH ID. The ASA Phase 3 remains,

however, are securely positioned in TCH ID period. Not coincidentally this is also the period of greatest expansion in the upper and lower town as well. The extramural finds suggest the city continued to grow, even beyond its expanded size during TCH ID.

The growth of ASA in the ID period takes place in the context of a growing urban settlement at Chuera, and the expansion of urbanism across Northern Mesopotamia. As cities grew in the mid-third millennium, lower towns and outer cities were added. ASA demonstrates that in some cases the expanded areas still did not provide enough space for the growing populations and craft activities that were associated with the increasingly urbanized settlements. In the case of ASA, the added craft area was not substantial in the amount of time or resources necessary to construct such an area. The insubstantial nature of the finds may be a consequence of its location outside the walls where it was less protected.

The location of ASA appears poised to take advantage of the location along the presumed wadi course. The Corona images of the site from the 1960s (see above) seem to suggest that a wadi passed on the east side of the tell at some point in history. The Aussenbau, also located in the east, has an associated channel nearby. Together this may suggest that a watercourse, perhaps smaller than the Wadi Hamar, passed on the east side of the tell during the third millennium. The finds in the trench of ASA were inconclusive; however, sandy and pebble layers (f41, f42) were found layered over the clay layers, possibly associated with the movement of water. Further research is needed to determine the possible distribution of water channels in the third millennium around the site.

The wadi could possibly supply water for production or transport for raw and

finished goods. ASA is positioned between the channel and the city solidifying its position as part of the urban settlement, even if not within the walls. The Aussenbau, with its row of stone stelae seems to have a different function, focused on linking the urban area with the larger landscape. The two excavations outside the walls demonstrate the integration of this urban site with its greater landscape.

5.5.2. Function of Area ASA

The function of Area ASA remains elusive, but several possibilities may be proposed. Cooper (2006) has examined various craft production areas and how they are preserved in the archaeological record in the Euphrates region. She identified ceramic production areas (both for creating vessels and firing), metal workshops, textile production areas, and jewelry workshops. Evidence for any one particular craft activity such as metalworking, or ceramic production is sparse. Area ASA instead appears to have no one specific craft production focus, but rather is more broadly associated with work activities. The periodic reoccupation of the area over time seems to indicate that it is not a permanent settlement.

5.5.2.1: ASA Use

Numerous ash pits and areas for burning (e.g., tannurs, oven installations, open hearths) indicate that whatever activity took place in ASA was associated with burning and heat. Evidence for a variety of uses and craft activities may be indicated in ASA, but no specific craft activity stands out.

The small narrow quarters of ASA, with rooms filled with ash seem not to be associated with permanent habitation. Only Room I is of the size and type to be used for

habitation. The plastered benches along the walls and central hearth are common features for houses. It is also the largest room in ASA and the collapsed brick found around it suggests the walls were higher and more substantial than those of some of the smaller installations and rooms across the area.

Lack of open space suitable for tent placement also rules out the possibility of a transhumant temporary settlement, at least in Phase 3. Phase 2 is much more open and could be related to a temporary residential use of the area (see below). Overall, the small finds and installations do not appear to represent occupation primarily associated with habitation.

It is possible, however, that ASA represents a habitation area for non-elite craft workers. The small rooms and poor construction could be indicative of their relatively low rank in society. Lack of food preparation materials could be due to their place in the economic landscape, trading goods for food rather than processing the food themselves.

Pottery production areas are known from both the upper and lower town at Chuera. A “Potter’s quarter” was found near Steinbau V on the central mound (Moortgat and Moortgat-Correns 1975). This area included a mix of habitation and work areas. The Area W ceramic workshop is found in a household context (Tamm, forthcoming). The two ceramic production areas from the upper and lower town demonstrate that, despite the burning associated with some crafts (such as is found in ASA), these crafts were not exclusively relegated to unoccupied areas.

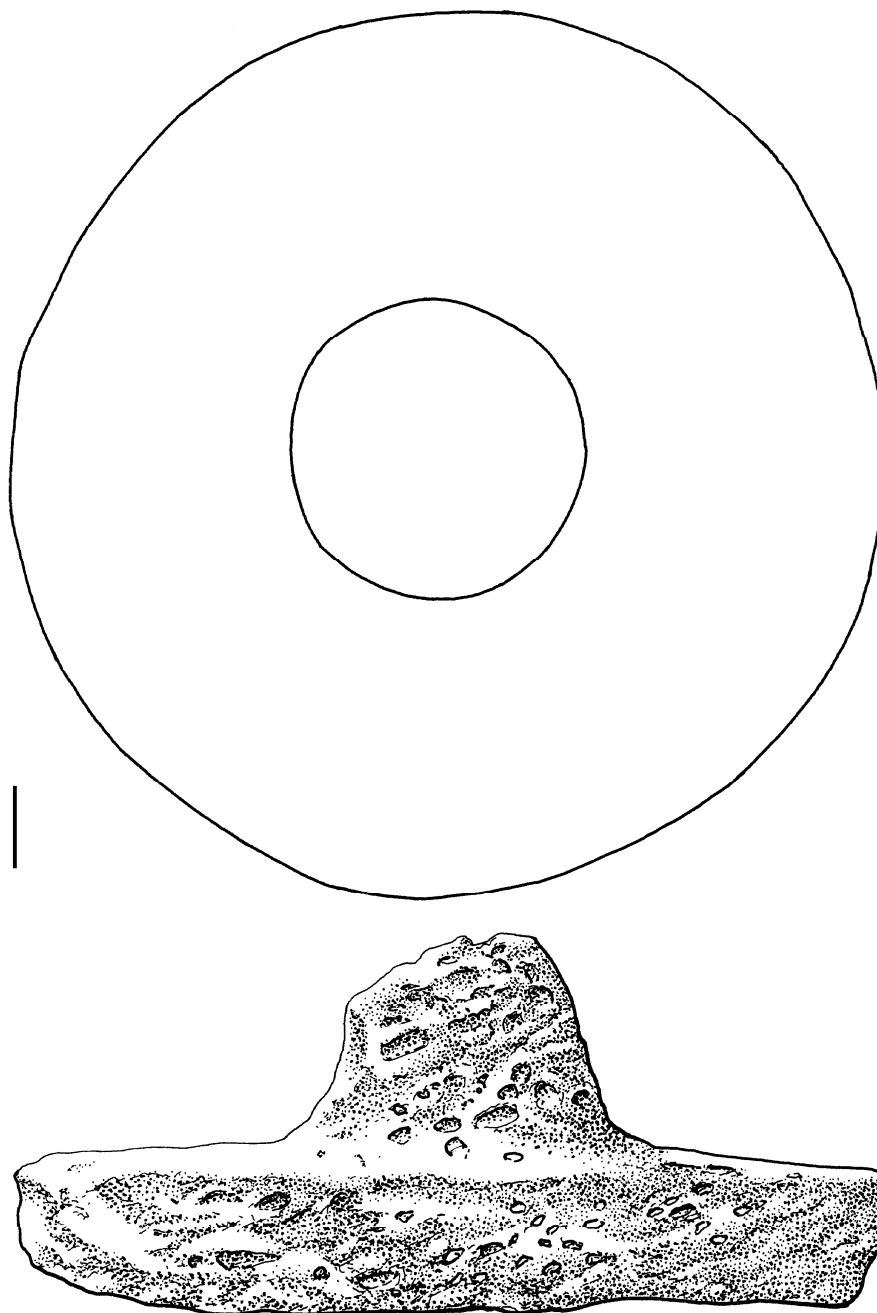


Figure 5.27 Potter's wheel (i215) from topsoil layer in Area VIII (f286). Scale 1:1.
Drawings by Karlheinz Engemann.

In ASA, however, the installations and small finds are very different from the workshop areas of the central mound or Area W. There are no kiln wasters or kiln waste and the small rings for stacking found in the Potter's Quarter were also not found (Burger 2008). ASA also lacks any substantial kilns, although small individual ceramics could have been fired in the tannurs, or in the open ash pits. The overall evidence argues against interpretation of the area as associated with ceramic production despite the find of a pottery wheel near the surface (Figure 5.27). In some cases, ceramics are created in one place and fired in a different location (Cooper 2006). It is possible that during the late period ASA was associated with creating and drying vessels, although perhaps not firing them. The Phase 3 remains, however, show no particular focus on ceramic production.

Evidence for metalworking can include stone moulds, anvil stones, and firing installations (Cooper 2006). Across the region evidence for metalworking is often found associated with domestic contexts, with some households also using their courtyards as metal workshops (Pfälzner 2001). Across ASA fifteen bronze fragments, including some (possible) unworked lumps were found that can be assigned to Phase 3 (See Appendix C). A grouping of five unworked pieces of metal (i240), probably bronze, was found in the NW corner of Area VIII. Other metal items were found in the ash deposits and open work areas, perhaps suggesting that this area was used, at least in part, for metalworking. The finds are too few to say conclusively. Unfortunately, no other evidence of metalworking such as crucibles, stone molds, or other implements have been found. The re-occupation and re-use of the same features during Phase 3 may suggest a seasonal or

other temporary occupation of the area. If indeed the area was used by metal workers, it could have been during only certain parts of the year or occupied by itinerant craftsmen who worked outside the city.

The production evidence centers on the large quantities of ash and fire installations. Together these installations indicate production involving repeated burning events. The extramural location of the ASA workshops may have been due to the dirty nature of the work. The high quantity of ash debris would have been unwelcome inside the city wall.

The process of making plaster, either gypsum or lime plaster requires firing at high temperatures over long periods of time (Gourdin and Kingery 1975, Kingery et al. 1988). Limestone is readily available in the area surrounding Tell Chuera, and in some places limestone pieces are found readily scattered across the surface (Helms, pers. comm.). It is possible that the ash was a byproduct of burning for the creating of lime plaster.

Traditionally, the tanning of hides is conducted at the edges of, or outside of, settlements due to the unsavory smells associated with the processing of the skins. Curing hides requires mixing ash and water with other chemical compounds (dung and urine) to soften the hides. The hides are often placed in pits or basins for curing and dying (Figure 5.28). Hide tanning is known to be an important industry across Mesopotamia with numerous texts from Southern Mesopotamia discussing the technicalities of hide



Figure 5.28 Tanning operation in modern day Fez, Morocco. Photograph by Fred Sharples, licensed under Creative Commons.

production (Levey 1957). Faunal evidence from Middle Bronze Age Umm el-Marra may indicate a focus on procuring hides (Schwartz *et al.* 2000). While the ASA workshop does not appear to be a concentrated hide production area (unlike the Fez example in

Figure 5.28), hide preparation on a small scale may have been among the activities conducted in ASA.

If the work areas were associated with either lime plaster creation or tanning, the choice of location between the city and the water of the wadi (in Area I) was a strategic choice since both plaster making and hide tanning require large quantities of water.

Overall, a mix of installations, pits, rooms of various size, and the open-work areas with no ascribable function likely indicates that, like most spaces, Area ASA was not dedicated to just one function or craft. Instead, the area represents the expansion of the city and use of space outside the walls for various activities, particularly those that may have created more refuse than welcome within the city wall.

5.5.2.2. Comparanda for ASA Finds

The poor preservation of many materials makes it difficult to interpret the different possible workshops that have been found at sites in Northern Mesopotamia (Cooper 2006). Numerous workshops are found within what appear to be domestic contexts (Wattenmaker 1998, Pfälzner 2001, Cooper 2006). The ASA finds, in contrast, are not associated with this type of building and therefore may represent either a different model for production (i.e. outside the household) or a type of production that was not suitable within household contexts.

In cases where outer towns or extramural areas have been investigated, the most commonly identified workshop area is usually ceramic workshops. This may be because the pottery byproducts are very durable and kilns easy to detect in magnetometry and excavation (Cooper 2006). Pottery production leaves many traces in the archaeological

record in the form of mis-fired ceramics, kiln waste, and actual kilns.⁸¹ Since none of this material was found in ASA, ceramic production seems an unlikely possibility for the area.

The closest parallel for the mix of small open-work areas and rooms comes from the middle Khabur site of Tell Gudeda. Excavations of this small, one-hectare site have found a mix of buildings and installations associated with production (Routledge 1998). No residential buildings were associated with the workshops. The settlement context is very different than ASA, as Gudeda is not associated with any monumental urban contexts, but instead is situated amongst numerous small sites along the middle Khabur that appear to be associated with the storage of agricultural products (e.g. Raqa'i, 'Atij, and Kerma). The Gudeda workshops have been interpreted as a multi-craft production area, with craftspeople harnessing knowledge of firing technology to produce plaster, ceramics, and metal objects (Routledge 1998).

The lack of comparanda for workshops like ASA highlights how much there is still to discover about the craft production and craft economies during the Early Bronze Age. The comparative material, however, does suggest that most production areas were not focused on one activity either mixing residential and production areas or, as in the case of Gudeda, multiple craft production activities in one place.

5.5.3. Change in Use Over Time

The multi-phase occupation in area ASA is indicative of the long-term reuse of the area. The wadi, as represented by the ditch in Area I, served as a transport and

⁸¹ See Chapter 3 for a full analysis of extramural and lower town work areas across Northern Mesopotamia.

communication route that repeatedly brought people through the area. The rise created by the earlier (Phase 4) materials of ASA served as a desirable location, slightly above the surrounding plain.

Even in Phase 2, when the buildings of Phase 3 had already begun to collapse, the area was reoccupied, at least temporarily. The tannurs, ash layers and ash-filled pits suggest that the area continued to be used for burning operations, although on a less permanent basis since they no longer constructed or used rooms or outdoor pebble work surfaces. The small finds associated with the Phase 2 layers are similar to those found in habitation areas elsewhere on the site and may indicate transient habitation in the area. The lack of structures associated with this phase may be related to the temporary or transient nature of settlement during this period. The Phase 2 remains have been suggested to belong to TCH IE, a period of decline at the site. The extramural settlement during this phase may represent the partial breakdown of the urban settlement with non-structured settlement outside the walls.

Overall, Area ASA represents a strategic choice by the workshop's users to situate themselves outside the city walls and near a water source. The lack of associated houses or open spaces for living quarters suggests that the workshop's users either lived inside the city and used the space outside the walls as an extension of their work domain or lived in undetected quarters nearby. In both cases, the workshop is specifically located to make use of the land and resources near the site, and located between the transport route of the wadi, and the city, it is poised as a point of connection between the central city and broader hinterland.

5.5.4. Conclusions

The original goal of the ASA excavations was to explore the extramural area that had visible remains in the geomagnetic study. The identification of this area as a workshop during Chuera's peak period of urbanization, TCH ID, fits with the understanding of the larger development of the urban area during this time. The site had already expanded to include the lower town, surrounded by the outer city wall, and certain activities that may have previously taken place outside the city were pushed even further out, into areas like ASA. Area ASA provides several important insights on the extramural areas of Tell Chuera.

First, as suspected, the depression seen in the geomagnetics can likely be confirmed as a remnant of a wadi or other watercourse. Layered deposits, mixed with pebbles, seem to indicate that the ditch carried water at least seasonally. Further geomorphological study could help better understand this feature. The ditch provided an incentive for the placement of ASA on the eastern side of the site, perhaps allowing for craft activities that require large amounts of water, even away from the main branch of the wadi to the west.

Also detected in the geomagnetics were some possible small rectilinear structures. When excavated the area was revealed to be a mix of small rooms and installations. The character of the remains in ASA turned out to be different than the other, previously known, extramural religious area of the Aussenbau. The nature of the finds cannot pinpoint the exact nature of production activity conducted at the workshop. A multi-functional interpretation seems most likely based on comparative data and the variety of

small finds. From the earliest layers in Phase 4 ASA appears to be conceived as an open-air work area. The area may have functioned generally as a work area with no specific craft association. ASA demonstrates that craft activity at Chuera was not confined to domestic workshops, as is seen in the central mound or the lower town. Instead, work areas are found well outside the city and outside of domestic contexts.

ASA's settlement was relatively short-lived, spanning TCH ID. Virgin soil was found only 2–3 meters below the surface. Over time the area was re-used and re-occupied, perhaps seasonally, with a substantial gap in time between the Phase 3 and Phase 2 remains. The rise created by the ASA area, alongside the ditch of Area I, was likely desirable for re-use and resettlement.

The excavation of ASA provides a new viewpoint on how urbanism is practiced outside of city walls. Since no occupation areas were conclusively detected, it appears the area served as a dedicated workshop area, related to the urban settlement at Chuera, although not necessarily under its direct control. Such a dedicated workshop could not have existed outside a context for both producers and consumers. The urban framework of Chuera provides that context and situates ASA within a complex urban system. ASA represents a deviation from previously known household workshops and demonstrates that the extramural area was home to multiple activities, adding craft production to the previously known religious and burial activities taking place outside the core of the site.

5.6. Conclusions

Tell Chuera's development can help provide an understanding of how urban sites developed and maintained their urban character through the third millennium (Figure

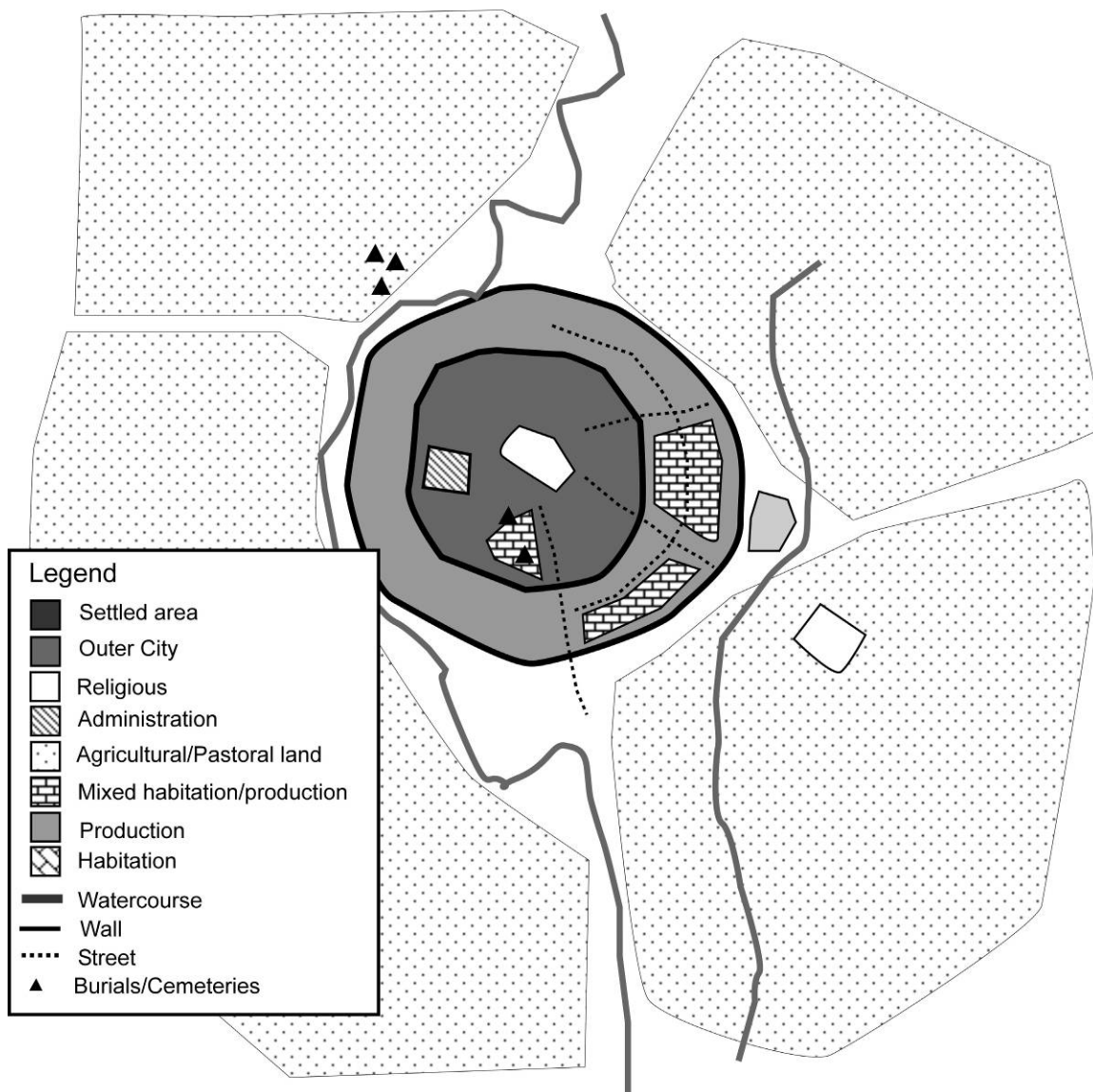


Figure 5.29 Schematic of Tell Chuera activity and distribution of urban components.

5.29). Area ASA gives a glimpse of the importance of these extramural areas as an integrated aspect of the urban system. As numerous texts and other avenues of investigation have shown, urbanism is not only reflected in the elite monumental structures of central mounds, but rather is lived and experienced throughout the landscape as part of the settlement structure and network that involves numerous offsite locations.

Since the workshop area was located outside the city walls it was probably not attached to the political or religious institutions of the period. Craft production across Northern Mesopotamia during the Early Bronze Age is found in both elite sponsored and independent contexts (Wattenmaker 1998, Mazzoni 2003, Kelly-Buccellati 1998). The diversity of finds and the lack of specific craft activity may be related to the independent nature of the ASA area. As the comparative material from Gudeda demonstrates, workshops sometimes diversified in order to best manage their skills and technological knowledge (Routledge 1998). Since ASA is not an elite workshop, and shows signs of diversification, it may reflect attempts by marginalized groups to situate themselves within the urban system without being under the direct control of any elite hierarchy.

ASA is situated outside the wall, near the presumed water source of the secondary wadi, and is poised to serve as a connecting point between the city and the greater hinterland. The location may have been selected due to the possibly undesirable nature of the production activities (such as lime burning or hide tanning). The area was modified and reused over the course of TCH ID and may be indicative of seasonal occupation. The eventual breakdown of the area corresponds to the overall decline in urban settlement across Northern Mesopotamia – indicating the reliance on the larger urban network by even these small workshops.

Chapter 6. A Modular Approach to SUR Urbanism

6.1. Introduction

As discussed in Chapter 1, the current understanding of Northern Mesopotamian cities as citadel cities, that is sites with a raised, high mound containing the central institutions, needs a more robust investigation. The concept of the citadel city implies a homogenous lower town serving a less important role in a hierarchical relationship. Certainly, the center part of the city is the locus of many important activities, as is evidenced in many formations of urbanism around the world. The importance of multiple nuclei and various neighborhoods with distributions of power and authority within these various districts, however, should not be underestimated.

Numerous approaches have sought to examine the various features of urban society. Craft specialization, a hallmark of complex society, has been explored at numerous sites (Stein and Blackman 1993, Blackman *et al.* 1993, Wattenmaker 2008, Hartenberger 2003), and the locations of households and farmland have also been explored (Pfälzner 2001, Wilkinson 2003). Wilkinson's (2003) discussion of the layout of urban areas only begins to touch on the possibilities of urban organization, and very few systematic studies have worked to determine what activities are actually taking place within these urban areas. What is needed now is an approach that can bring together disparate data sources and approaches to create a coherent overview of Early Bronze Age (EBA) cities.

This chapter lays out a modular approach for understanding the distribution of

urban structures and activities within third-millennium cities. The approach identifies individual components and their spatial inter-relationships and shows that cities are composed of both individual components and commonly recurring combinations, or modules, of components. Reviewing the distribution and connections between components and modules across all sites in the area lays the groundwork for addressing their standardization.

6.2. A Modular Approach for Studying Cities

Cities are often discussed as if they are a single entity, particularly in the context of landscape studies. Investigation of cities, however, shows that they are composed of various different parts – neighborhoods, districts, households, businesses, etc. – that combine to create something larger. Interactions between various levels of society have been divorced from a strictly hierarchical or nested perspective through the concept of heterarchy within urban environments. Heterarchy has been defined as “the relation of elements to one another when they are unranked or when they possess the potential for being ranked in a number of different ways” (Crumley 1995:3). Using this concept, different components of the urban system can be related in various ways without hierarchical organization. City components can be assessed through the lens of heterarchy because they are generally unranked relative to each other and can exert different influences in different segments of society. For example, a small shrine can be the primary place of worship for a neighborhood, ranking high in significance for the immediate area, but hierarchically subordinate to larger temples or cults. The same shrine may be used in seasonal rituals or pilgrimages and have shifting significances over time.

Bringing together data from the different sites of the Jezireh and broader Northern Mesopotamia, it becomes clear that cities there are composed of sets of features within the physical landscape and built environment. The individual components of urban society – houses, workshops, streets, city walls – form its basic building blocks. These components can appear individually or grouped together as small modules throughout a city. The concept of interlocking and overlapping modules builds on Alexander's (1965) concept of the semi-lattice. What we find is that the elements themselves are not necessarily meaningful since they are more or less the same across cities (temples, palaces, workshops, houses, etc.); instead, it is the arrangement and relationships between different components that are meaningful. Because it is not possible to excavate an entire city completely, it is necessary to make generalizations about lower towns and cities. Geomagnetic prospection can often reveal large plans of streets, locations of buildings, and open spaces; but it is limited in providing evidence for use or change over time.

6.2.1. Understanding Urban Organization

Urban theory has long recognized a degree of “spontaneous order” in cities (Alexander 1965, Hélié 2009, Smith 2010). Before modernization cities often formed around natural paths in the landscape and patterns of use (Hélié 2009). In some cases, concepts of ‘organic’ or ‘natural’ cities have been applied in archaeology, with archaeologists investigating degrees of planning and meaning in ancient cities rather than strict planned/unplanned dichotomies (e.g. Wheatley 1968, Smith 2007, Baker 2007, Bard 2008). Planning can be linked to levels of complexity and integration within society (Blanton *et al.* 1993, Stein 1994). As discussed in Chapter 2, Smith (2007:4) has

proposed “a new approach to ancient urban planning that uses two concepts: coordination among urban buildings and spaces, and standardization of urban forms.” In the analysis of the third-millennium cities discussed here I have argued for a more expansive definition of ‘urban space’ to include areas around high-mounds and extramural areas. When we begin to examine the organization of the modules and components, focusing on their placement around the site, we find they are not free-floating individual parts, but rather part of the semi-lattice of urban structures. For example, the extramural work areas at Hawa and Chuera are described as being located “outside the walls,” yet closer examination shows they are both located along networks of pathways connecting the sites to their hinterlands. Are workshops preferentially located along pathways? Or do pathways form around important places in the landscape? These types of relationships between features are what form the semi-lattice of an urban environment. The relationship between buildings and spaces addresses the first half of Smith’s approach. The second half of his approach concerns degrees of standardization across cities.

The study of fractals, infinitely repeating complex patterns with similar shapes on all scales, has shown that they occur frequently in the natural world in everything from cells to matter in the universe. Research on the organization of African villages shows that in some cases they, too, are arranged around self-replicating, nested patterns (Eglash 1999, Eglash and Odumosu 2005). In the case of cities of the ANE it is unclear whether they break down into exactly similar patterns at all levels, and therefore are unlike fractals; but the fractal concept, in general, can be applied to cities themselves as they represent the larger agglomerations of smaller replicated patterns. Liverani (1999)

touches on a similar concept with his study of the importance of the village. He argues that in Mesopotamian cities there are often strong ties to the organizational basis of the village, which is replicated on small scales in neighborhoods and scaled up for a larger ‘village’ in the form of the city. This is not to say that the city is simply a large village, but that it retains certain underlying structures that are built out of smaller versions of the same structures. He also recognizes two major ‘poles’ in urban environments – the temple and the palace. In the current study of the cities of the SUR, we can examine various building blocks of the urban environment to see if they are replicated across the city and at various scales.

6.2.2. The Building Blocks of the Modular Approach

Based on the textual records and the study of numerous sites, both in the Jezireh and further afield, we can begin to assemble a list of components found in such cities. This is not a checklist in the style of Childe, but rather a comprehensive approach to understanding the components of a city, allowing examination of variation in their organization. Components are the individual units of analysis and can be combined into modules (built of multiple components). Both components and modules act as nodes within the urban network.

Zaccagnini’s (1979) analysis of the landscape of Arraphe provides a baseline for landscape components including watercourses, mounds, woods and forests, towns and villages, arable land, uncultivated land, houses, stables, roads, and wells. He groups ‘on-site’ features under the category of ‘urban structures.’ Based on the study of cities presented in Chapters 3 through 5, five categories of urban structures can be identified:

productive, administrative, residential, mortuary, and ritual/religious structures. Overall, nine landscape and urban features were identified from third-millennium cities: city walls, agricultural and uncultivated land, water resources (wells, wadis, rivers), roads and streets, workshops, administration buildings, houses, mortuary structures and burials, and temples and shrines.

By conceptualizing the city as series of linked and/or overlapping modules of activities, it is possible to examine the degrees of complexity and the potential interrelationships between social structures. The overlap of various components is useful for understanding the relationships between the different aspects of urban society. For example, Stein (2004) describes Northern Mesopotamian temples as without associated economic functions and posits they were little involved in the economy of the city. When the general pattern of lower towns is mapped, however, a correlation of religious buildings and administrative and storage structures appears, particularly at the extramural temple of Chuera (Aussenbau), or the temple/storage complex at Hadidi, or even the mix of religious and storage facilities at Kazane. Co-occurrence of temples and administrative/storage areas is not the only information that can be drawn out of the modular approach. The broad distribution of temples throughout the different areas of cities, as evidenced by the review above, was also noted by Stein (2004), who concluded that this may evidence a more tribalized society with local community temples.

6.2.3. Complexity, Integration, and the Urban Network

Stein (1994) discusses the degree of integration within Mesopotamian cities and concludes that there was often a poor degree of integration with elite institutions

engaging in subsistence activities, utilitarian craft production, and animal husbandry. The replication of similar functions throughout the city in lieu of a system of exchange indicates a low level of integration and high segmentation within the city. The urban layout of SUR cities also shows this kind of 'dual economy' with widespread craft production in lower towns and extramural areas as well as the co-occurrence of workshops with households.

The degree of centralization in a network can be observed in the number and frequency of overlap of its nodes (Blanton 1976). In the semi-lattice resulting from SUR cities, only few components have significant overlap. In fact, households have numerous connections, perhaps indicating their central role in urban society as loci of habitation, religious practice, and production. On a broader scale, however, the cities of the SUR demonstrate a greater degree of centralization. Settlement patterns clearly show a concentration of population into urban centers, with larger and denser sites and fewer small village sites. In this sense, the cities of the SUR show a high level of centralization or urban concentration of political, religious, agricultural, pastoral, and production activities. On the scale of the city, however, there is a greater variation and low levels of integration and centralization. A multi-scalar view shows that there are differences in the degrees of integration and centralization in the political, religious, agricultural, and productive spheres.

Some authors have argued that the rise of cities in the mid-third millennium included a level of corporate action (Porter 2004, Fleming 2004). The Ebla texts discuss a tripartite division of authority, an aspect of society that may be expressed in the

construction of various modules throughout the city with separate religious, burial, and production areas. Other lines of evidence also hint at a corporate social identity as well, including burial practices (Porter 2002b), concepts of kingship, and the role of temples (Stein 2004).

In archaeology, as well as urban studies, there has been a growing movement to recognize emergent processes, to allow agency in the historical record (e.g. York *et al.* 2011). By examining cities more broadly, on a macro-scale, by compiling evidence that is collected on a much smaller scale, both emergent processes and top-down planning can be observed. In the case of the SUR cities, city walls, major street plans, and major administrative buildings often appear to be part of a broader plan, possibly imposed by high-level administration. Within the framework of this evidence for planning, however, is evidence for emergent processes as well. The workmen's quarters at Leilan appear to be deliberately closed off from access to the main street, evidencing the creation of smaller subsets of society between the broader planned aspects. Of course it is not surprising that inhabitants exert control over their own portions of the city – this type of personalization is evidenced the world over in modern urban environments.

6.2.4. A Modular Approach: Distributed Urbanism

A combination Alexander's semi-lattice concept, fractals, Zaccagnini's landscape features, Childe's criteria for urbanism, and Smith's ideas on coordination and standardization produces a modular or component-based approach for assessing SUR cities. By adopting a broad view of the arrangement and relationships of various urban markers (or components), a basic understanding of complexity and integration within

SUR cities becomes possible. Examining cities at a broad scale and mapping the overlap of the various components can highlight possible relationships or disconnects among different segments of society. As was discussed in Chapter 2, the city can be a reflection of the broader society. Bringing together that idea, with the concept of the modular city, we can begin to look at the significance of the overlap in various urban aspects. Cities are part of larger systems that have multiple facets, such as political, familial, tribal, and religious associations and networks. In order to identify broader social patterns of SUR cities the schematic modular approach can incorporate constrained evidence (i.e. that deriving from excavation and surveys) into broader understandings. For example, a single house with a potter's wheel has societal connotations that are different from multiple co-occurrences of ceramic discard at houses across numerous sites. Overall, a modular approach to understanding cities has the value of approaching the city from archaeologically recoverable aspects. Assembling the component parts and examining the lattice pattern that emerges can help show connections between the different segments of society.

The approach outlined in this section provides an avenue for understanding the cities of the SUR through an analysis of their urban features and the spatial relationships of those features, and could also be used to examine cities more broadly. The first step is to look at different types of modules formed from component parts. Nine major component parts were identified in the lower towns and extramural areas of Northern Mesopotamian cities: water resources, roads (extramural), streets (intramural), city walls, administrative structures, temples and shrines, houses, production and workshop areas,

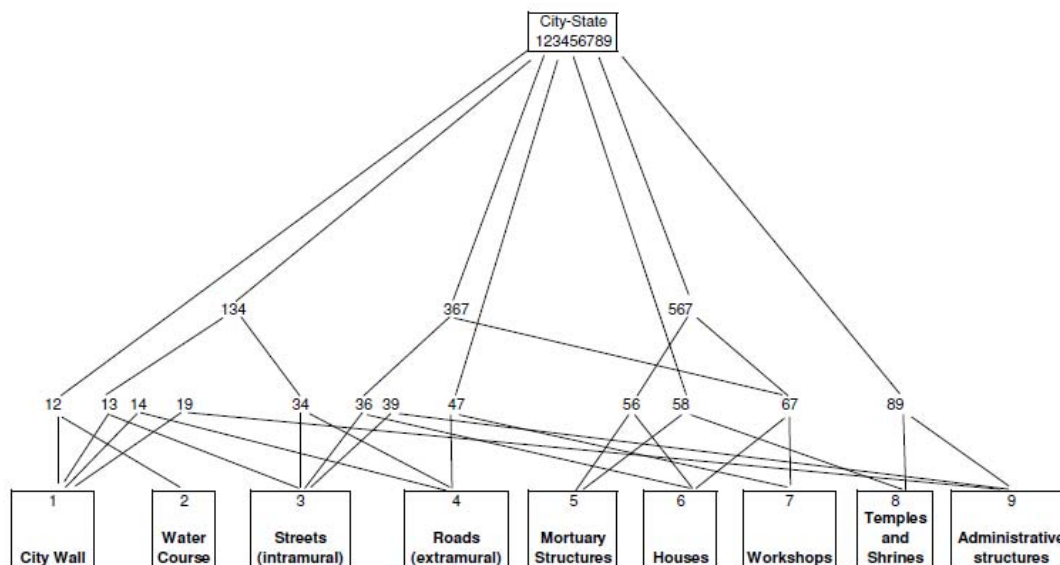


Figure 6.1 Semi-lattice of Jezireh sites based on concept from Alexander (1965). The lattice is modified to represent archaeological units rather than the system-units employed by Alexander.

and mortuary areas.⁸² These components can be organized into various modules that consist of one or more of components. The modules can then be associated with larger spatial groupings, such as neighborhoods and districts, eventually encompassing the entire framework of the city-state. For example, a house can be a simple place of habitation or it can be a house, workshop, and burial area, all in one. It can also be a house and burial area only. Also a house can belong to a neighborhood, a network of production activities, or a political unit within the city-state structure. By mapping the different activities and components at the sites the semi-lattice of the urban environment begins to emerge (Figure 6.1).

⁸² The individual components of any particular city may vary (cities without city-walls for example); however, the listed components are the major observable components of the cities in the Jezireh.

I use the term ‘distributed urbanism’ to describe the overall dispersal of the various activities throughout lower towns and outside city walls. Unlike a concentrated citadel city, the activities of these cities are broadly distributed. But it is also unlike a Maya low-density city or settlement, with the activities and structures still highly nucleated rather than broadly dispersed (Sanders and Webster 1988, Fletcher 2009). Not only are different places/buildings distributed throughout the urban landscape, but the distinct urban functions of a city (craft specialization, storage, religious worship, etc.) are also spread throughout the city. This is not meant to deny the importance and significance of the high mounds, which clearly retained a privileged position in society as the location of primary temples, palaces, storage facilities and residences, but rather to expand the concept of urban complexity from the high mound into lower towns. Complexity outside high mounds emphasizes a broader view of third-millennium society that includes non-elites.

The following section discusses similarities and differences between the cities of Northern Mesopotamia and examines the spatial relationships of their various components or modules.

6.3. Components and Modules in Northern Mesopotamian Cities

Applying the modular approach detailed in Section 6.2, this section approaches SUR cities from the component parts discussed above. A review of the individual components in their urban context is given, followed by a discussion of the various components and overlaps that frequently form. This survey of outer cities and extramural excavations across the Jezireh clearly shows the limited nature of the data and the

potential for further research. Nevertheless, when brought together such data allow some first tentative discussion about the formulation of cities during the third millennium and the distribution of activities across them.

Some studies of urban layout and urban planning have drawn broadly from the Near East, including sites from northern and southern Mesopotamia, broadly across Syria, and across time periods (Lampl 1968, Nishimura 2008, Creekmore 2008, van de Meiroop 1997, Keith 2003, Stone 2007, 2008, Trigger 2003). In the discussion of Chapters 3, 4, and 5, a tight focus has been maintained on sites within the Jezireh, with only a limited sampling from beyond the region for comparative analysis. This tight focus allows the development of a clear model for urban contexts during the third millennium. Eleven sites in the Jezireh form the core of the analysis, with relevant comparisons and counter examples drawn from the seven comparative sites with lower towns.

As argued in Chapter 2, urban societies occupy a continuous space that includes both cities and their associated hinterlands. For purposes of analysis, the city-state structure can be broken down into four main tiers: the central city (usually the high mound), the outer city or lower town, the extramural or immediate hinterland, and the broader supporting landscape. Until now, most studies, particularly excavations, have focused on the first tier – the inner city. A counter program of research has also addressed the fourth category of rural settlements and villages (e.g. Schwartz and Falconer 1994, Wattenmaker 1987). Following the example of Algaze and Matney at Titriş Höyük in southeast Anatolia, this study addresses the middle two tiers – the lower towns and extramural areas. Data from the 20 sites reviewed in this dissertation are examined here

to assess commonalities and differences in urban layouts and the spatial relationships of various urban components.

6.3.1. Overall Urban Layout

Before turning to the specifics of where different urban structures and activities are found throughout cities, an examination of overall urban layout is needed. The initial settlement of lower towns seems to follow a similar timeline although the physical expansions take different forms. Three scenarios can be laid out. The first is perhaps the most common, as represented by the Kranzhügel sites (Chuera and Beydar), Mozan, Leilan and Hamoukar. In this scenario the outer city expands rapidly and is enclosed by an outer city wall setting a new limit to site boundaries. The second scenario has been discussed in relation to Tell Brak, with a slow conglomeration of dispersed settlement (in the fourth millennium) leading to a build-up in the lower town (Oates *et al.* 2007, Ur *et al.* 2011). In this scenario the outer town is not circumvallated. Mohammed Diyab may follow this scenario as well. The third scenario is a slow expansion outwards from a center that gradually integrates a larger area into the urban core. This is most clearly seen at Tell Taya where ‘growth rings’ are seen in the accretion of houses and structures in the outer town (Reade 1973).

There is variation in the shape of sites as well. Two main types can be distinguished by the position of their high mounds: central and off-center. Central-mound sites can be further subdivided to include those of round and oblong shape. Lower towns are generally areas of mixed use, and burials have no set locations, with evidence of intramural household burials, monumental tombs, and extramural burials. Workshops are

found mostly alongside houses. The relative lack of administrative and religious buildings could be significant, although it seems more likely to be a result of the small scale of excavations in lower towns, because large-scale projects like Taya and Hamoukar found evidence of administrative buildings. Overall, lower towns and extramural areas can be seen as extensions of the urban environment, rather than as separate residential areas.

Both natural landscape features and major construction projects shape overall urban layout. Around the Khabur, sites such as Leilan, Hamoukar, and Brak continue to grow and expand during the EJIII period. Sites often take on a 'natural' or organic shape, following the contours of preexisting natural and man-made features. At Mozan the outer city wall not only clearly follows the natural features of the landscape but also mimics the oblong shape of the central mound as well. In contrast, the Kranzhügel, or double-walled round city that appears during this period, takes on a more standardized plan. City walls, streets, and roads have longevity at many cities as they represent a major outlay of resources and thus are not often substantially altered. These features can be detected at many sites and represent the long-term shape of the city even while houses, individual buildings, and various areas are continually altered and rebuilt. The natural landscape is also an important factor in shaping the city. The availability and location of agricultural and pastoral land influences the size of cities and the placement of roads. Watercourses can serve to sustain cities and also serve as boundaries for expansion. Within the framework of the larger constructions and physical landscape, a mosaic of urban structures occurs. Four major components help shape the overall urban layout: city walls,

agricultural and uncultivated land, roads and streets, and watercourses.

6.3.1.1. City Walls

City walls have been a major aspect in the identification of urban sites in Northern Mesopotamia since Poidebard first took aerial photographs of major sites in the early twentieth century (Poidebard 1932). Satellite images from the 1960s through the modern day have only served to strengthen the ability to detect city walls from above (Ur 2003).

City walls were obviously an important aspect of the urban landscape during the third millennium. The developmental trajectory of Mozan, Chuera, Leilan, Beydar, Hamoukar, and al-Hawa suggests that city walls were an integral part of the urban landscape from their first conception. Inner-city walls at these sites date towards the beginning of the third millennium. Rapid expansion and enclosure of lower towns demonstrates that extended areas were also conceptually part of the urban landscape. Ristvet (2007) believes that construction of the outer city wall at Leilan around 2600 BCE marks the moment of division between urban and rural. Yet, as we have seen, urban landscapes continue beyond the walls, and while the walls of inner cities separate them from lower towns, lower towns became integrated into urban life. More excavations in areas outside city walls are needed to determine if there are significant differences.

Area ASA at Tell Chuera (Chapter 5) suggests that these areas are part of the urban system although they may represent either lower-status areas or temporary use. Tell Brak, lacking an outer city wall (and possibly an inner city wall, as well), represents a special case, probably because of its unique role as a gateway city (Chapter 3). The other two sites lacking outer cities and outer city walls, Kharab Sayyar and Mohammed

Diyab, were smaller secondary sites and may not have needed to expand significantly because they were each located near an expanding larger urban center that was the focus of the urbanization process.

City walls have been considered to be a symbol of monumentality and centralized control. Analysis of the work hours and labor necessary for the construction of the Leilan city wall estimated construction lasted only one building season (Ristvet 2007). The various construction techniques displayed in the segments of the Chuera and Kharab Sayyar walls led the excavators there to believe the individual segments were built by the bordering neighborhoods (Meyer 2006). Based on the Leilan, Chuera, and Kharab Sayyar examples, it appears that city walls may have resulted from communal effort, even if part of broader, centralized urban plans. As components of urbanism, city walls represent major points of potential contact and interaction, acting as both points of separation and connection between various zones of the urban landscape (see below).

6.3.1.2. Agricultural Land and Uncultivated Land

It is clear that landscapes around major urban sites were used for agricultural and pastoral activities to help support large urban populations. Faunal and botanical analyses indicate mixed economies based on agriculture and sheep/goat flocks (Zeder 1995, 1998, Wetterstrom 2003, Deckers and Reihl 2008, Reihl 2009, Hald and Charles 2008). Wilkinson (1994) estimates that the agricultural area necessary to support the urban sites of the Jezireh would need to include at least a 5 kilometer radius around each site.⁸³

⁸³ Wilkinson (1994) bases his approximations on average crop yields and a predicted population density of 100 people/ha in cities.

Beyond the agricultural fields were areas for grazing of large flocks of sheep and goats, also controlled by urban inhabitants (Buccellati 1990). Texts from Beydar indicate that flocks there were maintained primarily for their wool rather than for food (Sallaberger 2004).

Without textual records discussing the shapes or ownership of fields (as are found in Southern Mesopotamia), it is nearly impossible to reconstruct the distribution of fields around cities of the SUR, although study of hollow ways and sherd scatters have explored the extent of high-intensity exploitation around tells (Wilkinson 1994, 2001, Wilkinson and Tucker 1995, Ur 2002a, 2003, 2009, 2012). Incised hollow ways are still visible in the landscape. They usually terminate about 3–5km from their origin sites, and Wilkinson has proposed they represent paths from the cities to the fields. The points at which they dissipate are considered to be the boundaries of intensive cultivation (Wilkinson 1994). The presence of a continuous scatter of battered sherds, found in a halo around most third-millennium sites, is also taken as an indication of the extent of agricultural activities. Spreading of manure and other settlement-derived waste helps preserve soil moisture and may be associated with periods of agricultural intensification (Bintliff and Sodgrass 1988, Wilkinson 1994, 2003).⁸⁴

In the Beydar texts the grazing of flocks in local areas is discussed, and it may be possible that this reflects not only the grazing rights of the central government's flocks, but also those of the larger community. As Bloch (1931) points out for the history of

⁸⁴ Some authors have challenged this interpretation of sherd scatters, citing the need to accommodate post-depositional processes and scattered short-term occupation as possible originators of field scatters (Alcock *et al.* 1994, see also comments from Oates, Schwartz, and Weiss in Wilkinson 1994).

agriculture in medieval France, grazing on stubble was a post-harvest right of local peoples and an inherently communal process. The practicalities of restraining animals to set plots of land for grazing, coupled with needs for additional grazing land, led to communal grazing rights. The depression south of Mozan's outer city also produced evidence of grazing probably occurring in post-harvest periods, based on the proximity to the city itself.

Agricultural and pastoral land was an important part of the city-state structure and sustained the urban societies of the third millennium. Maintaining the environmental and the agricultural system required a complex balance of resources, such as manure and fuel, while also retaining a system of fallow (Wilkinson 2004). The greater landscape also included villages and specialized sites (quarries, religious outposts, wetlands, etc.) and was crossed with roads connecting them. These tier-four areas fall outside the scope of this study, but were clearly integrated into the city-state urban-rural continuum.⁸⁵

6.3.1.3. Roads and Streets

Roads, streets, and alleys represent the variety of travel routes found within outer cities and extramural areas. Generally, the network of transit patterns can be broken down into three main types: roads, streets, and alleys.⁸⁶ Beyond city walls, numerous roads branch out from city gates. Some provide access to fields, workshops, and pastoral areas outside city walls, while others provide longer-distance connections to subsidiary villages

⁸⁵ See Schwartz and Falconer (eds.) *Archaeological Views from the Countryside* (1994) for a view of urbanism from the rural standpoint.

⁸⁶ These divisions are somewhat arbitrary, however, they help define the various types of transit pathways and have heuristic value.

and other cities. Streets covered longer distances within the city, with evident ring-roads and long straight streets attested from numerous sites (Moza, Chuera, Taya, Leilan, Hamoukar, Hadidi, Kazane, Titriş, and Mari). At the smallest end of the network are alleys and small passages between houses that are often dead ends and thus semi-private spaces (i.e. Kazane, Taya, Hamoukar, Moza, and Chuera).

Zaccagnini identified differences between short roads that connected cities to their small settlements, and others that he calls 'wagon roads.' Wilkinson correlates the longer distance roads with the hollow ways that seem to connect sites, and the 'wagon roads' with the shorter hollow ways, which rather than wagon roads, may be pathways to local fields (Wilkinson 2003:119). The linear hollows observed in the landscape have been interpreted as roadways connecting cities to their farmland and to other cities.

Within lower towns, the majority of evidence for streets comes from geomagnetic studies. Excavations of some streets have found variation in their construction. Radial streets originating from central high mounds are known from Kranzhügel sites, such as at Beydar, Chuera and Kharab Sayyar, and also from sites such as Mari. The street pattern at Moza also shows a localized radial pattern, with streets appearing to emanate inwards from the outer city gate (Pfälzner *et al.* 2004). This pattern may also be seen at Hamoukar (Gibson *et al.* 2002a, 2002b, Ur 2002a).

Main streets crossing large portions of cities were found at most sites including Moza, Chuera, and Taya, as well as more broadly at Titriş, Kazane, Hadidi, and Mari. At Chuera, a major road acts as a ring road, providing a route through the outer city, bypassing the high mound. The ring road even had preserved wheel impressions,

indicating repetitive traffic (Tamm, pers. comm.). The streets at Taya lead outward from the citadel and often have apparent offshoots and dead ends. The geomagnetics at Mozan also show a mix of broad streets with smaller alleys. The geomagnetics at Kazane and Titriş provide an extended counterpart. Streets at these sites – where both major and minor streets have been excavated – lack any patterned organization (i.e., radial or orthogonal), yet major streets seem to be oriented to provide passage to primary sections of the city. Several houses at Leilan are arranged along a street yet have no doors opening onto it. For the excavators this street represented a centrally organized process, with houses constructed alongside the street, but not attached to it.

Main streets are often maintained over very long periods of time, even while smaller areas with side streets and alleys are continually reorganized (Keith 2003). Comparisons with Old Babylonian cities in southern Mesopotamia show that main streets remained constant while small alleys and streets were generally maintained by the bordering houses and frequently shifted as houses and areas were repurposed or realigned (Keith 2003, Stone 2007). The main street at Leilan, approximately 4.5 meters wide and paved with sherds, stayed in use for a few hundred years (Weiss 1990b, 1991).

At Hamoukar, small neighborhood streets are connected to shared open spaces such as courtyards and cul de sacs (Colantoni and Ur 2011). This layout contrasts with the Leilan Lower Town South, where even the alleys recovered provide no access to the excavated houses. Some alleys or paths between buildings appear to be opportunistic and unplanned, such as the alley between the workshops of ASA at Chuera (Chapter 5). The larger plans available from Taya and Mozan appear to show alleys branching off large

streets, sometimes terminating in dead ends. In the study of later Old Babylonian neighborhoods, these dead ends could often be used to form small neighborhoods or family groups (Keith 2003). In the Old Babylonian texts it is clear that alleys could be held as private property but that streets and roads could not (Keith 2003). The patterning of the Old Babylonian street system seems similar to the evidence from the Jezireh cities, with larger streets covering longer distances and sometimes paved with sherds.

All together the evidence shows a complex network of roads, streets, and alleys. Transit of goods and people through cities was an important aspect of city planning, with streets providing access to other areas in lower towns, various neighborhoods, and, in some cases, providing direct access to high mounds. Additionally, streets can represent emergent processes, since they often result from the formalization of pre-existing transit patterns (Hélie 2009). Within the cities of the SUR, transit routes are important part of the urban network and further study could help illuminate spatial relationships between various sections of cities. Furthermore, extramural roads could serve as guidelines for where to look for possible extramural settlement. The significant geomagnetic line detected near area ASA at Chuera is just one example of this type of connection (See Chapter 5).

6.3.1.4. Water Resources

Survey results show that sites are preferentially located along watercourses in northern Mesopotamia (Deckers and Dreschler 2011). These rivers, wadis, and streams not only provide water for the human and animal inhabitants of cities but also serve as valuable transportation and communication networks (Eidem and Warburton 1996).

Water is an important resource in the region even to this day, and available water resources were clearly a restraining factor for cities in antiquity.

McClellan and Porter (1995) suggest that some features associated with Kranzhügel sites might be associated with site-wide water conservation and management strategies, including on-site channels and depressions used to trap water.⁸⁷ Although they initially explored these concepts only in relation to Kranzhügel sites, depressions and channels are found more broadly. The presence of on-site channels has been confirmed at Chuera although it is unclear if they were specifically intended to harvest water (Meyer 2010b). Depressions like the one noted at Mahat adh-Daru and Brak were also found at Mozan (McClellan and Porter 1995, Chapter 4). It is possible that these depressions, perhaps an unintended consequence of soil use for mudbrick fabrication, were repurposed for retaining moisture (Wilkinson 1994, Wilkinson *et al.* 2010). Drainage channels at Beydar and Chuera suggest that capturing and containing water on-site was an important part of city planning (Meyer 2010c, Debruyne 2003b).

Ancient wadi channels appear to have passed directly through both Taya and Mozan. At Chuera the Wadi Hamar borders the site closely to the west. Margueron (2004) believes that the canal at Mari was used to transport goods and people into and out of the city and that it would have served as a major connecting route to the Euphrates.⁸⁸ If the canal was indeed used as a major route through the city, it provides a parallel for the wadi passing through Mozan. In the case of Mozan, it appears that the city wall may have

⁸⁷ In general, their proposal that the ‘hollow ways’ around sites are used for water management is not as widely accepted as Wilkinson’s (1990) interpretation of hollow ways as routes to fields and between sites created by repeated movement of people and animals.

⁸⁸ But see Lyonnet 2009 for a counter argument to the dating of this canal.

enclosed the wadi, allowing the watercourse to pass the walls, either by passing underneath or through an opening in the wall.

In addition to wadis and rivers, wells served as an important source of water in SUR cities. Wells have been identified at Mozan as a source of water during the third millennium. Evidence from Sweyhat also suggests the use of intramural wells, possibly connected to transport channels (Zettler 1997b:45). Almost every level at Hamoukar has also revealed the presence of wells, indicating their importance for water supply at the site, particularly in the absence of a significant watercourse nearby (Gibson *et al.* 2002).

A lack of a standard location of cities relative to watercourse seems to reflect an adaptive approach to water resources rather than specific planning initiatives. Sites like Mozan and Taya accommodated nearby watercourses as they developed. While most cities were located near wadis, those without nearby watercourses used numerous wells and possible channels to control water resources (e.g. Chuera, Hamoukar, and Sweyhat).

6.3.1.5. Urban Plans on the City-Wide Level

Cities of the SUR seem unbound to uniform cosmological or political ‘ideal shapes’ of cities, instead often adapting preexisting conditions to construct expanded urban places. The major features described here help define the boundaries of different urban tiers and set the stage for the arrangement of urban structures. City walls are the most dramatic markers, forming separate areas of the city that endured for their entire occupations. City gates as places of access and control were an important aspect of city life (see below). The surrounding fields provided necessary agricultural and pastoral

produce to sustain cities. The majority of urban inhabitants were probably involved in agricultural and pastoral pursuits despite being occasional part-time specialists (Colantoni and Ur 2011, Butzer 2008). Because so much of the population was increasingly nucleated in urban centers (as attested by survey), rather than dispersed across villages, a majority of urban inhabitants would have needed to continue their engagement in agriculture and pastoral activities to avoid dramatic shortages of food and/or labor.

6.3.2. Urban Structures: The Components of SUR Cities

Various urban structures are found within the scope of the broader urban layout. Urban structures can be divided into five major functions: productive, administrative, residential, mortuary and religious. These five categories are represented in the urban landscape in workshops, administrative buildings, houses, mortuary structures, and temples and shrines. Often a particular structure can cross between these categories,⁸⁹ and they are not rigid definitions, but serve more as a guide for understanding the different functions of places within the city, places where people live, work, interact with the government, worship, and are buried. Together the features below describe the everyday lived experience of an urban environment. The arrangement of the different features shapes the way people lived their lives, and provides insight on the standardization of activities across the Jezireh and more broadly.

6.3.2.1. Workshops

Production and craft specialization are an important aspect of urban society.

⁸⁹ See Section 6.3.3. for discussion of important overlaps within SUR cities.

Although the majority of urban inhabitants probably retained some agricultural responsibility, workshops also existed in the urban context. Workshops have been found in both lower towns and extramural contexts. Wattenmaker (1998) has studied the distribution of workshops in Anatolia and found they are often found associated with residential areas, suggesting people used their space for both living and working. This tradition may be result from the close connection of part-time urban specialists to agrarian lifestyles. Comparative material from numerous third-millennium sites (Helms, forthcoming, Wattenmaker 1998, 2008, Mazzoni 2003) indicates that production areas were often intermixed with residential occupation, with very few specialized workshops. Ceramic production for household consumption is known at some sites, yet only a few workshops have been excavated in the Jezireh. The available data, however, provides a baseline for understanding the distribution of craft activities, particularly when compared to better-known workshops in broader comparative contexts.

Production areas were identified at Mozan, Chuera, Hawa, Leilan, and Taya. Only in the case of Leilan and Chuera were they excavated. Surface remains at Mozan, Hawa, and Taya, however, indicate both ceramic and lithic production took place in cities. At Mozan a possible ceramic production area was detected in the northern part of the outer city, while at Taya a lithic production area was observed from surface remains also to the north of the site. Kilns and kiln waste located in the eastern part of Taya also suggested the location of a workshop. At Hawa two possible extramural ceramic production areas were detected from surface finds, including kiln wasters and a possible kiln. The evidence from Sweyhat suggests aspects of the production sequence may have taken

place in different parts of the city, with firing relegated to the outskirts, likely because of the smoke and ash.

The extramural workshop of ASA at Chuera has no definitive craft activity attested but instead seems to indicate a mix of various activities (Chapter 5). Extramural workshops in the suburban areas were found also at Titriş, but the workshop excavated there, again north of the central mound, was dedicated to the sole production of Canaanian blades, unlike the mixed-use area at Chuera. Textual evidence from Ebla provides a closer parallel for Chuera, describing oil pressing, storage, and craft activities associated with dyeing in the immediate hinterland of the site (Biga 2013). At Sweyhat an apparent extension of urban activity outside the city wall was detected to the south, possibly a trading colony or workshop area (Zettler 1997b).

Leilan is the only site of the Jezireh where dedicated workshops have been observed (Weiss *et al.* 1990, Blackman *et al.* 1993, Senior and Weiss 1992, Senior 1998). Numerous stacks of fused kiln-wasters were found near the city wall (Op. 4). Although the excavators cite the waster stacks as evidence of craft specialization, they appear to have been found in an area also associated with houses; despite their characterization as specialized workshops, it remains unclear if these spaces were dedicated to craft production alone or mixed use. Analysis of the clays of several waster stacks shows they derive from a variety of clays used in numerous workshops, indicating there was little centralized authority either in the supply chain of raw materials or in the actual physical production of vessels (Blackman *et al.* 1993). Furthermore, these ceramic workshops were located within the city. Variations in the standardization of their products suggest

significant differences between different workshops/craft specialists (Blackman *et al.* 1993).

The workshops at Titriş, Kazane, and Banat provide an important comparison for the Jezireh workshops. Extensive programs of excavation at these sites shows that even in suburban workshop areas with dedicated tasks, workshops were associated with residential areas. The suburban workshops at Titriş are particularly interesting as each suburb appears to have had a specific task. Workers were clearly involved in the large-scale production of particular types of lithics for broader consumption (Hartenberger 2003). At Banat a concentration of ceramic workshops were found intermixed with residential areas but appear to have produced ceramics on a large scale (Porter and McClellan 1998). An elite-sponsored textile workshop at Kazane, bordering an area of elite houses, is further evidence for specialized workers producing on a large scale (Wattenmaker 1998). No workshops of this type have yet been detected in the Jezireh.

6.3.2.2. Administrative Structures

Leilan, Hamoukar, Mozan, and Taya have evidence for administrative activities in their lower towns. At Leilan and Mozan the outer-city administrative areas are near the outer city walls and appear to be associated with the control of movable goods and storerooms at points of entry to the city. Hamoukar and Taya both have evidence of large buildings affiliated with storage and administration.

The city wall excavations (Op. CG) at Leilan and the OH2 excavations at Mozan both produced numerous sealings. These sealings are parts of systems of securing movable goods and controlling access to storage areas, providing information on

administrative systems (Zettler 1987). The Leilan excavations uncovered a long sequence of continual reuse of the area near the city wall for administrative functions. At both sites the ceramics also appear to be of more specialized types, not associated with normal household distribution, strengthening the argument that these two places were locations of administration, not household storerooms (Ristvet 2007, Chaves Yates 2011).

At Hamoukar a building with a niche and buttress construction was identified as an administrative building. It was located along a small street across from some other small administrative buildings. The large scale of the building and a specialized room with small strips of clay and sealings indicates that administrative activities that took place within the building complex. The excavators believe these buildings are evidence for centralized administration in the lower city (Gibson *et al.* 2002a, 2002b). A large building (SW2-5) was found also at Taya, just to the west of the high citadel mound. This extremely large building was interpreted as a barracks based on its ground plan, and only a few rooms were excavated (Reade 1971). Associated small rooms may be storage rooms. In either case, the large building is associated with the centralized administration of either people or goods.

Evidence for administration is constrained to specific contexts, particularly finds associated with city walls, which may represent one of the only major places where the centralized administration exercised control over the population at large. The administrative building in the lower town at Hamoukar appears to be unassociated with storage of large quantities of grain or other staple-finance goods that might be associated with rations. This is unlike the case at Kazane, where it is clear that the administration

was storing large quantities of barley in bulk and in small portions. Storage silos and institutional storage of staple products are also attested in the lower town at Tiriş. This may represent a significant difference between the layout of Anatolian sites and that of sites of the Jezireh. Kazane is also the only site where a possible 'palace' has been identified in the lower town.

The degree of centralized administration at urban sites is debated. Weiss (1986a, 1986b) has argued explicitly for a staple-finance economy controlled by centralized elites. Recently, Ur (2009) has argued for a more flexible model with shared risk and a more household-based economy. Dispersed administrative buildings and the lack of detected large-scale food storage areas in lower towns support the latter interpretation. Certain aspects of the city were part of a larger centralized activity, particularly in the location of city gates that acted as points for exercising control and restricting access.

6.3.2.3. *Houses*

All of the excavated lower towns have shown extensive evidence for houses and habitation. Clearly one of the main reasons for building the extensive lower towns of the mid-third millennium was to provide living space for increasingly nucleated populations. The concentration of populations into urban centers at the expense of smaller sites explains the need for urban expansion and new areas of habitation in mid-third millennium cities. Houses are found up against city walls, in the large expanses between walls, along major streets, along small alleys, and in varying sizes. The diversity of house location and size is indicative of a lack of institutional control in placement and design.

The geomagnetics at Chuera and Mozan show a dense network of streets and

small rectilinear structures believed to be houses. At Chuera a network of large houses and workshops along a main street were found inside the city gate. Such houses are larger than their urban counterparts on the high mound (Tamm, pers. comm.). Houses were excavated at Leilan near the city gate, too, as well as in the flat area between the inner and outer city walls, suggesting the lower town was broadly settled with houses. Similarly, excavations at several areas around Hamoukar have recovered evidence of habitation. The stone foundations at Taya provide a clear picture of a dense settlement of houses, sometimes grouped into small neighborhoods around dead-end alleys (Farrant in Reade 1973). The test trenches in different areas of Mohammed Diyab also produced domestic remains, including tannurs and household ceramics. Houses were also found in several areas at Beydar.

At Leilan the houses of the Lower Town South area had no openings onto the abutting major paved street, suggesting that while certain aspects of the urban plan may have been centralized, houses were constructed and maintained by individuals or family groups according to their own concepts of privacy and community. The houses at Hamoukar (Area H) had shared small spaces connected to small, abutting streets. It is believed that these small streets would eventually have joined major streets somewhere outside the scope of excavations (Colantoni and Ur 2011).

The Hamoukar houses had a central courtyard plan – a common third millennium house type.⁹⁰ At Taya the W1 Mansion also had a central courtyard with several different

⁹⁰ A full study of households is far outside the scope of this discussion, but see Pfalzner 2001 for a comprehensive overview and explanation of possible centrally assigned ‘house-plot’ parcels. Also see Creekmore 2008 and Nishimura 2008 for household approaches to the study of lower towns in Anatolia.

storage rooms and household work areas, such as a kitchen. Numerous central-courtyard-type houses recovered in Tiriş's lower town also show evidence for various household activities and specialized craft production. The houses at Beydar that bordered the city wall were relatively small and included mixed ceramics and items that may be associated with household-level production (Milano *et al.* n.d.). The houses at Hamoukar appear to be solely residential in function, that is, they had no associated workshop areas. At Leilan the residential areas are associated with workshop debris, although no specific workshop areas were identified. A comparative house from Sweyhat saw mixed use with weaving, baking, and other household functions. Generally, houses across Northern Mesopotamia are broadly located in lower towns and represent mixed-use areas.

6.3.2.4. *Burials and Mortuary Structures*

Mortuary evidence from the urban landscape of the Jezireh is somewhat mixed. Cemeteries with numerous burials, intramural house tombs, intramural funerary structures, and extramural cemeteries are all known. Burials, often with multiple interments, were found at Taya, Leilan, Beydar, Mozan, and Mohammed Diyab. Despite this apparent diversity, the typology of burial types appears to be narrower than that found in the Euphrates or Anatolia, where large monuments, hypogea, and extensive cemeteries occur.

In some cases burials were associated with household contexts, probably serving as local family tombs. In the Jezireh, household tombs were found at Taya, Leilan, and Beydar. A tomb with four individuals was found associated with the houses in Op.4 at Leilan, but these were not specifically placed inside the houses themselves. Op. 4 was

located along the face of the outer city wall. Houses with associated burials were also found on the inside face of the city wall at Beydar. At Leilan another 26 burials, more than half neonates, were found in the Lower Town South, an area with a primarily domestic occupation (Weiss 1990b). At Taya a central courtyard house had a stone tomb built into the cellar with several burials (Reade 1971). At Beydar houses along the inside of the city wall also had household burials. The detailed study of household activities at Kazane provides the best comparative material for household burials, showing that the area of the courtyard with access to the family tomb was generally clean and treated with reverence (Creekmore 2008).

Cemeteries are known from Chuera, Leilan, and Beydar, with multiple individual or group burials. At Leilan a cemetery was located within the city walls to the southwest of the main mound. At Beydar an extramural cemetery with a mix of pit burials and small mudbrick tombs was found outside the outer city wall (Bluard 1997, Bretschneider 1997). Fifteen burials were found around the city wall, with several cut into the wall itself. The large quantities of possible mortuary ceramics and associated human remains near the rise of the city wall at Mozan may represent a similar burial pattern (Chapter 4). A single burial with rich grave goods including metal objects was found about 200 meters from the high mound at Mohammed Diyab, but it was located in the modern village, so it is unknown if it belongs to a larger cemetery. The Chuera cemetery is located further away from the site and may be indicative of interaction with pastoral groups, as intramural burials are also known from the high mound. A parallel for the extramural cemetery might be found at Titriş, where a shift from extramural burial during the pre-urban phase

toward intramural household tombs may be an avenue for investigation of the urbanization process at other sites, like Chuera (Laneri 2007).

Based on variations in locations and types of burial both within individual sites and across different cities, it appears that no major prohibitions or standardized preferences dictated burial placement or type in the cities of the SUR. Major mortuary monuments appear to be missing from the landscape, as well, with no centralized ‘royal’ tombs (such as seen at Bi’a, Banat, and Jerablus, on the Euphrates). Furthermore, extramural cemeteries are poorly attested in the Jezireh for two possible reasons: first, the focus of excavations on urban sites may have prevented the detection of such sites; and second, extramural cemeteries may have been rare because extramural land was set aside for agricultural use.

6.3.2.5. Temples and Shrines

The identification of ritual and religious buildings is difficult without excavation. While craft production areas and areas of habitation might be evident in surface assemblages, little distinguishes ritual and religious buildings on the surface. Since the floor plans of the buildings were preserved at Taya, it was possible to identify three possible shrines or temples in the outer city (Reade 1973). The possible temples are spaced throughout the city with no apparent fixed orientation. The placement of temples at Taya corresponds well to the small religious shrine or temple excavated at Hadidi. The Hadidi temple appears to be integrated into a residential neighborhood of the lower town and, like most temples of the period, has an associated complex of small supporting buildings (Boor 2012). Similarly, a temple and religious complex was detected in the

lower town at Kazane. The Kazane temple borders an area of elite residences and specialized workshops. At Ebla, it seems likely that numerous temples were located in the outer city area based on the later proliferation of temples (Milano 1995).

At Chuera an extramural religious complex, the Aussenbau, is the best evidence for extramural religious practices (see Chapter 5). The temple has some associated craft and storage areas and is located along a possible channel extending from a relict wadi (Moortgat 1960). Also near the Aussenbau is a processional way marked by upright orthostats and called the Stelenriehe (Moortgat 1960). At Banat, the temple in antis at the subsidiary site of Tell Kabir may have functioned similarly to the Aussenbau before the area was subsumed into the growing city at Banat (Porter 1995). Similar religious structures may have stood around or near other major urban sites of the Jezireh, but none have been detected as of yet. The extramural White Monument at Banat represents another particular type of mortuary and/or ritual space unattested in the Jezireh (Porter 2008).

Based on evidence from Taya and Hadidi, it seems likely that there were small temples located throughout lower cities, and possibly even around sites. Tell Khazna, a small site near Brak, is believed to be a cult center of the mid-third millennium, highlighting the diversity of smaller sites in the broader urban landscape (Munchaev 2004). Without excavation, it is next to impossible to identify the specific uses of such small sites.

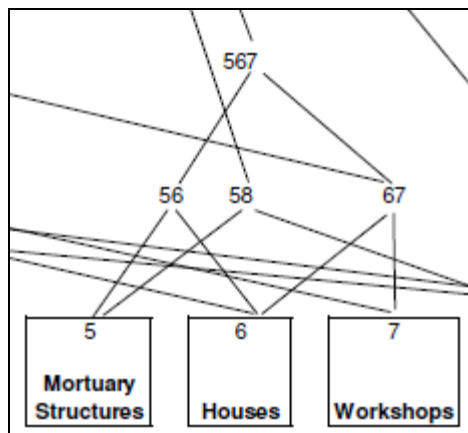


Figure 6.2 Close up of section of Jezireh semi-lattice from Figure 6.1. This section shows how individual components can be used to form a large module. In the case of houses, they are part of household workshops (67) and household workshops with household tombs (567).

6.3.3. Urban Overlap: The Modules of SUR Cities

The component parts of the city, discussed above, are not only arranged individually around the city, but also appear in various combinations, or modules. Components that cover large physical spaces often overlap more with other components, such as city walls, streets, and roads. Households or habitation areas also overlap interestingly. Some modules comprise numerous iterations of the same component – such as a road network of numerous overlapping roads or a neighborhood of several individual houses.

The semi-lattice is a visualization of the urban network, helping to identify common modules of urban layout through demonstration of common overlaps of components. Overall, the urban network is a series of relationships and connections

between different nodes. Each node is an individual place or space within the urban layout. Some nodes are individual components (e.g. a house), while others nodes are modules formed from multiple components (e.g. household workshop) (Figure 6.2). Connections between different nodes can help demonstrate relationships in urban fabrics.

Because city walls have many points of contact with other urban components and serve as thresholds to areas beyond the walls, they form an especially important node of urban networks. Because they served as points of access control, city walls unsurprisingly overlap with nearby administrative components. Both Leilan and Mozan show evidence for administrative complexes located near presumed city-gate locations. As an example of a network node, this overlap is a particularly good illustration. Administrative activities in these locations are made possible only by their proximity to city walls and associated gates. The two components are thus linked at such points in space. At other points along city walls, however, more free-form construction of houses and burials feature right up against and built into city walls. Such locations along city walls were apparently free from restrictions associated with administrative activities.

City-wall components also overlap with modules relating to movement and communication. The overlap of streets, roads, and the locations of certain water resources, such as wadis, combines to create a web of points of access and restriction. Gates serve as convergence points for both extramural roads and inter-city streets, and this is reflected in both the hollow ways leading away from sites and the radiating street patterns of lower towns, as at Hamoukar and Mozan. Point in cities where roads, streets, and city walls meet form specific overlaps in the network. This particular module could

then be linked to administrative buildings in the same area – helping to illuminate the relationship between administration, transport, and city access.

In the cities of the SUR, households and habitation areas form another major node of the urban network. Although lower towns are not exclusively filled with houses, habitation is a major component of their urban fabric. Excavation of houses at numerous sites shows that they were not isolated or separate from the so-called ‘urban’ components of a city, such as craft production, religious, and administrative areas. In some cases, houses were part of the network of craft specialization, serving as actual loci of production. In this way, household workshops form a major module of the Northern Mesopotamian city. Contemporaneous palaces appear to have been conceptualized as large households and often included workshops on much larger scales.

Houses also created links to mortuary activities. Although burials vary in type across the region (see above), a specific subset of burials occurs in household contexts. These types of burials have been linked to concepts of ancestry and family tombs (Laneri 2013, Porter 2004, Cooper 2006). It is unclear from current research if household tombs represent shifts in burial practices, or if they are one facet of a complex of mortuary rituals practiced in the region.⁹¹

6.4. Conclusions: Modular Approach to SUR Cities

The modular approach discussed in this chapter provides a broad overview of the distribution of urban structures and activities away from the high mounds of SUR cities.

⁹¹ See Laneri (2007, 2013) for an example of shifting rituals over time. Cooper (2006) and Akkermans and Schwartz (2003) both provide summaries of the diversity of mortuary practices in the Euphrates region.

It is clear now that lower towns and extramural areas are an integrated part of urban centers and represent a diverse range of activities and functions. Overall, a pattern of mixed-use areas and multi-functional neighborhoods emerges. Even when single-function areas are found, they are often located alongside areas of other activities or mixed use. Urban structures are found distributed throughout cities, often arranged within the stable boundaries provided by pre-existing components such as roads, waterways, and city walls.

Examining spatial distributions and common overlaps within urban network provides insight on third-millennium cities. Common patterns emerge, particularly in co-occurrences across the nine identified components. Houses and workshops, houses and burial, city walls and administrative buildings, and extramural workshops and roads regularly co-occur across various sites. The following, final chapter of this dissertation discusses this distributed form of urbanism and possible implications of correlations between various urban components.

Chapter 7. Distributed Urbanism: A Model for Urbanism during the SUR

7.1. Introduction

Data presented in Chapters 3, 4, 5, and 6 provide the basis for the development of a model of the distribution of activities associated with urbanism during the Second Urban Revolution (SUR). This discussion of the spatial distribution of various activities in lower towns and extramural areas allows for investigation of deviations from the citadel-city model and suggests a model based on a distributed form of urbanism, with complex activities dispersed throughout the urban context. The analysis of components and modules in the urban network of SUR cities presented in the previous chapter provides the background for discussion of urban complexity and the importance of off-mound activities.

In Chapter 1 two major questions were outlined: what is the composition of lower towns and extramural areas? And, what can the distribution of activities tell us about urban complexity during the third millennium? The approach followed here examines the spatial distribution of urban features and explores the implications of those spatial relationships in social, economic, religious and administrative spheres. This chapter analyzes third-millennium SUR cities, provides a preliminary overview of a model for cities developed from the spatial data of urban activities, and suggests possible avenues of future research.

7.2. Analyzing SUR Cities

As previously discussed, the common conception that the ancient Northern Mesopotamian city was divided into a citadel (raised mound with only administrative and religious functions) and an extensive, residential lower town, continues to persist without critical interpretation. The analysis of this dissertation, however, shows that the activities of lower towns and extramural areas are in fact much more diverse than simple habitation. It is now clear that cities are *not* composed of homogenous lower towns filled with large swaths of houses surrounding high mounds that monopolized all administrative and religious activities. The comparative examples from Kazane, Titriş, and Banat highlight possible deviations from Jezireh forms and demonstrate that diversity in urban form was common across Northern Mesopotamia, despite commonalities found in the Jezireh. At Banat, religious/mortuary monuments helped shaped the city in a way not seen at most other sites. At Kazane separate religious buildings, elite houses, and specialized workshop areas are quite different from the mixed areas of Jezireh sites.

7.2.1. Modeling SUR Cities

As discussed in Chapter 2, a variety of models have been developed, both within archaeology and more broadly within geography and urban sociology, to explain planning and growth within urban environments. When the different activities of SUR cities are mapped, commonalities begin to emerge. Even when there are significant differences – such as the absence of an outer city wall or the pronounced round shape of the Kranzhügel sites compared to the irregular shapes of other cities – the distribution of the components and modules is similar. Lower towns contain urban neighborhoods

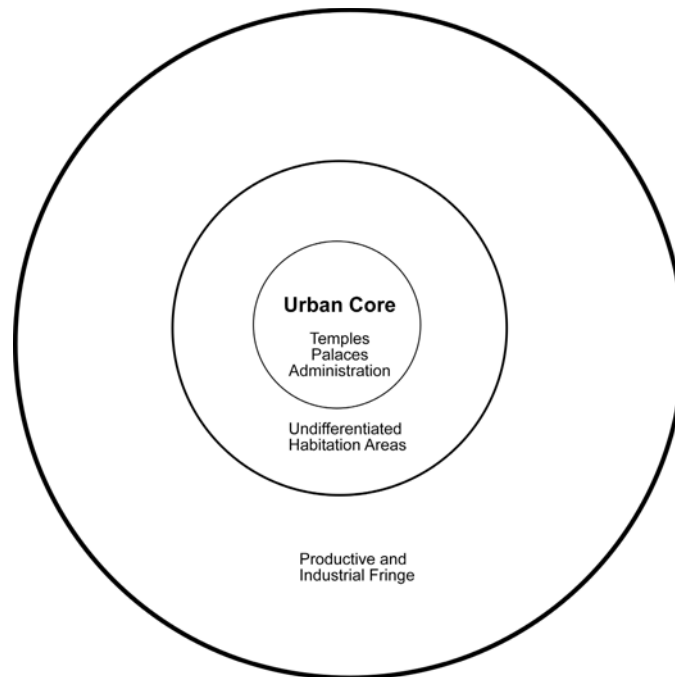


Figure 7.1 Commonly implied concentric model for Ancient Near Eastern cities. Based on Burgess' concepts of the concentric city and Von Thunen's economic predictions for activities, this model is modified to reflect the slight variations based on the specifics of Northern Mesopotamian cities.

composed of households with diverse activities, including family burial. Intermixed are religious and administrative buildings. The exposures at each site are too small to produce comprehensive studies of individual cities, yet when the results are combined, a schematic model of urban layouts common to the Jezireh can be achieved. The first pattern that emerges from the analysis is the centrality of households and habitation areas in the urban fabric. Houses form an important node in the lattice and also are the basic unit of several modules. Mortuary monuments and burial also form an important node connected to ritual activities and houses.

A concentric model has been implicitly accepted as an explanation for the layout of Northern Mesopotamian cities, with a central urban core, sprawling residential suburbs

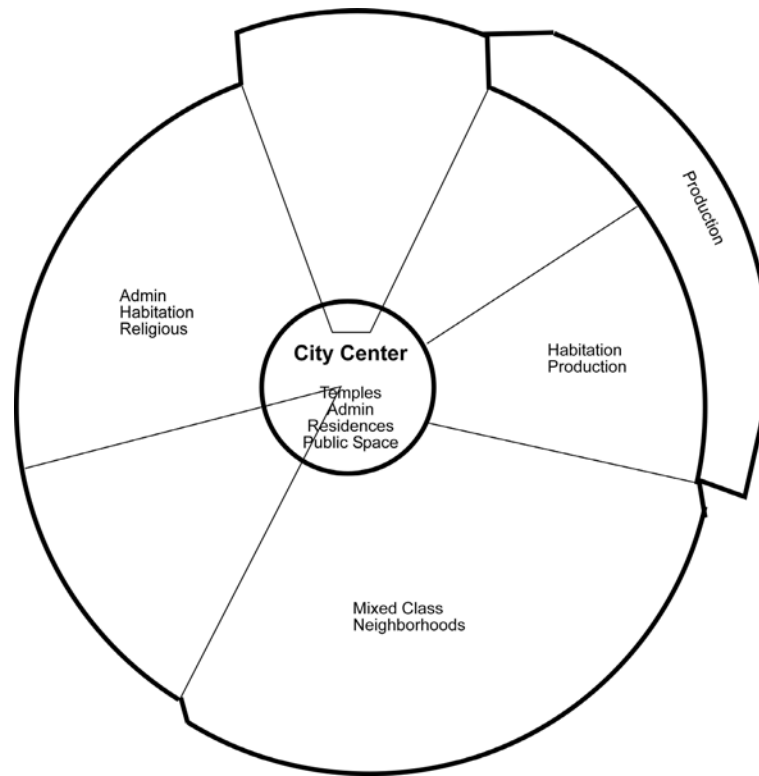


Figure 7.2 Modified pie/sector layout for urbanism, based on the sector model from sociology, in which the various activities of the city center are extended out as the city grows (based on Hoyt 1939, image adapted from Marcus and Sabloff 2008, Fig. 1.2). In the case of the SUR cities this leads to various neighborhoods or ‘sectors’ of outer cities and extramural areas with mixed use and often repeating activities also found in city centers (e.g. administration, religious/ritual, and elite residences).

and production/industrial/agricultural activities on the fringe of the city (Figure 7.1).

Early urban centers are often understood to follow this pattern (see Trigger 2003:122).

The modular approach, however, shows that the Northern Mesopotamian city adheres more to a modified pie shape, with neighborhoods and other urban modules extending out from the core to encompass ‘wedges’ or ‘slices’ (Figure 7.2). The pie is based on the “sector model” in sociology (Marcus and Sabloff 2008). Diverging from the sector model, in which sectors are divided by uniform activity type (e.g., industrial, elite

residential, low-status residential), the modified model proposed here for Jezireh cities reflects modules of various overlapping structural components. In the case of the Kranzhügel sites, the pie shape is quite explicit, while in the more irregular sites it may be a more irregular shape (e.g. Taya). The activities represented by the various structural components are distributed throughout the pie slices, with mixed-use areas of habitation, religious activity, production, and burial. These activities are interspersed with administrative activities, but not necessarily integrated with them, as shown by the case of the streets with no doors at Leilan. The lattice of the Jezireh sites, however, is not the only formation detected in Northern Mesopotamia, and the Tigris and Kazane examples show significant variation with specialized suburbs, extensive storage in lower towns, and perhaps even segregated elite neighborhoods. This type of organization may have more in common with the multiple-nuclei model of urban layout, with various sectors having their own centers.

7.2.2. The Semi-Lattice of Northern Mesopotamian Cities

As this discussion shows, the semi-lattice of Northern Mesopotamian cities represents a tightly entangled web of locations, activities, and relationships. Each relationship can, and should, be further investigated using scales and techniques that will illuminate their connections and possible meanings in the urban layout. The concept of fractals demonstrates that the same patterns often recur on varying scales; applied to cities, a multi-scalar approach can show that the degrees of centralization, integration, and complexity vary within cities and across scales. By bringing together all of the excavations and surveys of the major cities of the SUR in the Jezireh, it is possible to

begin to look for patterns in the data. An idealized form begins to emerge. The value of an idealized pattern is that it allows the examination of variations from the norm, and helps identify those finds that may represent something significant and different, and those that help bolster current interpretations.

The form that emerges is one of blended activity. The different modules that have been separated out, the habitation areas, the burial data, etc., often overlap and intertwine. While certain characteristics of set urban structure are seen at most sites – straight roads and planned fortifications, for example – the spaces between such set structures are filled with mixed-use areas.

High mounds are filled with elite institutions, particularly palaces and temples, but also have evidence of workshops, houses, and other everyday activities. The urban explosion of the SUR did not significantly alter preexisting structures, and, in fact, it appears that urban sites were simply replicated across lower and outer towns with mixed-use areas of habitation, production, ritual, and, occasionally, administrative activities. High mounds became increasingly focused on elite activities at this time, but still maintained a somewhat mixed character. Lower towns were not the exclusive location of any particular activity, and were probably arranged into small neighborhoods with local facilities for everyday activities, such as small-scale ceramic production, local worship, and, of course, living quarters. Extramural areas were extensions of the urban area, with the exception of living quarters: it seems that habitation was primarily restrained to cities and villages (with the exception of pastoralists). Certain activities were perhaps relegated to extramural areas because of their undesirable qualities, such as dyeing and kiln firing,

but no evidence as of yet suggests that these activities were located exclusively in extramural spaces. Further studies of larger areas of lower towns are required to help determine if inter-neighborhood patterns of activities can be recognized and if neighborhoods were segregated according to wealth or other qualities.

Examining Northern Mesopotamian cities through the lens of lower towns and extramural areas creates a more nuanced view of cities, complexity, and integration within the urban context. Using this viewpoint, emergent processes can be recognized, complementing current existing approaches that study centralized institutions and hierarchical relationships within society.

7.3. Conclusions

Overall, the examination of lower towns and extramural areas of Northern Mesopotamian cities presented in this dissertation demonstrates that urbanism is not confined to the high mounds of major third-millennium cities, but rather complexity and important urban networks are distributed throughout lower towns and extramural areas. Cities are not strictly planned, although they offer evidence of conforming to certain norms across various cities with preferred locations of certain activities based on a variety of influences including environmental limits, cultural preference, and economic constraints. In the case of SUR cities the distribution of urban activities within cities represents a type of ‘possibilism’ determined by a mix of choice and fixed restraints.⁹² Regularity across the various cities can be linked to similar use patterns, similar social

⁹² In geography ‘possibilism’ is used to describe the limits set by the natural environment (Vidal de La Blache 1952). In the case of the SUR cities, it reflects the limits set by the preexisting environment, both natural and built.

structures (mixed communities with possible tribal roots), and similar subsistence patterns.

Additionally, by examining networks and relationships, a picture of third-millennium urbanism emerges as loosely organized, with various interconnections between important aspects of society. For example, agricultural and craft production is distributed throughout the population as evidenced by the large number of people engaged in agriculture and the widespread distribution of workshops and other activities across lower towns. Stone (1987, 1997, 1999) has argued for a more complete understanding of Southern Mesopotamian cities that addresses their non-hierarchical aspects, focusing on emergent processes that shape cities and neighborhoods. Urban inhabitants likely had access to much more social mobility and consensus than is currently recognized.

The analysis of the overlap of network nodes within SUR cities shows that various aspects of society operated with relative independence, in spite of or parallel to other aspects of centralized control. Further excavations of household workshops can help determine if goods are produced for household use or for exchange. Additionally, on-site surveys could be applied to investigate the distribution of workshops across cities. Currently, with the exception of Tiriş, no clear examples of quarters or neighborhoods organized around specific craft production are known. The common co-occurrence of houses and workshops, however, confirms Stein's (1994a) proposed 'dual economy' which suggests two parallel economies. In this economic model the elite and non-elite economies occur separately, with elites engaging in a full range of production and trade

activities including both elite goods and everyday goods, and also including managing their own agricultural and pastoral activities. Similarly, the non-elites produced their own goods for use and consumption independently (i.e. not as rations).

The presence of small shrines and non-domestic buildings in both lower towns and extramural areas demonstrates that religious and administrative activity also took place beyond city centers. This data supports the concept of a less fully integrated form of urbanism, with relatively independent sections of the city.

The proposed model of ‘distributed urbanism’ in SUR cities focuses on the broader distribution of urban activity and urban structures throughout cities, particularly in their lower towns and extramural areas. The model emphasizes the broad distribution of urban activities while still retaining the concept of highly nucleated settlement. Using the semi-lattice approach and the wider lens of outer cities, lower towns, and extramural areas has the benefit of not presupposing relationships between different aspects of urbanism. Furthermore, it assumes neither planning nor generative processes. By examining the distribution of activities and their relationships on a broader scale it is possible to see both planned and unplanned aspects of urbanism and assess the relationships of various urban components.

Although the analysis presented here focuses on the physical distribution of buildings and their related functions across urban landscapes, the value of the model is in its examinations of components and modules that enable new understandings of the functions of and relationships between the people, places, and activities of cities.

7.4. Future work

Adopting a holistic approach to cities that includes lower towns and extramural areas can highlight useful avenues for future research, particularly in comparative studies. More, and broader, comparisons can be drawn to help understand the degree of standardization across cities. As new studies in the Maya lowlands have increasingly expanded new understandings of urbanism through the application of the idea of “low-density” urbanism, scholars of the ANE need to begin thinking of new ways to address the ‘distributed urbanism’ of individual urban sites. Peer-polity models and research on spheres of influence have helped frame discussions of place and relationships on broader inter-site scales, and those ideas can be scaled down and applied to cities to explore whether certain neighborhoods, districts, temples, etc., were shaped according to similar distributions of place within urban environments. Similar concepts can be applied within cities to examine whether standard distributions occur and their possible significances across time and space.

Future work on the urban areas of Northern Mesopotamia should focus on expanding our knowledge away from high mounds. Extensive surveys of lower towns (such as those at Mozan, Hamoukar, and Brak) should be conducted at more sites to create better comparative datasets. Excavations are necessary at sites with geomagnetic plans to confirm interpretations and help assign functions to detected buildings. Large-scale lower town excavations, such as those conducted within area W at Tell Chuera will undoubtedly provide new ways of understanding these areas once published. The micro-regional study of urbanism, particularly in the Jezireh, is ripe for exploration and

analysis. The movement of large populations into centralized urban sites, while fundamentally changing the distribution of population on micro-regional scales, did not fundamentally alter the range of exploitation of each of these regions. While during the Ninevite 5 period settlements were dispersed, they were still focused on exploiting the same resources, over relatively similar ranges. The explosion of urbanism changed the distribution of people and activities, but did not fundamentally alter the types of activities necessary to sustain populations. Instead, urbanism changed the way people were able to execute these everyday activities.

When Adams' *Heartland of Cities* was first published, it opened a new way of looking at cities and urbanism from a broader landscape perspective, revolutionizing how archaeologists viewed the development, ebb, and flow of urbanism. A focus on those micro-regional scales considered in this dissertation can help bridge the gap between the intensive excavations that are standard in the Near East and the broad sweeping scales of Adams' surveys. Just as Childe's observable criteria were only the basis for understanding larger functions in society, the modules suggested here form a basis for understanding relationships between various aspects of urbanism. Further research on each aspect should be pursued to explicate fully the importance of the overlap in their various aspects, such as chains of production, neighborhoods, heterogeneity, and the role of ritual and religion in everyday life.

Appendix A – Thompson-Miragliuolo Survey Sherd Data

	q2	q3	q4	q5	q6
Area	O3	O1	O1	O1	O1
Collection number	O3	27Bd	69Cd	49Ba	59Ca
date	MZ2 612, x12	MZ2 702, x14	MZ2 820, x17	MZ2 928, x08	MZ2930 , x08
Notes on Location	2 wells, bones	Prelim. collection	Prelim. collection		
Wet Smooth	7	5	2	27	33
Unknown	0	2	0	1	1
Simple	6	7	0	2	7
Chaff	3	4	0	4	15
Metallic	6	3	5	2	4
Pebble	0	0	0	0	6
Rough	0	0	0	0	0
Habur	5	0	0	0	1
Ninevite 5	1	0	0	0	1
Black slip incised	0	0	0	0	0
Glazed	0	0	0	0	0
K	0	0	0	0	0
Incised (template lines)	1	0	0	0	0
Red Slip (Red Calcite)	0	0	0	0	0
Red Burnished (Early Transcaucasian)	0	0	0	0	0
Mica Grit	0	0	0	0	0
Mica Grit -handmade	0	0	0	0	0
Mica Grit- wheelmade	0	0	0	0	0
White Burnished	0	0	0	0	0
Black Temper	0	0	0	0	0
Rope design	1	0	0	0	0
Buff Plaster	0	0	0	0	0
Painted	0	0	0	0	0
A	0	0	0	0	0
Handmade	0	0	0	0	2
Impress	0	0	0	0	0
Orange (Red Calcite)	0	0	0	0	0
Total	30	21	7	36	70
Slag	0	0	0	0	0
Lithic Fragments	0	0	0	0	0
Bones	1	0	0	0	0
Ceramic Items	0	0	1	0	0
Lithic Items	3	2	1	0	0
Other Items	1	0	0	0	0
Density	0.300	0.210	0.070	0.360	0.700

	q7	q8	q9	q10	q11
Area	O1	O1	O1	O1	O1
Collection number	59Aa	59Bb	69Ac	79Db	79Bd
date	MZ2 930, x01	MZ2 x01	MZ2 x02, x12	MZ2 x02, x17	MZ2x02 , x15
Notes on Location	On rise east of tell	On rise 50m E of 59Aa E of tell	On north slope of rise east of tell	At base of N slope of rise NNE of tell	At base of rise NNE of tell
Wet Smooth	275	59	22	16	13
Unknown	182	48	3	0	5
Simple	165	67	4	11	17
Chaff	81	28	9	8	7
Metallic	20	14	1	4	2
Pebble	18	4	1	0	0
Rough	17	17	0	0	0
Habur	0	2	0	0	0
Ninevite 5	3	0	0	0	0
Black slip incised	0	0	0	0	0
Glazed	0	0	0	0	0
K	0	0	0	0	0
Incised (template lines)	0	0	0	0	0
Red Slip (Red Calcite)	0	0	0	0	0
Red Burnished (Early Transcaucian)	0	0	0	0	0
Mica Grit	17	4	0	0	0
Mica Grit -handmade	0	0	0	0	0
Mica Grit- wheelmade	0	0	0	0	0
White Burnished	0	0	0	0	0
Black Temper	0	0	0	0	0
Rope design	0	0	0	0	0
Buff Plaster	0	2	0	0	0
Painted	0	0	0	0	0
A	0	0	0	0	6
Handmade	0	0	0	0	0
Impress	0	0	0	0	0
Orange (Red Calcite)	0	0	0	0	0
Total	778	245	40	39	50
Slag	0	0	0	0	0
Lithic Fragments	0	0	0	0	0
Bones	5	2	0	0	0
Ceramic Items	0	1	0	0	0
Lithic Items	3	0	2	1	0
Other Items	0	0	0	0	0
Density	7.780	2.450	0.400	0.390	0.500

	q12	q13	q14	q15	q16
Area	O1	O1	O1	O1	O1
Collection number	58Aa	57Da	48Ac	38Ba	79Ac
date	MZ2 x03, x11	MZ2 x03, x21	MZ2 x04, x18	MZ2 x04	MZ2x05 , x21
Notes on Location					On SW slope of slight rise NE of tell
Wet Smooth	8	96	139	95	41
Unknown	2	49	20	37	26
Simple	3	29	78	21	8
Chaff	2	98	130	42	23
Metallic	1	3	13	5	3
Pebble	2	0	0	2	0
Rough	0	4	2	0	0
Habur	0	8	15	1	1
Ninevite 5	0	0	4	0	0
Black slip incised	0	0	0	0	0
Glazed	0	0	0	0	0
K	0	0	0	0	0
Incised (template lines)	0	0	2	0	0
Red Slip (Red Calcite)	0	0	0	0	0
Red Burnished (Early Transcaucasian)	0	0	0	0	0
Mica Grit	0	0	0	0	0
Mica Grit -handmade	0	0	0	0	0
Mica Grit- wheelmade	0	0	0	0	0
White Burnished	0	0	0	0	0
Black Temper	0	0	0	0	0
Rope design	1	0	0	0	1
Buff Plaster	0	0	0	0	0
Painted	0	0	0	0	0
A	0	0	0	2	0
Handmade	0	0	0	0	0
Impress	0	0	0	0	0
Orange (Red Calcite)	0	0	0	0	0
Total	19	287	403	205	103
Slag	1	3	3	1	0
Lithic Fragments	0	0	0	0	0
Bones	0	0	3	0	0
Ceramic Items	0	0	1	0	0
Lithic Items	0	1	4	0	0
Other Items	0	0	1	0	0
Density	0.190	2.870	4.030	2.050	1.030

	q17	q18	q19	q20
Area	O1	O4		
Collection number	87Dc	O4	88Db	99Ad
date	MZ2 x05, x22	MZ2 x06	MZ2 x07, x24	MZ2 x07, x24
Notes on Location	25m W of benchmark 88 near junction of 2 dirt roads	Possible burials. Slight rise N of tell - sample collection	Possibly on slight rise NNE of tell	Furthest square to the NE
Wet Smooth	10	13	83	3
Unknown	17	10	24	4
Simple	1	30	20	1
Chaff	8	8	23	2
Metallic	0	46	0	0
Pebble	0	0	0	0
Rough	0	1	0	0
Habur	0	0	0	0
Ninevite 5	0	0	2	0
Black slip incised	0	0	0	0
Glazed	0	0	0	0
K	0	0	0	0
Incised (template lines)	1	0	0	0
Red Slip (Red Calcite)	0	0	0	0
Red Burnished (Early Transcaucasian)	0	0	0	0
Mica Grit	0	3	0	0
Mica Grit -handmade	0	0	0	0
Mica Grit- wheelmade	0	0	0	0
White Burnished	0	0	0	0
Black Temper	0	0	0	0
Rope design	0	0	0	0
Buff Plaster	0	0	0	0
Painted	0	0	0	0
A	0	0	0	0
Handmade	0	0	0	0
Impress	0	0	0	0
Orange (Red Calcite)	0	1	0	0
Total	37	112	152	10
Slag	1	0	0	0
Lithic Fragments	0	0	0	0
Bones	0	2	0	0
Ceramic Items	0	4	0	0
Lithic Items	0	0	0	0
Other Items	0	0	0	0
Density	0.370	1.120	1.520	0.100

	q21	q23	q24	q25
Area	O1	O1	O1	O5
Collection number	28Bc	29Aa	29Bd	O5
date	MZ2 x09, x25	MZ2 x10, x28	MZ2 x10, x29	MZ2 x10, y3
Notes on Location	Plowed field		Near top of rise SE of tell	Clandestine excavation pit at crest of sample collection - rise E of tell
Wet Smooth	143	78	124	5
Unknown	59	52	74	1
Simple	7	14	57	4
Chaff	41	42	84	1
Metallic	10	13	16	4
Pebble	0	0	0	0
Rough	1	0	1	0
Habur	0	0	1	0
Ninevite 5	0	0	0	0
Black slip incised	0	0	0	0
Glazed	0	0	1	0
K	0	0	0	0
Incised (template lines)	0	0	0	0
Red Slip (Red Calcite)	0	0	0	0
Red Burnished (Early Transcaucasian)	0	0	0	0
Mica Grit	0	0	0	3
Mica Grit -handmade	0	0	0	0
Mica Grit- wheelmade	0	0	0	0
White Burnished	0	0	0	0
Black Temper	0	0	0	0
Rope design	0	0	0	0
Buff Plaster	0	0	0	0
Painted	0	0	2	0
A	0	0	0	0
Handmade	0	0	0	0
Impress	0	0	0	0
Orange (Red Calcite)	0	0	0	0
Total	261	199	360	18
Slag	0	3	0	0
Lithic Fragments	0	0	0	0
Bones	0	0	1	6
Ceramic Items	1	1	2	1
Lithic Items	0	1	0	2
Other Items	0	0	0	1
Density	2.610	1.990	3.600	0.180

	q26	q27	q29	q30	q31
Area	O1	O1	O1	O1	O1
Collection number	19Ba	19Dd	09Ca	09Cc	08Cd
date	MZ2 x12, y12	MZ2 x12, y17	MZ2 x13, y23	MZ2x14, z04	MZ2 x14, y30
Notes on Location	On crest of rise E of tell	E slope of rise E of tell	Near crest of rise SE of tell.	Surface	Surface. On rise SE of tell
Wet Smooth	163	89	114	102	229
Unknown	130	37	57	75	167
Simple	58	48	59	68	145
Chaff	70	63	52	35	66
Metallic	38	11	13	37	48
Pebble	0	0	2	9	12
Rough	15	1	22	2	11
Habur	0	1	0	0	1
Ninevite 5	0	1	0	0	3
Black slip incised	0	0	0	0	0
Glazed	0	0	0	0	0
K	0	0	0	0	0
Incised (template lines)	1	0	0	2	0
Red Slip (Red Calcite)	0	0	0	0	0
Red Burnished (Early Transcaucasian)	0	0	0	1	0
Mica Grit	0	0	0	5	1
Mica Grit -handmade	0	0	0	0	0
Mica Grit- wheelmade	0	0	0	0	0
White Burnished	0	0	0	0	0
Black Temper	0	0	0	0	0
Rope design	0	0	0	0	0
Buff Plaster	0	0	0	0	0
Painted	0	0	0	0	0
A	0	0	0	0	0
Handmade	0	0	0	0	0
Impress	0	0	0	0	0
Orange (Red Calcite)	0	0	0	0	0
Total	475	251	319	336	683
Slag	0	0	0	0	2
Lithic Fragments	0	0	0	0	0
Bones	1	2	0	6	3
Ceramic Items	2	3	0	0	1
Lithic Items	0	1	2	4	0
Other Items	0	0	0	1	0
Density	4.750	2.510	3.190	3.360	6.830

	q32	q33	q34	q35	q36
Area	O1	O1	O1	O1	O1
Collection number	0008Db	07Ad	17Db	08Ca	87Ab
date	MZ2 x17, y28	MZ2 x17,y27	MZ2x17, z04	MZ2 x13, z02	MZ2x18, z05
Notes on Location	On E slope of rise SSE of tell	At W base of slope SSE of tell	Surface	Find spot on rise SE of tell.	Surface
Wet Smooth	317	68	72	1	64
Unknown	50	13	46	0	37
Simple	148	8	20	0	23
Chaff	51	23	19	0	39
Metallic	35	4	22	10	8
Pebble	16	11	7	0	10
Rough	44	1	0	0	1
Habur	3	0	1	0	0
Ninevite 5	2	0	0	0	0
Black slip incised	0	0	0	0	0
Glazed	0	0	0	0	0
K	0	0	0	0	0
Incised (template lines)	0	0	0	0	0
Red Slip (Red Calcite)	0	0	0	0	0
Red Burnished (Early Transcaucasian)	0	0	0	0	0
Mica Grit	16	3	1	0	0
Mica Grit -handmade	0	0	0	0	0
Mica Grit- wheelmade	0	0	0	0	0
White Burnished	0	0	0	0	0
Black Temper	0	0	0	0	0
Rope design	0	1	0	0	0
Buff Plaster	0	0	0	0	0
Painted	0	0	0	0	0
A	0	0	0	0	0
Handmade	0	0	0	0	0
Impress	0	0	0	0	1
Orange (Red Calcite)	0	0	0	0	0
Total	682	132	188	11	183
Slag	0	0	0	0	1
Lithic Fragments	0	0	0	0	0
Bones	7	0	0	0	0
Ceramic Items	1	0	0	0	1
Lithic Items	5	2	0	1	0
Other Items	0	0	0	0	0
Density	6.820	1.320	1.880	0.110	1.830

	q37	q38	q39	q40
Area	O1	O1	O6	O1
Collection number	97Ad	97Ab	Surface find spot	98Da
date	MZ2 x18, y30	MZ2 x18, z03	MZ2 x21, x26	MZ2 x21, y26
Notes on Location	On S. slope of rise N of tell	On crest of rise N of tell	On east slope rise NNE of tell. Find spot at 98Ac in 10 m2 area	No definite rise
Wet Smooth	219	181	6	57
Unknown	91	146	0	22
Simple	94	71	11	38
Chaff	82	46	6	16
Metallic	39	28	209	7
Pebble	23	38	0	37
Rough	5	2	5	0
Habur	2	1	1	0
Ninevite 5	0	0	1	0
Black slip incised	0	1	0	0
Glazed	0	0	0	0
K	0	0	0	0
Incised (template lines)	1	1	0	0
Red Slip (Red Calcite)	0	0	0	0
Red Burnished (Early Transcaucasian)	0	2	0	0
Mica Grit	8	12	0	0
Mica Grit -handmade	0	0	0	0
Mica Grit- wheelmade	0	0	0	0
White Burnished	0	0	0	0
Black Temper	0	0	0	0
Rope design	0	0	0	0
Buff Plaster	0	0	0	0
Painted	0	0	0	0
A	0	0	0	0
Handmade	0	0	0	0
Impress	0	0	0	0
Orange (Red Calcite)	0	0	0	0
Total	564	529	239	177
Slag	0	1	0	0
Lithic Fragments	0	0	0	0
Bones	2	1	2	1
Ceramic Items	2	4	0	0
Lithic Items	4	0	0	1
Other Items	0	0	0	0
Density	5.640	5.290	2.390	1.770

	q41	q42	q43	q44	q45
Area	O1	O1	O1	O1	O1
Collection number	96Dc	95Bb	94Bc	94Cb	18Bc
date	MZ2x21, y26	MZ2 x23	MZ2x23, y24	MZ2x2 3, y23	MZ2 x27, y25
Notes on Location		On base SSW slope of rise N of tell.			Westernmos t base of slope SE of tell
Wet Smooth	96	120	52	60	99
Unknown	9	63	54	58	90
Simple	11	27	26	29	99
Chaff	19	29	24	53	66
Metallic	8	17	8	6	22
Pebble	12	23	8	17	16
Rough	7	2	1	4	7
Habur	0	1	2	1	4
Ninevite 5	0	0	1	0	2
Black slip incised	0	0	0	0	0
Glazed	0	0	0	0	0
K	0	0	0	0	0
Incised (template lines)	0	0	1	0	1
Red Slip (Red Calcite)	0	0	0	0	0
Red Burnished (Early Transcaucian)	0	0	0	0	1
Mica Grit	4	1	0	0	2
Mica Grit -handmade	0	0	0	0	0
Mica Grit- wheelmade	0	0	0	0	0
White Burnished	0	0	0	0	0
Black Temper	0	0	0	0	0
Rope design	0	0	0	0	0
Buff Plaster	0	0	0	0	0
Painted	0	0	0	0	0
A	0	0	0	0	0
Handmade	0	0	0	0	0
Impress	0	0	0	0	0
Orange (Red Calcite)	0	0	0	0	1
Total	166	283	177	228	410
Slag	0	0	0	1	0
Lithic Fragments	0	2	0	0	0
Bones	0	0	0	0	0
Ceramic Items	2	3	0	0	1
Lithic Items	4	0	0	3	1
Other Items	0	0	0	0	0
Density	1.660	2.830	1.770	2.280	4.100

	q46	q47	q48	q49
Area	O1	O1	O1	O1
Collection number	94Aa	92Bd	83Ac	73Aa
date	MZ2 x29, y26	MZ2 x29, y02	MZ2 x30, y24	MZ2 x30, z12
Notes on Location		Surface	On N edge vineyard. Cut by dirt track which circles tell.	On northern edge vineyard
Wet Smooth	96	35	11	
Unknown	33	7	13	
Simple	50	5	4	
Chaff	36	12	9	
Metallic	12	0	4	
Pebble	23	8	0	
Rough	7	0	0	
Habur	2	0	0	
Ninevite 5	0	0	0	
Black slip incised	0	0	0	
Glazed	0	0	0	
K	0	0	0	
Incised (template lines)	0	0	0	
Red Slip (Red Calcite)	0	0	0	
Red Burnished (Early Transcaucasian)	0	0	0	
Mica Grit	1	0	0	
Mica Grit -handmade	0	0	0	
Mica Grit- wheelmade	0	0	0	
White Burnished	0	0	0	
Black Temper	0	0	0	
Rope design	0	0	1	0
Buff Plaster	0	0	0	0
Painted	0	0	0	0
A	0	0	0	0
Handmade	0	0	0	0
Impress	0	0	0	0
Orange (Red Calcite)	0	0	0	0
Total	260	67	42	0
Slag	3	3	1	1
Lithic Fragments	0	0	0	2
Bones	0	0	0	
Ceramic Items	0	0	0	
Lithic Items	2	3	1	
Other Items	0	0	0	
Density	2.600	0.670	0.420	0.000

	q50	q51	q52	q53
Area	O1	O1	O1	O1
Collection number	51Dd	50Ca	41Dd	31Aa
date	MZ2 y4, y25	MZ2 y4-y30	MZ2 y6, z02	MZ2 y6, y24
Notes on Location	Cut by dirt road. Near vineyard	surface	surface	Cut by dirt track running SE from village. Flat terrain, obscured by powdery dirt
Wet Smooth	38	11	45	3
Unknown	29	0	23	0
Simple	22	1	10	0
Chaff	45	4	24	2
Metallic	11	2	6	0
Pebble	51	0	27	0
Rough	0	0	4	0
Habur	0	0	2	0
Ninevite 5	0	0	0	0
Black slip incised	0	0	0	0
Glazed	3	0	2	0
K	0	0	0	0
Incised (template lines)	4	0	0	0
Red Slip (Red Calcite)	0	0	0	0
Red Burnished (Early Transcaucasian)	0	0	0	0
Mica Grit	4	0	0	0
Mica Grit -handmade	14	0	0	0
Mica Grit- wheelmade	0	0	0	0
White Burnished	0	0	0	0
Black Temper	0	0	2	0
Rope design	4	0	0	0
Buff Plaster	0	0	0	0
Painted	0	0	0	0
A	0	0	0	0
Handmade	0	0	0	0
Impress	0	0	0	0
Orange (Red Calcite)	0	0	0	0
Total	225	18	145	5
Slag			0	0
Lithic Fragments			0	0
Bones			0	0
Ceramic Items			0	0
Lithic Items			0	0
Other Items			0	0
Density	2.250	0.180	1.450	0.050

	q54	q56	q57
Area	O1	O7	O7
Collection number	30Bb	O07Bd	O7 surface
date	Mz2 y6-y26	MZ2 y14 -y27	MZ2 y13, z03
Notes on Location		On E slope of rise SSE of el. O7 disturbance and open pit.	On rise SE of tell - sample collection
Wet Smooth	5	149	8
Unknown	1	52	0
Simple	0	113	7
Chaff	2	27	6
Metallic	0	35	8
Pebble	1	28	0
Rough	0	20	2
Habur	1	0	0
Ninevite 5	0	2	0
Black slip incised	0	0	0
Glazed	0	0	0
K	0	0	0
Incised (template lines)	2	0	0
Red Slip (Red Calcite)	0	0	0
Red Burnished (Early Transcaucasian)	0	0	0
Mica Grit	0	12	0
Mica Grit -handmade	0	0	0
Mica Grit- wheelmade	0	0	0
White Burnished	0	1	0
Black Temper	0	0	0
Rope design	0	0	0
Buff Plaster	0	0	0
Painted	0	0	0
A	0	0	0
Handmade	0	0	0
Impress	0	0	0
Orange (Red Calcite)	0	0	0
Total	12	439	31
Slag	0	0	0
Lithic Fragments	0	0	0
Bones	0	0	1
Ceramic Items	0	1	2
Lithic Items	0	2	8
Other Items	1	0	0
Density	0.120	4.390	0.310

	q58	q59	q60	q61	q63
Area	O8	O1	O1	O1	O1
Collection number	O8	86Cc	21Cd	11Aa	W
date	MZ2 y14, y18	MZ2y16, z03	MZ2y1 7-y30	MZ2 y17	MZ2 y18
Notes on Location	Stone-lined well. On rise to SSE	O1 Surface	surface		SSE Rise Crest. W of Tell
Wet Smooth	0	21	14	11	478
Unknown	1	16	6	16	207
Simple	0	9	6	5	235
Chaff	1	14	10	10	175
Metallic	2	2	4	4	73
Pebble	0	15	5	0	118
Rough	0	0	0	1	0
Habur	0	1	0	1	20
Ninevite 5	0	0	0	0	5
Black slip incised	0	0	0	0	3
Glazed	0	0	0	0	1
K	0	0	0	0	11
Incised (template lines)	0	1	1	1	1
Red Slip (Red Calcite)	0	0	0	0	9
Red Burnished (Early Transcaucasian)	0	1	0	0	0
Mica Grit	0	4	1	0	0
Mica Grit -handmade	0	0	0	0	1
Mica Grit- wheelmade	0	0	0	0	1
White Burnished	0	0	0	0	0
Black Temper	0	0	0	0	0
Rope design	0	0	0	0	0
Buff Plaster	0	0	0	0	0
Painted	0	0	0	0	0
A	0	0	0	0	0
Handmade	0	0	0	0	0
Impress	0	0	0	0	0
Orange (Red Calcite)	0	0	0	0	0
Total	4	84	47	49	1338
Slag	0	0	0	0	4
Lithic Fragments	0	0	0	0	5
Bones	0	0	0	0	0
Ceramic Items	2	1	2	0	4
Lithic Items	1	3	1	0	2
Other Items	0	0	0	0	0
Density	0.040	0.840	0.470	0.490	13.380

Appendix B – Thompson-Miragliuolo Survey Small Finds

Item Number	Find Area	q-lot	Material	Description
1	O4	18	Clay	Jar, metallic ware
2	O4	18	Clay	Jar, metallic ware
3	O4	18	Clay	Jar, metallic ware
4	O4	18	Clay	Jar, metallic ware
5	59Bb	8	Clay	Fragment of an animal figurine. Body minus head or limbs
6	48Ac	14	Clay	Fragment of an animal figurine. Front half body minus head and limbs
7	27Bd	3	Clay	Miniatured painted jar, Habur ware
8a	29Bd	24	Clay	Fragment of an animal figurine. Back half of body minus limbs
8b	O8	58	Obsidian	Blade
9	97Ad	37	Clay	Perforated spindle whorl
10	19Ba	45	Clay	Horse minus two front limbs (stallion)
11	19Dd	27	Clay	Perforated disk, made from simple ware sherd
12	27Bd	3	Flint	Small core
13	27Bd	3	Stone	Groundstone sphere
14	69Cd	4	Clay	Unknown function, round concave base with broken top
15	48Ac	14	Flint	Blade, medial fragment.
16	48Ac	14	Flint	Backed blade
17a	28Bc	21	Clay	Possible fragment of an animal figurine head - 2 holes for eyes (camel?)
17b	28Bc	21	Clay	Long piece with 2 holes, tapers to blunt point
18	69Ac	9	Flint	Backed blade, flint with cortex
19	69Ac	9	Flint	Medial blade fragment, denticulated.
20	31Aa	53	Flint	Distal blade fragment
21	29Aa	23	Clay	Small animal figurine fragment, front half body without head or limbs
22	O6	OB1	Clay	Painted support stand
23	19Ba	45	Clay	Large wheel fragment
24	O07Bd	56	Flint	Fragmen, utilized blade
25	27Bd	3	Flint	Large retouched blade
26	O1		Stone	Stone cylinder, perforated
27	O3	2	Stone	Groundstone cube
28	O3	2	Flint	Broken blade, white
29	O3	2	Flint	Proximal fragment, large blade, black flint
30	96Dc	41	Flint	Brown blade, retouched with bulb
31	96Dc	41	Flint	Denticulated blade, black flint

Item Number	Find Area	q-lot	Material	Description
32	96Dc	41	Flint	Medial Blade section, tan chert
33	0008Db	32	Clay	Perforated disk or bead, made from Simple ware sherd
34	0008Db	32	Clay	Wheel fragment
35	W2	63	Clay	Fragment of an animal figurine. Front half without head or limbs
36	W	63	Flint	Proximal blade fragment.
37	19Ba	45	Clay	Perforated disk, made from simple ware sherd
38	O5	25	Flint	Proximal blade fragment.
39	O5	25	Flint	Medial section, large flint blade
40	O5	25	Clay	Head of animal figurine with eyes and groove on top of head
41	19Dd	27	Clay	Perforated bead, made from sherd
42	19Dd	27	Flint	Truncated blade
43	96Dc	41	Clay	Large object, round cone, orange surface with gray core
44	96Dc	41	Clay	Miniature fragment of an animal figurine - body without head and limbs
45	W	63	Clay	Perforated ceramic disc, 1cm thick, 2.2. cm diameter
46	f1		Stone	Groundstone with 3-4 flat sides
47	f1		Obsidian	Obsidian blade, translucent, small fragment
49	O8	58	Clay	Perforated bead
50	O8	58	Clay	Head of a bull figurine with large horn, painted band and eyes
51	W	63	Clay	Head fragment of animal figurine. One horn, one eye and incised lines
52	W	63	Clay	Wheel fragment, mid section perforated
53	W	63	Clay	Miniature bowl or cup, metallic ware
54	W	63	Obsidian	Obsidian blade fragment
55	W	63	Flint	Medial blade section
56	W	63	Clay	Sherd, marked with incised X and 2 small holes
57	09Ca	29	Flint	Distal end pointed blade, flint with cortex
58	83Ac	48	Flint	Large blade, medial section
59	51Dd	50	Clay	Fragment of an animal figurine. Body without head or limbs
60	18Bc	45	Clay	Head fragment of animal figurine. Incised lines for hair, applique.
62	07Ad	33	Flint	Utilized flint flake
63	07Ad	33	Flint	Truncated fragment, flint blade
64	008Db	32	Flint	Retouched flake

Item Number	Find Area	q-lot	Material	Description
65	008Db	32	Clay	Very small perforated baked clay lump
66	W2	63	Flint	Awl
67	95Bb	42	Clay	Animal figurine, quadraped fragment missing head and legs
68	95Bb	42	Flint	Truncated chert blade
69	95Bb	42	Flint	Retouched flake
70	95Bb	42	Clay	Broken object with square socket
71	95Bb	42	Clay	Broken square or rectangle, slightly concave
72	97Ad	37	Flint	Retouched blade
73	97Ad	37	Flint	Retouched flake, black flint
74	21Cd	60	Clay	Perforated bead
75	21Cd	60	Flint	Utilized flint blade, backed with silica sheen
76	08Cd	31	Clay	Animal head, long snout one eye
77	08Ca	35	Flint	Core, flint with cortex, at least 8 scars
78	92Bd	47	Flint	Chert blade, proximal fragment
79	92Bd	47	Flint	Blade, proximal fragment
80	92Bd	47	Flint	Flint blade fragment
81	O7	57	Clay	Perforated disc made from sherd
82	O7	57	Clay	Wheel fragment, mid section
83	O7	57	Stone	Unfinished stone bead
84	O7	57	Flint	Retouched and utilized flint blade with silica sheen
85	O7	57	Flint	Retouched chert blade
86	O7	57	Flint	Retouched flint blade fragment
88	O7	57	Flint	Retouched flake
89	86Cc	59	Clay	Perforated cylinder - possible bead?
90	86Cc	59	Stone	Groundstone with one flat side, one with circular depression
91	86Cc	59	Obsidian	Obsidian blade
92	86Cc	59	Flint	Retouched blade, black flint
93	97Ad	37	Clay	Small wheel fragment (center portion raised)
94	97Ab	38	Stone	Groundstone, perforated in two places
95	97Ab	38	Flint	Utilized flint blade
96	09Cc	30	Bronze	Bronze pin or shaft fragment
97	87Ab	36	Clay	Wheel, heavily abraded

Appendix C–ASA Small Finds

Item number	Material	Description	Feature of Find (Context)	Phase
1	Bronze	Bronze piece	f1	1
2	Bronze	Bronze piece	missing	
3	Clay	Wagon-wheel, complete	f4	2a
4	clay	Cup/bowl fragment	f3	2a
5	Clay	Cup/bowl fragment	f3	2a
6	Clay	Combed-wash vessel, with ring base, without walls	f1	1
7	Clay	Miniature vessel	f5	2a
8	Shell	Pierced shell	f5	2a
9	Shell	Snail shell	f5	2a
10	Clay	Fragment animal figurine	f1	1
11	Shell	Shell fragment	f1	1
12	Clay	Wagon-model fragment	f1	1
13	Shell	Round piece mother of pearl with pierced hole	f1	1
14	Clay	Sherd fragment with ribbed decoration	f5	2a
15	Shell	Shell	f29	4b
16	Bronze	Bronze fragment	f29	4b
17	Clay	Cup/bowl fragment	f2	2a
18	Shell	Shell	f3	2a
19	Clay	Ceramic head	f4	2a
20	Clay	Sherd with seal impression - surface find	f32	1
21	Clay	Cup/bowl fragment	f32	1
22	Shell	Shell	f31	2a
23	Shell	Shell fragment	f29	4b
24	Clay	Vessel fragment	f2	2a
25	Clay	Wagon-wheel model	f2	2a
26	Bronze	Bronze piece	f35	2b
27	Bronze	Bronze piece	f31	2a
28	Bronze	Bronze piece	f32	1
29	Shell	Shell, damaged	f32	1
30	Shell	Shell, damaged	f32	1
31	Flint	Medial blade fragment, with sickle gloss	f32	1
32	Clay	Vessel fragment	f32	1
33	Clay	Wagon wheel model	f31	2a
34	Clay	Wagon model fragment	f5	2a
35	Flint	Medial blade fragment	f32	1
36	Clay	Wagon wheel model	f32	1
37	Clay	Wagon wheel model	f4	2a
38	Clay	Zoomorphic figurine	f66	3a
39	Shell	Shell	f42	2a
40	stone	Stone implement/tool	f32	1

Item number	Material	Description	Feature of Find (Context)	Phase
41	Clay	Bird-pipe fragment	f43	2b
42	Clay	Terracotta fragment	f43	2b
43	Clay	Terracotta fragment, ribbed design	f43	2b
44	Clay	Wagon wheel	f43	2b
45	Clay	Pottery waster/ceramic slag	f43	2b
46	Shell	snail shell with ribbed surface	f37	1
47	Clay	Cup/bowl fragment	f43	2b
48	Clay	Wagon model fragment, incised design	f61	1
49	Clay	Vessel fragment	f61	1
50	Bronze	Bronze piece	f61	1
51	Shell	Shell	f32	1
52	Clay	Wagon wheel fragment	f32	1
53	Clay	Cup/bowl fragment	f32	1
54	Clay	Zoomorphic figurine	f43	2b
55	Clay	Wagon wheel model	f43	2b
56	Clay	Wagon wheel model	f43	2b
57	Shell	Painted shell	f24	4b
58	Flint	Blade fragment	f29	4b
59	stone	Stone implement/tool	f29	4b
60	Clay	Zoomorphic figurine	f43	2b
61	Shell	Shell	f43	2b
62	Shell	Shell, badly damaged	f62	3a
63	Shell	Shell, damaged	f43	2b
64	Shell	Shell fragment	f43	2b
65	stone	Stone implement/tool	f36	2a
66	Clay	Round sherd, painted	f36	2a
67	Shell	Shell	f12	4b
68	Clay	Wagon wheel model, badly damaged	f59	2b
69	?	Slag fragment	f32	1
70	Clay	Wagon wheel model, lightly damaged	f2	2a
71	Clay	Zoomorphic figurine, lightly damaged	f61	1
72	Bronze	Bronze needle	f70	2b
73	Clay	Sherd fragment, geometric pattern	f36	2a
74	Clay	Zoomorphic figurine, badly damaged	f1	1
75	Clay	Zoomorphic figurine, badly damaged	f43	2b
76	Flint	Blade fragment	f43	2b
77	Clay	Wagon wheel model	f61	1
78	Clay	Cup/bowl fragment	f61	1
79	Clay	Anthropomorphic figurine	f67	3b
80	Clay	Wagon wheel model, badly damaged	f32	1
81	Clay	Base of a terracotta figurine	f59	2b
82	Clay	Anthropomorphic figurine fragment	f61	1
83	Clay	Head of a terracotta figurine	f61	1

Item number	Material	Description	Feature of Find (Context)	Phase
84	Clay	Base of a terracotta figurine	f90	3a/b
85	Clay	Wagon model, rear portion	f90	3a/b
86	Clay	Wagon model, rear portion	f90	3a/b
87	Clay	Zoomorphic figurine, damaged	f48	2b
88	chalk	Small pieces of gypsum	f48	2b
89	Clay	Wagon wheel model with holes	f67	3b
90	Shell	Shell-fragment	f67	3b
91	Clay	Cup/bowl fragment	f61	1
92	clay	Cup/bowl fragment	f61	1
93	clay	Cup/bowl fragment	f61	1
94	clay	Miniature vessel fragment	f61	1
95	clay	Wagon model fragment, incised design	f61	1
96	clay	Ceramic sherd with fingernail impression	f61	1
97	Bronze	Bronze piece, probably pinhead	f60	3b
98	Bronze	Bronze piece, corroded and small	f96	2b
99	Bronze	Bronze piece	f108	3b
100	Bronze	Bronze fragment	f111	1
101	Clay	Cup/bowl fragment, archaeologically complete	f20	4b
102	Clay	Anthropomorphic figurine torso	f90	3a/b
103	Clay	Ceramic sherd with incised design	f70	2b
104	Clay	Wagon model piece	f64	4a
105	Clay	Cup/bowl, archaeologically complete	f61	1
106	Clay	Cup/bowl, archaeologically complete	f68	2b
107	Clay	Body sherd with incised design	f68	2b
108	Clay	Wagon model fragment	f68	2b
109	Clay	Head of a terracotta figurine	f68	2b
110	Stone	Stone fragment, perforated surface	f68	2b
111	Clay	Round sherd with incisions	f61	1
112	Clay	Cup/bowl, archaeologically complete	f61	1
113	Clay	Cup/bowl, archaeologically complete	f61	1
114	Clay	Cup/bowl, archaeologically complete	f61	1
115	Clay	Wagon model fragment	f43	2b
116	Clay	Wagon wheel model, with half preserved	f3	2a
117	Clay	Round sherd with reddish slip	f3	2a
118	Clay	Comb-wash jar with flaring rim	f124	1
119	Shell	Shell, complete	f124	1
120	Shell	Shell, damaged	f124	1
121	Clay	Bowl, archaeologically complete	f124	1
122	Clay	Wagon wheel model, lightly damaged	f124	1
123	Flint	Medial blade fragment	f124	1
124	Clay	Vessel, damaged, possibly a mortar bowl	f124	1
125	Clay	Sherd with incised geometric design	f43	2b
126	Clay	Sherd with two incised lines	f43	2b

Item number	Material	Description	Feature of Find (Context)	Phase
127	Clay	Vessel-sherd with ribbed-design	f43	2b
128	Clay	Wagon wheel model, complete	f111	1
129	Clay	Wagon wheel model, ribbed-design	f111	1
130	Bronze	Bronze fragment, corroded	f111	1
131	Clay	Sherd with incised design	f43	2b
132	Clay	Cup/bowl, archaeologically complete	f32	1
133	Clay	Sherd with painted design, possibly stripes	f32	1
134	Shell	Shell, complete	f43	2b
135	Clay	Vessel, lightly damaged	f124	1
136	Clay	Cup/bowl, archaeologically complete	f36	2a
137	Clay	Cup/bowl, archaeologically complete	f36	2a
138	Bronze	Bronze fragment	f59	2b
139	Bronze	Metal lump (lead mix?)	f36	2a
140	Bronze	Metal piece, elongated (lead mix?)	f64	4a
141	Clay	vessel, combed-wash, complete	f63	3a
142	Clay	Bowl, archaeologically complete	f12	4b
143	Clay	Vessel, complete, small top, round bottom	f12	4b
144	Flint	Medial blade fragment	f108	3b
145	Flint	Medial blade fragment	f32	1
146	Flint	Blade fragment	f31	2a
147	Flint	Medial blade fragment	f124	1
148	Flint	Medial blade fragment	f99	3a
149	Flint	Medial blade fragment	f70	2b
150	Clay	Anthropomorphic figurine, lower part	f111	1
151	Shell	Bead, pierced	f145	3a/2c
152	Shell	Shell fragment	f124	1
153	Shell	Shell	f96	2b
154	Stone	Worked stone, broken to pieces	f96	2b
155	Bronze	Bronze lump	f68	2b
156	Clay	Terracotta figurine, broken in the midsection	f68	2b
157	wood	Charcoal (KLF 162)	f124	1
158	Bronze	Bronze lump	f124	1
159	Flint	Medial blade fragment	f124	1
160	Clay	Miniature wagon wheel model, undamaged	f124	1
161	Clay	Bowl, archaeologically complete	f141	2c
162	Flint	Hammer fragment, pierced	f100	3b
163	Clay	Rectangular clay object with three holes, part of a loom?	f4	2a
164	Bronze	Bronze lump	f111	1
165	Bronze	Bronze pin fragment	f119	3a
166	Flint	Flint fragment	f226	2b/c
167	Clay	Cup, completely preserved	f204	3a
168	Clay	Cup, archaeologically complete	f204	3a

Item number	Material	Description	Feature of Find (Context)	Phase
169	Clay	Bowl, archaeologically complete	f205	1
170	Bronze	Bronze piece	f204	3a
171	Clay	Bowl, complete, broken in fragment, ribbed interior	?	
172	Bone	Pin/needle fragment, head was worked	?	
173	Flint	Flake product - debitage	f225	2b/c
174	Metal	Fragment, thin. Either needle or nail, round	f225	2b/c
175	Bronze	Bronze pieces, three	f225	2b/c
176	Shell	Shell fragments, 2	f225	2b/c
177	Flint	Blade fragment	f225	2b/c
178	Shell	Shell fragment	f204	3a
179	Bronze	Bronze piece, without shape	f233	3b
180	Flint	Flint fragments, three	f233	3b
181	Clay	Bowl, archaeologically complete, round bottom	f204	3a
182	Flint	Flake product - debitage	f233	3b
183	Bronze	Bronze piece	f233	3b
184	Flint	Blade fragment	f238	3a
185	Flint	Blade fragment	f237	3a/2c
186	Flint	Flake product - debitage	f237	3a/2c
187	Stone	Stone implement/tool	f237	3a/2c
188	Flint	Stone implement/tool	f204	3a
189	Flint	Flake product/debitage, with cortex	f233	3b
190	Clay	Ceramic sherd with inner ribbing (grooved)	f204	3a
191	Clay	Ceramic fragment with mark on central rib	f233	3b
192	Clay	Cup, archaeologically complete, gray with red ribbing	f233	3b
193	Clay	Ceramic fragment with decoration on inside	f233	3b
194	Clay	Bowl, archaeologically complete but in three fragments	f249	3a
195	Flint	Blade fragment	not given	
196	Flint	Blade fragment	f233	3b
197		This item number was not assigned		
198	Clay	Complete vessel, preserved in 2 fragments	f240	3a
199	Clay	Complete vessel, preserved in fragments	f204	3a
200	Bronze	Bronze fragment	f202	2c
201	Bronze	Bronze fragments, three	f202	2c
202	Bronze	Bronze fragments, two - 1 round, 1 long	f252	3a
203	Bronze	Bronze fragment	f232	3b
204	Stone	Small centrally perforated bead	f261	3b
205	Shell	Shell	f261	3b
206	Flint	2 Flint pieces, 1 retouched	f204	3a
207	Flint	Flint blade fragment, retouched	f239	3a
208	Shell, Bronze	2 Shell fragments, 1 multi-colored metal lump	?	

Item number	Material	Description	Feature of Find (Context)	Phase
209	Shell	Snail Shell	f261	3b
210	Flint	Blade fragment	f239	3a
211	Flint	Blade fragment	f261	3b
212	Bronze	Unformed metal pieces	f261	3b
213	Clay	Bowl, almost completely preserved	f239	3a
214	Clay	2 terracotta fragments	f286	1
215	Basalt	Pottery wheel	f286	1
216	Flint	Blade fragment, single side retouched	f286	1
217	Clay	bowl, archaeologically complete (3 sherds)	f231	2c
218	Flint	Blade fragment, single side retouched	f226	2b/c
219	Clay	Bowl, almost completely preserved	f257	3a
220	Clay	Vessel, archaeologically complete, green-gray ware	f272	3b
221	Clay	Round sherd, decorated	f258	2b
222	Flint	Blade fragment, single side retouched	f258	2b
223	Flint	Blade fragment, both sides retouched	f258	2b
224	Obsidian	Blade fragment	f258	2b
225	Flint	7 Blade fragments, 5 with cortex	f258	2b
226	Flint	Blade fragment	f286	1
227	Flint	2 Blade fragments	f322	3a
228	Flint	2 Blade fragments	f327	2a
229	Flint	Blade fragment	f327	2a
230	Flint	Fragment of a scraper	f328	3a
231	stone	Flat stone	f348	2b
232	Flint	Flint fragment	f248	3a
233	Clay	Base of a terracotta figurine	f327	2a
234	Shell	Snail Shell	f326	1
235	Clay	Body of a zoomorphic figurine	f286	1
236	Obsidian	Blade fragment	f327	2a
237	Obsidian	Blade fragment	f204	3a
238	Obsidian	Blade fragment	f326	1
239	Flint	Blade fragment	f324	3a
240	Bronze	5 multi-color metal lumps	f324	3a
241	Flint	2 Blade fragments	f352	4a
242	Bronze	2 Bronze lumps	f352	4a
243	Clay	Bowl, archaeologically complete	f286	1
244	Flint	Chip product - debitage	f348	2b
245	Shell	Shell fragment	f248	3a
246	Clay	Complete bowl	f348	2b
247	Shell	2 complete shells, 7 fragments	f247	3a
248	Bronze	2 Bronze lumps	f336	4a
249	Bone	2 needle fragments	f336	4a
250	Shell	Snail shell	f336	4a

Item number	Material	Description	Feature of Find (Context)	Phase
251	Flint	4 Blade fragments	f336	4a
252	Stone	2 flat stones	f336	4a
253	Flint	3 Blade fragments, 1 flake	f226	2b/c
254	Shell	Shell	f358	4b
255	Flint	2 flake products/debitage with cortex	f370	3a
256	Flint	Blade, broke in 2 places	f261	3b
257	Clay	Imported vessel (Euphrates Ware), complete	f361	3a
258	Shell	Collection of mussel shells and snail shells	f258	2b
259	Stone	Round, flat bead with perforation	f370	3a
260	Flint	Blade fragment	f282	3a
261	Clay	Comb-wash bowl with ring base	f370	3a
262	Clay	Body sherd with ribbed design and engraving	f370	3a
263	Clay	Cup/bowl profile, with geometric designs on outside	f239	3a

Appendix D –ASA Features

Area	Feature	Description	Associated small finds	Phase	sub-phase
I-E/I-C/I-W	1	Topsoil	1, 6, 10, 11, 12, 13, 74	1	
I	2	Trimming the south profile	17, 24, 25, 70	2	a
I	3	Trimming the north profile	4, 5, 18, 116, 117	2	a
I	4	Trimming the east profile	3, 19, 37, 163	2	a
I	5	Straightening all levels and sections	7, 8, 14, 34	2	a
I-E	6	Tannur, very damaged, in south profile of Area I-E		3	a
I-E	7	Tannur located in north part of Area I-E		3	a
I-E	8	Fill of tannur f7		3	a
I-E	9	Tannur in northern Area I-E. Damaged		3	a
I-E	10	Fill of tannur f9		3	a
I-W	11	Tannur near opening to Room A. Very damaged		4	b
I-W	12	Fill of tannur f11	67, 142, 143	4	b
I-W	13	Tannur. Located at western edge of wall f39. Tannur is damaged. Situated near tannur f11		4	b
I-W	14	Fill of tannur f13		4	b
I-W	15	Tannur, badly damaged bordering western baulk		2	b
I-W	16	Fill of tannur f15		2	b
I-W	17	Tannur near west baulk. It cuts into the wall of f30		4	a
I-W	18	Fill of tannur f17		4	a
I-W	19	Tannur in northern part of Area I-W. Very damaged.		4	b
I-W	20	Fill of tannur f19	101	4	b
I-W	21	Vessel just outside Room A to the north, in situ find.		3	b
I-W	22	Fill of vessel f21		3	b
I-W	23	Mudbrick wall with north-south orientation. Continues north into north baulk. Forms Room C with walls f24 and f25		4	b
I-W	24	Mudbrick wall with east-west orientation. Forms southern boundary of Room C.	57	4	b

Area	Feature	Description	Associated small finds	Phase	sub-phase
I-W	25	Mudbrick wall, with north-south orientation. Continues north into baulk. Forms western side of Room C. Possible opening at southern end.		4	b
I-W	26	Room fill of Room C formed by walls f23, f24 and f25. Not a floor surface		4	a
I-W	27	Plaster basin west of Room A. Continues into north baulk		4	b
I-W	28	Ash pit, west of the basin f27.		4	b
I-W	29	Fill of ash pit f28. Ashy fill of dark gray ash mixed with ceramics	15, 16, 23, 58, 59	4	b
I-W	30	Wall see against west profile. Cut by tannur f17 and abuts the ash pit f28		4	b
I-E	31	Straightening in the eastern section, particularly trimming the area near f5	22, 27, 33, 146	2	a
II	32	Topsoil	20, 21, 28, 29, 30, 31, 32, 35, 36, 40, 51, 52, 53, 69, 80, 132, 133, 145	1	
I-W	33	Red mudbrick wall. Forms western edge of Room A.		3	b
I-W	34	Gray mudbrick wall. North-south orientation, attached to wall f33 - forms a double-wall		3	b
II	35	Fill layer, west of wall f33		2	b
II	36	Fine ashy layer under the topsoil (f32). Covers a plaster surface in the eastern part of Area II	65, 66, 73, 136, 137, 139	2	a
I-C	37	Topsoil. Thick fill over ditch/trench area.	46	1	
II	38	Room fill of Room A. Relatively hard and containing gypsum		3	a
II	39	Wall, east west orientation constructed of gray mudbrick		3	b
II	40	Mudbrick wall forming east and south boundary of Room A. Connected with wall f33 and f39		3	b

Area	Feature	Description	Associated small finds	Phase	sub-phase
I-C	41	Fill layer in central trench, under the topmost layer f37. Slight change in material		2	a
I-C	42	Fill layer in central trench, under f41; no major material change	39	2	a
I-C	43	Fill layer in central trench. Reddish, firm and sandy material interspersed with pebbles	41, 42, 43, 44, 45, 47, 54, 55, 56, 60, 61, 63, 64, 75, 76, 115, 125, 126, 127, 131, 134	2	b
II	44	Small trench in east part of Area II		2	b
II	45	Fill of trench f44		2	b
II	46	Trench/cut in western part of Area II		2	a
II	47	Fill of trench f46		2	a
II	48	Gray layer in eastern part of Area II	87, 88	2	b
II	49	Hard ashy layer with no distinct boundary. Under f48		2	b
II	50	Plaster surface, slopes towards the west in the southern part of Area II		3	a
II	51	Pebble pavement, adjacent to the plaster surface of f50		3	a
II	52	Removal/Excavation of f50		3	a
II	53	Removal/Excavation of f51		3	a
II	54	Fill under plaster floor surface of f50		3	a
II	55	Tannur in eastern part of area		3	a
II	56	Fill of tannur f55		3	a
II	57	Trench with ashy filling. Tannur f55 set in this feature		3	a
II	58	Surface of stones and sherds approximately 3 meters by 1.2 meters. Located in SE part of Area II		3	b
I-C	59	Accumulation, sloping down from the west into the central trench. Overlays the lowest recovered levels. Fill is mixed with pebbles.	81, 138	3	a
II	60	Pebble surface	97	3	b

Area	Feature	Description	Associated small finds	Phase	sub-phase
III	61	Topsoil	48, 49, 50, 71, 77, 78, 82, 83, 91, 92, 93, 94, 95, 96, 105, 111, 112, 113, 114	1	
II	62	Tannur	62	3	a
II	63	Fill of tannur f62	141	3	a
I-C	64	Found in the bottom of the central trench. Slopes slightly down from the east. Also contains some virgin soil. Clayey mixed with pebbles	104, 140	4	a
II	65	Ash pit to the east of f62		3	a
II	66	Fill of ash pit f65	38	3	a
II	67	Fill layer of loose sandy material in between f60 and overlaying pebble pavement f58	79, 89, 90	3	b
III	68	Fill layer in southeast Area II. Sandy clay and ash.	106, 107, 108, 109, 110, 155, 156	2	b
III	69	Mudbrick wall with red mudbricks, continues east into Area II		3	b
III	70	Sandy and ashy soil with some plaster mixed in. Forms room fill of Room B	72, 103, 149	2	b
III	71	Mudbrick wall, north-south oriented with red mudbricks. Connects to wall f69		3	b
III	72	Vessel found north of Room B. Embedded in surface		3	a
III	73	Fill of vessel f72		3	a
II	74	Trench/pit dug into the pebble surface f60. It is lined with plaster and may be a storage pit		3	a
II	75	Fill of storage pit f74		3	a
III	76	Multi-phased pebble pavement, west of the wall f71		3	a/b
III	77	Tannur, partially embedded in the pebble pavement f76 and cutting into the wall f71		3	a
III	78	Fill of tannur f77		3	a

Area	Feature	Description	Associated small finds	Phase	sub-phase
III	79	Vessel, in north profile.		2	b
III	80	Pit in Room B. Set into floor f99		3	a
III	81	Fill of pit f80		3	a
III	82	Tannur, very damaged in north profile		2	b
III	83	Fill of tannur f83		2	b
III	84	Tannur, very damaged in north profile		2	b
III	85	Fill of tannur f85		2	b
II	86	Fill layer, loose material in southwest Area II, covers the plaster floor f87		3	a
II	87	Plaster floor surface in south-west Area II		3	b
II	88	Sloping surface of pebbles from east to west, in the southwest part of Area II near f87		3	a
II	89	Remains of a floor surface between Area II and Area III		2	b
III	90	Hard ashy layer in southern part of Area II	84, 85, 86, 102	3	a/b
III	91	Ashy loose fill below the multi-phase pavement f76		3	a
III	92	Remains of a pebble surface, abutting the ash of f91		3	a
III	93	Surface under the ashy layer f91. Composed of pebbles, plaster and broken plaster pieces		3	a
III	94	Plaster surface west of f93. Thick with multiple layers		3	a
III	95	Vessel with mineral temper. Seen in north profile, east of vessel f79		2	b
III	96	Ash layer in Northwest part of Area III with mixed ceramics and bones	98, 153, 154	2	b
III	97	Shallow pit, lined with plaster in surface f93/f94		3	a
III	98	Fill of pit f97, sandy material with no small finds		3	a
III	99	Surface of hard clay in Room B. Pit f80 is found embedded in it in the center of the room	148	3	a
III	100	Ashy layer under the floor surface f99	162	3	b
III	101	Mudbrick wall, red mudbrick with east-west orientation. Forms north wall of Room B		3	b

Area	Feature	Description	Associated small finds	Phase	sub-phase
II	102	Remains of a pebble surface, connected to pebble surface f60. Located in southern part of Area II		3	b
II	103	Trench/pit dug into corner near walls f105 and f106. The bottom of pit is lined with pebbles		3	b
II	104	Fill of pit f103		3	b
II	105	Mudbrick wall constructed of reddish mudbricks with east-west orientation. Just south of wall f40. Connects to wall f106.		3	b
II	106	Mudbrick wall constructed of reddish mudbrick with north-south orientation, connects to wall f105.		3	b
III	107	Multiphase pit, lined with mud instead of plaster		3	b
III	108	Fill of pit f107	99, 144	3	b
III	109	Tannur embedded in plaster floor f93		3	a
III	110	Ashy fill of tannur f109, no finds		3	a
IV	111	Topsoil. Opening of Area IV, north of Area III. Area of 10m by 5 m.	100, 128, 129, 130, 150, 164	1	
III	112	Thick, hard plaster layer under the thinner layers of f94 and f93		3	b
II	113	Sandy layer between the surfaces f89 and f114. Located in area between Area II and III		2	c
II	114	Remains of a surface, possible basin?		3	a
II	115	Sandy clayey layer below f114		3	a
III	116	Sandy ashy layer under f112		3	b
II	117	Plaster surface with pebbles near area between Area II and III		3	b
II	118	Plaster surface, very thick and had under the plaster surface of f117		3	b
III	119	Two small areas of extended pebble pavement, probably related to pebble pavement f76	165	3	a
II	120	Plaster surface, similar in composition to overlaying f118; very hard and with many embedded pebbles		3	b

Area	Feature	Description	Associated small finds	Phase	sub-phase
III	121	Very hard surface of gray material. In the shape of a figure 8 with two depressions. Function is not clear		3	b
III	122	Remnants of a pebble surface in the southwest corner of Area III. Stones of various sizes mixed with ceramics		3	a
III	123	Stone lens under f122, slightly smaller but similar in structure. It has plaster.		3	b
V	124	Topsoil. Opening of Area V, extension to to the north of Area IV	118, 119, 120, 121, 122, 123, 124, 135, 147, 152, 157, 158, 159, 160	1	
VI	125	Topsoil		1	
IV	126	Fill, between two walls. Likely was not a room, but a protected area for work activities		2	b
IV	127	Tannur		2	b
IV	128	Fill of tannur (f127)		2	b
IV	129	Tannur in Northeast part of Area IV.		2	b
IV	130	Fill of tannur (f129)		2	b
IV	131	Ash pit in south east part of Area IV		2	b
IV	132	Fill of ash pit (f131), light and dark gray ash mixed with ceramics		2	b
IV	133	Small pit, west of the ash pit f131. Lined with plaster and stone, probably used as a storage pit		2	b
IV	134	Fill of pit f133.		2	b
IV	135	Small pit, with edge lined with stones and sherds. Just north of pit 131 in southeast part of Area IV		2	b
IV	136	Fill of pit (f135). Ash mixed with stones and sherds		2	b
II	137	Vessel found under the pebbles of pavement f60		3	b
II	138	Ashy fill of vessel f137		3	b
V	139	Basin in eastern part of Area V		2	b
V	140	Hard plaster surface. Located in southern part of Area V		2	b

Area	Feature	Description	Associated small finds	Phase	sub-phase
V	141	Room filling (room number not recorded). Collapsed brick.	161	2	c
VI	142	Stamped earth wall, with north-south orientation. Part of Room G.		3	b
VI	143	Stamped earth wall (no bricks). East-west oriented. Connected to wall f144. Forms southern border of Room G.		3	b
VI	144	Stamped earth wall (no bricks). North-south oriented and bonded to wall f143. Western border of Room G.		3	b
VI	145	Room filling of Room G. Bounded by walls f142, f143, f145	151	3	a/2c
I-E	146	Stone lens in eastern part of trench. Sits in thick layer of f37		2	a
VI	147	Tannur in Room G, positioned on the side open to the alley (f402)		3	a
VI	148	Fill of tannur f147		3	a
VI	149	Tannur in Room G, positioned on the side open to the alley (f402)		3	a
VI	150	Fill of tannur f149		3	a
III	151	Partially preserved floor surface in Room B. Coated with plaster.		3	b
III	152	Plaster lined pit in center of floor surface f151 in room B		3	b
III	153	Installation of brick material. Roughly square in shape with rounded corners. May be an oven		3	b
III	154	Ashy deposit in center of installation f153		3	b
V	155	Basin-like structure in eastern part of Area V. Cuts into the south profile.		2	b
IV	156	Collection of large groundstone. Near the surface, higher than preserved walls		2	b
IV	157	Stone lens, composed of pebbles, under the stones of f156, following similar extent		2	b
III	158	Small surface of gray material, possibly with limestone?		3	b
I-C	159	Sandy layer at edge of central trench in the west. Overlays f59 and f64		3	a
II	160	Ashy pit in SW corner of Area II.		2	b

Area	Feature	Description	Associated small finds	Phase	sub-phase
II	161	Layer seen in west profile, Mixed material of ash, plaster, charcoal and chalky deposits.		2	b
II	162	Hard, gray clayey band in west profile.		2	b
III	163	Ash packet, seen in north profile		2	b
VI	164	Thick ash layer over the hard clay surface of f192		2	b
VI	165	Mudbrick wall, bricks are mostly decomposed. North-south oriented it acts as western edge to rooms D, E and F.		3	b
VI	166	Stamped earth wall (no bricks). East-west orientation. This wall separates the ash pit (in Room F) from Room E		3	b
VI	167	Stamped earth wall. Forms the western edge of Room E. Separates room E from Area IV		3	b
VI	168	Stamped earth wall with east-west orientation. Forms division between Room D and Room E.		3	b
VI	169	Stamped earth wall with north-south orientation. Western edge of room D, borders western edge of Area IV, may be connected to wall f287		3	b
VI	170	Large pit in southern profile		2	b
VI	171	Fill of pit f170 composed of dark ash mixed with ceramics, plaster and clay		2	b
V	172	Reddish layer; consists of mixed mudbrick material. Corresponds to wall f169 in Area VI (to the west).		3	b
V	173	Ashy layer. Overlays the f172. It is very similar to f164 in Area VI.		2	b
V	174	Pit in southwest part of Area V		2	b
V	175	Ash fill of pit f174		2	b
V	176	Tannur. Located in Northwest part of Area V.		2	b
V	177	Fill of tannur f176.		2	b
V	178	Ash lens, overlays the tannur f176. Ash may be associated with use of tannur.		2	a
V	179	Ash pit. Found above some bricky material in the southwest part of Area V. Possibly a hearth		2	b

Area	Feature	Description	Associated small finds	Phase	sub-phase
V	180	Fill of ash pit (f179).		2	b
II	181	Ashy layer seen in south profile below the pebbles of f88		3	b
VII	182	Large ash pit dug into southern part of Area, close to surface and probably belongs to later reuse		2	b
VII	183	Ash fill of pit f182		2	b
VII	184	Ash layer, just below surface. Similar to f164 in Area VI		2	b
VII	185	Layer of loam and crumbled mudbrick, reuse phase similar to what was found in Area VI		2	c
VI	186	Ash pit seen in East profile of Area VI. Cut from near surface.		2	a
VI	187	Filling of ash pit (f186). Ashy deposit		2	a
VI	188	Room filling of Room D. Above the floor surface of f264		3	a/2c
VI	189	Room filling in Room E, above the floor surface of f265		2	c
VI	190	Clayey, reddish colored layer in east profile		2	c
VIII	191	Ash layer seen in west profile. Re-use of area similar to f164		2	b
VIII	192	Clayey layer of collapsed mudbrick. Similar to f194		2	c
VI	193	Clayey level of decomposed brick material, under ashy layers.		2	c
V	194	Tannur - located in north part of Area V, above the filling of Room O. May indicate late use of room area.		2	c
V	195	Dark ash mix with ceramics. Fill of tannur f194.		2	c
V	196	Vessel. In northwest corner of Area V		2	b
V	197	Basin-like structure in south profile. No plaster.		2	b
VI	198	Bricky collapse layer above the alley (f402)		2	c
V	199	Basin-like structure seen in east profile. Some ash and plaster were scattered across its top.		2	b
VI	200	Circular ash pit. Lighter ash material but same as underlying f161. Located in Room E.		3	a

Area	Feature	Description	Associated small finds	Phase	sub-phase
VI	201	Hearth, above the room layers of Room D		2	b
VI	202	Bricky collapse layer over area of Room D	200, 201	2	c
VI	203	Removal of hearth f201		2	b
VI	204	Removal of hard layer of f200	167, 168, 170, 178, 181, 188, 190, 199, 206, 237	3	a
VI	205	Topsoil	169	1	
VI	206	Ashy layer just below topsoil (possibly same as f164)		2	b
IV/V	207	Wall-like feature in south Area V, possibly continuing into Area IV. Elevation not given but probably belongs to Phase 3.		3	b
V	208	Large pit, lined with plaster. Cuts into wall f224.		2	b
V	209	Fill of pit f208. Ash mixed with reddish earth.		2	b
V	210	Small pit. Located in southwest part of Area V. Probably associated with pit f208		2	b
V	211	Ashy fill of pit f210.		2	b
V	212	Wall, North-south oriented. Disturbed by a pit at its southern end. Together with f213 and f214 forms Room O		3	b
V	213	Wall, east-west orientation. Corner where it connects to f212 is disturbed by a pit. Connected to f214 in east. Together with f212 and f214 it forms Room O.		3	b
V	214	Wall, north-south oriented. Possible door or opening at north end. Forms Room O with walls f212 and f213.		3	b
V	215	Pit, cuts into the corner of walls f212 and f213.		2	b
V	216	Ashy fill of pit f215		2	b
V	217	Room filling of Room O (walls f212, f213, f214). Bricky ashy material on top of a floor surface		2	c
V	218	Pit, cuts into wall f213		2	b
V	219	Ashy fill of pit f218		2	b

Area	Feature	Description	Associated small finds	Phase	sub-phase
V	220	Pit, cuts into corner of walls f213/f214. Also cuts eastern corner of Room O.		2	b
V	221	Ashy fill of pit f220		2	b
V	222	Pebble surface in eastern part of Room O. Possible work surface.		3	a
V	223	Circular ashy deposit in Room O. Possible hearth.		3	a
V	224	Wall, north-south oriented. Just south of f212, but any possible connection was unrecoverable due to disturbance of pit (f215)		3	b
VI	225	Surface of reddish, clay material likely result of brick decay.	173, 174, 175, 176, 177	2	b/c
IV	226	Removal of layers down to next level (i.e Removal of materials from Phase 2)	166, 218, 253	2	b/c
V	227	Cut through the floor surface in western half of Area V. Hard, gray ashy material		3	b
VI	228	Wall, the inside face is covered with plaster. East-west orientation. Forms northern border of Room I.		3	b
VI	229	Wall, North-south oriented, with a slight NE/SW slant. Forms Room I with wall f228.		3	b
VI	230	Wall-like feature in front of wall f229. Composed of brick collapse, not a double-wall construction		3	a/2c
VI	231	Collapse mudbrick material associated with the wall f229 and f230. Forms part of Room I filling	217	2	c
VI	232	Ash pit, filled with gray ash. Surrounded by small low walls. Forms the filling of Room H	203	3	b
VI	233	Fill of ash pit (f232)	179, 180, 182, 183, 189, 191, 192, 193, 196	3	b
VI	234	Tannur, located within Room H. It is cut into ashy pit of f391.		3	a
VI	235	Fill of tannur (f234). Composed of ashy material		3	a

Area	Feature	Description	Associated small finds	Phase	sub-phase
VI	236	Pebble pavement in Northwest part of Area VI. Slopes from west towards east. Overlays pebble pavement f394. Composed of small gray stones, grinding stones and ceramics		3	a
V	237	Cut into room fill of Room O	185, 186, 187	3	a/2c
VI	238	Ash associated with the use of tannur f234	184	3	a
V	239	Cut and removal of western half of Room O floor surface (f227) including the ashy and plaster surface	207, 210, 213, 263	3	a
VI	240	Removal of pebble pavement (f236). Gray stones, grinding stones and ceramic materials	198	3	a
V	241	Tannur found in Room O under floor surface f239/f227		3	b
V	242	Dark and light ash mixed fill of tannur f241		3	b
V	243	Tannur, larger than f241, located in corner of Room O.		3	b
V	244	Fill of tannur f243 - clay with plaster, hard and ashy.		3	b
V	245	Large pit, next to pit f208. Lots of ashy broken brick material and plaster		3	a
V	246	Narrow strip of remaining floor surface in the south. Damaged plaster surface. Part of Room R.		3	a
V	247	Removal of floor f246 until the next floor surface (f248). Located within Room R.	247	3	a
V	248	Floor surface, very similar to f246, but with better plaster surface. Part of Room R.	232, 245	3	a
V	249	Fill of pit f245. Lots of ash, broken brick and a complete vessel	194	3	a
VI	250	Installation, seen in west profile of Area VI.		3	a
VI	251	Remains of a reddish floor surface. Cut by levels from above		3	a
VI	252	Floor surface, next to floor f251. Extends to the installation f250.	202	3	a

Area	Feature	Description	Associated small finds	Phase	sub-phase
VI	253	Floor surface, under the floors of f251 and f252. Light gray, ashy, clayey firm surface.		3	a
V	254	Floor levels below below f246/f248 in Room R. Some small plaster pieces. Tannur embedded.		3	b
V	255	Floor level in eastern part of Room R. Tannur embedded in it. Hard, ashy, gray layer		3	b
V	256	Floor level of Room R, approximately level with floor layer f255. Tannur embedded in this layer		3	b
VI	257	Layer inside of Room with circular gap on east side (location not recorded, but probably belongs to Room E).	219	3	a
IV	258	Removal of layers in western half of Area IV, to building structures	221, 222, 223, 224, 225, 258	2	b
	259	This feature number was not assigned			
VI	260	Installation - bench-like structure. Located along the north wall inside of Room I. Plastered surface.		3	b
V	261	Mudbrick wall with east-west orientation. Located in western part of Area V. Connects to wall f224.	204, 205, 209, 211, 212, 256	3	b
V	262	Tannur in northwest corner of Area		3	a
VI	263	Layer of broken mudbrick and clay over the alley (f402)		2	c
VI	264	Floor surface in Room D. Slopes down slightly to the east. Groundstone in situ.		3	b
VI	265	Floor surface of Room E. Tannur and complete vessel embedded.		3	b
VI	266	Tannur, located in Room E. It is sunk into the floor and part of southern wall. May be a re-use or modification of the room.		3	a
VI	267	Fill of Tannur (f266).		3	a
VI	268	Floor surface of Room G made of a clay material		3	a
VI	269	Poorly preserved wall, small in size. Adjacent to ash-pit and installation (f250)		3	a

Area	Feature	Description	Associated small finds	Phase	sub-phase
VI	269a	Ash pit above the alley level, east of the the pavement f232		2	b
VI	270	Fill of ash pit (f269a). Composed of dark and light ash material and many ceramics		2	b
V	271	Inverted jar in eastern part of Area V. Sunk into floor level. Interior possibly spread with bitumen		3	b
V	272	Fill of jar f271.	220	3	b
V	273	Tannur in floor surface in southern part of Area V		3	b
V	274	Fill of tannur f273		3	b
V	275	Broken sherds, form two vessels. Found near the jar fo f271		3	b
V	276	Fill associated with the finds f275		3	b
V	277	Floor level, does not touch the walls		3	b
VI	278	Vessel in western part of Room E. Set in floor f265.		3	b
VI	279	Fill of vessel f278		3	b
VI	280	Vessel set in floor level f265- near tannur (f266) in west		3	b
VI	281	Fill of vessel f280. Ashy mixed with small animal bones		3	b
VI	282	Tannur near ash pit, just above the alley (f402)	260	3	a
VI	283	Fill of tannur f282		3	a
VI	284	Floor level in western part of Area VI. Partly composed of mixed pebbles and sherds. Immediately below f253.		3	b
V	285	Sample taken from below the jar of f271. No visible finds associated with this sample		3	b
VIII	286	Topsoil	214, 215, 216, 226, 235, 243	1	
IV	287	Wall in western part of Area IV. East-west orient. Constructed of gray-brown brick material		3	b
IV	288	Ash pit in western part of Area IV. Located near the wall f287. Ash spreads from NW to SE.		3	b
IV	289	Grouping of stones just east of the ash of f288. Scattered, with ceramics mixed in.		3	b

Area	Feature	Description	Associated small finds	Phase	sub-phase
IV	290	Stone surface in North-western part of Area IV, just west of wall f306. Roughly circular shape, possibly a work surface		3	a
IV	291	Outdoor floor surface in western part of Area IV. Composed of a hard light gray clay material.		3	b
IV	292	Angular wall, constructed of stamped earth, opens to the west (location not documented)		3	a
VIII	293	Ash-pit in Southwest corner of Area VIII. Cuts into the floor surface of f295		2	a
VIII	294	Fill of ash pit f293		2	a
VIII	295	Floor surface in southern part of Area VIII, relatively soft and made of decayed material. Pit f293 sits in it.		2	b
VIII	296	Tannur, associated with surface f295. Damaged, with stones visible in bottom		2	b
VIII	297	Fill of tannur f296		2	b
VIII	298	Ash pit located in Southeast part of Area VIII. Dimensions are unclear and it covers rooms of Area VI as well.		2	a
VIII	299	Fill of ash pit f298		2	a
VIII	300	Multi-phased plaster basin in Northeast corner of Area VIII. It is bounded by wall f320 and wall f349. It is likely connected to and contemporaneous with the pavement of Area VI (f394)		3	b
VIII	301	Small wall, only one brick high, with north south orientation. Located in NE corner of Area VIII.		2	b
VIII	302	Slightly rounded wall, only one brick high. Near wall f301. East-west oriented.		2	b
VIII	303	Pit, surrounded by the walls f301 and f302. Covers the floor f324		2	b
VIII	304	Fill of pit f303. Ceramics (broken pot) and ash in deposit		2	b
IV	305	Wall, built of stamped earth (no bricks). North-south orientation. Located in the western part of Area IV.		3	b

Area	Feature	Description	Associated small finds	Phase	sub-phase
IV	306	Mudbrick wall with visible brick joins, north-south oriented in eastern part of Area IV.		3	b
IV	307	Mudbrick wall, east-west oriented in eastern part of Area IV. Forms a room with f308, f309 and f306		3	b
IV	308	Mudbrick wall, north-south oriented. Located in eastern part of Area IV. Forms the eastern partition to the room Q.		3	b
IV	309	Mudbrick wall, east-west oriented. Located near northern balk, separates Room Q from Room R. There is an opening, possibly a door at the western end of the wall.		3	b
IV	310	Clayey, loamy fill between the wall of f307, f308, f309 and f306 that form room Q. Not a floor surface, only fill was found		3	a
IV	311	Boundary wall composed of stamped earth (no bricks). East-west oriented and connected to wall f307		3	b
IV	312	Boundary wall composed of stamped earth (no bricks), similar to wall f311. North-south oriented. Closes off ash pit of f313 to the east		3	b
IV	313	Ash pit. The pit is bounded by the boundary walls f311 and f312. Possibly forms a type of room.		3	b
IV	314	Pebble pavement, in southeast part of Area IV. Terminates at a later tannur. Partly overlaid by a later pavement (f315)		3	b
IV	315	S-shaped pebble pavement, covering earlier pavement of f314		3	a
IV	316	Small wall or installation, in the southeast part of Area IV, running north.		3	a
IV	317	Wall, built of stamped earth (no bricks). North-south orientation. Borders the ash pit (f319) to the east.		3	b
IV	318	Wall, constructed of stamped earth (no bricks). East-west orientation. Borders ash pit (f319) to the north		3	b

Area	Feature	Description	Associated small finds	Phase	sub-phase
IV	319	Ash pit in eastern part of Area IV. Almost rectangular in shape. It is enclosed by the low walls of f317 and f318.		3	b
VIII	320	Mudbrick wall with north-south orientation. Located in NW corner of Area VIII. Runs into north profile. Forms room K with wall f321		3	b
VIII	321	Mudbrick wall with east-west orientation. Cut off in west by baulk. Forms room K with wall f320.		3	b
VIII	322	Room fill of Room K. Soft ashy and brown fill.	227	3	a
VI	323	Large ash pit lens in south profile. Composed of dark ash and near f347		2	b
VIII	324	Floor level below the Phase 2 ash pit (f303/f304). Thick red layers with some gaps in it. Made of a hard clay material. Located in NW corner Area VIII	239, 240,	3	a
VIII	325	Surface composed of broken and melted mudbrick. Tannur and animal bones found in it		3	a
VI	326	Topsoil	234, 238	1	
VI	327	Removal of ash layer just below topsoil (f326)	228, 229, 233, 236	2	a
VIII	328	Removal of the floor surface f324 down to the next surface (f329).	230	3	a
VIII	329	Floor level below the surface f324/f328. Grayish and reddish in color. Hard surface with embedded tannur (f330) and bin (f333)		3	b
VIII	330	Tannur embedded in f329. South of wall f349 which separates it from the basin f300		3	b
VIII	331	Fill of tannur f330. South of wall f349		3	b
VI	332	Removal of ashy/brick collapse material. No structure found		2	c
VIII	333	A small bin-like structure, near the tannurs, cut into the installation and filled with ash		3	b
VIII	334	Ashy fill of bin f333		3	b

Area	Feature	Description	Associated small finds	Phase	sub-phase
VIII	335	Large collection of animal bones, north of wall f269 in Area VI. Deposited in ash and probably a garbage deposit		3	a
V	336	Top layer excavated in initial cut of deep sounding	248, 249, 250, 251, 252	4	a
VIII	337	Ash-pit south of installation f250. Continues east into Area VI. Disturbs wall of Room I.		3	a
VIII	338	Fill of ash-pit f337 mix of very dark ash and light colored ash		3	a
VIII	339	Tannur set in ash pit f337		3	a
VIII	340	Fill of tannur f339. Included ash material and small green inclusions, possibly botanical samples		3	a
VIII	341	Tannur in western part of ash pit f337. Borders baulk between Area VI and VIII.		3	a
VIII	342	Fill of tannur f341		3	a
VIII	343	Vessel in layer above the basin f300		2	b
VIII	344	Fill of vessel f343		2	b
VIII	345	Grouping of mudbrick-like material. Appeared to be a wall, but was not. Located in NE corner of Area VIII		2	b
VIII	346	bricky material running east-west into west profile		2	b
VI	347	Large ash pit/lens in southern profile of Area VI. Near the southern end of the alley.		2	b
VII	348	Ashy layer just below topsoil (possibly same as f164)	231, 244, 246	2	b
VIII	349	Stamped earth wall separating the basin (f300) from the pit f333 to the south. Probably terminates alongside the pebble pavement f236/f394 in Area VI		3	b
VII	350	Large tannur in northwest corner of Area VII		3	b
VII	351	Fill of tannur (f350)		3	b
V	352	Surface between f336 and f353	241, 242	4	a
V	353	Burned mudbrick, no consistency to material	none	4	b

Area	Feature	Description	Associated small finds	Phase	sub-phase
VII	354	Ash pit near tannur (f350) and near the pit f356. The bottom is covered with stones		3	a
VII	355	Fill of ash pit (f354). Multi-colored ashes		3	a
VII	356	Ash pit, next to ash pit f354		3	a
VII	357	Fill of ash pit f356		3	a
V	357a	Ashy layer with burned brick material		4	b
V	358	Ash and burnt mudbrick debris	254	4	b
VII	359	Wall with north-south orientation, appears to continue south into Area VI		3	b
VII	360	Wall connected to the wall f359. It has a east-west orientation. Together they do not form an enclosed space		3	b
VII	361	Fill in Space N between the walls f360 and f369. Imported vessel found in this fill. Above f414	257	3	a
VII	362	Mudbrick wall with North-South orientation, with slight angle toward NE. Forms Room M with wall f363.		3	b
VII	363	Mudbrick wall with East-west orientation. Cut off in east by baulk. Forms Room M with wall f362.		3	b
VII	364	Ashy clay room filling in Room M		3	a
VII	365	Channel, lined with small stones running along side the wall f360 with east-west orientation toward the alley		3	b
VII	366	Channel fill, mostly ashy material		3	b
VII	367	Cut just south of wall f363 to reach the lower channel levels		3	b
V	368	Ash layer with an area that appear to be residual burning		4	b
VIII	369	Mudbrick wall, low and see in east section. Disturbed by pits. Has an east-west orientation, oblique to the east profile.		2	b
VII	370	Cut in suspected street area, ashy layer, slightly reddish in color with mixed ceramic and bone	255, 259, 261, 262	3	a
VII	371	Cut within structure [localization not recorded]			

Area	Feature	Description	Associated small finds	Phase	sub-phase
VII	372	Floor level associated with the tannur (f350) and storage pit (f377)		3	b
VII	373	Floor level. Red and hard. It is an outdoor surface that crosses the channel in the northwest part of Area VII		3	b
VII	374	Some possible wall remains connected to floor level f372, seen in section		3	b
VII	375	Tannur, surrounded by sherds in western part of Area VII.		3	b
VII	376	Fill of tannur f375		3	b
VII	377	Storage pit set into f373. It is lined with plaster and stones		3	b
VII	378	Fill of storage pit f377		3	b
VII	379	Removal and cuts into f373 to expose the full extent of the channel		3	b
VII	380	Removal of floor levels, including f372 to reach the subfloor level		3	b
V	381	virgin soil		5	
V	382	Cut south of Room O to reach level		mixed	
VII	383	Floor level in Room M. Under ashy layer (f364).		3	b
VII	384	Ash layer in Room M. Part of fill and does not form a surface. Directly under the floor level f383		3	b
VII	385	Floor level in Southwest part of Area VII. Hard reddish material with plaster. Residual plaster on surface		3	b
VII	386	Floor level west of the f385 floor, separated by a small band of stones. Similar material including plaster		3	b
VII	387	Installation slightly above the floor level (f385), round and made of plaster		3	b
VII	388	Pebble pavement, may belong to the channel. Another pavement, f389 borders it to the east		3	b
VII	389	Pebble pavement, borders the f388 pavement. Made of dark stones and slightly higher than f388		3	b

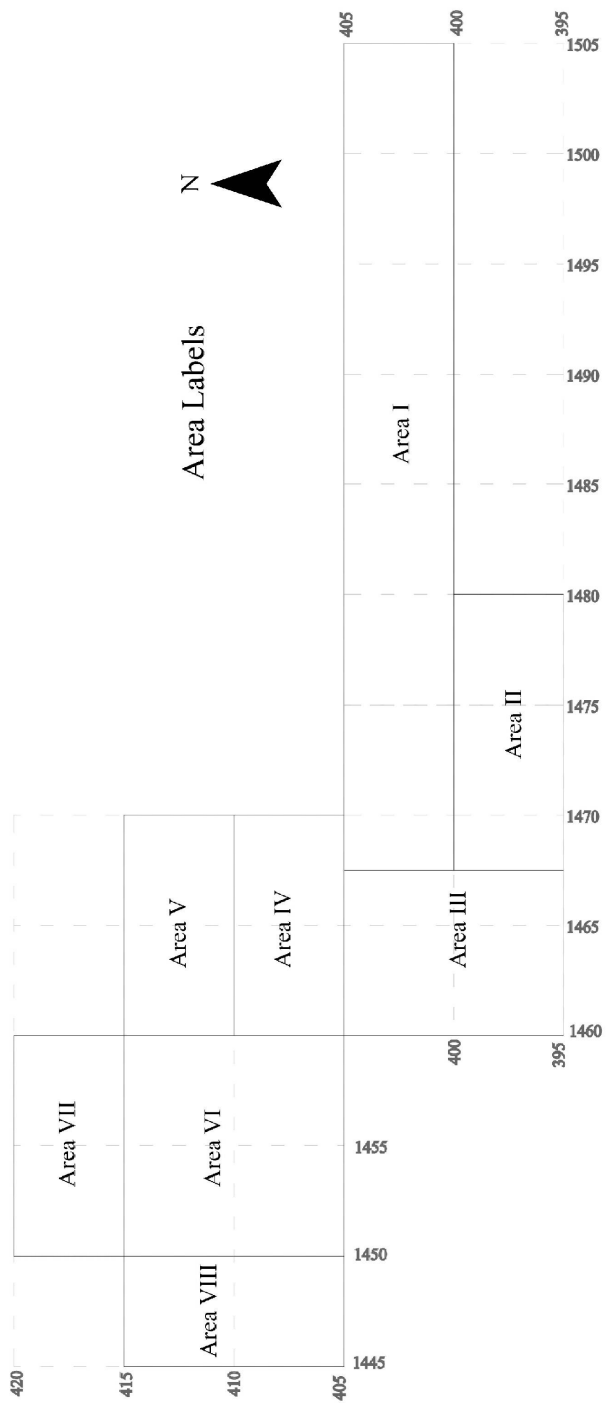
Area	Feature	Description	Associated small finds	Phase	sub-phase
VII	390	Small pebble surface separating the floor areas of f385 and f386. Some sherds mixed in.		3	b
VI	391	Ash found surrounding the tannur (f234) in Room H-north. Enclosed by small low walls		3	b
VI	392	Mudbrick wall in southwest corner of Area VI. Appears to continue west into Area VIII. Forms Room I together with walls f228 and f229		3	b
VIII	393	Mudbrick wall. Forms western edge of Room I, continued from Area VI.		3	b
VI	394	Pebble pavement in western Area VI. Composed of small stones and ceramics. Immediately under pavement f236		3	b
VI	395	Stamped earth wall with north-south orientation. Forms eastern border of Room H north.		3	b
VI	396	Stamped earth wall, with east-west orientation. Forms northern border of Room H-north and bounds ash pit f391		3	b
VI	397	Stamped earth wall, with north-south orientation. Forms western border of ash pit f391 and the Room H-north.		3	b
VI	398	Stamped earth wall, separates Room H south from Room H-north. Bounds ash pit f391 and f232		3	b
VI	399	Stamped earth wall, with north-south orientation. Forms eastern border of Room H-south. Bounds the ash pit f232		3	b
VI	400	Stamped earth wall, with east-west orientation. Forms the southern edge of Room H-south. Southern boundary of the ash pit f232		3	b
VI	401	Stamped earth wall, north-south oriented. Forms western boundary of Room H-south. Acts as boundary for ash pit f232		3	b

Area	Feature	Description	Associated small finds	Phase	sub-phase
VI	402	Alley way between eastern and western groupings of rooms. Continues north into Area VII		3	b
VI	403	Stone pavement associated with northern part of alley (f402). May be connected to the pavement of f394		3	b
VIII	404	Stamped earth wall, north-south orientation with slightly oblique angle towards NE. Continues into south profile. Forms Room J together with walls f405 and f406		3	b
VIII	405	Stamped earth wall, east-west orientation, although tilted slightly obliquely. Continues into west profile. Forms northern boundary of Room J.		3	b
VIII	406	Stamped earth wall, low height. Oblique north-south orientation. Forms a corner with wall f405 and helps form Room J.		3	b
VIII	407	Mudbrick collapse (probably from Room I), overlays the surface f325		2	c
VIII	408	Small stamped earth wall, with east-west orientation set on floor f325		3	a
VIII	409	Stamped earth wall, connected to wall f408. Oblique north-south orientation		3	a
VIII	410	Floor level of Room J inside of stamped earth walls f404, f405 and f406		3	b
VIII	411	Floor level in Room K. Under fill of f322		3	b
VI	412	Floor surface of Room I		3	b
VI	413	Installation along eastern side of Room I, along the wall f229. May be a bench-like structure. Similar to bench f260 in same room		3	b
VI/VII	414	Hard red floor surface in the open space N, continues across from Area VI to Area VII.		3	b
VIII	415	Two mudbricks, lying in alley area. Probably are a result of collapse from neighboring Room I.		2	c
VII	416	Floor level, relatively even in west part of alley		3	b

Area	Feature	Description	Associated small finds	Phase	sub-phase
V	417	Oven-like installation, cut into virgin soil		4	b
V	418	Oven-like installation, various pockets of ash and brick material. Associated with f417 and also cut into the virgin soil		4	b
V	419	Burned mudbrick material surrounding installation f417/f418		4	b
V	420	Small wall, constructed of mudbrick. It is 7 bricks high and only 1 brick wide. The top of the wall terminates just below the surface associated with Phase 3.		4	b
V	421	mudbrick material, no individual bricks visible, surrounding installation of f417/f418.		4	b
V	422	Brown accumulation layer west of wall f421		4	b
V	423	Thick ash deposit, south of wall f420. It is deposited on the virgin soil of f381.		4	b
V	424	Plaster layer, overlaying the layers associated with installation. Possibly a later modification to the area		4	a
V	425	Compact, sticky clay layer in western part of sounding. Overlays f426		4	b
V	426	Ash pocket with mutli-shaded ashes. Found in western part of sounding.		4	b
V	427	Small grouping of gray mudbricks in the west profile, toward the southern portion of the sounding. Bricks are stacked three high.		4	b
V	428	Ashy layer, towards top of Area V sounding. It probably is part of the last use of this phase.		4	a
VI	429	Floor level in Room G. Composed of clay with plaster		3	b
V	430	Ashy fill found within installation f417/f418		4	b
V	431	Floor surface just below the ash of f428 and plaster layer of f424. Part of last use during Phase 4.		4	a
I-E	432	Low mudbrick wall. Unconnected to other walls. Near tannurs f7 and f9		3	a

Area	Feature	Description	Associated small finds	Phase	sub-phase
III	433	Low mudbrick wall. Forms boundary or shield for ash pit f107		3	b
III	434	Tannur north of Room B.		3	b/a
IV	435	Circular ash pit with some stones surrounding it. South of larger ash pit of f313		3	b
VI	436	Ash fill in Room F, underlies the fill of f200		3	b

Appendix E – Area ASA Plans

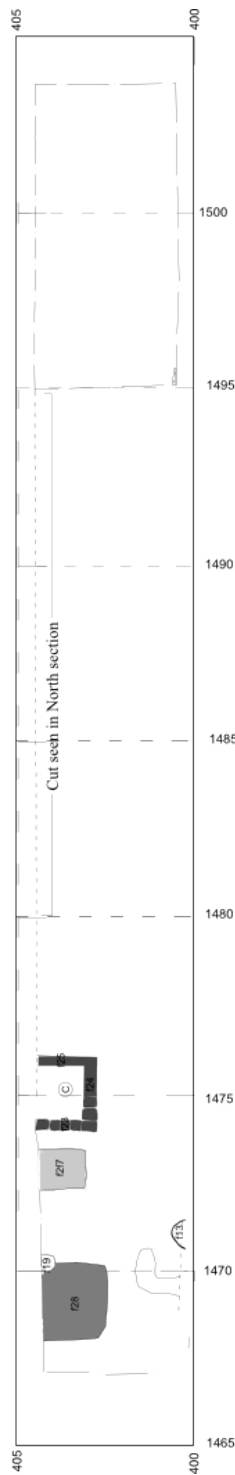
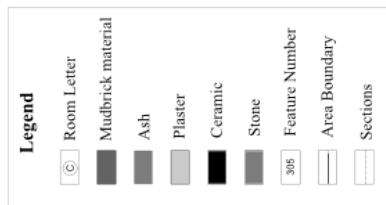


Plan E-1: Map of areas within ASA. Measurements are in meters. (Adapted from Burger 2008: Plan 1)

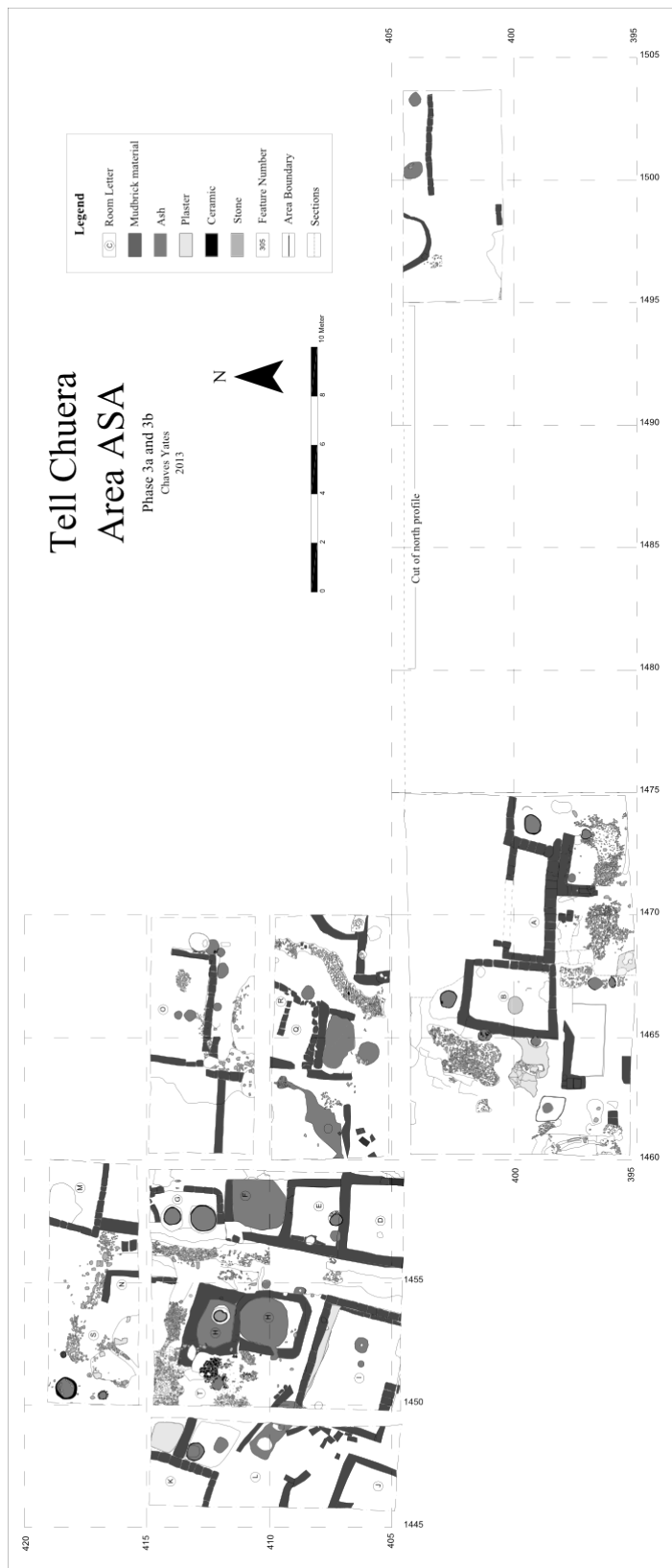
Tell Chuera Area ASA

Area I Phase 4

Chaves Yates 2013



Plan E-2: Drawing of Phase 4 features from Area I. Excavations only reached Phase 4 in the western half of the excavations area. (Original inking by Burger 2008, Final drawing by author 2013)



Plan E-3: Overview of all Phase 3 finds from ASA. (This plan is adapted from Burger 2008, Plan 12 and field drawings)

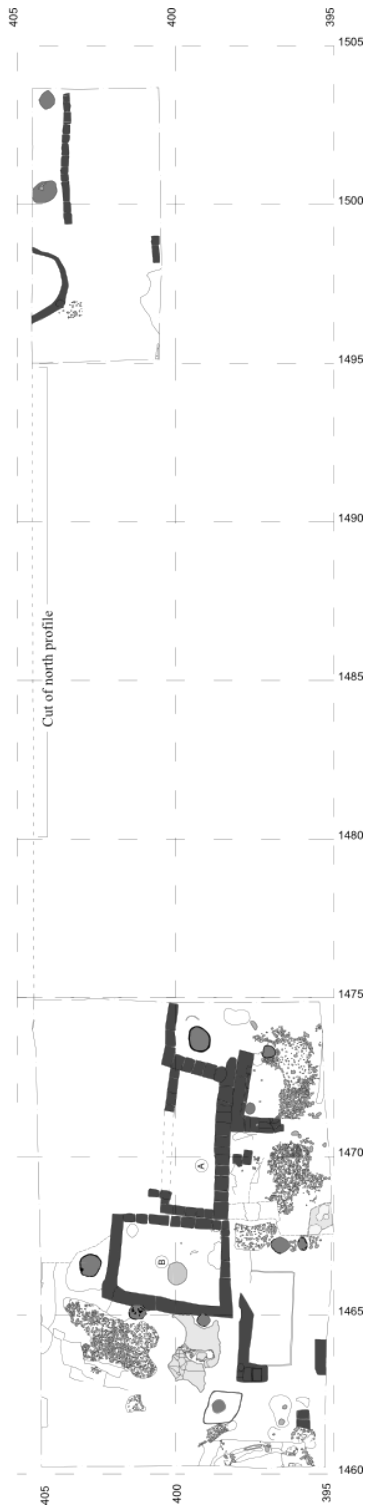
Tell Chuera Area ASA

Area I/II/III
Phase 3
Chaives Yates
2013



Legend

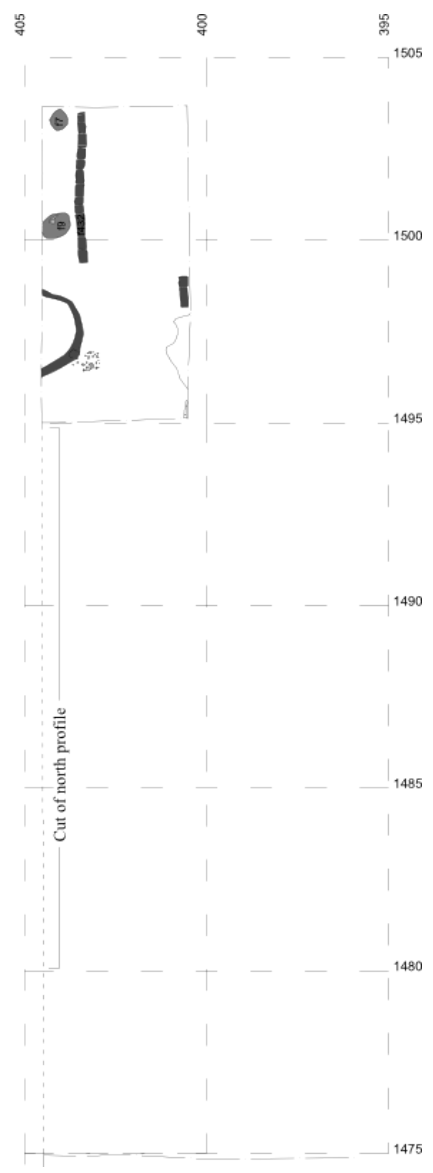
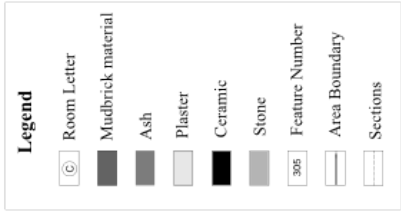
	Room Letter
	Mudbrick material
	Ash
	Plaster
	Ceramic
	Stone
	Feature Number
	Area Boundary
	Sections



Plan E-4: Plan of Area I/II/III during Phase 3a and Phase 3b

Tell Chuera Area ASA

Area I - East
Area I - Central
Phase 3
Chaves Yates
2013



Plan E-5: Plan of Area I-East and Area I-Central showing the location of deep cut of central trench and Phase 3 remains from Area I-East.

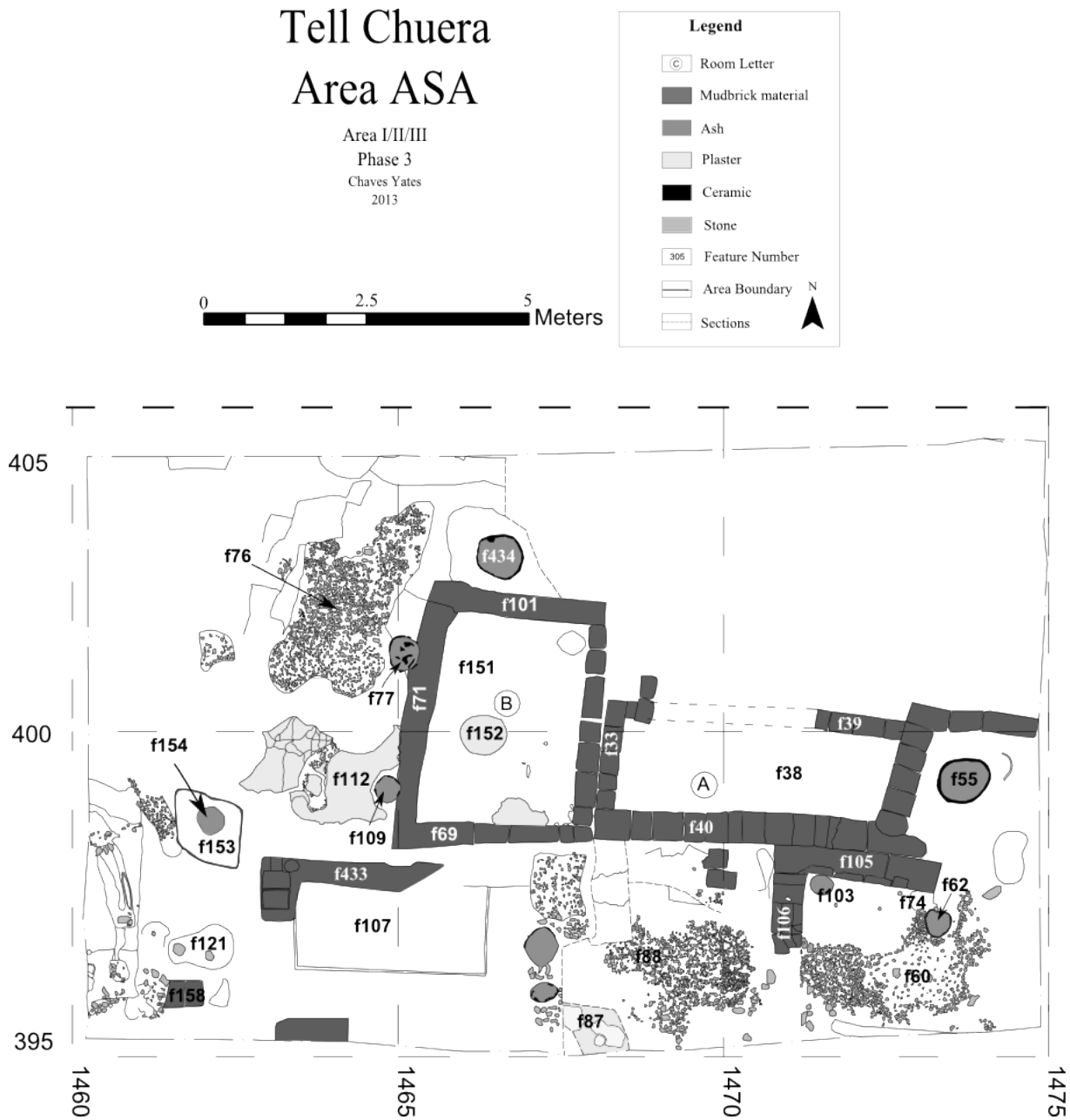


Figure E-6: Area I/II/III plan of Phase 3 features.

Tell Chuera

Area ASA

Area IV/V
Phase 3a and 3b

Chaves Yates
2013



Plan E-7: Plan of Area IV/V during Phase 3.

Tell Chuera

Area ASA

Area IV/V
Phase 3a and 3b

Chaves Yates
2013

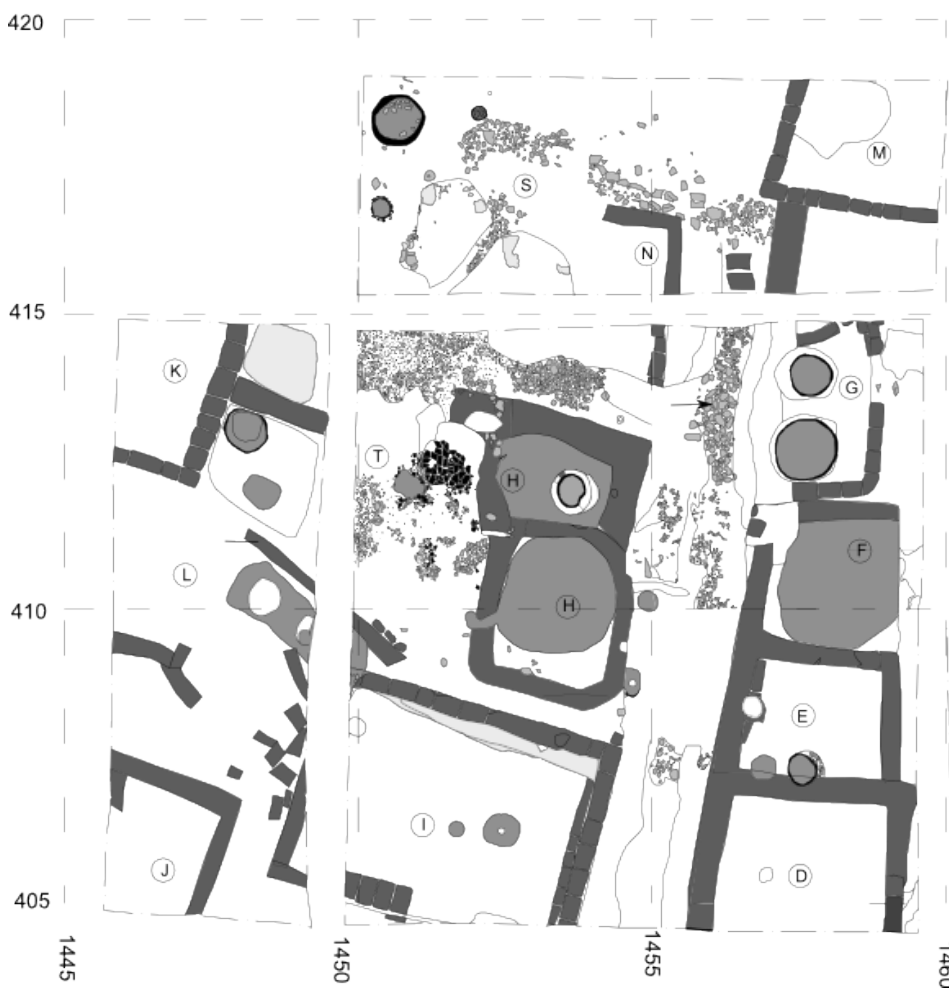
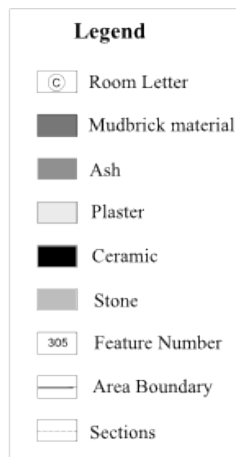


Plan E-8: Plan of Area IV and V with notable features labeled.

Tell Chuera Area ASA

Area VI/VII/VIII
Phase 3a and 3b

Chaves Yates
2013

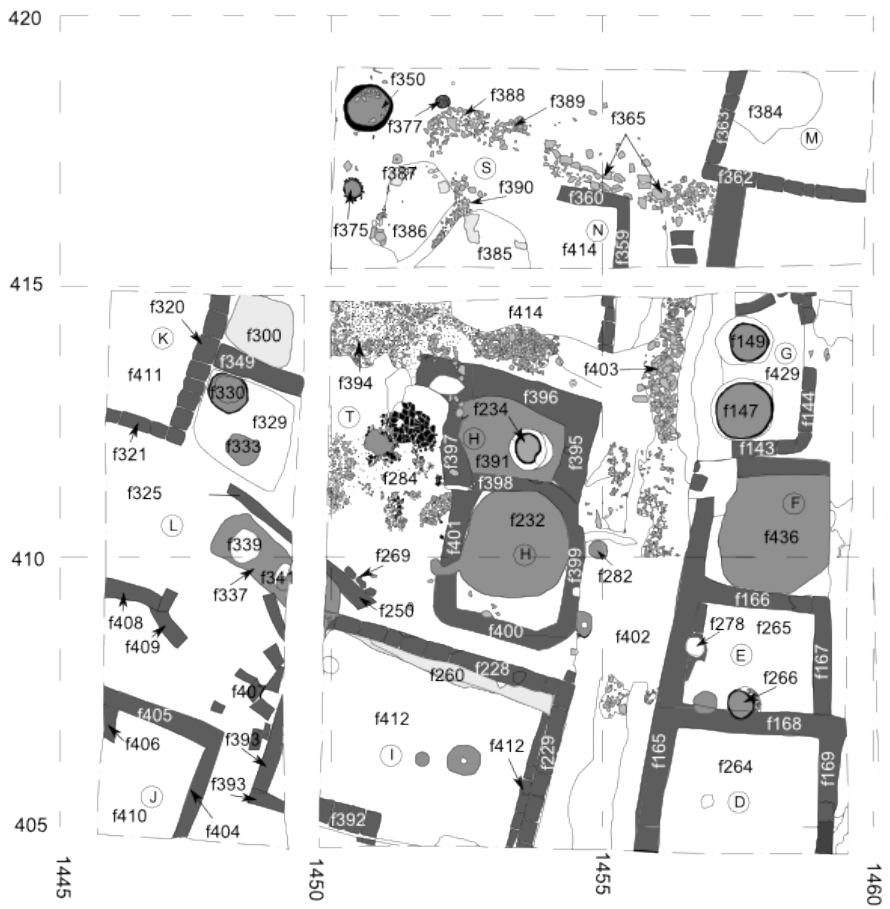
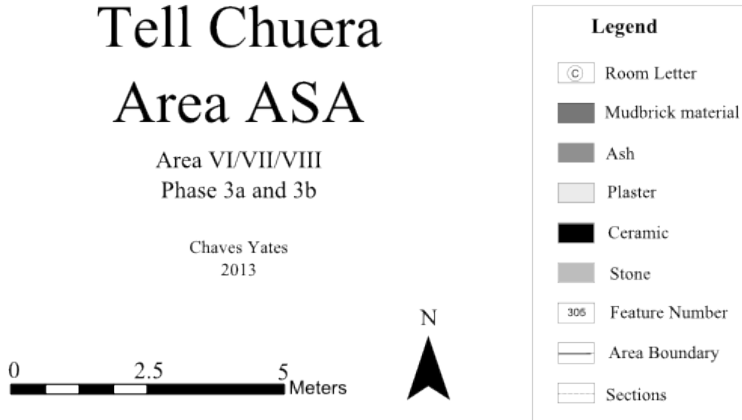


Plan E-9: Overall Plan of Phase 3 in Area VI/VII/VIII

Tell Chuera Area ASA

Area VI/VII/VIII
Phase 3a and 3b

Chaves Yates
2013

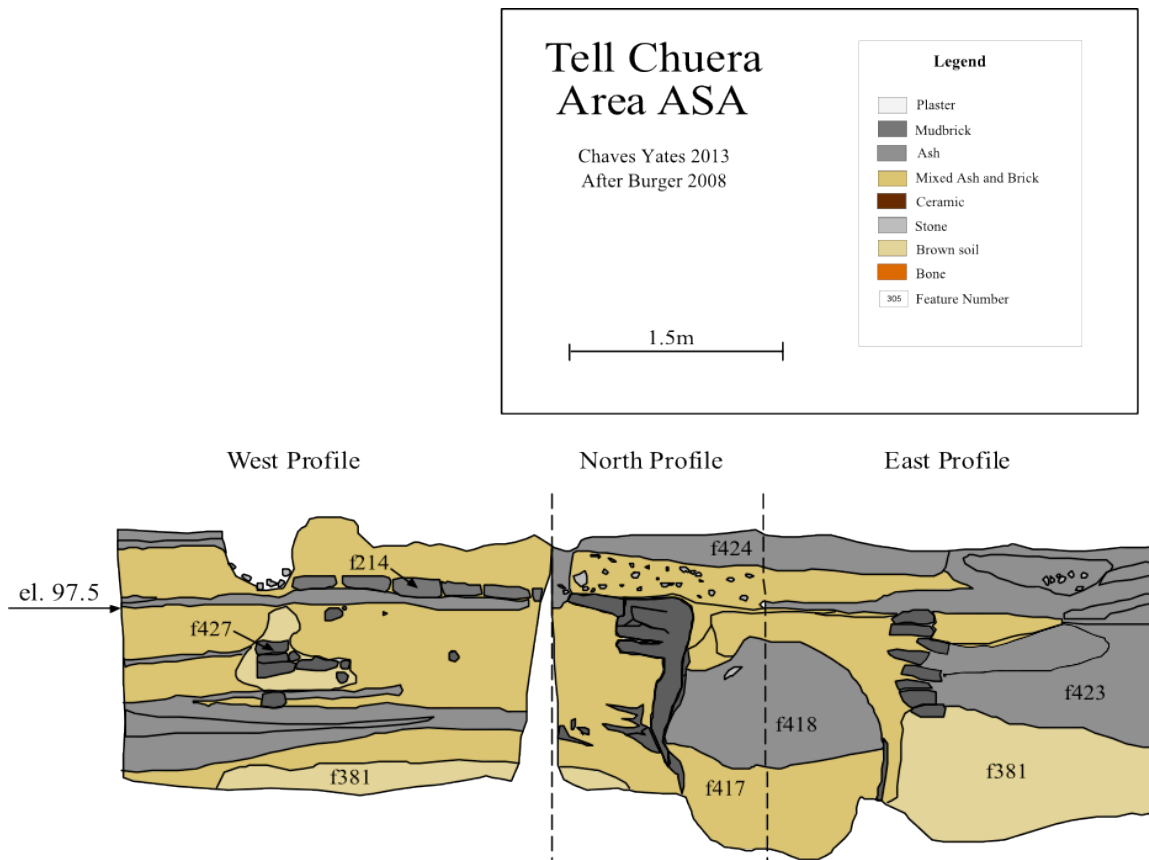


Plan E-10: Plan of Phase 3 in Area VI/VII/VIII with important features indicated

Appendix F – ASA Section Drawings



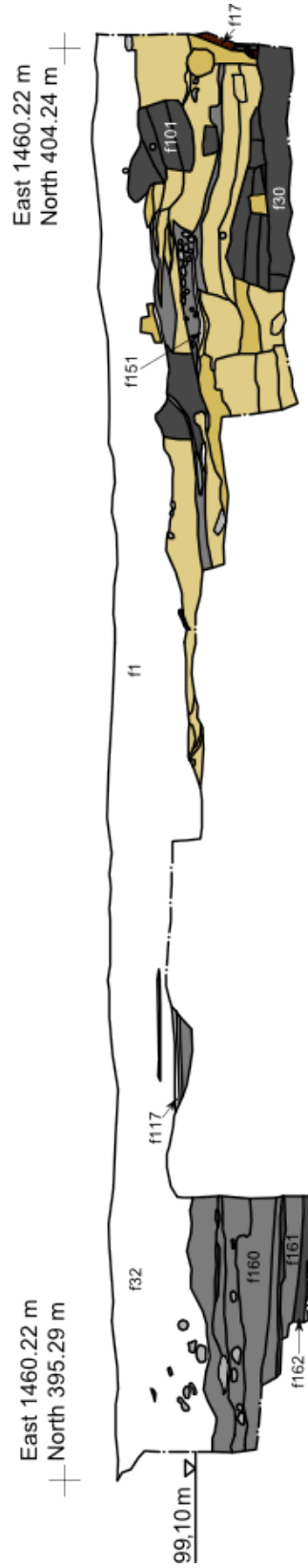
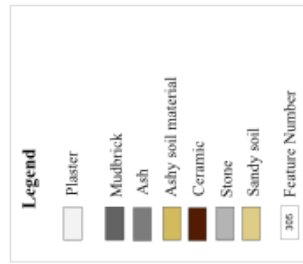
Drawing F-1: North Profile of Area I and III. The deep sounding of the trench is seen in the center. The west portion of the trench was shaped for excavation steps, it does not follow the natural features. (Modified from Burger 2008, Plan 9).



Drawing F-2: Extended profile of the deep sounding in Area V. Virgin soil was reached at the bottom (f381). The mudbrick wall (f214) caps the Phase 4 remains. The ash in the center (f418) is related to the brick installation (surrounding brick walls).

Tell Chuera Area ASA

Area I/II
West Profile
Chaves Yates 2013

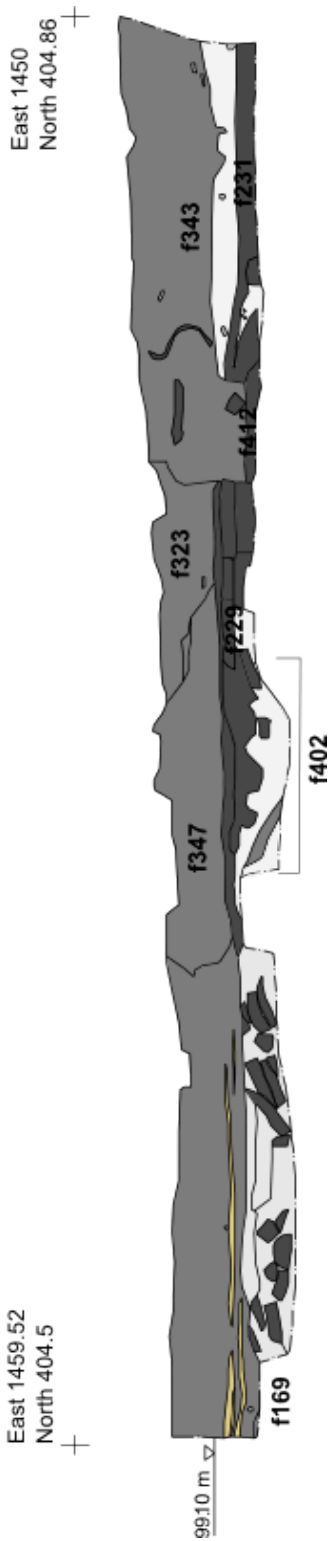
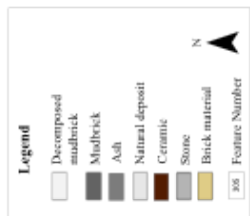


Drawing F-3: Western profile of Area I/II showing the Phase 3b remains in section.

Tell Chuera Area ASA

Area VI
South Profile

Claves Yates
2013

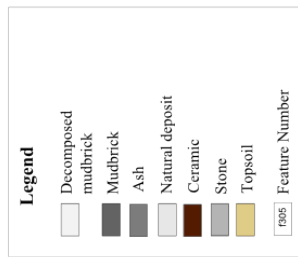


Drawing F-4: South Profile of Area VI. The alley (f402) has raised sides. Ashy deposits from Phase 2 (f347, f323, f343) are layered above the Phase 3 remains

Tell Chuera Area ASA

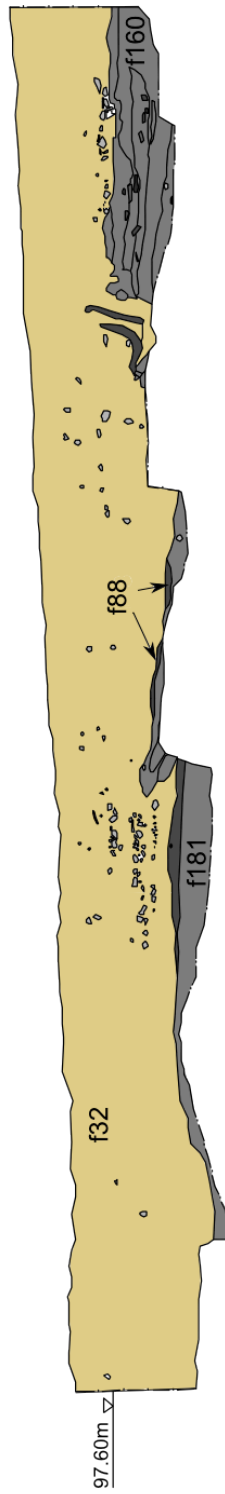
Area II
South Profile

Chaves Yates 2013
Modified from Burger 2008 Plan 9.3



East 1474.88m
North 395.51m

East 1465m
North 395.22m

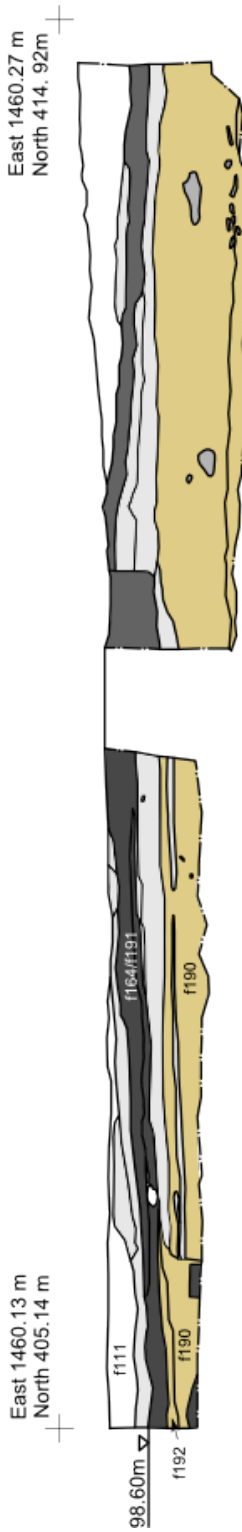
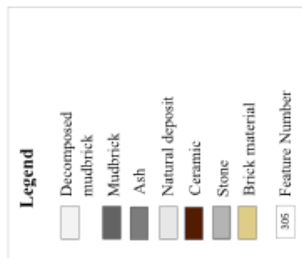


Drawing F-5: South profile of Area II: Ashy pit f160 is a Phase 2b addition to the area. The thick layer of topsoil and disturbed material of f32, covers both the Phase 2 and Phase 3 remains.

Tell Chuera Area ASA

Area IV/V
West Profile

Chaves Yates 2013

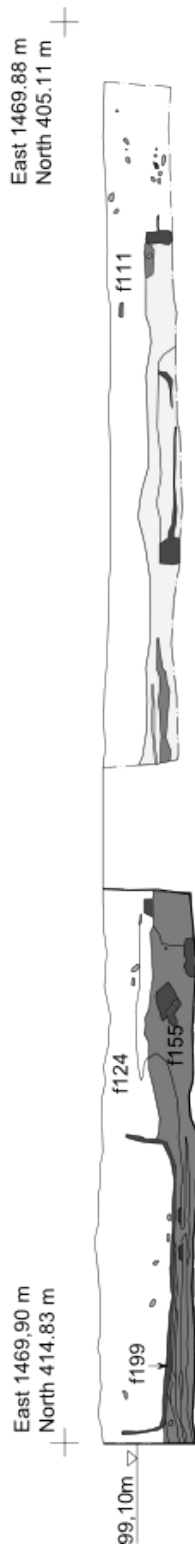
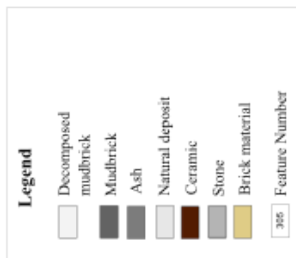


Drawing F-6: West Profile of Area IV/V. Ash layer overlays possible brick collapse and decomposition.

Tell Chuera Area ASA

Area II
South Profile

Chaves Yates 2013
Modified from Burger 2008 Plan 10.4

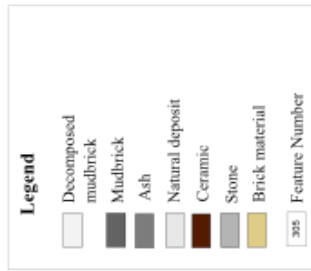


Drawing F-7: East profile of Area IV/V. Basin of f199 sits in the Phase 2b ashy layers.

Tell Chuera Area ASA

Area II
South Profile

Chaves Yates 2013
After Burger 2008 Plan 9.4

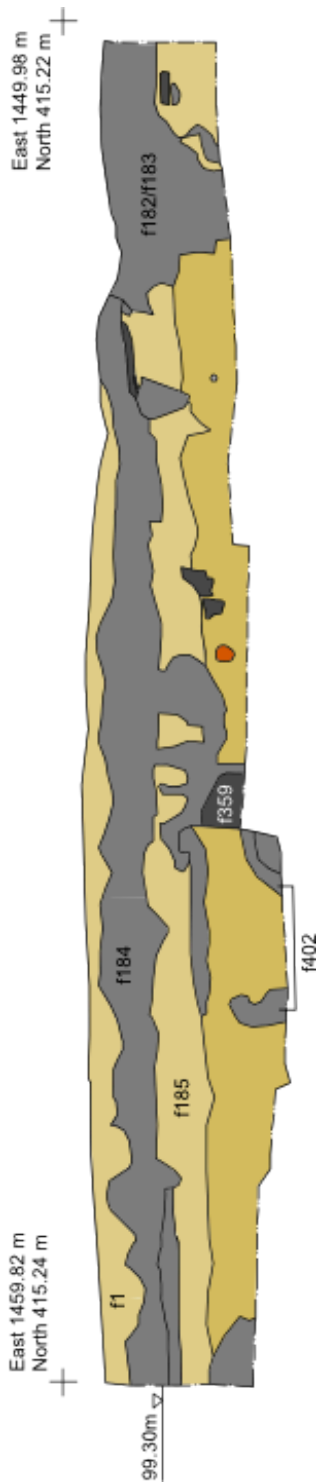
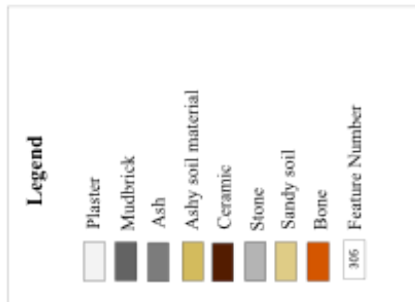


Drawing F-8: South profile of Area V with basins from Phase 2 (f197, f155).

Tell Chuera Area ASA

Area VII
South Profile

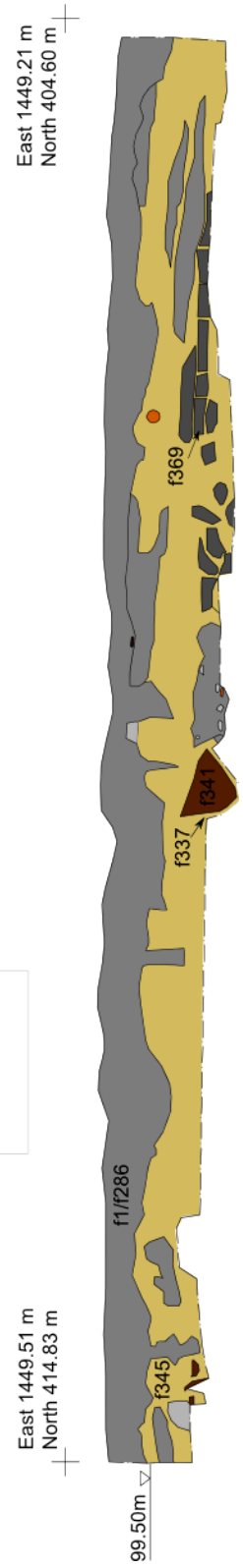
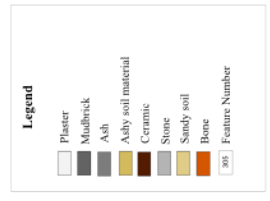
Chaves Yates 2013



Drawing F-10: South Profile of Area VII, showing ash layer and ash pits from Phase 2

Tell Chuera Area ASA

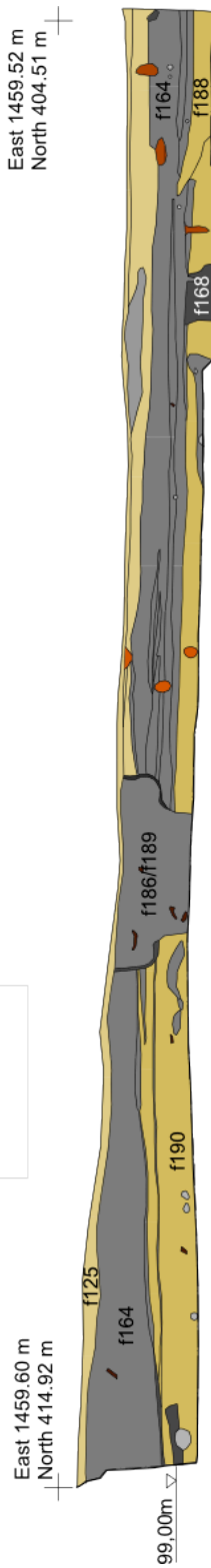
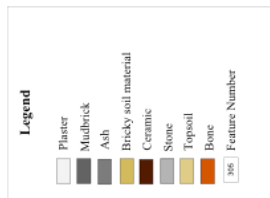
Area VIII
East Profile
Chavez Yates 2013



Drawing F-11: East Profile Area VIII showing primarily Phase 2 build-up. Small wall (f369) dates to Phase 2b

Tell Chuera Area ASA

Area VI
East Profile
Chaves Yates 2013



Drawing F-12: East Profile Area VI with Phase 2a pit (f186) cutting through Phase 2b ash (f164)

Bibliography

- Abu-Lughod, J.
 1969 "Migrant Adjustment to City Life: The Egyptian Case," *American Journal of Sociology* 67(1): 22-32.
- Adams, R. M.
 1965 *Land behind Baghdad: A History of Settlement on the Diyala Plains*. Chicago: University of Chicago Press.
 1966 *The Evolution of Urban Society: Early Mesopotamia and Prehispanic Mexico*. Chicago: Aldine Publishing Co.
 1978 "Strategies of maximization, stability, and resilience in Mesopotamian society, settlement, and agriculture," *Proceedings of the American Philosophical Society* 122: 329-35.
 1981 *Heartland of Cities: Surveys of Ancient Settlement and Land Use on the Central Floodplain of the Euphrates*. Chicago: University of Chicago Press.
 2008 "An Interdisciplinary Overview of a Mesopotamian City and its Hinterlands," *Cuneiform Digital Library Journal* 1:1-23.
- Adams, R. McC. and H. J. Nissen
 1972 *The Uruk Countryside: The Natural Setting of Urban Societies*. Chicago: University of Chicago Press.
- Alcock, S., J. Cherry and J. Davis
 1994 "Intensive Survey, Agricultural Practice and the Classical Landscape of Greece," in I. Morris, ed., *Classical Greece: Ancient Histories and Modern Archaeologies*. Oxford: Oxford University Press, 137-70.
- Akkermans, Peter M.M.G. and Glenn M. Schwartz.
 2003 *The Archaeology of Syria*. Cambridge: Cambridge University Press.
- Alexander, C.
 1965 "A City is not a Tree," *Architectural Forum* 122(1):58-62.
- Alexander, C., S. Ishikawa and M. Silverstein
 1977 *Pattern Languages. Center for Environmental Structure 2*. New York: Oxford University Press.
- Algaze, G. and A. Mısır
 1994 "Titriş Höyük: An Early Bronze Age Urban Center in Southeastern Anatolia, 1993," *Kazı Sonuçları Toplantısı* 16(1): 107-120.

Amirov, S. N.

2010 *Habur Steppe of the Northern Mesopotamia in the IV-first half of the III millennia B.C.*. Moscow: Russian Academy of Sciences, Institute of Archaeology.

Archi, A.

1988 "Harran in the III Millennium. B.C.," *Ugarit-Forschungen* 20:1-8.

1998 "The regional state of Nagar according to the texts of Ebla," in M. Lebeau, ed., *About Subartu: Studies Devoted to Upper Mesopotamia*, Brepols: Turnhout, 1–15.

Ashmore, W.

2002 "'Decisions and Dispositions": Socializing Spatial Archaeology," *American Anthropologist* 104:1172-1183.

Baker, H. D.

2007 "Urban Form in the First Millennium BC." In G. Leick, eds., *The Babylonian World*. London: Routledge, 66-77.

2009 "A Waste of Space? Unbuilt Land in the Babylonian Cities of the First Millennium BC." *Iraq* 71:89-98.

2011 "From Street Altar to Palace: Reading the Built Environment of Urban Babylonia. In K. Radner and E. Robson, eds., *The Oxford Handbook of Cuneiform Culture*. Oxford: Oxford University Press, 533-552.

Ball, W., D. Tucker, and T. J. Wilkinson

1989 "The Tell al-Hawa Project: Archaeological Investigations in the North Jazira 1986-87," *Iraq* 51:1-66.

Bard, K.

2008 "Royal Cities and Cult Centers, Administrative Towns, and Workmen's Settlements in Ancient Egypt," in J. Marcus and J. A. Sabloff, eds., *The Ancient City: New Perspectives on Urbanism in the Old and New World*, Santa Fe: School for Advanced Research, 165-182.

Barnard, Hans

In press "Georeferencing Tell Mozan and the Urkesh Archaeological Park," Malibu: Undena Publications.

Bieliński, P.

2005 "The Ninth Season of Syrian-Polish Excavations. Preliminary Report," *Polish Archaeology in the Mediterranean XVI*, Reports 2004: 475-489.

2007 "Report on the Syrian-Polish Explorations in 2005. The Tenth Season," *Polish Archaeology in the Mediterranean XVII*, Reports 2005: 451-471.

Biga, M. G.

- 2013 “Defining the *Chora* of Ebla: A Textual Perspective,” in P. Matthiae and N. Marchetti, eds., *Ebla and Its Landscape: Early State Formation in the Ancient Near East*, Walnut Creek: Left Coast Press, 59-267.
- Bintliff, J., and A. Snodgrass
1988 “Off-site Pottery Distribution: A Regional and Interregional Perspective,” *Current Anthropology* 29:506-513.
- Blackman, J., G. Stein and P. Vandiver
1993 “The Standardization Hypothesis and Ceramic Mass Production: Technological, Compositional, and Metric Indexes of Craft Specialization at Tell Leilan,” *American Antiquity* 58(1):60-80.
- Blanton, R.
1976 “Anthropological Studies of Cities,” *Annual Review of Anthropology* 5:249-264.
- Blanton, R. E., S. A. Kowalewski and G. M. Feinman
1993 *Ancient Mesoamerica: A Comparison of Change in Three Regions*. Cambridge University Press: Cambridge.
- Bloch, M.
1931 *French Rural History*. London: Routledge.
- Bluard, C.
1997 “Recherches sur le périmètre externe (chantier H),” in M. Lebeau and A. Suleiman, eds., *Tell Beydar, Three Seasons of Excavations (1992-1994): A Preliminary Report*. Turnhout: Brepols, 179-191.
- Boor, J. E.
2012 *Pots to People: The Tell Hadidi Area C Ceramics at the Milwaukee Public Museum*, Ph.D. Thesis. The University of Wisconsin - Milwaukee.
- Bourdieu, P.
1977 *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.
- Bracci, S.
2008 “Remarks on the Relation Between Town and Country in the Ancient Near East: The Case of Nuzi,” in H. Kuhne, R. M. Czichon & F. J. Kreppner, eds., *Proceedings of the 4th International Congress of the Archaeology of the Ancient Near East*. Wiesbaden: Harrassowitz Verlag, 29-41.
- Bretschneider, J.

1997 "Untersuchungen an der äußeren Wallanlage (Feld H)," in M. Lebeau and A. Suleiman, eds., *Tell Beydar, Three Seasons of Excavations (1992-1994)*. Turnhout: Brepols, 193-207.

Broekmans, T., A. Adriaens and E. Pantos

2006 "Insights into North Mesopotamian 'Metallic Ware'," *Archaeometry* 48(2): 219-227.

Buccellati, G.

1990 "'River Bank,' 'High Country' and 'Pasture Land': The Growth of Nomadism on the Middle Euphrates and the Khabur" in S. Eichler, M. Wäfler, D. Warbuton, eds., *Tell al-Hamidiyah 2*. Göttingen: Vandenhoeck & Ruprecht, 87-117.

1998a "Urkesh as Tell Mozan: Profiles of an Ancient City," in *Urkesh and the Hurrians: A volume in Honor of Lloyd Cotsen*. Buccellati, G. and M. Kelly-Buccellati, eds., Malibu: Undena Publications, 11-34.

1998b *OH2 Urkesh Global Record*, Electronic Document, <http://www.arkesh.org/mz/a/OH02/ugr/-frame.htm>, accessed January 14, 2013.

1999 "Urkesh and the Question of Early Hurrian Urbanism," in M. Hudson and B. A. Levine, eds., *Urbanism and Land Ownership*. Cambridge, MA: Peabody Museum of Archaeology and Ethnology, 229-250.

2005a "The Monumental Urban Complex at Urkesh," *Studies on the Civilization and Culture of the Nuzi and the Hurrians 15*, General Studies and Excavations at Nuzi 11: 3-28.

2005b "The Perception of Function and the Prehistory of the State in Syro-Mesopotamia," in B. D. Dillon and M. A. Boxt, eds., *Archaeology Without Limits, Papers in Honor of Clement W. Meighan*. Lancaster: Labyrinthos, 481-92.

2008 *OD50: Urkesh Global Record*, Electronic Database, <http://www.arkesh.org/mz/a/OD50/ugr/-frame.htm>, accessed January 21, 2013.

2009 "An Architectural 'Logogram' at Urkesh?" in P. N. Scafa and S. Viaggio, eds., *Dallo Stirone al Tigri. Dal Tevere all'Eufrate. Studi in onore di Claudio Saporetti*. Roma: Aracne, 23-29.

Buccellati, G., and M. Kelly.-Buccellati

1988 "Introduction to The Outer City," in G. Buccellati and M. Kelly-Buccellati, eds., *Mozan I: The Soundings of the First Two Seasons*. Malibu: Undena Publications, 49-50.

1991a "Mozan," *American Journal of Archaeology* 95:712-714.

1991b "Introduction," in *Mozan 2: Epigraphic Finds of the Sixth Season*. L. Milano, ed., Malibu: Undena Publications.

1997 "Mozan, Tell," in E. Meyers, ed., *The Oxford Encyclopedia of Archaeology in the Near East*, Vol.4. New York: Oxford University Press.

1999 "Das archäologische Projekt Tall Mozan/Urkeš," *Mitteilungen der deutschen Orient-Gesellschaft zu Berlin* 131:7-16

- 2000 "The Royal Palace of Urkesh. Report on the 12th Season at Tell Mozan/Urkesh: Excavations in Area AA, June–October 1999," *Mitteilungen der Deutschen Orient-Gesellschaft zu Berlin* 132:133-183.
- 2002 "Tar'am-Agade, Daughter of Naram-Sin, at Urkesh," in, L. al Gailani, J. Werr, J. Curtis, H. Martin, A. McMahon, J. Oates and J. Reade, eds., *Of Pots and Plans. Papers on the Archaeology and History of Mesopotamia and Syria presented to David Oates in Honour of his 75th Birthday*. London: Nabu Publications, 11-31.
- 2009 "The Great Temple Terrace at Urkesh and the Lions of Tish-atal," in, G. Wilhelm, ed., *Studies on the Civilization and Culture of Nuzi and the Hurrians* Vol. 18. Bethesda: CDL Press, 33-70.

Buccellati G. and M. Kelly-Buccellati, eds.

- 1988 *Mozan I: The Soundings of the First Two Seasons*. Malibu: Undena Publications.
- 1998 *Urkesh and the Hurrians: A volume in Honor of Lloyd Cotsen*. Urkesh/Mozan Studies, 3. Bibliotheca Mesopotamica 26, Malibu: Undena Publications.

Buccellati, Giorgio and James Walker

- 1998 *OH2 Urkesh Global Record*, Electronic Document,
<http://www.urbesh.org/mz/a/OH02/ugr/-frame.htm>, accessed January 14, 2013.

Bunnens, G. and A. Roobeart

- 1988 "Le mur d'enceinte (Area K)," in G. Buccellati and M. Kelly-Buccellati, eds., *Mozan I: The Soundings of the First Two Seasons*. Malibu: Undena Publications, 61-64.

Burger, K.

- 2008 *Die Auswertung der archäologischen Arbeiten im Bereich AS A in Tell Chuera*, Unpublished Masters Thesis, Johann Wolfgang Goethe – Universität, Frankfurt am Main.

Burgess, E.

- 1925 "The Growth of the City: an Introduction to a Research Project," *Publications of the American Sociological Society* 18:85-97.

Butzer, K. W.

- 2008 "Other Perspectives on Urbanism: Beyond the Disciplinary Boundaries," in J. Marcus and J. A. Sabloff, eds., *The Ancient City: New Perspectives on Urbanism in the Old and New World*. Santa Fe: School for Advanced Research, 77-92.

Calderone, L. and H. Weiss

- 2003 "The End of the Ninevite 5 Period at Tell Leilan," in E. Rova and H. Weiss, eds., *The Origins of North Mesopotamian Civilization: Ninevite 5 Chronology, Economy, Society*. Turnhout: Brepols, 193-220.

Castel, C.

1992 "Explorations dans la Ville Basse de Mohammed Diyab," in J.-M. Durand, ed., *Tell Mohammed Diyab: Campagnes 1990 et 1991*. N.A.B.U., 39-54.

Charlton, T. H., and D. L. Nichols

1997 "The City-State Concept: Development and Applications," in L. Nichols and T. H. Charlton, eds., *The Archaeology of City-States: Cross-cultural Approaches*. Washington: Smithsonian Institution Press, 1-14.

Chaves Yates, Caitlin

2009 *OG50 Urkesh Global Record*, Electronic Document, <http://www.urkesh.org/mz/a/OG50/ugr/-frame.htm>, accessed January 14, 2013

2010a *OJ1: Urkesh Global Record*, Electronic Document, <http://www.urkesh.org/mz/a/OJ01/ugr/-frame.htm>, accessed January 14, 2013.

2010b *J2: Urkesh Global Record*, Electronic Document, <http://www.urkesh.org/mz/a/J02/ugr/-frame.htm>, accessed March 20, 2013.

2011 *OH2 Urkesh Global Record*, Electronic Document, <http://www.urkesh.org/mz/a/OH02/ugr/-frame.htm>, accessed January 14, 2013.

In press "The Countryside Horizon", Buccellati and Chaves Yates (ed.), Malibu: Undena.

In press "Neighborhoods in the Outer City of Tell Mozan, Syria: A case study using survey data." BAR.

Childe, V. Gordon

1950 "The Urban Revolution," *Town Planning Review* 21(1): 3-17.

Clark, D.

1982 *Urban Geography: An Introductory Guide*. London: Croom Helm.

Colantoni, C. and J. Ur

2011 "The Architecture and Pottery of a Late 3rd Millennium BC Residential Quarter at Tell Hamoukar, Northeastern Syria," *Iraq* 73:21-69.

Cooper, Lisa

2006 *Early Urbanism on the Syrian Euphrates*. New York: Routledge.

Cowgill, G. L.

2004 "Origins and Development of Urbanism: Archaeological Perspectives," *Annual Review of Anthropology* 33:535-49.

Creekmore, Andrew

2008 *Kazane Höyük and Urban Life Histories in Third Millennium Upper Mesopotamia*. PhD dissertation. Northwestern University: Evanston, IL.

Crumley, C.,

- 1995 "Heterarchy and the Analysis of Complex Societies," in R. M. Ehrenreich, C. L. Crumley and J. E. Levy, eds., *Heterarchy and the Analysis of Complex Societies*. Arlington, VA: American Anthropological Association, 1-5.

Curvers, H. and G. Schwartz

- 1990 "Excavations at Tell Al-Raqa'i: A Small Rural Site of Early Urban Northern Mesopotamia," *American Journal of Archaeology* 94:3-23.

Danti, M.

- 2000 "Early Bronze Age Settlement and Land Use in the Tell es-Sweyhat Region, Syria," unpublished Ph.D. dissertation, University of Pennsylvania: Philadelphia.
- 2009 "The Tell es-Sweyhat Archaeological Project 2008," *Context* 20:1-5.
- 2010 "Late Middle Holocene Climate and Northern Mesopotamia: Varying Cultural Responses to the 5.2 and 4.2 ka Aridification Events," in A. B. Mainwaring, R. Giegengack, and C. Vita-Finzi, eds., *Climate crises in human history*. Philadelphia: American Philosophical Society, 139-172.

Danti, M., and R. Zettler

- 1998 "The Evolution of the Tell es-Sweyhat (Syria) Settlement System in the Third Millennium B.C.," in *Espace naturel, espace habite en Syrie du Nord (10e-2e millenaires av. J.-C.)* Lyon: Maison de l'Orient et de la Mediterranee, 209-228.
- 2007 "The Early Bronze Age in the Syrian north-west Jezireh: the Tell es-Sweyhat region," in E. Peltenburg, ed., *Euphrates River Valley Settlement*. Oxford: Oxbow, 164-183.

Davidson, T.E. and H. McKerrell

- 1976 "Pottery Analysis and Halaf Period Trade in the Khabur Headwaters Region," *Iraq* 38(1): 45-56.

Deckers, K.

- 2010 "Anthracological Research at the Early to Middle Bronze Age Settlement of Tell Mozan," in K. Deckers, M. Doll, P. Pfälzner and S. Riehl, eds., *Development of the Environment, Subsistence and Settlement of the City of Urkes and its Region*. Wiesbaden: Harrassowitz Verlag, 159-90.

Deckers, K., ed.

- 2011 *Holocene Landscapes Through Time in the Fertile Crescent. Subartu XVIII*. Turnhout: Brepols.

Deckers, K., M. Doll, P. Pfälzner, and S. Riehl

- 2010 *Development of the environment, subsistence and settlement of the city of Urkes and its region. Studien zur Urbanisierung Nordmesopotamiens*. Wiesbaden: Harrassowitz Verlag.

Deckers, K., and P. Drechsler

- 2011 "Spatial analysis of Early Bronze Age settlements and resource exploitation in the Upper Khabur Basin (NE Syria)," in Deckers, K., ed., *Holocene Landscapes through time in the Fertile Crescent*. Turnhout: Brepols.

Deckers, K., and K. Pustovoytov

- 2011 "Geoarchaeology in the Tell Mozan surroundings," in K. Deckers, ed., *Holocene Landscapes through time in the Fertile Crescent*. Turnhout: Brepols, 49-60.

Deckers, K., and S. Riehl

- 2007 "Fluvial environmental contexts for archaeological sites in the Upper Khabur basin (northeastern Syria)," *Quaternary Research* 67:337-348.
- 2008 "Resource Exploitation of the Upper Khabur Basin (NE Syria) during the 3rd Millennium BC," *Paleorient* 34(2):173-89.

Debruyne, M.

- 2003a "Research on the Outer Rampart (Field K)," in Lebeau, M., and Suleiman, A., eds., *Tell Beydar, the 1995-1999 Seasons of Excavations: A preliminary Report*. Brepols: Turnhout, 387-394.
- 2003b "Study of the Canalisation System from the Palatial Complex," in Lebeau, M., and Suleiman, A., eds., *Tell Beydar, the 1995-1999 Seasons of Excavations: A preliminary Report*. Brepols: Turnhout, 177-188.

De Lillis Forest, F., L. Milano and L. Mori

- 2007 "The Akkadian Occupation in the Northwest Area of the Tell Leilan Acropolis," *KASKAL: Rivista di storia, ambienti e culture del Vicino Oriente Antico* 4:43-64.

Dohman-Pfälzner, H. and P. Pfälzner

- 2001 "Ausgrabungen der Deutschen Orient-Gesellschaft in der zentralen Oberstadt von Tall Mozan/Urkeš. Bericht über die in Kooperation mit dem IIMAS durchgeführte Kampagne 2000," *Mitteilungen der Deutschen Orient-Gesellschaft zu Berlin* 133:97-140.
- 2002 "Ausgrabungen der Deutschen Orient-Gesellschaft in der zentralen Oberstadt von Tall Mozan/Urkeš. Bericht über die in Kooperation mit dem IIMAS durchgeführte Kampagne 2001," *Mitteilungen der Deutschen Orient-Gesellschaft zu Berlin* 134:149-179.

Doll, M.

- 2010 "Meat, Traction, Wool: Urban Livestock in Tell Mozan," in *Development of the Environment, Subsistence and Settlement of the City of Urkes and its Region*, K. Deckers, M. Doll, P. Pfälzner & S. Riehl, eds., Wiesbaden: Harrassowitz Verlag, 191-360.

Dornemann, R.

- 1979 "Tell Hadidi: A Millennium of Bronze Age City Occupation," in D. N. Freedman and J. M. Lundquist, eds., *Archaeological Reports from the Tabqa Dam Project: Euphrates Valley, Syria*. The Annual of the American Schools of Oriental Research. Boston: American School of Oriental Research, 113-151.
- 1985 "Salvage Excavations at Tell Hadidi in the Euphrates River Valley," *The Biblical Archaeologist* 48(1):49-59.
- 1988 "Tell Hadidi: One Bronze Age Site among Many in the Tabqa Dam Salvage Area," *Bulletin of the American Schools of Oriental Research* 270:13-42.

Durand J.-M., ed.

- 1992 *Recherches en Haute Mésopotamie. Tell Mohammed Diyab, campagnes 1990 et 1991*, Mémoires de N.A.B.U. vol. 2, Paris: SEPOA.

Eglash, R.

- 1999 *African Fractals : Modern Computing and Indigenous Design*. Rutgers University Press: New Brunswick, N.J.

Eglash, R. and T. B. Odumosu

- 2005 "Fractals, Complexity, and Connectivity in Africa," in G. Sica, ed., *What Mathematics from Africa?* Monza, Italy: Polimetrica International Scientific Publisher.

Eidem, J. and D. Warburton

- 1996 "In the Land of Nagar: A Survey around Tell Brak," *Iraq* 58:51-64.

Emberling, G., J. Cheng, T. E. Larsen, H. Pittman, T. B. B. Skuldboel, J. Weber and H. T. Wright.

- 1999 "Excavations at Tell Brak 1998: Preliminary Report," *Iraq* 61:1-41.

Emberling, G. and H. McDonald

2001. "Excavations at Tell Brak 2000: Preliminary Report," *Iraq* 63:21-54.

Flannery, K.

- 1972 "The Cultural Evolution of Civilizations," *Annual Review of Ecology and Systematics* 3:399-426.
- 1998 "The Ground Plans of Archaic States," in G. Feinman and J. Marcus, eds., *Archaic States*. Santa Fe: School of American Research Press, 15-58.

Fleming, D.

- 2004 *Democracy's Ancient Ancestors: Mari and Early Collective Governance*, Cambridge: Cambridge University Press.

Fletcher, R.

- 2009 Low-Density, Agrarian-Based Urbanism: A Comparative View. *Insights* 2(4):2-19.
- Fortin, M.
1997 "Urbanisation et 'redistribution' de surplus agricoles en Mesopotamie septentrionale (3000-2500 av. J.-C.)," in W. E. Aufrecht, S. W. Gauley & N. A. Mirau, eds., *Aspects of Urbanism in Antiquity*. Sheffield: Sheffield Academic Press, 50-81.
- Fox, R.G.
1977 *Urban Anthropology: Cities in their Cultural Settings*. Englewood Cliffs, NJ: Prentice-Hall.
- Frahm, E. and J. M. Feinberg
2013a "Environment and Collapse: Eastern Anatolian Obsidians at Urkesh (Tell Mozan, Syria) and the Third-Millennium Mesopotamian Urban Crisis," *Journal of Archaeological Science* 40(4): 1866–78.
2013b "Empires and resources: Central Anatolian obsidian at Urkesh (Tell Mozan, Syria) during the Akkadian Period," *Journal of Archaeological Science* 40:1122-35.
- Gibson, M., M. Maktash, J. A. Franke, A. Al-Azm, J. C. Sanders, T. Wilkinson, C. Reichel, J. Ur, P. Sanders, A. Salameh, C. Hritz, B. Watkins and M. Kattab
2002a "First Season of Syrian-American Investigations at Hamoukar, Hasekeh Province," *Iraq* 64:45-68.
- Gibson, M., A. al-Azm, C. Reichel, S. Quntar, J. A. Franke, L. Khalidi, C. Hritz, M. Altaweel, C. Coyle, C. Colantoni, J. Tenney, G. A. Aziz and T. Hartnell
2002b "Hamoukar: A Summary of Three Seasons of Excavation," *Akkadica* 123:11-34.
- Giddens, Anthony
1984 *The Constitution of Society: Outline of the Theory of Structuration*. Cambridge: Polity Press
- Goldberg, P.
2011 "Micromorphological analyses of selected samples from the depression around Tell Mozan," in K. Deckers, ed., *Holocene Landscapes through time in the Fertile Crescent*. Turnhout: Brepols.
- Gourden, W.H. and W.D. Kingery
1975 "The Beginnings of Pyrotechnology: Neolithic and Egyptian Lime Plaster," *Journal of Field Archaeology* 2:133-150.

Hald, M. M., and M. Charles

- 2008 "Storage of Crops during the Fourth and Third Millennia B.C. at the Settlement Mound of Tell Brak, Northeast Syria," *Vegetation History Archaeobotany* 17:S35-S41.

Hansen, M. H.

- 2000 "Introduction: The Concepts of City-State and City-State Culture," in M. H. Hansen, ed., *A Comparative Study of Thirty City-State Cultures*. Copenhagen: C.A. Reitzels Forlag, 11-34.
- 2008 "Analyzing Cities," in J. Marcus and J. Sabloff, eds., *The Ancient City: New Perspectives on Urbanism in the Old and New World*. Santa Fe: School for Advance Research, 67-76.

Harmanşah, O.

- 2013 *Cities and the Shaping of Memory in the Ancient Near East*. Cambridge: Cambridge University Press.

Harris, C. D. and E. L. Ullman

- 1945 "The Nature of Cities," *Annals of the American Academy of Political and Social Science* 242:7-17.

Hartenberger, B., S. Rosen and T. Matney

- 2000 "The Early Bronze Age Blade Workshop at Titris Hoyuk: Lithic Specialization in an Urban Context," *Near Eastern Archaeology* 63(1):51-58.

Hartenberger, B. E.

- 2003 *A Study of Craft Specialization and the Organization of Chipped Stone Production at Early Bronze Age Titris Hoyuk Southeastern Turkey*, unpublished Ph.D. dissertation, Boston University: Boston.

Hélie, M.

- 2009 "Conceptualizing the Principles of Emergent Urbanism," *International Journal of Architectural Research* 3(2):75-91.

Helms, Tobias

- 2012 "The economy of chipped stone: production and use of stone tools at EBA Tell Chuera." Lecture, Household and Household Economies in 3rd millennium BC Syro-Mesopotamia Workshop from Goethe University, Frankfurt, October 27, 2012.

Hempelmann, R.

- 2010 "Die Ausgrabungen im Berich K," in J-W Meyer, ed., *Tell Chuera: Vorberichte zu den Grabungskampagnen 1998 bis 2005*. Weisbaden: Harrassowitz Verlag, 35-82.

Hempelmann, R., ed.

- 2013 *Tell Chuera, Kharab Sayyar und die Urbanisierung der westlichen Ġazira*. Weisbaden: Harrassowitz Verlag.

Hole, F.

- 1991 "Middle Khabur Settlement and Agriculture in the Ninevite 5 Period," *Bulletin of the Canadian Society for Mesopotamian Studies* 21:17-29.
 1999 "Economic Implications of Possible Storage Structures at Tell Ziyadeh, Northeast Syria," *Journal of Field Archaeology* 26:267-83.

Holland, T.

- 1976 "Preliminary Report on Excavations at Tell es-Sweyhat, Syria, 1973-74," *Levant* 8: 36-70.
 1977 "Preliminary Report on Excavations at Tell es-Sweyhat, Syria, 1975," *Levant* 9: 36- 65.
 2006 *Excavations at Tell es-Sweyhat, Syria 2. Archaeology of the Bronze Age, Hellenistic, and Roman remains at an ancient town on the Euphrates River*. Oriental Institute Publication 125. Chicago: The Oriental Institute of the University of Chicago.

Hoyt, H.

- 1939 *The Structure and Growth of Residential Neighborhoods in American Cities*. Washington, D.C.: US Federal Housing Administration, US Government Printing Office.

Hritz, C.

- 2013a "Urbanocentric Models and "Rural Messiness": A Case Study in the Balikh River, Syria," *American Journal of Archaeology* 117(2):141-161.
 2013b "A malarial-ridden swamp: using Google Earth Pro and Corona to access the southern Balikh valley, Syria," *Journal of Archaeological Science* 40:1975-1986.

Hughey, S.

- 1988 "A note on Mapping," in G. Buccellati and M. Kelly-Buccellati, eds., *Mozan I: The Soundings of the First Two Seasons*. Malibu: Undena Publications, 47-48.

Keith, K.

- 2003 "The Spatial Patterns of Everyday Life in Old Babylonian Neighborhoods," in M. Smith, ed., *The Social Construction of Ancient Cities*. Washington: Smithsonian Books, 56-102.

Kelly-Buccellati, M.

- 1988a “The High Mound: Introduction and Surface Collection,” in G. Buccellati and M. Kelly-Buccellati, eds., *Mozan 1: The Soundings of the First Two Seasons*. Malibu: Undena Publications, 43-48.
- 1988b “Artifacts from the Excavations,” in G. Buccellati and M. Kelly-Buccellati, eds., *Mozan 1: The Soundings of the First Two Seasons*. Malibu: Undena Publications, 65-81.
- 1990 “Three Seasons of Excavation at Tell Mozan,” in S. Eichler, M. Wafler, and D. Warburton, eds., *Tall al-Hamidiya 2*. Freiburg Schweiz: Paulusdruckerei Freiburg Schweiz, 119-32.
- 1998a OH2: Urkesh Global Record, Electronic Document, <http://www.orkesh.org/mz/a/OH02/ugr/-frame.htm>, accessed January 14, 2013.
- 1998b “The Workshops of Urkesh,” in G. Buccellati and M. Kelly-Buccellati, eds., *Urkesh and the Hurrians*. Malibu: Undena Publications, 35-50.
- 2008 OD50: Urkesh Global Record, Electronic Document, <http://www.orkesh.org/mz/a/OD50/ugr/-frame.htm>, accessed January 14, 2013.
- 2010 “Mozan/Urkesh in the Late Chalcolithic Period,” in J. Becker, R. Hempelmann, E. Rehm, eds., *Kulturlandschaft Syrien : Zentrum und Peripherie ; Festschrift für Jan-Waalke Meyer*. Münster : Ugarit-Verl, 261-290.
- 2011 *Urkesh Ceramic Typology: Urkesh Global Record*, Electronic Document, <http://www.orkesh.org/mz/a/ceramics/ugr/-frame.htm>, accessed January 14, 2013
- 2012 *J2 Urkesh Global Record: Ceramics Section*, Electronic Document, <http://www.orkesh.org/mz/a/OJ01/ugr/-frame.htm>, accessed March 20, 2013.
- 2013 “Landscape and Spatial Organization: An Essay on Urban Settlement Pattern in Urkeš,” in D. Bonatz and L. Martin, eds., *100 Jahre archäologische Feldforschungen in Nordost-Syrien - eine Bilanz*. Wiesbaden: Harrassowitz Verlag, 149-66.

Kingery, W., P. Vandiver and M. Prickett

- 1988 “The Beginnings of Pyrotechnology Part II: Production and Use of Lime and Gypsum Plaster in the Pre-Pottery Neolithic Near East,” *Journal of Field Archaeology* 15:219-244.

Kouchoukos, N.

- 1998 *Landscape and Social Change in Late Prehistoric Mesopotamia*, Ph.D. dissertation, Yale University, New Haven.

Kraetschell, A.M.

- 2011 *Untersuchungen zur holozänen Landschaftsentwicklung im Umfeld der bronzezeitlichen Siedlung Tell Chuera, Nord-Syrien*, PhD dissertation, Der Johann Wolfgang Goethe-Universität, Frankfurt am Main.

Kromberg, O.

2005 *Untersuchungen zur Unterstadt von Tell Chuera, Nordsyrien*, Unpublished Masters Thesis, der Johann Wolfgang Goethe-Universität, Frankfurt am Main.

Kühne, H.

1976 *Die Keramik vom Tell Chuera und ihre Beziehungen zu Funden aus Syrien-Palästina, der Türkei und dem Iraq*. Berlin: Mann.

Lampl, P.

1968 *Cities and Planning in the Ancient Near East*. New York: George Braziller.

Laneri, N.

2007 "Burial Practices at Titris Hoyuk, Turkey: An Interpretation," *Journal of Near Eastern Studies* 66(4):241-266.

2013 "Defining Residential Graves," in O. Henry, ed., *Le Mort dans la Ville: Pratiques, Contextes et Impacts des Inhumations Intra-muros en Anatolie, du début de l'Âge du Bronze à l'époque Romaine, Istanbul 14-15 novembre 2011*. Istanbul: IFEA-Ege Yayınları, 43-52.

Lawrence, D.

2012 *Early Urbanism in the Northern Fertile Crescent: A Comparison of Regional Settlement Trajectories and Millennial Landscape Change*, PhD dissertation, Durham University, Durham. <http://etheses.dur.ac.uk/5921/>

Lebeau, M.

1997 "La situation géographique, la topographie et les périodes d'occupation de Tell Beydar," in M. Lebeau, M. and A. Suleiman, eds., *Tell Beydar, Three Seasons of Excavations (1992-1994): A Preliminary Report*. Brepols: Turnhout, 7-19.

2000 "Stratified Archaeological Evidence and Compared Periodizations in the Syrian Jezirah during the Third Millennium B.C.," in C. Marro and H. Hauptmann, eds., *Chronologies des Pays du Caucase et de l'Euphrate aux IVe-IIIe Millénaires, Actes du Colloque d'Istanbul, 16-19 décembre 1998*. Paris: De Boccard, 167-192.

2010 "Tell Beydar/Nabada: An Archaeological Summary, Facts and Datings," in J. Becker, R. Hempelmann and E. Rehm, eds., *Kulturlandschaft Syrien: Zentrum and Peripherie*. Münster: Ugarit-Verlag, 291-330.

Lebeau, M. and A. Suleiman, eds.

2009 *Report on the 16th Season of Excavations at Tell Beydar (2009)*, electronic document, <http://www.beydar.com/pdf/beydar-2009.pdf>.

Levey, M.

1957 "Chemistry of tanning in ancient Mesopotamia," *Journal of Chemistry Education* 34(3): 142-143

Liverani, M.

- 1996 "Reconstructing the Rural Landscape of the Ancient Near East," *Journal of the Economic and Social History of the Orient* 39(1):1-41.
- 1999 "The Role of the Village in Shaping the Ancient Near Eastern Rural Landscape," in L. Milano, S. d. Martino, F. M. Fales & G. B. Lanfranchi, eds., *Landscapes: Territories, Frontiers and Horizons in the Ancient Near East*. Padova: Sargon srl, 37-47.

Lyonnet, B.

- 1996 "La prospection archeologique de la partie occidentale du Haut Khabur (Syrie du Nord-est): methodes, resultats et questions autour de l'occupation aux IIIe et IIe mill'énaires av. N.E." *Amurru* 1: 363-376.
- 1998 "Le peuplement de la Djezire occidental au debut du 3e millenaire, villes circulaires et pastoralisme: questions et hypotheses," in M. Lebeau, ed., *About Subartu: Studies Devoted to Upper Mesopotamia*. Brepols: Turnhout, 179-193.
- 2009 "Who lived in the third-millennium "round cities" of Northern Syria?" in J. Szuchman, ed., *Nomads, Tribes, and the State in the Ancient near East: Cross-disciplinary Perspectives*. Chicago: The Oriental Institute of Chicago.

Mallowan, M.

- 1936 "The Excavations at Tell Chagar Bazar and an Archaeological Survey of the Habur Region, 1934-35," *Iraq* 3:1-87.
- 1937 "The Excavations at Tell Chagar Bazar and an Archaeological Survey of the Habur Region, 2nd Campaign, 1936," *Iraq* 4:91-177.
- 1946 "Excavations in the Balikh Valley (1938)," *Iraq* 8:111-56.
- 1964 "Ninevite 5" in K. Bittel, ed., *Vorderasiatische Archäologie*. Berlin: Verlag Gebr, 142-154.

Marcus, J. and J. Sabloff

- 2008 "Introduction," in J. Marcus and J. A. Sabloff, eds., *The Ancient City: New Perspectives on Urbanism in the Old and New World*. Santa Fe: School for Advanced Research Press, 4-26.

Margueron, J.-C.

- 2004 *Mari: Metropole de l'Euphrate*. Paris: Picard.

Matney, T.

- 2001 "Urban Planning and the Archaeology of Society at Early Bronze Age Titris Hoyuk," in D. Hopkins, ed., *Across the Anatolian Plateau: Readings in the Archaeology of Ancient Turkey*. Atlanta: American Schools of Oriental Research, 19-34.

Matney, T. and G. Algaze

- 1995 "Urban Development at Mid-Late Early Bronze Age Titris Hoyuk in Southeastern Anatolia," *Bulletin of the American Schools of Oriental Research* 299/300:33-52.

Matthews, R.

- 2003a *The Archaeology of Mesopotamia: Theories and Approaches*. London: Routledge.
 2003b "A Chieftdom on the Northern Plains, Early Third-millennium Investigations: The Ninevite 5 Period," in R. Matthews, ed., *Excavations at Tell Brak. Vol. 4*. Oxford: Oxbow Books.

Mazzoni, S.

- 2003 "Ebla: Crafts and Power in an Emergent State of the Third Millennium BC Syria," *Journal of Mediterranean Archaeology* 16(2):173-91.

McClellan, T. and A. Porter

- 1995 "Jawa and North Syria," in K. 'Amr, F. Zayadine and M. Zaghoul, eds., *Studies in the History and Archaeology of Jordan V*. Amman: Jordan Press Foundation, 49-65.

McCorriston, J. and S. Weisberg

- 2002 "Spatial and Temporal Variation in Mesopotamian Agricultural Practices in the Khabur Basin, Syrian Jazira," *Journal of Archaeological Science* 29:485-98.

McMahon, A., J. Oates, S. Al-Quntar, M. Charles, C. Colantoni, M. M. Hald, P. Karsgaard, L. Khalidi, A. Soltysiak, A. Stone and J. Weber.

- 2007 "Excavations at Tell Brak, 2006-2007," *Iraq* 69:145-171.

McMahon, A., A. Soltysiak and J. 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.

Meijer, D. J. W.

- 1996 "Tell Hammam al-Turkman: Preliminary Report on the Seventh Campaign, May-July 1995," *Anatolica* XXII:181-193.

Meyer, J.-W.

- 2006 "Zur Chronologie von Tell Chuera," *Baghdader Mitteilungen* 37:329-333.
 2007 "Town Planning in 3rd Millennium Tell Chuera," in Driessen, Van Lerberghe, Bretschneider, eds., *Power and Architecture: Monumental Public Architecture in the Bronze Age near East and Aegean*. Leuven: Uitgeverij Peeters.
 2010a "Versuch einer historischen Einordnung von Tell Chuere in die politisch-historische Entwicklung Nordostsyriens im 3. Jt. V. Chr.," in J-W Meyer, ed., *Tell Chuera: Vorberichte zu den Grabungskampagnen 1998 bis 2005*. Weisbaden: Harrassowitz Verlag, 11-34.

- 2010b “Erste Überlegungen zu den Befestigungsanlagen in Tell Chuera,” in J-W Meyer, ed., *Tell Chuera: Vorberichte zu den Grabungskampagnen 1998 bis 2005*. Weisbaden: Harrassowitz Verlag, 173-186.
- 2010c “Überlegungen zur Siedlungsstruktur. Eine erste Analyse der ERgebnisse der geomagnetischen Prospektion,” in J-W Meyer, ed., *Tell Chuera: Vorberichte zu den Grabungskampagnen 1998 bis 2005*. Weisbaden: Harrassowitz Verlag, 199-222.
- 2010d “Tribal Community and State: The Change of Settlements and Settlement Patterns in Upper Mesopotamia During the 3rd Millennium B.C. - A Re-Evaluation.” *Al-Rafidan*, Special Issue, Formation of Tribal Communities: Integrated Research in the Middle Euphrates, Syria, 203-11.
- Miglus, P. A., and E. Strommenger (eds.)
2002 *Tall Bi'a/Tuttul - VIII*. Saarbrücken: Sarrbrucker Druckerei und Verlag.
- Milano, L., W. Sallaberger, P. Talon and K. Van Lerberghe, eds.
2004 *Third Millennium Cuneiform Texts from Tell Beydar (Seasons 1996-2002)*. Subartu 12, Turnout: Brepols
- Milano, L., E. Rova, and M.-E. Sténuit.
2005 "Tell Beydar: the Early Phases," in M. Lebeau and A. Suleiman, eds., *Tell Beydar/Nabada - An Early Bronze Age City in the Syrian Jezirah: 10 Years of Research (1992–2002)*. Documents d'archéologie syrienne VI. Damascus, 65-75, electronic document, http://www.beydar.com/pdf/bey_10_en.pdf. Accessed July 23, 2013.
- Milano, L., ed.
1991 *Mozan 2: The Epigraphic Finds of the Sixth Season*, Malibu: Undena Publications.
- Milano, L.
1995 “Ebla: A Third-Millennium City-State in Ancient Syria,” in Jack M. Sasson, ed., *Civilizations of the Ancient Near East, Vol II*. Peabody, MA: Hendrickson Publishers, 1219-1230.
- Moortgat, A.
1960 *Tell Chuera in Nordost-Syrien: Vorläufiger Bericht über die Grabung 1958*. Köln: Westdeutscher Verlag.
- Moortgat, A. and U. Moortgat-Correns
1975 *Tell Chuēra in Nordost-Syrien : vorläufiger Bericht über die 6. Grabungskampagne 1973*. Mann: Berlin.

Moortgat-Correns, U.

1972 *Die Bildwerke vom Djebelet el Bēdē in Ihrer Räumlichen und Zeitlichen Umwelt*. Berlin: De Gruyter.

1975 "Huera, Tell," *Reallexikon der Assyriologie* 4, 6-7:480-487.

1988 *Tell Chuera in Nordost-Syrien. Vorläufiger Bericht über die neunte und zehnte Grabungskampagne 1982 und 1983*, Berlin: Mann.

Nashef, K.

1990 "Archaeology in Iraq," *American Journal of Archaeology* 94(2):259-289.

Nichols, D. L., and T. H. Charlton, eds.

1997 *The Archaeology of City-States: Cross-Cultural Approaches*. Washington: Smithsonian Institution Press.

Nicolle, C.

2006 *Tell Mohammed Diyab 3. Travaux de 1992-2000 sur les buttes A et B*, Paris: ERC.

Nishimura, Y.

2007 The North Mesopotamian Neighborhood: Domestic Activities and Household Space at Tigris Hoyuk. *Near Eastern Archaeology* 70(1):53-56.

2008 *North Mesopotamian Urban Space: A Reconstruction of Household Activities and City Layout at Tigris Hoyuk in the Third millennium B.C.* Ph.D. dissertation, University of California, Los Angeles.

Oates, J., A. McMahon, P. Karsgaard, S. al Quntar, S. and J. Ur.

2007 "Early Mesopotamian urbanism: A new view from the North," *Antiquity* 81: 585-600.

Orthmann, W., ed.

1985 *Tell Chuera in Nordost-Syrien 1982-1983*. Gebr. Mann Verlag: Berlin.

1990 *Tell Chuera. Ausgrabungen der Max Freiherr von Oppenheim-Stiftung in Nordost-Syrien*. Damaskus und Tartous: Halbet.

1995 *Ausgrabungen in Tel Chuera in Nordost-Syrien: Vorbericht über die Grabungskampagnen 1986 bis 1992*. Saarbrücken: Saarbrücker.

Peregrine, P.

1996 "Geomagnetic Mapping at Tell es-Sweyhat," *Expedition* 38(1): 30-33.

Peregrine, P., A. Bell, M. Braithwaite and M. Danti

1997 "Geomagnetic Mapping of the Outer Town," in R. Zettler, ed., *Subsistence and Settlement in a Marginal Environment: Tell es-Sweyhat, 1989-1995 Preliminary Report*. Ann Arbor: Cushing-Mallory, 73-84.

Pfälzner, P.

- 1998 "Eine Modifikation der Periodisierung Nordmesopotamiens im 3. Jtsd. V. Chr.," *Mitteilungen der Deutschen Orient-Gesellschaft zu Berlin*, 130: 69-71.
- 2001 *Haus und Haushalt : Wohnformen des dritten Jahrtausends vor Christus in Nordmesopotamien*. Mainz : Verlag Philipp von Zabern.
- 2010 "Introduction and Synthesis: Urban Development and Ecology at Tell Mozan," in K. Deckers, M. Doll, P. Pfälzner & S. Riehl, eds., *Development of the Environment, Subsistence and Settlement of the City of Urkes and its Region*. Wiesbaden: Harrassowitz Verlag, 1-12.

Pfälzner, P., Wissing, A. and Hubner C.

- 2004 "Urbanism in der Untertstadt von Urkes: Ergebnisse einer geomagnetischen Prospektion und eines archaologischen Surveys in der südlichen Untertstadt von Tall Mozan im Sommer 2002," *Mitteilungen der Deutschen Orient-Gesellschaft zu Berlin* 136:41-86.

Poidebard, A.

- 1934 *La trace de Rome dans le desert de Syrie: Le limes de Trajan a la conquete Arabe. Recherches Aeriennes (1925-1932)*, Paris.

Pollock, S.

- 1999 *Ancient Mesopotamia: The Eden that Never Was*. Cambridge: Cambridge University Press.

Porter, A.

- 1995 "The Third Millennium Settlement Complex at Tell Banat: Tell Kabir," *Damaszener Mitteilungen* 8:125-163.
- 2002a "Communities in Conflict. Death and the Contest for Social Order in the Euphrates River Valley," *Near Eastern Archaeology* 65(3):156-173.
- 2002b "The Dynamics of Death. Ancestors, Pastoralism and the Origins of a Third Millennium City in Syria," *Bulletin of the American Schools of Oriental Research* 325:1-36.
- 2004 "The Urban Nomad: Countering the Old Cliches," in C. Nicolle, ed., *Nomades et sedentaires dans le Proche-Orient ancien*. Paris: Editions Recherche sur les Civilisations, 69-74.
- 2008 "Evocative Topography: Experience, Time and Politics in a Landscape of Death," in G. Bartoloni and G. Benedettini, eds., *Sepolti Tra I Vivi: Buried Among the Living*. Roma: Universita Degli Stud Di Roma "La Sapienza", 195-214.

Porter, A. and T. McClellan

- 1998 "The Third Millennium Settlement Complex at Tell Banat: Results of the 1994 Excavations," *Damaszener Mitteilungen* 10:11-62.

Pulhan, G.

2000 *On the Eve of the Dark Age: Aqrni-Lim's Palace at Tell Leilan*, Ph.D. dissertation, Yale University, New Haven, CT.

Pustovoytov, K., K. Deckers, and P. Goldberg

2011 "Genesis, age and archaeological significance of a pedosediment in the depression around Tell Mozan, Syria," *Journal of Archaeological Science* 38:913-924.

Rapoport, A.

1977 *Human Aspects of the Urban Form*. Oxford: Pergamon Press.

Reade, J. E.

1968 "Tell Taya (1967): Summary Report," *Iraq*, 30(2): 234-64.

1971 "Tell Taya (1968-1969): Summary Report," *Iraq*, 33(2): 87-100.

1973 "Tell Taya (1972-73): Summary Report," *Iraq*, 35(2), 155-87.

Renfrew, C.

2008 "The City through Time and Space: Transformations of Centrality," in J. Marcus and J. A. Sabloff, eds., *The Ancient City*. Santa Fe: School for Advanced Research, 29-52.

Reichel, C.

2009 "Hamoukar", electronic document, http://oi.uchicago.edu/pdf/08-09_Hamoukar.pdf, Accessed January 18, 2013.

Riehl, S.

2010 "Plant Production in a Changing Environment: The Archaeobotanical Remains from Tell Mozan," in K. Deckers, M. Doll, P. Pfälzner & S. Riehl, eds., *Development of the Environment, Subsistence and Settlement of the City of Urkes and its Region*. Wiesbaden: Harrassowitz Verlag, 13-158.

Ristvet, L.

2005 "Settlement, Economy, and Society in the Tell Leilan Region, Syria, 3000-1000," PhD Dissertation, University of Cambridge, July 22, 2005.

2007 "The Third Millennium City Wall at Tell Leilan, Syria: Identity, Authority and Urbanism," in J. Bretschneider, J. Driessen and K. Vanlerberghe, eds., *Monumental Public Architecture in the Bronze Age Near East and Aegean*. Leuven: Peters, 183-212.

Ristvet, L., T. Guilderson and H. Weiss

2004 "The Dynamics of State Development and Imperialization at Third Millennium Tell Leilan, Syria," *Orient Express*, 21(2).

Ristvet, L. and H. Weiss

- 2005 "The Habur Region in the Late Third and Early Second Millennium BC," in W. Orthmann, ed., *The History and Archaeology of Syria*. Saarbrücken: Saarbrücken Verlag, 1-25.

Rothman, M.

- 2004 "Studying the Development of Complex Society: Mesopotamia in the Late Fifth and Fourth Millennia BC," *Journal of Archaeological Research* 12:75-119.

Routledge, B.

- 1998 "Making Nature Human: Small-Scale Production and Specialization at Tell Gudeda in the Middle Khabour Valley," in J. Pouilloux, ed., *Espace naturel, espace habité en Syrie du Nord (10e-2e millénaires av. J.-C.)*. Lyon: Maison de l'Orient et de la Méditerranée, 243-56.

Rova, E.

- 1996 "Ceramic Provinces along the Middle and Upper Euphrates: Late Chalcolithic-Early Bronze Age, A Diachronic View," *Baghdader Mitteilungen*, 27:13-37.

Sallaberger, W.

- 2004 "A Note on the Sheep and Goat Flocks: Introduction to Texts 151-167," in L. Milano, W. Sallaberger, P. Talon, and K. Van Lerberghe, eds., *Third Millennium Cuneiform Texts from Tell Beydar*, vol. XII, *Subartu*. Turnhout: Brepols, 13-21.

Sallaberger, W. and J. Ur

- 2004 "Tell Beydar/Nabada in its Regional Setting," in L. Milano, W. Sallaberger, P. Talon and K. Van Lerberghe, eds., *Third Millennium Cuneiform Texts from Tell Beydar (Season 1996-2002)*. Turnhout: Brepols.

Salvini, M.

- 1998 "The Earliest Evidence of the Hurrians Before the Formation of the Reign of Mittanni," in G. Buccellati & M. Kelly-Buccellati, eds., *Urkish and the Hurrians: A Volume in Honor of Lloyd Cotsen*. Malibu: Undena Publications, 99-115.

Sanders, W. and D. Webster

- 1988 The Mesoamerican Urban Tradition. *American Anthropologist* 90(3):521-526.

Schwartz, G.

- 1985 "The Ninevite V Period and Current Research," *Paleorient* 11(1):53-70.
 1987 "The Ninevite V Period and the Development of Complex Society in Northern Mesopotamia," *Paleorient* 13(2): 93-100.
 1994a "Before Ebla: Models of pre-state political organization in Syria and northern Mesopotamia," in G. Stein and M. Rothman, eds., *Chiefdoms and Early States in the Near East: The Organizational Dynamics of Complexity*. Prehistory Press:

- Madison, 153-174.
- 1994b "Rural economic specialization and early urbanization in the Khabur valley, Syria," in G. Schwartz and S. Falconer, eds., *Archaeological Views from the Countryside: Village Communities in Early Complex Societies*. Washington, DC: Smithsonian Institution Press, 19-36.
- Schwartz, G. H. Curvers, F. Gerritsen, J. MacCormack, N. Miller and J. Weber
2000 "Excavation and Survey in the Jabbul Plain, Western Syria: The Umm el-Marra Project 1996-1997," *American Journal of Archaeology* 104(3): 419-462.
- Schwartz, G. and S. Falconer, eds.
1994 *Archaeological Views from the Countryside: Village Communities in Early Complex Societies*. Washington, DC: Smithsonian Institution Press.
- Senior, L. M.
1998 *Time and Technological Change: Ceramic Production, Labor and Economic Transformation in a Third Millennium Complex Society (Tell Leilan, Syria.)*, unpublished Ph.D. dissertation, University of Arizona. Tucson. AZ.
- Senior, L. and H. Weiss
1992 "Tell Leilan "sila bowls" and the Akkadian Reorganization of Subarian Agricultural Production," *Orient-Express* 2:16-24.
- Sjöberg, G.
1960 *The Preindustrial City, Past and Present*, Glencoe, IL: The Free Press.
- Smith, A. T.
2003 *The political landscape: Constellations of authority in early complex polities*. Berkeley: University of California Press.
- Smith, M. E.
2006 "The Founding of Cities in the Ancient World: Review of Concepts," in R. V. R. Maria Josefa Iglesias Ponce de Leon, and Andres Ciudad Ruiz, eds., *Nuevas Ciudades, Nuevas Patrias: Fundacion y Relocalizacion de Ciudades en Mesoamerica y Mediterraneo Antiguo*, English edition ed. Sociedad Espanola de Estudios Mayas, Madrid.
2007 "Form and Meaning in the Earliest Cities: A New Approach to Ancient Urban Planning," *Journal of Planning History* 6:3-47.
2009 "V. Gordon Childe and the Urban Revolution: a historical perspective on a revolution in urban studies," *Town Planning Review* 80(1):3-29.
2010 "The archaeological study of neighborhoods and districts in ancient cities," *Journal of Anthropological Archaeology* 29:137-54.
2011 "Empirical Urban Theory for Archaeologists," *Journal of Archaeological Method and Theory* 18(3):167-192.

- 2012 "Archaeology, Early Complex Societies, and Comparative Social Science History," in M.E. Smith, ed., *The Comparative Archaeology of Complex Societies*. Cambridge: Cambridge University Press, 321-331.
- Smith, M. E. and P. Peregrine
 2012 "Approaches to Comparative Analysis in Archaeology," in M.E. Smith, ed., *The Comparative Archaeology of Complex Societies*. Cambridge: Cambridge University Press, 4-20.
- Smith, M. L.
 2003 "Introduction: The Social Construction of Ancient Cities," in Monica Smith, ed., *The Social Construction of Ancient Cities*. Washington: Smithsonian Books, 1-36.
- Soltysiak, A.
 2008 "Short Fieldwork Report: Tell Majnuna (Syria), season 2006," *Bioarchaeology of the Near East*, 2:77-94.
- Steele, C., H. McDonald, R. Matthews and J. Black
 2003 "Impact of Empire, Later Third-millennium Investigations: the Late Early Dynastic and Akkadian Periods," in R. Matthews, ed., *Excavations at Tell Brak: Exploring an Upper Mesopotamian regional centre, 1994-1996*. Oxford: Oxbow books, 97-192.
- Stein, G.
 1990 "The 1987 Tell Leilan Regional Survey: Preliminary Report," in Miller, ed., *Economy and Settlement in the Near East*. Philadelphia: MASCA.
 1994 "Segmentary States and Organizational Variation in Early Complex Societies: A Rural Perspective," in G. Schwartz and S. Falconer, eds., *Archaeological Views from the Countryside*. Washington: Smithsonian Institution Press.
 1998 "Heterogeneity, power, and political economy: Some current research issues in the archaeology of Old World Complex societies," *Journal of Archaeological Research* 6:1-44.
 1999 *Rethinking World Systems: Diasporas, Colonies and Interaction in Uruk Mesopotamia*. Tucson: University of Arizona Press.
 2003 "Settlement Trends and the Emergence of Social Complexity in the Leilan Region of the Habur Plains (Syria) from the Fourth to the Third Millennium B.C.," in Rova and Weiss, eds., *The Origins of North Mesopotamian Civilization, Subartu IX*. Belgium: Brepols.
 2004 "Structural Parameters and Socio-Cultural Factors in the Economic Organization of North Mesopotamian Urbanism in the Third Millennium BC.," in G. Feinman and L. Nicholas, eds., *Archaeological Perspectives on Political Economies*. Salt Lake City: University of Utah Press, 61-78.

Stein, G. and J. Blackman

- 1993 "The Organizational Context of Specialized Craft Production in Early Mesopotamian States," *Research in Economic Anthropology* 14:29-59.

Stein, G. and M. Rothman, eds.

- 1994 *Chiefdoms and Early States in the Near East. The Organizational Dynamics of Complexity*. Madison: Prehistory Press.

Stein, G. and P. Wattenmaker

- 1990 "On the Uruk Expansion," *Current Anthropology* 31(1), 66-9.
 2003 "Settlement trends and the emergence of social complexity in the Leilan region of the Habur plains (Syria) from the fourth to the third millennium BC," in Rova and Weiss, eds., *The Origins of North Mesopotamian Civilization: Ninevite 5 Chronology, Economy, Society*. Turnhout: Brepols, 361-386.

Steinkeller, P.

- 1998 "The Historical Background of Urkesh and the Hurrian Beginnings in Northern Mesopotamia," in G. Buccellati and M. Kelly-Buccellati, eds., *Urkesh and the Hurrians: A Volume in Honor of Lloyd Cotsen*. Malibu: Undena Publications, 75-98.

Stone, E.

- 1987 *Nippur Neighborhoods*. Chicago: Oriental Institute of the University of Chicago.
 1997a "Houses, Households and Neighborhoods in the Old Babylonian Period: The Role of Extended Families," in K.R. Veenhof ed., *Houses and Households in Ancient Mesopotamia*. Publications de l'Institut Historique Archéologique Néerlandais de Istanbul. Istanbul: Nederlands Instituut voor het Nabije Oosten, 229-235.
 1997b "City States and their Centers: The Mesopotamian Example," in D. Nichols and T. Charleton, eds., *The Archaeology of City States: Cross-Cultural Approaches*. Washington: Smithsonian Institution Press, 15-26.
 2007 "The Mesopotamian Urban Experience," in Stone, E., ed., *Settlement and Society: Essays Dedicated to Robert McCormick Adams*. Los Angeles: Cotsen Institute of Archaeology, 213-234.
 2008 "A Tale of Two Cities: Lowland Mesopotamia and Highland Anatolia," in J. Marcus and J. Sabloff, eds., *The Ancient City*. Santa Fe: School for Advance Research, 141-164.

Stone, E. and P. Zimansky

- 2004 *The Anatomy of a Mesopotamian City: Survey and Soundings at Mashkan-shapir*. Winona Lake: Eisenbraun's.

Strommenger, E. and K. Kohlmeyer, eds.

- 2000 *Die Schichten des 3. Jahrtausends v. Chr. Im Zentralhügel E (Ausgrabungen in Tall Bi'a/Tuttul 3)*. Saarbrücken: Sarrbrücker Druckerei und Verlag.

Tamm, A.

- 2012 "The domestic structures in the lower town of Tell Chuera." Lecture, Household and Household Economies in 3rd millennium BC Syro-Mesopotamia Workshop from Goethe University, Frankfurt, October 27, 2012.

Thissen, L.

- 1989 "An Early Bronze III pottery region between the Middle Euphrates and Habur: New evidence from Tell Hammam et-Turkman," in O. M. C. Haex, H. H. Curvers, and P. M. M. G. Akkermans, eds., *To the Euphrates and Beyond: Archaeological Studies in honour of Maurits N. van Loon*. Rotterdam: Balkema Publishers, 195-212.

Thomas, A.

- 2010 *The Evolution of the Ancient City: Urban Theory and the Archaeology of the Fertile Crescent*. Plymouth: Lexington Books.

Thompson-Miragliuolo, J.

- 1986 "OB1," Internal excavation report, Tell Mozan Project, University of California, Los Angeles.
- 1988 "The Outer City: Introduction and Surface Collection,": in G. Buccellati and M. Kelly-Buccellati, eds., *Mozan I: The Soundings of the First Two Seasons*. Malibu: Undena Publications, 49-56.

Tonussi, M.

- 2008 "Metal Workshops and Metal Finds from Third-millennium Tell Beydar/Nabada (1992-2005 Seasons)," in M. Lebeau and A. Suleiman, eds., *Beydar Studies I*. Turnhout: Brepols, 195-258.

Trigger, B.

- 1972 "Determinants of Urban Growth in Pre-Industrial Societies," in P. J. Ucko, R. Tringham, and G. W. Dimbleby, eds., *Man, Settlement, and Urbanism*. Cambridge, MA: Schenkman Duckworth, pp. 575-599.
- 2003 *Understanding Early Civilizations*. Cambridge: Cambridge University Press.

Ur, J.

- 2002a "Surface Collection and Offsite Studies at Tell Hamoukar, 1999," *Iraq* 64:15-43.
- 2002b "Settlement and Landscape in Northern Mesopotamia: The Tell Hamoukar Survey 2000-2001," *Akkadica*, 123:57-88.
- 2003 "CORONA Satellite Photography and Ancient Road Networks: A Northern Mesopotamian Case Study," *Antiquity* 77:102-115.
- 2009 "Emergent Landscapes of Movement in Early Bronze Age Northern Mesopotamia," in J. E. Snead, Erickson, C. and Darling, W. A., eds., *Landscapes*

- of Movement: Paths, Trails, and Roads in Anthropological Perspective.*
Philadelphia: University of Pennsylvania Museum Press, 180-203.
- 2010a "Cycles of civilization in northern Mesopotamia, 4400–2000 BC," *Journal of Archaeological Research* 18.4: 387-431.
- 2010b *Urbanism and Cultural Landscapes in Northeastern Syria: Tell Hamoukar 1.*
Chicago: Oriental Institute Publications.
- 2012 "Spatial Scale and Urban Collapse at Tell Brak and Hamoukar at the End of the Third Millennium BC," in N. Laneri, P. Pfälzner, and S. Valentini, eds., *Looking North: The Socio-Economic Dynamics of the Northern Mesopotamian and Anatolian Regions During the Late Third and Early Second Millennium BC.*
Wiesbaden: Harrassowitz, 25-35.
- Ur, J., P. Karsgaard and J. Oates
- 2007 "Early Urban Development in the Near East," *Science* 317 (5842):1188.
- 2011 "The Spatial Dimensions of Early Mesopotamian Urbanism: The Tell Brak Suburban Survey," *Iraq* 73: 1-19.
- Ur, J. and T.J. Wilkinson
- 2008 "Settlement and Economic Landscapes of Tell Beydar and Its Hinterland," in Lebeau and Suleiman, eds., *Beydar Studies 1.* Brepols: Turnhout, 305-27.
- Valentini, S.
- 2008 "Ninevite 5 Pottery from Tell Barri in Jezirah", in H. Kühne, R. M. Czichon, and F. J. Kreppner, eds., *Proceedings of the 4th International Congress on the Archaeology of the Ancient Near East (29 March-3 April 2004, Freie Universität Berlin), Volume 2: Social and Cultural Transformation: The Archaeology of Transitional Periods and Dark Ages. Excavations Reports.* Wiesbaden: Harrasowitz Verlag, 259-272.
- Van de Mierop, M.
- 1997 *The Ancient Mesopotamian City.* Oxford: Oxford University Press.
- Van Koppen, F.
- 2001 "The Organisation of Institutional Agriculture in Mari," *Journal of the Economic and Social History of the Orient*, 44(4):451-504.
- Van Lerberghe, K.
- 1996 "The Beydar tablets and the history of the Northern Jazirah," in F. Ismail, W. Sallaberger, P. Talon & K. V. Lerberghe, eds., *Administrative Documents from Tell Beydar*, Turnhout: Brepols.
- Van Loon, M.
- 1988a "New Evidence for North Syrian Chronology from Hammam et-Turkman," *American Journal of Archaeology* 92:582-587.

1988b *Hammam et-Turkman I*. 2 vols. Nederlands Instituut voor het Nabije Oosten, Leiden, Nederland.

Van Loon, M. and D. J. W. Meijer

1988 "Hammam et-Turkman: 1986 Campaign," *Syria* 65(3/4):401-402.

Verardi, V.

2006 "Une Tombe du IIIe Millenaire a Tell Mohammed Diyab," *Revue d'Assyriologie et d'archéologie orientale* 100:41-52.

Vidal de La Blache, P.

1952 *Principles of Human Geography*. London: Constable.

Vila, E.

2010 "Etude de la faune mammalienne de Tell Chuera, secteurs H et K (200-2007) et de Kharab Sayyar, secteur A (Bronze ancien, Syrie)," in J-W Meyer, ed., *Tell Chuera: Vorberichte zu den Grabungskampagnen 1998 bis 2005*. Weisbaden: Harrassowitz Verlag, 223-292.

von Thünen, J. H.

1826 *Isolated State*. Oxford; New York: Pergamon Press.

Walker, J. L.

1998 *OH2 Urkesh Global Record*, Electronic Document, <http://www.urkesh.org/mz/a/OH02/ugr/-frame.htm>, accessed January 14, 2013.

2012 *J3 Urkesh Global Record*, Electronic Document, <http://www.urkesh.org/mz/a/J03/ugr/-frame.htm>, accessed March 19, 2013.

Wattenmaker, P.

1998 "Craft Production and Social Identity in Northwest Mesopotamia," *Archeological Papers of the American Anthropological Association* 8: 47-55.

2008. "Craft Production and Social Identity in Northwest Mesopotamia," *Archaeological Papers of the American Anthropological Society* 8(1), 47-55.

Weiss, H.

1983 "Excavations at Tell Leilan and the Origins of North Mesopotamian Cities in the Third Millennium BC" *Paleorient* 9(2):39-52

1985 "Rediscovering: Tell Leilian on the Habur Plains of Syria," *The Biblical Archaeologist* 48(1):5-34.

1986a "Introduction: The Origins of Cities in Dry-farming Syria and Mesopotamia in the Third Millennium B.C.," in H. Weiss, ed., *The Origins of Cities in Dry-farming Syria and Mesopotamia in the Third Millennium B.C.*. Guilford: Four Quarters Publishing Co.

- 1986b "The Origins of Tell Leilan and the Conquest of Space in Third Millennium Mesopotamia," in H. Weiss, ed., *The Origins of Cities in Dry-farming Syria and Mesopotamia in the Third Millennium B.C.*. Guilford: Four Quarters Publishing Co., 71-108.
- 1990a "'Civilizing' the Habur Plains: Mid-third Millennium State Formation at Tell Leilan," in Matthie, Van Loon and Weiss, eds., *Resurrecting the Past*. Belgium: Nederlands Instituut voor het Nabije Oosten.
- 1990b "Tell Leilan 1989: New Data for Mid-Third Millennium Urbanization and State Formation," *Mitteilungen der Deutschen Orient-Gesellschaft* 122:193-221.
- 1991 Archaeology in Syria. *American Journal of Archaeology* 95(4):683-740.
- 1994 Archaeology in Syria. *American Journal of Archaeology* 98(1):101-158.
- 1997 Archaeology in Syria. *American Journal of Archaeology* 101(1):97-148.
- 2002 "Ninevite 5 Periods and Processes," in Weiss and Rova, eds., *Origins of North Mesopotamian Civilization*. Brussels: Brepols.
- Weiss, H., P. Akkermans, G. Stein, D. Parayre & R. Whiting
 1990 "1985 Excavations at Tell Leilan, Syria," *American Journal of Archaeology* 94(4):529-81.
- Weiss, Harvey and M. -A. Courty, W. Wetterstrom, F. Guichard, L. Senior, R. Meadow, and A. Curnow
 1993 "The Genesis and Collapse of Third Millennium North Mesopotamian Civilization," *Science* 261(5124):995 – 1004.
- Weiss, H., F. deLillis, D. deMoulins, J. Eidem, T. Guilderson, U. Kasten, T. Larsen, L. Mori, L. Ristvet, E. Rova and W. Wetterstrom
 2002 "Revising the Contours of History at Tell Leilan," *Annales Archeologiques Arabes Syriennes, Cinquantenaire* 45:59-74.
- Wetterstrom, W.
 2003 "Ninevite 5 Period Agriculture at Tell Leilan: Preliminary Results," in E. Rova and H. Weiss, eds., *The Origins of North Mesopotamian Civilization: Ninevite 5 Chronology, Economy, Society*. Brussels: Brepols, 387-400.
- Wheatley, P.
 1969 *City as Symbol*. London: Lewis.
- Wilkinson, T. J.
 1990 "The Development of Settlement in the North Jazira between the 7th and 1st Millennia BC," *Iraq* 52:49-62.
 1994 "The Structure and Dynamics of Dry-Farming States in Upper Mesopotamia," *Current Anthropology* 35(5):483-520.
 1997 "Environmental Fluctuations, Agricultural Production and Collapse: A View from Bronze Age Upper Mesopotamia," in H. Dalfes, G. Kukla and H. Weiss, eds.,

- Third Millennium BC Climate Change and Old World Collapse* Berlin: Springer Verlag, 67-109.
- 1998 "Water and Human Settlement in the Balikh Valley, Syria: Investigations from 1992-1995," *Journal of Field Archaeology* 25:63-87.
- 2000 "Regional Approaches to Mesopotamian Archaeology: The Contribution of Archaeological Surveys," *Journal of Archaeological Research* 8(3):219-67.
- 2001 "Archaeological Survey of the Tell Beydar Region, Syria 1997," in K. V. Lergerghe and G. Voet, eds., *Tell Beydar Environmental and Technical Studies*. Turnhout: Brepols, 1-37.
- 2002 "Physical and Cultural Landscapes of the Hamoukar Area, (Syria)," *Akkadica* 123:89-105.
- 2003 *Archaeological Landscapes of the Near East*. Tucson: The University of Arizona Press.
- 2004 *On the Margin of the Euphrates: Settlement and Land Use at Tell es-Sweyhat and in the Upper Lake Assad Area, Syria*. Vol. 124. Oriental Institute Publications. Chicago: University of Chicago.
- Wilkinson, T., and D. Tucker
 1995 *Settlement Development in the North Jazira*, London: British School of Archaeology in Iraq.
- Wilkinson, T. J., J. Ur and J. Casana
 2004 "From Nucleation to Dispersal: Trends in Settlement Pattern in the Northern Fertile Crescent," in J. Cherry and S. Alcock, eds., *Side-by-Side Survey: Comparative Regional Studies in the Mediterranean World*. Oxford: Oxbow Books, 198-205.
- Wilkinson, T. J., C. French, J. A. Ur and M. Semple
 2010 "The Geoarchaeology of Route Systems in Northern Syria," *Geoarchaeology: An International Journal* 25(6):745-71.
- Wirth, L.
 1925 "A Bibliography of the Urban Community," in R. E. Park, E. W. Burgess, and R. D. McKenzie, ed., *The City*. Chicago: University of Chicago Press, 161-228.
 1938 "Urbanism as a Way of Life," *American Journal of Sociology* 44(1):1-24.
- Wossink, A.
 2009 *Challenging Climate Change: Competition and Cooperation among Pastoralists and Agriculturalists in Northern Mesopotamia (c.3000-1600 BC)*. Leiden: Sidestone Press.
- Wright, H., E. Rupley, J. Ur, J. Oates and E. Ganem
 2007 "Preliminary Report on the 2002 and 2003 Seasons of the Tell Brak Sustaining Area Survey," *Les Annales Archéologiques Arabes Syriennes* XLIX-L:7-20.

- York, A. M., M. E. Smith, B. W. Stanley, B. L. Stark, J. Novic, S. L. Harlan, G. L. Cowgill and C. G. Boone
 2011 "Ethnic and Class Clustering through the Ages: A Transdisciplinary Approach to Urban Neighbourhood Social Patterns," *Urban studies* 48(11):2399-2415.
- Zaccagnini, C.
 1979 *The Rural Landscape of the Land of Arraphe*, Quaderni di Geografia Storica, Rome: Istituto di Studi del Vicino Oriente.
- Zeder, M.
 1995 "The Archaeobiology of the Khabur Basin," *Canadian Society for Mesopotamian Studies Bulletin* 29:21-32.
 1998 "Environment, Economy, and Subsistence on the Threshold of Urban Emergence in Northern Mesopotamia," in M. Fortin and O. Aurenche, eds., *Espace naturel, espace habite en Syrie du Nord (10e-2e millenaires av. J.-C.)/Natural Space, inhabited Space in Northern Syria (10th-2nd millennium B.C.)*, Lyon: Maison de l'Orient et de la Mediterranee Jean Pouilloux., 55-67.
- Zettler, R.
 1987 "Sealings as Artifacts of Institutional Administration in Ancient Mesopotamia," *Journal of Cuneiform Studies* 39(2):197-240.
 1997a "Introduction," in R. Zettler, ed., *Subsistence and Settlement in a Marginal Environment: Tell es-Sweyhat, 1989-1995 Preliminary Report*. Ann Arbor: Cushing-Mallory, 1-10.
 1997b "Surface Collections and Excavations in the Lower Town and Lower Town South," in R. Zettler, ed., *Subsistence and Settlement in a Marginal Environment: Tell es-Sweyhat, 1989-1995 Preliminary Report*. Ann Arbor: Cushing-Mallory. 35-72.
 2003 "Reconstructing the World of Ancient Mesopotamia: Divided Beginnings and Holistic History," *Journal of the Economic and Social History of the Orient*, 46(1): 3-45.

Curriculum Vitae
Caitlin J. Chaves Yates

23 Colonial Ave
Lancaster, NY 14086

Tel: (716)984-8935
Email: Caitlin.Chaves@gmail.com

Areas of Interest: Near Eastern Archaeology, Early Bronze Age, urbanization and early state formation, landscape archaeology, Syrian archaeology and Cultural Heritage Management.

Education:

2006-present: Boston University
Advanced to Candidacy, Fall 2008
Ph.D. in Archaeology, Expected Graduation 2013
2002-2006: Cornell University
B.A. awarded May 2006, GPA: 3.6
Majors: Archaeology and Near Eastern Studies
1998-2002: Lancaster Central High School: Lancaster, New York

Awards:

2013: ASOR Student Travel Grant
2012: GSO Travel Grant for travel to ASOR conference
2012: Graduate Research Abroad Fellowship
2009-10: The Alan Flaherty and Patti Myers Scholarship
2008-09: Department of Archaeology Continuing Student Scholarship
2008: Department of Archaeology Teaching Fellowship
2006: Graduated Cum Laude in Archaeology
2005: Dean's List
2003: Dean's List, Hirsch Grant for Archaeological Fieldwork

Memberships:

2007-present: American Schools of Oriental Research
2006-2010: BU Archaeology Department Public Outreach Committee
2009: Vice President of BU Archaeology Department Graduate Students
2006-2008: Chair of BU Archaeology Department Graduate Student Open Forum Committee
2005-present: Archaeological Institute of America
2000-2002: National Honor Society

Field and Academic Experience:

- Summer 2010 IIMAS Outer City Project at Excavations at Tell Mozan, Syria
Supervisors: Dr. G. Buccellati, UCLA and Dr. M. Kelly-Buccellati
- Summer 2009 IIMAS Trench supervisor at Excavations at Tell Mozan, Syria
Supervisors: Dr. G. Buccellati, UCLA and Dr. M. Kelly-Buccellati
- Summer 2008 IIMAS Excavations at Tell Mozan, Syria
Supervisors: Dr. G. Buccellati, UCLA and Dr. M. Kelly-Buccellati
- Summer 2007 IIMAS Excavations at Tell Mozan, Syria
Supervisors: Dr. G. Buccellati, UCLA and Dr. M. Kelly-Buccellati
- Excavations at el-Hemmeh, Jordan
Supervisor: Dr. C. Makarewicz, Harvard University
- Spring 2006 Research on Sumerian Messenger Texts (NES 373)
Supervisor: Dr. D.I. Owen
- 2005, 2006: Buffalo Museum of Science Excavations in Byron, NY
Supervisor: Dr. R. Laub
- Spring 2005: Semester Abroad at the Institute of Archaeology, University College
London
- 2003: Cornell University Field School in Los Naranjos, Honduras
Supervisor: Dr. J.S. Henderson

Work Experience:

- 2011-Present: Research assistant for UCLA Transdisciplinary Seed Grant Forum project
on the Urkesh Eco-Archaeological Park.
- 2010-Present: Data Synthesis and processing for the Urkesh Global Record, supported
by the Mellon Foundation.
- 2008-2009: Administrative Assistant at Center for Archaeological Studies, Boston
University
Staff assistant at International Center for East Asian Archaeology and
Cultural History (ICEAACH), Boston University

Volunteer Experience:

- 2011-Present: Teaching assistant at the Lancaster Evening Alternative Program (LEAP),
Lancaster Central High School, Lancaster, NY.

Language Skills:

- Moderate speaking knowledge of Spanish
Moderate reading knowledge of Sumerian, Akkadian, German and French
Advanced reading knowledge of Spanish