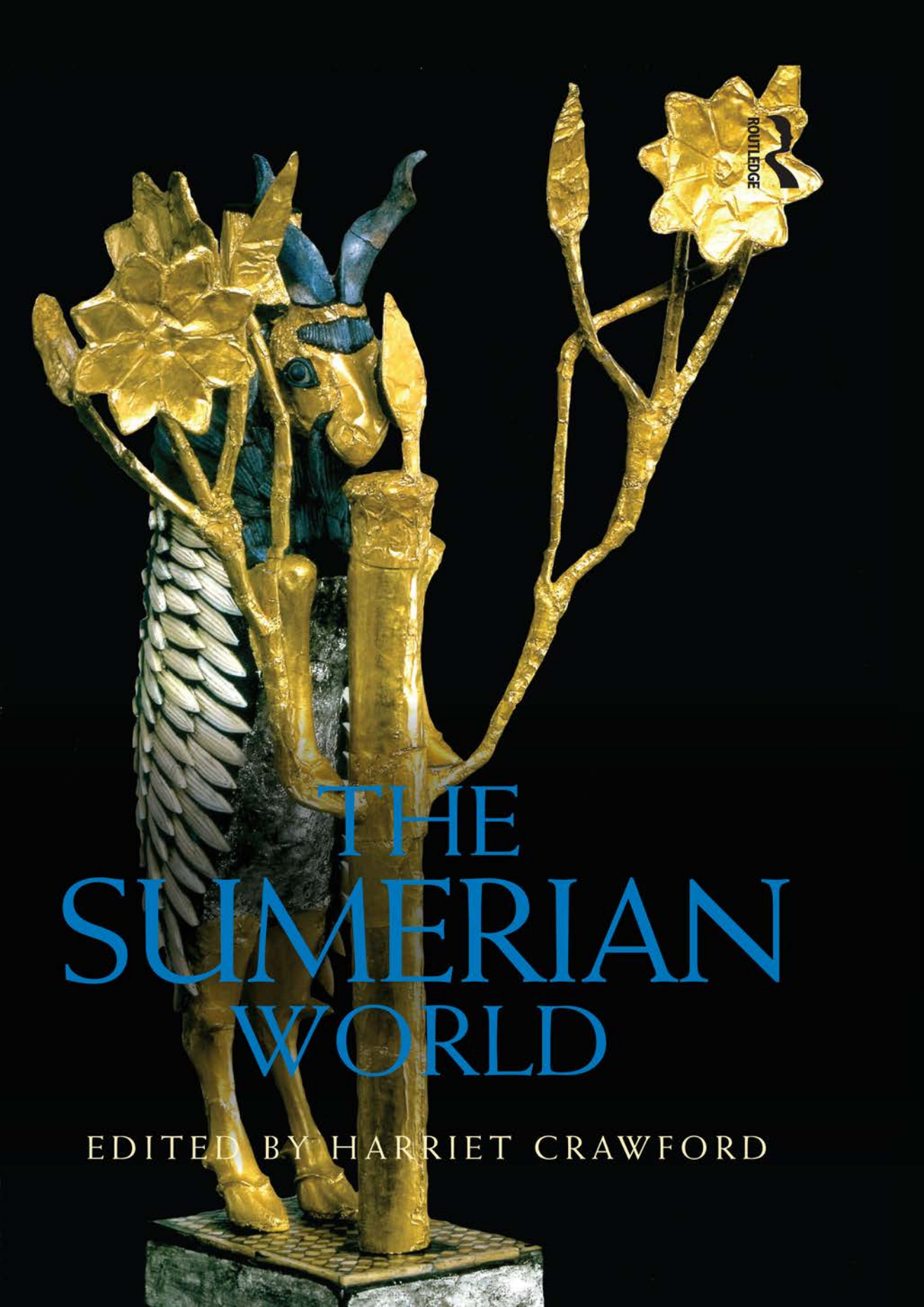

THE SUMERIAN WORLD

EDITED BY HARRIET CRAWFORD

ROUTLEDGE

THE SUMERIAN WORLD

The Sumerian World explores the archaeology, history and art of southern Mesopotamia and its relationships with its neighbours from *c.*3000 to 2000BC. Including material hitherto unpublished from recent excavations, the articles are organised thematically using evidence from archaeology, texts and the natural sciences. This broad treatment will also make the volume of interest to students looking for comparative data in allied subjects such as ancient literature and early religions.

Providing an authoritative, comprehensive and up-to-date overview of the Sumerian period written by some of the best-qualified scholars in the field, *The Sumerian World* will satisfy students, researchers, academics and the knowledgeable layperson wishing to understand the world of southern Mesopotamia in the third millennium.

Harriet Crawford is Reader Emerita at UCL's Institute of Archaeology and a senior fellow at the McDonald Institute, Cambridge. She is a specialist in the archaeology of the Sumerians and has worked widely in Iraq and the Gulf. She is the author of *Sumer and the Sumerians* (second edition, 2004).

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THE SUMERIAN WORLD

Edited by

Harriet Crawford

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CHRONOLOGICAL FRAMEWORK FOR FOURTH MILLENNIUM SOUTHERN MESOPOTAMIA

Table 0.1

Date BC	*Southern Mesopotamia*	*Uruk (Eanna)*	*'Late Chalcolithic'*
3000		IVA	
	Late Uruk	Eanna	LC 5
		IVB–V	
			Late
		Eanna	
		VI	
3400	Late Middle Uruk	Eanna	LC 4
		VII	
3600		↑	
	Early Middle Uruk	Eanna IX–VIII	LC 3
		|	
3800		Eanna XI–X	
		↓	Late
	Early Uruk	Eanna XII	
			LC 2
4000			
			Early
4200		Eanna XVI–XIV	
	Ubaid transitional		LC 1
	Ubaid 4?		
*c.*3150/3100–2900	Jamdat Nasr Period		

Source: After Rothman 2001: 7.

HISTORICAL PHASES AND KINGS OF THE THIRD MILLENNIUM BC

Table 0.2

Dates BC (all dates are approximate)	*Historical phase including kings (if known)*			
3150/3100–2900	Jamdat Nasr Period ('Uruk III')			
2900–2600	Early Dynastic I–II			
2600–2500	Early Dynastic IIIa			
2500–2350	Early Dynastic IIIb			
	Early Dynastic rulers in selection			
	Ur I	*Lagaš I*	*Proposed Synchronisms*	*ED IIIa/IIIb?*
	Meskalamdug 'king of Kiš'	Ur-Nanše	Ur-Nanše and Akurgal = Meskalamdug and Akalamdug	ED IIIb begins either with Ur-Nanše of Lagaš or with Mesanepada of Ur and Eannatum of Lagaš
	Akalamdug 'king of Ur' (Meskalamdug's son?)	Akurgal		
		Eannatum		
		Enannatum I	Mesanepada of Ur = Eannatum of Lagaš	
	Mesanepada 'king of Ur', son of Meskalamdug	Enmetena		
		Enannatum II		
	Aanepada, 'king of Ur' son of Mesanepada	Enentarzid		
		Lugalanda		

Table 0.2 (continued)

	Meskiagnun	UruKAgina/
	'king of Ur'	IriKAgina
	Elili 'king of Ur'	
2350–2200	Dynasty of Akkad / (Old) Akkadian Period	
	Sargon	2334–2279
	Rīmuš	2278–2270
	Maništušu	2269–225
	Narām-Sîn	2254–2218
	Šar-kali-šarrī	2217–2193
	Igigi	
	Naniyum	2192–2190
	Imi	
	Elulu	
	Dudu	2189–2169
	Šu-Turul	2168–2154
	(after Brinkman 1977)	
2200–2112	Second Dynasty of Lagaš	
	Gudea of Lagaš (contemporary with **Ur-Namma**?)	
2112–2004	Third Dynasty of Ur / Ur III Period	
	Ur-Namma	2112–2094
	Šulgi	2095–2046
	Amar-Suen	2045–2037
	Šu-Sîn	2036–2028
	Ibbi-Sîn	2027–2004
	(after Brinkman 1977)	

Note: Royal names in bold script are mentioned in the Sumerian Kinglist.

INTRODUCTION

Harriet Crawford

The heartland of the Sumerian world lay in what is today southern Iraq, an area of parched but potentially fertile silt and marshland which lies between two great rivers, the Euphrates and the Tigris. Its first inhabitants were a group of people who seem to have been of mixed origins and who were probably attracted to the region by the rich reserves of game and fish, but we cannot tell what languages they spoke or where they came from as they have left few archaeological traces and no written records. By the end of the fourth millennium, when we have written records which can be read with a degree of confidence, some of these people were writing in the Sumerian language.

The initial settlers were constantly augmented by incomers, some of whom apparently spoke Semitic dialects, the ancestors of modern Arabic. It is inaccurate to describe this world as purely Sumerian. It is more accurate to say, as Cooper has recently done (Cooper 2010: 333), that we should think of southern Mesopotamia in the third millennium, the period which concerns us, as a region 'where Sumerian and Semitic speakers together formed a remarkably unified culture'. Because of this, the phrase 'Sumerian world' is used here as shorthand to describe the culture which was developed in this region inhabited by a linguistically diverse group of people.

The region is a harsh one with a limited range of natural resources beyond the reeds and wildlife in the southern marshes (but see Pournelle this volume), little rainfall, and scorching summer heat. In spite of these conditions, the Sumerian plain saw major achievements in almost every area of life from technology to social organisation and Algaze (this volume) discusses some of these major innovations at the end of prehistory. Arguably, the greatest of these was the invention of a writing system which when fully developed was flexible enough to represent simple commercial transactions, historical data and abstract thought. The script used small wedge-shaped signs, often impressed onto clay tablets, to record a wide variety of languages and became the Sumerian world's most important export. (For example, diplomatic tablets found in Egypt during the Amarna period, more than one thousand years later, are written in this 'cuneiform' script). A complex mathematical system, using a base six as well as a base ten, was also developed and traces of this can still be found today; for instance, in the number of degrees in a circle. Both script and mathematical systems were used by what became the first civil service, staffed by professional scribes (see Taylor this volume). Almost equally important was the development of a complex irrigation system using

gravity feed, weirs, dams and lifting devices to bring fertility to the area and to hold back the floods (see Wilkinson this volume).

The social organisation of the Sumerian world also saw important innovations as it moved from a society characterised by farmers and mobile herders living in small communities, to complex urban ones which, although still agriculturally based, required more sophisticated systems of governance than that provided by the heads of the families who lived in the smaller settlements (Algaze this volume). These new towns and cities saw the first formal systems of government led initially by a figure usually referred to today as the priest king (see Brisch this volume). He seems to have had military, administrative and religious duties. The priest king was succeeded by dynastic rulers whose power was to some extent balanced by that of the priesthood, and perhaps of an assembly of citizens (Ridley 2000; Van De Mieroop this volume). The societies over which they ruled became increasingly specialised and hierarchical with the emergence of highly skilled professionals who included merchants, potters, metalworkers, weavers and many others, as well as the increasingly ubiquitous scribes (Wright and Taylor this volume).

The bulk of the population was still engaged in agriculture and in these communities the basic unit of settled society continued to be the extended family (see Widell this volume). Nomadic and semi-nomadic groups supplied additional animal products to the settled population. It is difficult to find traces of these animal herders in the archaeological record and it is only with the rich textual evidence from Mari in the early second millennium that we begin to learn about them in any detail (Edzard 1981).

The new cities of south Mesopotamia began to compete amongst themselves for political primacy, a situation which is reflected in the Sumerian King list (Jacobsen 1939; Michalowski 1983 for contrasting views) and for control of vital but scarce resources such as water and irrigable land (Cooper 1983). By *c.*2300 BC the Semitic kings of Akkad, a city whose exact location is still unknown, conquered the old Sumerian cities of the south and united them into a single rather fractious kingdom, the first in the region. Naram-Sin, the fourth king of the dynasty, declared himself the god of his city, thus uniting what might simplistically be called secular and religious powers in his own person. The dynasty was brought to an end by invasions from the east and it was only *c.*2100 BC that the dynasty of Ur, known as Ur III, was once again able to unite the south and to conquer territory outside Mesopotamia as well. This 'empire' was of short duration, lasting little more than a century. A process of political fusion and fission seems to be typical of the region throughout much of the third millennium and into the first quarter of the second (Brisch this volume).

The cities of the Sumerian plain were complex organisms whose internal workings are still not fully understood (Van De Mieroop 1997). It seems likely that by the end of the millennium the different neighbourhoods within the city walls were inhabited by people who shared a trade and were probably in many cases members of an extended family (Stone this volume). Some administrative and legal duties seem to have been devolved to local governing councils which were probably made up of the heads of the main families, while other matters could be referred up to the king as supreme judge.

One of the most important professions in these early cities was that of priest. The priests and the ruler were charged with the vital task of ensuring that the complicated pantheon of gods remained well disposed towards the city (Westenholz this volume).

The ruler was seen as perhaps the most important conduit through which the gods made their wishes known and he then had to implement their commands with the help of the priests. Failure to do so in the appropriate way led to tragedy and devastation such as that seen at the end of the Agade period.

The trades represented within the cities included those which relied on local raw materials such as the potters and the weavers and the latter also produced textiles of various qualities for export. Others such as the metalworkers used imported raw materials, and the more valuable the materials, the tighter was the control exercised by one of the two great public institutions generally referred to as the palace and the temple. By the end of the third millennium, there is some evidence for the emergence of private enterprise as well; merchants, for example, seem to have worked both on behalf of the temple and for themselves (Crawford this volume). In spite of our lack of information in some areas, it is obvious that the cities of the late third millennium were among the most sophisticated and prosperous in their world and that they marked a remarkable development from the small settlements of the earlier Ubaid.

The adjective 'Sumerian' is used in three different ways: to describe a language, a culture, and a people, but these terms are not coterminous. The language is the easiest to define, but it too probably came in part from the amalgamation of earlier languages (see below) and was written and probably spoken by people of different ethnic backgrounds. For example, texts written in Sumerian and dating from the middle of the third millennium were signed by scribes with Akkadian names, suggesting that they were Semites rather than Sumerians (Biggs 1967).

The Sumerian language has a number of very specific characteristics which distinguish it from any other known language ancient or modern (Cunningham this volume). It also has a number of loan words which provide some of the strongest evidence we have for the varied origins of the inhabitants of south Mesopotamia (Black 2007: 6, 12; for a classic exposition cf. Oppenheim 1964: chapter 1).These words appear in the earliest texts which we can decipher with any certainty and date to the late Uruk period, that is to say, to the last quarter of the fourth millennium (Rubio 1999: 2). It has also been suggested that the decimal system found in some of these very early texts is a pre-Sumerian substrate survival. Some profession names are also generally thought to be pre-Sumerian, while the undoubtedly Sumerian ones tend to be for more sophisticated urban-based professions such as that of scribe, perhaps suggesting that society was not very well developed before the Sumerians immigrated to the area. Attempts have been made by some scholars to identify one or possibly two pre-Sumerian languages but their findings have been challenged in more recent times (Rubio 1999: 3ff.). Some non-Sumerian place names may also be evidence for pre-Sumerian inhabitants and it is clear that words associated with imported technologies such as wine-making were brought in with the technology and suggest a patchwork of languages and dialects throughout the greater region.

The question of when the Sumerian element of the population arrived in southern Iraq has been much debated. Arguments have been made for their presence from the time of the earliest inhabitants, based on the perceived continuity in the pottery styles and of monumental architecture. Others would date their arrival to the beginning of the fourth millennium in the early Uruk phase, or even to the beginning of the third. There is no clear evidence from either the archaeological or the textual record in the period of fourteen or so centuries from the late Uruk period to the advent of the first

Amorites rulers in the early second millennium to indicate the arrival of a large group of incomers who might be the Sumerians. This negative evidence suggests that they were already well established in the southern plain by the late Uruk period. However, once the previously assumed link between specific groups of people, on one hand, and material culture, on the other, is broken, as it is by most scholars today, the question of the arrival of the Sumerians becomes less significant because the culture concerned no longer has to be equated with the arrival of a single group.

The second use of the word 'Sumerian' is to describe a culture, that is to say, the sum total of the evidence from texts and archaeology for a way of life, its beliefs and customs. The Sumerian culture is still only partially known because the evidence we have is incomplete, mediated by the twin accidents of discovery and survival. It is also strongly skewed in favour of urban settlements and public buildings (Adams 2008). Unlike the Assyrians with their magnificent stone wall reliefs and huge fortifications, the inhabitants of the south built in mudbrick, which made the retrieval of all but the thickest walls and the largest structures almost impossible when using the crude excavation techniques of the first explorers. In addition much of the material culture was made of perishable materials such as reeds and palm wood which do not survive either, leaving further gaps in our knowledge.

However, in spite of this, by the middle of the nineteenth century the great ziggurat at Ur and the sites of Uruk, Babylon and Nineveh, amongst others, had been identified, and the first inscriptions in the Sumerian language discovered, although its decipherment was to take a little longer. Excavation in the twentieth century saw far more sophisticated techniques of recovery used, intensive study of tablets and a rapid expansion in our information. As our knowledge grows, a strong case can now be made for saying that Sumerian culture was, as Cooper proposed (see above), the product of an extraordinarily productive mixing of a wide variety of different elements.

It is Sumerian culture as described above which will be explored in most of the chapters in this book. It is ironic that as our information improves many of the old certainties become blurred. The tidy groups which help us reconstruct ancient societies are now becoming fuzzy. The old oppositional categories of human and divine, palace and temple, church and state, urban and rural, nomad and settled, no longer fit our more nuanced understanding of the evidence. For example, Steinkeller (2007) sees town and country as a continuum with all land owned by temples. As boundaries between such categories are becoming unclear and our understanding of the textual and iconographic evidence improves, we hope that we are edging closer to a realistic portrait of the Sumerian world.

The most contentious use of the word 'Sumerian' is to describe a people. There may have been such a people, but there is no physical anthropological evidence to support this, no separate groups of long heads or round heads as some early anthropologists thought (Soltysiak 2006). In the future it may be possible to group skeletal remains by DNA analysis, but human bones are badly preserved in the area, and even if different DNA groups were identified, it would still be impossible to know which represented the earliest Sumerians. This use of the word will not be dealt with here.

The present volume will present some of the most recent findings as well as summaries of the existing state of our knowledge. It will also set the Sumerian world in its contemporary context and in some cases reassess the influence it had on its neighbours. It is hoped that this mixing of clearly presented old and new data will be

of use to a wide range of readers interested in ancient Mesopotamia and will also provide comparative data to experts in other cognate fields.

PART I

This book is divided into six sections each linked by a common theme the first of which is the physical, linguistic and historical background against which Sumerian culture emerged. In spite of the difficulty of working in Iraq over the last twenty years or so, much new work has been done, especially on landscape archaeology using modern remote sensing techniques. This work has made us rethink many of our assumptions on fundamental issues such as the locations of the first major settlements and the movements of the Euphrates and Tigris (see esp. Pournelle, Stone and Wilkinson this volume). Widell looks at the agriculture which was the backbone of the economy, while a chapter by Cunningham discusses the Sumerian language and one by Brisch gives an overview of the history.

PART II

This section looks at the material remains of Sumerian towns and cities in the landscape (Ur), at their internal organisation (Stone), and at some of their important institutions (Suter, McCaffrey and Westenholz). The analysis of the use of space, both at settlement scale and at the level of individual buildings, is also offering new insights (Heinz).

PART III

In this section the focus is narrowed to look at the governance of the cities and at the development of sophisticated legal and administrative systems within them. The scribes who developed these systems formed what was effectively a highly trained civil service (Van De Mieroop, Taylor). The tools of the administrators' trade are discussed by Sharlach, who looks at calendars and methods of counting, and by Pittman, who presents the evidence for the many usages of cylinder seals.

PART IV

Here the focus changes to look at everyday life through the evidence of housing (Collins), and at the role of women in the third millennium when they played an important role in public life, at odds with their position in later periods (Asher-Greve). This is followed by a chapter by al Gailani on a topic which is often overlooked, fashion. To illustrate some of the complexities the evidence for one of the region's most important industries, weaving, is presented by Wright. The end of life and the rituals associated with it are presented by Vogel and, finally, some of the myths which the people used in their attempts to make sense of their condition are presented by Foster.

PART V

Contacts between Sumer and its neighbours were of many kinds, and these are explored by Crawford. The virtual cessation of work in Iraq after 1990 has led to work

being intensified in the surrounding areas such as Syria to the north and west (Cooper, McMahon and Pinnock) and Iran (Lamberg-Karlovsky). As a result, we can now present the Sumerian world in its historical context more accurately than previously and can assess its achievements in the light of those of its neighbours. It is becoming clear that its influence in the first half of the millennium was perhaps less important than was previously thought. There are surprisingly few traces of Sumerian influence at sites such as Mari and Brak (Margueron, McMahon).

PART VI

Tenuous links also existed with countries even further away from Sumer, countries which may have seemed semi-mythical to its inhabitants. Dilmun in the Arabian Gulf was one of these, and its relations are discussed by Carter, while those of the Indus valley, which was perhaps as sophisticated as Sumer itself, is described by Thornton. The complex question of the possible relations between Egypt and Mesopotamia is explored by Stevenson.

POSTSCRIPT

It has often been suggested that the life of the Marsh Arabs of southern Iraq must resemble that of the first inhabitants of the region. There is no direct link between the past and the present, but describing the life of the traditional Marsh Arabs, and especially their technology, gives us a new perspective on the lives of their early forebears. The postscript is written by a man who has done more than anyone else to return the marshes to their original state and to allow the Sumerian homeland to be reborn (Alwash).

The Sumerians have never had the high public profile which the Egyptians enjoy and it is interesting to speculate on why this should be so. Perhaps it is connected to the durability and high visibility of such magnificent monuments as the pyramids and the Sphinx; perhaps it relates to a public fascination with mummies; perhaps it is fuelled by the lively paintings in many of the tombs. Mesopotamia has none of these things, but it has many less striking remains which paint a fascinating picture of one of the most interesting periods in the history of man, a time when innovations which would shape the future of the world can be identified for the first time. It is hoped that this book will help to restore the Sumerians to their rightful place and make their achievements more accessible to a wide range of people.

ACKNOWLEDGEMENTS

I would like to thank all my authors for allowing themselves to be bullied into writing such excellent chapters for this book and the team at Routledge, especially Matt Gibbons, Amy Davis-Poynter and Janice Baiton, for making it happen.

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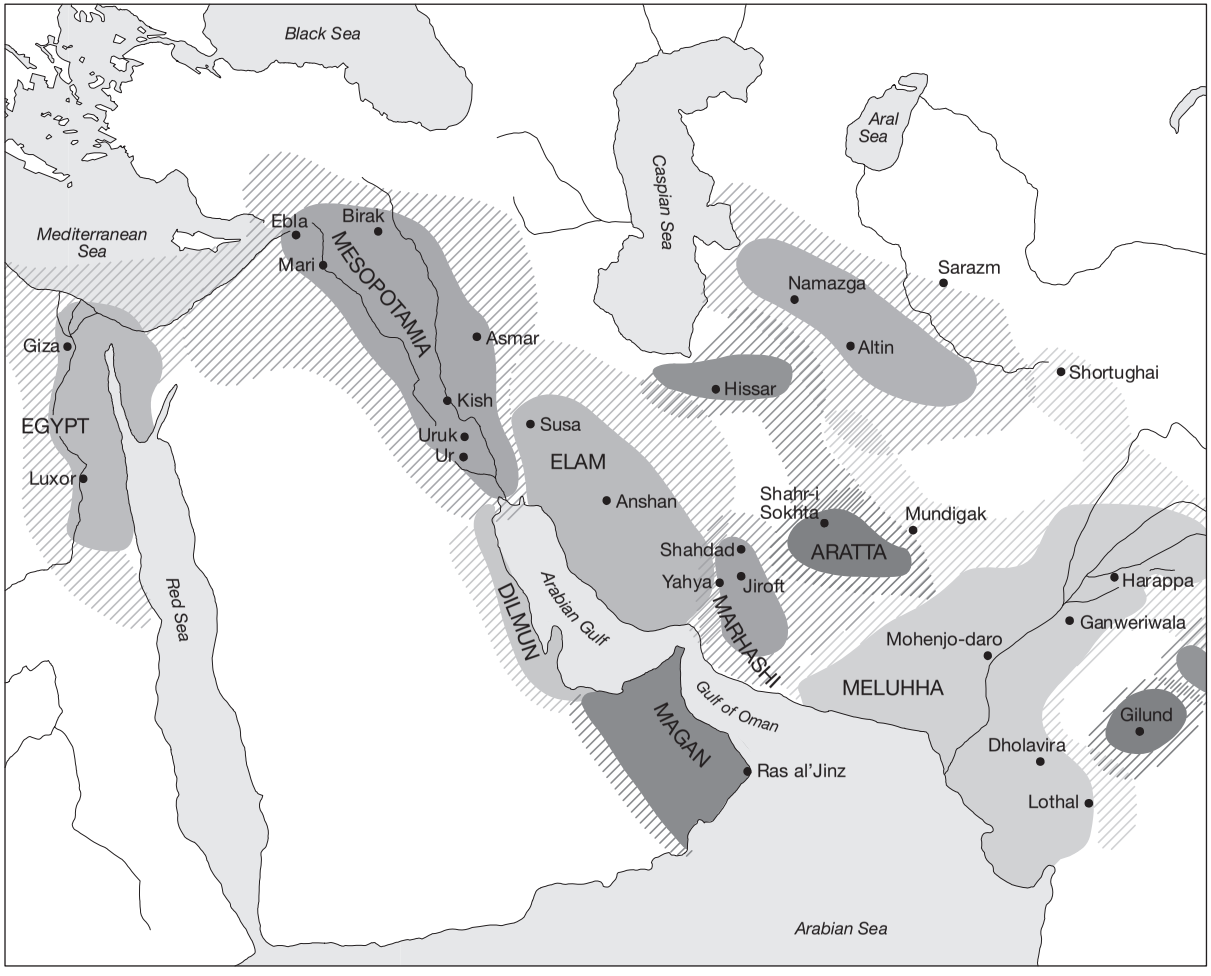

Map 0.1
The Sumerian world.
By kind permission of
the late G. Possehl.

Map 0.2 Ancient Mesopotamia. By kind permission of the Metropolitan Museum, New York.

PART I

THE BACKGROUND

CHAPTER ONE

PHYSICAL GEOGRAPHY

Jennifer R. Pournelle

Of all the natural factors that impact (or are impacted by) human activity, to fully understand the multi-millennial settlement history of ancient Sumer (and – perhaps more importantly – to understand what of that history is archaeologically visible), it is crucial to understand the dynamic interplay of water and sediments through rivers and marshes, levees and plains, lagoons and estuaries, and, finally, the sea. For without these elements, much of what came to be distinctly "Sumerian" simply would not have been.

THE LAY OF THE LAND

The physical stage on which the drama of Sumer's rise was played was set toward the end of the Pleistocene epoch. As the earth warmed, vast rivers fed by melting ice and heavy rains carved their way through the earlier sediments that had infilled the alluvial basin between the Zagros Mountains of Iran and the Arabian plateau. They dumped those sediments into the Shatt al-Arab valley, creating the floor of what is now the Arab-Persian Gulf. Throughout the early Holocene, even newer sediments then infilled those channel scours. For the most part, this re-leveled the basin floor – in some places burying the earlier surface beneath tens of meters of alluvial sands and silt; in others leaving older remnants exposed, like turtles' backs rising above the still waters of a pond. Over time, the interplay of tectonic uplift and subduction with rising and falling sea levels, rivers and floods, and windborne sand scouring its way across that silty plain shaped and re-shaped optimal zones for a variety of biological (including human) activities.

An unstable foundation

Water drainage throughout southern Iraq is controlled by a great downward flexure that results from slippage of the Arabian plate beneath the upward-thrusting Iranian Zagros Mountains. This slippage forms an unstable shelf upon which Quaternary alluvial sediments were deposited (Aqrawi, Domas, and Jassim 2006) (Figure 1.1a). The topology of this warped bedrock ultimately influences not only hydrology, but also sedimentation, marine incursion, marsh formation, and the likelihood of archaeological sites being preserved and visible at the surface.

While the *entire* Mesopotamian zone tips slightly from the northwest (at Samarra) to the southeast (at Basrah), its plane is also *twisted* northeast toward the Zagros as it is subducted below the great mass of those mountains. Between Najaf and Kut, it further twists west to east along an oblique fault zone. It then turns southeast to follow the course of the Samarra–Amara divide. Finally, near Zubair (old Basra), it assumes a uniform, north-to-south trend (Figure 1.1b).

Thus, waters of the Tigris, down-cutting as they drop onto the alluvium at Samarra, tend to flow south-southeast, always seeking the lowest ground along the base of the Zagros piedmont. Waters of the Euphrates tend to flow west to east, eventually joining those of the Tigris. Both rivers then empty into the Shatt al-Arab estuary, and continue southwards until encountering the Gulf. The combined outflows, passing southward, are slowed by the Zubair sill, behind which fresh water tends to pond, and to which tidal action extends.

A narrow exit

To the west, the alluvial shelf is defined by an abrupt rise in elevation of 10–20 meters to a Miocene limestone plateau, punctuated by small step faults that are most easily visible on the surface at Hit (Buday and Jassim 1987). During wetter periods and seasons, those faults funnel intermittent streams falling from the plateau, creating sediment fans below their nick points, as is clearly visible for the Wadi al-Khar near Hit (Figure 1.1c). The most dramatic of these fans is that of the Plio-Pleistocene Wadi Batin fluvial cone. During drier periods and seasons, windborne sand pours down from the plateau, forming dune fields that are pushed southeastward ahead of prevailing winds (Al-Dabi et al. 1997) (Figure 1.1d). In aggregate, these sediments constrain southerly flow of water, reinforcing the Euphrates' easterly trend in its search for an outlet to the Gulf (Aqrawi, Domas, and Jassim 2006).

The Mesopotamian Zone's eastern boundary is sharply demarcated by the folded uplands of the Zagros piedmont. Piedmont sediments, carried downstream during pluvial periods, have deeply buried that boundary in a series of merged alluvial fans that tend to push Tigris waters southward from their southeast-trending flow (Mashkour et al. 2004; Baeteman, Dupin, and Heyvaert 2004/2005). Thus, as the Shatt al-Arab crests the Zubair sill en route to the Gulf, it passes through a sediment-framed bottleneck, where much mixing, scouring, and re-leveling of sediment occurs during river floods and marine incursions.

Alluvial waters and the prograding delta

Understanding the deep structural effects of this twisted bedrock on hydrology and sediment deposition is fundamental to understanding the processes of the twin rivers' metamorphoses through time. From the eighth millennium BC, at their point of emergence onto the alluvium, the Tigris and Euphrates appear *always* to have had anastomosing and significantly intermingled flows. Attempts to reconstruct portions of the major fluvial systems from Samarra to Sippar (Northedge, Wilkinson, and Falkner 1989), from Sippar to Kish and Babylon (Cole and Gasche 1998), in the vicinity of Abu Salabikh (Wilkinson 1990), from Isin and Mashkan-Shapir to Ur (Stone 2002), in the vicinities of Nippur and Wasit (Hritz 2010), and from Nippur and Mashkan-

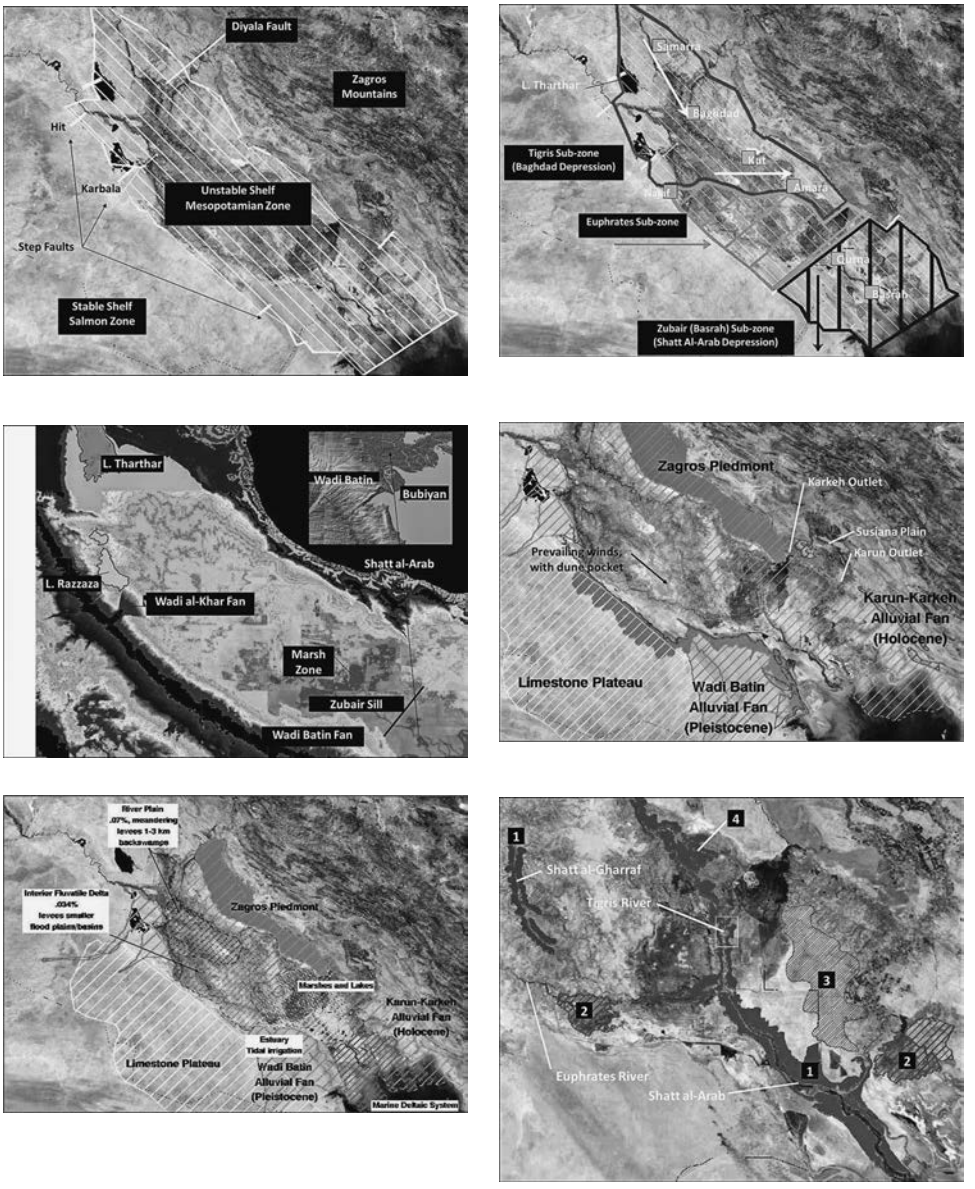

Figure 1.1 (a) The Mesopotamian Zone geosyncline (white hachure) forms where the Arabian plate is forced below the Zagros Mountains. Image: NASA 2001b MODIS. (b) Mesopotamian Zone tectonic subunits. Arrows, hachure indicate tilt direction. (c) Mesopotamian alluvial topology, showing sharp drop to the unstable shelf, and southeast trend tilted toward the Zagros from L. Tharthar to the Gulf. The Wadi al-Khar's alluvial fan tends to push Euphrates water eastward. Fresh water ponds behind, and tidal flushing extends inland to the Zubair sill (black bar). Manually retouched mosaic of NIMA DTED0 1° quadrangles, with ENVI™ 3.5 linear stretch (16:243) applied. (d) Boundary uplands. (e) The Shatt al-Arab deltaic system. After Verhoeven 1998, Sanlaville 2003. (f) Contemporary (1) Levees, (2) Crevasse splays, (3) Alluvial soils, (4) Bird's foot delta. Box: see Figure 1.2a.

Shapir to Uruk (Steinkeller 2001) do not indicate the *proportion* of the Tigris' overall contribution to alluvial settlement and irrigation before the third–second millennia BC. However, there is no evidence that *either* river established its present meandering channel beds at the latitude of Felluja and Baghdad before the early second millennium (Verhoeven 1998: 160; Heyvaert and Baeteman 2008). Even then, at least one branch of the Euphrates still flowed eastward to the Tigris (Gasche and Tanret 1998). How then should we interpret physical evidence for hints of the rivers' earlier evolution?

As the surface slope of alluvial channels levels off – either because the land itself levels, or because their channels empty into a large body of water – river beds undergo threshold changes from braided, to meandering, to straight or sinuous, with the latter in some cases assuming multi-channel, anastomosed patterns (Baker 1986: 257–259 and figs. 4–5; Schumm and Khan 1972). Thus, in Mesopotamia, braided channels are typical of the arid uplands, where the Tigris and Euphrates are deeply incised into the Syrian and Arabian plateaus. However, on dropping from those stable shelf lands into the alluvium, the slope abruptly diminishes to less than 1 percent. There, the rivers assume meandering courses through the river floodplain, within fairly stable banks (Figure 1.1e).[1] Over time, as they alternately carve through and re-deposit silts, sands, and gravels, these meanders leave fossil traces up to several kilometers wide, characterized by concentric stripes on their crests (Gasche and Tanret 1998: 5–7). Those contours can be preserved for millennia, due in part to their durable function in shaping subsequent agricultural systems, as they delineate systems of irrigation dikes and levees that both trap silt and demarcate field and crop boundaries. Down the upper Mesopotamian alluvium, such relict meandering systems are visible within the relatively narrow belts of their archaic floodplains (Pournelle 2003a).

This leaves in question whether, where, and to what extent it is possible to associate any relict channels with earlier periods. The Ur III period Tigris/Euphrates admixtures mentioned above could have existed in substantially the same beds for millennia. Conversely, subsequent sediments and channel migrations may have obliterated any (surface) remains. To assess which of these scenarios is more likely, we must first note that, on passing from the slightly tilted Tigris sub-zone to the nearly flat Euphrates subzone, the slope falls to less than 0.5 percent. There, along the transecting slip faults, the Tigris and Euphrates rivers tend to branch into multiple, sinuous distributaries with weak banks. From this point southeastward, channels leave few (if any) relict meander scrolls. Instead, connectivity among levees, avulsive splays, and deltaic mouths must be used to chart relict river systems.

Most sediments are dropped in flood deposits along river distributaries, over time building broad, weak levees. Today, the largest of such alluvial levees lines the Shatt al-Arab, where the conjoined rivers form an estuary once famed for its millions of date palms (since destroyed during the Gulf Wars) (Figure 1.1f). Because alluvial soils comprise the best-drained agricultural soils (Buringh 1960; Wirth 1962), direct association of these levees with past agricultural activity is common (Wilkinson 2003) (Figure 1.2a and b). Chains of sites situated along their tops can indicate the system date, as for those of the second millennium BC systems of the Third Dynasty of Ur analyzed by Hritz (Hritz and Pournelle in press).

Where weak levees break (or are broken by human intervention), avulsions can become the source of new or diverted main channel flows (Figure 1.2c). However, just as often, the sudden fanning drops sufficient silt that the natural levees reestablish

when floodwaters recede. Sites located at the *head* of floodsplays, where dramatic annual flooding would make permanent habitation hazardous and unlikely, can serve as a *termini post quem* for active inundation from the breach, and thus the system of which they form a part. However, sites located *within* such splays are ideally situated to take advantage of floodbasin cultivation and pasturage (Pournelle and Algaze in press) (Figure 1.2d).

Finally, as rivers abruptly slow on encountering slack water, they dump their remaining sediment loads, resulting in the multiple, bifurcating channels of a "bird's foot" delta, with newly deposited sediments becoming webs of marshland between the toes (Figure 1.3a). This can be seen at Warka (Uruk), where satellite photos reveal the city's placement not so much *on* the river as *in* it: the city's walls are clearly surrounded by a relict bird's foot delta extending into spring 1968 Euphrates floodwaters (Figure 1.3b).

Through time, this process of channel bifurcation, sediment dumping, and channel extension builds sediment lobes that infill older channels around turtlebacks (the isolated fragments of older surfaces that protrude above the floodplain) and contribute to channel-flipping (as distributaries become blocked by their own sediments). To better understand this dynamic interaction of water and sediments over time, we must consider the profound effects of sea level on the hydrological regime.

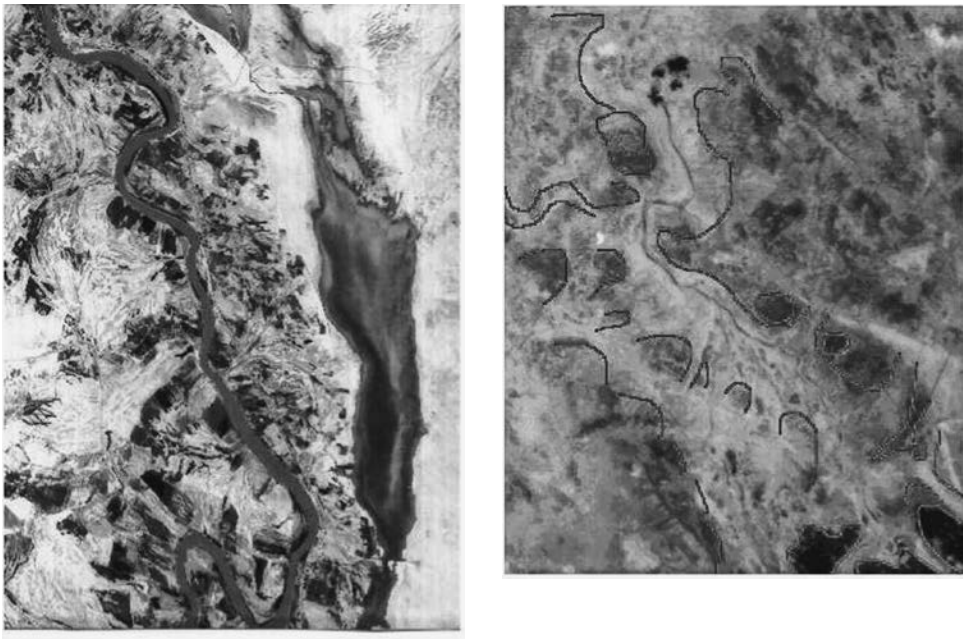

Figure 1.2 (a) Tigris south of Amara (Qalat Salih-al-Azair). The cultivated agricultural zone extends outward from the water channel along the levee system. Excess water drains through light-colored tails of smaller canal levees into seasonal back swamps visible as silty, dark grey bodies. Only two centuries ago these rice fields were year-round marshlands (Westphal-Hellbusch and Westphal 1962: 39–40). (b) Outlines demarcate relict levee between sites WS375 and WS400. Better-consolidated levee soils are less waterlogged, and hence appear lighter in color. CORONA KH4B_1103-1A-D041-055; KH4B_1103-1A-D041-058 (May 1968).

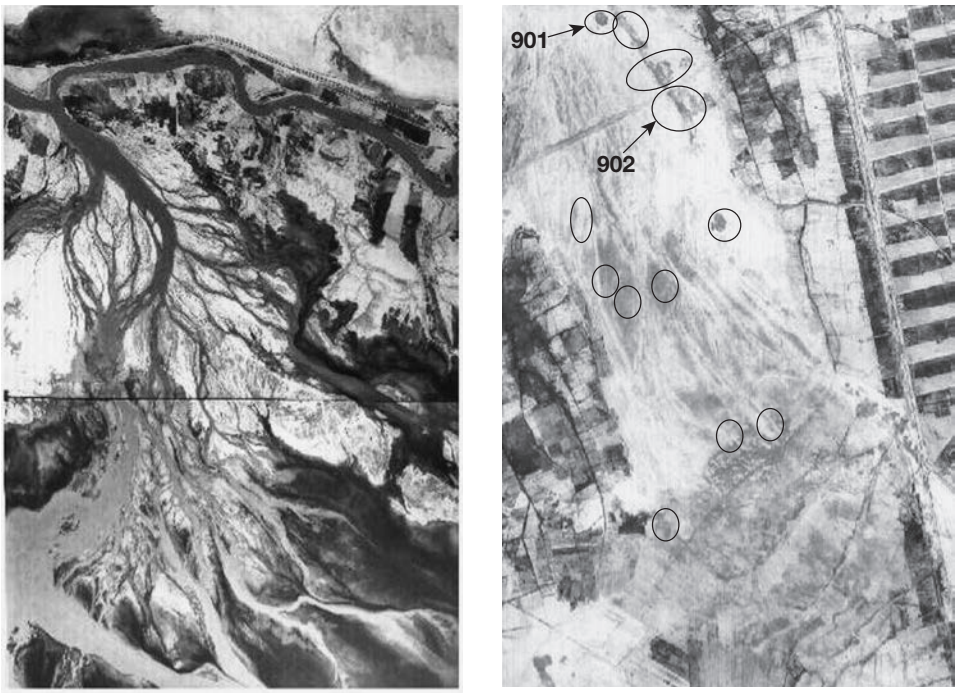

Figure 1.2 (continued) (c) The Kut barrage on the Tigris between Sheikh Sa'ad and Ali al-Gharbi drains floodwaters into Lake as Sa'adiya (Haur as Sa'adiya). The barrage maintains and augments a natural avulsion (floodsplay) (compare Buringh 1960: 181). As floodwaters recede, wetland villages (circles) stockpile fodder (reeds and grasses), and transhumant pastoralists graze livestock en route to the Zagros piedmont. (d) Flanked by modern fields, a relict avulsion south of Wilaya is cross-cut by more recent Parthian–Sassanian canals associated with sites WS901 (Tell Abu Khay) and WS902, dated to the first–second century AD (Adams 1981). Sites (circled) within the splay are unsurveyed, but Stone (2002) dates the relict Tigris watercourse that fed it to Isin-Larsa/Old Babylonian (second millennium BC).
CORONA KH4B_1103-1A-D041-050/51; KH4B_1103-1A-D041-052 (May 1968)

In describing the environmental setting wherein Sumer came to be, the significance of sea level rise is often misunderstood. Neither identifying "the" shoreline at a specific year nor deciding where sites and settlements might have been drowned is of paramount importance. In terms of human habitation and environmental exploitation, the ocean's rise and fall is most significant in its see-saw effect on the rivers' debouchment into the Gulf. When ocean levels drop, the rivers' gradients increase and their water flow speeds up, leading to upstream downcutting, and downstream sediment dumping, that rapidly builds out (progrades) the rivers' alluvial fans. When sea levels stabilize, head-to-tail slope levels off, and the rivers slow. As they do, more sediment accumulates within their floodplains, along their levees, and across their existing deltas, creating ideal conditions for formation of freshwater marshlands and brackish estuaries.

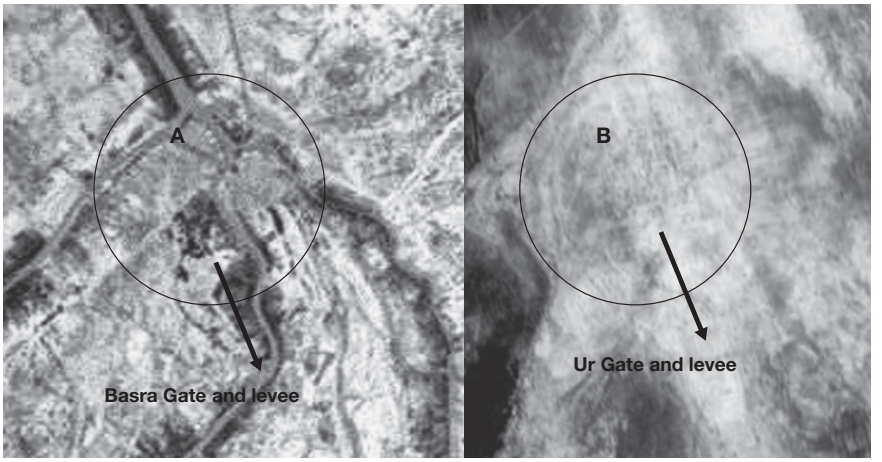

Figure 1.3 (a) Amara, straddling Tigris distributaries arrayed in a bird's foot delta extending into surrounding marshlands (Buringh 1960: 187). (b) Warka (ancient Uruk), straddling a relict bird's foot delta extending into spring Euphrates floodwaters (black). As late summer heat dries surrounding marshes and lowers the water table, lower areas and infilled drainage are marginally wetter, and therefore darker. Less permeable, higher, and drier built-up areas, levees, and consolidated canal beds appear lighter in tone. CORONA KH4B_1103-1A-D041-065 (May 1968); KH4B_1107-2170DA-139 (August 1969).

Marine incursion, backswamps, marshes, and estuaries

From the early Holocene, after rising at a (geologically) "rapid" rate of about 1.8 cm per year for two millennia, by 6150 (cal) BC the head of the Arab-Persian Gulf reached approximately its current level. For the next three centuries, throughout the 'Ubaid 0, that rate slowed. At that time, ancient marshes extended as far southeast as Tello (Girsu), and the rivers laid down sediments in the Euphrates Valley from Ur to Fao (Bird et al. 2010; Aqrawi and Evans 1994; Aqrawi 1995; Hritz, Pournelle, and Smith 2012a). For the next four centuries, as sea level rise slowed to a near halt, the delta expanded, and marshes continued to form. Following this interim stillstand, by 5450 (cal) BC, sea level rise resumed at a rate of a half-meter per century (a half-centimeter per year), and continued to do so for the next millennium.

Through the remainder of the 'Ubaid, the sea rose another 2–4 m, reaching a highstand of approximately 2.5 m above that of today. By 4550 (cal) BC, the sea had completely swamped the Euphrates Valley and the ancient marshes, and extended as far inland as Ur (Figure 1.4, Figure 1.7). Thus, at the dawn of the Uruk period, the Gulf having halted at its maximum level, the rivers began another round of marsh- and delta-building, stretching inland at least as far as the foundations of Uruk itself (Aqrawi 2001; Brückner 2003; Plaziat and Sanlaville 1991). Sea levels remained stable throughout the Uruk and Jemdat Nasr, regressed slightly at the beginning of the Early Dynastic, and then returned to their highstand. That eustatic stability over roughly two millennia had profound implications for that area called "the heartland of cities" by Robert McC. Adams in his definitive 1981 study (Adams 1981). Before Adams, the presumption that cities arose on the Mesopotamian alluvium *because of* mastery of

irrigation technologies, with concomitant increases in grain (especially barley) production. Adams envisioned a more complex urban hinterland, comprising grain agriculture, livestock husbandry, and exploitation of marshes and backswamps, all important to urban survival, but in that relative order. Nevertheless, he opposed the more certain views of those who would, for the Sumerian case, reverse those relative roles, placing a *deltaic* heartland at the Sumerian core (e.g. Oates 1960).

Mighty winds: aeolian deflation and site visibility

Whence came this enduring presumption that irrigation went hand-in-hand with Sumer's emergence? Aside from the obvious (that early cities now lie scoured by arid winds in a desert landscape), undue reliance was placed on two bodies of evidence.

The first of these was textual. Because the earliest towns and cities were pre- or proto-literate, insight into their organization and social relations was sought in cuneiform texts from much later periods. Related to this, because early excavations were primarily concerned with delineation of architecture and recovery of objects, little or no environmental evidence was observed or recorded. Thus, any discrepancy between evidence for the physical environs of early Sumer, as compared to that a millennium or more later, went unnoticed.The second was the corpus of data derived from extensive archaeological surface surveys. Seeking to understand the origins and development of civilizations in the alluvial lowlands of the Tigris, Euphrates, and their tributaries, over the course of two decades scholars conducted broad-scale regional settlement surveys that located, recorded, and dated thousands of archaeological sites. Guided by the later texts, they then attempted to associate these to relict water courses that intricately lace the region (Adams 1965, 1981; Wright 1981; Adams and Nissen 1972; Gibson 1972; Ur, this volume). Prior to these studies, it had been generally thought that heavy alluvial deposits over the lower Mesopotamian alluvium would have made it impossible to determine the origins of deeply buried cities (Nützel 1978). However, the surface surveys showed that this was not necessarily the case. In some cases, wind erosion periodically re-exposed long-buried artifacts that, when systematically collected, dated, mapped, and plotted with reference to ancient canal traces, revealed a distinct pattern of urbanization and extension of irrigation technology over a period of five millennia.[2] The surveyors thereby constructed a broad view of long-term settlement patterns and demographic change in the Mesopotamian lowlands from the beginnings of settled towns to the present day. Adams' work is especially well known for its clarification of how the natural environment of the area affected human life, what changing strategies Mesopotamian societies used throughout history to adapt to that environment, how successive Mesopotamian societies transformed that environment, and what selective environmental pressures existed in the region that favored the development of the world's earliest urban societies (Adams 1981).

Nevertheless, the results of these efforts must be interpreted with care for several reasons. Most obviously, those surveys were conducted within bounded areas. Anything outside those boundaries remains, comparatively speaking, archaeological *terra incognita.* Second, following Jacobsen's attempt to reconstruct the main watercourses of ancient southern Mesopotamia from textual sources (Jacobsen 1958), and *presuming the necessity of irrigation*, Adams undertook his survey in large part *to identify* waterways and canals, using extensive ground survey and aerial photography (Pournelle 2007). And, while in some areas he documented hundreds of deserted canals associated with

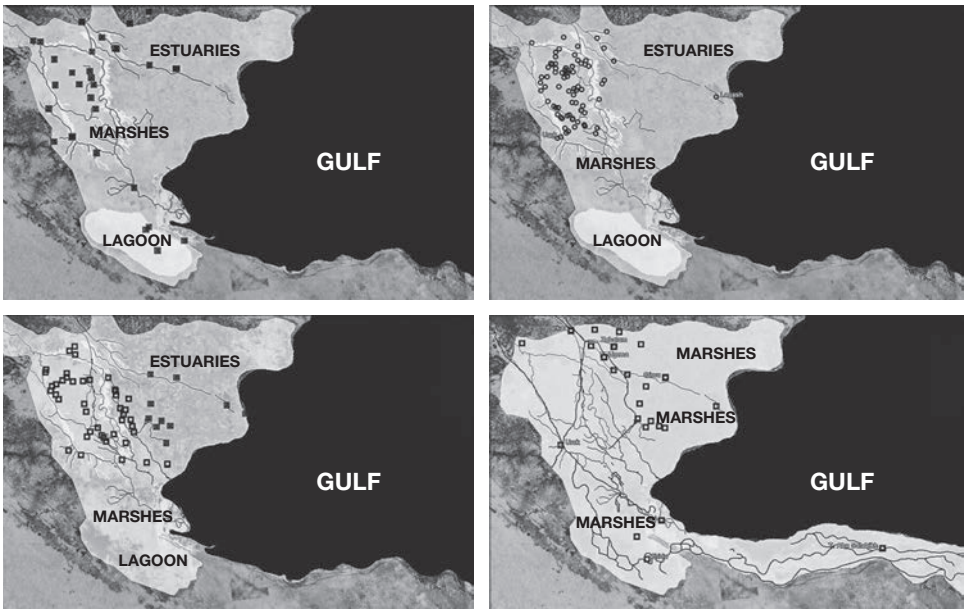

Figure 1.4 The Mesopotamian Delta, *c.*5000–3000 BC. (a) Maximum marine transgression coincides with the 'Ubaid 4–Early Uruk transition *c.*4500 BC, leading to formation of a (freshwater) inner delta in the "heartland" basin, and freshwater lagoon in the Eridu basin, transitioning to a fresh–brackish mixing zone and outer delta in the East Gharraf basin. *Visible* sites of this era are situated either on turtlebacks, or within the deeply deflated areas of the "heartland." (b) Sites newly visible as of the Middle Uruk. Sites are clustered where the rivers meet and freshwater marshes would become perennial. (c) Sites newly visible as of the Late Uruk–Jemdet Nasr. These follow the prograding delta to the southeast – up to the eastern margin of the surveyed zone. (d) Sites as of the Early Dynastic. The cluster to the northeast may indicate a new delta lobe. Any other sites to the east or southeast would fall outside of the surveyed area.

archaeological sites, he merely *hypothesized* linear connections among many others – *especially for those of earlier periods, for which no direct evidence was visible.*[3]

Finally, even within the survey boundaries, *sites were unevenly exposed.* As noted, they are apparent at all because of aeolian deflation of later river and canal levees, which formed dune fields that then scoured their way across the plain. In some cases, this destroyed archaeological sites entirely. In others, it barely scraped the top of the surface, revealing more recent material, but leaving the older foundations buried. In still others, it buried sites utterly–or, alternatively, left archaeological features pedestaled above the deflated surface, standing on columns of sediments protected from deflation by archaeological debris (Wilkinson 2003; Pournelle 2003b).

Thus, while the corpus of archaeological survey data for Mesopotamia succeeded in adding a corrective rural and non-literate dimension to the predominantly urban, literate, elite focus of previous excavations and cuneiform texts – which texts themselves have long influenced interpretation of the archaeological data – we must now consider the implications of the facts that inside the "heartland" survey zone we are left with an uneven patchwork of exposures, while outside it we know only the few major mounds plotted by Iraq's Department of Antiquities.

URBAN TRENDS

Early foundations: the ʻUbaid

During the Neolithic Ubaid 0 (6500–4900 BC), archaeologically visible early villages in the southern Mesopotamian alluvium were concentrated on river levees at locations bordering swamps and marshes. Many of these early sites continued to be occupied into the Chalcolithic Ubaid 4 (4900–4350 BC), accounting for half of the sites known in the Warka and Eridu survey areas for that period. Of the newly founded sites, all but one were situated on exposed surfaces of Pleistocene "turtlebacks" that once overlooked anastomosing distributaries subject to seasonal flooding. Innumerable smaller, scattered sites may be buried beneath the Holocene deposits. These Ubaid towns presaged an explosion of newly visible sites founded during the Early Uruk period, when virtually all identifiable turtlebacks became inhabited (Safar, Mustafa, and Lloyd 1981; Huot et al. 1981; Pournelle 2007) (Figure 1.4a, Figure 1.5).

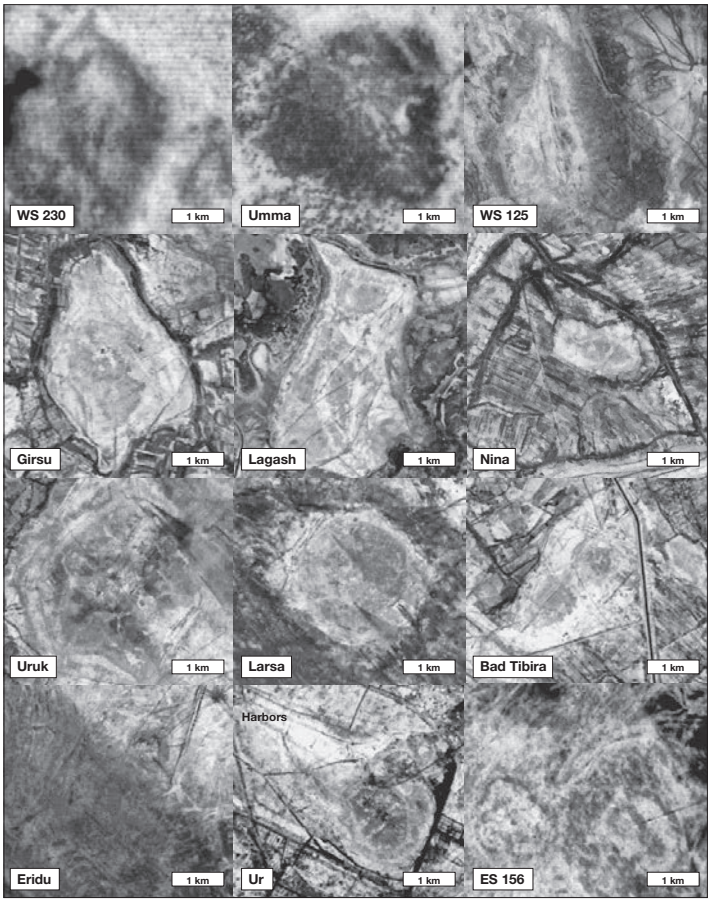

Figure 1.5 Sumerian cities founded within marshlands. Uruk straddles a bird's foot delta; Bad Tibira fronts a marsh edge. The rest surmount turtlebacks. WS 125, Umma, WS230, ES156: USGS CORONA May 1968. All others: NIMA SPOT 1991.

Urban emergence: Uruk and Jemdet Nasr

Administrative texts from the earliest protoliterate lexical lists onward indicate that, for the vast majority of the working population, the primary dietary protein source was dried fish (Adams 1969: 48; Adams 1981: 142; Englund 1998: 94).

Two relict 5 km-wide levee systems extend through the now-arid plain north of Uruk (Figure 1.2c). One runs south-southeast to a series of distributaries dissipating into relict marshland.[4] Particularly clear is a section showing relict back swamps and off takes for near-levee cultivation (Figure 1.2b). The thin, black line of the Shatt al-Khar canal is all that remains to indicate that a once-mighty watercourse – a channel the size of one of the marsh-feeding Tigris distributaries south of Amara (Figure 1.3a) – once flowed here. The second levee underlies the Tullul al-Hammar/Banrat al-Hassan canal; again, a waterway of historical date (and proportions) that could not have built the levee atop which it runs. This would appear to have been the main water supply into Uruk, conspicuous by its desiccation after Old Babylonian times, when the city fell into decline.[5] Southeast of the city, they joined into a combined outflow, passing through an estuary zone or brackish marsh en route to the sea near Ur (Aqrawi 2001).

Along this building Uruk–Ur levee system, tidal flushing would have influenced cultivation regimes as far inland as Uruk itself, encouraging date palm and levee garden crop production. This would have been accompanied by at least seasonal marsh formation over all but the highest ground of the Warka and Eridu survey areas, as the outlets of the combined Tigris and Euphrates discharge became flooded, slowing drainage. However, intensification of cattle-keeping in riparian and littoral habitats also would have steadily degraded browse and the watershed, necessitating intensified fodder gathering and production (Belsky 1999).[6]

Late Uruk (Uruk IVA) seals, sealings, and tablets excavated at Warka depict palms, frogs, livestock emerging from reed byres, and hunting scenes with pigs stalked among reeds. Many tablets show the clear imprint of the reed mats upon which they lay as they dried (Boehmer 1999: 51–56, 66–67, 71–74, 90–104). Contemporary protoliterate lexical lists include dozens of ideographs for reeds and reed products, waterfowl, fish, dried fish, fish traps, dried and processed fish flour, as well as those for cattle and dairy products, and fifty-eight terms relating to wild and domestic pigs. The slightly later "professions" lists record offices including "fisheries governor" and "fisheries accountant" that endure one and one-half millennia (Englund 1998).

Ports and harbors: Early Dynastic

Beginning with the southernmost reaches of Sumer, broadly speaking, three urban zones frame the surveyed portions of the Eridu basin below the Euphrates: the temple complex at Eridu, the excavated port city of Ur, and ES34, an Isin-Larsa-Old Babylonian city. More precisely, Wright's survey of the basin was circumscribed to the west by a remarkably well-preserved levee, topped with meander scrolls and channel bars etched in sharp relief, into one bend of which ES34 seems tucked away (Wright 1981). Clearly, this levee has a complicated history, as does the basin through which it wends. Pocketed with wadi sediments washed down from its ringing escarpment, scoured and layered with sands blown down from the Arabian shield, alternately flooded by winter rains, and parched by summer sun, the Eridu basin comprises a complicated patchwork of new sediments, old surfaces, and migrating dunes.

Southeast of ES34, beside the fragments of older sediments, lies ES156, a city that appears to have prospered during the early third millennium (Figure 1.6a). On the mound itself, surface survey turned up Jemdet Nasr–Early Dynastic material, while surrounding lands were littered with flint sickles, once presumed to have been used for grain harvesting. Yet the configuration of this city's hinterlands does not suggest anything like the regularity of plowed fields, nor communities dependent upon irrigated cultivation. Rather, the surrounding geography suggests the former marshy basin setting of Turaba–Abu Dakar in the al-Khuraib (East Tigris) marshes, with water that floods over and seeps through weak levees, slowly draining southward to eventually rejoin the fluvial system (Figure 1.6c). Closer views bolster this impression of former dendritic water channels infilled with dry sand (Figure 1.6b). At very high resolution, it suggests waterways connecting marshland towns to the clusters of houses and byres built by wetland cattle-keepers who harvest thousands of tons of reeds and rushes for mat-weaving, fodder, fuel, and construction material to meet both local need, and those of urban brokers on the marsh fringes (Figure 1.6d, e) (Salim 1962; Westphal-Hellbusch and Westphal 1962). No excavations have been conducted here, but at nearby Sakheri Sughir, *Phragmites* phytoliths have been recovered from contexts suggesting the use of this reed as livestock fodder during the Early Dynastic I period (Miller-Rosen and Weiner, 1994; Miller-Rosen 1995 and personal communication 2003, 2011).

Within the "heartland" north of Uruk, throughout the Early Dynastic, average aggregate site area increased, even as the number of settlements fell. This trend toward fewer, but bigger, settlements is explainable not only as a phenomenon of population being drawn in from immediately surrounding, drying wetlands, but as the visible part of the ongoing deltaic progradation cycle. Beyond the eastern limits of the survey area,

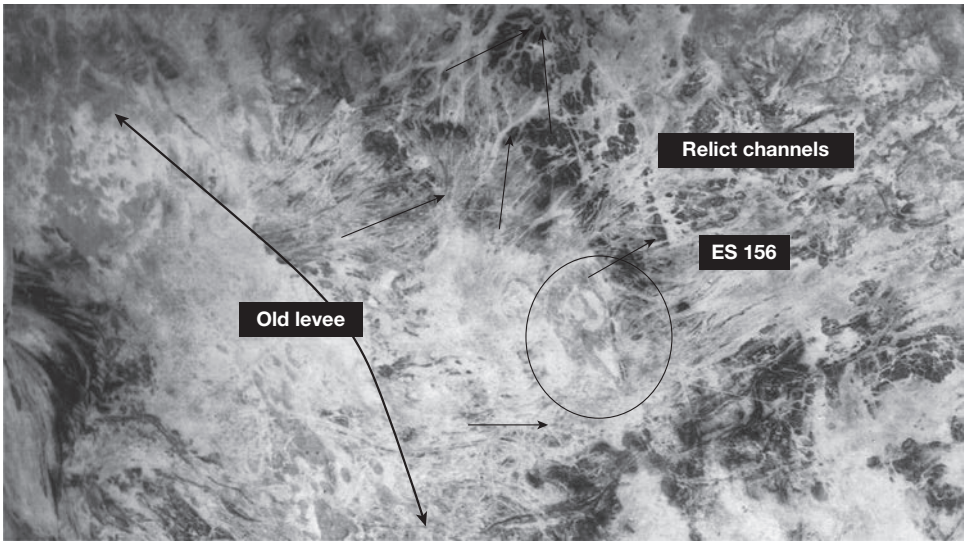

Figure 1.6 (a) Hundreds of thread-like channels, 1.5–10 meters wide, extend between ES156 and surrounding desiccated wetlands, suggesting levee cultivation combined with intensive marshland exploitation.

early sites become nearly invisible, buried beneath the unsurveyed sediments along the Shatt al-Gharraf. What few are recorded suggest that this delta-following settlement process, with concomitant consolidation of urban centers behind the advancing band of smaller settlements, continues forward (Figure 1.4d). The advancing sediment lobe was bounded by what would in Old Babylonian times become a canal, following a sweeping arc from Bad Tibira to Larsa (Steinkeller 2001). At this earlier time, it would have facilitated boat traffic passing from settlement to settlement across the edge of the marshy zone. Later, once the climate dried, the sea level dropped, and the delta protruded further into the estuary zone, waterways extending southeastward maintained connections back to the urban core. As smaller settlements shifted southeastward, out

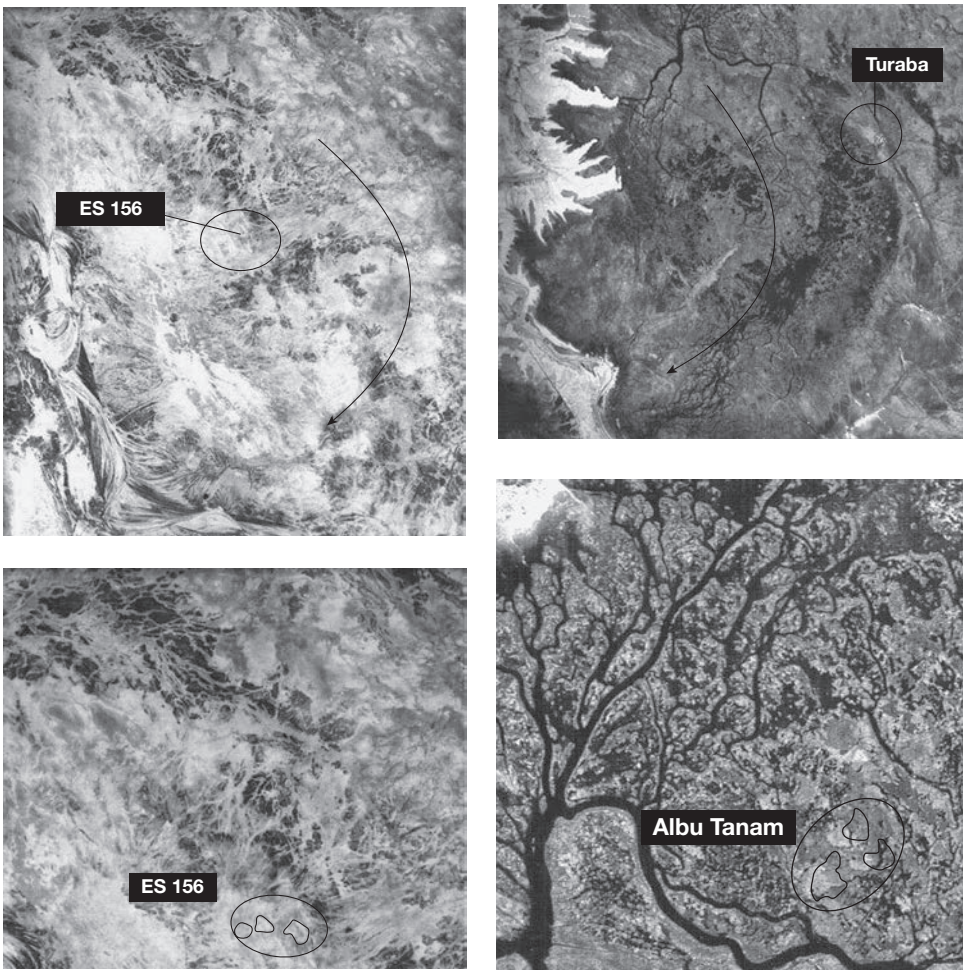

Figure 1.6 (continued) (b) ES156 in the Eridu Basin. (c) Abu Dakar in the al-Khuraib (Tigris) marshes south of Amara. Water overtops banks and leaks through weak levees, eventually rejoining the fluvial system (arrows). (d) Desiccated water channels (white) infilled with dry sand skirt EP156. (e) Dendritic water channels (black) through reed beds skirt Abu Tanam. CORONA May 1968.

of the surveyed area, following the littoral zone, the integrated centers remained behind and grew, supplied by a forward-expanding hinterland. This model is consistent with calculations that show high rates of settlement founding and abandonment in the Uruk region for the Late Uruk, Jemdet Nasr, and Early Dynastic I periods (Pollack 1999: 73, Table 3.2).

East of the Warka survey area, an ancient levee, cut by modern canals, extends into a flooded marsh. To its south, each year Tell al-Hiba – ancient Lagash – becomes a seasonal island surmounted by multiple occupation mounds. Scattered with kiln debris are small rises on the western margins of "a large, roughly semicircular area that has the appearance of a dry lake bed . . . flooded at various times in the past by the marsh, and as a result covered with a thick layer of dried mud that buried most of the artifacts" (Carter 1990: 61). A deep sounding through this rise, much disturbed by later cuts and pits, found 7 meters of Early Dynastic I trash above the (obviously high) water table (Hansen 1978: 76). Later surface survey turned up a few upcast Uruk sherds, indicating the possibility of earlier occupation (Carter 1990: 61), but the lack of significant quantities of surface material older than late fourth millennium is consistent with a mid-Holocene marine transgression that either precluded permanent habitation altogether, or confined it to relatively small areas, not subject to seasonal inundation, now deeply buried beneath subsequent debris. Even

> the extent of the Early Dynastic city is difficult to estimate. No city wall has been discovered, and a significant portion of the ancient ruins lie below the reed-covered marshlands that surround the site on three sides. The central area of the site extended west . . . but it is now covered by the marsh. One mound, now cut off from the rest of the site by water, was found to be covered with sherds of Early Dynastic date. Through most of its history, and particularly in the Early Dynastic period, Lagash, al-Hiba, had a flourishing ceramic industry. This was perhaps due to the proximity of fuel from the marshes.
>
> (Carter 1990: 62)

During the historical Early Dynastic III period (2600–2350 BC), at the height of Lagash's power, sea levels once again rose to one meter above present (Bird et al. 2010s; Sanlaville 1989, 2003; Potts 1997: 33). Scattered beach rock indicates proximity of a shoreline (Hritz, Pournelle, and Smith 2012b). Faunal remains included not only several species of mollusk shell used in jewelry manufacture, but also two of marine fish, as well as edible conches and bivalves, and six types of waterfowl including duck, flamingo, gull, coot, cormorant, and spoonbill – the latter three particularly preferring open marshes, shallow lagoons, and estuarine mud flats (Carter 1990; Kenoyer 1990: 67; Mudar 1982: 29–30, 33–34). Later third–second millennium BC (land) itineraries from Sumer to Susa run first northwest to the Diyala region, then southeast to their destination, suggesting a requirement to circumvent a marine incursion (Leemans 1960).

Among deltaic cities, Lagash – although probably well above the mean – was hardly unique in its littoral reliance. Among other finds indicating its importance as a port, cylinder sealings from the ED I Seal Impression Strata at Ur depict reed structures (Amiet 1980 [1961]: 333–344), cattle fed in and lead from reed byres (ibid.: 337, 342, 344); personages poled along fish-filled watercourses in high-prowed boats (ibid.: 300), fishing from small watercraft (ibid.: 310), and persons carrying tribute of fish and

waterfowl (ibid.: 302, 303). ED III texts found in Girsu of the *é-mi* household, headed by the wife of the ruler of the state of Lagash, detail produce from a number of dependent laborers, including fishermen. Renamed the *é-Bau* under Urukagina of Lagash, of the approximately 1,200 members of the productive household, 100 were listed as fishermen, and another 125 as oarsmen, pilots, longshoremen, and sailors (Maekawa 1974; Van De Mieroop 1987). Economic activities included fresh- and salt-water fishing, and fish and dried fish brought into the household were both deposited in the store-room and issued as purchase goods to merchants acting on behalf of the household (Postgate 1994: 114, 202).

This accumulated evidence suggests that, while palm groves, gardens, temples, kilns, and other institutions were consolidated on turtlebacks and levees away from seasonal inundation (by peoples well accustomed to thorough exploitation of wetlands), concomitant with intensified agricultural production, reed and other marsh products were also intensively harvested to underwrite urbanizing consumption. The multiple canal off-takes cutting through the relict levee abutting site ES156 clearly directed water flow into the alluvial basin adjacent to the site – but *not* into any apparent field irrigation system. Instead, the water flow seems designed to augment catchment into what is now a desiccated wetland. The surface morphology of the area is directly comparable to desiccated habitation areas on the seasonally inundated edges of massive, permanent marsh reed beds such as those of the al-Khuraib marsh south of Amara (Figure 1.6).

Separating the twins: UR III and beyond

By painstakingly reconstructing late third millennium BC travel and shipping itineraries from the city of Umma, Piotr Steinkeller has shown that a watercourse thought by textual scholars to represent "the eastern branch of the Euphrates" (Jacobsen 1960) was known at Umma as the Tigris (Idigna) – but the major channels of the twin rivers still flowed so closely together that direct interconnection was maintained, possibly just south of Mashkan-shapir (Steinkeller 2001).[7] At Umma itself, texts show clearly the continuing importance of marshland resources like reeds (Steinkeller 1987), fish (Englund 1990), fowl, pigs, and even trees (Heimpel 2011). They also record quotas for production of marsh-based products like reed, bitumen, boats, mats, and standardized fish baskets (de Genouillac 1920: 603–606). However, upstream, the primacy of Isin, Kish, and Babylon during the early to mid-second millennium BC demarcates progressive westward (Euphrates) and eastward (Tigris) channel succession. As the climate dried and became more seasonalized, that succession privileged the (to those cities, proximate) Euphrates as a source of irrigation water, fostering the pearls-strung-through-the-desert view handed down through later historical periods (Figure 1.7a).

CONCLUSION

A hallmark of nineteenth-century beliefs about non-urban landscapes was that marshes are inherently diseased, sodden wastelands, and that the appropriate effort of good government was to transform them into cultivated agricultural land. This emphasis on the importance of transforming "waste" marshes for "useful" agricultural endeavor was especially operative during the formative period of Mesopotamian archaeology.

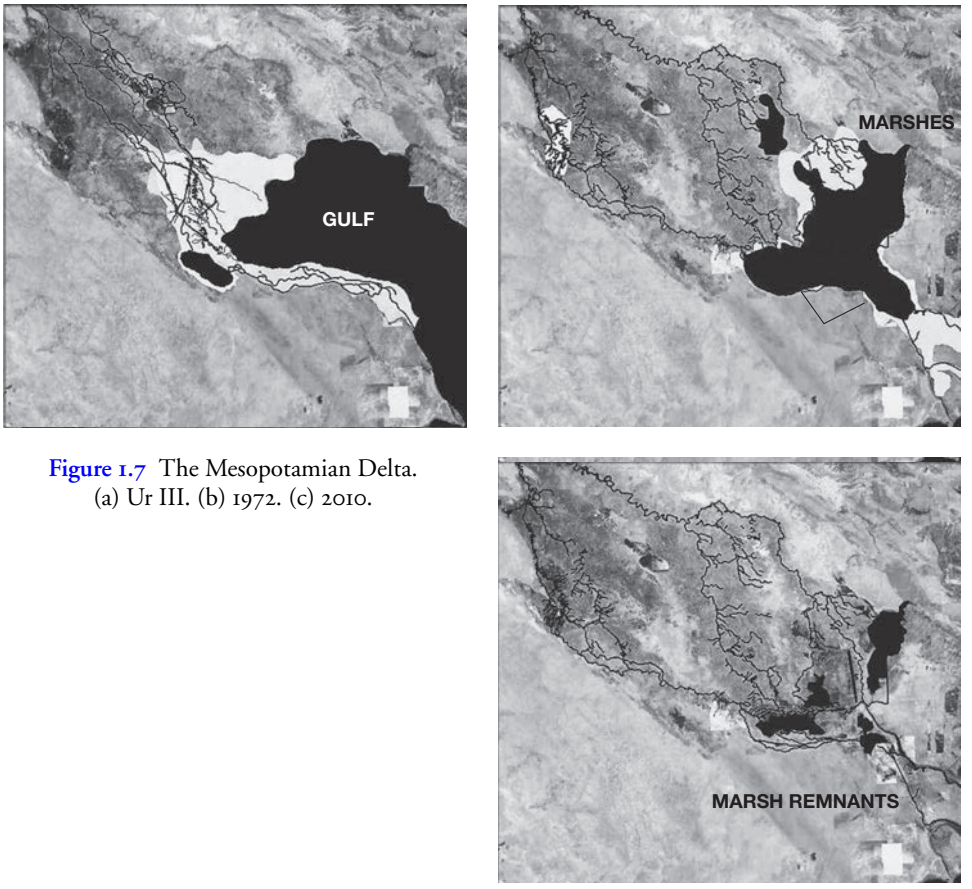

Figure 1.7 The Mesopotamian Delta. (a) Ur III. (b) 1972. (c) 2010.

Through the mid-twentieth century, it was embedded in an outlook that viewed the birth of Mesopotamian civilization as inherently tied to the drying of primordial lands, accompanied by state (or temple, or household) administration of irrigation systems and plow agriculture. In Iraq, in the closing decade of the twentieth century, that belief played a major part in the destruction of nearly 20,000 km² of wetlands that for centuries prior had directly sustained between a quarter- and half-million people (and indirectly many times that number) – in exchange for a few poor years of agricultural output, now abandoned (IMOS 2006; Chen et al. 2010; Garstecki and Amr 2011) (Figure 1.7b and c).

However, as we see in this brief review, we cannot extrapolate the origins of Sumerian urban centers from an irrigated version of the modern desert landscape. Marshy deposits underlay or surrounded the earliest occupation layers of all early urban sites. Those cities are better imagined as islands embedded in a marshy plain, situated on the borders and in the heart of vast deltaic marshlands (Figure 1.5). Their waterways served less as irrigation canals than as transport routes. The essential nature of those wetlands in supporting and shaping the complex social institutions that underlay urbanization in southern Mesopotamia is evident from the earliest protoliterate accounts. For example, the predominance of reeds, reed bundles, and reed structures

points to their significance to early Sumerian economies. Indeed, it may well yet be shown that reeds themselves had lasting importance, not only as a commodity per se, but also in the ways the demands of their production structured urban-centered labor control over their marshland hinterlands.

Thus, the image of urban beads strung along life-giving filaments of rivers and irrigation canals came later. The millennial-scale stability of the earliest centers was contingent upon the vicissitudes of human interaction with natural processes of deltaic progradation. The inner delta in which those cities first formed and grew moved on southeastward, following the drop in sea level (Figure 1.4). Collectively, urban residents had few choices. They could find new settlements, further afield, to extract wetland resources; they could invest in ever-more-extensive irrigation systems, in order to emulate that inate wetland productivity; or they could simply move on. It is a set of choices, and a set of processes, that endures to the present day.

NOTES

1 See Verhoeven 1998: 175 (fig. 3) on the interaction of sediment load with stream power, flow velocity, and gradient to determine channel pattern and stability.

2 Discussed in detail in Wilkinson, 2003, Chapter 5. See especially Figure 5.7.

3 Adams' original periodized maps must, therefore, be used with caution and detailed attention to the accompanying text. It is not always clear which lines are hypothetical, which observed on air photos, which observed on the ground and presumed associated with nearby sites, and which actually tested for association.

4 WS: Warka Survey (Adams and Nissen 1972); NS: Nippur Survey (Adams 1981); ES: Eridu Survey (Wright 1981).

5 Crucial to its dating is determining if and when it supplied water to the "northeast–southwest canal" through the city (Finkbeiner 1991: table 19), or to Uruk-period brick canals excavated in the Eanna precinct (Hemker 1993 I: 39–42; II: 138–146). That it is of at least second millennium BC date is suggested by Ur III itineraries linking Uruk to Shurrupak (Steinkeller 2001).

6 The riparian regime appears to have been relatively stable until at least the late third millennium BC, when the Euphrates bed appears to have flipped into the channel skirting the Eridu depression (Figure 1.4d). This channel, as well as the immense overburden of the Ur levee, could well obscure older sites.

7 Stone (2002) critiques details of Steinkeller (2001), but agrees that the "Eastern Euphrates" attested in third millennium BC texts was in fact a Tigris distributary.

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CHAPTER TWO

HYDRAULIC LANDSCAPES AND IRRIGATION SYSTEMS OF SUMER

Tony J. Wilkinson

It is often implied that Sumer derived much of its economic strength from irrigation, but in reality water provided an even more fundamental context for everyday life. This is because water manifested itself in many ways: not only as a supplier of essential drinking water for humans and their flocks, but also in the form of marshes and wetlands, as irrigation water, and as rivers and channels for bulk transport. The Tigris and Euphrates rivers not only nurtured major economic resources in the form of fish, reeds, and other wetland products, but were also regarded as sacred rivers (Wood 2005). Consequently, rather than simply discussing irrigation, this chapter tackles the overall 'hydraulic landscape'.

Some cuneiform texts emphasise the role of water as the provider of abundance (Winter 2007: 136). For example, a 'hymn' of the Ur III or Old Babylonian periods (referred to as Ur-Nammu D) describes the king as having been provided with broad wisdoms by Enki, digging a 'canal of abundance' in his home city of Ur, which then produced plentiful fish, birds, and plants, as well as watering large tracts of arable land where barley 'sprouts like reed thickets' (Winter, 2007: 136; Flückiger-Hawker 1999: D21–22, 33–36). By the late third millennium BC, much of the available water of southern Mesopotamia was used for the irrigation of grain crops and the province of Lagash became a major centre of grain production, much of which was delivered to redistribution centres in the form of bala tax (Rost 2010: 8). In terms of landscape development, this is difficult to imagine because in the mid-twentieth century AD the city mound of al-Hiba/Lagash was surrounded by marshes (Cotha Consulting 1959a: maps).

Ultimately, the maximum amount of land that could be irrigated in Mesopotamia was limited by the overall discharge of water in the Euphrates and Tigris rivers, specifically during the period of low flow during the autumn and early winter. Although estimates of the total area of potential cultivation in the Mesopotamian lowlands range from 8,000 to 12,000 sq km (Adams 1981: 5–6), if the Euphrates alone is employed, to as high as 30,000 sq km (Ionides 1937), it is evident that the irrigated area was but a fraction of the total potential cultivable area, especially when the often large amount of fallow and wasteland is taken into account (Adams 1981; Gibson 1972).

Water has a range of practical roles or functions and in southern Mesopotamia these can be summarised as follows (Hunt 1988: 189–190):

- Irrigated agriculture
- Transportation
- Drinking water
- Waste removal
- Water for manufacturing.

These functions were serviced by a complex array of natural and artificial flows and hydraulic installations some of which are recorded in texts and in the landscape, others of which must be inferred.

SOURCE OF INFORMATION

The source material for the Sumerian hydraulic landscape is substantial, but because these sources are very uneven, they need to be interpreted with care. Consequently, it is difficult to make a realistic reconstruction of the landscape of irrigation without making a number of educated guesses or by employing ethnographic data to flesh out the record and aid interpretation. Although there are evident differences between the ancient and modern landscapes of modern Iraq, it is necessary to have a general understanding of how the contemporary communities manipulated water and how the soils were harnessed, and discussions of traditional Mesopotamian irrigation are provided by Charles (1988, 1990), Pemberton et al. (1988), Postgate (1990), Poyck (1962) and Fernea (1970).

Much basic information on irrigation terminology and labour organisation derives from cuneiform administrative, mathematical and literary texts. Particularly engaging are the mathematical texts which provide problems to be solved along the lines of: a cistern was defined as of given dimensions and depth, therefore how much land could a depth of X irrigate (Powell 1988: 162)? Of course, because these exercises were not necessarily designed to be used for real-life situations, Powell regards these simply as a 'paradigm for calculation'. Nevertheless, they provide valuable insights into the excavation of canals, the types of excavation that took place (such as 'throw-out work' and 'basket work') as well as information on features such as dams and barrages and a wide range of lists of terms used (Powell 1988: 164, 166, 169–170).

Similarly, administrative texts provide valuable information on the role of irrigation in agriculture, and especially useful is the so-called *Georgica* or 'Farmers' Instructions' (Civil 1994: 134). Unfortunately, such texts were often rather partial in the amount of information they conveyed and many were simply intended to calculate the costs of labour, earth moving and related activities. Usually the scribes of the Ur III period preferred to focus upon the amounts of earth extracted and piled up rather than on the cross-sections of the water courses themselves, because such volumes are more amenable to computation (Civil 1994: 135). Nevertheless, these mundane administrative concerns with earth moving find significant parallels in the landscape where visible features such as mounds of up-cast sediment are particularly conspicuous. Such mounds can sometimes be more conspicuous than 'negative features' dug into the ground.

Overall, there is a lack of reference to officials or offices related to water management (Rost 2010: 14) as well as a dearth of irrigation accounts or calendars. This situation contrasts with, for example, the *qanat/falaj* books that detail the allocation of irrigation water in, for example, post-medieval Oman (Wilkinson, J.C. 1977).

More subversively, administrative texts, being derived from state archives, tend to support centralised models of irrigation management such as that of Wittfogel (1957). In other words, because they only seem to refer to that part of the system that needed to be recorded for the purposes of the state, cuneiform records cannot therefore be regarded as providing a picture of the operation of the entire irrigation system (Rost 2010: 2).

Within Mesopotamia there is, unfortunately, a dearth of detailed archaeological data on the size and layout of Sumerian irrigation systems as well as for actual water control features. Nevertheless, in addition to texts, the landscape itself provides information on ancient irrigation, including the canals themselves, alignments of ancient sites along former channels, and less frequently, evidence of field systems (Wilkinson, T.J. 2003: 45–46, fig. 5.7). Techniques employed to record such traces include satellite imagery and air photographs (Hritz 2010), detailed contour maps that distinguish ancient levees (Coles and Gasche 1998), digital terrain models (Hritz and Wilkinson 2006) and auger investigations that provide cross-sections of alluvial sediments (Verhoeven 1998). In addition, a wealth of information occurs in consultants' reports, usually made for twentieth-century agricultural development projects. Charred plant remains recovered from excavated archaeological layers are particularly useful because they supply information on irrigated crops, weeds of cultivation, as well as on the relative abundance of water (Neef 1989).

Unfortunately, it is not always easy to link the above classes of information together. For example, although administrative texts might refer to a canal, it is not always easy to know which of a ganglion of canals on a satellite image might refer to the feature discussed in a particular cuneiform tablet. Whereas archaeobotanical remains can be dated by radiocarbon methods, it will not be clear where they were originally cultivated; on the other hand, canals and relict channels, although they can be accurately located within the landscape, are often difficult to date. A particularly serious problem with the evidence from field archaeology is that much Mesopotamian archaeology was conducted before palaeobotanical and landscape analysis became commonplace techniques, and because at the time of writing, it continues to be difficult to gain secure safe access to Mesopotamia, it is difficult to undertake the appropriate 'ground control'. Nevertheless, judicious use of the range of sources discussed above makes it possible to attempt plausible reconstructions of ancient irrigation systems.

PHYSICAL CONTEXT OF THE HYDRAULIC LANDSCAPE

Sumer developed within an alluvial depression sandwiched between the Zagros Mountains to the east and the western desert of Iraq to the west (Pournelle this volume). The alluvium of this sedimentary basin has been deposited by the combined waters of the Tigris and Euphrates, as well as in the form of marine deposits within the head of the Persian Gulf, which at around 4000 BC extended some 200–250 km inland of the present coastline near Fao (Ur this volume: fig. 7.1).

The southern part of the Mesopotamian plains that make up the land of Sumer have been subdivided into four broad soil zones (Buringh 1960: 121):

- The floodplain of the Tigris and Euphrates rivers where the sinuous or anastomosing rivers usually flow on low levees with levee slopes ideal for gravity flow

irrigation. They include floodbasins where water tables are higher and salinisation can be a chronic problem.
- The delta plain of the Tigris and Euphrates where the rivers are prone to branch into a network of channels. Here drainage is slow, water tables are high, many soils have a tendency to be waterlogged, and flood basins are often covered by water or marshy.
- The marsh region where the rivers are virtually lost in reed-fringed extensive shallow marshes and where groundwater is always high.
- The estuarine zone – here the tidal effect of the Gulf is felt so that rises and falls of water levels contribute to both irrigation and drainage.

The nature of the river systems

The most obvious, but profoundly deceptive, feature of the lower Mesopotamian plains is that they appear almost flat. What this means is that even minor differences of elevation can make a significant difference to the flow of water. Therefore the gradient, which can be as low as 5–10 cm per km (see Table 2.1), is sufficient for rivers to flow and to discharge that flow into the Gulf. Because the channels in the lower plain have a tendency towards straightness rather than being meandering, it is difficult to distinguish between natural and artificial channels (Adams 1981: 19; Wilkinson 2003: 82–85) – an ambiguity reflected in the cuneiform texts that do not distinguish between natural rivers and artificial, dug canals. Two features of the Tigris and Euphrates are particularly significant for the development of the hydraulic landscape: first, the rivers tend to branch thereby forming what are termed anastomosing rivers; and second, they flow on slightly raised levees up to a few metres high that result from the preferential deposition of sands and silts closer to the trunk channels, and finer clays further away (Figure 2.1). Such low sinuosity anastomosing rivers are ideal for navigation by boats and therefore for the transportation of bulk products (Algaze 2008: 50–63). Moreover, the location of channels on levee crests enabled early irrigators to avoid one of the fundamental constraints of the plain, namely, its low gradient. In other words, because the gradient down the levee slope away from the river is much greater than the longitudinal gradient along the river, it is easier to lead canals down the levee rather than dig much longer canals that follow the overall gradient of the plain (Adams 1981: 8; see below).

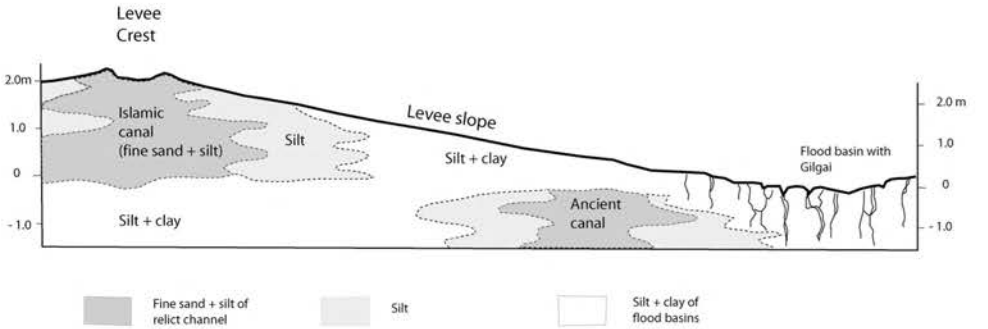

Figure 2.1 Section through levees showing the deposits of canals and ancient channels (re-drawn from Diyala report)

Some distance from the levees occur flood basins of clay-rich and usually saline soils that accumulate floodwaters from the rivers or the overflow from canals (Figure 2.2). In the long term, such depressions became marshes that together with the perennial and estuarine marshes characteristic of the head of the Gulf contributed to the overall verdant nature of the lower plains. In the vicinity of the estuaries, the slight rise and fall of the tides also provided a natural system of irrigation as well as drainage which allows soils to be leached thereby mitigating the more extreme forms of salinisation.

In addition to providing the foundation for local irrigation networks, the raised anastomosing channels provided the framework for the distinctive alignments of third millennium settlements discussed by Jacobsen, Adams and Nissen (see Ur this volume). Nevertheless, as argued by Pournelle (2007), the earlier patterns of settlement appear to have been less linear than those of the Early Dynastic and later periods because during the Ubaid the mosaic of 'turtlebacks' and wetlands were also an important locus of settlement.

Unfortunately, this verdant 'Garden of Eden' was marred by the tendency of the rivers to occasionally burst their banks and adopt new channels, a process known as avulsion. Such catastrophic events, which are a well-known feature of the Mesopotamian plains (Gibson 1973; Adams 1981; Wilkinson, T.J. 2003: 84–85; Morozova 2005), could lead to entire settlement systems being left without water, but equally could have created new channels and new opportunities for settlement. This

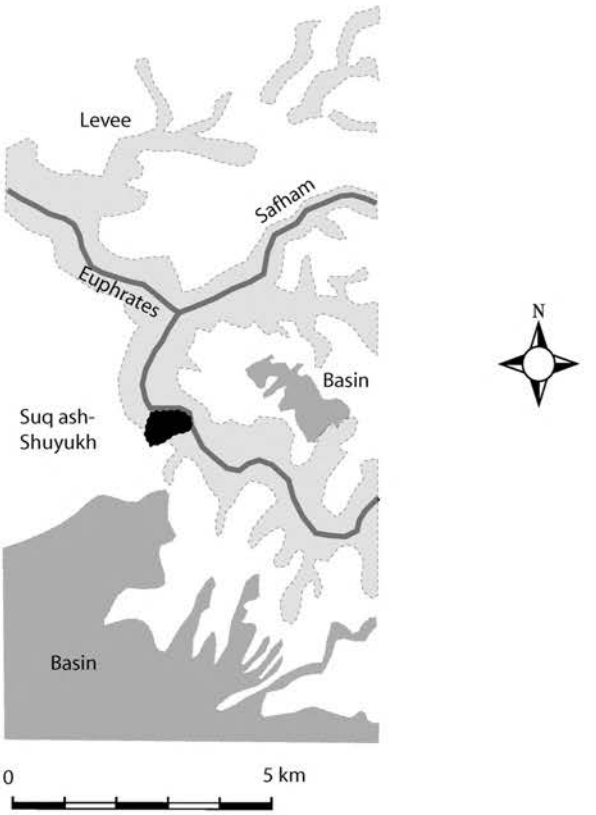

Figure 2.2
Levees and flood basins in the southern alluvium around modern Suq al-Shuyukh (re-drafted from Buringh 1960: fig. 97)

process has not escaped the attention of cuneiform scholars and Edzard, drawing on historical records that described a catastrophic shift in the bed of the Euphrates near Mussaiyib in AD 1820, has suggested that similar shifts could have dispersed those ancient populations whom the Old Babylonian kings say they returned to their settlements (Edzard 1957: 117; also Potts 1997, note 6). Also, a statement by Sin-iddinam, king of Larsa, (*c*.1849–1843 BC) may refer to an earlier avulsion:

> In order to provide sweet water for the cities of my country . . . [An and Enlil] commissioned me to restore it [to its original bed].
>
> (Frayne 1990: 158–160; Steinkeller 2001)

Wetlands

Although today much of southern Mesopotamia appears to be alluvial desert, arid salt flats and belts of sand dunes, that indispensible guide to twentieth-century Iraq, *The Geographical Handbook,* states: 'In striking contrast to conditions on the Syrian desert, the alluvial lands of southern Mesopotamia suffer from a surfeit of water' (Naval Intelligence Division 1944: 189). In fact, marshes and wetlands were probably much more significant during the Ubaid and the development of early states (Pournelle 2007). That wetlands were important during the period of Eridu is suggested by Wright, who points out that the marshes provided a significant resource for the Ubaid inhabitants (Wright 1981: 323) and Postgate who described the marshes as 'teeming with life' (Postgate 1994: 158). The role of wetlands in the development of the prehistoric communities was emphasised by Oates (1960) and more recently by Pournelle who suggests that the earlier phases of Ubaid settlement were closely tied into a wetland environment and many sites occurred on drier 'turtle backs' in the form of relict Pleistocene islands (Pournelle 2003, 2007).

Although wetlands evidently formed an important source of resources during the phases of Ubaid settlement, the analysis of charred plant remains from Tell Oueli demonstrate that cereals were also irrigated (Huot 1989: 26; Neef 1989), but it is difficult to say which was more important to the Ubaid economy. However, by the third millennium BC, Sumer had become an important area of cereal production (Winter 2007: 120), and irrigated cultivation probably gained ground over the use of wetlands. This may be because, although marshlands provide a wealth of resources in terms of reeds, building materials, fish and molluscs, their over-exploitation can result in their depletion, whereas irrigation and cereal agriculture enabled the economic base of the growing Sumerian civilisation to be enlarged. This process of 'positive feedback' would have enabled the economy to grow further, as discussed below. It is even apparent that during the third millennium BC wetlands were drained, as in the case of the Ur III king Ur-Nammu, who is recorded as draining marshes estimated to cover 1 *shargal* (SHAR2.GAL, perhaps 233 sq km; Civil 1994: 112).

The flood cycle

Critical to the agricultural economy was the annual flood cycle, which is poorly synchronised with the needs of cultivators. In contrast to the Nile, whose monsoon-driven annual flood well matches the needs of irrigation, the annual flood of both the

Tigris and the Euphrates peaks in April and May as a result of winter rainfall and spring snowmelt on the mountains of Anatolia, Iran and Iraq (Adams 1981: 3–6). This not only threatens the ripening grain crops, but also requires that considerable efforts be made to protect the fields from flooding (Hunt 1988: 193). Thus Miguel Civil may be correct to suggest that the Sumerians expended more effort on flood control than in the distribution of water for irrigation (Civil 1994:110):

> Most Ur III texts dealing with earth moving refer to the construction of embankments (*ég*). This is (i)n agreement with the water regime in the area. The need to protect the crops, ready for harvest from the river's high waters, and to prevent the flooding of towns and fields, is clear in economic and literary texts.
>
> (Civil 1994: 134)

Of the two rivers, the Tigris had both a higher total annual water discharge and a higher flood level, and this combined with the entrenched nature of part of its valley means that it is conventionally regarded as being the more difficult of the two rivers for irrigation.

The mismatch between the annual flood and the eventual development of large-scale irrigation is perplexing because it makes it difficult to understand how the early phases of irrigation developed. The Dutch soil scientist Buringh suggests that initial irrigation was a form of flood recession agriculture that took place in the lower flood basins following the retreat of the annual flood waters (Buringh 1960: 152). Although simple irrigation could subsequently have developed out of small natural overflows and levee breaks, which provided the locus for more organised irrigation (Buringh 1960; Wilkinson, T.J. 2003: 89), these could only operate during the spring floods when the water was at its peak, which was not the correct time for the irrigation of cereals. Moreover, by discharging excess water at weak points on the river bank, these crevices could be enlarged by the river thereby encouraging channel breaks and even channel shifts or avulsions. On the other hand, spring and early summer floods would have benefited the palm gardens that require copious water, especially during the hot summer months and which must have been a very important crop during the third millennium BC (Crawford 2004: 52). Because date gardens occupy the levee crests, this cycle of summer irrigation would have been in keeping with the natural ecology of the region. This spring and early summer flood would also have provided the appropriate soil water to initiate cereal crops' growth in the autumn. As the need for cereals grew during the later stages of the Ubaid and/or the Uruk period, irrigation channels could have been extended down levee to more distant fields that would progressively withdraw more water during the lower phases of the flood cycle. Such an evolutionary model of progressive development away from a riverine belt of palm gardens would fit the model of traditional palm garden agriculture in southeast Arabia where palm garden oases formed the primary focus of cultivation together with lower storeys of plants within the shade. In such cases, only excess flow from the irrigation systems would have been guided to temporary cultivation downstream of the oasis. The levee-crest garden agriculture of southern Mesopotamia would complement the wetland resources to provide the formative stage of Sumerian agriculture.

Salinity

Soil mapping in advance of major irrigation projects has demonstrated that waterlogged so-called hydromorphic soils are particularly common within the floodbasins and lower levee slopes of southern Mesopotamia. These soils tend to become saline when the water table remains close to the ground surface so that osmotic processes cause salts to rise and accumulate near the surface (Buringh 1960). Since Jacobsen and Adams (1958) suggested that a shift towards the more salt tolerant barley was associated with increased salinisation, there has been a vigorous debate concerning the role of salinisation in the demise of Sumerian civilisation. Although this model has been disputed (Powell 1985), there can be little doubt that if irrigation spread down levee towards flood basins, there would have been greater loss of crops due to salinisation. However, as discussed below, because cereal cultivation may have been mainly confined to the levee slopes during the third and even the early second millennium BC, the worst affects of salinisation may have been avoided.

BROAD PATTERNS OF WATER DISTRIBUTION

Whereas the conventional model suggests that the lion's share of irrigation water during the third millennium BC derived from the more readily controlled and less incised Euphrates River (Jacobsen 1960), it has been argued that the Tigris also played a role in the supply of water to the lower plains (Potts 1997: 7–10, 26). This debate must be contextualised within the dynamic and branching nature of the Mesopotamian rivers which shifted significantly throughout the Holocene.

During the earlier Holocene a joint Tigris–Euphrates channel is thought to have flowed through the centre of the plain (Paepe 1971), with the two rivers subsequently separating so that the Tigris migrated to the east and the Euphrates to the west (Adams 1981; Algaze 2008, fig. 5; Hritz 2010: 187). After these early and rather obscure phases, the record becomes clearer and ancient levees in the region of Sippar demonstrate that during much of the third and second millennium BC the Mesopotamian plains received a significant amount of water from branches of the Euphrates that radiated out from the region of Sippar and contributed multiple channels that ultimately flowed to the Sumerian cities of the lower plains (Jacobsen 1960; Cole and Gasche 1998). On the other hand, Heimpel (1990: 213) has shown that the watercourse that flowed past Girsu, Umma and Adab was the Tigris or a branch of it. Unfortunately, this reconstruction runs into the problem that east of Sippar in the northern plains levees of branches of the Euphrates extended east as far as the Tigris River and appear to have watered the southern plains (Cole and Gasche 1998: map 5). Alternatively, Hritz shows that a massive levee within the Diyala region may have been an earlier course of the Tigris, which would then have supplied southern Sumer with irrigation water from a northerly direction (Hritz 2010: figs. 13 and 14). This reconstruction also places the Tigris at a level which would have enabled it to supply irrigation water by gravity flow to a much larger area without the need for labour intensive water-lifting devices.

Illustrative of the complexities of these dynamic river systems is that of the water supply of Umma which had two principal watercourses: the Idigna and the Iturungul, both of which were its major lifelines (Adams 2008: 6). Whereas the former was a branch of the ancient Tigris, its clearly canalised offshoot to the south, the Iturungul, ultimately joined a major branch of the ancient Euphrates not far downstream from

ancient Uruk (Figure 2.3). In other words, not only did processes such as avulsion create branching systems of channels, additional seemingly artificial cuts extended the number of channels for both transport and irrigation.

In the twentieth century AD, before the massive damming of the rivers, the flow of the Tigris and Euphrates was progressively reduced downstream by both evaporation and the withdrawal of water for irrigation. Thus at Hit, on the Euphrates at the head of the Mesopotamian plains, the discharge averaged 5,400 cubic metres per second, whereas downstream at Nasriyah it was reduced to 1,740 (Potts 1997: 10). Despite this diminution, which was probably less extreme during the third millennium BC, the problem in the southern plains would have been to a) protect crops from excess water, b) get rid of it by drainage, c) redistribute water via irrigation or take advantage of it via flood-recession agriculture, and d) to utilize the abundant resources of the marshes.

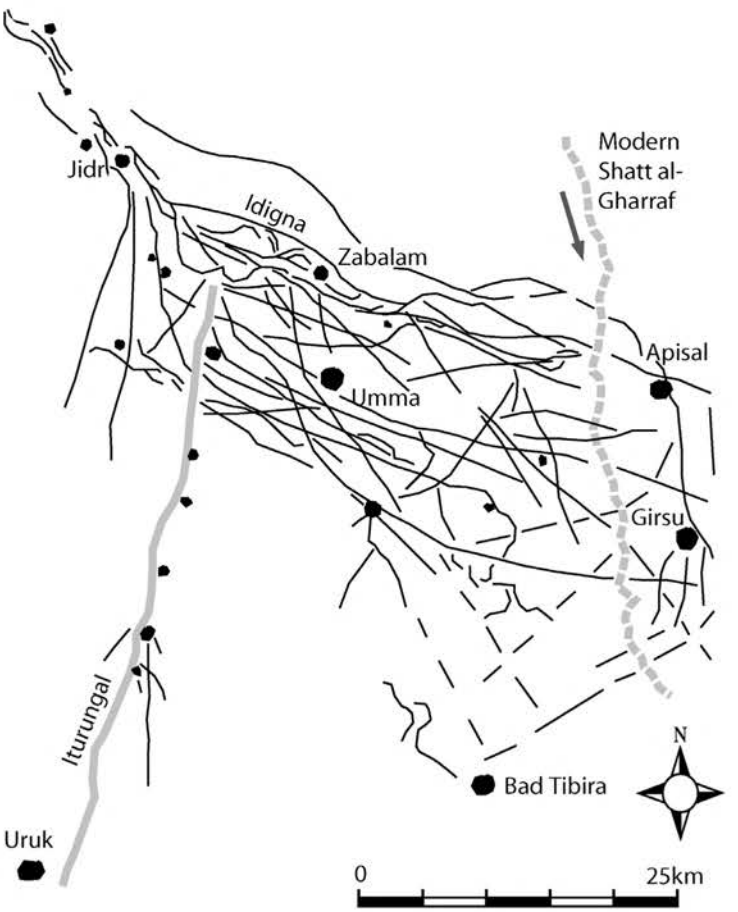

Figure 2.3 Archaeological sites of the Ur III, Larsa and Old Babylonian periods and associated channels in the area of Umma. This ganglion-like pattern illustrates the complexity of ancient watercourses evident on air photographs and satellite images; the Shatt al-Gharraf currently flows on a broad low levee from the Tigris to the north (re-drawn from Adams 2008, fig. 1).

Overall, the natural hydraulic landscape of anastomosing rivers and marshes was taken advantage by early communities who probably used levee crests for palm gardens, levee slopes for supplementary cultivation, with wetlands and perhaps tidal areas providing marshland resources alongside flood recession agriculture (Kouchoukos 1998; Pournelle 2007). Gradually, however, this landscape mosaic became more managed so that what had been a 'natural' landscape became transformed into a 'cultural' landscape with canals and fields becoming more formalized and extensive (Algaze 2008). Nevertheless, 'natural' elements presumably persisted but were also managed in order to conserve their valuable resources. This was a landscape mosaic in which rivers, marshes and artificial channels all played a role, and presumably where artificial canals became increasingly significant and elongated by the later third millennium BC.

THE LAYOUT OF CANALS AND WATER SUPPLY

River levees and the framework for Sumerian irrigation

One question raised by the textual evidence is the paucity of records of large canals. Whereas the embankments of smaller canals of 6–9 m^2 cross section (Civil 1994: 135) were quite common, administrative records relating to Ur III Umma and Girsu appear silent on the existence of larger canals. Mathematical texts also point to rather short canals by implying that most canals and irrigation ditches (*pa_5 sig* in Sumerian) were mainly 1.8–2.16 km long (Powell 1988: 163). On the other hand, in his royal inscriptions Ur Nammu claims to have authorised the excavation of major works, and records of large canals, such as the 50 km Nina canal, were occasionally recorded (Rost 2010: 16–17).

If canals were constructed to flow down the longitudinal gradient of the plain, due to its very low gradient, it would have been necessary for the head gates of canals to have been up to 40 km upstream from the point where water was distributed for irrigation (Hunt 1988: 201). However, a key advantage of the Mesopotamian landscape is the presence of riverine levees raised 1–3 metres above plain level and which contributed a gradient normal to the main river that was significantly steeper than that of the plain itself. Such levee back-slopes that led away from the stream towards adjoining basins provided natural drainage and were highly suitable for cultivation (Adams 1981: 8).

The significance of gradient is demonstrated by statistics provided in irrigation reports of the Shatt al-Gharraf area (Cotha Consulting) (Table 2.1).

Table 2.1 Range of gradients of floodplain and levee slopes in the Gharraf East Area, near Tello-Girsu

Orientation of gradient	*Mean regional gradient*	*Range of gradients*
Longitudinal (over 130 km)	0.05/1000 (1: 20,000)	0.04/1000 (1: 25,000) to 0.45/1000 (1: 2222)
Transverse (gradients for main channel levees):		
Gharraf (1500m)	2/1000 = 1: 500	
El Amah (1700 m)	1.4/1000 = 1: 714	
Shattrah (3200 m wide)	0.8/1000 = 1: 1250	

Note: From Cotha 1959b: 14 Table A. VIII-1.

The communities of Sumer therefore had the choice of digging either long canals up to 40 km (Hunt 1988: 194) with extremely gentle gradients, or rather shorter canals from the rivers down the slope of the levee (Figure 2.4 a and b). The latter have significantly steeper gradients which are more flexible for water distribution to the fields and which are less likely to silt up or be subject to salinisation. Such channels would provide modest-size irrigation modules capable of being organised by kin groups or small-scale communities (Fernea 1970; Rost 2010; Pollock 1999: 31). In fact, many traditional irrigation systems illustrated on maps of the southern Mesopotamian plains adopt this configuration (Figure 2.5). Significantly, short canals of 1.8–2.2 km would correspond roughly to total levee widths of 3.6–4.3 km, figures comparable to the levee widths of 2–5 km estimated by Pournelle (2007). This is also similar to the width of distributions of clay sickles used by Henry Wright to estimate the agricultural belts around Ubaid and Ur in the Ubaid and Uruk periods (Wright 1981: 324).

Overall, it is therefore possible to reconstruct the hydraulic landscape of third–early second millennium BC Sumer as forming three basic zones:

- The levee crest where channels irrigated palm gardens, other orchard crops (some as a storey below the palms), vegetables and grain fields.
- The levee slopes where short canals irrigated fields mainly to grow cereals, perhaps pulses and onions (Hruška 2007: 58). Together, zones one and two probably extended some 2–5 km away from the levee crest or main channel.
- A mosaic of steppe, marshes, fallow and alluvial desert steppe beyond the main levees. Although cultivation could have been extended into this zone, this would result in rapid salinisation. This zone would have supplied grazing, fishing, game birds, reeds and other marshland resources (Pournelle 2007).

There was therefore a choice between either long canals that followed the grade of the plain, but required more labour and were prone to siltation, or shorter steeper canals that serviced a small area, but which were potentially vulnerable to peak floods that could rip through off-takes. Because the levee width would limit the area of cereal production, and territorial boundaries between neighbouring towns and cities would limit the cultivated territories along the river channels, the total productive area would have been constrained. Nevertheless a 5–6 km wide levee with settlements some 10 km apart would have been capable of sustaining towns of up to 8,000–12,000 people, perhaps covering between 40 and 120 ha. During times of social cohesion and political accord between communities, the ease of transport of bulk products by boat would have enabled shortfalls of crop production to be addressed by transporting grain from neighbouring communities (Wilkinson et al. 2007: 188). However, if political relations with city states upstream or downstream soured, the existing site territory may have been insufficient to supply the towns and there would have been a temptation either to violate fallow in order to provide crops every year (Gibson 1974), or to build longer canals, thereby increasing the cultivable area. However, if such canals were extended into the lower flood basins, there would have been the risk of salinisation. In other words, greater political unity would have enabled more boat traffic to take place between communities as was the case in the Ur III period, a period when it was also easier to mobilise grain for the payment of the *bala* tax (Steinkeller 1987; Algaze 2008: 56–57; Widell 2008).

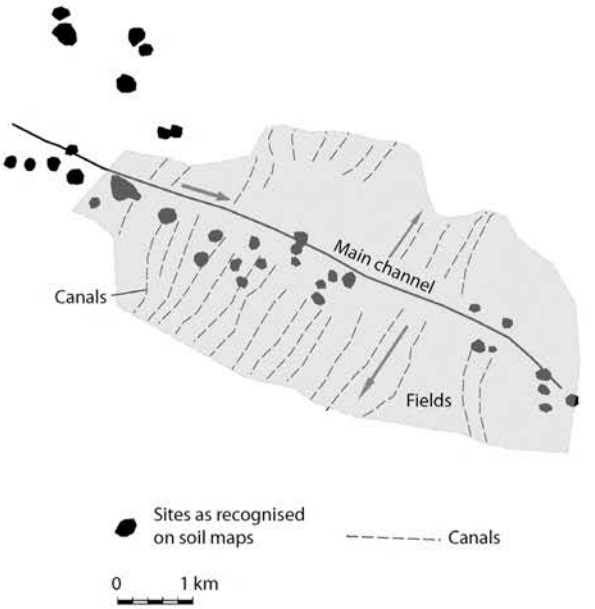

Figure 2.4a
Layout of an ancient canal system that distributed water from a levee crest channel in the northern alluvium (Widell 2008)

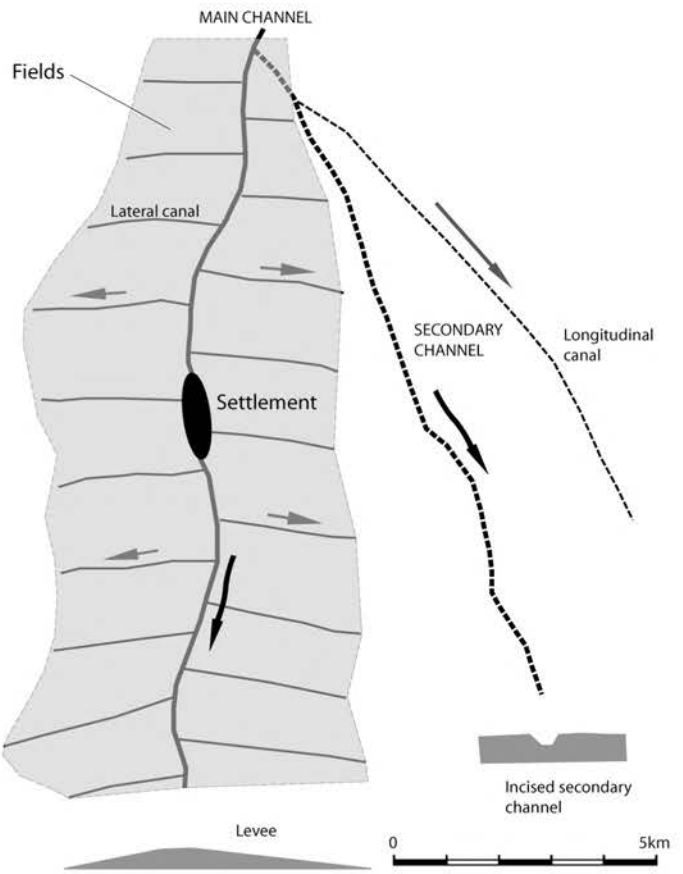

Figure 2.4b
Diagrammatic layout showing the possible distribution of lateral canals and their associated irrigated land (left) versus a single longitudinal canal (right)

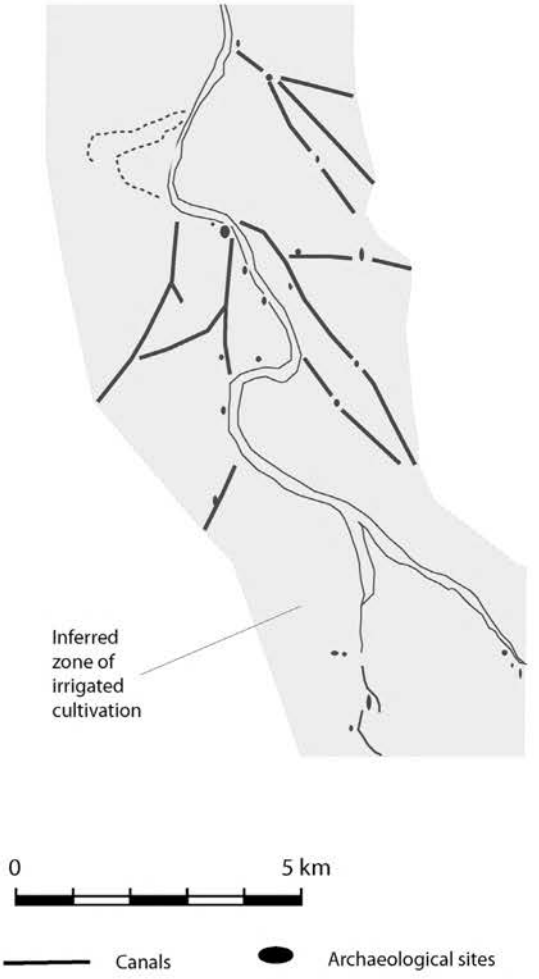

Figure 2.5
Ottoman irrigation system around Qal'a Sussa on the Shatt al Kar showing the inferred belt of irrigated land (adapted from Adams and Nissen 1972: fig. 26).

A landscape mosaic

Whereas the flat topography of lower Mesopotamia gives the impression that irrigated landscapes could have extended over wide areas, the levee model suggests that the irrigated area might have been rather limited. A similar picture is evident from Ur III cuneiform records which suggest that out of the very roughly 2,000 sq km estimated for the city of Umma's region, only some 127 sq km were *recorded* as in use for cultivation (Adams 2008: 10; after Dahl 2007: 36). The area actually cultivated may not therefore have exceeded a half kilometre or so in depth, but at the yields resulting from irrigation, this may have been sufficient to support the inhabitants of the city. Alternatively, there may have been an 'invisible' non-state sector providing the balance required. The very modest 'footprint' of the *ensi*$_2$'s agricultural administration would have been served by state-maintained (and irrigation taxed) canals and water courses:

> No extended layouts of dendritic irrigation systems are in evidence, on the model of those that came to characterize the Mesopotamian plain two and a half millennia

> later. Instead there was a patchwork of urban-centred zones of varying size along connective but often narrow canal or river-branch corridors, and zones of irrigated agriculture, apparently interspersed with marsh and steppe deemed difficult or unsuitable (sometimes too saline) to justify irrigating.
>
> (Adams 2008: 15, 1978)

This differentiated pattern of irrigation also implies that there were limitations to the extent of either provincial or royal authority which may not have spread into the more remote areas of the countryside (Adams 2008: 16).

WATER SUPPLY AND AGRICULTURE

The terminology from mathematical texts, school texts and the 'Farmers Instructions', when combined with knowledge of modern irrigation techniques and ethnography, enable plausible reconstructions to be made of ancient hydraulic works (Pemberton et al. 1988; Postgate 1990; Hunt 1988). It is necessary to be wary, however, not only because some features of the Sumerian landscape will have been significantly different from those of the recent past (Zettler 2003), but also because the term 'water works' rather than 'irrigation canals' may be more appropriate for much of the terminology because many activities were focused on flood control, not just irrigation (Powell 1988: 162; Civil 1994).

Powell (1988) subdivides Sumerian water works into three broad groups:

- Canals and irrigation ditches
- Dams and barrages
- Wells, cisterns and reservoirs.

Channels, canals, banks and irrigation ditches

The term *pa*$_4$/*pa*$_5$–(r) refers to an irrigation ditch (Civil 1994: 109), but because the state authorities were more concerned with labour expended on digging canals, the texts refer to the volume of soil up-cast and the size of the resultant levees. Therefore evidence of canals derives mainly from references to the mounds of up-cast alongside (*ég*), rather than the ditch itself (Civil 1994: 109; Pemberton et al. 1988: 212–213). For example, at Girsu, texts refer to small embankments with cross-sections ranging from 0.5 x 0.5 to 1.25 x 2.5 m (Ibid.: 118), whereas around Umma cross-section areas ranged from 6 x 0.5 m to 9 x 2.5 m (Ibid.: 118). The latter represents a canal of substantial size, especially because there would probably be two banks, one on each side. In addition, those parts of the levees that were vulnerable to erosion or to rising flood waters were reinforced with reeds or rushes (*ú-sag*$_{11}$: Ibid.: 121).

Canal construction was often commemorated, and the king Rim-Sin refers to the excavation of the canal known as Simat-Erra as follows: 'its two embankments/levees are like mountains'. This is an apt description for anyone who has seen the landscape associated with major canals which dominate the topography, often rising above the ancient city mounds. Other texts give a flavour of the landscape itself, by referring to levees with tamarisks, poplars or ash trees (Ibid.: 113), a phenomenon also mentioned by Guest (1933) for twentieth-century Iraq.

Despite the need to rid the land of water, which was arguably as important as bringing water to it, especially to safeguard against salinisation, there is little reference to drains (Postgate 1994: 181). Nevertheless, it is likely that some linear soil marks evident on the ground and satellite images (and perhaps of later date than the Sumerians) are probably drains rather than canals.

Features along canals

After water was conducted along canals it was necessary to get this water into secondary, tertiary and smaller channels, and ultimately into the fields. This was probably effected by using either regulators or weirs. Probably the best-known archaeological example of a canal regulator was that excavated by Parrot at Tello, ancient Girsu (Parrot 1948: 213; Potts 1997: 20–21). Constructed of baked bricks and bitumen, this feature appears to have taken a large volume of water and funnelled it through a narrow brick-built channel which would have constrained flow to a given discharge after which the water then flowed into a widening funnel, presumably back into another channel (Postgate 1994: fig. 9.2; Pemberton et al. 1988: fig. 9).

In modern irrigation systems it is necessary to employ distributors, with or without gates, to subdivide flow into smaller canals. In Iraq, this role is traditionally played by dams or weirs constructed of reeds, palm trunks and mud, which operate to both raise and divert flow into subordinate channels (Rost and Hamdani in press). Because the water level is usually low when it is required for irrigating cereals, a regulator is required to raise the water to a sufficient level for it to flow into smaller channels or fields. Accordingly 'the cultivators build a series of dams each of which holds up the water till the fields in the neighbourhood have been flooded, and it is then broken to let the water pass on to the next dam' (GB Admiralty: 1918: 434).

Here it has been necessary to digress into traditional irrigation methods because there is no universal agreement regarding the meaning of all the Sumerian terminology for features referred to in the texts. For example, the meaning of terms such as *a-ga-am* (perhaps an artificial pond to slow down the flow of water (Civil 1994: 130)) and *nag-ku*$_5$ (lateral ponds or reservoirs into which excess flood waters were diverted for later use (Civil 1994: 133; Zettler 2003: 32)) continue to be debated. Particularly vexing is that because these Sumerian features do not seem to occur in the modern landscape, it appears that the Sumerian landscape may have been rather different from that of today. Adding to the enigmatic nature of these features is that if the *nag-ku*$_5$ were in fact reservoirs, they did not appear to have held sufficient water for the irrigation of fields of grain (Hunt 1988: 194), nor for holding large amounts of flood water.

Finally, the water reached the fields, which were frequently long and narrow with the upper (short) end facing a water course (Civil 1994: 125; Liverani 1996). However, occasionally there is reference to the irrigation of palm orchards with an under-storey of other plants such as pomegranates (Civil 1994: 131).

Overall, what would have originally been a natural fluvial system that evacuated excess water and sediments from the Tigris–Euphrates basin into the Gulf, under human management eventually became a massive sediment trap. This is because most irrigation practices either imposed impediments to the flow, slowed the flow, or by allowing water to infiltrate the soil, precipitated excess silts and clays. Therefore not only was it a massive labour-intensive task to remove the accumulated silt and clay, as

with the famous irrigation systems of southern Arabia, but also the fields must gradually have been raised by siltation relative to the level of the inlet canals, thereby slowing down flow even more and encouraging further sedimentation. Because rivers, canals and fields were all gradually aggrading, the entire hydraulic landscape required considerable effort to constrain this to within an acceptable amount, or alternatively to remodel the system so that it continued to function.

RIVERS AND CANALS AS TRANSPORTATION NETWORKS

It has long been recognised that canals and channels were as important as transport routes as they were for conducting irrigation water, a theme that remains central to the so-called 'Mesopotamian Advantage' (Sauren 1966: 36; Algaze 2008). The branching 'low sinuosity' river systems were ideal for the mobilisation of bulk goods from city to city (Figure 2.6; Algaze 2008: 51–62; Potts 1997: 28) so that not only did they provide an excellent distribution system, but also like many modern road systems they functioned as a network that was capable of being extended. Thus the large *Iturungul* canal of probably third millennium BC 'provided a connective link in an enclosing network of natural and artificial watercourses serving the major southern Mesopotamian cities' (Adams, 2008: 6, 9; Adams 1981: figs 18, 21; Steinkeller 2001: 40 map 1). Furthermore, any open water marshlands would also have increased the connectivity of the channel system (Pournelle 2007). Such increased connectivity is important because it indicates how just one extra link in a network can improve the overall connectivity of that system thereby making it much more efficient to transport goods throughout the entire network.

Apparently the scale of grain shipments during the Ur III state was so significant that perhaps half of the gross harvest from Umma's cultivated lands, according to state records, moved by barge especially between the major Ur III urban centres of Ur, Uruk and Nippur (Sharlach 2004: 27, 161; Adams 2008: 9). Nevertheless, the rivers and

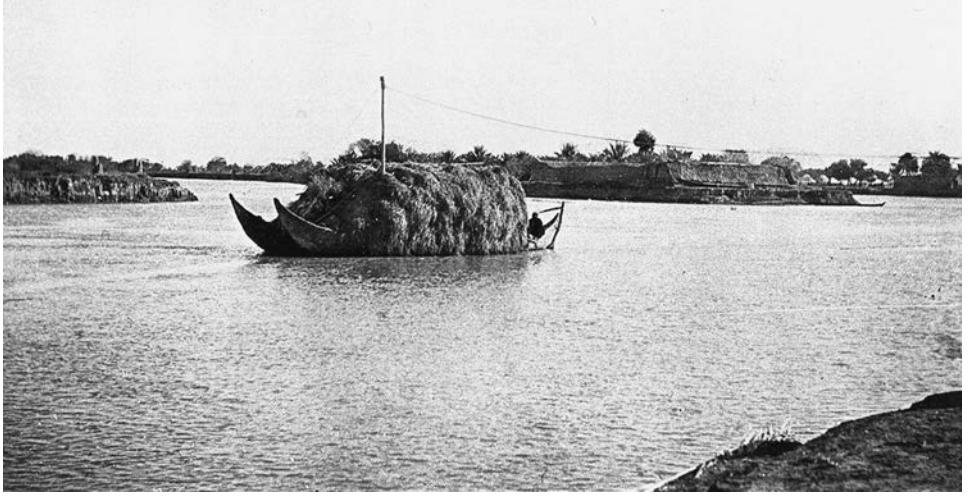

Figure 2.6 Bulk transport of reeds by boat. Photo: V 009, courtesy of the Gertrude Bell Archives.

canals must have served multiple functions so that when, for example, dams were inserted to guide water into canals they must have interfered with the movement of boats.

LEGAL AND ADMINISTRATIVE ASPECTS OF IRRIGATION

Canal construction was frequently a royal undertaking and many canals are credited to specific kings (Walters 1970: 144). Thus cuneiform texts not only demonstrate the concerns of the kings to provision the populace with good water and to create new agricultural lands (Potts 1997: 21) but they also provide insights into the layout of the canals. For example, canals are sometimes referred to as being extended to the sea (Potts 1997: 21; Cooper 1986: 70; Jacobsen 1960: 174–185). In other cases, canals may have operated as boundaries (Jacobsen 1960: 178); however, because the term *'ég',* which is often interpreted as a canal, was probably a bank of up-cast from a canal, features which represented boundaries between states, such as that between Umma and Lagash, may simply have been linear banks (Postgate 1994: 182–183).

Moreover, the generosity of both gods and the king as suppliers of abundance was celebrated:

> that the vast fields might grow rich, that the ditches and canals of Lagash be full to the brim, that in the plain . . . the grain goddess . . . might proudly look up . . ., that after the good fields have brought barley, emmer and all kinds of pulses, enormous grain heaps, the whole yield of the land of Lagash might be heaped up.
>
> (Edzard 1997: 75–76 cited in Winter 2007: 120)

Although fundamentally a communal enterprise that requires human cooperation in order to function, irrigation systems were also the focus of disputes that needed to be resolved within a legal framework (Bruun in Wikander 2000). For example, according to the law code of Hammurabi, if a farmer failed to maintain the banks of his irrigation canals or let water flow on to another man's fields thereby causing damage to crops, the farmer at fault was expected to pay damages (Bruun 2000; Postgate 1994: 182). Although these laws as written were Babylonian, they may have been based on Sumerian precedents.

Irrigated lands and estates

Although there is explicit evidence for the role of the king in the construction of major water works, most scholars accept that the temple was not the state (Postgate 1994: 115; Gibson 2010: 86–87), and its role in the organisation of the *entire* system of irrigation is now questioned (Rost 2010). Nevertheless, much irrigation was harnessed to supply large institutional estates, many under the administration of the king, and it is therefore important to understand how such estates developed from earlier small-scale agriculture.

The tendency for certain types of field and garden areas to evolve through time can be inferred from the work of agricultural consultants in the 1950s. Poyck (1962: 75), for example, makes the counter-intuitive point that tenant farmers enjoyed a higher standard of living than most owner occupiers. This is because they sowed relatively

large areas of land, albeit at a relatively low yield and return, which necessarily resulted in the deployment of large areas of fallow also available for grazing, which resulted in significant 'wealth on the hoof'. This exceeded that of the owner occupiers, who had less land at their disposal for grazing. In other words, tenants of larger holdings, despite their requirement to pay a significant proportion of their production to the estate owner, would generate more wealth. As Fernea (1970: 48) reminds us, the role of fallow is therefore not only essential to allow for leaching of salts, it is also advantageous for building up large herds.

Because share cropping on large estates was perhaps more profitable than income from dependent farmers (Fernea 1970: 48), it is therefore possible to imagine (but difficult to prove) that in early Sumer, estates which taxed dependent farmers could grow at the expense of smaller household plots. Furthermore, large land holdings such as estates would also benefit from economies of scale because many of the tasks performed were more efficient when they were conducted on a large scale (Postgate 1994: 188). Because smaller holdings were probably associated with palm gardens along the levee crest, the estates probably grew relative to them and extended down slope to form the cereal zone described above.

CONCLUSIONS

Water clearly played a fundamental role in the development of Sumerian civilisation, although the Sumerian farmer often had to devote as much time in getting rid of it as collecting it to nurture crops. Whereas Ubaid landscapes probably formed a mosaic of riverine gardens, wetlands with 'turtle back' islands and desert steppe, by the third millennium BC settlements appear to have gravitated towards levees so that both towns and irrigation systems became aligned. Although marshes would have remained important, some were evidently drained whereas others would have grown as a result of the discharge of excess water from canals.

When cuneiform and field evidence are combined, it can be inferred that areas such as that around Umma consisted of relatively narrow cultivated zones between which would have extended areas of desert-steppe and marsh, which was itself a valuable resource. Although evidence exists for the construction of larger canals, especially in the later third millennium BC, most appear to have been less than 5 km long and only in the Ur III-Isin-Larsa period did the landscape include longer canals (Adams 1981: fig. 31), a pattern that became particularly evident by the later second millennium BC (Ur this volume fig. 7.8).

Sumerian irrigation, rather than being a monolithic system dominated by a theocratic state, therefore was probably more heterogeneous and less centrally managed than previously thought (Rost 2010: 3). Moreover, there is now little support for the notion that the need to irrigate large irrigation systems actually created the state as argued by Wittfogel (1957). Instead, shorter canals leading from the main channels could have been readily organised by Sumerian communities in the same way as recent kin-based social systems in southern Iraq (Fernea 1970). There is also no reason why the state should have controlled everything because in modern systems both state-controlled administration (upstream) and independent or privately owned systems (downstream) co-exist (Ertsen 2010). In other words, in Sumer, the state or the king could have sponsored and built the main infrastructure and controlled estates, while

local kin-based or tribal communities could have organised much of the remainder. Because cuneiform tablets only provide a record of the state-controlled system, it is evident that irrigation, although perhaps providing the backbone of state production, may only have provided an unknown proportion of total production.

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CHAPTER THREE

SUMERIAN AGRICULTURE AND LAND MANAGEMENT

Magnus Widell

This chapter focuses on the agricultural landscape and the administration of fields, as well as agricultural procedures and production in the late third millennium, in particular in the period of the Third Dynasty of Ur.[1] Other important forms of subsistence, such as pastoralism or horticulture, were organised and structured very differently in ancient Sumer, and will not be considered here. The Third Dynasty of Ur, or the Ur III state, refers to a ruling dynasty based in the city of Ur and their short-lived territorial state during the last century of the millennium. The Ur III period is often described as an extremely administrative and bureaucratic period of time with an unprecedented level of central authority. There is no denying that the administration and bureaucracy of this period was extensive and very well developed. However, it should be stated that this period was not all that different from both earlier and later periods, and it is clear that a large part of the organisation of the Ur III state rested on already established principles in ancient Mesopotamia, and this is especially true for agricultural procedures and production levels. Nevertheless, the roughly one hundred years of the Third Dynasty of Ur represent a period that is extremely well documented. In fact, with over 90,000 cuneiform tablets documenting the administrative affairs of the state published to date, and tens of thousands of additional tablets kept in museums and private collections around the world awaiting publication, the Ur III state is, at least from a purely quantitative point of view, the best documented era in the entire history of ancient Mesopotamia.

Chronologically, these administrative and economic tablets are unevenly distributed over the century or so that was the Ur III state. As Figure 3.1 shows, almost no texts have been recovered from the earlier part of the state's domination. We only have a handful of tablets from the eighteen-year reign of Ur-Namma, the founder and unifier of the Ur III state, and only the last seventeen years of the forty-eight-year reign of Ur-Namma's successor, Shulgi, produced tablets in any significant numbers (i.e. from Shulgi year 32). Also the decline and eventual collapse of the Ur III state remain relatively poorly documented in the textual record. With the notable exception of Ibbi-Suen year 15, the final two decades of the state's last king (i.e. from Ibbi-Suen's fourth year) have only produced very modest numbers of cuneiform tablets.

In other words, we are dealing with an exceptionally short period of time with an extreme concentration of information. Roughly 83 per cent (49,009 tablets) of all the Ur III tablets with a known year date (59,015) come from a short period of twenty-five

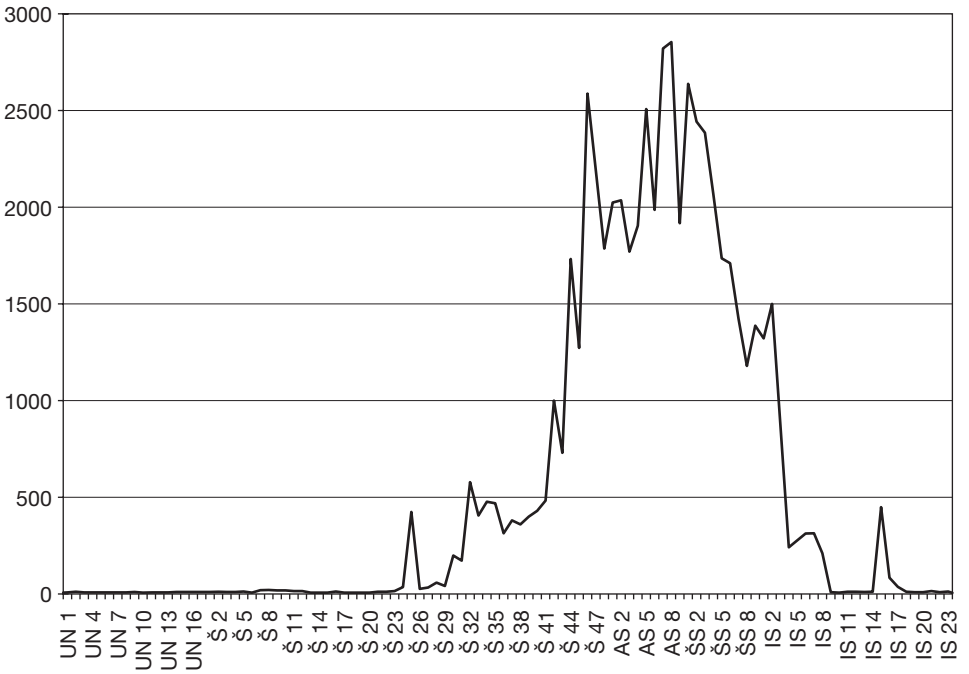

Figure 3.1 Chronological distribution of tablets during the five kings and 106 years of the Ur III state. Key: UN = Ur-Namma, Š = Shulgi, AS = Amar-Suen, ŠS = Shu-Suen, IS = Ibbi-Suen (data retrieved from *BDTNS*, 18 December 2010)

years, from Shulgi's forty-fourth year as king to the second year in Ibbi-Suen's reign. It is this extreme level of administrative and economic documentation over only a few decades that make the Ur III state so suitable for a study attempting to recreate ancient Mesopotamian management of cultivated land, agricultural procedures and production levels. Like most ancient economies, the Mesopotamian economy was based on agriculture, and the textual evidence from the Ur III period provides very detailed information on practically every aspect of the agricultural production, and offers a wide range of very specific data that would be very difficult, or impossible, to obtain with an equivalent level of detail and/or reliability through studies of alternative material.

For the reconstruction of Sumerian agricultural procedures, we are almost exclusively dependent upon textual evidence, while data derived from the material culture remain of a relatively minor importance (Hruska 2007: 54 and 63, n. 1). It should be noted, however, that this is only partly a result of the agricultural focus and the relative abundance of cuneiform tablets in the third millennium, and perhaps reflects a general overestimation of the importance of written sources once they occur in the archaeological record. As noted by Hans Nissen (1988: 3–4), a prevailing, and entirely unrealistic, assumption that the numerous cuneiform tablets of the third millennium will answer all our questions regarding the period's social and economic history has regrettably resulted in a situation where crucial archaeological data on flora and fauna from historical times have been neglected in archaeological excavations and subsequent studies.

Since the Ur III tablets, like most Sumerian cuneiform documents, almost exclusively stem from the archives of the major government households, they primarily emphasise the importance of the agricultural work within such public agencies, and any possible small-scale agricultural exploitation conducted by smaller households or individual families remain virtually unattested in the written documentation of the third millennium.

THE AGRICULTURAL LANDSCAPE

During the second half of the fourth millennium BC, a series of climatic changes and ensuing effects in the landscape profoundly changed the way of life in southern Mesopotamia. A relatively sudden increase in average temperatures coupled with decreasing levels of precipitations resulted in reduced flows in both the Euphrates and the Tigris, impacting the sedimentation of the Mesopotamian plain (Kay and Johnson 1981: 259 and fig. 4; see also Hole 1994: 127–131, and Potts 1997: 4–5). Within the space of a few hundred years, the annual floods that regularly covered large tracts of land in the south were largely stemmed, leading to the gradual silting up of much of the swamps and marches that made up the estuary of the two rivers. New and fertile land became available for cultivation, while the decrease of violent spring floods made long-term settlements along the rivers possible, especially along the Euphrates. However, the aridification following the climate change also meant that the rainfall in southern Mesopotamia in the third millennium would have been less than 250 millimetres per annum, and would not be able to sustain agriculture. The urbanisation of southern Mesopotamia and the organisation and concentration of labour facilitated the construction and maintenance of large-scale irrigation systems, and the resulting modes of suprafamily collaborations made it possible to administer and control the southern Mesopotamia essential biannual fallow regime (see Steinkeller 1999: 302f.). The collective and extensive irrigation works, on which all depended, would in turn no doubt have intensified the social cohesion within the urban centres.[2] As Robert McC. Adams writes about the Mesopotamian city, and its inseparable connection to the agricultural landscape of ancient Sumer (1981: 2):

> How firmly the occupants of the lower Mesopotamian plain ever recognized that alluvial terrain as a special object of attachment is uncertain, but their enduring loyalty to familiar associations and localities within it – to cities – is not a matter of doubt. Here we are concerned with the material conditions that must have played an important part in originating and sustaining these roots of attachment. And it is impossible to escape the conviction that irrigation agriculture – or the comparative security, population density and stability, and social differentiation and complexity that it induced – was at the very heart of these material conditions.

By paraphrasing Frank Hole, we may summarise the overall principles and features of the Sumerian agricultural landscape as follows (1994: 138): the climate shift of the fourth millennium made large-scale artificial irrigation a requirement for successful agriculture in ancient Sumer. Such irrigation systems were extremely vulnerable and had to be renewed annually. The necessary size of the systems, and the general labour intensity of the annual repair works, required a sizable organisation that went far

beyond the traditional family household. On the other hand, irrigation opened up new land to highly productive agricultural exploitation, which enabled the Mesopotamian floodplain to support a large population.

Topography and agricultural fields

While rural exploitation in the entire land of Sumer certainly always required artificial irrigation, topographical and environmental differences within southern Mesopotamia gave rise to significant regional variations in the nature of the necessary irrigation regimes. The area south-east of the major Sumerian cities, such as Eridu, Ur and Lagash, towards the coast of the Persian Gulf, was defined by lakes and permanent marshes. The ground water table was extremely high in the region, and agricultural work was largely impossible (Sanlaville 1989: 9).

Immediately upstream of the marshes and lagoons was a vast plain, characterised by extensive alluvial sedimentation and an exceptionally low gradient of the land, averaging for the entire plain to as little as 3–4 centimetres per kilometre along the Tigris and 5–6 centimetres per kilometre along the Euphrates. The deltaic plain (*plaine deltaïque*) extended from the large Sumerian city states in the far south to approximately the area of Babylon and Kish in the heart of southern Mesopotamia. Throughout the deltaic plain, the ground water table remained very high, and salinisation of the otherwise very fertile soil remained a very serious problem for the farming communities in this area (Sanlaville 1989: 8).

The northern alluvial plain included the Diyala basin and major Sumerian cities, such as Sippar and Eshnunna, and stretched from Babylon and Kish in the south to the Jazirah plain on the Euphrates and the city of Samarra on the Tigris in the north. The broader area was dominated by a desert plateau, and agricultural exploitation was only possible in the narrow river valleys. The natural gradient of the land was approximately twice as high as on the deltaic plain, averaging about 7 centimetres per kilometre along the Tigris and approximately 10 centimetres per kilometre along the Euphrates, and sedimentation was not as pronounced as further down the rivers. The ground water table was relatively low in the area, and intense cultivation with little regard for the gradual increase of salt in the soil was therefore possible (Sanlaville 1989: 8).

As already noted by Mario Liverani (1997: 221), agricultural procedures and irrigation systems reflect not only ecological and topographical conditions, but also a range of socio-political and administrative realities in a particular region. The third millennium rural landscape in the deltaic plain was characterised by almost exclusively regular and elongated fields lined with furrows. Several detailed studies of a group of approximately seventy cadastral texts from the province of Lagash, primarily dated to the seventh and eighth years of the Ur III king Amar-Suen's reign, have presented a picture of rural landscape in the south being dominated by elongated and rectangular strips of land. The majority of these strips of land would have ranged in size between 90 and 135 Sumerian *iku* (GAN_2), which would equal approximately 32–49 hectares (see Liverani 1990, 1996; Maekawa 1992; Figure 3.2).

While it is easy to distinguish a certain uniformity in the sizes of the different fields, with the typical fields ranging from 90 to 135 *iku* (≈ 32–49 ha), and with more than half of the fields in the range 100–125 *iku* (≈ 36–45 ha), the exact shape (i.e. length–width ratio) of the different fields does not appear to have been standardised in the same way.

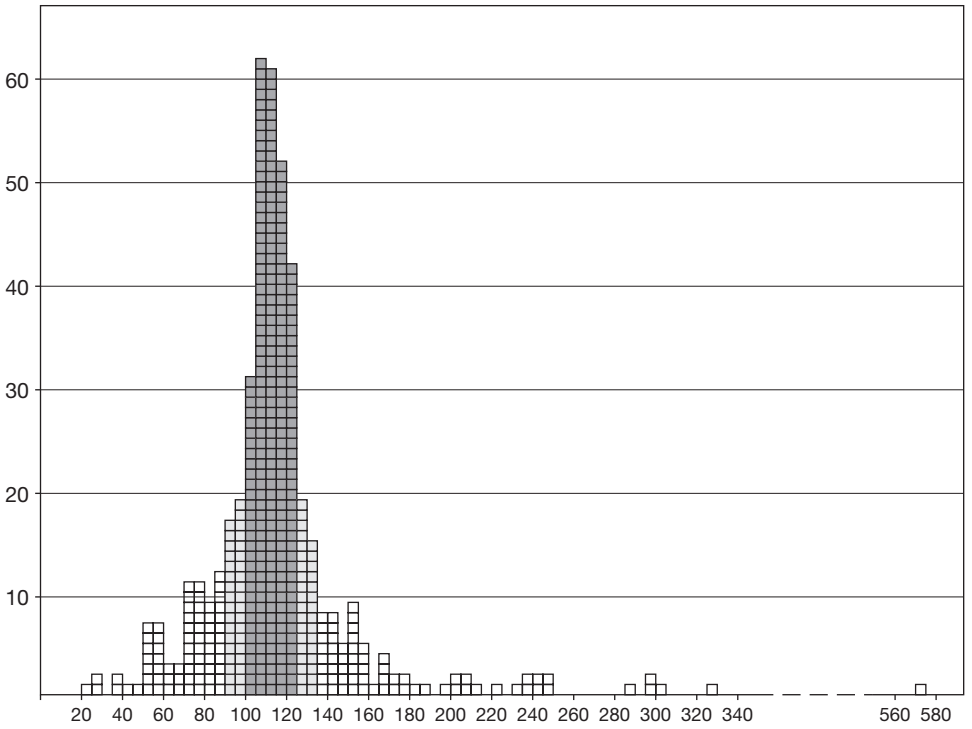

Figure 3.2 Size measurements (in Sumerian *iku*) of the 452 fields (*a-ša*$_3$) measured in the Lagash cadastral texts. Approximately 55 per cent of the fields ranged from 100 to 125 *iku* (≈ 36-45 ha; dark grey) while roughly 70 per cent were in the range 90–135 *iku* (≈ 32-49 ha; dark + light grey) (chart adapted from Liverani 1996: 156; see also Civil 1991: 42)

In his study of the agricultural fields of southern Mesopotamia, Liverani stated that the lengths of the field areas typically exceeded the widths by a factor of ten, and he emphasised the extreme length and narrowness of the fields (1990: 158; 1996: 21). However, a closer analysis of Liverani's own data and his chart plotting the length–width ratio of the field areas reveals that although fields with a length–width ratio of 10 to 1, or even 20 or 30 to 1, certainly can be confirmed in the textual material, such extremely long and narrow fields did not dominate the rural landscape of southern Mesopotamia, and roughly 61 per cent of all the fields were less than eight times longer than they were wide (Figure 3.3, Table 3.1). The typical field (i.e. the median field) was roughly 6.5 times longer than it was wide.

FIELD MANAGEMENT

Liverani recognised the congruity in the sizes of the recorded fields, and he suggested that the standard field size in the Ur III administration was supposed to be 100 *iku* (i.e. 100 x 100 *ninda*, corresponding approximately to 36 hectares), although he also observed that the fields often exceeded this suggested standard, and that the average field size actually seemed to be around 115 *iku* (Liverani 1990: 157). This assumption

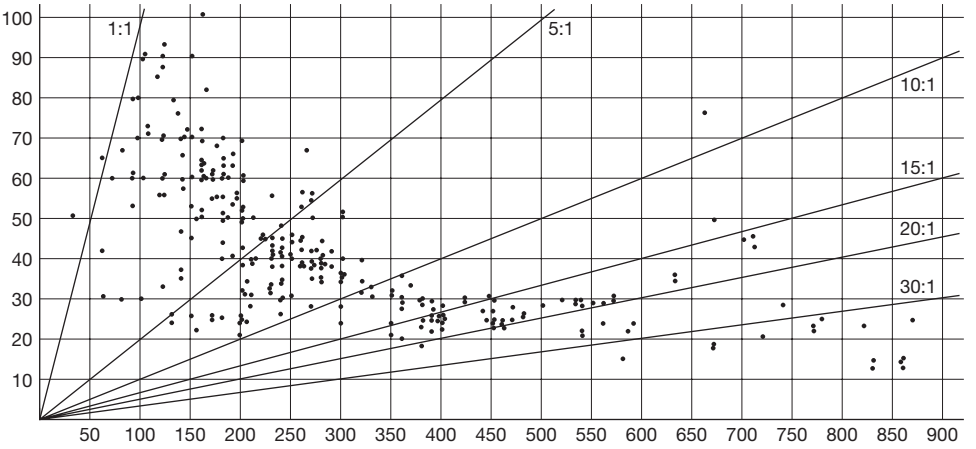

Figure 3.3 Shapes of the 269 fields (*a-ša*$_3$) measured in the Lagash cadastral texts. The vertical axis is showing the width and the horizontal axis the length of the fields in the Sumerian length measurement *ninda* (1 *ninda* ≈ 6 metres) (chart adapted from Liverani 1990: 168)

Table 3.1 Proportions (length: width) of the 269 fields in the Lagash cadastral texts

Length : Width	*Fields*	*Percent*
< 1 : 1	2	1%
1 : 1 – 5 : 1	100	37%
5 : 1 – 10 : 1	80	30%
10 : 1 – 15 : 1	23	9%
15 : 1 – 20 : 1	41	15%
20 : 1 – 30 : 1	9	3%
> 30 : 1	14	5%
Total	**269**	**100%**

Note: Approximately 38 per cent of the fields had a length that was less than five times their width, and more than two-thirds (roughly 68 per cent) were proportioned between 1:1 and 10:1 (length:width).

of a standardised (or ideal) Ur III field measuring 100 *iku* was corrected by Kazuya Maekawa (1992: 408), who pointed out that the standard size was not measured in *iku* but in the alternative surface measurement *bur*$_3$, and that the ideal Ur III field was supposed to measure 6 *bur*$_3$, which would equal roughly 39 hectares (1 *bur*$_3$ ≈ 6.48 ha). This is an important observation and correction by Maekawa because it allows us to accurately reconstruct how these areas of land were further (theoretically) grouped together or subdivided from an administrative point of view.

The cadastral texts themselves tell us that each field area, or perhaps better domain parcel,[3] was the ultimate responsibility of a state administrator referred to as *engar*, best translated as 'cultivator'. Based on a land survey text from Umma, Maekawa (1987: 36–40) has demonstrated that the Ur III 'cultivators'–usually in groups of five–were under the direction of an 'inspector of plough oxen' (*nu-banda*$_3$ *gu*$_4$), who in turn

answered to an 'overseer' (*ugula*[4]) in charge of two 'inspectors of plough oxen' (and therefore normally in charge of ten 'cultivators' and ten domain parcels) (Figure 3.4).

Each 'cultivator' in charge of one field, or domain parcel, employed three 'ox drivers' (*ša$_3$-gu$_4$*). Since the surface of 6 *bur$_3$* (as opposed to the surface of 100 *iku*) can easily be divided into three equal units, each measuring one square UŠ (≈ 360 x 360 metres), it seems reasonable to assume that this represented the ideal size of cultivation under the responsibility of each 'ox driver'. Each square UŠ would be further subdivided into six family-sized plots measuring one *eše$_3$* (2.16 hectares) (Figure 3.5).

The *eše$_3$* measurement equals 6 *iku*, and each *iku* can be further divided into 100 *šar*, the traditional Sumerian garden plot, measuring approximately 6 x 6 metres.

The use of integral numbers of the *bur$_3$* for the measurements of field areas is not surprising given that the *bur$_3$* served as the basis for calculations of sowing rates in the Ur III period, with one *bur$_3$* of cultivated land typically receiving one *gur* of barley seed (≈ 300 litres) (Maekawa 1984: 87). Thus, the standard amount of seed for the 6 *bur$_3$* 'field' in these texts would be 6 *gur* (≈ 1,800 litres), the unit of the *ša$_3$-gu$_4$* 2 *gur* (≈ 600

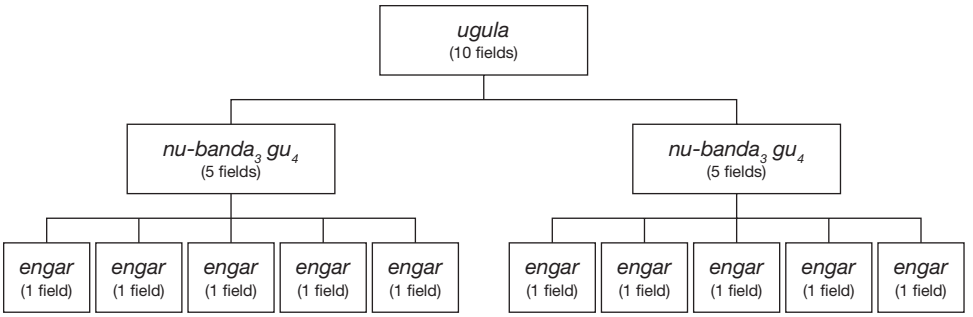

Figure 3.4 Organisation of the supervision of fields and field workers in the Ur III period. See note 4 for alternative professional titles of the top official responsible for ten fields.

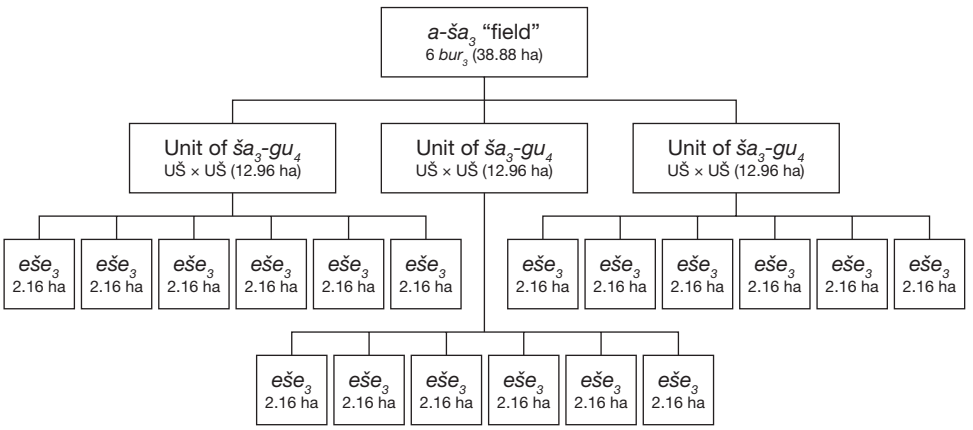

Figure 3.5 Administrative division of a 'field' (*a-ša$_3$*) in the Ur III period

litres), the *eše*$_3$ plot 1 *barig* and 4 *ban*$_2$ (≈ 100 litres), and the single garden plot measuring one *šar* (≈ 6 x 6 metres) should ideally receive 10 *gin*$_2$ seed (≈ 16.67 ml).

Of course, these divisions of the domain parcel merely represent abstract measurements of administrative responsibilities and accountabilities, and would not necessarily be physically defined in the agricultural landscape. The three 'ox drivers' would together be responsible for the ploughing of the entire 6 *bur*$_3$ during the plough season (not just 'their' 2 *bur*$_3$ units), and the various low-level agricultural workers assigned to the field as a whole would by no means be restricted to labour in individual *eše*$_3$ plots.

Sustenance land

As mentioned above and in note 3, at least some of the agricultural workers on the provincial domain fields (*GAN*$_2$*gu*$_4$) had usufruct rights to plots of arable lands referred to as *GAN*$_2$*šuku* 'sustenance field'. Depending on the status of the agricultural workers, these allotted fields varied in size, usually (or at least often) by a multiple of three (see Maekawa 1991: 213). The text BM 105334, recording a land survey in the province of Umma in Amar-Suen's second year as a king, has shown that the sustenance land that was allotted to the 'cultivators' measured 1 *eše*$_3$, or 6 *iku*, while the subordinate 'ox drivers' received sustenance parcels measuring half this size.[5] Above the 'cultivators', the 'inspectors of plough oxen' were each given sustenance parcels measuring 3 *eše*$_3$, or 1 *bur*$_3$, for their services, while the overseer in charge of ten domain parcels received 9 *eše*$_3$, or 3 *bur*$_3$ (see most recently Koslova 2005 and Vanderroost 2008, with additional literature).

According to Remco de Maaijer (1998: 55), the sustenance land was included in the larger domain land area. However, as Natalia Koslova has argued (2005: 704), the fact that these two categories of land were consistently kept apart in the administrative documentation, implies that they were also separate units within the agricultural landscape. In fact, land survey texts such as the Girsu text BM 23622+28004, in which the summary sections recording one estate's total holdings of domain land, sustenance land and tenant land (*GAN*$_2$ *nig*$_2$*–gal*$_2$*–la*) can be compared to the sum of the individual entries of these types of land, seem to demonstrate that these three categories of land represented separate physical areas in the agricultural landscape (see Maekawa 1986).[6] It is possible that de Maaijer's position was influenced by Piotr Steinkeller, who a few years earlier had suggested that sustenance plots were not cultivated by their holders at all, and that the sustenance plots, although physically tied to specific fields, simply served as abstract measurements of individual rations (Steinkeller 1999: 303 and notes 51 and 52). The 'holder' of a sustenance plot would receive a fixed annual grain ration based on the plot size according to a predetermined production rate irrespective of the inevitable regional and annual yield fluctuations. However, Steinkeller presented no concrete evidence for this claim, beyond the correct observations that large-scale agriculture is more productive than small-scale farming in ancient Mesopotamia, and that centralised control over a large area of cultivation would facilitate more rigorous adherence to crucial fallowing patterns. Moreover, Steinkeller did not attempt to explain why, in his opinion, the provincial administrative centres of the Ur III state in certain cases should deem it necessary to disguise perfectly normal worker rations of grain (*še-ba*) as fictive sustenance plots.[7] What would the administration gain by

recording a fixed and annual grain ration as an abstract surface measurement of undefined land?

Steinkeller enumerated three factors that in his opinion made the existence of small farms in the third millennium impossible: 1) the necessity of strict adherence to fallow requirements, 2) the need for extensive irrigation systems, and 3) the volatile and shifting nature of the Mesopotamian rivers and canals, which eventually would obliterate any physical field boundaries. However, while there is no denying that these factors greatly influenced agricultural production and farming in southern Mesopotamia, they are by no means exclusive to the third millennium, or even antiquity. If these factors did not prevent the operation of small farms in, for example, the 1950s, when Augustus Poyck studied farming practices in southern Iraq (see Steinkeller 1999: 319 n. 51), we cannot presuppose that they prevented such operations in the third millennium BC. As a matter of fact, the evidence supports the interpretation of the sustenance land as a physical feature of the agricultural landscape. In addition to the already mentioned land survey records, in which the sustenance plots are tallied up next to other types of physical fields, such as domain- and tenant plots, it should be noted that the different sustenance plots are not recorded as uniformly productive, and yields (projected or actual) varied from one plot to another (see e.g. *BIN* 5 277), something one would not expect if they merely represented abstract measurements of rations. Indeed, the considerable annual fluctuations in the harvest yields recorded for plots held by the same individuals over several years (see Waetzoldt 1987: 131) show that the sustenance plots and their yields were both real and relevant to the people to whom they had been allotted.

Considering that half the arable land in ancient Mesopotamia by necessity would have to remain fallow to prevent salinisation and soil degradation (see Gibson 1974: 10f.[8]), individual household plots measuring an average of 2.16 hectares (1 *eše*), and in some cases as little as 1.08 hectares (3 *iku*), may appear rather small to successfully sustain a family household.

However, as suggested by Jacob Dahl (2002: 334), it seems reasonable to assume that the holders of sustenance parcels would be able to rely on the agricultural facilities and infrastructure of the state, and thus be able to cultivate their plots without many additional expenses for items such as plough teams and oxen, external labour requirements and seed for planting (cf., however, Waetzoldt 1987: 130). Regarding the biannual fallow regime, it is not clear whether fallow land was included in the distributed sustenance parcels. In fact, considering the importance of strict adherence to the fallow requirements in Mesopotamia, and the disastrous results following violation of fallow (Gibson 1974), it seems reasonable that the state would retain control of the two-year fallow rotation, and simply distribute sustenance parcels from areas that were not left fallow.[9] In other words, a 6 *iku* sustenance parcel in the Ur III period would, at least in terms of sheer productivity, equal a 12 *iku* field subjected to biannual fallow. An allocated sustenance plot measuring 6 *iku* would require 12 *iku* of institutional land, and the total area of arable sustenance land controlled by the state would have to be roughly twice as big as the area that was allocated and cultivated every year to the state's workers; administrative texts would only consider the land cultivated in any given year, while all fallow land would remain unsurveyed (see Maekawa 1986: 99).

In addition to the institutional support that the sustenance plot holders in all likelihood could expect from the state, it is important to remember that the households

with sustenance fields would have had various other sources of income, including fishing and hunting in the marches, animal husbandry, date, vegetable and fruit cultivation, as well as monthly rations of agricultural products to individual household members provided by the state in return for various types of labour (see Waetzoldt 1987).

Finally, it should be pointed out that the deltaic plain of southern Mesopotamia was characterised by exceedingly high yields during the entire third millennium (cf., however, Potts 1997: 14f.), although it is possible that the productivity may have decreased somewhat during the later part of the millennium, perhaps as a result of a general increase in salt levels in the soil (see Maekawa 1974: 40–42 and Jacobsen and Adams 1958).

PRODUCTION LEVELS

The agricultural fields in the deltaic plain were, at least towards the end of the third millennium, almost exclusively cultivated with winter-grown barley, in all likelihood a reflection of this crop's very high tolerance of saline soils (Jacobsen and Adams 1958: 1252; Gibson 1974: 10; Maekawa 1974: 41).[10] Barley yields in ancient Sumer, and especially in the Ur III period, have received a significant amount of attention by previous scholars, with Kazuya Maekawa's comprehensive study from 1974 remaining the standard reference. The standard yield in the Ur III period used in administrative calculations was 30 *gur* barley per *bur*$_3$ land in Lagash, 34 *gur/bur*$_3$ in Umma, and 20 *gur/bur*$_3$ in Nippur (Maekawa 1984: 83). Assuming that one litre of barley weighs 0.62 kilogramme, this would represent yields of approximately 861 kilogramme per hectare in Lagash (and possibly Umma), 976 kg/ha in Umma (30 *gur/bur*$_3$), and 574 kg/ha in Nippur. These notional yields appear to be relatively realistic when compared to the yields recorded in the Ur III administrative texts.[11] According to Maekawa (1974: 26), the average yield in the province of Lagash was 31 *gur* and 244 *sila*$_3$ barley per *bur*$_3$ land in Amar-Suen's seventh year as king, and 25 *gur* and 11 *sila*$_3$ in the following eighth year, which would represent average yields of approximately 913 kg/ha and 719 kg/ha respectively. Maekawa (1984: 84f.) has also demonstrated that the average yield in Lagash in the ten-year period from Shulgi 42 to Amar-Suen 3 was 23 *gur* and 220 *sila*$_3$ barley per *bur*$_3$ land (≈ 681 kg/ha). It is important to point out that these area yields are not particularly high.[12] On the contrary, these yields can be compared with the significantly higher average barley yields of 1,396 kg ± 67.5 per hectare recorded on 77 randomly selected fields irrigated by gravity flow and cultivated with primarily primitive agricultural technologies in the Diyala region in the 1950s (Adams 1965: 17). However, given the extremely low standardised sowing-rate of 1 *gur* barley per *bur*$_3$ land (≈ 29 kg/ha), the nominal and recorded yields of the Ur III period seem to imply a very high yield ratio of 1:20–30 (see Postgate 1984). Such impressive yield ratios can only be explained if we take into account that the farmers in southern Mesopotamia were drilling seeds into the furrows with a so-called seeder plough (*apin*) pulled by oxen, a technique that reduces the amount of seed grain by half, compared with broadcast sowing (Halstead 1995:14). This explanation for the high Ur III yield ratios seems to be confirmed by the fact that average sowing rates in the Diyala fields mentioned above were roughly twice that of the Ur III fields (60–80 kg/ha).

NOTES

1 An earlier draft of this chapter benefited greatly from the comments and suggestions of Foy Scalf, for which I am most grateful. Needless to say, I alone am responsible for any remaining errors and shortcomings in the text.

2 Note, however, that the organisational coordination and social stratification necessary for the creation and maintenance of large-scale irrigation systems do not necessarily require an urban population, and it is important to recognise the potential within different patterns of social networks (see e.g. Wittfogel 1967 or Postgate 2003: 23f.). For a thorough discussion of non-agricultural urban systems in southern Mesopotamia in the fifth and fourth millennia BC, see Pournelle 2007; Pournelle and Algaze forthcoming. For a more complete account of Sumerian irrigation, see T. J. Wilkinson's contribution in this volume.

3 These areas of cultivation belonged to the provincial domain land (*GAN$_2$gu$_4$*), as opposed to the provincial sustenance land (*GAN$_2$šuku*), which was distributed among at least some of the agricultural workers of the domain land.

4 The *ugula* of the *nu-banda$_3$* gu$_4$ could in the Ur III texts also be referred to as *dub-sar gu$_4$*, *šabra*, *šabra-gu$_4$* or *šabra gu$_4$-10*. (See Maekawa 1987).

5 The typical sustenance plot in the Ur III measured 1 *eše$_3$* (6 *iku*), although various other sizes are also attested (see Waetzoldt 1987: 128–132).

6 Note that it is possible that the sustenance land of the cultivators themselves (*GAN$_2$ šuku engar*), which is listed immediately after the domain land in the survey and not a summarised category of its own at the end of the text, may have been considered part of the domain land rather than the general sustenance land (see Maekawa 1986).

7 Note here, for example the Umma text *YOS* 4 211, where it appears that some individuals received sustenance plots, while other workers in the same text simply received regular rations (see Waetzoldt 1987: 128f.).

8 According to Kilian Butz (1980–83: 484), the Ur III fields were probably fallow two years out of five, but he does not offer any concrete evidence supporting such an agricultural five-year cycle in the Ur III period. A system of alternate-year fallow was effective in Lagash in Pre-Sargonic times (LaPlaca and Powell 1990: 76, 82), and since the amount of cultivated (and fallow) land appears to have remained constant in this province from year to year in the Ur III period, it seems likely that a system of biannual fallow requirement was effective also in this period (see Maekawa 1984: 74f.).

9 Cf., however, Govert van Driel (1999/2000: 81 n. 4), who assumed that fallow requirements were included in (at least) the military sustenance plots of the Ur III state.

10 See also Jacobsen 1982, but cf. Butz 1979 and, in particular, Powell 1985. While the salt tolerant barley certainly remains more suitable than emmer wheat (*Triticum dicoccum*) on the relatively saline soil of the deltaic plain, it should be noted that barley, due to its low irrigation requirements, actually has a tendency of increasing the soil's salinity by the end of the growing season (el-Gabaly 1971: 65).

11 Note that it remains unclear if some of these recorded yields represent projections estimated before the harvests, rather than the actual yields calculated after the barley had been brought in from the fields (see Postgate 1984: 100).

12 Cf. Kilian Butz (1979: 296): "Der Autor glaubt, dass auch dies [i.e. 26.4–32.7 *gur/bur$_3$*] als Durchschnitt zu hoch angesetzt ist, ganz abgesehen davon, dass der dafür nötige Dünger nicht in diesen Mengen zur Verfügung stand."

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CHAPTER FOUR

THE END OF PREHISTORY AND THE URUK PERIOD

Guillermo Algaze

Ancient Mesopotamian civilization emerged in the alluvial lowlands of the Tigris–Euphrates rivers in what is today southern Iraq in the fourth millennium BC, and it endured in recognizable form for well over three millennia until Alexander the Great and his armies breached the gates of Babylon in 331 BC. Of this millennia-long history, no time span is more fundamental for our understanding of Mesopotamian civilization than the Uruk period, spanning the better part of the fourth millennium BC. This is by no means a new idea. In the cultural realm, for instance, the art historians H. Frankfort (1958) and Helene Kantor (1984) many years ago already noted the multiple ways in which the iconographic repertoire of Uruk times set the conventions that would guide artistic representation in Mesopotamia until the demise of the neo-Assyrian and neo-Babylonian empires in the first millennium BC. Similarly, Mario Liverani has recently pointed out that the conventions of scribal administration that emerged at the end of the Uruk period and are reflected in the so-called Archaic Texts, in effect, also set the framework for how Mesopotamian urban scribes would continue to comprehend, categorize, and record their world until the end of the cuneiform tradition millennia later – save for minor improvements and adjustments (Liverani and Heimpel 1995: 134).

A similar argument can be made for urbanism, perhaps the most fundamental characteristic of Mesopotamian civilization through the ages (Stone 1997). It has been argued many times that cities and city-states were the "default" spatial and political configurations, respectively, of Mesopotamia in the third millennium (e.g., Gibson 1976), with periods of regional political consolidation and transregional imperial outreach representing largely episodic albeit highly visible departures from the norm (Larsen 1979). If this broad characterization is correct, as I believe it is, cities can be conceptualized as both the crucible where Mesopotamian civilization was first forged and the locus where its unique institutions and distinctive *Weltanshauung* (Frankfort et al. 1951; Jacobsen 1976) replicated themselves (with modifications) over millennia. Again, the historical urban tradition of later Mesopotamian societies is firmly rooted in Uruk period developments, as has been widely acknowledged since at least the first half of the twentieth century.

What is new – or at least more recent – are three interconnected realizations that add significant nuance to our understanding of the context in which the various continuities of Mesopotamian civilization just noted first arose. The first is that of the

substantial temporal depth of the Uruk period, which now appears to have spanned most of the fourth millennium, as Henry Wright and Eric Rupley (2001) demonstrated just over a decade ago. The second realization is that for at least the first half of the Uruk period, developments in southern Mesopotamia were by no means as unique as previously thought for most of the twentieth century. Rather, recent archaeological work at Tell Brak and Khirbat al-Fakhar, both in the Upper Khabur basin of Syria, leaves no doubt that parallel and quite comparable trajectories toward urban-scale societies existed in both southern and northern Mesopotamia for much of the first half of the fourth millennium BC (Ur and Oates 2007; Oates et al. 2007; McMahon 2009; McMahon and Oates 2007; Al Quntar et al. in press; Cooper, this volume). The third realization follows from the preceding and is that the parallel trajectories exhibited by the southern and northern portions of "greater" Mesopotamia diverged abruptly sometime in the second half of the fourth millennium BC, when southern polities started to dramatically outpace competitors elsewhere in southwest Asia in terms of scale, population density, and social complexity – a process that eventually culminated with the intrusion of variously configured southern Mesopotamian colonies into selected areas of northern Mesopotamia and Iran (below) during the Middle and Late phases of the Uruk period, roughly corresponding to the 500 or so years between 3700/3600 and 3200/3100 BC.

In what follows, I briefly outline what is known about the Uruk period in southern Mesopotamia and speculate on some of the possible reasons underlying the dramatic reversal of regional fortunes just noted, which led to the emergence of the earliest iteration (Sumerian) of Mesopotamian civilization as we know it. Before proceeding, however, a few words are in order about the geographical scope of this chapter and the evidentiary sources it relies on.

GEOGRAPHY AND ENVIRONMENT

As may be surmised by the preceding, the term "Mesopotamia" is used here not in its expansive original Greek meaning that includes all of the areas contained within the Tigris and Euphrates rivers and between the Anatolian Plateau and the Persian Gulf, but more narrowly to denote only the relatively flat alluvial lowlands of the Tigris–Euphrates fluvial system. This is the area that geographers refer to as "Lower" or "Alluvial" Mesopotamia (Liverani 2007) and that in antiquity broadly corresponded to the self-conscious cultural entities of Sumer and Akkad (or Babylonia). This is a relatively flat but by no means homogenous plain that extends from the vicinity of modern Baghdad, where the Tigris and Euphrates start to meander and deposit their alluvial loads in earnest, to the vicinity of modern Basra and the Shatt el-Arab marshlands (see also Pournelle, this volume).

As Robert McCormick Adams (1966) and Michael Rowton (1973) noted many years ago, throughout antiquity the alluvial plains of southern Mesopotamia comprised a mosaic of complementary ecological zones or niches that fostered considerable regional economic specialization and trade. These zones range from well-watered areas near active river channels, where cultivation of garden and other water-intensive crops such as flax was possible, to broader irrigable plains just beyond natural river levees that are optimal for cereal cultivation, to more marginal areas ideal for pastoralism at the edges of cultivation and in fallow areas between fields, and, finally, to waterlogged marshes,

brackish lagoons, and estuaries at the juncture where the Tigris and Euphrates meet the Persian Gulf, where reeds usable as animal fodder and construction materials as well as abundant protein-rich fowl and fish were easily obtained.

While a comparable mosaic of ecologic niches also characterized alluvial Mesopotamia throughout the fourth millennium, recent geomorphological data do indicate some important differences at that time, which have been the subject of much recent analysis and discussion. Without question, the most significant such differences pertain to the nature of the Tigris and Euphrates rivers, which then formed a single complexly intertwined fluvial system, and to the location of the head of the Persian Gulf at the time, which was well north of its present location, and so too were its associated marshes and estuaries (Hole 1994; Pournelle 2003a, 2003b, 2007, this volume)

At the same time, recent paleoclimatic data suggests, in turn, that the climate of the Mesopotamian alluvium through the Uruk period was also somewhat different from that which prevailed in historic times, and, further, that it changed dramatically during the course of the fourth millennium (Bar-Matthews and Ayalon 2011; Brooks 2006; Staubwasser and Weiss 2006). Two changes appear most significant. The first pertains to the initial phase of the Uruk period, roughly dated to first half of the fourth millennium, when available data indicates that the southern Mesopotamian alluvial plains would have received a greater amount of rainfall than was the case later, and, further, that some of that rainfall would have fallen during the summer. This would have been compounded by the equally beneficial effects that the more northern location of the head of the Persian Gulf would have had on the Tigris–Euphrates fluvial system of the time. These include a higher water table across the southern Mesopotamian alluvium and a greater rate of river meandering (because the shorter length of the rivers increased water momentum) ensuring that larger portions of the Mesopotamian alluvial plains away from the enlarged marshes would have been exploitable by means of relatively simple basin flow irrigation without the need to construct the sorts of larger, more capital- and labor-intensive irrigation channels that became necessary to efficiently exploit the southern Mesopotamian landscape later on when the head of the Persian Gulf had receded southwards, lengthening the courses of the rivers and shrinking the extent of the interstitial marshes.

The second change pertains to the final phase of the Uruk period, when the conditions that had been so uniquely favorable to the initial growth of large-scale human settlement in the area started to dissipate. Recently obtained paleoclimatic data suggest that an interval of drier climate lasting perhaps as much as two centuries affected the southern Mesopotamian alluvium sometime at the end of the third and the beginning of the fourth quarters of the fourth millennium, marking a shift to the sorts of highly seasonal conditions that came to characterize the southern Mesopotamian alluvium through the historic and modern periods (Brooks 2006; Staubwasser and Weiss 2006). Interestingly, though we do not yet have close chronological correlation, this climatic deterioration seems to have taken place at about the time when a long-term process of expansion that brought Uruk polities in direct contact with peer and less developed societies at their periphery was reaching its peak. At least in some areas of that periphery, those contacts culminated in what may be characterized as the world's earliest colonial intrusion (below).

EVIDENTIARY SOURCES

Available sources of information for Uruk period Mesopotamia are uneven in quality and detail. Our best – and in many ways still only – data bearing on the developmental dynamics of the period as a whole are the pioneering surveys conducted by Robert McCormick Adams and his colleagues across large portions of the ancient alluvial plains of the Tigris and Euphrates rivers (Adams 1965, 1981; Adams and Nissen 1972; Gibson 1972; Wright 1981; for a reworking of the data, see now Kouchoukos and Wilkinson 2007; Pollock 2001; and Wilkinson 2000). Fundamental as they may be, these surveys are biased in a number of ways that must be acknowledged even as we use them. First, because of restrictions on work near the modern international border between Iraq and Iran, coverage of areas watered by the ancient Euphrates was much more extensive and representative than coverage of areas watered by the ancient Tigris. Second, because they were designed to be extensive in nature, and because depositional (alluviation rates) and erosional (channel scouring, wind deflation) patterns in environments such as alluvial Mesopotamia's necessarily hinder site visibility, existing surveys of southern Iraq are likely to have missed a substantial number of small, shallow, and buried sites (Wilkinson 2000). Notwithstanding these problems, there is general agreement that existing data can still be used to discern spatial relationships between settlement categories in the region and, in so doing, to infer the political and economic relationships that may have existed between those categories. Additionally, and equally importantly, the surveys allow for a diachronic reconstruction of gross trends in the demographic history of the large portions of the Mesopotamian alluvial plains that could not be discerned otherwise and they allow us to compare demographic trends for the Uruk period against those of the immediately preceding and succeeding settlement phases (see also Ur, this volume).

Existing excavations are no less useful – and no less problematic. Nowhere is this better illustrated than in the case of excavations that German teams conducted intermittently over much of the twentieth century at the ancient city of Uruk (modern Warka, near Nasiriyah) (Eichmann 1989, 2007). These efforts have shed much light on the nature of the structures that existed at the very core of what was without a doubt one of the most important polities in alluvial Mesopotamia throughout the Uruk period, on the scale of the labor resources needed to erect those buildings, and on the activities conducted within them – at least insofar as those activities may be reconstructed on the basis of the associated artifactual record. Alas, this key corpus of data, too, comes to us with important evidentiary biases.

As noted by Hans Nissen (1993, 2001, 2002) in a series of seminal articles, the most important of these biases are: (1) that the Warka excavations, though unusually extensive, concentrated only on elite quarters of the city and are thus not representative of the city as a whole, much less of its habitation and industrial areas; and (2) that save for a small number of limited soundings, the overwhelming portion of the materials and buildings uncovered by the Uruk excavators belong to the very end of the Uruk period, by which time Mesopotamian civilization was already, so to say, fully formed. This means that the formative phases of Mesopotamian civilization dated to the earlier phases of the Uruk period remain largely unexplored at Warka – or elsewhere in the Mesopotamian Alluvium for that matter, outside of surface surveys.

A further problem is the lack of substantial systematic exploration of second tier Uruk period regional centers elsewhere in the Mesopotamian alluvium, save for

excavations conducted in the 1940s at the core of Tell Uqair (Lloyd and Safar 1943) and Eridu (Safar, Mustafa, and Lloyd 1981), which mirror the more extensive data from the core of Uruk and thus add little to our understanding of the period, or excavations into sites such as Nippur (Hansen 1965), Ur (Wooley 1955), and Tello (Parrot 1948), which sampled Uruk period levels but were either so limited in extent so as to produce little information beyond ceramic chronologies (Nippur) or were conducted in such a haphazard fashion as to be largely irrelevant for scholarly use (Ur and Tello). Even more galling is the fact that after a century or so of systematic exploration in southern Mesopotamia, research designs that were massively biased from the beginning toward the recovery of elite architecture and artifacts mean that we still have almost no systematic explorations of Uruk period villages or hamlets away from the larger regional centers.[1]

A further bias must still be discussed. Because of the shortcomings just noted of existing archaeological data for the Uruk period, Mesopotamian scholars often put much stock on available textual documentation for the period and its immediate aftermath, which consists of a corpus of 5,000 plus "Archaic Texts" excavated in Eanna IV–III levels at Warka (Englund 1998) and of an undetermined number of paleographically comparable tablets excavated or, more commonly, plundered from other southern Mesopotamian sites (Englund 2009: footnote 11). However, this data is also problematic in its own way. To begin with, the tablets date only to the very final phase of the Uruk period and shed no light whatsoever on the beginnings of the urban revolution in the area, which began much earlier (below). Moreover, even at Warka, only a handful of the thousands of tablets and tablet fragments recovered were found in primary contexts, so that it is difficult to associate any particular information contained in the texts with any particular institution at that site (Englund 1994: 11–19).

Mindful that our data for reconstructing developments in southern Mesopotamia in the Uruk period are not always complementary and are hopelessly partial, we may tentatively forge ahead with an attempt – necessarily imperfect – to create a narrative of sorts about the origins of early Mesopotamian civilization. By necessity, that narrative focuses on what we *can* say with the data we *do* have.

THE EVIDENCE FROM SURVEYS: URUK PERIOD SPATIAL AND POLITICAL ORGANIZATION

Available survey evidence suggests that the transition between the Uruk and the immediately preceding Ubaid periods was rather abrupt throughout the Mesopotamian alluvium (Nissen 1988: 66). To be sure, there is no way to know for certain whether this abruptness reflects an actual demographic pattern, or whether, at least in part, it reflects accidents of discovery due to changes in the rate and intensity of geomorphological forces that obscured site visibility in the alluvium between the two periods, or both.

Perhaps because of this caveat, in his analysis of long-term settlement trends in the southern Mesopotamian alluvium, Robert McCormick Adams (1981: 54–60) was unwilling to characterize the nature of pre-Uruk settlement in the Mesopotamian alluvium in detail, limiting himself to noting that in general the density of pre-Uruk sites is very light and declines northwards from the head of the gulf, that most pre-Uruk settlements represented but small hamlets or villages, and that larger settlements were not attested in the alluvium until the end of the Ubaid period (end of the fifth

millennium), when a handful of sites, each about 10 ha in extent, emerged. These larger sites, he argued, provide the only indication we have for social differentiation and complexity in southern Mesopotamia prior to the Uruk period.

Though Adams chose not to quantify the extent of occupation in the alluvium during the Ubaid period, what data we have, imperfect as they are, show a stark contrast between the Ubaid and the succeeding Uruk periods. While the earlier period evinced a bi-modal settlement structure with a handful of towns with monumental religious architecture at their core surrounded by relatively undifferentiated villages, the later period saw the development of a more complex multi-modal settlement configuration, comprising at least three or four tiers of settlement. This is reflected in a considerable increase in the total number of sites recorded across the alluvium, in the growth of multiple individual centers to urban proportions, and, most tellingly, in the thickening of the associated settlement networks that surrounded the newly emerged urban centers.

These differences matter. The bi-modal settlement structure of Ubaid Mesopotamia correlates well with the expected spatial configuration of chiefdom-level polities (Steponaitis 1981; Wright 1984; Nissen 1988; but see Yoffee 2005 for a contrary opinion),[2] while the multi-modal settlement structure that developed in the area during the Uruk period, in turn, correlates well with forms of spatial organization typical for state-level polities (Johnson 1975; Isbell and Schreiber 1978). Strikingly, the available survey evidence suggests that such polities were already in place across the surveyed portions of the southern Mesopotamian alluvium by the first quarter of the fourth millennium, the Early Uruk period, when Uruk/Warka, situated on a major branch of the fourth-millennium Euphrates, is estimated to have been between 70 and 100 hectares in extent. At least three other sites across the alluvium at this point were 40 hectares or larger in size (Eridu, Site 1237, and Tell al-Hayyad [Site 1306]). Multiple other sites across the alluvium at this time were in the range of 15–25 hectares (Adams 1981; Wright 1981; Algaze 2008: fig. 16 and appendix 1).

These various centers did not exist in isolation. When the relevant survey data are tallied, it appears that they anchored complex settlement grids minimally comprising four tiers in depth (Johnson 1980: 249). Indeed, available data indicate that the proportion of the population living in relatively large town-sized (ca. 10+ ha) or urban-sized (ca. 40+ ha) agglomerations in the alluvium in the Early Uruk period was just under 50 percent according to Adams' (1981: 75, table 4) original calculations. If Pollock's (2001: 216, table 6.7) recent reassessment of the same data, which tries to take into account the fact that not all sites assigned to a discrete period are likely to have been strictly contemporaneous, is preferred, that proportion rises to an astonishing 80 percent or so.

Impressive as this may be, developments in the succeeding Late Uruk period are even more striking. As in the earlier phase, the proportion of the population of the Mesopotamian alluvium living in relatively large town-sized or urban-sized agglomerations remained astonishingly high (ca. 70 percent for the Nippur Adab Region and ca. 60 percent for the Warka region).[3] As in the preceding period, multiple towns (ca. 10–15 ha) and small (ca. 25 ha: Nippur, Site 1172, site 125) and larger (50 ha: Site 1306) cities existed across the surveyed portions of the alluvium at this time (Algaze 2008: fig. 17, appendix 2) and further such cities also existed in areas not systematically surveyed, minimally including Umma and Tello (Algaze 2008: 112). What is new in the

Late Uruk period, however, is the extraordinary development and demographic growth of the central portion of the alluvium surveyed by Adams, where Uruk/Warka attained the unprecedented size of 250 or so hectares, according to a detailed surface survey of the site conducted by a German expedition just before the onset of the First Gulf War (Finkbeiner 1991: fig. 18). Although there is no consensus on precisely how to correlate settlement extent and population in ancient Mesopotamian cities, there is general agreement that Nissen's (2003) estimate of the population of Warka in the Late Uruk period at 40,000 or so people probably represents a reasonable approximation.[4]

Not surprisingly, the settlement grid that surrounded Warka at this time was exceptionally complex in terms of its density and hierarchy (four or more tiers depending on how the data are analyzed). It included numerous dependent small and large towns, villages, and hamlets situated within a 15-kilometer range of the city, totaling a minimum of 280 or so hectares of further occupation (Adams and Nissen 1972; Nissen 2002: fig 5). In other words, at a minimum, by the final phase of the Uruk period, the growing regional polity centered at Uruk/Warka had a population that can be conservatively estimated at well upwards of 80/90,000 people – and this estimate necessarily excludes the many small sites that were surely missed by the surveyors as well as associated, but inherently difficult-to-trace, transhumant and marsh-dwelling populations.

How and why did a polity of such unprecedented scale form? The how part of the question is approachable with the archaeological tools at our disposal. While the overall density of population in the Mesopotamian alluvium remained essentially unchanged between the earlier and later phases of the Uruk period, important changes did take place in the distribution of populations within the area between those phases (Adams 1981: 70–71). In particular, absolute population levels appear to have declined in some areas of the alluvium in tandem with Warka's growth, suggesting that the dramatic growth of that city and its immediate hinterland was fueled in part by intra-alluvial population transfers. A case in point is offered by the Nippur-Adab region, north of Warka, where Adams' (1981) surveys show that, while town and urban-sized settlements remained stable through the Uruk period, the number of associated villages and hamlets declined significantly as the period progressed. A similar decline in absolute population levels between the earlier and later Uruk phases is visible in the Ur-Eridu region, south of Warka, an area surveyed by Henry Wright (1981). There, however, the loss of population took place largely at the expense of Eridu, which had been one of the largest Early Uruk cities in the entire alluvium.

Additionally, it is likely that the explosive growth of the Warka and its immediate hinterland in the Late Uruk period also drew in populations from areas well outside the Mesopotamian alluvium proper. Suggested in the past by a number of authors (Adams 1981; Algaze 1993; Wright and Johnson 1975), this possibility now finds quantitative support in a recent comparative reanalysis of the available survey data from southern and northern Mesopotamia and southwestern Iran in the fourth millennium by Nicholas Kouchoukos and Tony Wilkinson (2007). They note that settlement processes in Greater Mesopotamia throughout the Uruk period appear to have been causally articulated over vast regions and persuasively show that, when recalculated using a single standard, demographic trends in the Mesopotamian alluvium and immediately neighboring areas appear to be inversely correlated: the explosive growth of Warka and its hinterland took place not only at the expense of the Nippur-Adab and

Eridu-Ur areas, as argued earlier, but seemingly also at the expense of areas well outside the immediate confines of alluvial Mesopotamia, where a monotonical decline in settled population can be observed throughout the fourth millennium. Minimally, this is the case in areas as disparate as the Jazirah plains north of the Jebel Sinjar in northern Iraq, the Susiana plain of southwestern Iran, and Fars Plain in highland southwest Iran (see Kouchoukos and Wilkinson 2007 for the Jezirah and Susiana and Sumner 1986 for Fars).

The why part of the question is less straightforward and requires us to think in terms of self-amplifying iterative processes. Elsewhere, combining scraps of available data from Mesopotamia itself and historical analogies, I have argued for growing intra- and inter-regional trade funneled through Uruk cities, and for import substitution processes resulting from that trade, as primary forces fueling employment in those cities and spurring continued immigration into them (Algaze 2008). No doubt, this was compounded, in turn, by two further mutually reinforcing processes: (1) escalating conflict between rival centers that became ever more assertive as they grew in scale, increasing the defensive flight into those very same centers of rural populations caught in the middle, and (2) the ideological attractions of living in centers where the gods themselves were thought to reside (Adams 1981), which surely helped draw further people into already growing cities. As bigger pools of consumers for imported and locally-made commodities and of exploitable labor were created, further iterations of self-sustaining growth processes became increasingly likely.

Be that as it may, the unprecedented growth of urbanism in southern Mesopotamia during the later phase of the Uruk period can also be gauged by the scale of the building programs that took place in the burgeoning Mesopotamian cities of the time. It is to an examination of that evidence that we now turn.

EXCAVATIONS: A NARROW BUT REVEALING LOOK AT URUK URBANISM

Our knowledge of the nature of Uruk urbanism has increased exponentially in the last few decades as a result of excavations in the Tabqa Dam area of Syria, where large portions of an Uruk urban enclave have been uncovered by the combined efforts of German, Belgian, and Dutch excavators (below). Within alluvial Mesopotamia, however, the bulk of what detailed evidence we have for the nature of Uruk urbanism comes from the eponymous site of Uruk/Warka itself, which was intermittently excavated over the last 100 or so years by German teams.

While Warka appears to have been urban in size since the beginning of the Uruk period (above), little can be said about how the settlement was organized at the time because of the limited nature of pertinent exposures. That is not the case, however, with the succeeding Late Uruk period for which the site provides a wealth of evidence. As noted earlier, the settlement sprawled over an area of about 250 ha (2.5 sq. km) at the time. On the basis of parallels with Uruk colonial settlements in Syria, it is likely that Uruk was walled,[5] and that it was divided into religious/administrative, residential, and industrial quarters. However, German excavators focused their efforts only on the very core of the city, where they eventually succeeded in exposing an area of about 9 ha (or just under 4 percent of the site; Nissen 2001). This substantial exposure yielded a series of monumental elite buildings organized into two separate architectural clusters

situated some 300 m apart from each other, known as the Eanna and Kullaba (Anu) Precincts. In later historic periods, these precincts were devoted, respectively, to the gods Inanna and Enlil, and almost certainly this was the case already in the Uruk period as well. Because the two areas were clearly distinct and are situated at significantly different elevations, it is plausibly hypothesized that they started as acropoleis for two distinct settlements that were later joined when Uruk first grew to urban size (Nissen 2002).

While far from representative of the city as a whole, the Eanna and Anu exposures are quite informative about the nature and scale of elite institutions at the heart of the settlement in the Late Uruk period. As the pertinent evidence has recently been the object of definitive studies by Ricardo Eichmann (1989, 2007) and of a recent reanalysis by Marlies Heinz (2006, and this volume), only a brief summary of some of the most salient data is necessary here.

The most coherent – or at least best understood – of the two exposed areas was the Anu Precinct, where excavators uncovered a massive tripartite structure (24 × 19 m) of Late Uruk date with a central cella and recess-buttressed walls known as the "White Temple" on account of the color of the plaster that lined its walls when first excavated. Those walls were preserved in places to a height of over 3 meters and allow the overall height of the building to be reconstructed with some confidence at about 6 meters (Nissen and Heine 2009: 23). Because of its tripartite plan focused around a central hall (which recalls that of earlier Ubaid temples) and because that hall contained both a freestanding central offering table and a corner podium (where the statue of the god would have stood), the Warka excavators plausibly interpreted this structure as a temple.

The White Temple was clearly the last of several similar but smaller structures erected over a series of successively rebuilt mudbrick terraces in the Anu area. By the time that the final version of White Temple was built, those terraces had risen to a height of 13 meters and the temple could only be accessed by means of a narrow staircase carved into the final terrace. The substantial bulk and height of the terrace, added to the also substantial height of the building itself, meant that the White Temple dominated the visual landscape of both the city and its surrounding region.

But the White Temple was hardly the most massive structure in the Anu area. Just at the base of its terrace, the Warka excavators uncovered a roughly contemporary structure that was even larger (25 × 30 m) but was built largely underground. Known as the Steingebaude because of its walls made of bitumen-mortared limestone, this building had a highly unusual labyrinthine plan surrounding a central space at its core. Because of the highly restricted nature of that space, the Steingebaude is generally interpreted as serving a cultic purpose (Forest 1999; Vertesalji 1989, 193, note 19).

The interpretation of the more numerous and sometimes more massive contemporary structures uncovered in the Eanna area is less straightforward. This is due to the fact that the excavators were not always able to trace the relative stratigraphy of many of the structures uncovered in that area, which has precluded a consensus as to exactly which buildings were in use contemporaneously. What follows is based for the most part on the analysis of the evidence by Eichmann (1989) and Heinz (2006), who use the superimposition of particular buildings over others and extrapolations of general alignments between buildings as a way to disentangle the architectural sequence.

By design, the bulk of exposures in the Eanna Area focused on Level IV of the sequence (Nissen 2002). Because exposures of deeper levels was limited, only two of the many Uruk structures exposed in Eanna predate Level IV: the so-called "Stone Cone Mosaic" Temple (ca. 20 × 30 m) and the much larger "Limestone" Temple (Fig. 4.1a: ca. 27 × 80 m), the former deriving its name from its wall decorations and the latter from the material used for its construction. Both structures have the tripartite architectural arrangement that reflexively gets subsumed under the category of "temple" by Mesopotamian archaeologists, but they lack altars and offering tables – a characteristic that, interestingly, is shared by all of the later tripartite Uruk structures cleared in Eanna.

Numerous buildings assignable to three superimposed but not always clearly delineable building phases and parts of a temenos wall separating those structures from the rest of the settlement were cleared in Level IV. The earliest structures in the level were a series of the now usual tripartite buildings ("Temples" A, B, F, G, and H), each roughly similar in scale to the earlier Stone Cone Mosaic Temple. What was new and significantly different at this time, however, was a very large square structure with recessed corners (ca. 57 m per side) of unique design assigned to Eanna IVb. Known as "Building E," this structure has multiple external entrances leading to two symmetrical ranges of rooms and halls on each of its sides which, in turn, surround a large central square courtyard (ca. 31 m per side) that is also accessible through multiple points of entry (Fig. 4.1b). [6]

The final building phase assigned to the Eanna IV sequence introduced substantial changes in the spatial organization of the exposed area. Three such changes are noteworthy. One was the dismantling of Building E and the erection partly over it of a new tripartite structure (Building D) of traditional architectural design but much grander in scale ((Fig. 4.1c) ca. 80 × 50 m). Another was the building of a row of new structures perpendicular to Building D, including two elaborately decorated halls (the "Pillared Hall" and the "Great Hall"), which, like the earlier Building E, could be entered from every direction. The third was the building of a large (ca. 60 m per side) partly sunken walled court (the "Great Court") adjoining the temenos wall, which is generally interpreted as a garden because of the absence of interior walls and because associated water channels drain into the court, rather than the reverse.

What can we say about Uruk society on the basis of the exposed architecture at the heart of Uruk/Warka? It is impossible to begin to answer this question without delving into the function of the exposed buildings, but such an inquiry is inherently difficult because the overwhelming majority of those buildings were only preserved at the level of their foundations, having been razed and leveled in antiquity, and accordingly they had few directly associated finds. Moreover, as noted earlier, even when such finds existed, excavation methodologies and recording priorities in use at the time they were excavated mean that few of the finds can be put back into the buildings in which they were found (Nissen 2002). In light of this, inferences about the function of particular Eanna structures are almost entirely based on the form of the exposed buildings themselves and must be considered little more than informed speculation.

Seeking to reconcile the tripartite floor plan of many of the Eanna buildings with the widespread evidence for contemporary administrative activities found in their general vicinity (below), many archaeologists refer to the Eanna structures simply as "religious/administrative" in nature. This may certainly be correct but still begs the

question of their exact function. Others, in turn, noting similarities in the proportions of the central halls of many of the structures and modern reed-built reception huts used by traditional tribal chiefs in southern Iraq (Arabic: *madhaif*), suggest that they served as cultic reception halls or meeting places, an idea traceable to Walter Andrae (1936). Be that as it may, one fact immediately strikes the eye: while entrance to the structures in the Anu Area appears to have been carefully controlled, this was not always the case in the Eanna Area, where many of the buildings had multiple entrances and must have served purposes requiring the relatively free congregation of large numbers of people (feasting as a mode of social mobilization? See Dietler and Herbich 2001), as has been noted by a number of scholars (e.g., Crawford 2004; Dittmann 2007).

But if attempts to get at the function of the structures exposed at the heart of Uruk yield little beyond broad generalities, there is still much that can be said about Uruk society, and particularly about the ability of its elites to command both labor and resources, by looking at the energetics required to put those structures together in the first place (Figure 4.1).

Most Mesopotamian scholars are quite familiar with early calculations made by the excavators of the White Temple complex, who estimated that it would have taken 1,500 laborers working on average ten hours per day for about five years (Heinrich 1939: 24, note 2) to build the last major revetment of its massive underlying terrace (43 × 60 m at its base and 13 m in height = 33,540 m^3, of which the revetment occupied ca. 80 percent by volume = 26,832 m^3).[7] Using the same labor estimates for comparative purposes, we can calculate the amount of labor required to build some of the contemporary structures in the Eanna Precinct. Lack of space prevents a thorough analysis here, but a few back-of-the-envelope calculations for some of the larger successive buildings erected in Eanna will serve to illustrate the point: the Limestone Temple

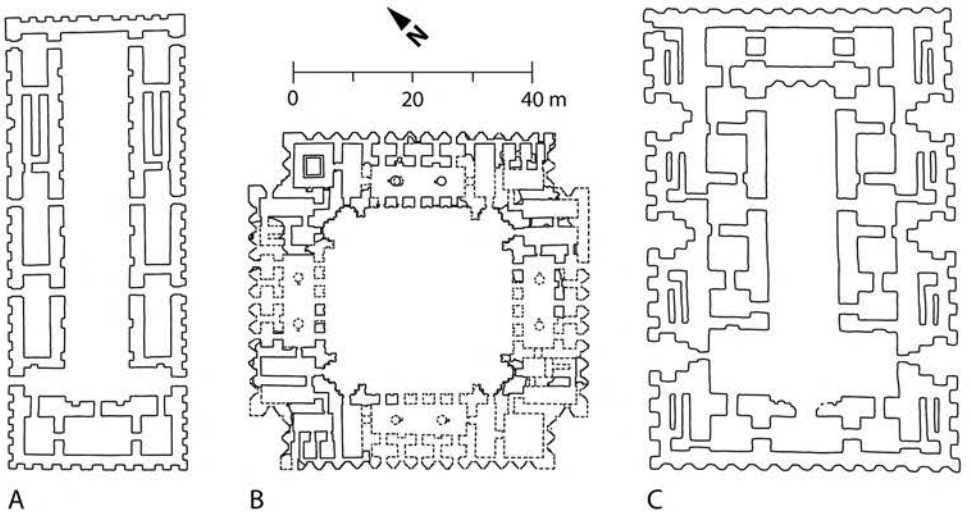

Figure 4.1 Reconstructed plans (redrawn after Eichmann 2007) of Late Uruk monumental buildings in Eanna Area at Uruk/Warka. (a) "Limestone Temple" (Eanna V); (b) "Palace E" (Eanna IVΩb); (c) "Temple D" (Eanna IVa).

assigned to Eanna V, Building E assigned to IVb, and Temple D assigned to IVa. If we disregard doorways, presume that each of the three structures was as tall as the White Temple, and treat the Limestone Temple as if it had been built using (less labor intensive) mudbricks, then the combined volume of the internal and external walls of these buildings would have amounted to some 25,054 m^3.[8] By construction standards of the final White Temple revetment, this volume of mudbrick would have required the labor of about 1,400 workers for five years. It does not take much imagination to see that preliminary calculations such as these would amount to a staggering amount of labor at the disposal of the rulers of Uruk cities if one includes all pertinent architectural evidence as well as associated architectural leveling efforts prior to building, and particularly so if Nissen (2003: 12) is correct in presuming that the administrative quarter of Uruk/Warka probably occupied ca. 20 percent of the total extent of the city (i.e., about 50 ha).

Impressive as this may be, the energetic requirements of the massive building programs at the core of Uruk required more than just labor. Substantial access to resources, many of them imported, was also needed. Take, for instance, the timber requirements of the same three successive buildings in Eanna discussed earlier. Given the wide span of most of the rooms and halls that they contained, these structures could only be roofed using wood not then locally available in the Mesopotamian Alluvium, almost certainly pines cut from the highlands of either the Taurus or Zagros Mountains of Turkey and Iran, respectively.[9] Calculations by Jean-Claude Margueron (1992) allow us to infer what those requirements would have been. He estimates that somewhere between 3,000 and 6,000 linear meters of timber would have been necessary to roof the Limestone Temple, depending on, among other things, whether its courtyard was roofed, number of stories, and roofing beam placement interval. Extrapolating from these figures and presuming similar construction parameters und uncertainties per unit of built space, Building E would have required between 4,330 and 8,660 linear meters of imported roofing timber and Temple D, in turn, would have consumed somewhere between 5,580 and 11,160 linear meters, for a combined total of between 12,910 and 25,820 linear meters for the three buildings. Again, we have to assume that this represents but a small fraction of the full timber requirements of Late Uruk Warka.

We could continue with calculations of the energetics of Late Uruk urbanism, but by now the point should be abundantly clear. The scale of the Late Uruk building program at the center of Uruk/Warka leaves little doubt as to the substantial ability of that city's elites and institutions to acquire and deploy staggering amounts of both labor and resources. We have to presume that elites and institutions at other contemporary urban sites elsewhere in the Mesopotamian Alluvium would have had comparable needs and comparable abilities to satisfy those needs, as shown, for instance, by the massive bitumen-mortared, mudbrick and limestone-revetted platforms of Late Uruk Temples (Levels I–II) at Eridu (Safar, Mustapha, and Lloyd 1981). Who those elites were and what labor resources they were able to command are subjects addressed in the discussions that follow.

LATE URUK ELITES AND THEIR INSTITUTIONS

A picture of the top rung of Mesopotamian societies is not possible prior to the Middle and Late phases of the Uruk period, when iconographic and textual evidence,

respectively, become available. Without question one of the most important sources we have bearing on the nature of Uruk institutions is represented by fragments of a scribal exercise conventionally referred to as the "Titles and Professions List," which date to the final phase of the Uruk period (Uruk IV script). In its complete version dating to the succeeding Early Dynastic period, the document lists over 120 categories of specialized administrative and priestly personnel in some sort of hierarchical order. While the earliest Uruk IV script fragments of this list are not complete, what portions we do have closely match later versions, strongly suggesting that those later versions are in fact scribal copies of documents already in circulation by Late Uruk times. The ranked list starts with an entry that on the basis of later parallels may be interpreted as "king." Subsequent entries are not all clearly understood but include the titles of administrators and lesser officials in charge of various state institutions including individuals in charge of the administration of justice, the city assembly, plowing, sowing and other agricultural activities, temples, etc. (Nissen, Damerow, and Englund 1993: 110–115).

Further details of Uruk institutions and the individuals that created them are provided by iconography of Middle and Late Uruk date. Much of Uruk art, for instance, deals with the ideologically charged activities of a larger-than-life bearded male figure, who wears his hair in a chignon and sports a net-like skirt. Typically depicted as a hunter of wild animals and men, as a leader in battle, as a fountain of agricultural wealth, in direct association with niched buildings of presumably cultic significance, and as the main officiator in various religious rituals (Bahrani 2002; Boehmer 1999; Schmandt-Besserat 1993; Winter 2007), this individual is generally thought to represent a "priest-king" or "city ruler," attributions largely based on the close parallels between the manner in which he is depicted in Uruk art and the way historic Mesopotamian kings were later portrayed.

When not focusing on heroic warlike rulers, Uruk iconography often depicts various types of economic activities, such as agricultural labor and the storage of agricultural products, the transport of commodities, the herding of caprids and bovines, and the processing of wool and dairy products. These images, too, provide important inferential information about Uruk institutions. As noted by Rene Dittmann (1986) in his groundbreaking review of Uruk glyptic from Susa, at that site, most scenes depicting economic activities are associated with images of buildings with niched façades. If we presume that the glyptic containing these images represented bureaucratic records of economic activities at the site, and that the niched structures depicted in the Susian glyptic are representations of similarly built structures excavated in Uruk cities, such as Warka, for instance, then the physical centrality of the niched structures in those cities may be taken as an indication of the economic centrality of the institutions that they housed.

THE LABOR REVOLUTION IN URUK MESOPOTAMIA

The earliest written tablets of ancient Mesopotamia are collectively known as the Archaic Texts and date to the very end of the Uruk period and its closely related but immediately succeeding Jemdet Nasr phase. While these tablets are not always entirely understandable to us, they are still enormously informative. Of the many aspects of early Mesopotamian societies that they illuminate, few are more important than how institutional labor was organized in Late Uruk cities.

The overwhelming majority of the tablets are simple accounts documenting flows of commodities. Many record the disbursement of textiles, grain, or dairy products to individuals. While generally they do not record details of the institution or institutions making these disbursements and only rarely record the status of the individuals receiving them, parallels to later cuneiform documentation suggest that many such accounts represent summaries of allotments to administrators for later distribution to fully or partially dependent workers under their command (Nissen, Damerow and Englund 1993; Englund 1998).

That such workers existed is both directly documented in the tablets and indirectly inferable from them. Direct corroboration, for instance, is provided by about fifty individual tablets that deal with individuals or groups of individuals that are explicitly characterized as dependent laborers. Most of these tablets, to be sure, date to the later Eanna III script phase, but some can be assigned to the Late Uruk period on paleographic grounds (Englund 2011). A case in point is provided by a recently published text in clear Uruk IV-type script which summarizes groups of male and female captives used as laborers, totaling 211 individuals (Englund 1998: 178–179, fig. 66). While it is difficult to ascertain how representative tablets such as these really are, the frequency of references to captive individuals in the Archaic Texts as a whole is quite high. Robert Englund (1998) notes that if one excludes non-numerical signs, the second most common sign in those texts is that denoting female slaves of foreign origin. Signs for captive males, while less common, are also quite frequent.

Inferential evidence for the importance of encumbered labor to Uruk institutions is also not hard to find. Such evidence takes several forms. One has emerged only recently as scholars were finally able to peruse the numerous plundered Archaic Texts in the Schøyen Collection, which exponentially expanded the repertoire of personal names known from such texts (from 38 to 440!). In a recent study of those names, Englund (2009) convincingly shows that the overwhelming majority of them are composed with signs that specifically denote the status of the individuals bearing them as either outright chattel or as fettered in some way, a fact he presumes is explained by Uruk overlords renaming foreign captives in terms comprehensible to themselves. In an exquisitely ironic twist of history, it would seem that most of the personal names we have for the earliest Mesopotamian cities and states are those of slaves rather than those of their owners. Another line of evidence that betrays the importance of captive labor to early Mesopotamian urban institutions is comprised by scribal summaries in the Archaic Texts that detail the composition of groups of foreign and native laborers. These summaries consistently describe these laborers with detailed age and sex categories that are identical to those used to summarize the composition of state-controlled herds of domestic animals (Englund 1998: 176–81, 2009, 2011). It would appear, therefore, that in the minds of Uruk scribes, and in the eyes of the institutions that employed them, such laborers were conceptualized as "domesticated" humans, wholly equivalent to domestic animals in status and partially equivalent to them in function.

To be sure, the evidence just outlined is too partial for a reliable picture of the Uruk economy to emerge, as the tablets that provide most of our information, by definition, exclude all activities beyond the immediate purview of the urban scribes that produced them and of the institutions they worked for. Accordingly, that evidence does not necessarily mean that captives were a significant component of the Uruk labor force *as a whole*, just that they were the primary component of the institutional labor force

at the command of Uruk urban elites (Englund 2009). Later historical parallels allow us to easily imagine the deployment captives as part of the workforce used to build the monumental structures that stood as a testament to power at the very center of Uruk cities. Uruk iconography depicting siege scenes and bound prisoners (e.g., Boehmer 1999: pls 11–27), while amenable to varying interpretations, provide us with multiple representations that can also be reasonably interpreted as depicting the taking of captives that would later swell the ranks of laborers tracked by Uruk scribes. To understand how and where many of those individuals may have been acquired, we must now turn to an examination of the so-called Uruk Expansion.

THE URUK EXPANSION: THE WORLD'S FIRST COLONIAL INTRUSION

No aspect pertaining to the origins of Mesopotamian civilization has garnered more attention in the past few decades than the expansion of Uruk polities into a variety of geographical and cultural areas across the periphery of alluvial Mesopotamia. This expansion took a variety of forms in different areas, depending no doubt on distance away from the alluvium, ease of transport, and the varying nature of preexisting societies in the intruded areas. Though it has been the subject of considerable recent discussion (Algaze 1993, 2001a, 2001b, 2005: 128–155; Postgate 2002; Potts 2004; Rothman 2001; Stein 1999, 2005; see also chapters by Cooper and Lamberg-Karlovsky in this volume), it is still necessary to address here the broad outlines of the Uruk Expansion because of what they reveal about the nature of Uruk societies and their evolving capabilities through the Uruk period.

Vastly oversimplifying, the Uruk Expansion can be heuristically divided into two components, which may have partly overlapped, both chronologically and causally. The first and possibly earliest phase of the expansion took place as Uruk populations colonized the neighboring Susiana plain of Khuzestan, in southwestern Iran, where indigenous populations (Terminal Susa A) had previously been in decline (Wright and Johnson 1975). This expansion may be discerned in the introduction of a full complement of Uruk material and ideological culture across the Susiana Plain (Algaze 1993: fig. 3), where it is found in sites both large and small suggesting that the whole region was taken over by the intruding populations.[10] Given existing gaps in our understanding of the earlier part of the Uruk period, little can be said about when exactly this colonial intrusion got underway, how long it took, or how many alluvial polities participated in the initial push. What is clear is that ceramics and glyptic of Middle Uruk type, dated sometime between 3700/3600 and 3500/3400 BC, provide a *terminus ante quem* for the start of the intrusion and that its end result was the division of the Susiana into two competing Uruk polities (Wright and Johnson 1975; Johnson 1987), centered respectively at Susa and Chogha Mish. Culturally, though probably not politically, Susiana had become, in effect, part and parcel of Uruk Mesopotamia.

At about the same time that this was taking place in Susiana, some Uruk polities, possibly in reaction to events in Susiana, appear to have initiated systematic contacts with societies situated at their north and northeastern periphery. These contacts were particularly intense in the high rolling plains of Upper Mesopotamia stretching between the Tigris and Euphrates rivers – an area that in the earlier half of the fourth millennium was well under way to developing its own traditions of urbanism and social

complexity (below) – and led to establishment of a number of southern Mesopotamian outposts of varying types.

On the basis of existing C14 dates from Uruk sites in Upper Mesopotamia (Wright and Rupley 2001) and pertinent parallels in ceramics, glyptic iconography, and accounting procedures, those outposts were established in the Middle Uruk period and the earlier part of the Late Uruk phase. For reasons that we can only speculate about (below), the outposts were withdrawn or abandoned just before the very end of the Late Uruk period (Nissen 2001; Rothman 2001; Surenhagen 1986). As a group, these outposts represent a second component of the Uruk Expansion, one that evolved and grew in scale and geographic scope over time but that was clearly distinct from the Uruk takeover of the Susiana in that it did not include the colonization of whole regions. Rather, the northwards component of the Uruk Expansion appears limited to the implantation of individual sites at strategic locations of significance for transport across the Mesopotamian periphery, principally, but not solely, at the intersection of the north-to-south flowing rivers and the principal east–west overland routes across the high plains of northern Mesopotamia.

The intrusive Uruk settlements across the northern and northeastern periphery of Alluvial Mesopotamia can be lumped into three types. The first (and earliest) type is represented by small trading diasporas. These appear to have consisted of small groups of Uruk colonists living either in the midst of preexisting indigenous Late Chalcolithic sites already exploiting coveted resources or controlling access to those resources or living in more discrete small settlements placed in the immediate vicinity of some of the larger Late Chalcolithic centers of Upper Mesopotamia, commonly not much more than a stone's throw away. Examples of the first type of diaspora settlement include Hacinebi Tepe (Stein 1999), located just north of modern Birecik in Turkey, astride one of the few natural fording areas of the Upper Euphrates in antiquity, and Godin Tepe (Gopnick and Rothman 2011), situated in the Kangavar Valley, a strategic node controlling the historical east–west overland route from southern Mesopotamia into the Iranian plateau (the Khorasan Road). Examples of spatially discrete diaspora settlements near larger preexisting centers have been hypothesized to represent Old Assyrian Kültepe Karum-like emplacements (Algaze 1993: 48–50; Ur 2010; Ur et al. 2011) and have thus far only been identified in surveys. They have been recognized along the Upper Euphrates near Samsat, along the Balikh near Hammam et Turkman, and along the Upper Khabur near Brak and Hamoukar.

In many areas of the north and northeastern Mesopotamian periphery, Uruk penetration never proceeded beyond the diaspora-type outposts just described. In some areas, however, a second stage and a different type of outpost followed from the preceding in which important preexisting centers of substantial size, which by their very nature already served as nodes for interregional trade, were taken over by Uruk colonists, almost certainly by coercive means (Emberling 2011). Insofar as we have evidence, such second stage takeovers only took place in the later phases (Late Uruk) of the Uruk Expansion. Evidence for such takeovers is, to be sure, somewhat ambiguous. My earlier suggestion (Algaze 1993) that Carchemish on the Euphrates and Nineveh on the Tigris may represent preexisting regional centers taken over by Uruk colonists remains impossible to evaluate, as no new work has taken place at Nineveh and a new multinational excavation project only recently started in Carchemish in 2011.

More promising, however, is new work in the Upper Khabur basin of Syria. Excavations at Tell Hamoukar, a town-sized (ca. 12 ha) Late Chalcolithic settlement situated in eastern Syria along a historic east–west route connecting the Upper Khabur and Upper Tigris areas, for instance, has shown that the introduction of Late Uruk material culture at that site was preceded by a violent conflagration that destroyed the preexisting indigenous center (Reichel 2002 and personal communication 2009). A similar case appears to have obtained at Tell Brak on the more central Jagh Jagh branch of the Upper Khabur, which was clearly the largest and most important indigenous Late Chalcolithic center in Upper Mesopotamia during the first half of the fourth millennium (Oates et al. 2007; Ur et al. 2007; Ur 2010). Excavations in Area TW of the Brak High Mound leave little doubt that some sort of an intrusive Uruk colony was established at the site. Evidence is provided by a full repertoire of typically southern material culture of Late Uruk type (TW 11–12; Oates 2002), which caps a long and impressive sequence of earlier indigenous Late Chalcolithic remains (Emberling and McDonald 2001; Oates and Oates 1997; McMahon and Oates 2007; McMahon 2009).

What is not immediately clear, however, is whether that colony was an isolated diaspora-type presence similar to that at Hacinebi or Godin or whether the whole site was in effect taken over by southern intruders at the time. In considering precisely this question, Geoff Emberling (2002, 2011) argues, plausibly in my opinion, for the latter explanation. There are two parts to his line of reasoning. First, Emberling notes that, as was the case at Hamoukar, an intervening destruction layer separates the final Late Chalcolithic architectural level at Brak (TW 16) and the earliest superimposed Late Uruk architecture (TW 12). Second, Emberling surmises that on account of the commanding position that the last rebuilding of the Eye Temple (excavated by Max Mallowan in the 1930s) occupied at the site, its builders must have controlled the site as a whole. Who those builders were, in turn, he infers from the pervasive southern Mesopotamian affiliation of the temple's plan and architectural decorations, which he sees as evidence for the imposition at Brak of a religious agenda of southern Mesopotamian origin.

The third type of intrusive settlement is found in areas in which no significant pre-existing occupation had to be reckoned with. In those areas, from the very beginning, Uruk penetration was a process of urban implantation whereby Mesopotamian social and urban forms were reproduced in essentially virgin landscapes. This type of intrusive strategy appears restricted to the immediate vicinity of river fords along the Upper Euphrates and is particularly clear in the lower corner of the Great Bend of the river near the modern town of Meskene. There, built-from-scratch intrusive Uruk settlements have a long history that goes back to the founding of the small site of Tell Sheikh Hassan on the left bank of the river during the Middle Uruk period and continued into the earlier part of the Late Uruk period when a much larger urban enclave (ca. 20–40 ha) in extent comprised by Habuba Kabira-süd, Tell Qannas, and Jebel Aruda was founded on the opposite bank of the river (Strommenger 1980; Vallet 1996, 1998).[11] Because these latter sites were abandoned by the end of the Uruk period and were not reoccupied in later times, the relative wide exposures that were possible within them yield a snapshot of what the Uruk colonial enterprise in virgin areas looked like: the massive surrounding fortification walls, carefully laid-out streets and well-delineated residential, industrial, and administrative quarters of the Habuba/Qannas settlement are part of a vast and, before then, unimaginably coherent urban planning effort.

What do these various types of Uruk outposts tell us about Uruk societies and about their strategies of contact with far-away peripheral areas? Of the many points that could be made in answer to these questions, I will highlight but four. The first is that the carefully chosen locations of the outposts at river fording areas or at local sites at the apex of preexisting regional hierarchies along east–west routes suggest that control of trade and transport were the primary (though surely not the sole) motivations for the expansion northwards. However, because there was no obvious attempt to control the vast hinterlands away from those chosen locations, we are dealing with a very different type of colonial strategy than that effected in Susiana.

The second point is that processes of expansion of Uruk societies evolved over the centuries-long lifetime of the process. While we tend to think of the establishment of colonies as a process unique to state-level polities who seek to acquire and exploit non-contiguous territories and resources, there is in fact a considerable body of ethnographic and historic literature (Curtin 1984) showing that non-state actors can – and have – repeatedly established and maintained distant diaspora-style colonies in far-away areas and, conversely, that territorial annexation by states is often only the end result of long-term processes of colonization that began much more modestly with strategically situated isolated outposts seeking resources from native populations willing to trade (Gallagher and Robinson 1953), a process fittingly encapsulated by the expression "The Flag Follows the Trade." Against this light, as Stein (2005) has noted, the relatively small scale of Middle Uruk outposts thus far documented along the Upper Euphrates would not be inconsistent with an Old Assyrian-type familiar enterprise seeking to plug into preexisting networks of trade and redirect some of that trade for their benefit. The same could be said, for that matter, for the small sites with Uruk materials near large Late Chalcolithic centers, noted earlier, along the Balikh and Upper Khabur basins. Additionally, I would argue, some of those same outposts would not be inconsistent with small groups of specialized merchants sent out by specific Uruk urban institutions to acquire a particular suite of coveted commodities – possibly not unlike the *damgar/tamkarum* who procured foreign goods for some Mesopotamian temple administrators in the Early Dynastic Period (Postgate 2003) or those sent by the city of Umma to Susa during the Akkadian period (Foster 1993). In either case, such outposts would represent a case of "colonies without colonialism," to borrow Gil Stein's (2005) apt phrase.

The third point is that whatever the initial nature and impetus for the Middle Uruk expansion into Upper Mesopotamia, the sorts of massive, quickly erected and well-planned enclaves that we encounter in the succeeding Late Uruk phase could only have been built by state institutions capable of levying, commanding, and deploying substantial resources and labor. Similarly, the scale of some of the indigenous Late Chalcolithic polities that appear to have been vanquished and taken over by southern intruders in the Khabur area in the Late Uruk period also leaves little doubt that by then the Uruk Expansion had become a state-supported enterprise requiring the ability to organize, equip, feed, and field armies capable of operating far away from their base(s).

The final point may appear counterintuitive in light of the preceding remarks, but is not. There is little need to conceive of the Uruk Expansion as some sort of a centrally planned unitary phenomenon that took different forms in different areas. Rather, because available survey evidence from alluvial Mesopotamia (above) is consistent with an interpretation of multiple politically balkanized but culturally homogeneous polities

throughout every phase of the Uruk period, the expansion is perhaps best conceived as an organic process of action and counteraction, wherein individual Uruk (city) states scrambled to colonize specific areas of their periphery, or to found specific strategic outposts tailored to local conditions within that periphery, in order to secure access to the critical lines of communication through which coveted resources were obtainable and, equally important, to deny their local southern rivals such access.

CONCLUSIONS: SMITHIAN GROWTH

Working with assumptions ultimately derived from Marxian conceptions of history, economic historians generally contrast "ancient" and "modern" modes of economic growth as inherently different. The former is characterized by the self-limiting growth of largely agricultural regimes with stable or, more commonly, declining output per capita as they expand, Malthusian constraints on population density, and a slow or stagnant rate of overall technological advance, and the latter is characterized instead by self-sustaining growth based on increases in both income per capita and total output, ever-receding Malthusian constraints, and ever-accelerating technological progress (Clark 2007).

While roughly correct in its general outlines, this broad-brush characterization ignores one important pre-modern exception that is quite relevant to the understanding of what Daniel Potts (2004) aptly referred to as "The Uruk Explosion." This exception is what the historian Jack Goldstone (2002) terms "Smithian Growth." As Goldstone (2002: 324) explains it, Smithian Growth is similar to modern processes of growth in that "gains from specialization produce higher productivity and hence higher incomes per capita as well as total growth. These gains can come from specialization across different societies that accompany increased long distance trade, from regional or urban/rural specialization accompanying increased domestic trade and urbanization, or from increased occupational specialization accompanying increased population density and local circulation of goods and services." However, Goldstone warns us that Smithian Growth, unlike Modern Growth, was not self-sustaining in the long run, and ultimately amounted only to a series of bright but temporary "efflorescences." This is explained, he argues, by the fact that Smithian Growth was not commonly accompanied by major productivity-enhancing technological advances and therefore ceased when trade was interrupted or, eventually, when initial gains from trade-related specialization reached a plateau, reestablishing (though at a higher level) growth-limiting Malthusian constraints.

In Goldstone's view, then, in the aggregate, pre-modern growth is sharply punctuated: short phases of fast growth follow closely in the heels of episodic and locally notable increases in trade, specialization, and population agglomeration but give way eventually to longer and more typical periods of much slower growth or even stagnation. These transitions, he notes, are not without consequences. Historically, significant decreases in income per capita can lead to a loss of political legitimacy, to rebellion, the rise of alternate religions or ideologies, and an intensification of all manner of conflict as self-defined factions within a declining society compete over its waning resources (Goldstone 2002: 325).

Uruk Mesopotamia can, in my opinion, be fittingly characterized as a case of Smithian Growth as defined by Goldstone. While correlation is not causation,

available data suggests that the explosive growth of both population and specialization in southern Mesopotamian societies of the second half of the fourth millennium took place at a time when substantial cross-cultural trade and transregional resource flows were the norm. This is inferable, indirectly, from the locational circumstances of Uruk outposts across the Mesopotamian periphery, which, irrespective of whether newly founded or implanted within preexisting Late Chalcolithic centers, were invariably situated at crucial nodes of transportation across the area (Algaze 1993, 2008). It is also inferable, more directly, from the dramatic (if still unquantifiable) increase in both the amount and the variety of utilitarian and exotic resources imported into southern Mesopotamia in the Middle and Late Uruk periods as compared to Late Ubaid times. Flows of resources of the sorts presumed here, to be sure, would have had important ramifications in all societies involved in them, including those from which the resources were extracted, but those ramifications would have been particularly marked in the case of Uruk polities because of four compounding factors that differentially fueled the growth of specialization, employment, and population in southern Mesopotamia as opposed to elsewhere.

The first factor applies irrespective of whether resources were acquired via trade or plunder and is that the majority of the commodities flowing southwards were raw or only partially processed goods, such as timber, metals, and stones, that required significant processing before they could be incorporated into the economy. The second factor pertains to imports acquired by trade. Historically, in the Mesopotamian case, this required the export of finished textiles – a specialized, labor-intensive industry that under Mesopotamian conditions had multiple employment ramifications that went well beyond the production and processing of wool itself (Algaze 2008). The third factor is scale dependent and follows from the increase in the scale of the economy that the need to process both imports and exports would have generated in alluvial Mesopotamia. Under such conditions, it often becomes both possible and profitable to start replacing imported commodities subject to scale economies with local production ("import substitution"), fueling further specialization-driven iterative development cycles that concentrate new growth in regions that are already expanding (Krugman 1995). The fourth compounding factor is one that fully complements the preceding three and pertains to the interrelated facts that captives, including no doubt both unskilled and skilled individuals, were among the resources flowing southwards in the Uruk period and that those captives were probably a primary source of the workers at the disposal of Uruk state administrators. The economic importance of such individuals probably far outweighed their numbers. Such captive "others" could be made to work more than native labor and, more importantly, could also be more easily coerced than natives into working in non-traditional ways so as to take advantage of gains from labor specialization and economies of scale.

It does not take much imagination to see how the conjuncture of these mutually reinforcing forces would have set into motion a specialization-driven burst of Smithian Growth in Uruk Mesopotamia. As with all cases of Smithian Growth prior to the advent of the Modern Age, however, the resulting efflorescence could not last, as it depended on an uninterrupted flow of foreign resources that could not be maintained over the long run. Three principal reasons account for this: (1) the flow would have altered the socio-political landscape of resource-rich areas in ways that would have been difficult for core societies to predict and much less control, (2) inherent inefficiencies

of premodern transportational technologies made interruptions in the flow of trade between faraway areas likely, and (3) those same inefficiencies guaranteed that core attempts to reestablish access to peripheral resources by force, when necessary, would not always be timely or successful.

In the Mesopotamian case, the beginning of the end of the Uruk efflorescence is perhaps already reflected in the collapse of the network of Uruk outposts across Upper Mesopotamia, which took place in a late but not final phase of the Uruk period (predating Eanna IV a-b on the basis of accounting technologies). However, it was not until the still little understood Jemdet Nasr interlude, conventionally dated to the transition from the fourth to the third millennium, when the breakdown became fully visible. This is reflected in substantial shifts in settlement patterns within the Mesopotamian alluvium (Postgate 1986) and, more dramatically, changes in the use of space at the very core of Uruk/Warka, where the earlier building program of the Uruk period was entirely demolished (Eichmann 2007).

The Mesopotamian case is particularly interesting, however, in that the intervals between its phases of efflorescence and stagnation depart from the expected trajectory of "ancient" economies in several notable ways. These departures become clear when viewed in comparative perspective. The first departure pertains to the length of the initial Smithian growth phase, which lasted for the better part of the fourth millennium in the southern Mesopotamian case but was much shorter in other areas of southwest Asia where early exchange-based specialization and urbanism also flourished, such as the Upper Khabur. The second departure pertains to what happened after the initial growth spurt came to a halt. In the Upper Khabur, as predicted by conventional characterizations of "ancient" economies, the initial efflorescence eventually led to a long period of stagnation marked by the disintegration of the indigenous urban tradition of the area for a millennium or so. This was not the case at all in southern Mesopotamia, where the Jemdet Nasr retrenchment gave way to another fast-paced phase of Smithian Growth barely two centuries or so after the end of the Uruk efflorescence. This may be inferred from the expansion of Uruk and Al-Hiba (Lagash) to encompass an area of 600 ha (6 sq km) by the first quarter of the third millennium (Nissen 2001 and Carter 1985, respectively), by the contemporary emergence of multiple new smaller urban sites across the alluvium (Adams 1981), and by the vigorous resumption of the flow of trade and growth of specialization that are implied by the many highly crafted sumptuary goods interred in Early Dynastic graves.

What made the early southern Mesopotamian economy so resilient, so atypically able to bounce back relatively quickly from the inevitable crises and stagnation that always follow a period of pre-modern Smithian efflorescence is, however, a subject for another day.

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NOTES

1 An exception is a systematic surface survey of an Early Uruk site near Nippur by Charles Redman (1971) as part of his doctoral dissertation. Additionally, it should be noted that limited soundings of at least two small rural Uruk sites do exist in Susiana (Johnson 1976).

2 The existence of Ubaidian chiefdoms has been rejected by Yoffee (2005) who notes the almost total lack of material culture markers of personal differentiation in excavated cemeteries of the Late Ubaid period within southern Mesopotamia. However, the dearth of archaeological evidence for wealth accumulation by elite individuals in Ubaid times looks quite different if one takes into account contemporary data from the nearby and related Susiana Plain of southwestern Iran, where significant wealth in the form of metal tools and weapons existed in the Susa A period cemetery (or mass grave) at the base of the so-called "*Massif Funéraire*" at the site of Susa (Moorey 1999: 256). Moreover, and most importantly, even if it were real, such a dearth is not in and of itself a sufficient reason to reject the existence of Ubaidian chiefdoms, a point made independently by Stein (1994) and Flannery (1999), who note that conspicuous consumption in life and death is only one of the many potential strategies used by chiefs to legitimize themselves.

3 Adams (1981, 75, table 4) originally estimated that up to 70 percent of the population in the Nippur-Adab region was "urban" in the Late Uruk period as opposed to about 40 percent in the Warka area, but the latter number must be revised sharply upwards to about 60 percent to account for the greatly increased estimate for the size of Warka itself at the time (250 ha as opposed to Adams' initial estimate of 100 ha).

4 Nissen arrived at this estimate by presuming a density of 200 persons per hectare of surveyed occupied area and by presuming that the lightly inhabited public quarter of Warka amounted to ca. 20 percent of the 250 ha extent of the site. Almost certainly, this underestimates the actual population density of Warka in the Late Uruk period as may be inferred from Postgate's (1994) study of the demography of Mesopotamian cities in the third and second millennia BC.

5 This possibility is strengthened by contemporary cylinder seal impressions depicting urban fortifications, some of which come from Warka itself (e.g., Boehmer 1999: fig. 26).

6 This structure is also sometimes referred to as "Palace E" (e.g., Nissen 1988) or, more neutrally, as the "Building with Four Halls" (Heinrich 1982). For a recent discussion of the structure, see Brentschneider 2007.

7 The revetment in question was labeled A1–2 by Heinrich and is relabeled Z6–7 in Eichmann's (2007: 517, note 770) reconstruction. The estimate of the relative proportion of the total volume of the White Temple Terrace occupied by its last revetment provided here is derived from a schematic profile of the terrace published by its excavator, E. Heinrich (1938: 19, fig. 2).

8 All calculations are based on dimensions extracted from plans in Eichmann 2007.

Limestone Temple: External walls: 2 × (2.6 m [thickness] × 30 m [length] × 6 m [height]); 2 × (2.6 m × 75 m × 6 m). Internal walls: 1 × (3 m × 30 m × 6); 2 × (2.6 m × 60 m × 6 m). Crosswalls: 8 × (2 m × 5 m × 6 m); 2 × (2 m × 7 m × 6 m); 2 × (2 m × 10 m × 6 m). Total volume: 6,576 m^3.

Building E: External walls: 4 × (2 m [thickness] × 47 m [length] × 6 m [height]). Internal walls: 4 × (2 m × 57 m × 6 m); 4 × (2 m × 20 m × 6 m); Crosswalls: 16 × (2 m × 10 m × 6 m). Total volume: 6,912 m^3.

Temple D: External walls: 4 × (3 m [thickness] × 80 m [length] × 6 m [height]; 2 × (3 m × 50 m × 6 m). Internal walls: 2 × (3 m × 31 m × 6 m); 2 × (3 × 55 m × 6 m); Crosswalls: 4 × (3 m × 7 m × 6 m); 8 × (1.3 m × 7 m × 6 m). Total volume: 11,566 m^3.

9 Carbonized pine has in fact been recovered in Late Uruk Levels at Warka (Engel and Kürshner 1993).

10 But for a contrary opinion, see Wright (1998), who interprets the convergence of material and ideological culture in Susiana and the Mesopotamian alluvium as a case of acculturation.

11 The actual extent of the Habuba/Qannas/Aruda enclave depends on estimates of how much of an extramural occupation surrounded the main walled settlement. For a detailed discussion, see Algaze 1993: 25–29.

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CHAPTER FIVE

THE SUMERIAN LANGUAGE

Graham Cunningham

"What kind of a scribe is a scribe who does not know Sumerian?" was a dismissive question posed some 4,000 years ago (Alster 1997: 54), when knowledge of the language was regarded as essential to an educated man. The high standing of Sumerian continued for a further 2,000 years and extended throughout much of the ancient Middle East. The speaker would be even less impressed by the current status of this once great language. Despite a claim to be the first language written (the rival being ancient Egyptian), and a subsequent written history extending for twice as long as has been the case so far for English, Sumerian fell into oblivion and was only rediscovered less than two centuries ago.

The original name of the language has not, however, been revived by modern scholars. The other extinct language from the ancient Middle East for which we have extensive records is Akkadian, first attested in names appended to Sumerian texts. Being a Semitic language with modern counterparts, Akkadian is much better understood than Sumerian. To a large degree our understanding of Sumerian is refracted through our understanding of its neighbor, and it is Akkadian that is the source of the term "Sumerian": the expression used in what we call Sumerian was instead *Eme-gir*$_{15}$ ("tongue" + "native" in the Sumerian sequence, that is "Native-language"; the subscript numerals are a modern convention enabling scholars to specify how a particular sound sequence is written).

The aim of this chapter is to introduce to a wider audience a language and a script so markedly different from languages like English and scripts like the alphabetic one now being read. The chapter begins by discussing how Sumerian can be classified, and continues with brief accounts of its script and of the types of text that were written. Then follows an account of the language: its sounds, its words, how those words combine to form phrases, and how those phrases combine in turn as clauses.

CLASSIFYING SUMERIAN

A language can be classified in two independent ways: typologically in terms of its grammatical features, and genetically in terms of the languages to which it is related. The short classification of Sumerian is that it is typologically an agglutinative, ergative, and verb-final language, genetically unrelated to any other.

Typological classification

Agglutination is one of the terms used in the analysis of word structure (morphology). Words can be described as consisting of at least one morpheme (minimal grammatical unit), which is called a free morpheme or base and can itself function as a word (such as the verb *run*). Words can also include one or more bound morphemes (such as the *s* in *runs*). Most languages use a combination of different morphological strategies but favor one more than others. Sumerian favors agglutination: typically it forms complex words by "gluing" a sequence of single-function, easily identifiable morphemes to an unchanging, generally monosyllabic base. The immediate contrast is with fusional morphology, as in languages such as Latin that favor instead base-alterations and multifunctional bound morphemes with boundaries that are less easy to identify.

One use of bound morphemes is to distinguish between the subject and object of a verb. English tends to rely on word order instead, but its pronouns preserve the remnants of what is termed a nominative–accusative system, as in the clause *he failed him*, in which *he* is the subject (nominative) and *him* the object (accusative) of the verb *failed*. In such a system the subject of a transitive verb (a verb that takes a direct object), as in the previous example, is marked in the same way as the subject of an intransitive verb (a verb that does not take such an object), as in *he failed*. However, many languages, among them Sumerian, use instead what is termed an ergative–absolutive system. In this the subject of an intransitive verb is marked in the same way as the object of a transitive verb, that is, in the absolutive, while the subject of a transitive verb is marked differently, that is, in the ergative. An ergative–absolutive system reflects what are often the semantics of the verbal event: *him* in *she failed him* and *he* in *he failed* potentially refer to the same person. In contrast, marking both subjects in the same way places more emphasis on their role in performing the action of the verb. In this context it should be noted that Sumerian is not entirely an ergative language. Where the language emphasizes the role of the subject as performer, for example, in its personal pronouns, Sumerian uses instead a nominative–accusative system.

The final typological classification relates to word order, Sumerian being a subject–object–verb language, also termed a verb-final language. The verb is the head or governing element in the clause, and verb-final languages tend to be head-final elsewhere in their grammar. This is generally the case for Sumerian: the language's functional equivalent to the English subordinator *that* comes at the end of the clause it subordinates; rather than prepositions such as *to*, Sumerian has postpositional morphemes; and its possessive morphemes (such as *my*) are at the end of the phrase rather than at its beginning. However, there is one major exception: modification of the noun in Sumerian is head-initial, the language's adjectives, for example, typically following the noun. Similarly, in the compound noun *Eme-gir*$_{15}$ ("Native-language"), the modifier *gir*$_{15}$ ("native") follows the noun *eme* ("tongue"). There is, though, some tentative evidence that noun modification too was once more head-final, the subsequent syntactic shift then being attributable to the influence of Akkadian.

Genetic classification

While the typological classification of Sumerian is fairly straightforward, its genetic relationship to other languages is disputed. Many scholars regard it as unrelated to any other. Recently, however, attempts have been made to find Sumerian a home, within

either a language family or a superfamily, a larger, and much more contentious, theoretical construct. For example, different contributors to the 1997 issue of an academic journal on language origins, *Mother Tongue*, agreed that Sumerian did have relatives, but disagreed as to which. One contributor, the American linguist Allan Bomhard, allocated Sumerian to the Nostratic superfamily, distributed throughout parts of Europe, Asia, and north Africa and said to include, as well as Sumerian in isolation, the Indo-European family of languages, such as English; the Semitic languages, such as Akkadian; and the Uralic languages, such as Finnish, now spoken mainly in northern and eastern Europe (Bomhard 1997).

The same scholar has recently discussed the members of the Nostratic superfamily in more detail, locating the Uralic homeland between the Ob and Volga rivers and dating that ancestral language to approximately 4000 BC (Bomhard 2008: 230). He has, however, become less confident about Sumerian's affiliations, suggesting that it "is not a Nostratic daughter language at all" (Bomhard 2008: 272). Other scholars, though, have fewer doubts – the Finnish Assyriologist Simo Parpola, for example, arguing recently that Sumerian should indeed be grouped within the Uralic language family (Parpola 2010).

The disagreement between those who would isolate Sumerian and those who would integrate is, to a certain extent, one that arises in any attempt at classification, some scholars being splitters and some bundlers. The methodological problems in the genetic classification of languages are, however, considerable. For example, arguments often rely too much on sound-and-meaning correspondences rather than on grammatical similarities, and any similarities convincingly identified may be due as much to contact as to a genetic relationship. Given such problems, exacerbated by the highly approximate nature of our reconstructions of Sumerian phonology, it is the isolationist position that remains the more persuasive.

WRITING SUMERIAN

Writing in Mesopotamia had its late fourth millennium origins within a repertoire of clay-based, language-independent administrative procedures, such as clay tokens keeping inventories, and clay strips used to seal off different types of container (storage rooms as well as vessels). The plentiful local supplies of damp clay were put to further use as tablets upon which signs were drawn. Many of the early signs were pictorial in character and there is no reason to associate them with any particular language. Over time the signs were reduced to more abstract forms composed of wedge-like indentations impressed on the clay with a stylus made from reed, the goddess of which became the patron of scribes. We call this script cuneiform, from *cuneus*, the Latin for wedge. The layout of the tablets also changed, from vertical columns written from right to left across the tablet, to the cuneiform equivalent to the line that you see before you. This rotation 90 degrees counter-clockwise further abstracted the signs, because they too were reoriented in the process, being turned upon their backs.

More significantly, the nature of the script also changed, from what is termed a logographic system, that is, one whose signs represent words, to a mixed system, partly logographic and partly phonographic, the logographic signs then corresponding more to the base of a word while a limited number of signs were also used phonographically to represent sound sequences (syllables and parts of syllables). This enabled a wider

range of morphemes to be written and the phonological form of words to be specified more precisely, which in turn enables us to recognize that the language being written was Sumerian. Why Sumerian should be the first Middle Eastern language that we can confidently recognize in writing remains uncertain. The regional term "Sumer", again an adoption from Akkadian, identifies the language with the area where cuneiform writing was invented, although the correlation is less straightforward in Sumerian itself, in which the regional term is *Ki-en-gi*, tentatively "Native-language-land," with *gi* as a variant of *gir*$_{15}$ ("native") and *en* a reduction of *eme* ("language"). However, this area was at least to some degree bilingual on the basis of the extensive interplay between Sumerian and Akkadian, if not multilingual on the basis of ethnographic parallels. The decision early in the third millennium to start specifying a Sumerian pronunciation may reflect such factors as status, scale of use or increasing state control, but it may also indicate that the language was already in retreat.

The introduction of phonographic writing was again a process of abstraction, the one-to-one correspondence between sign and meaning in logographic writing being supplemented by the writing of a sound sequence that could include more than one morpheme or only part of a morpheme. It was also a slow process: isolated phonographic writings of bound morphemes are first attested about 2800 BC (all dates are highly approximate) but remained limited in use until about 2600 BC. Words were written more fully from that date onward, but writing conventions were never standardized and reconstructing a word's exact phonological form remains difficult, the relationship between script and pronunciation being complex and ambiguous. In particular, syllable-final consonants were often underspecified: until about 2400 BC many consonant–vowel–consonant (CVC) sequences were written CV and it was only in the eighteenth century that full writings, typically in the form CV–VC, became the norm. In consequence transliteration (alphabetic representation) of Sumerian cuneiform rarely reconstructs words, but instead simply links with hyphens those signs thought to constitute a word.

A further characteristic of Sumerian cuneiform is that many of its signs have multiple values, because the same sign was used to represent words similar in meaning or in sound, thus reducing the number of signs that were needed. So, for example, the sign we refer to as KA, in origin a profile of the head with hatching at the point of the mouth, was used to represent the semantically related *dug*$_4$ "to speak," *inim* "word," *ka* "mouth" and *zu*$_2$ "tooth," as well as the phonologically similar *zuḫ* "to steal" (*ḫ* corresponds roughly to *ch* in *loch*). (The subscript numerals again enable modern scholars to specify which particular sign is used in the original script, so, for example, *dug*$_3$ "to be good" is written with the sign we refer to as ḪI while *dug*$_4$ is written with KA. Some scholars use acute and grave diacritics rather than the numerals 2 and 3 in subscript.) Semantic and phonological principles likewise enabled expansion of the sign repertoire based on already existing signs. So, for example, the sign KA combined with the semantically appropriate sign *a* ("water") represented *naĝ* "to drink" (*ĝ* corresponds roughly to *ng* in *sing*), and combined with the phonologically appropriate sign *me* ("to be"), *eme* "tongue."

In addition, a few signs were also used as unspoken determinatives, written either before or after a noun, to specify the semantic set to which the noun belonged. For example, the names of deities were preceded by a sign indicating their divine status. The sign in question depicts a star and represents the Sumerian for deity, *diĝir*; when

it is used as a determinative it is abbreviated in transliteration to *d* and typeset in superscript.

THE WRITTEN RECORD

Writing began as bureaucratic record-keeping on clay tablets and administration remained its principal function, starting with the approximately 5,000 documents recovered from the city of Uruk (to use its Akkadian name, Sumerian Unug), and peaking in the more than 60,000 documents relating to the late third millennium empire whose capital was Ur (Urim). While these disposable economic accounts dominate the textual record, even their distribution across space and time is highly erratic. This is partly due to accidents of modern recovery and partly to accidents of ancient survival, some tablets being recycled once they had served their function. Others, however, were discarded after use, and it is these discards that archaeologists have recovered, supplemented by tablets suspended in use when their surroundings were destroyed or abandoned.

From the origins of writing onward, a wider range of genres was chosen for textualization, written on a wider range of both materials and artifacts. This series of changes, from administrative book-keeping to writing as a medium for expressing religious intensity and literary inspiration, is often presented as a haltingly slow but nonetheless goal-directed process culminating in a type of writing familiar to us. However, one of the challenges facing modern scholars is a more nuanced analysis of these developments, doing greater justice to the many dimensions of writing in the period.

The second attested use of writing, also found among the early tablets from Uruk, was for recording lexical lists, sometimes organized like a dictionary in terms of how the words were written, but more often thematically structured like a thesaurus, some lists focusing on aspects of the social world (such as lists of professions) and others on the natural world (such as lists of trees). These lists, whose lexicon provides a poor match to the words found in the administrative tablets, were compiled by scholars for use in the education of trainee scribes, and presumably therefore originated in an educational context, as opposed to the administrative contexts in which trained scribes practiced their trade. A further contrast is that oral transmission enabled their content to be repeated (or adapted) across time and space, the lists consequently being attested in multiple exemplars. This early institutionalization of textual culture – its selection, dissemination and preservation (or sometimes adaptation or rejection) – has intellectual as well as social and political implications, not simply mirroring an external reality but to some degree authoring it, and then re-authoring it in a constant process of change. In addition, these lists have been as helpful to modern as to ancient students of Sumerian, examples from the early second millennium onward specifying a word's Akkadian translation as well as its pronunciation in Sumerian.

The next attested type of writing marks a further major change, both content and the bearer of that content being intended for transmission across time. Many different types of object were introduced as the bearers of writing, all fashioned from more durable materials intended to provide longevity; in addition, there was a change in the message as well as the medium. This new type of writing, referred to as display inscriptions, is attested from approximately 2800 BC onward (here it should be stressed

that it is difficult not only to date these developments but even to place them in sequence), and it is possible that this set of changes – to content, material, and object – correlates with the increased use of the script as a tool for representing language. Typically these artifacts were deposited in temples, the inscribed object sometimes being displayed for divine eyes only. The earliest inscriptions record land sales, focusing on named individuals and suggesting a greater social emphasis on personalized wealth. Such transactions were later recorded on clay tablets. However, personalization of status also characterizes the much more widely distributed inscriptions, attested from approximately 2700 BC onward, which were used instead to commemorate the deeds of rulers.

Two sites in particular document an expansion in textualization on clay toward the end of the first half of the third millennium: modern Fara (Shuruppag), upriver from Uruk, and Abu Salabikh (ancient name uncertain), upriver from Nippur (Sumerian Nibru). These sites show that the administrative repertoire had expanded to include legal documents and the scribal curriculum to include hymns, narratives and didactic compositions, as well as other literary texts whose meaning remains less certain. Also attested for the first time is a type of text that appears to be less associated with the curriculum, namely incantations, that is, ritual formulae designed to produce a particular effect. All these changes were permanent innovations. In contrast, a further group of literary texts is written according to a short-lived set of conventions in which the signs have atypical values. Modern scholars call this UD.GAL.NUN writing because it uses these three signs to write the name of Nippur's patron deity Enlil (normally ^{d}*en-lil*$_2$).

Slightly later texts from northern Mesopotamia – for example, at Tell Mardikh (ancient Ebla) in what is now Syria – demonstrate the scale of Sumerian's diffusion as a language of learning. In the south, developments in the second half of the third millennium include the first letters, somewhat to the discomfiture of those anthropologists who regard writing as paramountly a means of long-distance communication, and a marked increase in the complexity and sophistication of some of the royal inscriptions.

The last Sumerian administrative documents date to the eighteenth century, although these may simply be preserving a tradition rather than reflecting a spoken reality: what was to some degree a bilingual society may have already shifted its allegiance to Akkadian and ceased speaking Sumerian, leaving the latter to live on as a high-status, heritage language throughout much of the ancient Middle East – a kind of *lingua sacra* to Akkadian's *lingua franca*. The eighteenth-century textual record also shows that the literary part of the school curriculum had expanded considerably, now being dominated by poetry in praise of rulers or petitioning deities on their behalf. This type of poetry is little attested later. Instead it is compositions to the greater glory of a deity or kingship in general that were chosen for transmission, recast in bilingual versions along with the lexical lists and incantations. A different Sumerian genre is also more widely attested from this period on, cultic laments written in a variety of the language referred to as *Eme-sal* ("tongue" + "thin," that is "Thin-language"). These texts were written much more phonographically than usual, a type of writing that was also applied very occasionally to Emegir Sumerian.

Emesal and Emegir differ occasionally in their lexicon and morphology but more often in the distribution of their consonants, the former having /z/, for example, where

the latter has /d/ (backslashes contain an approximation of what was said; italics indicate instead how something was written). In addition to the cultic laments, Emesal is particularly attested in the speech of the female protagonist in songs of love and marriage. These genre associations, and the fact that the sign used to write *sal* depicts the pubic triangle (its other values include *munus* "woman" and *gal*$_4$ "vulva"), have encouraged many scholars to suggest a correlation between Emesal and female speech. However, establishing such a correlation, or indeed one between Emesal and any spoken variety of the language, remains difficult. The textual history of these two genres differs widely. The love songs were incorporated in the school curriculum and in consequence had a fairly stable textual history. The laments were textualized independently of the curriculum and had a more fluid tradition. In addition, the laments long outlived the love songs, constituting one of the major text groups to survive into the first millennium.

PHONOLOGY

Unsurprisingly our reconstruction of Sumerian phonology reflects an Akkadian influence and what emerges is to a large degree a subset of that language's sound system (as well as of the English sound system, which is convenient but again indicates that these reconstructions need to be regarded very much as conventions).

Vowels

Sumerian is thought to have had at least eight vowel sounds, long and short /a/, /e/, /i/ and /u/, although the difference in vowel length is not indicated in transliteration. The language probably also had an /o/ sound, partly suggested by the high incidence of /u/ in transliterations, but the absence of this vowel from Akkadian makes its distribution in Sumerian difficult to recover. In complex words, vowels in successive syllables tended to assimilate. Such assimilation probably occurred more frequently than transliterations indicate, generally because writing tends to be conservative, and more specifically because logographic writings obscure phonological change.

Consonants

Fourteen consonants are usually recognized in transliterating the language, some being represented by a consonant plus a diacritic, although when writing English the convention is to use digraphs (two letters): /b/, /d/, /g/, /ḫ/ (as in *loch*), /k/, /l/, /m/, /n/, /p/, /r/, /s/, /š/ (as in *ship*), /t/ and /z/. Sumerian is also thought to have had various weak consonants, /h/, /y/ and /'/ (a glottal stop, like the sound sometimes substituted for /t/ in *bottle*), although none is specified in transliteration. In addition, the language had at least two other consonants that were absent from Akkadian. The identity of one remains uncertain and in consequence it does not appear in transliterations; at some time during the third millennium it appears to have merged in particular with /d/ in some contexts and /r/ in others, and transliteration uses those sounds instead. The other consonant appears to have corresponded roughly to /ĝ/ (as in *sing*), on the basis of loanwords from Sumerian to Akkadian in which it occurs as sounds like /g/ and /n/. While this consonant is recognized in some transliterations, including those given here,

the conventions for specifying it vary. Sumerian consonants are unequal in their distribution, some being more restricted than they are in English (e.g. /p/ and /t/ do not occur at the end of a word), others being less so (e.g. /ĝ/ can occur at the beginning of a word).

WORD CLASSES

Words can be divided into two broad categories, referred to as content and function. Content words – that is nouns, verbs, adjectives and manner adverbs – have a highly identifiable meaning, can be morphologically complex, and dominate dictionaries; function words are fewer in number, have a more grammatical role, tend to be short and simple, and discussion of their usage dominates grammars. Function words can also be divided into various classes, in particular pronouns (words that substitute for a noun, like, for example, *this* in *read this* rather than *read the chapter*), determiners (words that qualify a noun and often have a similar pronominal form, like *this* in *read this chapter*), numbers, conjunctions, interjections, and those types of adverb not concerned with manner. A further contrast between function and content words is more specific to Sumerian and reflects cuneiform's origin in listing items rather than representing the complexities of language: Sumerian function words are written phonographically, while the bases of its content words are typically written logographically.

Function words

Sumerian has various types of pronoun: personal and reflexive pronouns, as well as demonstratives, interrogatives, indefinites and a nominal relative. There is considerable overlap between the last three because one of the interrogative pronouns (/ana/ "what?") plays a central role in forming other words. As in English, the nominal relative (whose function is best explained by an example: *read <u>what</u> you want*) is formed simply by conversion from the interrogative. However, in the indefinites /ana/ (reduced to /na/) combines with forms of the verb *me* ("to be"): /name/ (< /na/ + /me/ = "what" + "is," i.e. "any") and /niĝnam/ (< /niĝ/ + /na/ + /m/ = "thing" + "what" + "is," i.e. "anything"). Such interrogative-based indefinites are common in other languages, one example being the French expression *quoi que ce soit* ("whatever that might be," i.e. "anything").

Interrogative /ana/ also combines with a particular set of bound morphemes (termed case markers, functional equivalents to English prepositions) to form interrogative adverbs, such as /anaš/ (/ana/ + /š/ = "what?" + "to," i.e. "why?"). The other types of function adverb in Sumerian include modals (like /igen/ "truly"), conjunctives (/ganam/ "moreover") and temporals (/adal/ "now").

In its interrogative pronouns, and elsewhere in its grammar, Sumerian distinguishes gender, /ana/ being "what?" and /aba/ "who?" The contours of this grammatical distinction broadly follow those of the (super)natural world, contrasting inanimates and animals with other types of animate (people and deities). This distinction is common in other languages but no satisfactory terms have yet been agreed to express it, proposals including neutral versus common (i.e. feminine and masculine), impersonal versus personal, and non-human versus human (adopted here). Surprisingly the

contrast in the interrogative pronouns between non-human /n/ and human /b/ is the reverse of what occurs elsewhere in the language; for example, in its personal and reflexive pronouns. Before specifying the form of these words, the concepts of grammatical person and number need first to be introduced.

This traditional structure privileges a narrator, the first person (/ĝe/ "I" being the personal pronoun), to whom the second person (/ze/ "you") listens, and who discusses the third person (/ane/ "she/he," later with vowel assimilation /ene/). With human reference only, these singular "persons" also occur in the plural (/menden/ "we," /menzen/ "you" and /anene/ "they," later /enene/). As first and second person references are necessarily human, the gender distinction is restricted to the third person, the Sumerian third person non-human reflexive pronoun being /nibi/ (/ni/ + /bi/ = "self" + "its/their," i.e. "itself" or "themselves," no distinction in number being made with non-human reference), while the singular human reflexive pronoun is /niteni/ (/ni/ + /ni/ = "self" + "her/his," i.e. "herself" or "himself" – the intervening /te/ seems to have only a phonological function). Sumerian has no non-human personal pronoun but the third person human personal pronouns likewise contain /n/.

To conclude this selective discussion of the language's pronouns mention should be made of the two independent demonstratives: /ne(n)/ ("this") and /ur/ ("that"). Sumerian also has a wider range of demonstratives that function as determiners qualifying a noun. These never occur in sequence in discourse context so evaluating precisely how they differ semantically remains difficult: /bi/, /e(n)/, /ne(n)/ (again), /re(n)/ and /še/. Demonstratives are celebrated in linguistics as the source of many other morphemes, one example being Latin *ille* ("that") which yielded French *il* ("he"). This principle also applies in Sumerian, one of the clearest instances occurring in the set of what are termed possessive determiners (first person singular /ĝu/ "my" etc.), third person non-human /bi/ "its/their" originating in demonstrative /bi/. Most of the language's other determiners are words that also occur as pronouns, as is the case in English. However, Sumerian has no equivalent to the two most common English determiners, *the* and *a*.

Sumerian numbers can be viewed as behaving like determiners when they qualify a noun and like pronouns when they substitute for a noun. They match other function words in that their internal structure is restricted, but differ in that this structure can be complex. The remaining types of function word, interjections and conjunctions, tend to have instead a simpler morphology.

In Sumerian the class of interjections includes expressives (like /ua/ "oh"), directives (like /gana/ "come on"), and mimetics, that is words imitating the sounds made by animals and birds (like /tikutikumae/). The class of conjunctions is traditionally divided into only two types: ones that co-ordinate (such as *and*) and ones that subordinate (*after*). The former can link nouns (*kings and queens*) and verbs (*he ran and fell*); the latter can link only verbs (*he fell after he had run*). Sumerian has very few of either subcategory, most noun sequences simply being juxtaposed (a conjunction being supplied in translation): *an ki* "heaven (and) earth." Occasionally, however, /bida/ "and" occurs after the last noun in a sequence (as Latin *que* can do), representing a reanalysis of /bi/ "its/their" and /da/ "together with" as a single morpheme; /da/ is another of the Sumerian case markers, referred to as the comitative, reanalysis of such morphemes to express co-ordination being common in other languages. Sumerian's only other noun co-ordinator is /u/ "and," a loanword from Akkadian which was also

used to co-ordinate verbs, as was another slightly later loan from Akkadian, /ma/. The language does, however, have the occasional, as it were home-grown, subordinating conjunction, one example being /tukumbi/ "if."

Content words

Two of the four classes traditionally associated with content words raise some analytical issues in Sumerian. The class of adjectives seems to be very small, focusing on dimension (such as *gal* "big"), age (*gibil* "new"), value (*zid* "just"), color (*babbar* "white"), and physical properties (*kug* "shining"). The class of manner adverbs may be smaller still, many such instances possibly being better interpreted as frozen nominal expressions. The identification of Sumerian nouns and verbs is, however, more straightforward.

Sumerian nouns can be subcategorized into one of the language's two gender classes, human (such as *dumu* "child") and non-human (such as *gud* "ox" and e_2 "house"). While this grammatical distinction broadly matches the natural one, there are some socially conditioned exceptions, *saĝ* "slave," for example, often being construed as a non-human noun. The distinction is not marked on the noun, but is morphologically apparent in most parts of the language's third-person pronominal system. It is also syntactically apparent in restrictions on how certain bound morphemes were used, some case markers, for example, being restricted to human nouns and some to non-human ones.

Sumerian verbs can be subcategorized in various ways, in particular in terms of their semantics and their syntactic requirements. The basic semantic distinction is between dynamic verbs, which describe an action or change (such as $šum_2$ "to give"), and stative verbs, which describe a state or situation (*zu* "to know"), such verbs in many cases performing the semantic function of adjectives in English. A verb's syntactic requirements relate to what are termed its complements: an intransitive verb needs only a subject ($uš_2$ "to die"); an extended intransitive verb needs a subject and a non-direct object (kur_9 "to enter" into a place); a transitive verb requires a subject and a direct object (dim_2 "to fashion" something); and an extended transitive verb requires three complements – a subject, direct object and non-direct object (*ĝar* "to put" something on something).

However, these distinctions relate less to strict subclasses and more to usages. For example, some stative verbs can also be used dynamically to express a change of state ($ḫul_2$ stative "to be happy," dynamic "to make (someone) happy"). This change in transitivity is expressed morphologically in the form of the Sumerian verb, English preferring instead lexical substitution ("to gladden" someone) or what is referred to as the periphrastic use of function words (such as *make* or *cause*). Similarly, some dynamic intransitive verbs are also used transitively ($uš_2$ "to make (someone) die," that is "to kill" them).

Each of the three principal types of content word – adjective, noun and verb – can reduplicate their bases in order to express iconically what English again prefers to express periphrastically: reduplication in the noun possibly indicates totality (*diĝir-diĝir* "all the deities"); reduplication in the adjective may have a similar function (*diĝir gal-gal* "all the great deities"), although in some cases the reduplicated form seems simply to have displaced any unreduplicated one (*babbar* "white" < unattested /barbar/); and

reduplication in stative verbs expresses intensity ("very") but in dynamic verbs repetition ("again and again") or continuation ("continuously").

LEXICAL EXPANSION

The distinction between function and content words corresponds broadly to one made between closed and open word classes, that is, between word classes which rarely admit new members and classes which are more generous in terms of lexical expansion. General discrepancies in this correspondence involve interjections, often willing to adopt new onomatopoeic forms, and numbers, extending in principle to infinity, both therefore often being open classes of function words. A discrepancy more specific to Sumerian is that its adverbs and adjectives appear to be closed classes of content words, and that even its verb class is to some degree limited in terms of lexical expansion. Its nouns are, however, more typical, being an open class of content words.

Multiword verbs

Although Sumerian does have many more verbs than other types of word, nouns aside, the language also favors a strategy of expressing new verbal meanings by combining nouns with verbs in what are termed multiword constructions. The nouns often refer to a part of the body, but are semantically bleached of their physical associations, and they occur in particular with the verbs *ak* and *dug*$_4$, both of which have a meaning such as "to do" (the semantic range of *dug*$_4$ includes "to say," probably the verb's original meaning given that it is written with the sign KA which also represents other words associated with speech). As in English (*to lend a hand*, that is *to help*), "hand" (*šu*) occurs often in such constructions, examples being *šu dug*$_4$ "to tend," *šu daĝal dug*$_4$ "to provide generously" (*daĝal* being the adjective "broad"), and *šu pel-la*$_2$ dug$_4$ "to desecrate" (*pel-la*$_2$ being the verbal adjective "defiled"). As these examples suggest ("to do the hand" *to* something rather than "to tend" something), one consequence of such multiword constructions is a high incidence of non-direct objects in Sumerian.

Other verbs also occur in multiword constructions, the semantic load then being distributed more equally between the noun and the verb. Some such cases may be idiomatic usages, for example *si* ("horn") *sa*$_2$ ("to equalize") translates less literally as "to bring order." However, some verbs again have a semantically appropriate body-part noun as their direct object – for example, *ĝiri*$_3$ ("foot") is used in relation to movement (*ĝiri*$_3$ *gub* "to step out," literally "to place the foot"); *igi* ("eye") in relation to sight (*igi duḫ* "to see," literally "to loosen the eyes"); and *šag*$_4$ ("heart") in relation to emotions (*šag*$_4$ *dab*$_5$ "to be angry," literally "to seize the heart"). Most of these constructions are equivalent to one verb in Akkadian and occasionally in the literary manuscripts from eighteenth-century schools there are instances of the multiword noun being incorporated with the verb to create a compound base that corresponds to the single Akkadian word (*si-sa*$_2$ "to horn-equalize," Akkadian *ešēru*).

Compound nouns

It is compounding that dominates the formation of new nouns in Sumerian. Most of these compounds are structured like the language's noun phrase, that is, the compound's head begins the compound and is followed by its modifiers. This can

make it difficult to distinguish a sequence of independent words from an instance of compounding; in practice, much reliance is placed on instances borrowed into Akkadian as single words. Such head-initial compounds include ones in which the modifier is a noun: *e$_2$–maš* "(animal) pen" ("house" + "goat"); a verbal noun: *ki-tuš* "dwelling" ("place" + "living"); a verbal adjective: *di-til-la* "verdict" ("decision" + "finished"); or an adjective: *lugal* "king" ("person" + "great"). This last example is written as a ligature in the reverse sequence (*gal* + *lu$_2$*), lending some support to the suggestion that the Sumerian noun phrase was once more head-final. Another, no longer productive type of compound provides further support for this possibility, being itself head-final, as in *an-edin* "high plains" ("heaven" + "plains").

As these compounds are typically written logographically, it is difficult to specify any phonological changes that accompanied their formation. However, the limited evidence (such as *e$_2$*–maš also being written *amaš* and phonographic writings of *ki-tuš* as *ku-tu-uš*) suggests that vowel assimilation as a result of compounding was much more extensive than our transliterations indicate.

THE NOUN PHRASE

Verbs aside, the basic building blocks of a Sumerian clause are noun phrases, consisting of as little as a noun (or pronoun), serving as the head of the phrase, and a case marker, indicating the end of the phrase. These two elements can, however, be separated by sequences consisting of the noun's modifiers, a determiner and a plural marker. To put this more bluntly: the Sumerian sequence corresponding to *of my great kings* would be *king great my PLURAL of*.

Before looking in more detail at these phrases, the earlier discussion of bound morphemes needs to be revisited, distinguishing between affixes that are restricted in terms of their host and clitics that are less so. Briefly, possessive *'s* in English can be described as a genitive case marker, genitive being the grammatical case primarily concerned with possession, which can also be indicated by the preposition *of*, English prepositions often corresponding to case marking in other languages. A typical genitive affix occurs bound to the noun that is the possessor (as in Latin *regis* "of the king" from *rex* "king"). In contrast, *'s* is a clitic that occurs bound to whatever is the last word in the noun phrase describing the possessor: *the king's brother*, *the king of England's brother*, *the king who was fat's brother*, and so on.

A Sumerian noun phrase can end with as many as three different clitics: a determiner and plural marker as well as a case marker. Not all the determiners are, however, bound. In fact this description can be applied to only some of the possessives, although the convention in transliteration is to apply it to all of them, as well as to the demonstrative determiners. The evidence that at least some of the possessives, those which are vowel-initial in their fullest forms (such as /ani/ "her/his"), were phonologically dependent comes from writings that resume a preceding consonant (such as *shag$_4$–ga-ni* "her/his heart") and reductions after a vowel (such as *dumu-ni* "her/his child"). The same analysis can be applied to the plural marker, the next possible constituent in the noun phrase, whose fullest form is /ene/ and which is restricted to phrases that have a human noun as their head.

Two broad uses of case marking can be identified: to specify the syntactic relationship between a noun phrase and a verb, and to specify syntactic relationships within a

higher-level noun phrase. Various types of relationship to the verb are possible, a basic distinction being between phrases that are essential to the verb's syntax (its complements) and those which are less so (its adjuncts). In Sumerian, two case markers occur only with adjuncts: the similative (/gin/ with a basic meaning such as "like") and the adverbiative (/eš/ "in the manner of"). Other cases, termed relational, mark what can be a complement or an adjunct depending on the verb with which they occur, an example being the dative (/ra/ "for," reducing to /r/ after a vowel), again restricted to phrases with a human head (*ama-zu-ur*$_2$, /amazur/, *ama* + /zu/ + /r/, "mother" + "your" + DAT, "for your mother"). The other relational cases are the comitative (/d(a)/ "with"), ablative (/t(a)/ "from"), allative (/š(e)/ "to"), directive (/e/ "toward"), and locative (/'a/ "in," the glottal stop indicating here, as elsewhere, that typically it does not contract with a preceding vowel).

A few core cases mark complements only: the absolutive (a zero marking) specifies a phrase with a noun at its head as the subject of an intransitive verb or the direct object of a transitive verb, while a noun-initial phrase that is the subject of a transitive verb is marked by the ergative (/e/, which appears to contract with any preceding vowel, the resulting long vowel sometimes being indicated by writings like *ama-a*, /amā/, "mother"). However, if a subject phrase has instead a personal pronoun as its head the analysis differs. These phrases are zero-marked: as this system marks the intransitive and transitive subject in the same way it can be regarded as following nominative–accusative principles.

The expression of syntactic relationships within a noun phrase is dominated in Sumerian by the genitive case marker (/ak/ "of," in a very basic representation of its morphology). Such possessor noun phrases are typically embedded within a higher-level phrase that itself ends in a case marker indicating its syntactic relation to the verb: *dumu lugal-la-ra* ("child" ["king" + GEN] + DAT, "for the child of the king"). Occasionally, however, they are displaced to the left, into a syntactically isolated but more emphatic position, their original slot being marked by a possessive determiner: *lugal-la dumu-ni-ir* (["king" + GEN] "child" + "his" + DAT).

VERBAL MORPHOLOGY

One feature of Sumerian verbs is their use of the other type of bound morpheme – affixes (prefixes coming before a base, suffixes following it and circumfixes surrounding it), their finite forms being much more morphologically complex than their non-finite ones. This morphology serves partly to make distinctions of tense (locating a situation in time) and/or aspect (expressing a situation's temporal quality). Aspect labels are adopted here, to a degree simplifying the complexity of these grammatical categories.

The principal distinction made is between completive and incompletive aspects, that is, between verbal forms specifying an event as finished or as ongoing. Just as stative verbs are excluded from continuous aspect in English (*I am knowing* being unacceptable), so too stative verbs are excluded from incompletive aspect in Sumerian. The following discussion focuses on affixation; in addition, the language's few irregular verbs have a different base in incompletive aspect.

Non-finite verbal forms

Non-finite verbal forms are more nuanced in relation to aspect than finite ones, suffixes distinguishing between three different types: completive /'a/, habitual /o/ (that is no marking) and incompletive /ed/. The only other affix non-finite verbal forms can have is a prefix /nu/ turning affirmation into negation (the grammatical category referred to as polarity).

As in English, the same non-finite form can function like an adjective (*running men*) as well as like a noun (*running hurts*). Sumerian adjectival roles occur in completive and habitual aspects. In the former, intransitive stative verbs express an inherent state, *munus sag$_9$–ga* "beautiful (*sag$_9$*) woman (*munus*)," while dynamic verbs express a state that is the result of a completed action, *iri gul-la* "destroyed (*gul*) cities (*iri*)." Transitive stative verbs tend to occur instead in habitual aspect: *lu$_2$ mu tuku* "person (*lu$_2$*) having (*tuku*) a name (*mu*)," that is, "famous person."

However, non-finite forms can also function like a verb in that they can have, for example, a direct object: *lugal iri gul* "a king (*lugal*) (habitually) destroying (*gul*) cities (*iri*)." A reason for analyzing these zero-marked forms as habitual is that they also occur in professional titles, like *dub-sar* "scribe," a compound noun with an implicit head, literally "(someone habitually) writing (*sar*) tablets (*dub*)."

Finite verbal forms

The morphology of Sumerian finite verbal forms is particularly rich – with multiple affixes expressing lexical and grammatical meanings, in the latter case signaling changes in mood and voice as well as polarity and aspect – and only an outline of that complexity is possible here.

As in non-finite verbal forms, a change to negative polarity is expressed with word-initial /nu/. However, in finite forms a wider range of morphemes is possible in this position, including precative /ha/ and vetitive /bara/. Again as in non-finite forms a change to incompletive aspect is signaled in intransitive finite forms by suffixing /ed/, the verb's subject being specified in both completive and incompletive aspects by the same set of pronominal suffixes. However, in transitive forms /ed/ rarely occurs, the aspect distinction being expressed instead by contrasting sets of pronominal subject affixes: singular prefixes and plural circumfixes in completive aspect but suffixes in incompletive aspect. In addition, some transitive verbal forms also include direct object affixes in a reverse pattern: suffixes in completive aspect and prefixes in incompletive aspect.

When a corresponding noun phrase occurs in the same clause, these pronominal affixes are not translated, but in the absence of such a phrase they are. To cite a transitive example in incompletive aspect: *lugal-e kalam ib$_2$–gen$_6$–ne$_2$* "the king (ergative) makes the land (absolutive) firm," but without noun phrases, *ib$_2$–gen$_6$–ne$_2$* "he makes it firm," the verbal form comprising /i/ (whose function here may simply be to ease pronunciation) + /b/ ("it/them," a non-human prefix whose human equivalent is /n/) + *gen$_6$* ("firm") + /e/ ("he," a suffix that makes no gender distinction, therefore being translatable in other contexts as "she" or "it/they").

The core pronominal prefixes can be preceded by a series of relational morphemes, corresponding broadly to the relational case markers, the first of which can have its

own pronominal morpheme. In some cases, these sequences again correspond to a noun phrase or constitute one (/bši/ = /b/ + allative = "to it/them"); in others, a relational prefix modifies a verb's meaning (*de*$_2$ "to pour" means "to pour out" with a locative prefix not corresponding to a noun phrase).

Four more prefix slots exist in this template. The first, following any marker of polarity or modality, can be occupied by a vocalic prefix (/a/, /i/ or /u/). The functions of /a/ and /i/ are complex and to some degree unclear; /u/, however, connects clauses and is often translatable as 'after.' Another clause-connection morpheme (/nga/ "and also") can follow. The next possible morpheme is cislocative /m/, indicating an orientation toward the verb's subject, and thus modifying the verb's meaning (*ĝen* "to go" becomes "to come"). The morpheme that may follow (/ba/) indicates instead that the verb's subject is affected by the action of the verb, thus resulting in reflexive, middle and passive translations in English.

Finally, at the other end of the verb a suffix (/'a/) can be added which turns a main clause into a subordinate clause, the Sumerian morpheme thus being functionally equivalent to the English subordinator *that*.

CONCLUSION

For many years scholars have been lamenting the ever-increasing rate at which languages are dying. This loss in linguistic diversity reduces human knowledge and our intellectual heritage: when a language dies, it is not simply a linguistic structure that is lost but the centuries of thinking about the world embodied in that language, the different ways that particular language had of dividing the world up and defining it.

The modern response to endangered languages is to document them and where possible revive them. Sumerian long since ceased being endangered when it became the first written language to die. However, the task of documenting the language also began long ago, ancient scholars originating a process that their modern counterparts have revived, many useful online and print resources, listed in the bibliography, now being available for the study of the language. This chapter began with a dismissive question from one of those ancient scholars: "What kind of a scribe is a scribe who does not know Sumerian?" While one answer remains "A modern scribe," we are slowly becoming less deserving of this disdain.

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CHAPTER SIX

HISTORY AND CHRONOLOGY

Nicole Brisch

INTRODUCTION

The famous book title *History Begins at Sumer* that S. N. Kramer gave to a popular account of Mesopotamian 'firsts' in the history of humankind (first printing 1958) is in itself not without problems. Although the divide between history and prehistory is commonly marked by the invention of writing, the very earliest texts from Mesopotamia, when they can be read, offer only a small glimpse into archaic Mesopotamia, and moreover, only into the socio-economic history rather than chronology or a history of events. Additionally, the writing system of these earliest texts, which is referred to as either archaic or 'proto-cuneiform,' is still poorly understood, in spite of giant steps towards its decipherment (Englund 1998).

The earliest history of Mesopotamia has often been associated with the Sumerians, who were credited with having invented writing and other markers of high civilisations, such as complex bureaucracies and trade systems (Algaze this volume). While there is an understandable wish to identify the actors who are behind the earliest history of ancient Mesopotamia, it should be emphasised at the beginning of this contribution, yet again, that the designation 'Sumerian' refers first and foremost to a language, not an ethnic group (see Michalowski 1999–2002, 2006: 159; Rubio 2005). The Sumerians referred to themselves as the 'black-headed people' (Sumerian: *saĝ ĝi$_6$–ga*) and called their homeland simply 'native land' (Sumerian: *ki-en-gi*, probably to be reconstructed as a word */kengi(r)/* = *ki* 'place' *ĝir* 'native', see Steinkeller 1993: 112–113 n. 9). The Sumerian language was referred to as *eme-ĝir$_{15}$*, literally 'native tongue/language'. In later sources, *ki-en-gi* is translated into Akkadian as *māt šumerim*, the 'Sumerian land' or short 'Sumer', which encompasses the southern part of Mesopotamia (also referred to at a later date as Babylonia).

The origins of the Sumerians are shrouded in mystery. Beginning with the rediscovery of the ancient Near East in the West, scholars have debated whether the Sumerians were indigenous to southern Mesopotamia or not. This debate is often referred to as either the 'Sumerian Problem' or the 'Sumerian Question' (Potts 1997: 43–47 with previous literature; also see Postgate 1992: 23–24; Englund 1998: 73–81; Rubio 1999, 2005, 2007: 5–8; Crawford this volume) and has led some scholars, most notably Landsberger, to posit the existence of 'Proto-Euphratean' and 'Proto-Tigridian' substrate languages, which supposedly indicated an earlier, non-Sumerian speaking

population that had been replaced by Sumerian speakers. Rubio (1999, 2005) has most convincingly discounted the arguments that have been brought forth in favour of reconstructing these 'substrate' languages. According to Rubio (1999), the words that were thought to have belonged to the substrate languages are either consistent with Sumerian or can be analysed as loanwords. The loanwords include words borrowed from a Semitic language, from Hurrian, or else they can be explained as 'Arealwörter', or 'Wanderwörter' (Rubio 1999, 2007: 7). Our difficulties in analysing word formation and morphographemic conventions are probably due to Sumerian being a linguistic isolate, that is, we cannot connect it with any other language or language family (see Cunningham this volume). However, one has to assume that there were several languages that must have belonged to the same family which did not survive because they were never written down (see Michalowski 2006: 162f.).

WRITTEN SOURCES

When discussing history and chronology, it is necessary to devote some space to the question of sources for the reconstruction of the most ancient history. For prehistoric or preliterate periods, archaeological indicators have to be used to distinguish time periods. These are stratigraphy and typology (Nissen 1988: 6). In ancient Mesopotamia, it is potsherds that offer the best chronological indicators for distinguishing time periods (Pollock 1999: 3). These methods of dating, while not without their problems, offer a relative chronology, by which is meant measuring time periods relative to each other to establish which is older and which is younger. Absolute chronology, that is, establishing the exact chronological distance to the present time, has to rely on other methods, such as radiocarbon dating (C14 method). However, in spite of great progress in calibrating radiocarbon dates, in particular of the earliest periods, they remain imprecise (Wright and Rupley 2001) and are difficult to connect to historical events (see already Crawford 1991: 18), and thus the chronology of the fourth and third millennia is rather insecure. Therefore, all the absolute dates mentioned in this chapter are rather tentative.

With the advent of writing–which was but one of several innovations that occurred around the same time–texts can be used to glean information on history. However, leaving issues of decipherment aside, as already mentioned above, the earliest texts offer little historical information if one is interested in a history of events. Textual genres that we encounter in early Mesopotamia are administrative texts, word or 'lexical' lists, literary texts, royal inscriptions and legal documents.

Administrative (or 'archival') texts are among the first texts that we encounter after the invention of writing. These texts recorded economic processes and are often associated with institutional administrations, thus offering important sources for the study of socio-economic histories. Beginning *c.*2500 BC, some administrative and legal texts are dated using the so-called year names. Kings began naming every year after a special event of the preceding year. Among the events are military conflicts (e.g. the conquest of cities), religious events (e.g. appointing high priestesses or fashioning of prestigious objects of worship), or building activities, such as the erecting of temples or city walls. In a few cases, ancient scribes compiled the individual year names into year lists, which can be used to reconstruct a particular king's reign. However, it is not always clear whether the claims that were made in the year names can be taken at face value, because year names are also a convenient vehicle for royal propaganda.

Word lists ('lexical lists') were used to train scribes in writing (Civil 1995) and are also among the first text genres (Englund 1998: 82–110). Lexical texts enumerate and classify all 'natural and cultural entities' (Civil 1995: 2305). Among the earliest word lists are the list of professions, animals (pigs, fish, cattle) or other objects (wood, vessels, etc.). Some of the lists that are already known from proto-cuneiform texts, such as one of the lists of professions, were transmitted for more than a thousand years, even if they were not properly understood anymore.

The earliest literary texts did not appear until about six hundred years after writing was invented. Most of the very early literature is concerned with religion, praising deities and temples. However, the bulk of Sumerian literary texts date to the Old Babylonian period (*c.*1800 BC). Among the literary texts that have been popular sources for the reconstruction of history are the Royal Correspondence of Ur (Michalowski 2011b) and the Sumerian Kinglist (Jacobsen 1939; Steinkeller 2003). Although literary texts sometimes describe historical events, their use as primary sources for the reconstruction of history has been heavily critiqued (Liverani 1993b; Rubio 2007: 23–26; Michalowski 2011b).

Royal inscriptions represent another important genre of the time periods described here. They are sometimes also called 'monumental inscriptions' (Hallo 1962) because they were inscribed upon objects ('monuments' in the widest sense). These inscriptions, which were written in the name of kings, or sometimes members of the royal family or other members of the elite, were either placed on architectural elements, such as bricks, clay nails, or clay cones, or on votive offerings for deities, such a stone vases, statues, or other precious objects. Some inscriptions were placed on stelae, possibly for public display (Cooper 1983a: 12), although it is unclear how many people would have been able to read the inscriptions. Some inscriptions only contain the name of a king, while other inscriptions, in particular of the later periods, can be long and include some narrations of events.

Legal texts, such as sale or loan documents, often show a list of witnesses to the transaction. They are also important sources for the study of socio-economic history. In addition, there are the so-called 'law collections' (Roth 1997), a mixture between royal inscriptions and legal pronouncements that modern scholars like to identify as 'laws'.

None of the text genres mentioned here can be identified as historiographic literature in the strictest sense, although they may contain some, very limited information that will help in reconstructing history. Although a recent contribution on historiography seeks to redefine common conceptions of what historiography of early Mesopotamia is (Michalowski 2011a), it does not detract from the fact that most of the earliest texts were not only highly abbreviated, and thus rather enigmatic to the modern reader, but were also not composed to offer historically accurate information for future generations. Moreover, the textual evidence was part of the sphere of ancient elites. Thus, texts offer information on non-elite populations only as far as their spheres overlap. It is therefore important to recognize that our textual documentation for reconstructing this earliest history of ancient Mesopotamia is rather tenuous and biased.

An overview article such as the one presented here is necessarily abbreviated and many important contributions cannot be acknowledged. Writing on early Mesopotamian history poses a difficult task insofar as the sources are so varied and only attested for brief

periods of time that are punctuated by long periods for which we have no written records. The information offered here is only designed as a starting point.

THE LATE URUK PERIOD: THE BEGINNINGS

The Uruk period, so named after the famous southern Mesopotamian city of Uruk, modern Warka, encompasses roughly the fourth millennium BC. The very end of the Uruk period sees the first emergence of state formation and the rise of urbanism and complex societies and the invention of writing. The Late Uruk period saw the birth of the city-state (Yoffee 2004), a form of political governance that remained important throughout the late fourth and third millennia.

The chronology of the fourth millennium, especially in southern Mesopotamia, is still rather vague, mainly due to lack of recent samples for radiocarbon dating (Wright and Rupley 2001) and most scholars avoid giving precise dates for the historical periods of the fourth and third millennia. Moreover, the chronology of northern Mesopotamia and other regions that were in contact with southern Mesopotamia, such as Anatolia, the Levant, and Southeast Iran, followed different prehistoric and chronological networks, which can only at times be linked to southern Mesopotamia.

As a result of a conference on the Uruk period (Rothman 2001), a new chronological framework for the Uruk period was developed. This framework sought to replace the common nomenclature of 'Early', 'Middle' and 'Late Uruk period' with the more neutral terms LC1–5, where LC stands for Late Chalcolithic (Rothman 2001: 7–8) (Table 6.1).

Radiocarbon dates from the city of Uruk itself, which would indicate that the Eanna precinct stratigraphic level IVa was built after 3500 BC, are problematic (Wright and Rupley 2001: 91–93), and radiocarbon samples from other areas indicate that the Late Uruk period (LC 5) came to end there before 3000 BC (northern Mesopotamia) and 3100 BC (south-western Iran) (Wright and Rupley 2001: 121). This has led some scholars to favour an end of the Late Uruk period (LC 5) at 3200/3150 BC (Nissen 2001: 152).

Although the city of Uruk itself was likely the most important and largest place of the Uruk period, it has been pointed out several times that there are problems regarding the stratigraphy and hence the dating of Uruk finds (Nissen 2001; 2004). In addition, excavations of Uruk period sites in southern Mesopotamia were rather restricted (Pollock 2001: 185), and thus our knowledge of the Uruk period in southern Mesopotamia is rather fragmentary.

As mentioned earlier, the Late Uruk period is important because it sees the emergence of states and the first cities (Algaze this volume; Nissen 1988; Pollock 1999). Among the innovations that can be observed are a great increase in settlements, leading to complex settlement patterns, a complex bureaucracy, the invention of writing, monumental art and architecture as well as other technological innovations. It is assumed that an increase in settlements, a trend that already began in the preceding Ubaid period, led to population growth and thus to a need for a higher degree of social organisation.

The earliest written records were found in rubbish layers that most likely date to the very end of the Late Uruk period (LC 5 = stratigraphic layer Eanna IVa) (Nissen 2001: 151). According to Nissen (2004: 6), 'almost everything we ascribe to the (Late) Uruk period – whether architecture, or seals, or writing, or art – originates from the short

Table 6.1 Chronological framework for southern Mesopotamia

Date BC	*Southern Mesopotamia*	*Uruk (Eanna)*	*'Late Chalcolithic'*
3000		IVA	
	Late Uruk	Eanna	LC 5
		IVB–V	
			Late
		Eanna	
		VI	
3400	Late Middle Uruk	Eanna	LC 4
		VII	
3600	Early Middle	Eanna IX–	LC 3
	Uruk	VIII	
3800			
		Eanna XI–	Late
		X	
	Early Uruk		LC 2
4000		Eanna XII	
			Early
4200			
			LC 1
	Ubaid transitional	Eanna	
	Ubaid 4?	XVI–XIV	

Source: after Rothman 2001: 7.

phase of Level IVa', thus making our understanding of the processes of the Late Uruk period in the city of Uruk itself rather problematic.

The archaic or proto-cuneiform texts were divided into two groups, based on palaeographic distinction of the sign forms and comparisons to the slightly later site of Jamdat Nasr in southern Mesopotamia, Uruk IV and Uruk III, where Uruk III (*c.*3100–2900) is also referred to as Jamdat Nasr period.

The 'proto-cuneiform' texts suggest that a complex and detailed administration of economic goods was maintained, dealing with, among other things, foods, such as fish, domesticated animals, grains, as well as labour, with some indications that slave labour may have been involved (Englund 1998: 176–183). Late Uruk society was probably organised hierarchically with a male figure as political leader. This is indicated by both visual representations of the so-called man in the net skirt, who is interpreted by some as depicting the concept of leadership rather than an individual leader (Pollock 1999: 184). In one monument, the man in the net skirt is depicted as hunting lions, a motif used to represent political leadership until the first millennium BC. Similarly, evidence from the word list of titles and professions (Englund 1998: 103–106 with further references) has led some scholars to argue that the list was sorted according to rank and that the first title, NAMEŠDA, describes the highest ranked individual, later equated with the Akkadian word *šarru* 'king' (Nissen 2004: 13–14). Whether Late Uruk society was headed by a 'priest-king', whose claim to power was derived from religion, as some scholars have suggested (e.g. Van De Mieroop 2007: 27), is unclear (see the doubts raised by Nissen 2004: 14).

THE EARLY DYNASTIC PERIOD: WARRING CITY-STATES

Although not much is known about the Jamdat Nasr period, it is likely that southern Mesopotamia underwent profound changes during this period (Pollock 1999: 6). The Uruk 'network' of the Late Uruk period probably collapsed, as did some of the urban spaces (Pollock 1999: 6). In the following Early Dynastic (ED) period we gain a clearer picture of city-states and how they interacted with each other, especially for those periods when we have more and more written sources (Table 6.2).

Based on the stratigraphy from the excavations in the Diyala region of Iraq, the archaeologist Henri Frankfort divided the Early Dynastic period into three phases. ED III was then further subdivided into phases a and b (see below). There is a suggestion that the period ED II did not exist in southern Mesopotamia or outside of the Diyala region (Porada et al. 1992: 103). The term 'Pre-Sargonic', which is sometimes used to indicate the period immediately preceding the Old Akkadian period (ED IIIb), should probably be avoided, because it is relatively imprecise.

Levels of the Early Dynastic I–II period in southern Mesopotamia have been excavated in Nippur, Ur, Jamdat Nasr, Ubaid and Kish (Porada et al. 1992: 103–106). Radiocarbon dates from Nippur would support a date for the Early Dynastic I–II period in southern Mesopotamia of *c.*2900–2600 BC (Thomas 1992: 146). The most important archive of this period comes from the city of Ur (Burrows 1934) and can be dated into the late ED I period through stratigraphy (Porada et al. 1992: 105). Like the 'proto-cuneiform' texts, the archaic texts from Ur offer primarily information on the socio-economic history of this period. For example, the texts mention the title *lugal*, which later is translated as 'king', but it only occurs in personal names and there is no evidence that a *lugal* resided at Ur during this time (Wright 1969: 41). In addition, the texts mention both a temple(?) (*AB*) and a palace(?) (*é-gal*) (ibid.). And like the preceding periods, the textual evidence also indicates a specialisation of labour (Wright 1969: 122).

The above-mentioned Sumerian Kinglist (SKL), whose earliest manuscript dates to the Ur III period, is a list consisting of several dynasties that ruled over southern Mesopotamia. Many scholars have written and commented on the SKL, and not all their contributions can be acknowledged here. Several things are remarkable about the SKL: it lists individual dynasties according to the cities from which they ruled, listing

Table 6.2 Periods of third and early second millennium southern Mesopotamia

Dates BC	*Period*
*c.*3150/3100–2900	Jamdat Nasr Period ('Uruk III')
*c.*2900–2600	Early Dynastic I–II
*c.*2600–2500	Early Dynastic IIIa
*c.*2500–2350	Early Dynastic IIIb
*c.*2350–2200	Dynasty of Akkad/(Old) Akkadian
*c.*2200–2112	Second Dynasty of Lagaš
*c.*2112–2004	Third Dynasty of Ur/Ur III period
*c.*2004–1595	Old Babylonian period (Early Old Babylonian *c.*2004–1763 [=Isin-Larsa period]; Old Babylonian *c.*1763–1595)

every king individually including the number of years that they reigned. Especially the years for earlier kings are within the realm of fantasy: the first king of the city of Eridu is said to have reigned for 28,000 years! Moreover, at least the Old Babylonian version (*c.*1800 BC) begins with listing kings that ruled before the 'Flood', thus connecting mythical with historical times. All the dynasties that are mentioned in the SKL are listed as having reigned consecutively; even those dynasties that we now know were contemporaneous. Moreover, the dynasties of the city-state of Lagash were not mentioned at all, possibly indicating a rivalry between the authors of the SKL and the city-state of Lagash.

The early Mesopotamian concept of a royal dynasty was closely tied to the city that was its power base; this differs strongly from modern conceptions of royal dynasties, which are mainly defined through blood ties. Both royal inscriptions and the SKL only rarely give information on parentage of kings; instead, kings stated that their rule was legitimised through divine favour.

It has been suggested that the SKL created a fiction that southern Mesopotamia was always ruled by a single dynasty and therefore served as a tool of legitimisation for the Old Babylonian dynasty of Isin, who laid claim to a hegemonic rule over Mesopotamia (Michalowski 1983; Wilcke 1988). Although the new Ur III manuscript does not invalidate this claim, the differences between the two versions show that the Old Babylonian scribes took some liberties in transmitting the kinglist (Steinkeller 2003).

The passages of the SKL relating to what otherwise might be identified with the Early Dynastic I–II period seem particularly unreliable as historical sources: after the flood had swept over southern Mesopotamia, kingship first went to Kiš, then to Uruk, listing legendary kings of Uruk, such as Lugalbanda, Dumuzi and Gilgamesh. Because we are lacking information from other sources, such as royal inscriptions, that these kings ever existed (although they are mentioned in Sumerian myths, see Vanstiphout 2003), they have to be considered mythical. Moreover, as Steinkeller (2003: 285–286) has suggested, it is likely that the mythical kings of Uruk and other dynasties were only inserted into the SKL in the Old Babylonian period, in order to break up the long dynasty of Kish and show a higher turn-over rate between dynasties and cities, which then offered greater legitimacy to the kings of Isin, who saw themselves as the heirs to the Ur III state.

With the Early Dynastic III period, the fog of prehistory slowly begins to lift. The subdivision of the ED III period into a and b was made on the basis of texts, archaeologically there is no break between the two sub-phases (Porada et al. 1992: 111–112). However, the different terminology for ED IIIa and b is still unclear and ill defined (Porada et al. 1992: 108–109).

The two most important archives of ED III come from the cities of Fara (ancient Shurrupak) and Tell Abu Salabikh (possibly ancient Eresh). They are roughly contemporary and commonly dated to the ED IIIa period. Shurrupak is mentioned in the Old Babylonian version of the SKL as the last dynasty before the flood (Krebernik 1998: 241), yet no year dates or royal names appear in the archives. The language of the Fara and Abu Salabikh texts is overwhelmingly Sumerian, as are the personal names mentioned in these archives, but the first Semitic texts and personal names appear (Krebernik 1998: 260–270). Based on palaeography, it has been suggested that the archives are contemporary to king Mesalim (or Mesilim) of Kish (Krebernik 1998: 158f.). We know from royal inscriptions that Mesalim predates the kings mentioned in Table 6.3, but at this stage he cannot be placed within a relative or absolute chronology.

Table 6.3 Some kings of Early Dynastic III

Dates/ Period	*Ur I*	*Lagash I*	*Proposed Synchronisms*	*ED IIIa/IIIb?*
ED IIIa (*c.*2600–2500 BC)	• Meskalamdug 'king of Kiš'	• Ur-Nanše	Ur-Nanše and Akurgal = Meskalamdug and Akalamdug	ED IIIb begins either with Ur-Nanše of Lagaš
ED IIIb (*c.*2500–2350 BC)	• Akalamdug 'king of Ur' (Meskalamdug's son?)	• Akurgal	Mesanepada of Ur = Eannatum of Lagaš	or with Mesanepada of Ur and Eannatum
	• **Mesanepada** 'king of Ur', son of Meskalamdug	• Eannatum		
	• **Meskiagnun** 'king of Ur'	• Enannatum I		
	• **Elili** 'king of Ur'	• Enmetena • Enannatum II • Enentarzid • Lugalanda • UruKAgina/ IriKAgina		

Note: Only the first dynasties of Ur and Lagash and the kings that are attested in royal inscriptions are considered here. Royal names in bold script are kings mentioned in the Sumerian Kinglist.

While the administrative texts from Fara had for a long time been thought of as documents of a private administration, new research has shown that they were part of a centralised administration with a ruler at the helm (Krebernik 1998: 312 with further literature).

When the texts from Tell Abu Salabikh were published for the first time (Biggs 1974), they created a sensation, because some of the tablets were shown to be the first literary texts. Among them are the Kesh Temple Hymn and the 'Instructions of Shurrupak', both of which were transmitted into the Old Babylonian period, some seven hundred years later (Krebernik 1998: 317). Unfortunately, much of this earliest literature is difficult to understand because of the highly abbreviated nature of the early writing system and because of some early experiments with different orthographies ('UD.GAL.NUN').

There is some disagreement on where to put the dividing line between ED IIIa and IIIb. Porada et al. (1992: 108) place Ur-Nanshe of Lagash and his dynasty within the ED IIIa period and contemporary to the Fara and Tell Abu Salabikh tablets, whereas Biggs (1974: 26) and Bauer (1998: 432) assume that there are one to two generations between the Fara and Tell Abu Salabikh archives and the first ruler of Lagash, Ur-Nanshe (see Table 6.3). However, as Biggs (1974) already pointed out, palaeography is not a very reliable chronological indicator.

The earliest ruler from the SKL, whose existence can be verified through contemporary sources, namely royal inscriptions (Frayne 2008: 55–57), is Enmebaragesi

(Mebaragesi), whom the SKL identifies as the penultimate king of the first dynasty of Kish. In the SKL of the Old Babylonian period, the first dynasty of Kish is listed as the first dynasty after the 'Flood', whereas the Ur III version does not mention any floods and instead begins with the first dynasty of Kish. However, it is virtually impossible to place this king within the Early Dynastic period.

Some rulers of the Early Dynastic period claim a title *lugal kiš* 'king of Kish' even though their geographical affiliation is unknown otherwise (Frayne 2008: 67). It has been frequently suggested that this indicated that the city of Kish exercised some kind of hegemony over large parts of southern Mesopotamia. However, there no substantial evidence for this and it is possible that the title was just an honorific (ibid.: 67; Rubio 2007: 15–6 and n. 10).

The famous Royal Cemetery of Ur, which has yielded some of the most important archaeological finds of the Early Dynastic period (Vogel this volume), is also dated into ED IIIa, because the seals of Meskalamdug and Akalamdug were considered to be stylistically earlier than those of Mesanepada and his wife (Porada et al. 1992: 111). However, if one considers the ED IIIb period to have begun with Ur-Nanshe and Meskalamdug (see Table 6.3), it would lead to a dating of the Royal Cemetery of Ur to ED IIIb. For calibrated radiocarbon dates from the Royal Cemetery see Thomas (1992: 147), who points out general problems with dating the 'Old Kingdom and Early Dynastic III horizon'.

The Early Dynastic IIIb period offers marginally more historical clarity. Most of the sources for ED IIIb come from the city-state of Lagash, whose capital was at first the city of Lagash (modern name: al-Hiba) and then moved to the city of Girsu (modern name: Tello). For the first time there is more extensive evidence in the texts that point to political and military conflicts, indicating a wish to expand the political territory of individual city-states and numerous conflicts between the city-states. The best known of such conflicts, which may have begun in the ED IIIa period already, was the border conflict between the city-states of Umma and Lagash, for which Mesalim had to be called in as a mediator (Cooper 1983a). Because our main sources for the conflict come from Lagash and are therefore biased in favour of Lagash's rightful claims, it is difficult to find reliable information on the causes of the conflict. Yet the very fact of its existence and the fact that the conflict was recorded in writing show that a new era is slowly emerging.

Our main written source for the socio-economic history of this period is an important archive of ca. 1700 tablets from Lagash, which details the administrative procedures in the queen's household (*é-munus*). The study of this archive had in the 1920s led to the assumption that temples dominated the economy. More recent studies show that the picture is much more complex and that the idea of the 'Sumerian temple economy' can no longer be upheld (Beld 2002).

In addition to military conflicts, the royal inscriptions of the ED III period often mention the building of temples in various cities. The first king in Mesopotamian history to institute reforms and release his citizens from work obligation, including debt, was Emetena (Entemena) (Bauer 1998: 471). This already points to internal economic and social problems that kings needed to address by occasionally instituting reforms, a phenomenon that is well known from later periods of Mesopotamian history. The best-known reform text is known from UruKAgina (IriKAgina), the last independent ruler of Lagash (Beld 2002: 79–84). Scholars have offered different opinions on this text. It appears clear that the UruKAgina sought to regulate central

administration and some property that previously belonged to the ruler was now officially held by gods (Ningirsu, Baba and Šulšagana). However, it is likely that these reforms, which had the goal of limiting the power of high-standing administrators, were actually designed to strengthen the ruler's power (Beld 2002: 81).

The frequent mention of military conflicts in the royal inscriptions of the ED IIIb period suggest that there were power struggles among the city-states. There are indications that several rulers attempted to expand their area of influence. This attempt seems to have culminated in the efforts of Lugalzagesi, a king of Umma. The SKL mentions him as the only ruler of a dynasty of Uruk that immediately preceded the dynasty of Akkad (see below). Lugalzagesi finally succeeds in conquering the city-state of Lagaš and deposes of its last independent ruler, UruKAgina. He claimed to have expanded his area of influence to the entire area of Sumer, that is, southern Mesopotamia, as well as foreign countries (Bauer 1998: 494).

THE FIRST EMPIRE? THE STATE OF AKKAD

The (Old) Akkadian period (*c.*2330–2200 BC), also called the Sargonic period, immediately follows the ED III period, and although historical information is slightly better than before, there still remain many uncertainties relating to history and chronology (Table 6.4). To cite A. Westenholz (1999: 18): 'Almost everything pertaining to the Sargonic period is a matter of controversy.'

The state of Akkad has been celebrated as the 'First World Empire' (Liverani 1993a), although there is a still ongoing debate of how to define ancient empires. Notwithstanding, there is no doubt that the state of Akkad created a new paradigm of kingship and statehood in early Mesopotamia – that of the territorial state seeking to expand its boundaries and seeking to institute a centralised rule.

From about the middle of the third millennium until the end of the Old Babylonian period, one can observe that political governance went back and forth between these two forms of governing – the localised, relatively small city-state and the centralised, territorial state. While territorial states never lasted very long, the history of early Mesopotamia is full of instances in which hegemony was tried and achieved, yet only for brief periods of time.

Table 6.4 Kings of the Dynasty of Akkad

Sargon	2334–2279
Rīmuš	2278–2270
Maništušu	2269–225
Narām-Sîn	2254–2218
Šar-kali-šarrī	2217–2193
Igigi	
Naniyum	2192–2190
Imi	
Elulu	
Dudu	2189–2169
Šu-Turul	2168–2154

Source: after Brinkman 1977.

It is possible that Lugalzagesi and Sargon, the first ruler of the dynasty of Akkad, overlapped for some time (McMahon 2006: 4). A. Westenholz (1999: 35) suggests that they overlapped for ten years before Sargon defeated Lugalzagesi while admitting that this number is 'guesswork', also because it is still unclear how long Sargon's reign lasted. Although Sargon succeeded in defeating Lugalzagesi and although he is considered to be the founder of the Old Akkadian dynasty, it appears that he governed by leaving most of the administrative structures of the southern Babylonian city-states intact (A. Westenholz 1999: 50), leading to Liverani's (1993a: 4) pointed assessment that Sargon himself is really 'pre-Sargonic'. This serves to show that the boundaries between historical periods, in particular during the third millennium, are rather fluid, something that is also supported by the archaeological evidence from the city of Nippur (McMahon 2006), where no stratigraphic breaks can be observed in the transition from Early Dynastic to Akkad and material culture shows some continuity.

Historical information about the two most important kings of the dynasty of Akkad, Sargon and Narām-Sîn, is difficult to disentangle, because both were immortalised in literary stories surrounding their lives and rule (J.G. Westenholz 1997). According to legend, Sargon began his career as a high-standing official ('cup-bearer') of king Urzababa in the city of Kish (A. Westenholz 1999: 35). There is a possibility that Sargon created for the first time in history a standing army, although this is also a matter of contention.

Through military campaigns Sargon was able to expand his area of influence, which certainly included all of southern Mesopotamia, yet it is not clear how far to the north and east his influence extended. The new capital of Sargon's state was moved to the city of Akkad, which, it is assumed, lay somewhere in northern Babylonia, though no definite location has been identified as yet (A. Westenholz 1999: 31–34). Inscriptions seem to indicate that Sargon destroyed some of the cities of the south and replaced the previous rulers with local governors loyal to him (Postgate 1992: 40).

The new conquest of southern Babylonia led to several revolts of the southern city-states, which are reported under Rīmush and Narām-Sîn. It is possible that the revolts were due to large-scale expropriations of land (Postgate 1992: 41). However, the most famous monument recording the (forced?) sale of land is the well-known Maništušu obelisk (Gelb et al. 1991: 2 *et passim*), which records land sales of northern Babylonia (A. Westenholz 1999: 44). Since the revolt came mostly from the southern city-states, it is unclear whether land sales were a direct cause for rebellion and it is more likely that the revolts had multiple reasons, of which land expropriation was only one (A. Westenholz 1999: 46).

The more profound changes in the administration and territorial expansion seem to have come under Narām-Sîn, who was Sargon's grandson according to the SKL. Sargon and Narām-Sîn led several campaigns that took them as far as areas that are today in northern Syria, Turkey and western Iran, going, in their own words, where no king had gone before. As Narām-Sîn seems to have repeated some of the campaigns that already took place under Sargon, it is unlikely that they were more than raids (Van De Mieroop 2007: 67). Narām-Sîn is also well known because of a great rebellion of southern Babylonia that occurred during his reign. Reliable information on the exact nature and circumstances of this rebellion is hard to come by, because we know of the rebellion mainly from Narām-Sîn's own inscriptions. As it is unclear whether Narām-Sîn reigned for thirty-seven or fifty-four years (A. Westenholz 1999: 47), it is difficult to place the

rebellion within his reign, although A. Westenholz (2000: 553) now seems to place it rather towards the end of Narām-Sîn's reign. Narām-Sîn reports the successful defeat of the rebellion and declared that in response to his success the people of the city of Akkad asked him to be their god, making him the first deified king in Mesopotamian history.

Narām-Sîn became immortalised as an *Unglücksherrscher* in the Sumerian tale of the Curse of Akkad (Cooper 1983b, 1993). The tale does not connect his misfortunes with his deification but rather states that the king failed to obtain the proper omen to build the god Enlil's temple in Nippur. Enlil was already at that time the highest god in the Mesopotamian pantheon and Nippur was the religious centre, therefore, the failure to obtain the proper omen to build the temple can be seen as a serious failing on the king's part and shows at the same time that the most important god had withdrawn his divine favour, thus depriving Narām-Sîn of his legitimate right to reign and leading to Akkad's downfall. As a literary tale it tells us about what Mesopotamians thought was the cause of Akkad's collapse.

Administrative sources indicate that the state of Akkad began to collapse under Narām-Sîn's successor Šar-kali-šarrī, probably due to a combination of internal and external problems.

During the Old Akkadian period the first administrative documents written in Akkadian, the oldest Semitic language, appear, and royal inscriptions were also frequently written in Akkadian. In particular the history of the dynasty of Akkad has sometimes led modern scholars to see an ethnic (Sumerian–Akkadian) or geographic (southern–northern) dichotomy that clashed at various times in history. However, the construction of such dichotomies may be rather due more to the wish of modern scholars to explain complex historical processes than actual dichotomies (Rubio 2007).

The Second Dynasty of Lagash and the Third Dynasty of Ur: a Sumerian renaissance?

After the fall of Akkad, it appears that a group of non-indigenous peoples called Gutium took advantage of the power vacuum. This phase is sometimes referred to as the Post-Akkadian period (Porada et al. 1992: 116–117). Different dates are given for the end of the dynasty of Akkad. Porada et al. (1992: 116) put the end of the dynasty of Akkad at 2150, whereas some radiocarbon dates seem to indicate an end of Akkad at 2250 (Thomas 1992: 148). It is unclear how long this 'intermediate' period lasted, and because of the (almost complete) absence of written records it is difficult to reconstruct events between the Akkad dynasty and the Third Dynasty of Ur (also called Ur III, 2112–2004). Sources from around the beginning of the Ur III period frequently mention expelling the Gutium from Babylonia, first under Utuhegal, a king of Uruk, who overlapped with Ur-Namma of Ur, then under Ur-Namma himself.

The chronology of the Second Dynasty of Lagash remains difficult, not even the sequence of rulers is certain (Table 6.5). However, a synchronism between Gudea of Lagash, the best-known ruler of Lagaš, and Ur-Namma of Ur now seems fairly accepted (Steinkeller 1988; Suter 2000: 15–17, with further literature). Gudea is well known because a number of inscribed statues were excavated at Girsu and because two cylinders recorded how Gudea built the god Ningirsu's temple at Girsu. The cylinders (Edzard 1997: 68–106), which probably were originally placed in a temple (Suter 2000:

Table 6.5 Kings of the Third Dynasty of Ur (Ur III)

Ur-Namma	2112–2094
Šulgi	2095–2046
Amar-Suen	2045–2037
Šū-Sîn	2036–2028
Ibbi-Sîn	2027–2004

Source: after Brinkman 1977.

71), are the longest literary compositions written in Sumerian from the third millennium.

It is possible that Ur-Namma, the founder of the Ur III dynasty, was a brother (or son) of Utuhegal, a king of Uruk (Sallaberger 1999: 132 with older literature). Ur-Namma began as a general under Utuhegal and then seems to have become independent and founded his new state. Not much is known about the earliest phases of the state due to a lack of written sources.

The Ur III period has left an unprecedented quantity of administrative texts, written in Sumerian, indicating a very tight and possibly restrictive administration. The latest figures estimate a grand total of about 120,000 administrative texts from this period alone, of which about 75,000 have been published (Molina 2008). By contrast, there are very few literary and lexical texts and relatively few sale documents.

Ur-Namma is known for having built an extensive canal system throughout southern Mesopotamia, introducing some administrative reforms (Sallaberger 1999: 134–137), and building several temple towers ('ziqqurats') in major centres of the south: Ur, Uruk, Nippur and Eridu (Porada et al. 1992: 117). The first law code, a collection of legal statements written in the name of the king, can also be attributed to this king (Roth 1997: 13–22). There is a suggestion that Ur-Namma died on the battlefield, although this is only indicated from the Sumerian literary composition *The Death of Ur-Namma* (Flückiger-Hawker 1999: 93–182). Michalowski (2008) has argued that this must have put the relatively new state of Ur into disarray.

Ur-Namma's son and successor Šulgi built upon his father's achievements and introduced more administrative reforms that were designed to streamline and centralise the Ur III administration (Steinkeller 1991; Sallaberger 1999: 140–163). Šulgi reigned for a total of forty-eight years, an exceedingly long time to reign for a Mesopotamian monarch. Šulgi was also deified, just like his predecessor Narām-Sîn. This time we have much more information on temples that were built for the worship of the living king as well as statues of deified kings and priests and priestesses that attended to their cult.

Šulgi was succeeded by Amar-Suen and Šū-Sîn, both of whom reigned for a relatively short period of time (nine and seven years). Amar-Suen later on acquired a reputation as an unlucky ruler, as evidenced in a Sumerian literary text that was written about him.

During its apex, the state of Ur III reached as far as south-west Iran and into northern Mesopotamia, although it is likely that some provinces remained under relatively loose control.

Like all territorial states of the third millennium, the Ur III state was relatively fragile and centred on charismatic rulers, such as Sargon, Narām-Sîn, Ur-Namma and Šulgi.

It is with the last ruler of Ur III, Ibbi-Sîn, that the state began to collapse. A food shortage combined with sky-rocketing food prices during the reign of Ibbi-Sîn indicate the beginning collapse of the centralised administration (Sallaberger 1999: 174–178). Unfortunately, much of our information regarding the collapse of the Ur III state comes from the Royal Correspondence of Ur (Michalowski 2011b), a literary correspondence that is only known from Old Babylonian copies. Whether the correspondence is historically accurate cannot be established at this point.

It appears that one of Ibbi-Sîn's generals, Išbi-Erra, decided to defect from Ibbi-Sîn and established a new dynasty in the northern Babylonian city of Isin. The dynasties of Isin and Larsa belong to a new era, the Old Babylonian period (*c.*2003–1595 BC). Some scholars refer to this period as the 'Amorite age' (Charpin 2004), because many of the Old Babylonian kings were presumably of Amorite origin; the overwhelming majority of Old Babylonian literature and royal inscriptions as well as year names continued to be written in Sumerian. Scholars are still debating whether Sumerian had died out as a spoken language in the Old Babylonian period. In fact, the majority of Sumerian literature is known from tablets dating to the Old Babylonian period. Nevertheless, Sumerian began a new life as a sacred language and continued to be used for sacred texts until the end of the cuneiform tradition.

CONCLUSION

Writing about history and chronology of the late fourth and third millennia in Mesopotamia shows that one cannot write one history but several histories that together form a patchwork of information with varying degrees of certainty. Because of these uncertainties, most scholars write cultural histories of early Mesopotamia that focus on socio-economic, religious, or other aspects of early Mesopotamian history. Here I have attempted to write a more linear history, whether successful or not is unclear. A few general tendencies may be observed: because of the lack of reliable information, historians frequently have to fill the gaps with suggestions, and often it is not easy to separate fact from 'fiction'. While this contribution has focused on written sources, the archaeology may offer a different picture, and it is not always clear what impact changes in political governance had on people that were not members of the elites. But this has to remain subject to another study.

FURTHER READING

General introductions into the early history and culture of Mesopotamia can be found in Bauer et al. 1998; Crawford 1991; Nissen 1988; Pollock 1999; Postgate 1992; Sallaberger and A. Westenholz 1999; Van De Mieroop 2007; Yoffee 2004.

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PART II

SUMERIAN SOCIETY: THE MATERIAL REMAINS

CHAPTER SEVEN

PATTERNS OF SETTLEMENT IN SUMER AND AKKAD

Jason Ur

The settlement landscape of early Mesopotamia was characterized by great cities that housed great masses of people, kings and priests, and the gods themselves. From the Late Uruk period to the end of the Old Babylonian period (*c.*3500 to 1500 BC), Mesopotamian cities contained all of the material manifestations of civilization that have fascinated archaeologists and epigraphers: palaces and temples with traditions of high art, administrative organization, and monumental architecture. These material remains gave clues to social and political institutions and their roles in maintaining urban society. The spatial scale of the settlement, on the other hand, reveals the extent to which these institutions successfully maintained social cohesion among the diverse kin and ethnic groups within the cities. In their absence, settlements inevitably split apart as disputes emerged that could not be resolved except via spatial distance between feuding parties. Such cycles of growth and fission in individual settlements had been ongoing since the start of sedentism in the Neolithic, until the fourth millennium BC.

The Mesopotamian plain witnessed shifting patterns of urban settlement at a time when almost all other human societies worldwide continued to live a village scale existence characterized by frequent settlement fission. The evolution of the urban settlement landscape was not a random process; the shifting constellation of settlements has much to reveal about the underlying social, political, economic, and environmental dynamics. These patterns were not merely reflective of, but became constitutive of, Mesopotamian society. As cities grew, they became meaningful places in the landscape, through association with kings, gods, and events. These enduring symbolic aspects explain why many of the great cities of the fourth and third millennia BC were still densely inhabited and maintained, sometimes at great expense, for several millennia thereafter.

These significant questions of geography and demography require a methodological approach that expands beyond excavation and epigraphy. Excavation opens windows into cities, but these windows have shrunk as archaeologists have appreciated how destructive their methods are, as they have expanded the range of data considered worthy of recording, and as their budgets have shrunk. Even if it were possible to excavate an entire city, these questions would still be out of reach, since urbanism cannot be studied at a single place: it is necessary to understand how the entire settlement landscape evolved, as populations coalesced at some places and abandoned others. For these reasons, Mesopotamian archaeologists were at the forefront of the

development of survey and remote-sensing methods. When combined with excavation and textual analysis, these extensive methods are powerful tools for reconstructing the evolution of the Mesopotamian settlement landscape.

This chapter reviews settlement patterns in Sumer and Akkad from the end of the fourth to the middle of the second millennium BC. Before doing so, it is necessary to consider some definitions, and to review the strengths and weaknesses of the surveys thus far undertaken on the plain.

LANDSCAPE AND ENVIRONMENT

The history of settlement on the Mesopotamian plain (Figure 7.1) is inextricably bound to its physical environment (Sanlaville 1989; Verhoeven 1998, Wilkinson 2003: 74–97; Pournelle this volume). The region's climatic aridity demands that human occupation be tethered closely to surface water sources: the two rivers throughout much of the plain, and marshes in the basins between them and especially at the rivers' tail ends near the head of the Gulf (Adams 1981: 244). The plain might appear to be a flat and homogenous isotropic plain, but in fact it is a complex and diverse array of elevated river levees, isolated turtleback islands, dune fields, abandoned irrigation channels, and seasonal marshes that is constantly evolving. This landscape variability has implications not only for how its inhabitants adapted to it in the past but also for the elements that have survived for archaeologists to recover.

In the northwestern part of the plain (ancient Akkad), the rivers ran in meandering channels that were prone to shift during floods (Verhoeven 1998). When mapped regionally, settlements often occurred in linear arrays, on account of their close adherence to levees of the rivers and major canals. The Tigris and Euphrates dropped most of their suspended sediments in this upper part of the plain, resulting in substantial aggradation of silts that have buried the earliest sites. Further southeast, in the region between Nippur and the head of the Gulf (ancient Sumer), the rivers adopt more anastomosing or branching patterns. Sedimentation in this region has been less severe, with the result that prehistoric (Ubaid and Uruk) sites are more likely to be visible at the surface than in Akkad. Settlements clustered atop levees here, but the increased presence of marshes resulted in distinct "bird's foot" deltas (Pournelle 2007: 43–44).

These landscapes were highly dynamic. The rivers themselves were prone to redirect themselves at times of great floods. River diversions could be intentional acts of war that could leave cities or entire regions suddenly without reliable water for irrigation, at which time they would have to be abandoned, or the watercourses restored with herculean effort. Closely related to shifts in the rivers were formation of marshes and steppe regions. In the fifth and fourth millennia, the Gulf extended to the hinterlands of Ur and Uruk, which were surrounded by marshes; gradually this marsh environment was pushed to the southeast. This environmental dynamism must be taken into consideration when evaluating the surviving settlement patterns and their interpretation.

ISSUES AND METHODS IN SETTLEMENT SURVEY

The basic raw data for the history of settlement are site numbers and their sizes, which are best acquired through the techniques of archaeological survey. Survey methods are

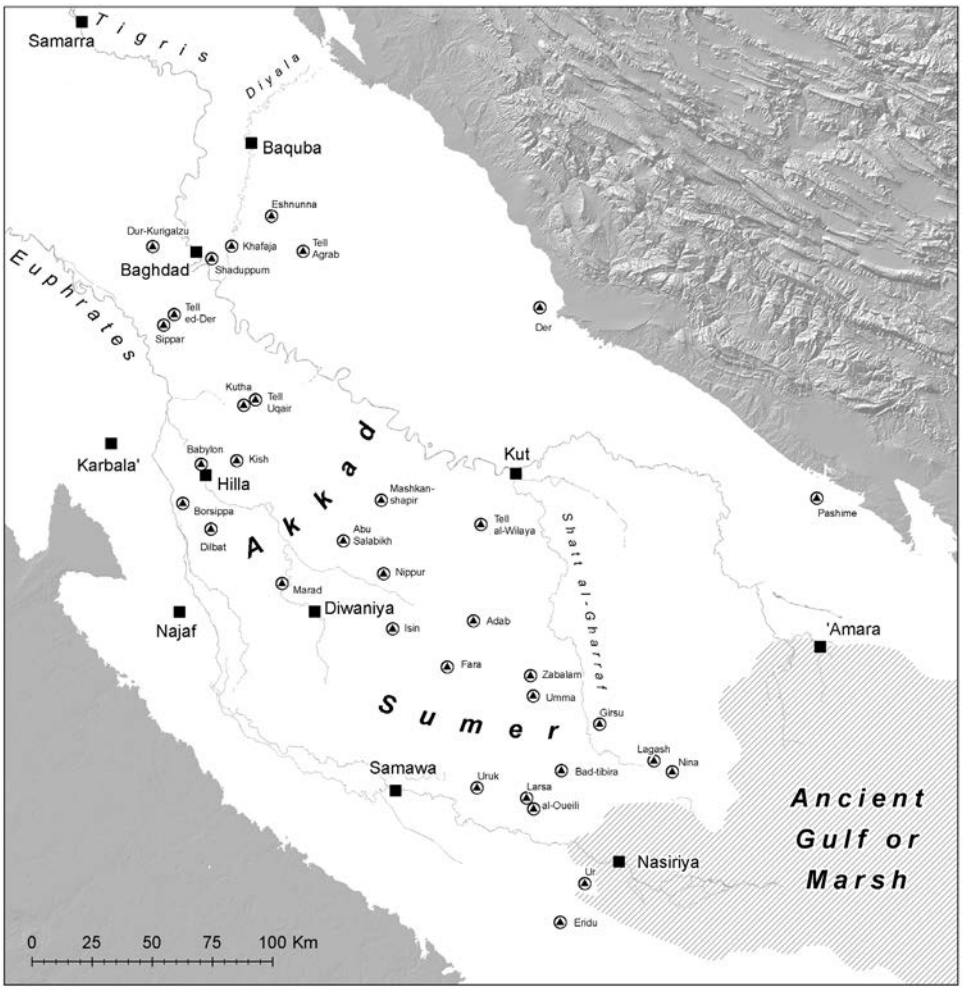

Figure 7.1 Southern Mesopotamia and adjacent regions. Land over 100 m is hillshaded.

based on two underlying assumptions. Most importantly, past human activities left traces that can be identified via surface observation. If various natural and cultural taphonomic processes can be ruled out, the surface distribution of artifacts and features is assumed to be related closely to the spatial location of ancient activities, most notably sedentary inhabitation. Furthermore, the extent of the surface distribution of artifacts is related to the scale of the ancient settlement and, by extension, its ancient population.

Field survey methodologies evolved, but most Mesopotamian surveys share similar characteristics. The predominant approach is an extensive one designed to recover quickly as many sites as possible over a large area. Known sites (identified from aerial photographs, maps, or local informants) were visited by vehicle, and in places of good visibility, systematic vehicular transects were made on 500 m to 1 km intervals. Cultivated areas were generally avoided, but where they were surveyed, it was necessary

to follow the lines of canal levees. The surveyors recorded plans of the visible remains, and made opportunistic artifact collections with a particular focus on the edges of sites. Site locations were recorded by sighting on known points by optical compass. Most fieldwork was done rapidly by teams of only one or two archaeologists with an Iraqi government representative.

This methodology, which was employed by almost all surveys of the late twentieth century (Adams 1965; 1981; Adams and Nissen 1972; Gibson 1972; Wright 1981), has strengths and weaknesses. The primary advantage was above all the tremendous geographical extent of coverage, which has placed the Mesopotamian settlement dataset among the largest in world archaeology. Furthermore, it was a necessary concession to the uncertainty of future permits and fieldwork (Adams 1981: 38). For these reasons, most surveys attempted to cover a great area as quickly as possible.

This extensive approach came with some disadvantages, however. Vehicular survey finds the largest sites, but smaller sites can go unseen without a more intensive approach. Individual sites' sizes were by necessity estimated by impressionistic visual inspection of the surface assemblage and aerial photographs, with the result that shifting patterns of occupation could be overlooked, and small and early occupations might be passed over.

All surveys are by necessity a compromise between spatial extent and intensity of investigation, and Adams and his colleagues were well aware of the ramifications of their methodological decisions. For example, the survey of Uruk's hinterland was intended as an initial reconnaissance, to be confirmed or corrected by subsequent systematic intensive surveys (Adams and Nissen 1972: ix–x). Unfortunately, no regional projects followed up on the initial surveys, largely because survey permits were not forthcoming (although see Wilkinson 1990 for Abu Salabikh; Armstrong 1992 for Dilbat). Several individual sites, however, have been subjected to intensive systematic surface analysis, most notably Uruk, Mashkan-shapir, Kish, and Lagash (Finkbeiner 1991; Stone and Zimansky 2004; Gibson 1972; Carter 1989–1990). These surveys subdivided the site surfaces into squares or topographical units that were then walked systematically; features and artifacts were mapped, collected, and analyzed by period. Other sites have been analyzed by opportunistically placed sample collection units (e.g., Nippur and Fara – Gibson 1992; Martin 1983). The Mashkan-shapir and Lagash surveys analyzed site functions, based on the distribution of kilns, walls, canals, and manufacturing debris; for most others, the emphasis has been on shifting patterns of growth and contraction as evidenced by the distribution of chronologically sensitive artifacts.

From its inception, the practitioners of survey in Mesopotamia have been concerned not only with sites but also with the landscape between them, especially the rivers, canals, and levees that make agricultural settlement possible. In Sumer, Adams used aerial photographs and site alignments to suggest river and canal alignments and their evolution. The most ambitious project was the multi-disciplinary Belgian and American research around the hinterland of Sippar and Tell ed-Der in Akkad, which involved the synthesis of topography, geoarchaeology, and cuneiform texts (Gasche and Tanret 1998; Heyvaert and Baeteman 2008). A study of channel development around Abu Salabikh also relied on geoarchaeological coring (Wilkinson 1990). Off-site sherd scatters, which are now recognized throughout the Near East and beyond (Wilkinson 2003: 117–118), have only been investigated in the hinterland of Mashkan-shapir (Wilkinson 2004).

Survey and landscape studies benefit from a remote perspective, and most Mesopotamian research has attempted to include aerial photographs and remote sensing. The surveys of the 1960s and 1970s were allowed limited access to aerial photographs by the Iraqi government, but these were sufficient to identify sites and the traces of relict watercourses (Adams 1981: 28–32). The earliest Landsat imagery was too coarse for site identification but did prove useful for the recognition of abandoned levees (Adams 1981: 33, fig. 6). More recently, SPOT imagery (Verhoeven 1998; Stone 2003) and declassified photographs from the American CORONA intelligence satellite (Hritz 2004, 2010; Pournelle 2003, 2007) has been used to great effect. High-resolution commercial imagery from the Ikonos, DigitalGlobe QuickBird, and other platforms shows great promise (Stone 2007, 2008), as does topographic modeling using data from the Shuttle Radar Topography Mission (SRTM; Hritz and Wilkinson 2006).

The great variety of textual sources allow historical geographies to be constructed, and indeed this was the primary aim of the earliest reconnaissances (e.g. Jacobsen 1954). The combination of survey data and textual analysis has been effective in reconstructing patterns of movement and the rural landscape of the third Dynasty of Ur (Steinkeller 2001, 2007). When examined closely, texts can add a human dimension to the shifting patterns of sites; for example, the movement of temple households from Uruk and Eridu to Kish and Ur, respectively, in the Old Babylonian period (Charpin 1986: 343–418), or the resettlement of Akkadian and Hurrian populations, some prisoners of war, in the Sumerian south under the kings of Ur (Steinkeller in press). Texts can also demonstrate abandonments that occur within a single ceramic phase, and are therefore invisible to survey; for example, the progressive abandonment of southern and central Sumer at the end of the Old Babylonian period (Stone 1977; Gasche 1989).

For survey data, chronological analysis is based on surface ceramics. For example, a site with many Uruk ceramics spread over an extensive area is assumed to have been a large settlement in the fourth millennium BC. The great benefit of this method is the incredible abundance of pottery on the surfaces of Mesopotamian sites, but reliance on ceramic chronology poses several challenges. Our ability to subdivide time is linked to the rate of technological and stylistic change in pottery production, but many ceramic types remain in use for centuries. Furthermore, surveyors are dependent on well-excavated stratigraphic sequences of pottery to which they reference their surface finds. For many periods, such sequences simply do not exist. This problem is compounded in the later historical periods, when epigraphers and art historians prefer chronologies based on political dynasties that are wholly disconnected to patterns of ceramic production.

Evaluation of settlement patterns must include consideration of landscape taphonomy, the processes by which various landscape elements survive, are transformed, or are removed (Wilkinson 2003: 7–8, 41–43). These processes can be natural ones, such as river movements, alluviation, salinization, and wind deflation, or cultural, such as the expansion of irrigation canals and the resulting alluviation. The southern Mesopotamian plain is a palimpsest of many superimposed landscapes which are preserved in an increasingly fragmentary state as one looks further back in time (Hritz 2010; Pournelle this volume).

HISTORY OF RESEARCH

Near Eastern settlement pattern studies originated with the Sumerologist Thorkild Jacobsen, who developed and applied survey methods on the Diyala plain (1936–1939) in the context of the Oriental Institute's excavations (see Adams 1965 : viii, 119), and later in Sumer (Jacobsen 1954, 1969). Jacobsen's work was especially innovative in his concern with spatial patterns of settlements and watercourses, unlike other reconnaissances of the time, which identified sites for excavation (e.g., Roux 1960).

Systematic surveys began in earnest with the work of Robert McCormick Adams in the late 1950s and 1960s. He expanded and systematized the observations of Jacobsen in the Akkad region in 1956–1957 (Adams 1972b) and on the Diyala plain in 1957–1958 (Adams 1965). Surveys in 1966 by McGuire Gibson around Kish and Henry Wright in the Ur-Eridu region (Gibson 1972; Wright 1981) adhered to the methods of Jacobsen and Adams. In the following year, Adams and Hans Nissen surveyed the region of Uruk (Adams and Nissen 1972), after which Adams began a series of survey seasons around Nippur (Adams 1981). After 1969, the Iraqi government ceased issuing large-scale survey permits, and with the exception of Adams' short season around Nippur in 1975, no further extensive reconnaissances have been carried out by foreign archaeologists.

In the 1970s and 1980s, surface surveys focused on individual sites, providing a valuable check on the earlier reconnaissances. Low intensity sampling surveys targeted Fara and Nippur (Gibson 1992; Martin 1983). Intensive full coverage methods were used in the 1980s at Uruk, Lagash, and Mashkan-shapir (Finkbeiner 1991; Carter 1989–1990; Stone and Zimansky 2004). Only in 1990 did regional studies resume (Wilkinson 1990). The first Gulf War put an end to all foreign research up to the present, but Iraqi research led by Abdulamir al-Hamdani between 2003 and 2010 has identified about 1,000 sites in southern and eastern Sumer, particularly in the zones east of the Nippur, Uruk, and Eridu surveys (see al Hamdani 2008).

The efforts of Adams, Nissen, Gibson, and Wright have covered approximately 25,000 square kilometers of Sumer, Akkad, and adjacent regions of southern Mesopotamia, including well over 3,000 recorded sites (Figure 7.2). As a result, the Mesopotamian plains represent one of the benchmarks of global archaeological survey (Ammerman 1981).

THE EVOLUTION OF SETTLEMENT IN SUMER AND AKKAD, *c.*3100–1500 BC

Archaeologically recognizable settlement appeared first on the Mesopotamain plain in the Ubaid period. Sites of that time are mostly small (less than 4 ha), although Ur and Eridu had grown to 10–12 hectares (Wright 1981: 324–325). Patterns of settlement in Akkad are unreliable because of heavy alluviation, but sites appear evenly dispersed in the region of Uruk, perhaps due to a reliance on pastoralism rather than agriculture (Adams 1981: 59). Recent remote-sensing studies have emphasized the marshland context of these earliest southern settlements, which sat amidst marshes on "turtleback" hills of possible Pleistocene date; this model proposes that marsh resources such as fish and reeds sustained the economies of Ubaid villages and also the earliest urban centers of the Uruk period (Pournelle 2003, 2007).

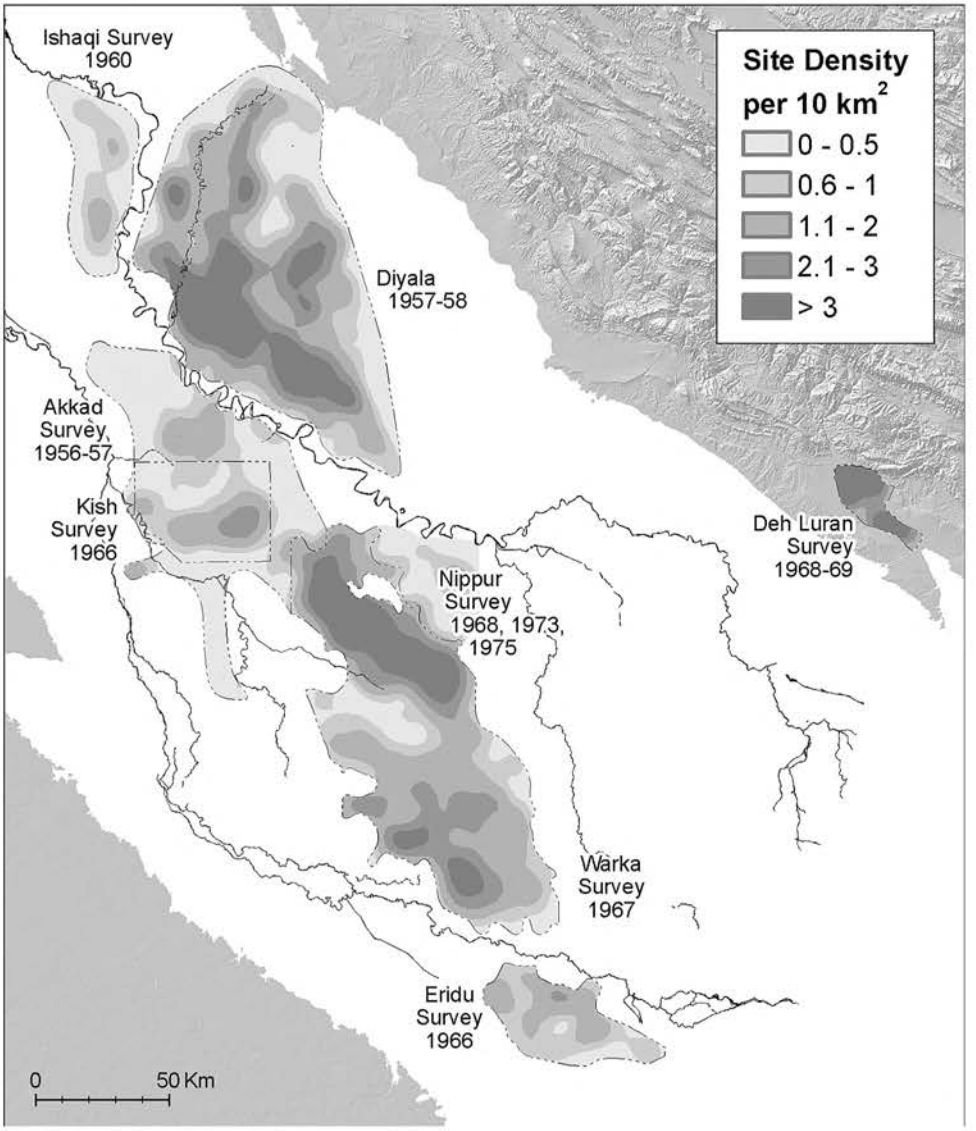

Figure 7.2 Surveys and site density in Sumer, Akkad, and adjacent regions. Land over 100 m is hillshaded.

Urban origins *c.*4000–3100 BC

During the fourth millennium, the settlement landscape evolved. The most startling transformation took place at Uruk, where a pair of adjacent Ubaid villages grew into a 250 ha urban concentration by 3100 BC (Finkbeiner 1991: 193–194). The nascent city included new monumental forms of architecture and the first instances of proto-cuneiform record keeping. No other site even approximated Uruk's growth, but several cities grew to between 10 and 50 ha. The precise extents of many of these places are

uncertain, because fourth millennium occupations are deeply buried beneath later settlement. Nippur, for example, is arbitrarily estimated at 25 ha, but its Ubaid and Uruk surface assemblages are largely the result of massive earthmoving in Parthian times (Gibson 1992: 36–39). In addition to these centers, the central plain saw a dramatic expansion of settlement well beyond what could be expected from natural population growth (Figure 7.3), leading Adams to conclude that the region had seen immigration from surrounding regions, the sedentarization of local pastoral nomadic groups, or most likely both (Adams 1981: 69–70).

The precise timing of the first urban growth remains a matter of debate. The Uruk period, defined archaeologically, covers almost the entire fourth millennium BC, a vast span of time. Attempts to subdivide it via ceramic chronology are hampered by the fact

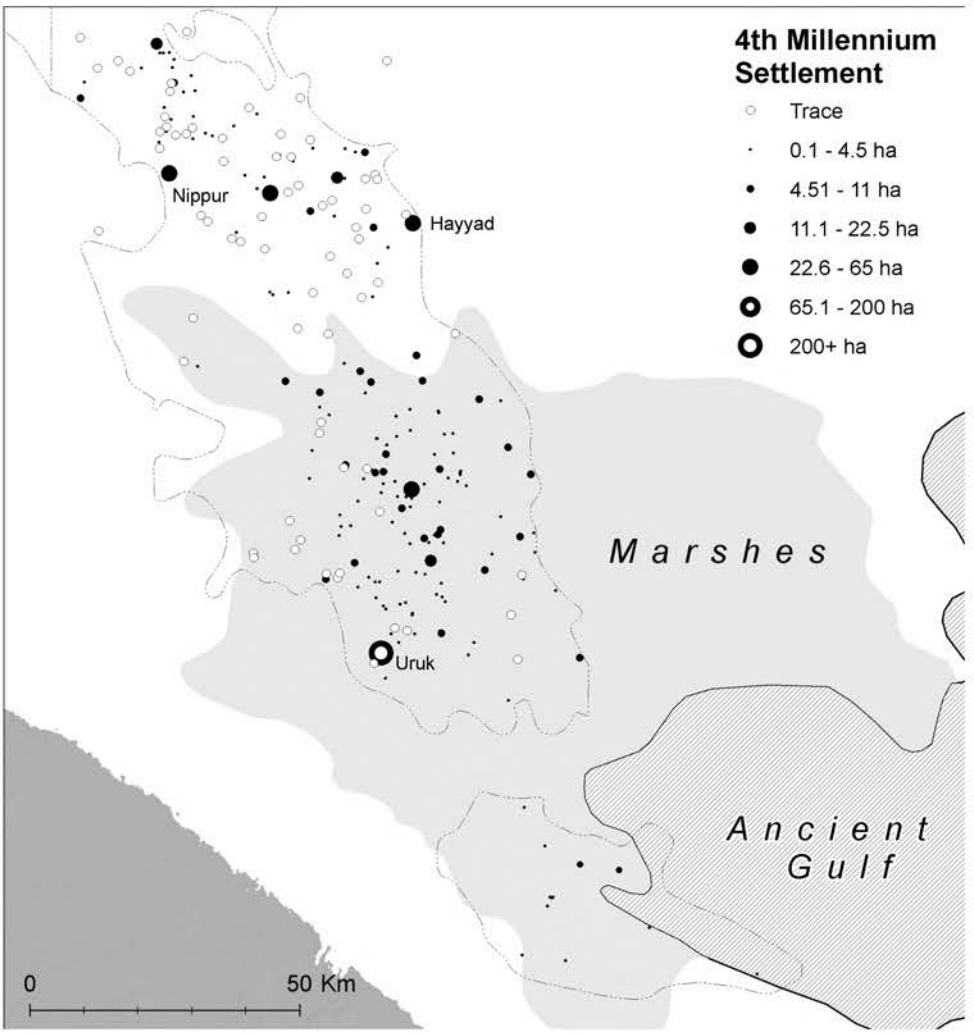

Figure 7.3 Late fourth millennium (Late Uruk period) settlement in Sumer (based on Adams 1981: table 7; Algaze 2008: appendices 1–2; Wright 1981; Pournelle 2007)

that few stratigraphic excavations through the fourth millennium exist, and none were undertaken using modern methods of ceramic seriation or employing absolute dating methods (Nissen 2002: 3–6).

The spatial distribution of Uruk sites is far less linear than in subsequent periods, when linearity is directly related to river and canal alignments (Figure 7.3). For the southeastern part of the plain in particular, this dispersed arrangement may be related to an emphasis on marsh resources in the economy of the time, which beside agriculture and pastoralism represented a "third economic pillar" (Pournelle 2007: 46). Rather than the "pearls-on-a-string" model for later agricultural settlement, this dispersed pattern might result from settlement on elevated turtlebacks and bird's-foot deltas. Such landforms are common at the ends of river systems that terminate in marshlands. This is at odds with the traditional understanding of Mesopotamian origins in an agro-pastoral economic niche, particularly with the centralization and redistribution of cereals and animal products by nascent temple households (see, e.g., Pollock 1999: 78–80).

An alternative, but not mutually exclusive, possibility is that the dynamism of the rivers, combined with the inability of human communities to counteract it, forced villages to make frequent relocations. In such a case, the great numbers of sites might result from counting the same populations twice or more in their sequentially occupied settlements.

The settlement landscape of the fourth millennium featured urban agglomerations that had been seen before only rarely (e.g., Tell Brak in northern Mesopotamia; Ur et al. 2007), and never with such pervasiveness. Several competing models of society have attempted to explain it. New political forms had emerged, especially bureaucratic state governments that centralized decision-making (Wright and Johnson 1975). Other models also emphasize economy, but instead see cities as the emergent products of competitive and self-amplifying trade practices that attracted people from neighboring villages and distant regions (Algaze 2008). Other models see the development of social stratification and hierarchy as forces behind growth, particularly with new demands for tribute (Pollock 1999: 80) or the decline of kinship (Adams 1972a, 1981). On the other hand, urbanism may have been the unintended result of a subtle shift in the social definition of the household from a small domestic group to a new flexible metaphorical definition that could include neighborhoods, cities, and entire kingdoms (Schloen 2001). This social change might have resulted in the demographic explosion of some places as rural villagers moved to cast their lots with emergent urban households, particularly new temple institutions formulated as the houses of the gods (Ur 2012).

The expansion of urbanism and the abandonment of the countryside (*c.*3000–2600 BC)

At the turn of the fourth millennium, archaeologists recognize a short phase labeled Jemdet Nasr, about which survey can say little (Adams 1981: 81). In the first half of the third millennium BC (the Early Dynastic I period), the initial urban experiment at Uruk expanded and was now replicated elsewhere across the plain. Villagers increasingly abandoned their rural settlements in favor of life in cities. In all likelihood, they were joined by pastoral nomadic groups who gave up their migratory ways. Whether these migrations were voluntary or coerced remains unknown. More than any other

time in Mesopotamian history, the early third millennium demonstrates the value of archaeological survey; at this critical moment for the history of urbanism, almost nothing is known from excavation, and all of our knowledge comes from field survey.

Once again, the urban explosion was most pronounced at Uruk. The scatter of ceramic diagnostics covered some 400 ha within and outside of the city wall (Finkbeiner 1991), which appears to have been constructed at this time (Nissen 1972). Adams estimates large settlements at Nippur, Adab, Umma, and Zabalam (1981: 88–89). Shurrupak may have reached 70 ha (Martin 1983: 26) and Kish was almost 60 ha (Gibson 1972: fig. 25; Adams 1981: 88). In most of these areas, urban growth was accompanied by the abandonment of the countryside, especially around Uruk, Nippur, and Abu Salabikh (Figure 7.4). Around Uruk, for example, 81 percent of identified settlement occurred in sites larger than 10 ha (Adams 1981: 90). The exception appears to be the hinterland of Adab, where villages and even a subsidiary town were to be

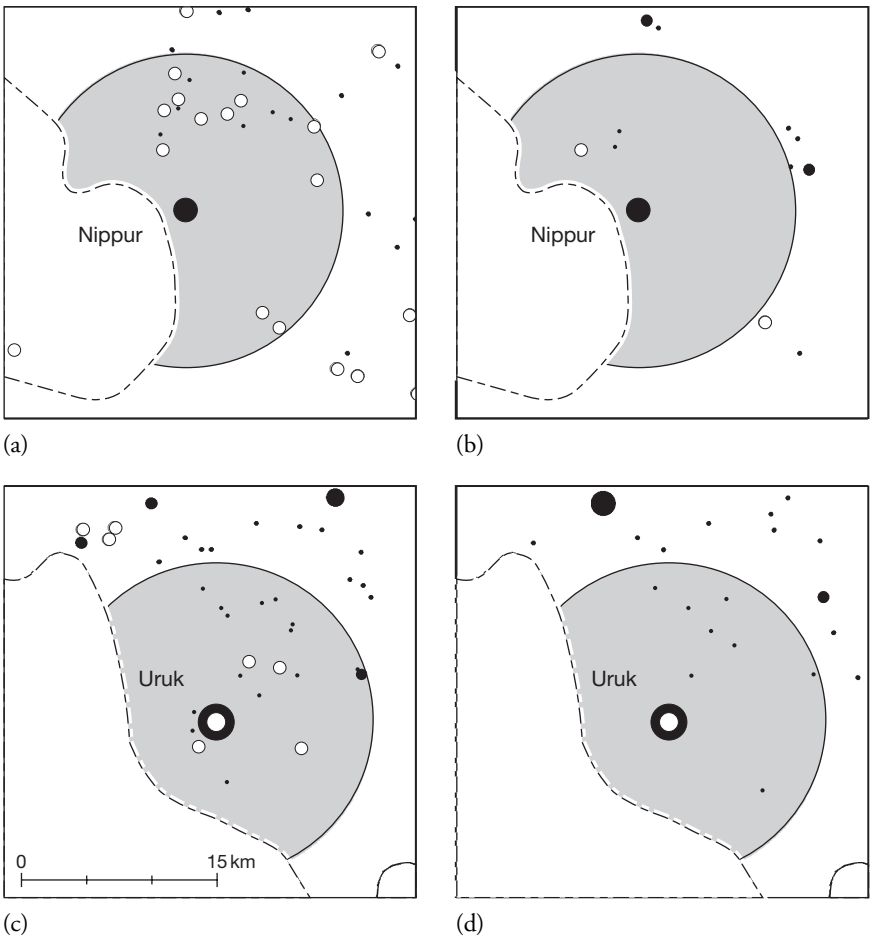

Figure 7.4 Urbanization and rural abandonment in the early third millennium: (a) the Nippur region, late fourth millennium; (b) the Nippur region, early third millennium; (c) the Uruk region, late fourth millennium; (d) the Uruk region, early third millennium. For settlement classes, see Figure 7.3.

found. This pattern of extreme nucleation suggests that the age of competitive small polities ("city-states," see below) had begun. Under centralized and stable political regimes, there is a tendency for settlement to extend beyond urban centers, as farmers and shepherds move closer to their fields and pasture, in the absence of the threat of inter-urban violence (Adams 1981: 88; Wilkinson et al. 2004).

At this time, settlement first took on the linear patterning that would predominate in all subsequent phases of Mesopotamian history. Linearity had been weak in the fourth millennium in the region between Umma and Uruk due to unstable watercourses, a variegated and marshy environment, or both circumstances. In southern Sumer, three primary river channels can be recognized: an eastern channel through Adab, a western channel through Shuruppak and Uruk that might have come from Nippur, and a central channel that ran between them in the Shurrupak region (Adams 1981: fig. 21).

The age of "city-states" and initial political unification (*c.*2600–2100 BC)

By the mid-third millennium, the use of cuneiform writing had expanded beyond administration to include propagandistic statements by rulers, occasionally in the form of monuments that also feature royal and divine iconography. Each city was envisioned as the home of a god to which the fortunes of the city and its ruler were tied, and in whose name temples were built and wars were fought. The inter-city warfare described in these monuments has given rise to the notion of a landscape of "city-states," small autonomous polities based around a single major city. Many of these small urban polities are also known from the Sumerian Kinglist, a historiographic text listing sequentially the political capitals of the plain. Indigenous subdivisions of the plain had emerged: Akkad, a predominantly Semitic-speaking area to the northwest, and Sumer, a predominantly Sumerian-speaking region to the southeast (Steinkeller 1993).

The major cities of the late Early Dynastic period were large and densely inhabited (Postgate 1994). Perhaps the largest was Lagash, the settled area of which covered some 500 ha (Carter 1989–1990). Its great rival Umma has been estimated at 175–200 ha. Most centers were considerably smaller, however. Shurrupak was about 100 ha (Martin 1983: 26). Despite the famous wealth of its royal family, the city of Ur probably did not exceed 50 ha (Wright 1981: 327).

If nucleation and endemic conflict were closely related, the historically known "city-states" phase may have been an unsettled time, since so few communities felt secure enough to settle permanently in the countryside beyond city walls. The mid-third millennium represents the apex of urban nucleation; almost 80 percent of the population of central Sumer clustered into settlements of 40 ha or more (Adams 1981: 138). Simultaneous warfare and nucleation characterized northern Mesopotamia at this time as well (Ur 2010: 404–412).

The frequently used "city-state" terminology evokes a political landscape composed of a central city, its immediate agricultural hinterland of fields and pastures, and perhaps a few dependent villages, often implicitly on the model of the Greek city-states. The settlement pattern data, and the historical record, however, reveal it to be one of many possible political forms. The Lagash state, for example, also included Girsu and Nina, each a large city in its own right (at least 370 and 67 ha, respectively, based on satellite imagery). This "classic" city-state was really a polity of three cities and

other associated settlements. The polity centered on Kish in northern Akkad had, at one point, enough political control over Sumer to set boundaries between the kingdoms of Umma and Lagash (Cooper 1983). Given the opportunity, "city-state" rulers would consolidate rule over formerly independent cities, and by the end of the millennium, at least two such regional polities, administered from Agade and Ur, lasted for multiple generations. City-based units were durable, and many survived as provinces in the Akkadian and Ur kingdoms, but the often implicit city-state model used by archaeologists obscures the political dynamism of the time.

By the end of the third millennium, many small villages around major cities disappeared, and even some major urban centers were abandoned. At the same time, a striking linearity of settlement emerged on the watercourse between Adab and Umma (Figure 7.5), possibly related to a decline in the size and number of settlements on the river between Nippur, Shuruppak, and Uruk. A watercourse, possibly originating as a canal, now ran from the Umma area to the region of Uruk. This watercourse, later

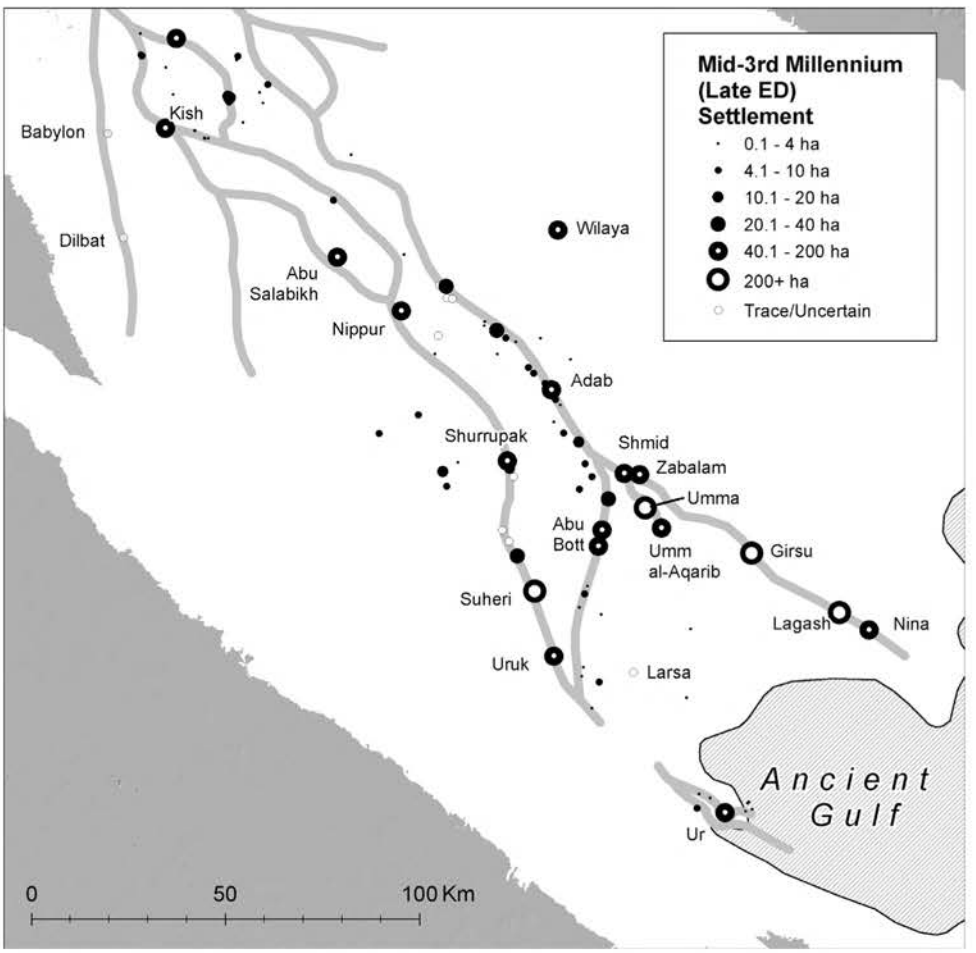

Figure 7.5 Mid-third millennium (Late Early Dynastic period) settlement in Sumer and Akkad (based on Adams 1981: table 14; Gibson 1972)

known as the Iturungal, would be particularly important later in the third millennium (Steinkeller 2001).

The phase of small independent polities appears to have been brought to an end by Sargon, a ruler based at Agade, a town of unknown location in Akkad. Defining the settlement pattern for the duration of Akkadian dynastic rule is exceedingly difficult (Nissen 1993). Nonetheless, the nucleation trends of the late Early Dynastic period appear to have continued, particularly on the Tigris around Adab, a well-known Akkadian center. The question remains to what extent were the settlement pattern changes, subtle though they are, a result of royal decision-making or the cumulative results of trends within individual settlements. The divergence of historical and ceramic chronologies does not allow this question to be answered with any certainty.

By the late Early Dynastic to Akkadian period, two dominant parallel channels had emerged within the surveyed regions of the plain. The western channel (the Euphrates) ran through Abu Salabikh and Nippur, and on to Shuruppak and Uruk. The eastern channel ran from Adab to the area of Umma and Zabalam. This eastern channel is likely to have been a branch of the Tigris, a conclusion that can be drawn from both cuneiform texts and satellite imagery (Steinkeller 2001; Stone 2003; Hritz 2010). The southeastern extensions of these channels have become obscured by wind deflation and subsequent watercourses. The extension of the eastern channel to Girsu, Lagash, and Nina is now covered by right-bank irrigation systems from the relatively recent Shatt al-Gharraf branch of the Tigris. The likely extension of the western channel to Ur and Eridu is now severed by the modern Euphrates.

The Third dynasty of Ur and its aftermath (*c.*2100–1850 BC)

From the viewpoint of textual records, the Third dynasty of Ur and the politically decentralized time that followed it (the Isin-Larsa period) have great political and social differences. The kings of Ur created centralized temple and above all royal administrative systems, and attempted to resuscitate a Sumerian identity. The succeeding phase, on the other hand, was characterized by competing polities in which economic activities often were carried out independently of royal and temple households, and by new ethnic identities, above all Amorites who recognized an ancestry as pastoral nomads.

Nonetheless, these social and political changes appear to have had little or no immediate effects on the lives of craftspersons like potters, who continued to use the same or similar ceramic styles and technologies across this chrono-political boundary. For this reason, the historical Ur III and early Isin-Larsa periods must be presented as a unit in settlement pattern analysis (Figure 7.6). The incredible richness of the cuneiform record offers great potential insight into aspects of settlement, boundaries, and movement, which cannot be determined from the surface record (Steinkeller 2007; Adams 2008).

The political center moved to the already ancient city of Ur, which remained a modest 50 ha. The nearby city of Eridu was rebuilt, and several smaller towns emerged on the channel through Ur. The total settled area of the region doubled from the previous period (Wright 1981: 329–330). The central Sumerian plain also experienced an expansion of settlement at all scales, but especially among small villages, which more than tripled in number over their Akkadian period numbers (Adams 1981: fig. 25). It

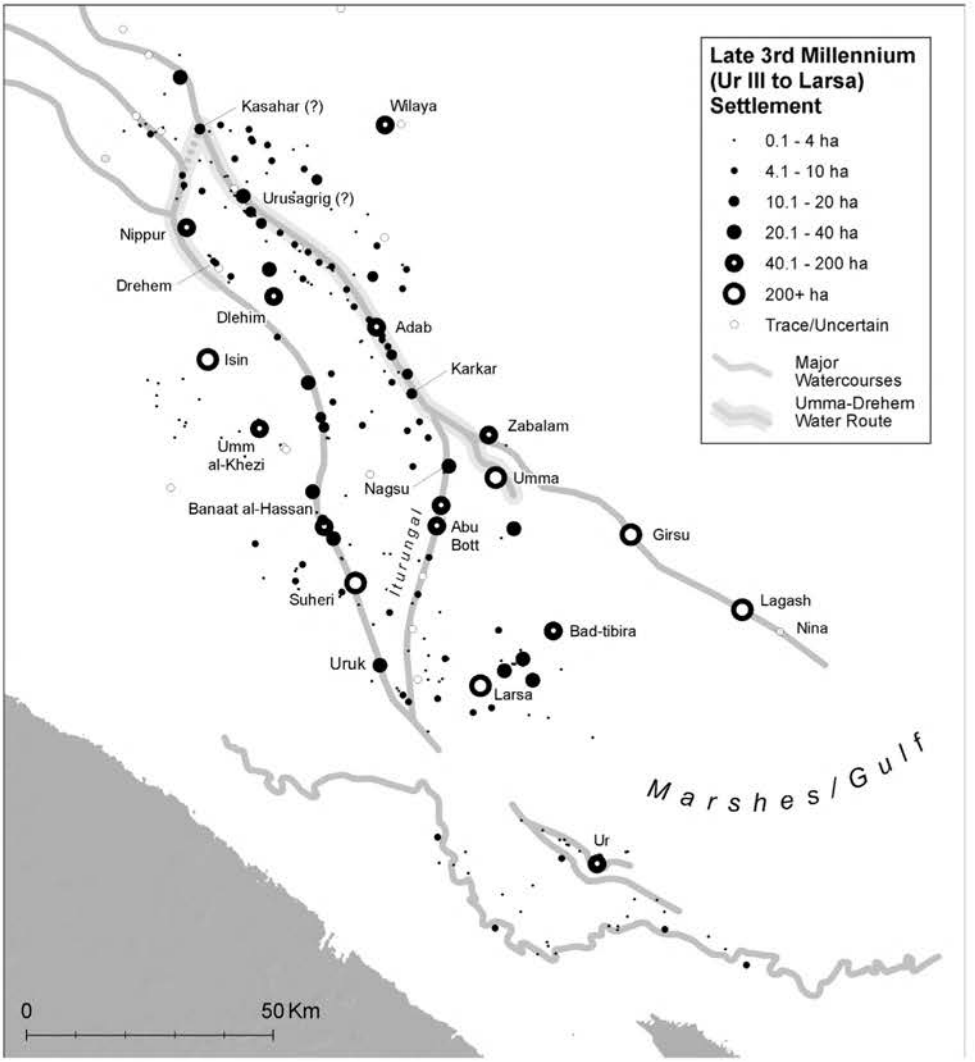

Figure 7.6 The late third/early second millennium settlement in Sumer (based on Adams 1981: table 14; Wright 1981; Steinkeller 2001)

is tempting to connect the increasingly full rural landscape to relative political stability under the kings of Ur, and perhaps the deliberate resettlement of conquered populations. Furthermore, it is quite likely that survey has underestimated the rural landscape, when compared with the geographical names in the cuneiform record (see below).

The end of the third millennium saw the development of the first zonal irrigation systems. Earlier settlements clustered along the major river channels, but late third millennium settlements sat on branch canals that could extend up to 15 km away from the main river (Adams 1981: 164–165). The regions north and east of Nippur and north of Adab appear to have such systems, which must have required substantial royal investment. The rather late development of large systems suggests that "if anything,

large-scale, complex irrigation practices were a derivative of the prior development of urban and state organization, rather than vice versa" (Adams 1981: 245; see also Adams 2005).

The Ur kingdom had a centralized and integrated political economy that involved the movement of bulk goods within the core provinces (Steinkeller 1987), often involving river transport to Nippur and Drehem (ancient Puzrish-Dagan). The low gradient of the Mesopotamian plain and the ease of low friction waterborne transport was a critical element of the "Mesopotamian advantage" in urban development since at least the fourth millennium (Algaze 2008). With a careful reading of cuneiform texts and reference to the surveyed settlements, it is possible to reconstruct inter-city movement via rivers and canals at this time; for example, the movement of bulk cereals up the Tigris from Umma upstream to Kasahar, and then across a canal to the Euphrates near Nippur and Puzrish-Dagan (Figure 7.6; Steinkeller 2001: 57–59).

In addition to historical geography, the Umma texts demonstrate the extent and variety of rural settlement (Steinkeller 2007, in press). Nineteen sites were recognized by survey in the Umma region, but the texts mention at least five times as many settlements in the Umma province. Some might have been composed of reed structures, and therefore unlikely to form mounded sites; others may have been removed by the rivers or wind deflation, or were too small to be detected by low intensity survey methodologies. Some places were little more than a threshing floor or a grain storage area, but others contained rural temples and shrines. It is likely that a similarly diverse range of small rural settlements existed in other time periods for which we lack such a rich textual record. Some of these settlements were deliberate foundations of the ruling dynasty; if the presence of non-Sumerian names is any indication, many of their inhabitants may have been resettled prisoners of war; for example, Shu-Sin's settlement of captives from Shimanum near Nippur (Gelb 1973: 76; Steinkeller in press). Deliberate resettlement of conquered populations, with an unambiguous signature in settlement patterns, reached a high point under the Neo-Assyrian kings, but the demographic impact on the Sumerian landscape remains to be determined.

Competing polities and the triumph of Babylon (c.1850–1500)

The post-Ur time of inter-polity conflict on the plain ended with political unification under Hammurabi of Babylon. For much of the plain, this unification was shortlived; under his successor Samsuiluna, the Sumerian plain experienced a series of crises, probably related to water, that resulted in its progressive abandonment. These major settlement changes are almost invisible archaeologically, but could be demonstrated through systematic analysis of cuneiform tablets. For surface survey purposes, archaeologists are able to distinguish a ceramic phase that includes the last century of political fragmentation (mostly under the dominance of the kings of Larsa) and the time of Babylonian dominance.

Our knowledge of the internal structure of Mesopotamian settlements is at an apex at this time (Stone 2007). Densely settled cities like Mashkan-shapir, Ur, Nippur, and Larsa were structured by streets, alleys, internal canals, and harbors (Stone and Zimansky 2004; Keith 2003; Huot et al. 1989). In addition to the great cities, a few small settlements have also been studied extensively, and reveal features surprisingly similar to their spatially large counterparts (Stone 2007: 229).

Southern Mesopotamia witnessed dramatic shifts in settlement, in some cases in divergent directions depending on the region (Figure 7.7). Overall, urban centers were smaller than their third millennium antecedents. We are, however, almost completely ignorant of the major political centers of the northwestern plain, including Babylon itself, because they fell outside of the major survey regions and have extensive later settlement.

Settlement collapsed in the central plain between Nippur and Uruk. Cities declined 40 percent in aggregate urban area (Adams 1981: 165); smaller settlements also suffered substantial declines. On the other hand, the region around Ur and Eridu flourished.

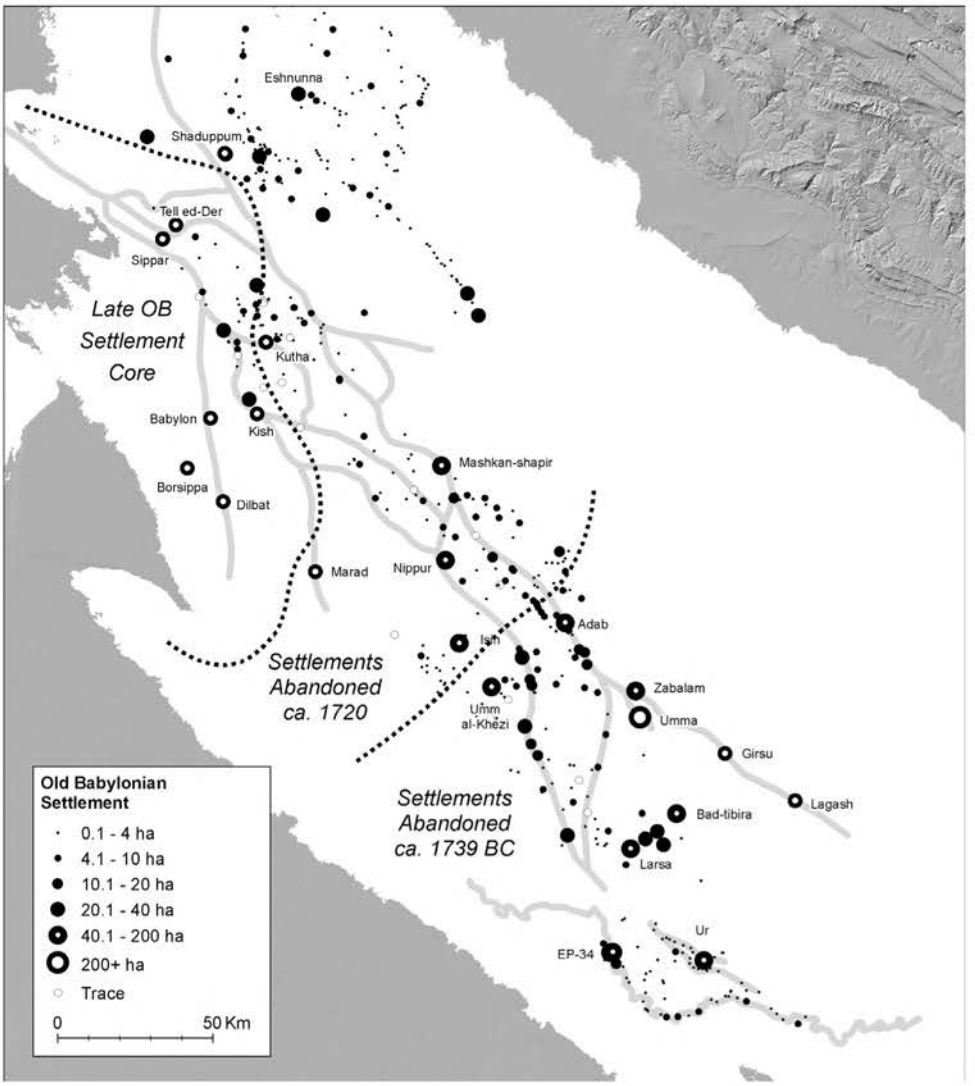

Figure 7.7 Settlement and regional abandonment in the Old Babylonian period (based on Adams 1965, 1981; Gasche 1989; Gibson 1972; Wright 1981)

Ur grew slightly to 60 ha, and was paired with another 45 ha site at EP-34. The region contained fifty-eight total settlements, including six small centers of up to 10 ha. Despite the loss of political centrality, total settled hectares almost doubled from the time of the Third Dynasty of Ur (Wright 1981:330–331).

The Old Babylonian cuneiform record can lend some precision to these chronologically coarse settlement patterns. During the reign of Samsuiluna, the southern plains witnessed rebellions and economic crises that were probably related to the availability of water (Stone 1977). At the time of the initial crisis, cuneiform text production ceased at Ur, Larsa, Kutallu, Lagash, and Uruk, the major cities of the far southeastern plain. Two decades later, a second crisis resulted in the cessation of text production at Nippur and Isin. For the remainder of the First Dynasty of Babylon, texts are only known from the cities of Akkad, especially Sippar and Dilbat (Stone 1977; Gasche 1989: 111–143). In this case, the cessation of text production can be used as a proxy indicator of regional depopulation. Cuneiform texts describe the movement of peoples and whole institutions; for example, the transfer of the house of Ur-Utu from Sippar to Tell ed-Der (Janssen 1996), or the movement of entire temple institutions between cities (Charpin 1986: 343–418). Because these events occurred within a single ceramic period, they were invisible to the surveyors, although subsequently, slight morphological changes in vessels between the early and late First Dynasty of Babylon have been recognized (Gasche et al. 1998).

The reorganization of the central plains in the later second millennium

Settlement resumed in the former land of Sumer in the later second millennium under the political control of the Kassite dynasty, but in a dramatically transformed manner. The dominant north-northwest to south-southeast alignment of settlements and major watercourses of the third and early second millennia was largely replaced by new alignments from the west. This pattern is particularly striking between Isin and Uruk, where multiple channels flowed into the surveyed part of the plain from the west (Figure 7.8). It appears that the dynamic water situation at the end of the Old Babylonian period had resolved itself in a new arrangement, with a primary Euphrates channel much further west, flowing past Babylon (Cole and Gasche 1998). It is likely that the Tigris also shifted, since the old cities along its lower reaches, including Umma, Zabalam, Bad Tibira, and Kutallu, were vacant. Water still flowed in the old riverbeds – for example, the Euphrates through Nippur – but at a lesser volume compared to earlier times, if the smaller scale of settlement is any indication. The situation was dire enough that Kassite administrators attempted to bring Tigris water to Nippur via canals (Biggs 1965).

In terms of settlement patterns, this new arrangement might be said to mark the end of the "Sumerian world." Kassite resettlement was remarkably rural compared to previous eras. In the central plain, the total number of settlements increased, but they were overwhelmingly village-level, with only a few urban places; the total area of settlement was also sharply reduced. The surrounding regions were characterized by a similar retrenchment of settlement. The former kingdom of Eshnunna was sharply depopulated, as was the hinterland of Ur, despite the substantial reoccupation of the city itself under Kassite rule.

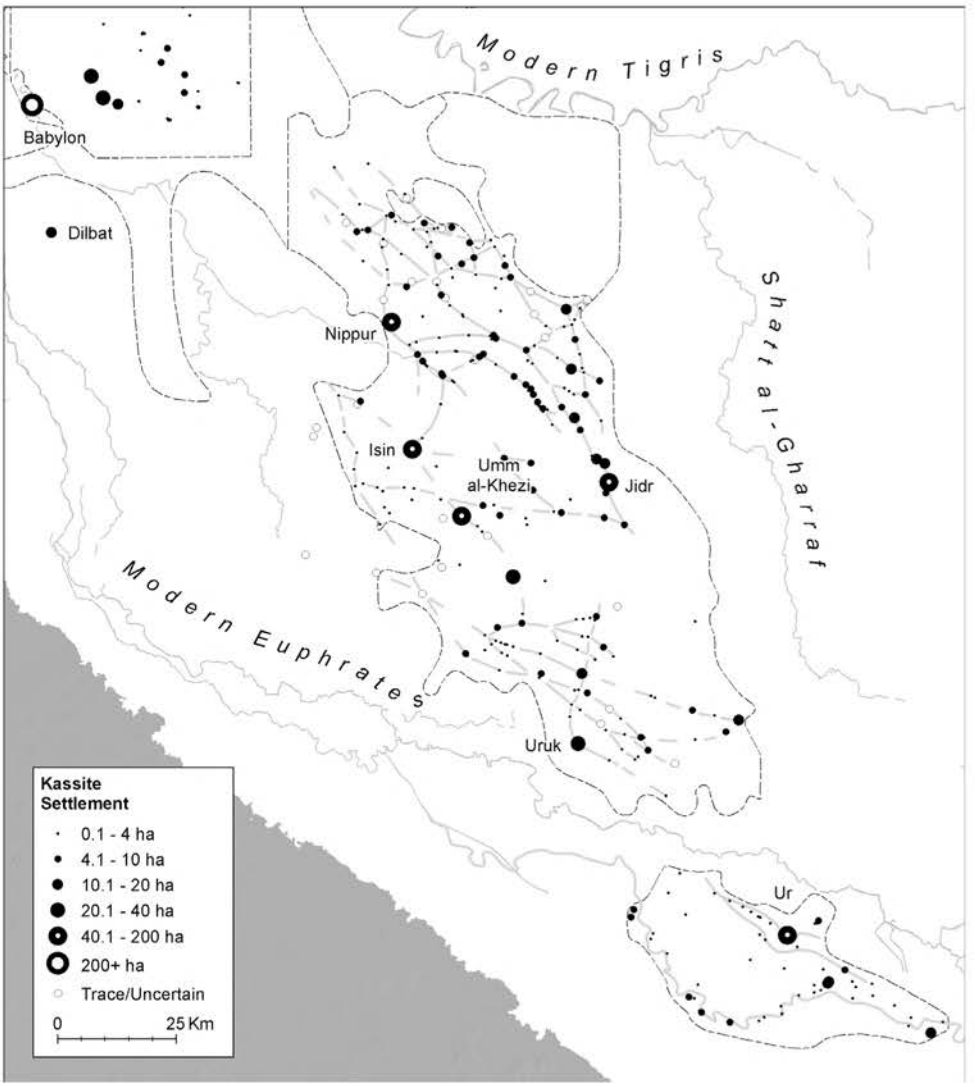

Figure 7.8 Later second millennium BC (Kassite) settlement, including Adams' proposed watercourses (based on Adams 1981; Wright 1981; Gibson 1972)

GENERAL TRENDS IN SETTLEMENT

Early Mesopotamia first experienced steady urban growth at the expense of the countryside, followed by a resurgence of rural life. This review has focused primarily on the Sumerian plain between Nippur and Uruk, which is the best surveyed and published region, and to a lesser extent on the Ur-Eridu region and the Diyala plain (Figure 7.9).

Initial settlement in the fifth millennium is difficult to evaluate because many sites are buried beneath alluvium or later settlements. When settlement patterning first

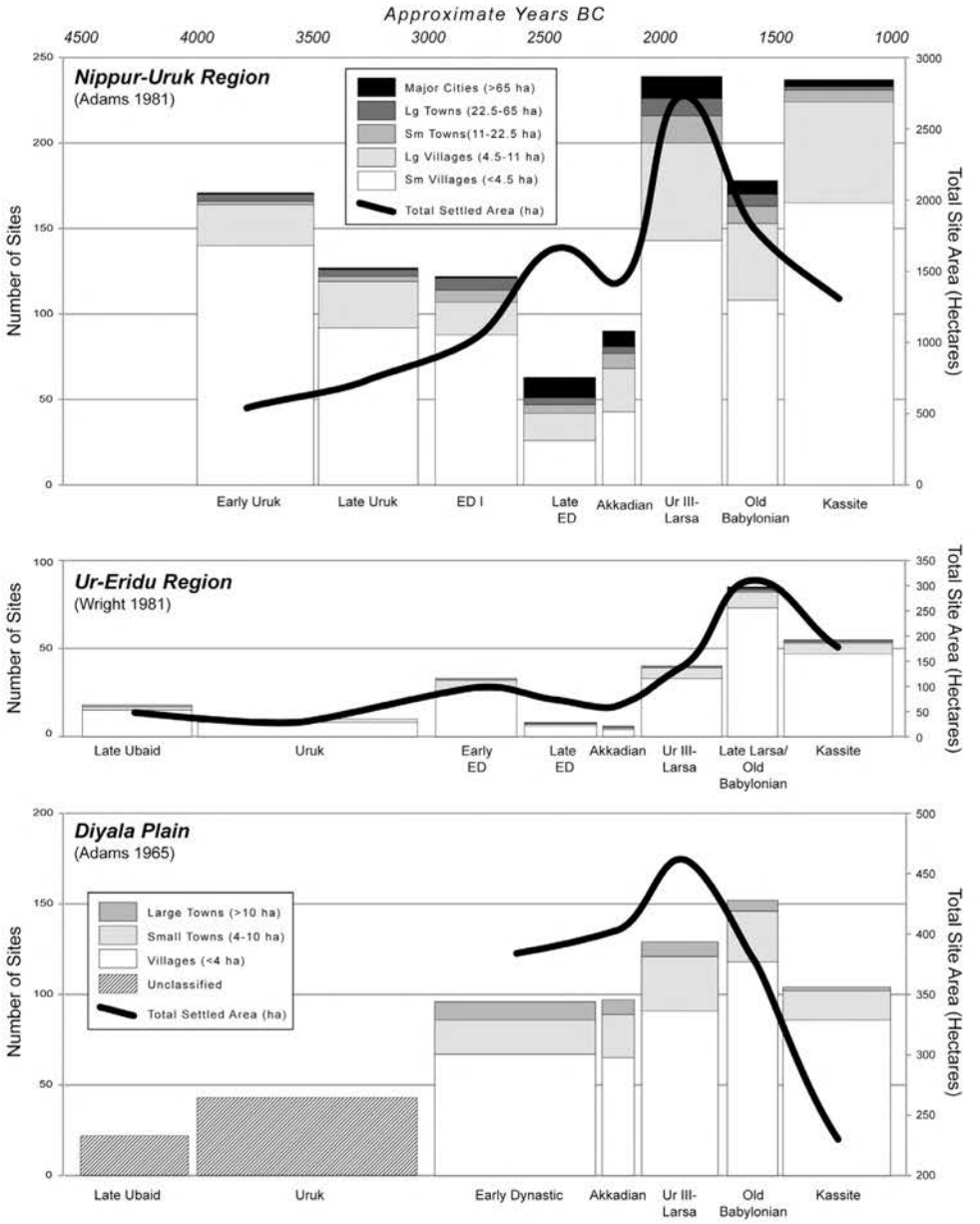

Figure 7.9 Number of sites (left y-axis) and settled area (right y-axis) in three surveyed regions (based on Adams 1981: table 13, 1965: tables 10–14; Algaze 2008: appendices 1–2; Wright 1981: 338–345)

becomes reliable in the early fourth millennium, it was characterized by extensive occupation with many small sites. By the end of the fourth millennium, however, site numbers declined continually until reaching their lowest point in the mid-third millennium BC phase of Early Dynastic city-states. While site numbers were dropping,

however, the total area of sites was expanding. Site area can be used as a proxy for population, although not without some caveats (Postgate 1994). Together, these trends describe the progressive urbanization of the plain, as populations abandoned small settlements and increasingly nucleated in towns and cities. At a local scale, urbanization reached its apex around Uruk in the early third millennium, when the 400 ha city presided over a hinterland almost completely devoid of sedentary occupation (see Figure 7.4). Overall, however, the apex was the late Early Dynastic period, when almost 80 percent of the plain's population lived in cities of 40 ha or greater (Figure 7.10).

Around the time of Akkadian political consolidation, this urbanization trend reversed itself. The sedentary population reached a pinnacle in the centuries around 2000 BC but increasingly it inhabited smaller towns and villages outside of the great cities. Because of the chronological imprecision of the survey ceramic typology, it is not possible to say if rural growth is to be attributed to peaceful conditions under the Third Dynasty of Ur or the sedentarization of Amorite nomads early in the second millennium BC; the settlement palimpsest may reflect both processes. Under the kings of Babylon, ruralization continued, now accompanied by a steep decline in total settled area. In the latter second millennium, site numbers rebounded, but urbanism reached a nadir. Less than a third of settlement was to be found in large cities, and more than half the population lived in villages of less than 10 ha.

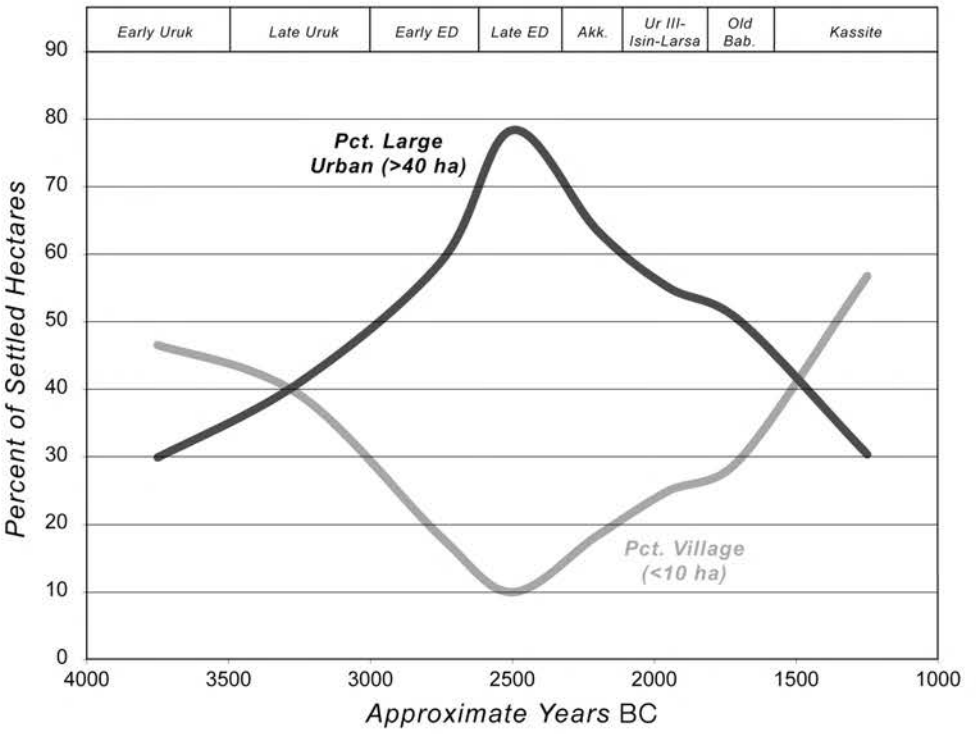

Figure 7.10 Urbanization and ruralization in Sumer in the fourth through second millennium BC. Percentages of settled area in large urban (>40 ha) and rural (<10 ha) sites (based on Adams 1981: tables 7 and 12; Algaze 2008: appendices 1–2)

The settlement trajectory in surrounding regions parallels that of central Sumer, but with some significant deviations. Neither the Diyala plain nor the Ur-Eridu region featured the explosion of site numbers in the fourth millennium that characterized the plain between Nippur and Uruk. Both areas showed a similar growth in settled area; the Diyala plain's population also reached a maximum at the time of the Third Dynasty of Ur and its successor at Eshnunna. On the other hand, site numbers and settled area in the Ur-Eridu region peak slightly later, probably at the time of Rim-Sin of Larsa and Hammurabi of Babylon. Both areas, however, experienced a collapse of settlement at the end of the Old Babylonian period and were characterized by fewer and smaller settlements in the late second millennium.

In considering these long-term trends, it is important to evaluate the representativeness of the settlement pattern data. The dramatic settlement reorganization after the Old Babylonian collapse suggests that, in this case, great political changes were accompanied by socio-economic transformations that affected the entire population, including the residents of the countryside. Some caution is necessary in interpreting the settlement patterns, however. In the first millennium, the major urban centers of Babylonia were mostly to the west of the surveyed part of the plain (Brinkman 1984, Hritz 2004). This trend may have already begun in the late second millennium as the main Euphrates and Tigris channels shifted away from the ancient urban heartland of the central plain. These western districts present substantial challenges to survey, on account of the presence of modern irrigation. Only comparable intensive survey in these areas will demonstrate whether the dissipation of urban life in the second millennium is characteristic of the plain as a whole, or only the central areas of Sumer and Akkad that have received the overwhelming majority of attention from excavators and surveyors. Furthermore, the easternmost part of Sumer, including Apishal, Lagash, Girsu, and Nina, might alter our current understanding of the urbanization processes of the fourth and third millennia, once high-resolution survey results from that region are available.

Nonetheless, the present picture of settlement development shows remarkable aspects of both dynamism and stability. The physical environment was highly dynamic, particularly the river courses, which were liable to leave their banks to create new courses. At present these processes are largely arrested, but have been well documented ethnohistorically (e.g., Gibson 1972: 26–30). Shifting watercourses could result in marsh formation in some places, and dessication in others, with accompanying wind erosion and dune formation. These natural dynamics were probably responsible for settlement mobility among villages and small towns in early Mesopotamian history, alongside general social processes of village fission and abandonment.

On the other hand, the great urban centers displayed remarkable continuity. Uruk, for example, remained occupied or was resettled at an urban scale for almost five thousand years (Finkbeiner 1991). Other cities like Ur, Larsa, and Nippur each flourished for millennia. In many cases, this continuous settlement or resettlement required great investment in the face of the shifting physical environment. Umma, for example, emerged along or near a major Tigris channel, but by the late third millennium, its former watercourse was maintained as a canal that allowed water traffic to move from the city to the current Tigris channel, and from that point upstream to other major urban centers (Steinkeller 2001). In the later second and first millennia BC, the ancient religious center at Nippur required substantial infusions of canal water from the

western Euphrates and even the Tigris; the former major Euphrates branch upon which it sat was now a minor channel that was artificially maintained and prone to run dry.

Clearly these and other urban settlements had become meaningful places in ways that go beyond simple economic geography. Cities certainly had functional importance throughout Mesopotamian history; various models stress their roles as centers for administrative decision-making (Wright and Johnson 1975) and economic productivity (Algaze 2008). These spatio-functional aspects cannot, however, fully explain the great efforts that Mesopotamians expended to keep these places and their landscapes inhabitable in the face of dramatically changing physical environments. Even more than what cities did, it was the people and institutional history of these places that made them meaningful: the individuals and their household lineages, including the ancestors buried under the floors of their houses. Perhaps most significantly, the gods themselves lived in Mesopotamian cities in a very literal sense. The physical structures of temples were remade century after century by the gods' earthly servants, the priests and kings, who went to great lengths to maintain the precise positioning of altars and cellae, and in some cases engaged in archaeology themselves to determine their positions. In some cases, cities retained their significance long after the reasons had been forgotten. In the nineteenth century AD, nomadic tribesmen in the steppes around Nippur and Uruk still knew these places as Nuffar and Warka, millennia after Enlil and Inanna had passed from human memory. To a considerable extent, the relevant issue is not why these great cities continued to be settled, but under what conditions they ceased to be meaningful enough to justify resettlement.

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CHAPTER EIGHT

THE ORGANISATION OF A SUMERIAN TOWN: THE PHYSICAL REMAINS OF ANCIENT SOCIAL SYSTEMS

Elizabeth C. Stone

This chapter looks not at the details of the archaeological data from the Sumerian period, but rather on how cities, towns, and villages were put together and what the spatial organization of settlements tells about Sumerian society writ large. Space is important. When major political and religious centers–palaces and temples–are located next to each other in the middle of a settlement, this indicates a concentration of both religious and political power; but when they are located in quite different parts of town, it suggests that they each have their own spheres of influence. In a similar fashion, these days it is possible to use Google Earth to identify where the rich and poor live in most modern cities–the houses of the poor are simply smaller and more crowded than those of the rich. These differences are diagnostic of modern societies where variations in wealth and status are reinforced by the spatial segregation of neighborhoods. However, if no differences can be perceived between the house sizes in different parts of a settlement, this indicates that principles other than the social segregation of classes is at work. Finally, the degree of similarity and dissimilarity between the organization of large urban centers and smaller towns and villages reflect the presence or absence of differences in wealth and occupation between those living in settlements of different sizes. This chapter, therefore, will focus on the locations of Sumerian temples and palaces, the organization of the residential neighborhoods, the role played by city walls, canals, harbors and the like to link or separate people and institutions, and will provide a comparison between these features in the major cities with those in the smaller settlements that surround them.

There are, however, problems to be overcome. One is how one assigns a function to public buildings, especially those of a residential nature. Since the relative location of centers of religion and secular power are crucial for understanding the political dynamics within the city, it is important that one distinguish between a large residence designed to house a king as opposed to one occupied by a high priest, but this is not always easy. The second issue is that almost all of our evidence for the organization of Sumerian settlements comes from the middle of the third millennium, the later Early Dynastic, with more ambiguous data on earlier periods. We also have almost no relevant data from the latter part of the third millennium, the Akkadian and Ur III periods, but similarities in the organization of urban space between mid-third millennium settlements and those dating to the early second millennium suggest that

Mesopotamian settlement organization was established by the later Early Dynastic and remained quite stable after that time.

Moreover, this chapter could not be written based on excavated data alone since no small or even medium-sized Sumerian sites have been excavated. However, the high resolution of modern satellite imagery means that we can recover sub-surface architectural traces over much larger areas and for a much more varied inventory of sites than is the case with architectural data. The project to analyze these sources of settlement data is still in its infancy and here too, there are little data for the early stages of urban growth or for the latter part of the third millennium,[1] and the process of digitizing the traces we see has barely begun.

URBAN BEGINNINGS

Unlike the later Early Dynastic period, the available excavated data from the earliest stages of Mesopotamian urbanism remain limited, and the only fourth millennium BC buildings excavated in Iraq are temples. Fortunately, data relating to the Uruk period from beyond Iraq, as well as data from high-resolution satellite imagery, can be used to flesh out a view of Mesopotamia's earliest centers.

The key Mesopotamian institution of the temple goes back to Neolithic times. At Eridu a small shrine grew into a large temple built on a platform during the course of the fifth millennium. By the end of this sequence, the Eridu temple did not differ from later temples found at other cities, and although no associated settlement has been found at Eridu, there is an extensive cemetery, suggesting perhaps that the residents of neighboring villages chose to be buried close to the temple (Safar, Mustafa and Lloyd 1981). Beyond Eridu, other 'Ubaid sites tend to be very small and made up of loosely spaced tripartite houses with rows of rooms on each side of a large central space (Roaf 1989), though some have more complicated T-shaped structures (Jasim 1985, 1989).

For the crucial Protoliterate and Early Dynastic I periods, the data are more equivocal. We do know quite a bit about Protoliterate temples, but have no excavated houses.[2] The temples were found in two dense clusters at Uruk itself, and another such temple has been uncovered at Tell 'Uqair (Lloyd and Safar 1943). All Protoliterate temples are broadly comparable in plan with the early example from Eridu, but differ in that they were associated with larger settlements. The temple at Uqair is part of a double-mounded site which now measures some 11 ha. (see below), whereas the protoliterate sherd scatters at Uruk (Finkbeiner 1991) cover some 225 hectares.[3]

There is one largely excavated Uruk period town, Habuba Kabira, but it is located in northern Syria (Strommenger 1980), not southern Iraq. It is associated with the so-called Uruk expansion whereby Uruk-style material is found beside and within local settlements far from the Mesopotamian heartland. These data are generally understood as reflecting an effort by the population of the city of Uruk to control trade routes up the Euphrates and, to a lesser extent, the Tigris rivers (Algaze 2008). Habuba Kabira (Strommenger 1980) is the one urban-sized excavated settlement associated with this phenomenon and its material culture is overwhelmingly Uruk in nature.[4]

Although a cursory examination of the plan of Habuba Kabira might suggest the same crowded spaces known from later Mesopotamian cities, the analysis by Vallet (1996) has shown that this city was both less dense than its later counterparts and that much of the architecture was likely not used for residence.[5] Habuba Kabira households

continued to occupy tripartite houses of the kind familiar from 'Ubaid sites like Madhur (Roaf 1989), but now were grouped around a common courtyard with buildings that probably served non-residential functions. Later third millennium sites located within the same northern Mesopotamian zone as Habuba Kabira are characterized by radiating "hollow ways" which have been interpreted as the result of people–and especially animals–moving in and out of the settlements on a daily basis (Wilkinson 1993), but it remains unclear whether there were also hollow ways at the earlier Habuba Kabira.

A key issue to be determined is whether Protoliterate settlements were similar in density to the very crowded cities of the later third millennium houses in southern Mesopotamia (see below). Although, sadly, we have no faunal studies for fourth millennium sites in Iraq, our understanding of the environmental conditions prevailing in southern Iraq (Pournelle 2003, 2007; Algaze 2008: fig. 5), fourth millennium textual sources (Englund 2008: 155–169) and art (Kawami 2001) all suggest that cattle likely played a much larger role in the fourth millennium diet than they did in later times when pig and sheep dominate the faunal records (Desse 1992). If fourth millennium settlements provided shelter for both people and domestic animals, their human population densities were likely much lower than their later counterparts.

These various strands of data can be brought together to develop the key questions which need to be answered regarding settlement in fourth millennium and early third millennium Mesopotamia: Were tripartite houses still the norm at this time, and if so did they exist as part of larger, more complex compounds? Were domestic animals–especially cattle–still kept within the households?

The partial plans of three fourth millennium sites (Figure 8.1), together with one fourth to early third millennium landscape (Figure 8.2), are visible in the Digital Globe satellite imagery. Tell Umm al-Fargus (Adams 1981: 272, site 1096) covers some 12 ha., spread over three mounds, all of which have surface traces. Toward the northern edge of the northwestern mound, larger-scale architectural traces are visible which might indicate the presence of a temple. Beyond this area, although the imagery is not quite clear enough for us to map a large number of houses, what is clear is that there are no courtyard houses–since these larger spaces and their regular appearance are always clearly visible in imagery of similar quality. Some structures seem to reflect tripartite houses, while others apparently have large open areas surrounded by walls. In one part of the main mounds there appear to be largish rectangular compounds (ranging from 100 to 300 square meters in size) separated one from the other by narrow alleyways. These are not dissimilar to the households at Habuba Kebira identified by Vallet (1996: fig. 4).

A second site, similar in organization, is Uruk Survey site 245 (Adams and Nissen 1972: 229). Although at 8 ha. it is somewhat smaller than Tell Umm al-Fargus, it is similar in having three mounds: two larger ones oriented in a more or less northwest/south-east direction, and a smaller one to the west. Unlike at Tell Umm-al-Fargus, the best architectural preservation was on the northwest mound. Adams and Nissen (1972: 229) report the presence of many clay cones, some forming a right angle, located in the northeastern part of this mound–in an area now, sadly, completely looted. This suggests the presence of an important fourth millennium temple, a suggestion reinforced by the traces of domestic structures over the rest of this mound (the only area where such traces are clear). These houses are scattered and, in orientation, radiate

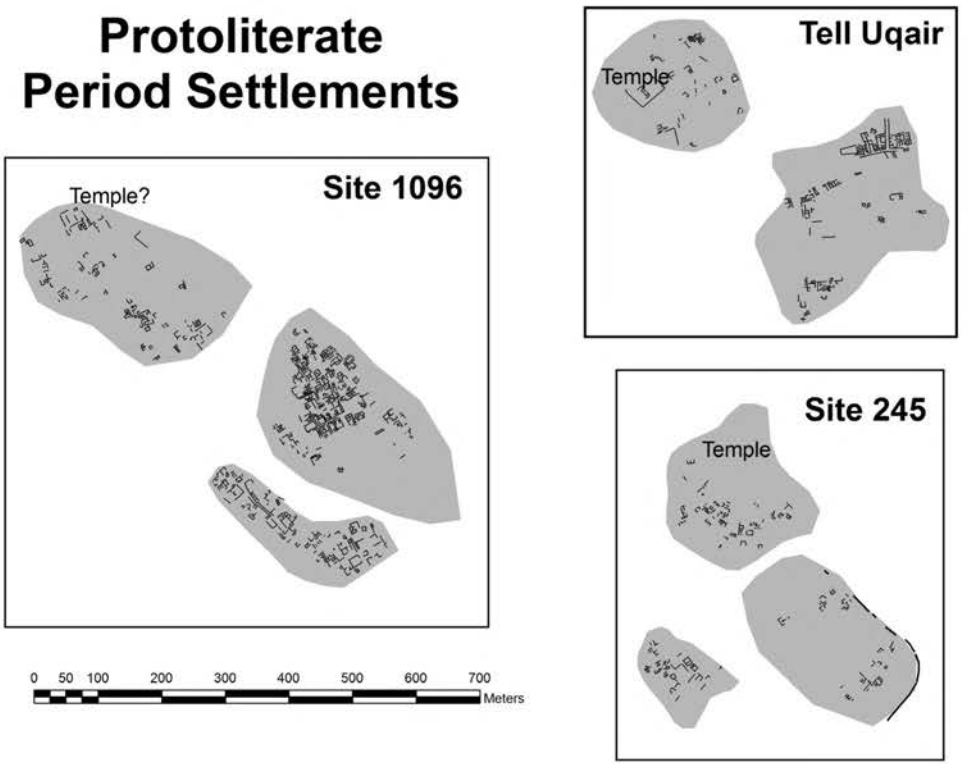

Figure 8.1 Comparative plans of three Protoliterate Towns

out from the probable location of the temple. Such architectural traces visible on the southeastern mound are all oriented to the northwest–as is usually the case in Mesopotamia.

Tell 'Uqair, well known for its painted Protoliterate temple (Lloyd and Safar 1943), is also part of a double mound with a current area of some 11 ha.[6] Although the degree to which the southwest mound was contemporary with the temple is somewhat in doubt (Adams and Nissen 1972: 198), the similarities in size and orientation between this and sites 245 and 1096 are striking, especially when one considers the evidence for a temple in the northwest mound of site 245.

These data, though still very tentative, suggest that there may have been a general model for the protoliterate town, with the main residential area to the southeast and the religious focus to the northwest, perhaps anticipating the divided cities of later times.

If the major remains available for consideration come from the larger Protoliterate settlements, this is not the case for the earliest phases of the Early Dynastic. There our data come almost exclusively from very small sites. At both Abu Salabikh's West Mound (Postgate 1983) and Sagheri Sughir (Wright 1969: 48) quite clear traces of tripartite houses associated with extensive courtyards or otherwise unoccupied areas prevail. Most clearly expressed at Abu Salabikh, the remains of large corrals with limited housing within suggest a settlement heavily focused on animal husbandry. But

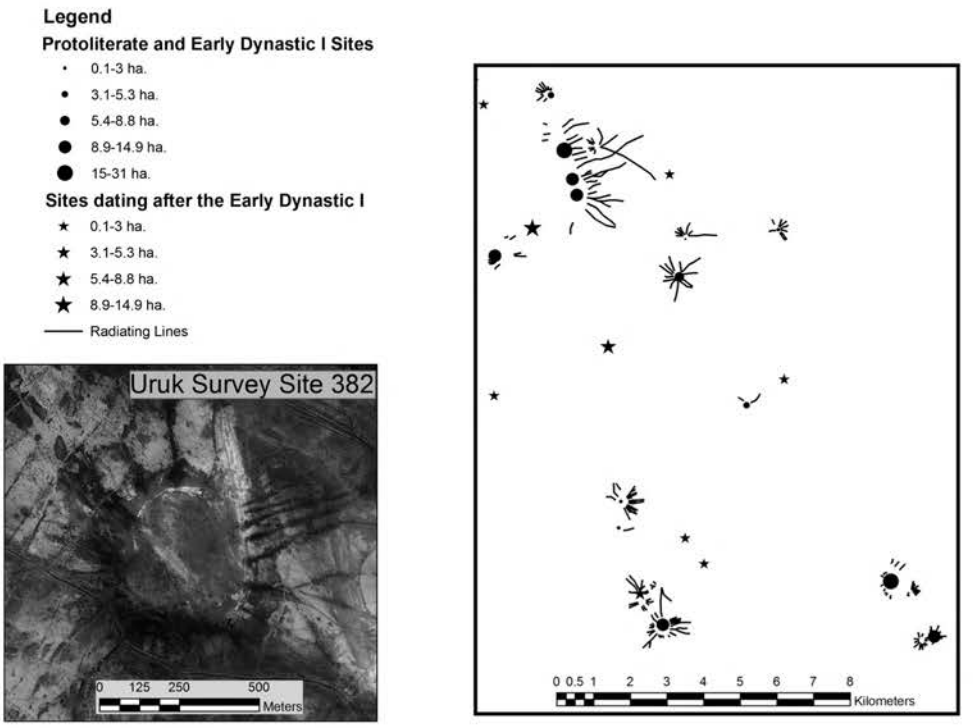

Figure 8.2 Plan showing an Uruk to Early Dynastic I landscape with radiating lines visible around the early sites (imagery of Uruk Survey Site 382. Courtesy of the Digital Globe Corporation)

these traces are not dissimilar to the results of excavations at the only excavations of a contemporary urban site, those at Khafajah where, to the extent that these remains are preserved, entrance to the houses seems to have been by way of a courtyard, not a small entrance chamber (Delougaz, Hill and Lloyd, 1967: pl. 3–5).

It may be possible to connect these scraps of excavated data to the early third millennium landscape preserved in the vicinity of the large Early Dynastic I center at Umm al-'Ajaj. There, in addition to the remains of this city (which unfortunately does not preserve surface remains), there are a number of other Uruk to Early Dynastic I sites of various sizes, as well as later sites, especially those dating to Sassanian times. All of the early sites are surrounded by radiating lines, but only one of the Sassanian sites has these, and it might well have buried an earlier settlement. Jennifer Pournelle (2003, 2007, and this volume), and her mentor Guillermo Algaze (2008) have argued persuasively that during the developmental stages of Mesopotamian civilization higher sea levels in the Gulf resulted in a much wetter world, dominated more by marsh than by desert. It would have been precisely this environment which would have supported the cattle recorded in both art and text–cattle which would have grazed happily in the reed beds as is still often seen today.[7]

If the sites in this area were surrounded more by marsh than by irrigated fields, then the traces surrounding these southern Iraqi sites, similar to those identified as drovers'

ways in Northern Iraq (Wilkinson 1993), likely represent the routes taken by cattle on their daily treks into the marshes. If so, then, like the smaller Early Dynastic I villages where excavations have been carried out, even larger settlements like Umm al-'Ajaj, must have devoted considerable space to housing cattle overnight, a situation which would also likely have prevailed at Uruk, given its position on a "bird's foot" delta between land and water (Pournelle 2007: 43).

We must consider the possibility that large, medium and small Mesopotamian settlements predating the late Early Dynastic period might have had a quite different character from the later cities. The extraordinary high density of later Mesopotamian cities–as is now made clear by our satellite imagery–leaves no space whatsoever within the city for keeping herd animals like cattle and sheep. Indeed, beginning in the later Early Dynastic period there are numerous textual sources pertaining to the management of cattle and sheep by the state. There is sufficient space, not only at the West Mound at Abu Salabikh and at Sagheri Sughir but also at Hububa Kabira, for sheep and cattle to have been housed within the walls at night, an indicator perhaps that population densities within settlements may have been much lower in these early settlements. We can also contrast the fourth millennium sacred precincts at Uruk, with their large open areas and complete absence of nearby domestic structures, with their later Early Dynastic equivalents which were hemmed in by residential structures (see below).

This discussion has been, by necessity, tentative, though some consistent strands may be identified. The first is the importance of temples and the absence of any evidence for large secular buildings that might have served as palaces or even high-status residences for priests during the Protoliterate and Early Dynastic I periods. The data do make clear that the division of at least the larger settlements into multiple mounds had already taken place, and there is some evidence suggesting that the temples and perhaps their dependents may not only have been located on their own mounds, but that there may have been a directional preference for the northwestern area of the site for these buildings.[8] As is to be expected, domestic structures dominated these settements,[9] but these were made up not of the courtyard houses familiar from the late Early Dynastic onward, but by a continuation of the tripartite houses known from the 'Ubaid period, probably grouped into larger compounds as has been documented at Habuba Kabira. All of these data suggest that southern Mesopotamian settlement before the later Early Dynastic period was characterized by low density, probable lack of public buildings other than temples and perhaps the only occasional presence of fortification walls.[10] These sites would have been as reliant on marsh products as on agricultural fields and orchards, and the data suggest that sheep and especially cattle were likely housed within these settlements overnight.

LATER EARLY DYNASTIC SETTLEMENT

It is during the Early Dynastic period that the less dense, temple-focused sites of the fourth millennium evolved the recognizable characteristics of the Mesopotamian city: the institutional complexity of palace and temple and the dense urban fabric based on courtyard houses.

Sources

One of the richest sources of data on Sumerian settlement comes from the University of Chicago Oriental Institute's excavations in the Diyala Region. These include investigations at the site of Khafajah Mound A, which was Early Dynastic in date and has satellite imagery which adds residential detail to the public architecture excavated by the team. Other contemporary remains include part of a temple excavated at Tell Agrab and some third millennium remains from Tell Asmar, though most of its surface is early second millennium in date. Beyond the Diyala, two temples have been excavated at Lagash, which also has excellent preservation of surface details based on satellite imagery, most of which can be dated to the Early Dynastic period based on the surface survey (Carter et al. 1990). Other sites with major public architecture include Eridu and Kish, which together have the earliest secular public buildings known.

Abu Salabikh has been the focus of a project designed specifically to understand the organization of this small center, with the excavators using surface scraping to recover broad architectural plans, complemented by selective excavations. Other sites provide less information. At Nippur Early Dynastic levels were reached in the Inanna Temple, and at Umm al-Aqqarib a combined temple/residence was excavated but has yet to be published. For details of small settlements we have only a few satellite images of surveyed sites to guide us.

Urban centers

It is in the cities where we find evidence for the public buildings which represent the institutional developments of the Sumerians: a continuation of the importance of temples and the first palaces–evidence for the development of secular rule. Palaces were always less common than temples, and since kingship only really developed toward the end of the Early Dynastic period, our cities from this time period provide few examples.

Centralizing institutions

Early Dynastic temples came in two varieties. One was temples oval–large complexes surrounded by one or two oval walls; the other was the more standard, rectangular type already known from the Protoliterate and even 'Ubaid periods. The size of the oval temples and their complexity suggest that these were the most important religious buildings–indeed, the most important institutions–in the cities where they have been found. Four examples exist: one recently published example at Tell Abu Sheeja, the ancient city of Pashime (Hussein et al. 2010); one at Tell 'Ubaid (Delougaz 1938): one at Lagash (Hansen 1992);[11] and the best preserved example at Khafajah, ancient Tutul (Delougaz and Jacobsen 1940). To the extent that we know, all date to the latter part of the Early Dynastic period. Some–those at Tell 'Ubaid and Abu Sheeja–were superseded in later times by the more usual rectangular temples, obscuring some details of their organization, but this was not the case for the Khafajah and Lagash examples, though the latter did suffer from erosion.

All temples oval were located at the edge of the city (Figure 8.3).[12] This peripheral location is also true of the large Shara Temple at Tell Agrab, though smaller examples, such as the Abu Temple at Tell Asmar, the Sin and Nintu temples at Khafajah

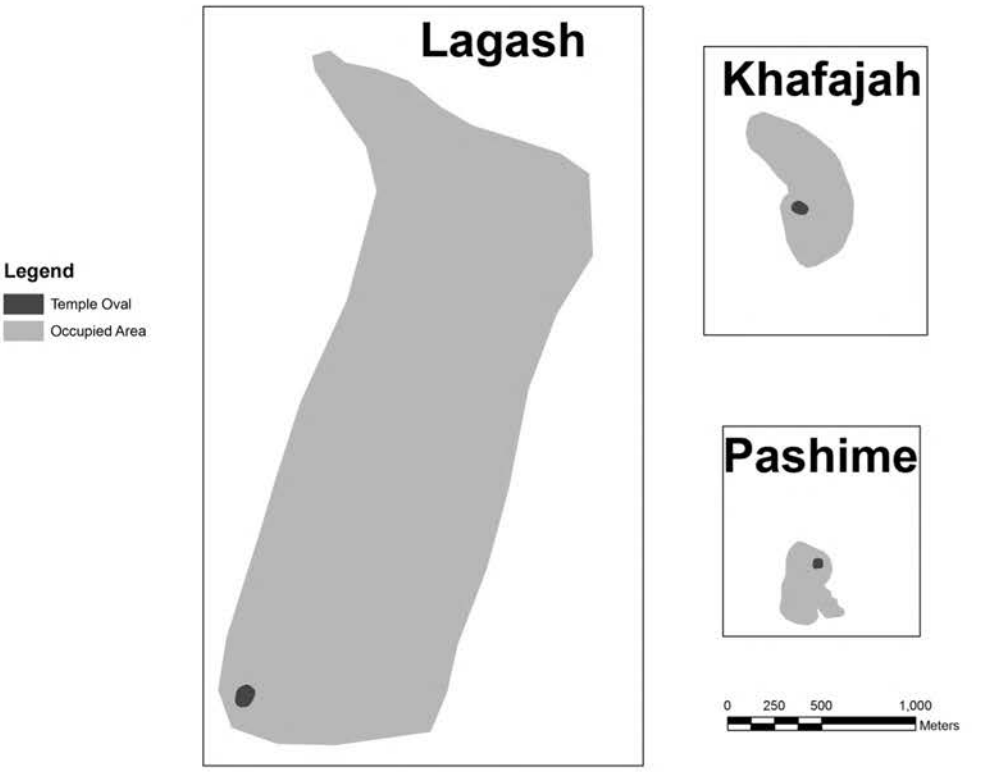

Figure 8.3 Plans showing the locations of Oval temples at Khafajah, Pashime, Lagash, and Ubaid.

(Delougaz and Lloyd 1942) and the Inanna Temple at Nippur (Zettler 1992: 54) are distributed more broadly.

At Lagash, the Temple Oval was dedicated to the goddess Inanna, whereas the temple to the titular deity of the city, Ningirsu, was located more than one and half kilometers to the north (Hansen 1970), isolated on a small island. These were but two of five major temples known from written documents to have been built at Lagash (Hansen 1992: 207), but it is not clear whether the second oval enclosure, located more or less midway between the Inanna and Ningirsu temples, was one of these temples (Hansen 1992). Unfortunately, this structure was discovered during the last season of work at the site and there exists little published information.

The earliest known temples in Mesopotamia appear millennia before the Early Dynastic period (Tobler 1950: pl. XI–XII; Safar, Mustafa and Lloyd 1981: 68–114), but this is not the case with the second major Mesopotamian institution, the palace. We only see its evolution in the Early Dynastic period, especially the latter part of it.

The earliest phase of the Temple Oval at Khafajah included a large private house between the two oval enclosure walls. Delougaz and Jacobsen suggest that this residence "was probably occupied by the ruler of the city in his capacity as high priest of the temple" (Delougaz and Jacobsen 1940: 140). However, it was omitted when the building was reconstructed at the end of the Early Dynastic period and there is no good candidate for a separate palace at Khafajah visible in either excavations or satellite imagery.

The site of Umm al-Aqqarib was excavated by the Iraqi State Board of Antiquities between 1999 and 2002 under the direction of Donny George. There they exposed a large forecourt which provided access to a bipartite building with a temple to the south and what may have been a residence with a large entrance court to the north. This dates to the middle part of the Early Dynastic period and is probably more or less contemporary with the earlier phase of the Temple Oval at Khafajah. Although Donny George (personal communication) described this building as a combined temple and palace, perhaps better parallels might be with the Temple Oval at Khafajah and the later Giparku at Ur (see below).

It is at about this time that the "Palace A" was built at Kish, located next to the temple to Inanna at Ingharra and consisting of a pair of connected buildings, whose scale and architecture indicate their importance but which lack the features known from temples, or for that matter, later palaces. The slightly later planoconvex building is located on a more distant mound and, as suggested by Moorey (1964: 92), perhaps served as a fortified arsenal. High-resolution satellite imagery now indicates three palaces located on the same mound as the plano-convex building: two next door to each other and one behind. Surface scraping and soundings conducted by the Japanese expedition date them to the very end of the Early Dynastic (Matsumoto and Uguchi 2000: 6). Unlike Palace A, all three have clear evidence of the courtyard/throne-room pairing which will form the core of Mesopotamian palaces until the time of Nebuchadnezzar in the first millennium BC. These three buildings also have double exterior walls and in each case their throne-rooms are located to the west of the courts, although their orientations differ slightly. A street runs to the east of two of the palaces and, a quarter kilometer further northwest, passed immediately to the east of the plano-convex Building, suggesting that the two complexes were probably contemporary.[13]

These newly identified palaces at Kish can best be compared with the palaces excavated at Eridu (Safar, Mustapha and Lloyd 1981: 271–304) which also date to the same time (Figure 8.4).[14] Both sites have multiple buildings with similar orientations, double walls and the courtyard/throne-room combination familiar from all subsequent palaces. Both are located more than a half kilometer north of the temples of their respective cities. Satellite imagery shows that the examples from Kish are on the other side of the river from the main temple, and a watercourse of unknown date is visible between the Eridu palaces and the main mound. Perhaps similar are traces of a double-walled building recovered from surface traces at the south mound Abu Salabikh, again separated from what is thought to be the religious center by a watercourse (Postgate 1990: 106). The only other known palace that might date to the Early Dynastic period was found at Tell Wilaya. It was located at the edge of the site, but too little of it was excavated to tell whether it had the throne-room/courtyard combination (Madhloom 1960: Plan 2B). Its date is also a little in question since this building might in fact be assigned to the early part of the Akkadian period (Rashid 1963: 85).

The palace complexes at Eridu and Kish represent a clear break with the past. Although they share the double external wall with Palace A, they are the first examples with a clear throneroom *and* are located a considerable distance from the religious center. Thus they embody the practical and symbolic separation between the religious and secular which is the hallmark of Mesopotamian rule from this time forth.

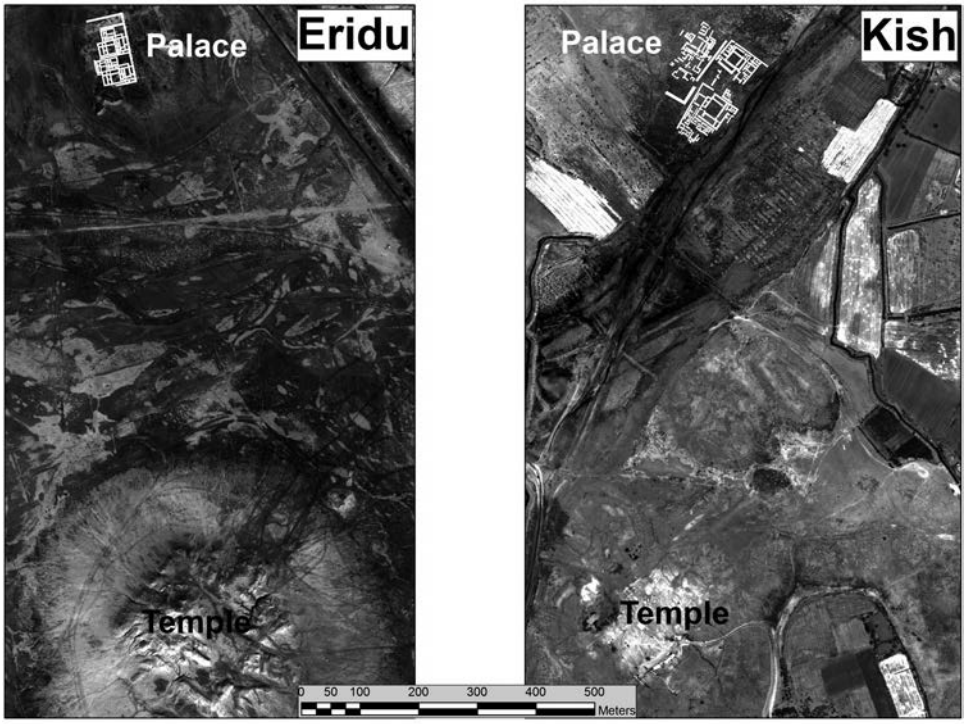

Figure 8.4 Comparative views of Eridu and Kish showing the locations of late Early Dynastic temples and palaces (imagery courtesy of the Digital Globe Corporation)

Residential districts

Although archaeologists have generally focused on the remains of palaces and temples when they could locate them, Mesopotamian settlements were primarily places of residence, and it is here that satellite imagery becomes the most helpful. At Kish, Lagash, and Khafajah, we have clear evidence that palaces and temples of all kinds were surrounded by domestic architecture. The most extensive area of excavated Early Dynastic domestic architecture is at Tell Asmar. These structures vary from small linear houses with rooms on two sides of a courtyard through examples with rooms surrounding the court to occasional examples with two courtyards (Delougaz, Hill and Lloyd 1967: pl. 26), but should be seen as variations on a single theme. When we look beyond the Asmar data–and indeed beyond the Early Dynastic data–the classic Mesopotamian house had rooms surrounding a courtyard.[15] In some instances, this was expanded through the acquisition of part of the neighboring house; in other instances, it could be split into multiple linear houses consisting of a minimum of an entrance chamber separated from a main living room by a courtyard. None of the Early Dynastic houses have staircases, so we do not need to consider the issue of second stories for this time period.

One important issue in regard to urban organization is whether classes were physically separated one from the other–as they are in most modern cities–or if rich and poor lived together as was the case in medieval Islamic cities, of which the best

known might be Aleppo (Abdel-Nour, 1982; Wattenpaugh 2004; Marcus 1989). Satellite imagery now makes visible large expanses of domestic architecture at Early Dynastic sites like Lagash (Figure 8.5) and Khafajah and it has become possible to compare house sizes between disparate areas. The best measure here is room widths

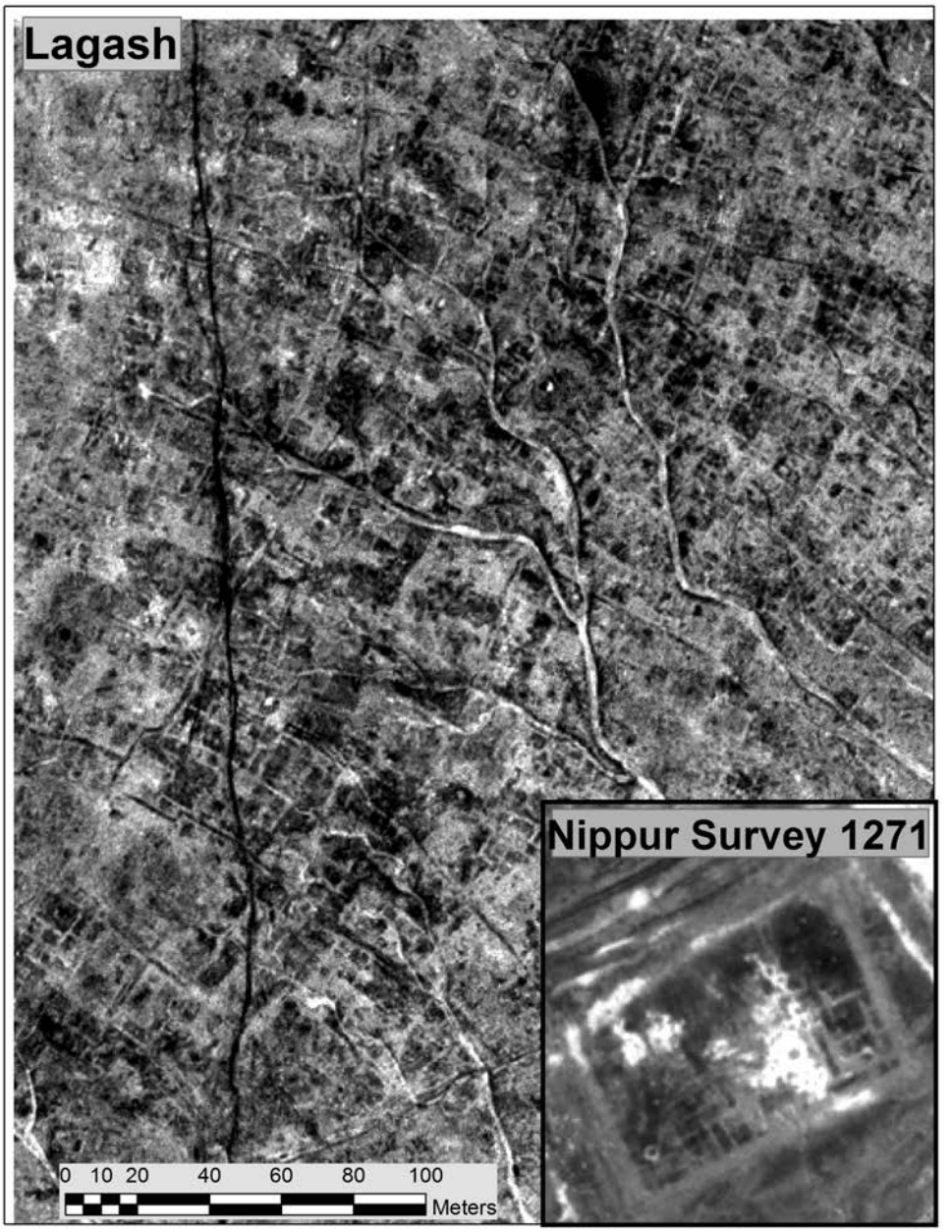

Figure 8.5 Late Early Dynastic residential districts at Lagash and Nippur Survey Site 1271 (imagery courtesy of the Digital Globe Corporation)

since the resolution of our imagery is not sufficient for the identification of doorways. At both Lagash and at Khafajah, houses in very different parts of these cities have the same range of room widths, providing a strong suggestion that the physical divisions between residential areas occupied by people of different classes so prevalent in today's cities did not exist in ancient Mesopotamia.

Although room widths may be consistent within individual cities, they differ considerably between cities. Four Early Dynastic urban centers have sufficient areas of domestic housing for it to be possible to arrive at some understanding of overall house size: excavated domestic areas at Tell Asmar (Delougaz, Hill and Lloyd 1967), surface scraping and excavations at Abu Salabikh (Postgate 1990, 1994), both excavations and high-resolution satellite data for Khafajah and satellite data alone for Lagash. These data show that the houses in the Diyala region (Khafajah and Asmar) were all built at a significantly smaller scale than those elsewhere, with Abu Salabikh having the largest houses of all. Since these are all walled settlements, it is likely that these differences reflect different degrees of crowding (Postgate 1994: 63). Khafajah is the site where we have evidence of the most extreme crowding, a pattern which is seen throughout the site when we include the traces visible in the high-resolution satellite imagery. Indeed, if the fairly small areas of excavated housing were typical of the site as a whole, it would appear that the smallest houses were associated with the earlier phases of settlement and that the slightly more expansive houses–though still very small when compared with other sites–were built at the same time as the Temple Oval (Delougaz, Hill and Lloyd 1967: pl. 2–14). One possibility is that the construction of the new temple–which is located at the edge of the site–might have been accompanied by an expansion in the overall size of the settlement as a whole.

Fortification walls were typical of Early Dynastic cities and doubtless were a contributing factor to the degree of crowding outlined above. At both Abu Salabikh and Lagash, walls circumvallate the individual component mounds that made up the ancient city, but no single wall surrounds the whole. At Abu Salabikh, part of the wall around the main mound has been recovered through excavation and surface scraping (Postgate 1990: 96, 98) and is further visible in the satellite imagery. This separates it from the contemporary South Mound, located across a watercourse and which most likely contained the palace (Postgate 1990: 104–106). We also see traces of a fortification wall all the way around the northern sector of Lagash in the satellite imagery, even though there was much more to this very large site. The data at hand are insufficient to indicate whether these walls imply real political divisions within these early cities–between a temple city and a palace city for example–or if instead they were designed to protect the residential parts of these early cities, built on still quite low mounds, from flooding.

At Ur, the only Early Dynastic evidence comes from the cemetery. Although best known for the important group of royal tombs, these were located within a much wider area given over to the burial of the less exalted, whose grave goods were few (Woolley 1934: 135–146). A similar cemetery was also found at Kish, where once again quite elaborate graves were found only partially separated from more modest examples (Moorey 1978: 61–75). The discovery of graves beneath houses at sites like Khafajah (Delougaz, Hill and Lloyd 1967) and Abu Salabikh (Postgate 1990: 99–102) suggest that either some sites at some times had cemeteries whereas at other times people were buried beneath their houses, or perhaps that some people were buried in cemeteries

and others within domestic areas. Unfortunately, no cemeteries have been found at sites with late Early Dynastic private houses, and no private houses have been uncovered at sites with cemeteries.

Smaller sites

The late Early Dynastic period was a time of maximum urbanization within Sumer (Adams and Nissen 1972: 21). Small sites were therefore quite rare and no small settlements dating to this time have been excavated. The overall organization of only two non-urban late Early Dynastic sites[16] can be mapped with some precision with high-resolution satellite imagery. One, Diyala Survey site 109 (Adams 1965: 139) at 5.5 hectares should be considered a small center and exhibits the same dense housing that has been seen at the larger cities. The second, Nippur Survey site 1271 (Adams 1981: 279; see Figure 8.5) is more interesting. Covering only one half hectare, it is surrounded by a rectangular fortification wall, with its interior characterized by dense housing with perhaps a central. It seems unlikely that this was typical of small late Early Dynastic settlements in general. Other smaller late Early Dynastic sites, though their surface traces are not particularly clear, nevertheless exhibit traces of dense architecture very different from that seen on the West Mound of Abu Salabikh, suggesting that both large and small late Early Dynastic settlements were comparable in their density of domestic housing if not in their institutional complexity.

LATE EARLY DYNASTIC SETTLEMENT

To sum up the foregoing discussion, both large and small sites dating to the late Early Dynastic period were characterized by high-density occupation with little in the way of open space. The residential districts were characterized by houses built around courtyards and sharing party walls strung along quite narrow streets and alleyways, some with dog-leg bends in them. The differences in density between sites seem to have resulted from the limitations in space imposed by the presence of city walls (Postgate 1994). Differences in crowding, however, are not manifested by the presence of empty space; rather the less crowded settlements, like Abu Salabikh, had larger, more sprawling houses whereas places like Khafajah had very small houses. In no case could differences in crowding or domestic architecture be discerned between different areas within even very large cities.

In addition to domestic areas, these late Early Dynastic cities included major institutions of various sizes, mostly temples, many of which were embedded within residential districts. Many of the cities were multi-mounded and, at least at Lagash and Abu Salabikh, there is clear evidence that these were divided one from the other by watercourses. In at least some instances, each mound seems to have been walled rather than having a single wall surrounding the entire settlement.

It was during this time that secular rule evolved. In some instances, residential structures were clearly connected to the main temple, such as the house associated with the Temple Oval at Khafajah and the Palace A at Kish. But by the very end of the Early Dynastic period–a time that might actually be contemporary with the earliest Akkadian rulers (Gibson 1982; Gibson and McMahon 1995)–palace complexes at Kish and Eridu were built on separate mounds far from the main temple. In the case of

Eridu, there is little evidence for settlement, but at Kish both the main mound at Ingharra and especially Mound P – the location of the plano-convex building and the three palaces – have evidence for associated residential districts.[17]

Southern Mesopotamia was never again as urbanized as it was during the Late Early Dynastic Period. Adams (1981: 138, tab. 12) estimates that only 10 percent of the sites dating to this period were non-urban. Until quite recently it was difficult for archaeologists to obtain excavation permits to work on small sites and it is for this reason that we have so few Early Dynastic sites to compare with their urban counterparts. Nevertheless, the limited data available from high-resolution satellite imagery on the structure of small sites indicates that they were as crowded as the larger cities.

LATER SUMERIAN CITIES

As we move into the later part of the third millennium–the Akkadian and Ur III periods–we once again encounter a dearth of information on the overall organization of settlements. Moreover, the high-resolution satellite imagery does not help here since the archaeological surveys which provide the dating for unexcavated sites failed to adequately distinguish between Ur III and later Larsa or even early Old Babylonian settlements. However, the larger excavated sites evidence continuity of occupation from at least Ur III through early Old Babylonian times, when many in the south were largely abandoned and not reoccupied for more than three centuries (Stone 1977; Armstrong and Brandt 1994). Data from excavated sites suggest that the surviving surfaces of southern mounds have broad areas of early second millennium BC domestic architecture and, probably, Ur III public buildings (Stone 2002). Further north, any Ur III remains were thoroughly buried beneath the remains of their early second millennium settlements and have remained inaccessible to archaeologists.

As the center of the Ur III state, the city of that name has the most extensive preserved public district. Ziggurat, temples,[18] priestly residence–even royal tombs–have been excavated at Ur and dated to this period (Woolley 1974). When kingship moved first to Larsa and later to Babylon, some of these public buildings were no longer maintained, but the main ziggurat, temples, the priestly residence, and a probable treasury built in Ur's suburbs all testify to the continuity of occupation of this important city. And it is to this time that we have extensive excavated evidence for domestic areas–three of which have been sampled (Woolley and Mallowan 1976; Charpin 1986; Van De Mieroop 1992). Extensive excavated remains also exist at Nippur (McCown and Haines 1967; Stone 1977), Tell ed-Der (Gasche and Pons 1989: Plan 1), Tell Asmar (Delougaz, Hill and Lloyd 1967) and Ischali (Hill, Jacobsen and Delougaz, 1990). Perhaps the city whose overall organization is best understood is Mashkan-shapir, where a combination of surface survey, aerial photography (Stone and Zimansky 2004), high-resolution satellite imagery and limited excavations have allowed the development of an overall plan of this city (Stone forthcoming). The satellite imagery has also greatly expanded our understanding of the organization of Tell Asmar and Ischali, as well as outlining the structure of other early second millennium cities, towns and villages. Moreover, a number of small settlements dated to this period have been excavated–the most complete being Haradum (Kempinski-Lecomte 1992) and Tell Harmal (Baqir 1946, 1959)–and many more have good high-resolution satellite imagery. A comparison between these later Isin-Larsa to early Old

Babylonian settlements with their earlier counterparts can determine the likelihood of whether Akkadian and Ur III settlements were similar or different from their late Early Dynastic counterparts. Features to be examined include the locations of temples and palaces, a comparison between domestic areas in different parts of settlements and the location of fortification walls.

Early Dynastic settlements were characterized by the peripheral location of major temples, by palaces–where they existed–far distant from the temples, residential districts which are similar across the site, fortification walls surrounding each mound rather then the whole city in at least some cases, and high-density residence in both large and small sites.

The separation between temple and palace first seen in the late Early Dynastic period is also seen at Mashkan-shapir and Uruk. The peripheral location of the main temples, as at their Early Dynastic counterparts, can be seen at Ischali (Hill, Jacobsen and Delougaz 1990: 4), Mashkan-shapir (Stone and Zimansky 2004; Stone forthcoming; Figure 8.6), Ur (Woolley and Mallowan 1976: pl. 116) and Larsa (Huot, Rougeulle and Suire 1989), although, as was the case in late Early Dynastic sites, smaller temples and shrines were broadly distributed throughout the urban fabric (Figure 8.7). Palaces also tended to be at the edges of sites, but distant from these temples. At Mashkan-shapir, traces of a large building resembling other contemporary palaces in

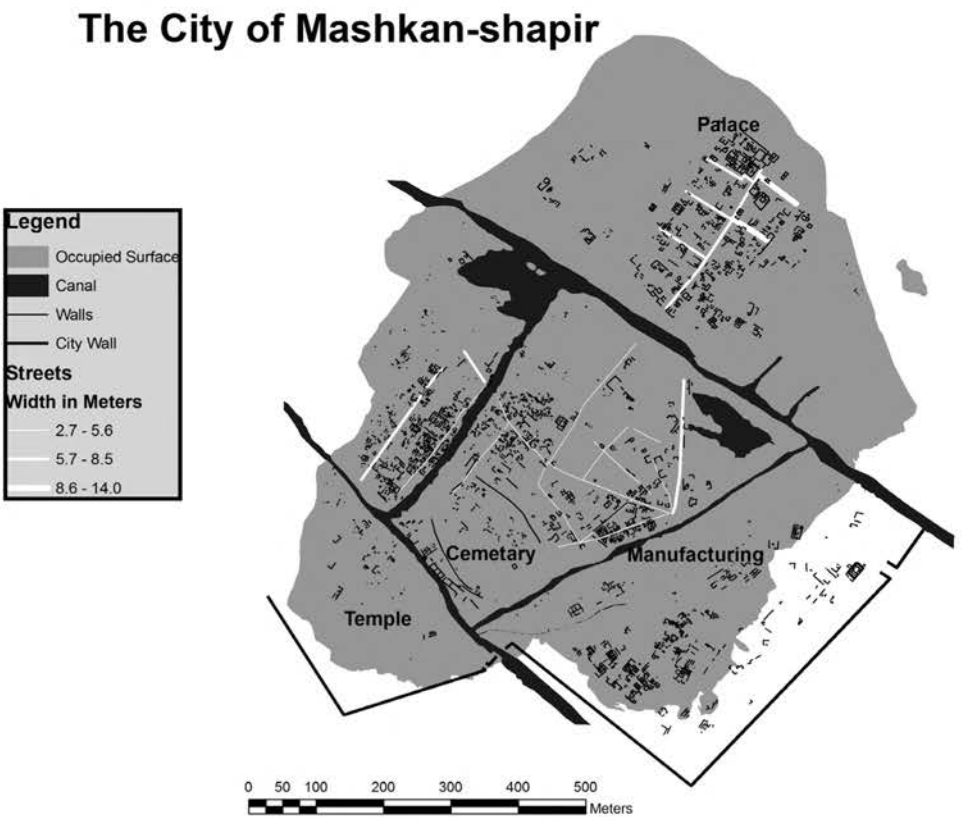

Figure 8.6 Plan of Mashkan-shapir

the organization of rooms and courts are located in the far northeastern part of the site, as far away from the main temple as possible (Stone forthcoming). A similar situation is seen at Uruk, where the Sin-kashid palace is again located near to the edge of the settlement (Finkbeiner 1991: Beilage 7). The exception is the so-called Nur-Adad palace at Larsa which was located near the main temple (Margueron 1970, 1971: 283–284, 1982: 381–389; Parrot 1933: 177–178, 1968: 211–212), but the pattern of square court and throne room, sometimes with another room leading to it as at Mari (Parrot 1958) is missing there, and though the stamped bricks identify Nur-Adad as the builder, they do not describe the building as a palace (Frayne 1990: 138–139). Since it was abandoned before completion, we will probably never know its exact function, but the residential part of the Giparku at Ur–again located beside the main temple and housing the high priestess–shares some similarities in architecture with the Nur-Adad "Palace."

Analysis of the organization of domestic space over broad areas of early second millennium sites is only possible based on excavations at Ur and, when available, from high-resolution satellite imagery. Three different but contemporary domestic areas were excavated at Ur. Although they differ in character–EM housing those associated with the temple (Charpin 1986) and AH a more entrepreneurial population (Van De Mieroop 1992) – there is no evidence from either textual or archaeological data that there were any significant differences in either wealth or status between them, and the architecture is similar in scale (Woolley and Mallowan 1976). High-resolution satellite

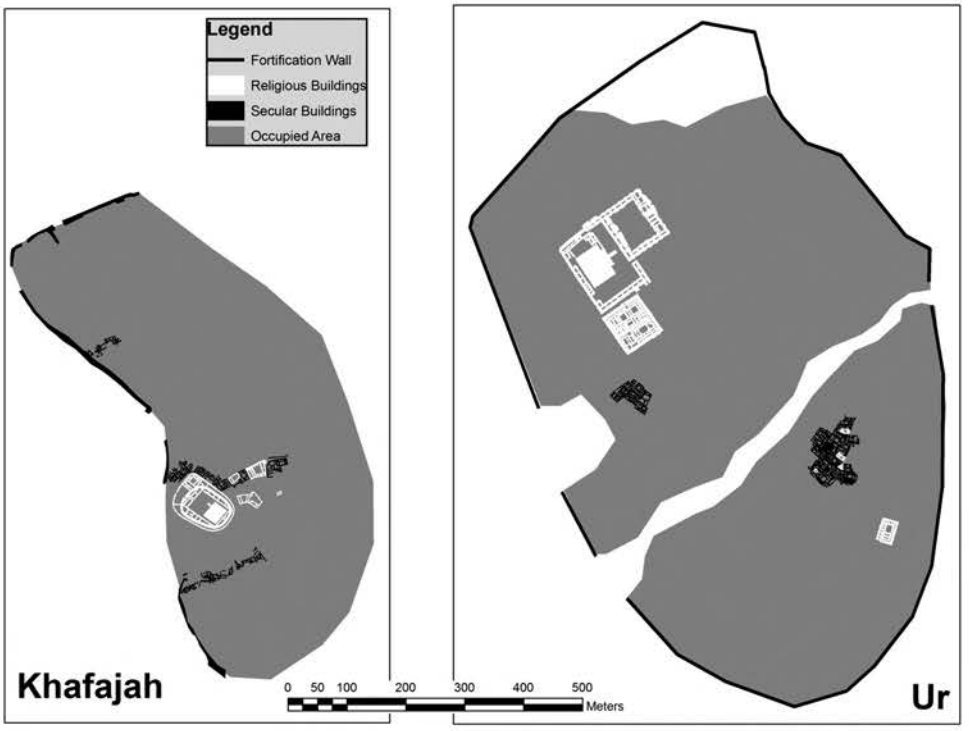

Figure 8.7 Comparative plans of third millennium Khafajah and second millennium Ur showing the distribution of religious buildings

imagery reveals broad expanses of housing at Tell Asmar (Figure 8.8), Mashkan-shapir and Dahailia (Wright 1981: 339, Site 34). At Tell Asmar (ancient Eshnunna) and Dahailia residential architecture is similar in scale in all parts of these urban sites, although the houses at the new foundation of Dahailia are larger than those at the more established city of Eshnunna. A similar pattern can be seen at Mashkan-shapir, although in the northern part of the site, located close to the palace, the domestic architecture is associated with a regular grid of broad roads, quite unlike the more organic street pattern seen elsewhere at the site (Stone forthcoming; Figure 8.6).

Identifying specifically early second millennium city walls is not always easy, but the overall impression is that these surrounded the entire settlement. This was the case at Mashkan-shapir (Stone and Zimansky 2004), Der (Meyer et al. 1971: 50–51), Ischali (Hill, Jacobsen and Delougaz 1990: 4) and Khafajah Mounds C (Hill, Jacobsen and Delougaz 1990: 29) and D (Hill, Jacobsen and Delougaz 1990: fig. 30) and is certainly indicated by the somewhat later Kassite map of Nippur (Gibson 1977: 36). Though this change in the circumvallation of these cities would seem to indicate greater political unity in the second millennium than in the third, nevertheless there continued to be differences between the occupations and perhaps even loyalties between those occupying different parts of the cities (Stone forthcoming).

Only two small sites dating to the later Early Dynastic period could be examined, but there are many early second millennium examples, both excavated (Baqir 1946,

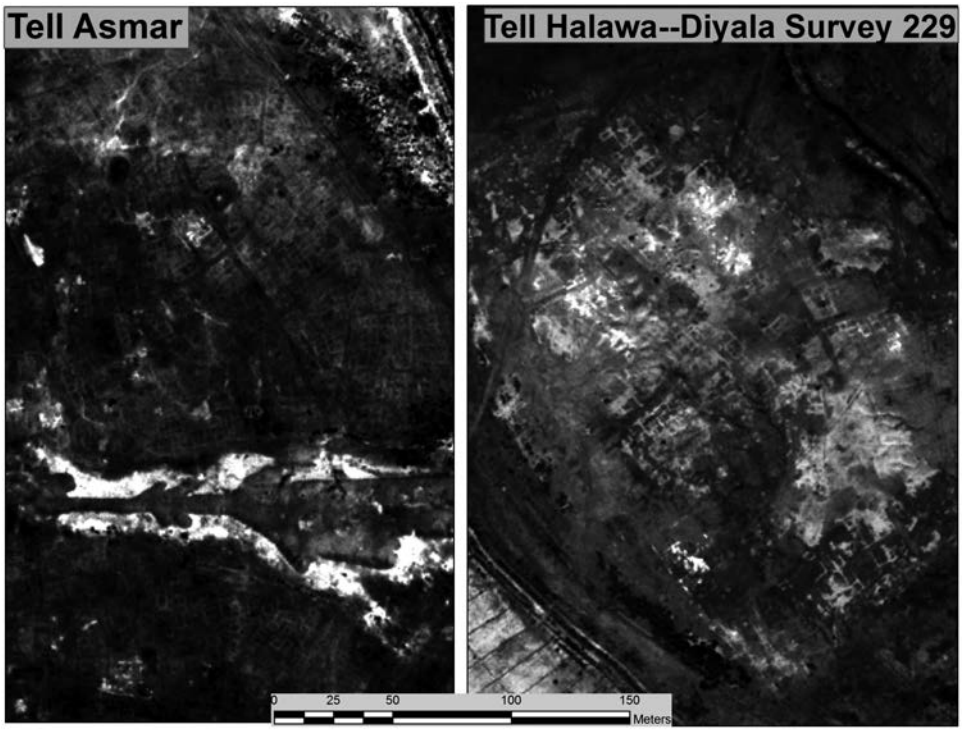

Figure 8.8 Early second millennium residential districts at Tell Asmar and Tell Halawa (imagery courtesy of the Digital Globe Corporation)

1948, 1959) and visible through satellite imagery. In spite of the very small size of Haradum and Tell Harmal, both houses and objects at these sites do not differ from those found at their larger cousins (Malko 2006). Indeed, a comparison between the object classes recovered from Haradum with those from Mashkan-shapir indicated that only difference between the two sites were the royal inscriptions found only at Mashkan-shapir, even though the latter is some sixty-five times the size of Haradum. Moreover, the high density of these two small Early Dynastic settlements is matched by seven early second millennium sites seen in the high resolution satellite imagery (Figure 8.8).

The similarities between the late Early Dynastic cities and villages and those dating to the early second millennium BC strongly suggest that Akkadian and Ur III settlements differed little from their immediate forebears. The only question which remains open is when city walls were reconfigured such that they surrounded the entire site and not just each individual mound.

CONCLUSIONS

Cities–settlements with populations too large for everyone to know each other and with an institutional complex unknown earlier–were first seen in Sumer. This chapter has attempted to chronicle the evolution in settlement organization that brought this about. Although the word "city" conjures visions of large groups of people living together, the Mesopotamian data suggest that it was the institution of the temple that came first, with high-density populations developing much more gradually. The early temples at Eridu (and perhaps also Tepe Gawra) may have served as pilgrimage centers (McCorriston 2011)–certainly as a burial center–for the surrounding population. Although Eridu itself never gained population, as the Protoliterate proceeded the evidence suggests that similar temples–especially but not exclusively those at Uruk–attracted ever larger populations. The organization of these small centers suggests that the temples remained somewhat remote, located far to the edge of the settlement in a part of town separated from the majority of the inhabitants. Moreover, if cattle and perhaps sheep were still housed within the settlements, population densities may not have been great. Nevertheless, these fourth millennium BC settlements were larger, more institutionally complex and more populous than any other settlement elsewhere in the world.

It is in the middle of the third millennium BC that we see evidence of the development of true cities–indeed at this time it appears that virtually all of the settled population were urban dwellers. These cities were walled and continued to be dominated by temples, the most important of which retained their somewhat separate, peripheral position within the urban framework. Moreover, the architectural details of these structures suggest that they became more remote, more protected, as they incorporated ever more daunting gatehouses (Delougaz, Hill and Lloyd 1967). By this time the urban fabric was a dense mass of houses built around courtyards located along a maze of small streets and alleyways. No room was left within the cities for domestic animals. It was within this environment that we witness the growth of the second major institution, the palace, the earliest manifestations of which were located as far from the temple as possible. Written records indicate that a third institution, the assembly, must have existed by this time (Jacobsen 1943), but this has left no architectural traces that we can recognize.

Although we have little data on urban organization from the later part of the third millennium, similarities between mid-third millennium and early second millennium cities suggest considerable continuity, although the broader settlement pattern incorporated many more small and medium-sized settlements. As was seen in the urban structure of the third millennium, temple and palace served as the two anchors, usually on opposite sides of the city, with the body politic located between, including manufacturing areas, shops and, in at least some instances, cemeteries.

In spite of the crucial role played by the temples, and later palaces, it was perhaps the assembly as reflected in the large urban populations that may be the most striking. Mesopotamian cities were made up of block upon block of houses, doubtless divided into neighborhoods (Stone 1977) but without the manifestations of extreme class differences familiar from modern cities. It was their inhabitants who were represented by the assembly, and it was the interaction between assembly, temple and palace that allowed the urban lifestyle first devised by the Sumerians to continue for some four millennia.

NOTES

1 Here part of the problem is that the surveys by Adams and his students and colleagues rarely distinguished between surface data dating to the Ur III period, the apex of Sumerian civilizations, and that dating to the Isin-Larsa period, the first post-Sumerian stage in Mesopotamia's history. It may well be that there was little change in settlement between these two periods, that although political control shifted and the Sumerian language went into decline, this does not necessarily mean that other aspects of Mesopotamian society changed a great deal (Stone 2002).

2 There are fragments of domestic structures from the Diyala Region (Delougaz, Hill and Lloyd 1967: pl. 2), but these are too fragmentary to provide comprehensive plans.

3 It can be difficult to know what sherd densities really mean when we examine their distributions over large sites. While we can be reasonably certain that more recent sherd scatters almost certainly reflect the distribution of ancient settlement–or at least rubbish disposal – this is not necessarily the case for earlier sherds since new mud-bricks are often made from the remains of earlier settlements, in the process incorporating early pot-sherds.

4 There are, however some problems with this interpretation. First, associating this phenomenon specifically with the city of Uruk and not some larger consortium of large Mesopotamian sites (many of which are deeply buried beneath later occupational levels) may be more the result of the accidents of archaeological discovery within southern Iraq than the reality of southern Mesopotamian political organization in the fourth millennium BC. More troubling, however, is the fact that the administrative system represented by Uruk-style sealings found at Habuba Kabira and elsewhere have more in common with the system in use at Susa than at Uruk itself (Strommenger 1980: 62–63; Pittman 1994: 181 and note 25; Pittman 2001: 439–440). Moreover, when unbaked clay sealings with Uruk period-style sealings were tested using nuclear activation, the only positive matches were with soils from the vicinity of Susa and not with those from Uruk (Stein and Blackman 1993). Nevertheless, whether the trade routes went via Susa (and geography would be against this) or Uruk, all of these sites–including Habuba Kabira–are clearly heavily influenced by the Uruk phenomenon, and it is for this reason that in the absence of any data from southern Iraq, I use Habuba Kabira as a source of information on the organization of early Mesopotamian towns.

5 Sadly the details of the excavated remains from Habuba Kabira remain unpublished, so we lack information on the finds associated with the different kinds of buildings identified by Vallet.

6 Tell 'Uqair is located within the irrigated district and it looks as though part of the southern mound has been destroyed by agriculture. Indeed, the sketch of the mound in the survey

publication (Adams and Nissen 1972: 199), suggests that the southwestern mound was quite a bit larger than it is today. If, like the other two sites, it had an additional western mound, this is long gone.

7 Today, the most common animal found in the marshes of southern Iraq is the water buffalo, but these animals were not domesticated in the fourth millennium. Cattle are also to be found grazing on reeds to this day.

8 If so, this did not survive into the later parts of the Early Dynastic period.

9 Eridu would have been the exception here since no residential districts have been identified (Safar, Mustafa and Lloyd 1981).

10 Satellite imagery of site Uruk survey 245 suggests the presence of a fortification wall around part of the southwest mound.

11 There also exists a second oval enclosure at Lagash, excavated during the last season there in 1990 (Hanson 1992).

12 The situation of the temple at 'Ubaid is less certain since the rest of the settlement dates to the earlier 'Ubaid period.

13 Although the Kish excavations left much to be desired in terms of recording, the data recovered from the plano-convex building suggest a terminal Early Dynastic date (Moorey 1978: 34–44).

14 Only complete vessels were recorded in the publication of the Eridu palaces, and the four examples found within these structures have very variable dating (Safar, Mustafa and Lloyd 1981: 304). However, a recent examination of the sherds in the dump from their excavations makes it clear that, like the Kish palaces, the Eridu palaces can be dated to the very end of the Early Dynastic period.

15 The publication of the Diyala houses suggests that the central space was a "main room" and thus roofed; the reconstruction includes a clerestory to provide light, although the surrounding rooms would have been quite dark (Delougaz, Hill and Lloyd 1967: 145–151). Given that in the later houses at Ur (Woolley and Mallowan 1976), this central space was generally paved with a drain in the middle, it seems much more likely that these central spaces were unroofed.

16 One of these sites, Diyala Survey number 109 (Adams 1965: 139), as is common in this volume, is listed only as Early Dynastic, but since the preponderance of Early Dynastic sites from other areas where finer distinctions were made dated to the latter part of this period, it seems likely that this site should be dated to that time.

17 These data are obtained from the satellite imagery, not from any excavation. It should, however, be noted that the intersection between the palaces and the houses suggests that the latter might have been a little earlier in date than the palaces. Nevertheless, traces of residential buildings can be identified–not always with great clarity–throughout the area between the palaces and the plano-convex building.

18 The "E-Hur-Sag" is located within this area and is generally thought of as a palace. However, as discussed in some detail by the excavator (Woolley 1974: 38–39), all indications are that it was really another temple.

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CHAPTER NINE

PUBLIC BUILDINGS, PALACES AND TEMPLES

Marlies Heinz

An archaeological study of public buildings, palaces and temples in the 'Sumerian world' is a complex venture that faces several fundamental issues: What are 'public' buildings, what is a palace, what is a temple and what is the 'Sumerian world'? How can archaeological research recognise 'palaces and temples' among those buildings in a town that have been convincingly identified as 'public'? Does archaeological research thus have the means at its disposal to determine the functions of structures or rather to recognise the intentions of the builders regarding the functions of built space and/or the manner in which the buildings were used? The allocation of functions to buildings such as 'public', 'palace', 'temple' raises further questions concerning the social conditions under which the appropriate works have been created or became necessary. Does the existence of palaces and temples imply certain forms of social and political organisation? In other words, who needs public buildings and why?

HOW TO RECOGNISE A PUBLIC BUILDING

An explanation of how to recognise a public building in the archaeological record is often, but not always and not exclusively, based on formal criteria of the built environment. The setting up of a structure as a public building follows basically two conceptions. The public building can be architecturally unique, built with a unique investment in size, location, decoration and building materials and will, because of these formal features, be recognised as exceptional. Exceptional forms are, according to the insights of architectural sociology, connected with exceptional, here 'public' functions. In principle however, any structure in a town or city can be used as a public building. This means that a public building is not essentially recognisable by being formally different from 'non-public' buildings, and that archaeological building research has to expand the range of potentially meaningful parameters for its studies using installations, artefacts, texts and thus inventories of the houses.

WHAT IS A PALACE, WHAT IS A TEMPLE – AND WHO NEEDS THEM?

The investigation of architecture in the Sumerian world under the heading of 'palaces' and 'temples' assumes the formation of a certain functional differentiation and the

occurrence of a certain social and political organisation at this time. The colloquial use of the term 'palace' implies the existence of a (secular) political authority. Assuming that a society had a special building at its disposal in which to perform religious duties, a 'temple', implies that the society had representatives of the religious world who took care of these duties. We can suggest that the social order in such a world was structured (inter alia) by the functional differentiation of its members and characterised by the formation of office bearers.

THE 'SUMERIAN WORLD' AND ITS 'URBAN REPRESENTATIVES'

During the fourth millennium Mesopotamian societies created the first urban environment (Adams 1981; Heinz 2009) (Map 0.2). Villages and towns developed into cities, cities became centres of trade, cult centres and the seats of political power. Global trade developed (Algaze 1993), dynastic succession became the norm, rebels usurped power (Heinz 2005), and worldly kings proclaimed themselves gods. Among the locations that stand out because of their buildings was Uruk, the first urban centre in history, located in the south of the core area of Sumer. Nippur, in central Mesopotamia, home of the main Sumerian god Enlil, was the religious centre of Sumer during the third millennium BC. The function of Khafajah, located in the Diyala region, has not yet been clarified by written sources. It is the architectural development which strongly suggests the status and function of the city as the seat of powerful institutions. In the city of Kish, situated south of Khafajah and north of Nippur, resided the Akkadian kings, the founders of the first Mesopotamian empire, whose politics meant far-reaching interventions into the cultural and political traditions of the Sumerian world. It was in the city of Ur, close to Uruk, that the Sumerian world had its first big revival with the rise of the third dynasty of Ur around 2100 BC, a dynasty whose kings launched the renaissance of the Sumerian language and the cultural heritage and history of the pre-Akkadian world. But, as the revival of the Sumerian world had been connected with the rise of the Ur III dynasty, so its end was sealed with the collapse of the political and economic power of Ur and its ruling family at about 2000 BC (Kuhrt 1995).

THE 'SUMERIAN WORLD' AND ITS BUILT ENVIRONMENT

A complex variety of local and regional cultural developments characterised the cultural, social and political development in the course of the long history that constituted the Sumerian world from about 3000 to 2000 BC.

The architectural heritage of three of the above mentioned centres of the Sumerian world, Uruk, Khafajah and Ur have been chosen to illustrate the local, regional and supra-regional political and social developments and their material manifestation (Crawford 1977)

URUK: BUILT MONUMENTALITY AND SPACE DESIGN

Archaeological research, carried out in Uruk, has concentrated mainly on two areas: the *Anu* and the *Eanna* precincts (Heinrich 1982a, b). These areas first attracted the archaeologists' attention because of the monumental architecture visible here. The

following observations will concentrate on the larger one of the two areas, the *Eanna* precinct, located right in the center of Uruk (Boehmer 1987).

Uruk – level VI to level IV: a monumental precinct is being produced

Three construction stages, Uruk levels VI, V and IV(c, b and a), show the development of public buildings from the mid-fourth to early third millennium (Figure 9.1) . With the architectural development of Uruk layer VI to layer IV those responsible for the layout constructed the monumental buildings that characterised *Eanna* at this time and created a centre of previously unknown monumentality (Amiet 1977). Layer VI was characterised by the so-called 'Stone Cone temple'. In layer V the 'Limestone temple' was added. Its floor plan, the tripartite building plan, became the characteristic form of the monumental architecture of Uruk at the time, characterised inter alia by the remarkably numerous entries into the buildings of this type. The building complex was extended in layers IVc and b when the monumental buildings A, B, F, G, H were enclosed, all corresponding in style to the 'Limestone temple'. All structures were rectangular, open, conforming to the tripartite floor plan, two parallel rows of rooms with an open hall in between. Variations occurred, some buildings had a T-shaped floor plan. However, a local standardisation of ground plans in this type of public building can be seen. Several courtyards and halls completed the picture. The development of the *Eanna* precinct from layers VI to layer IVb followed a scheme that step by step added more standardised building forms to the overall ensemble. This homogeneity underwent a break when the last building of layer IVb came into being, the so-called 'Square building'. It differed in its form from all other buildings of the *Eanna*: a square basic form, built of four wings that enclosed a huge courtyard and thus it did not belong to the tripartite building type. It remained unique as a building type in the history of Uruk. After a certain length of time whose absolute duration is not yet known, the monumental buildings of *Eanna* IVb were torn down, with one exception: the Square building. A new plan was instituted and with layer IVa the area reached a size and monumentality without parallel and which was never again achieved. Halls, pillar buildings and the creation of a large courtyard gradually emerged as elements of the new overall design. However, the main building, known as building C, followed the traditional tripartite building form of layer IVb. The Square building first formed a part of the new ensemble, but had then to make way for another new building, house D, likewise constructed according to the traditional tripartite floor plan of layer IVb, but unique in size and dimension and larger than all the buildings so far known in *Eanna.* The tradition of the 'classic' design had thus prevailed and the dimensions of house D left no doubt what those responsible for the design of *Eanna* considered the 'right' tradition. The oversized house D and the complete obliteration of memories of the Square building had been the means to ensure that the ancient traditions survived. It is striking that it was during this phase that for the first time *Eanna* was visibly walled off from its neighbourhood – was this because the tradition was in danger or was protection needed? Layer IVa ended with the demolition of the entire system and the subsequent spatial design of Uruk III followed a totally different concept.

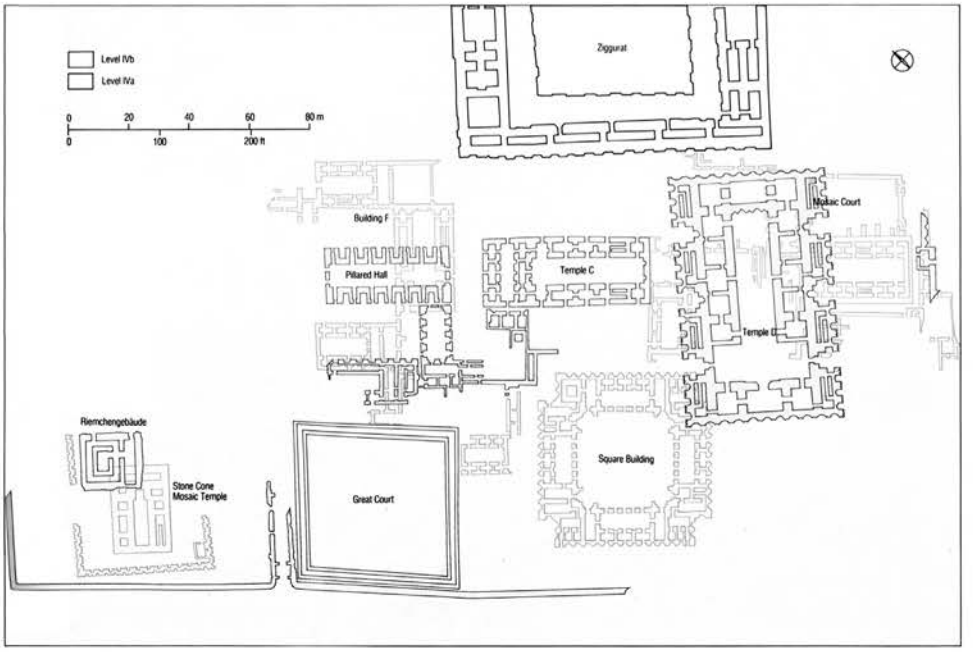

Figure 9.1 City map of Uruk (source: M. Heinz)

The *Eanna*: its functions

There is no contemporary written evidence at hand when it comes to the consideration of what functions the *Eanna* and its buildings had. It is the size of the buildings, the material and human resources necessary to build the ensemble, the overall planning, the spacious design of the precinct and the central and visible location of *Eanna* in the middle of the urban area of Uruk that makes the function of the structures as public buildings more than likely and their creation on behalf of a powerful elite plausible. The more specific functional allocation, the designation of the precinct as a cultic district follows more or less descriptions in later Sumerian texts. These denote *Eanna* as the holy realm of the city goddess of Uruk, Inanna (Mittermayer 2009; Sallaberger 1999). A symbol showing the so-called 'Schilfringbündel', is also thought to represent the goddess Inanna. Appropriate representations have been found on the seal impressions discovered in the context of the Uruk VI–IV buildings (Boehmer 1999). The designation then of the largest buildings in this cultic district, the standardised tripartite buildings, as 'temples' was the next 'logical' step in the analysis, that allocates the most important function, that of the temple, to those buildings that had required the highest building effort and costs.

The *Eanna* and its builders – or, who needed the public architecture of the *Eanna?*

The interpretation of the architectural record, the texts and the representations thus implicitly assumes a certain functional, socio-political and cultural order in Uruk: namely, the creation of *Eanna* for mainly religious reasons, the dominance of the

religious affairs in *Eanna*, and a religious elite responsible for the built heritage of Uruk at the time.

The architectural development of *Eanna* itself brings into question this first interpretation and the supposed exclusivity of function and responsibility. The effort to build the tripartite structures as well as their formal homogeneity served to designate them the 'temples' of *Eanna,* and to suggest that the religious elite was their builder. If this interpretation is correct, then the question arises how we evaluate the break, functionally and concerning the power organization behind it, that occurred with the formal layout of that so-called Square building, also a building of monumental proportions. Did the deviant form hint at a divergent function of the Square building as well as to another group of builders – or did it represent just a new formal expression for the same function, and was it thus also a temple?

It is again later texts and pictures that might contain appropriate answers. The Sumerian myth of 'Lugalbanda and Enmerkar' written down a millennium later (Heimpel 1992) outlines the enthronement of the senior officer Lugalbanda as king of Uruk by the priests of Inanna and thus suggests that a secular power was already present in Uruk in a mythical past. Seal impressions found for the first time in layer Uruk IVb, the layer in which the Square building was built, depict a new theme unknown before (Boehmer 1999). According to these, a previously unknown male protagonist approved for the first time on the political stage. This male protagonist is portrayed as the one responsible for securing the wellbeing of the community, being actively involved in armed conflicts, protecting the community and carrying out offerings, thus being involved in religious duties too. For the first time the pictures on seals show, and for the first time it became necessary to emphasize, the existence of a political authority that was responsible for both worldly and religious concerns in Uruk.

Eanna: a second view on its functions – and on a possible change of the political order in Uruk

My thesis to explain the changes and innovations that had occurred according to textual, visual, and architectural evidence paraphrases the situation as follows.

According to the sociology of architecture and the political studies dealing with the needs of political representation (cultic as well as secular), architecture is one of the most powerful instruments of political propaganda for presenting the will and the world view of the ruling powers (Heinz 2009, 2006, 2005).

The built order can accordingly be read as signs of the ruling order. Monumentality and an accumulation of monumental buildings signal unlimited availability of resources (including human resources) and thus unlimited power in the hands of those responsible for the building and for spatial design, in this case that of *Eanna*. Monumentality guarantees visibility and visibility makes the transmission of the intended messages obvious.

Towards the end of Uruk IV, the development of a newly established secular power, represented by the 'omnipresent' male protagonist, needed a symbol which it was impossible to overlook, to present the new political authority and to represent a new ruling order in Uruk. The Square building, according to this idea, was this sign – the locus of a new function and the seat of a new functional elite, thus a public building, whose tangible function still remains to be specified.

The use of monumental architecture as a demonstration of power is thus not to be ignored. The opposite side of this coin is the destruction of earlier monuments and with this the visible and apparent dismantling of those who had previously been in charge of the design and layout of the public architecture.

The new powerful elite of Uruk, originating in the time of layer IVb, had obviously not been successful in establishing themselves and their built symbols as representatives of the traditional local order of Uruk. Rather they must have experienced a severe setback. The Square building was demolished during the lifetime of layer IVb, so that the monumental sign of the 'new' secular power was entirely erased and any concrete memory of that time wiped out. Those circles, presumably responsible for this complete withdrawal of memorial options and those who now pretended in turn to represent the local tradition of Uruk, made the power of their understanding of tradition unmistakably clear when creating the monolithic 'traditional temple D', a revival of 'the good old times' and a sign of the now ruling order that was also not to be overlooked.

According to the above interpretation, *Eanna* functioned first of all as a religious centre, followed by its function as the centre for religious and political activities, while the end was characterised by the attempt to re-establish the original situation: the use of *Eanna* as a centre for exclusively religious concerns. The built environment of *Eanna* was the materialised result of the intentions as well as of the needs of the powerful elites of Uruk. Architecture and spatial design also pointed plausibly to competition between the religious and the secular elite for power and the means to control the public architecture of Uruk.

If the powerful elites of Uruk were the builders of *Eanna*, who were the users?

The built heritage of the *Eanna* contained sufficient evidence to identify its builders with some certainty. To reconstruct the users of this precinct turns out to be far more challenging, if not impossible. The only parameters suitable for reconstructing the customary use and the potential users of *Eanna* are, on the one hand, accessibility and, on the other, measures that had been taken to allow people, even in large numbers, to gather in the temples and cultic area.

The tripartite buildings as well as the spacious halls and courtyards presented a very 'open' building style, characterized by the notably large number of doors that potentially allowed a large number of people to enter and leave these buildings simultaneously. Likewise the overall spatial design of *Eanna* potentially allowed the accumulation of large groups inside the temenos. The plan of the area as well as the floor plans of the buildings themselves signalled approachability, permeability and easy access. The potential for public access and the use of *Eanna* by the inhabitants of and visitors to Uruk was given by the design of the buildings. The spatial design of Eanna, however, sent quite contradictory messages about its accessibility and that of the individual buildings. *Eanna* had been walled off, and this makes it clear that those responsible for its design could have controlled or prevented access whenever they desired. Alternatively, was the wall built around the *Eanna* in layer IVb, sending the opposite message, namely, that of exclusivity and thus of the exclusion of the public? This remains an open question. Who the users of the *Eanna* were can be positively answered in the case of the elite but stays an unanswered question concerning all other groups.

A short conclusion

The reflections on resource investment and resource control and the interpretation of change in the material heritage of past societies of Uruk allowed for the recognition of the so-called public buildings of *Eanna,* for the naming of specific functions of at least one group of its buildings, for the identification of builders and even speculation about the rise of competition between the traditional cultic elite and an emerging political elite. Each of these groups represents themselves as those in power through the medium of the built environment. The formal analysis of the built environment and the spatial design of *Eanna* furthermore showed that the public architecture served (at a minimum) the cultic needs and the political demands of the elites. However, what the public buildings meant for the public of Uruk and its visitors, and how these people participated in the use of *Eanna*, remains, at the moment, an unsolved question.

KHAFAJAH IN THE DIYALA REGION

The city of Khafajah probably founded in the early years of the third millennium, a time roughly equivalent to Uruk III, lay 250 kilometres north of Uruk and, viewed from Uruk was situated rather at the edge of the Mesopotamian world. It was the centre of the Diyala region and belonged culturally to the Sumerian world.

The town looks back on a long settlement history, during which the local tradition of 'public buildings' underwent a series of changes and radical breaks (Heinrich 1982a, b; Delougaz 1940, 1942). Throughout the settlement history the spatial design of Khafajah shows a concentration of buildings in its western settlement area (Figure 9.2), built on top of the highest topographical point. Two phases in particular in the city's building history, layers VII and VIII (numbered according to the analysis of building levels in the so-called 'Sin-temple' area) show an architectural progression in that area that was characterised both by continuous development as well as by a sharp break in the local building tradition. A discussion of three buildings will demonstrate the development of a so-called cult district in Khafajah,

Khafajah, layers VII and VIII: public buildings – domestic housing, fundamental contrasts?

Khafajah layer VII is recorded in several houses in the western settlement area (Figure 9.3), all built directly adjacent to each other. The western part of that settlement sector is characterised by houses of almost the same type. Rooms and thus the floor plans as well as the outer forms of the houses are arranged irregularly. As a rule, the houses comprise several rooms, with one exception: in the middle of the excavated area stood a building consisting of only one room and an ante-room or entrance, which the excavators called a temple. Narrow alleys run between the houses and these pathways meander through the quarter, in some cases leading to a dead end. At the eastern edge of this settlement area those responsible for the building activities in the area placed a second building that evidently differs from the others, designated a temple by the excavators. The northern outer wall of the building forms a straight line; so does its western one – and its eastern outer wall is more or less the same. Thus the user of that district immediately saw the difference: on the one hand, irregular by formed buildings;

ABB. 163

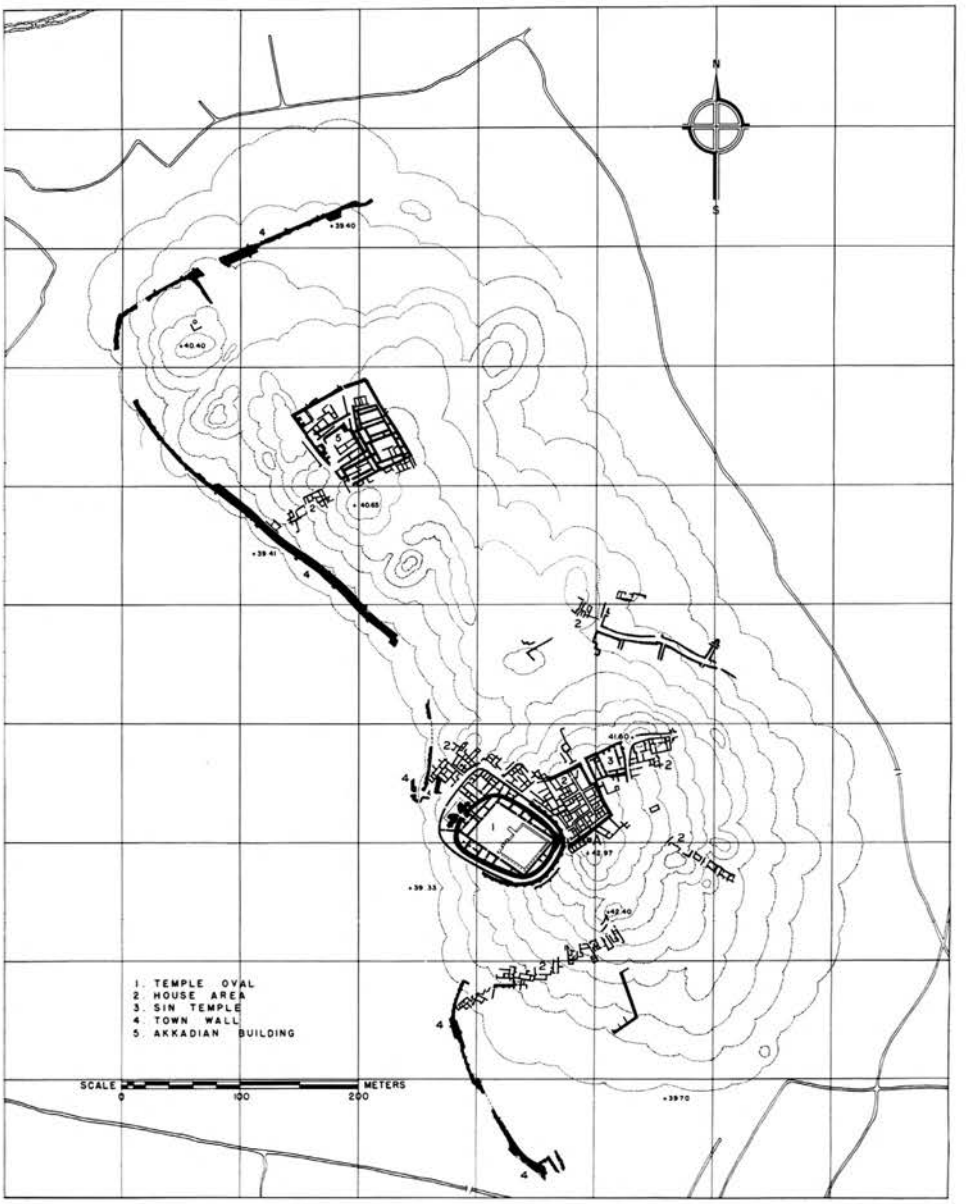

Abb. 163 Stadtplan von Tutub (Ḫafāǧi). M. 1:4000. — *Aus Delougaz, OIP 53 (1940) Taf. 2*

Figure 9.2 City map of Khafajah (after Heinrich 1982a: abb. 163)

on the other hand, a regularly laid out structure that set this building apart from the neighbouring ones. The building encompassed a visibly larger space than the neighbouring houses and this additionally isolated the eastern building from the other premises. Structural elements, furthermore, required more effort in their construction – the walls were built much wider and thus more solid than those of the neighbouring

Abb. 173 M. 1:400

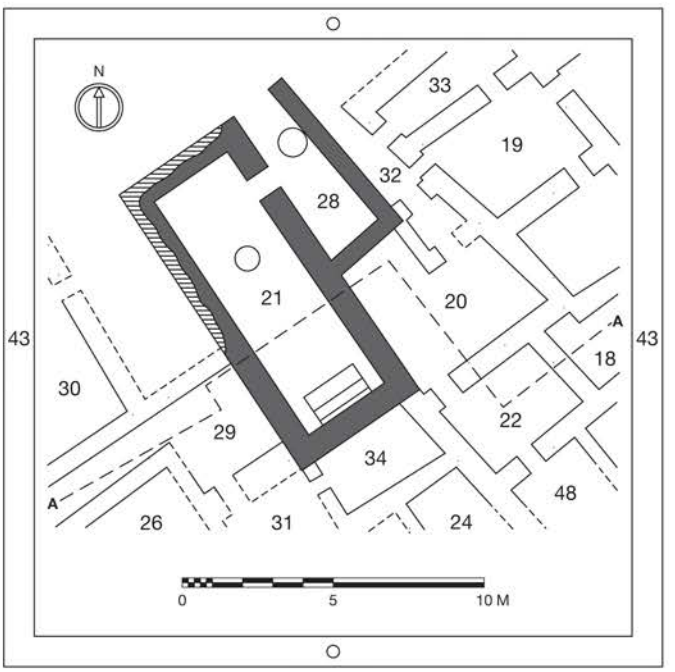

Figure 9.3 Sin Temple and Small Temple of Khafajah (after Heinrich 1982a: abb. 173): a) Sin Temple (abb. 174), b) Small Temple (abb. 178–182)

ones. Even if this difference was not visible for the later users of the structure, the increased building cost was nevertheless known to those who had built it. Inside the house, the visitor found a far more spacious interior than in the domestic houses. The interior organisation of the complex also presents what seems to be a pre-planned floor plan. A structure formed by two rows of long rectangular parallel rooms had been placed in the eastern corner of the courtyard through which the user entered the building complex. While the entrance to the total complex, placed at the northeastern edge of the building, prevented direct access into the enclosure, the 'house' itself had three entrances making it rather open and transparent. The two buildings in this area that were called temples by the excavators are thus those that differ formally from the majority of houses in this district.

Two forms, one function – no problem in Khafajah

The one-roomed building is named the Small Temple, while the building larger than its neighbours was called the Sin Temple (Delougaz 1942). Identification of the so-called Small Temple is based on its form, the long rectangular shape of the room, the position of the doorway and a table-like installation in front of the short northern side of the room. This identification was confirmed by comparing its design to that of the cella of the second temple, the Sin Temple.

The Sin Temple received its name from a dedicatory inscription on a statuette found in the building. A priest in the service of the moon god Sin had dedicated the statuette to him. This votive offering and other, comparable but uninscribed statuettes and elaborately decorated vessels made of precious imported stone, also thought to be votive offerings, as well as the formal aspects of the building all supported this interpretation.

The building forms of structures performing the same function – cult and principles of spatial order

It is clear that in Khafaje buildings used in the cult could take a number of different forms.

The construction of the Small Temple and the Sin Temple did not follow an identical figurative language (Heinz 2002; Ali 2002). The Small Temple could easily have been one of the domestic houses, according to its location, building size and the effort that had been necessary for its construction. That was not the case for the Sin Temple. Those responsible for the design of this building had taken care that it was visibly different in form and size from the surrounding houses. They had created the recognisable 'other', but had, at the same time, avoided monumentality and thus ensured, at least formally, a more or less balanced relationship between the temple and adjacent buildings.

The formal and functional differences between the buildings and the activities carried out in the area were obviously no reason to segregate these facilities. On the contrary, integration, not segregation was the formal principle according to which the spatial design of Khafajah had been organised.

How did the spatial design develop – and who were the builders?

Whether the urban plan was the outcome of careful planning by an institution responsible for the spatial design, or whether the placement of the temples amidst the domestic housing had been part of the organic growth and development of the district, is still an open question. So too is the search for the builders: were they local residents, a planning collective of local users or the local elite of Khafajah? An unequivocal answer cannot be found. However, the location, the dimensions of the buildings and the resources necessary for their construction would not rule out the possibility that the local inhabitants were responsible.

The question follows: who were the users ?

The integration of both cultic buildings into the surrounding houses and thus into the world of daily life occurred hand in hand with the lack of any visible restrictions on the accessibility of the buildings. The easy control of visitors by having only one entrance per building has been mentioned. The only additional restriction that tradition obviously demanded was to prevent the core area of a religious building from being directly visible from the outside. Users thus had to enter each building through a small anteroom, and reached the main room through the long side of the building, turned to the left or to the right and only then faced the short side of the shrine or worship space where the altar was located. Apart from this formal distinction no further visible measures were taken to create a distance between the worldly and the cultic sphere. What remains to be clarified is the way of lighting the shrines and the question of whether the transition from daylight to dark was another measure to make the difference between the worldly world and the world of the gods 'visible'.

The system of spatial design visible in Khafajah at that time and in this district, the integrated placement of the cult buildings into the living area, the fact that no visible measures seemed necessary to fence off divergent functions and that access to the buildings was easy, should be supporting arguments for the suggestion, that among those who used the buildings, were those who lived in the precinct. That, as in every culture, the presence of so-called 'hidden bans' might nevertheless have deterred people from entering the holy places cannot, of course, be ruled out.

A break with the known – and the creation of the New

The construction principle of a balanced relationship between buildings of divergent functions came to an end and was replaced by a diametrically opposed *modus operandi* when it came to the foundation of the so-called Temple Oval (corresponding with the building activities in layer VIII in the Sin Temple) (Delougaz, 1940). We see for the first time at Khafajah that the builders of a temple complex did not respect the existing spatial order but implemented a radical break with the local building tradition. To prepare the foundations for the new, and for the first time, monumental complex, those responsible for the building activities removed existing domestic housing, scooped out a foundation pit of 50 m to 60 m, filled it with clean sand and then began to erect the monumental new structure. The building effort invested was unique in the history of Khafajah as was the form and building type created on the site. The new edifice consisted of a solid brick terrace built in the southeastern part of the oval

enclosure, originally with a structure on top of it. The enclosure wall surrounding the terrace was about 2.50 m wide. Rooms lined the inner side of the enclosure on three sides (Figure 9.4). This inner unit was surrounded by a second enclosure wall, built in an even more monumental style and about 4.50 m wide. Between the inner and outer circle, in the northern edge of the complex the builders placed a courtyard house. The enclosures were each accessible through one narrow entrance. Size and form, the location and the construction effort and cost of this new building complex had no predecessor in Khafajah, where the building was unique and stood out in all aspects among all the buildings in its neighbourhood, the 'living houses' as well as the 'temples'.

The functional designation for the New

The stated formal criteria and the enormous resource investment that had been necessary to realise the 'Oval building' led first to its designation as a public building. Its designation beyond that as 'temple' is based on the evaluation of several parameters. Texts, that explicitly support the Oval's function as temple-complex, are not available from Khafajah itself. However, instead of texts the excavators had human statuettes at their disposal to further support the designation of the Oval as a place for religious acti-

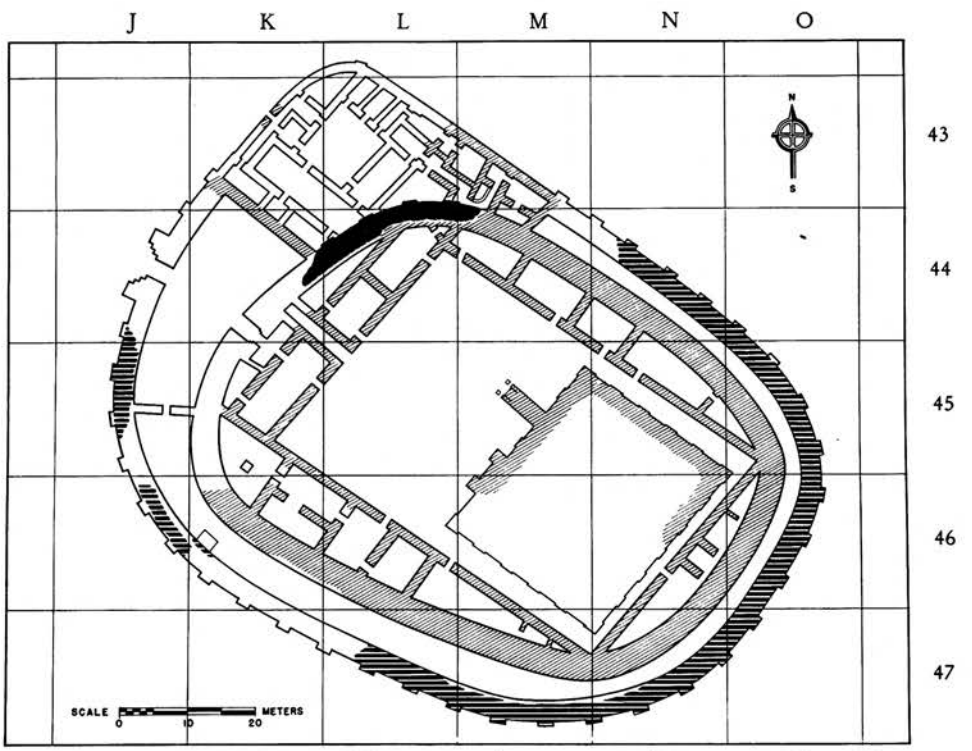

Abb. 167 Tempeloval in Tutub (Ḫafāǧi). Grundriß des zweiten Zustandes, Ergänzungsversuch. M. 1:800. — *Aus Delougaz, OIP 53 (1940) Abb. 102*

Figure 9.4 Temple Oval Khafaje phase 2 (Heinrich 1982a: abb. 166–167)

vities. These statuettes, found inside the precinct of the Oval, are formally comparable to those known from the contemporaneous and neighbouring Sin Temple, where they have been identified, by their inscriptions, as votives for the gods. Another aspect considered by the excavators when determining the functions of the Oval was the existence of the brick-built terrace and the structure built on top of this solid foundation. The building history of Mesopotamia has shown that, as a rule, only religious buildings were raised in the way found in Khafajah. The uniqueness of the building plan, the effort needed to build it, the terrace and the artefacts are thus the supporting parameters for the functional interpretation of the Oval as the 'Temple Oval'. This labelling of the Oval as religious does not exclude its further assignment as a centre for economic activities. The analysis of the Oval's inventories and installations (Pollock 1999) has shown that, besides the cultic activities, handicraft, trade and administration had taken place within it. As the written sources of the time reveal, this combination of temple and economic enterprise became the rule at least from this time and during this period of the Sumerian world.

Conflicting signals sent by the space design – the New – integrated into or segregated from the traditionally known?

According to its location and position, the Oval is characterised by two almost contradictory principles: it was integrated into the living area, but at the same time encircled by a double enclosure, thus invisibly shielded from the surrounding area and emphatically walled off from its neighbourhood. It was close to the people and at the same time obviously separate from them. The spatial closeness to the inhabitants was obviously desired and yet it seemed that not only was heavy protection of the inner area of the building essential, but also access could be strictly controlled as there was only one narrow entrance. The huge enclosure announced the great power of the builders and could, at the same time, have been read as undeniable evidence of a threat. This aspect might be strengthened by the design of the access: only one gate allowed entrance into the Oval and this gate was notably small and was built almost like a fortress gate in the second building phase (Delougaz 1940). Control of those entering the Oval was thus easy and possible at any time. Physically, the Oval was thus close to the older 'traditional' parts of the settlement, including proximity to the older temples, and at the same time the new design separated it from any connection with the 'Old' and with the local past. While the position of the Oval thus seemed to integrate the building into the community's needs, its design, the result of careful planning, sent the opposite signals.

The New – why necessary, and who accepted responsibility for this building enterprise?

The visible break with tradition in spatial design and architectural form leads us to question why the change was necessary as well as to a consideration of who the people responsible for the new development were.

Being able to break the rules and to change traditions and, even more, to do this in public and make it visible means potentially two things: in Khafajah an interest group had come to power that had had no benefit from the former ruling order and had at the same time the means at hand to change the situation, to introduce a new design

and new building principles and thus to manifest their new order. Those responsible for the 'New' thus had the power to control the human and material resources in Khafajah necessary to dismantle the old buildings, to deconstruct aspects of the materialised, visible former ruling order and to build the New, in this case the Oval. That a powerful elite was responsible for the break with the rules seems unquestionable – but who exactly the builders, that is to say the clients who initiated the construction were, is less clear. Whether they were a local elite, competing for power, who had seen their chance, or actors coming from 'another' cultural context cannot be determined yet. The same applies to the explanation of where the new building form had come from.[1]

The heterogeneity and ambivalence of the signs sent by the formal features of the Temple Oval reflect the needs and intentions of their builders and would have supplied the building with an arcane aura that certainly increased the significance of the Oval.

The ambivalent information given by the figurative language of the Oval makes it more difficult to find a clear answer to the question 'who were the users of this monumental complex?' They may be inhabitants living in the immediate neighbourhood, perhaps, or exclusive circles, gaining access only after they had passed an inspection, as possibly suggested by the massive demarcation and the narrowing of the access. Again, the question remains open: how important was public architecture for the population, what did it mean for the local inhabitants of Khafajah and what functional, ideological and psychological relevance did it have for those living in its immediate surroundings?

UR: CENTRE OF THE 'SUMERIAN RENAISSANCE'(?)

At the very end of the development summed up here as the Sumerian world, this 'world' experienced a renaissance, an active recollection of aspects of the culture that had been handed down by the societies of Southern and Middle Mesopotamia for about a thousand years, but had experienced a sharp interruption when the 'Akkadians' took over political power in Mesopotamia (2317–2191 BC): this power, whose representatives spoke another language, worshipped other gods and covered the land with a very different social and political order. Shortly after this political system collapsed, Ur, a neighbour of Uruk where the first insights into the Sumerian world had been possible more than thousand years before, became the last centre of this 'Sumerian world' (2112–2006 BC).

Ur – and its beginnings at the end of the 'Sumerian world'

The development of architecture and spatial design in Ur at the end of the period that we call Sumerian was characterised by the creation of the New (Figure 9.5). The New developed continuously throughout the rule of all the kings of the local dynasty, the so-called third dynasty of Ur. Unlike the situation at Uruk and Khafajah, the architectural development of Ur was not interrupted by severe changes or breaks (Heinrich 1982a, b; Woolley 1974). The building activities resulted in a common building programme. However, it did not lead to a homogenous layout of public architecture or the formation of standardised building types. On the contrary, every building seems to have been built individually according to the needs of its builder, users and functions. Together, the kings of Ur created a new centre for religious and

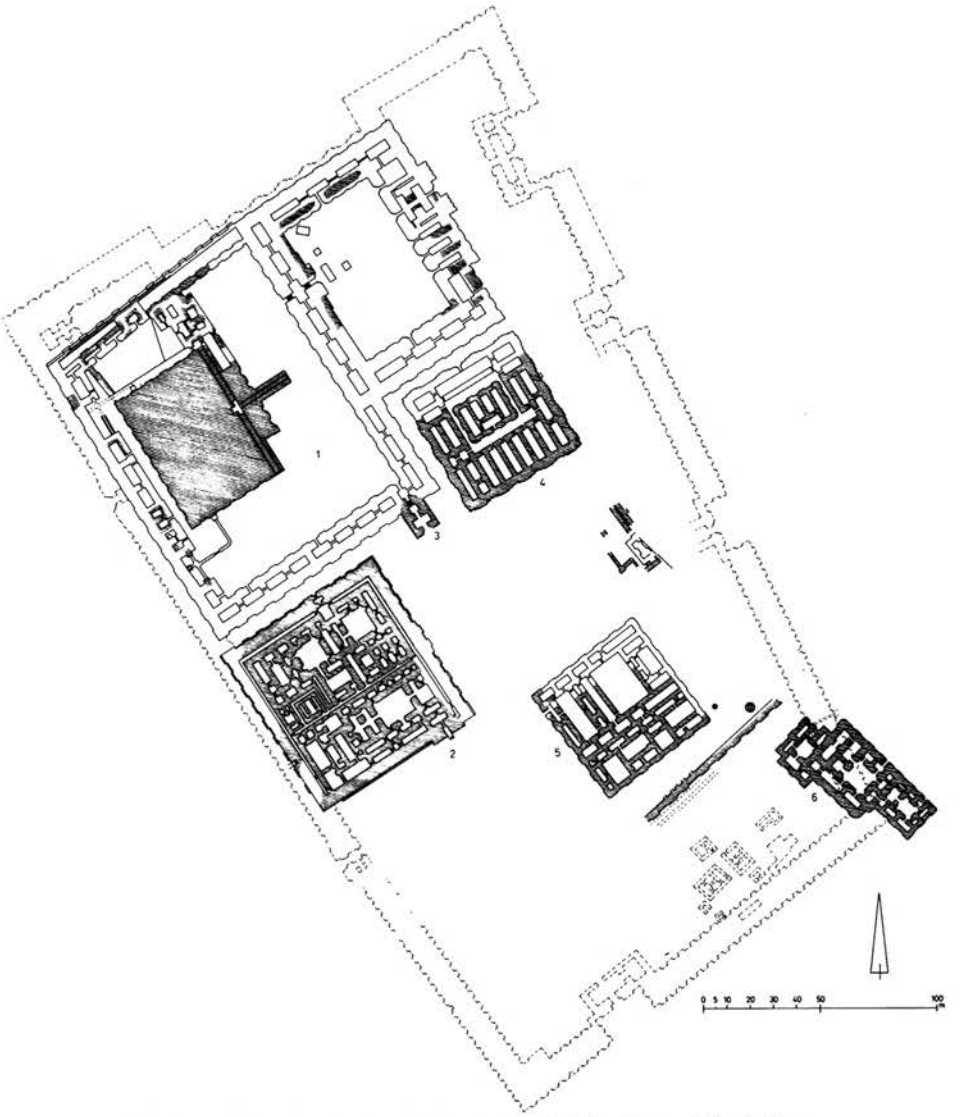

Abb. 221 Ziqqurrat in Ur und ihre Umgebung. Plan. M. 1:2000. — *Nach Woolley, UE 7 (1976) Taf. 117 (frei benutzt)*

Figure 9.5 The ziggurat at Ur and its surroundings (after Heinrich 1982a: abb. 221)

public–political activities, equipped with public buildings of which some, such as the ziggurat of Ur, reached previously unknown dimensions.

Ur – texts and the identifying of public buildings and their builders

Unlike the conditions in Uruk and Khafajah the finds from Ur make it relatively easily to name the relevant 'public buildings' and to identify the relevant local king as the builder in charge. In Ur at the time, the local elite considered it necessary and desirable

to fix, on the one hand, their own names as the builders of the public buildings and structures (Sallaberger 1999). On the other hand, they provided the public buildings with their own names. In some cases these names allow us to speculate about the activities carried out in them and to propose the function of the building.

According to the texts, the elite of Ur can be called builders of monumental buildings, be it buildings with religious or more worldly functions. These buildings can be identified as public buildings due to precisely this circumstance: an elite, exercising power in secular and religious affairs (not the priests!), acted as builders and did so as representatives of the community. In addition, it shows that this elite controlled the resources that were necessary for these monumental projects.

Space design and building order: was any sign of a past visible or did the present present the New?

All buildings forming the public precinct of Ur, which was placed in the central northern area of the city, were new building-types, including the new type of ziggurat (while the ziggurat as a type of building dates back to the ED at both Kish and Ur) and did not refer to a local (or other) tradition, were thus not rooted in a building tradition of the immediate or distant past. The political development, a break with the past and the beginning of the New was seemingly reflected in the architectural development of Ur. Regardless of this rejection of any visible links to the past, the written heritage of the kings of the third dynasty of Ur coined their image as those who had re-established the norms and values of the Sumerian world – resurrecting the Sumerian language and literature – and thus recreating the 'golden past' prior to the Akkadian 'intermezzo'.

What did the builders build?

The mightiest building of the new precinct, the ziggurat, flanked by two vast courtyards and a large double enclosure wall was founded on behalf of Urnammu, the founder of the third dynasty of Ur. Bricks built into the walls of the inner courtyard, in which the ziggurat was the dominant feature, were inscribed with the Sumerian name *e-temen-ni-gur-ru* (house: the foundation carries shiver) (George 1993). The ziggurat as the mightiest building of the precinct was dedicated to the mightiest religious power of the city, according to the textual tradition the city- and moon god Nanna. A gate named *e-dub-lal-mah* ('House, exalted door – socket') (ibid.) was located at the southeastern corner of that enclosure and served, according to the textual evidence, as the local law court. Northeast of the gate was the *ga-nun-mah*, meaning 'House, exalted storehouse' (ibid.). According to its name it had functioned as a great magazine and its layout, characterised by two rows of large rooms laid out parallel to each other, does not contradict this interpretation. The 'Giparu'-House (ibid.), located southwest of the gate, a structure of large wings connected by courtyards, was used, according to the inscriptions, as the 'temple of the high-priestess (*entu*) of Nanna-Suen at Ur' (ibid.). The function of the *ki-sal-gu-en,* the court of the assembly, called *e-hur-sag* by Woolley (Mittermayer, 2009), is not yet clear. It may have been used as a temple as well or possibly as a palace. The textual evidence does not really settle this open question and the building itself, with its interior design of courtyards and rooms, as well as its location, allows both interpretations.

The public precinct was separated from the surrounding neighbourhood by a boundary wall about 4 m in width. The wall has survived for only about 80 m. Nevertheless its course excludes the tombs of the kings from the official and public precinct of Ur at the time.

The builders and their needs

The building types and functions and the arrangement and location of the public architecture in Ur illustrates the demands and needs of the new political power. As the inscriptions show, the precinct united several dissimilar 'public functions'. It was a venue for cultic activities, for storage, for the court, for public administration and royal representation. Every building was designed individually, every function given its specific formal expression. Uniqueness, not conformity, singular forms, not repetition and standardisation were the design principles and requirements followed by those responsible for the building activities at the time. All buildings had their corners oriented to the cardinal points, thus being a result of obviously careful planning.

The builders have been identified – the question remains: who were the users?

The textual and architectural evidence from Ur identified the builders responsible for the public area and clarified the functions of the precinct. The texts do not tell us about the users of the precinct and the examples of Uruk and Khafajah have shown how difficult it is to identify the groups of users solely on the basis of physical evidence. Uruk and Khafajah have, however, also shown that analysis of the location, size and designs of the buildings, and of their accessibility, may inform us about the potential of the public architecture to serve as meeting spaces for large crowds as well as the ability of those in charge to control the coming and going of the people. These features in turn may contain at least vague suggestions concerning the way the buildings were used and who the user groups of the public precinct of Ur were.

Entrance design, accessibility of buildings, measures of access control considered necessary

As in Uruk and Khafajah, the precinct of public buildings in Ur were visibly fenced off from their surroundings and segregated from the sphere of everyday life. The boundary wall of about 4 m wide suggests that the main concern of the builders had not been the integration of the public precinct into the daily business of the inhabitants of Ur.

Access to the ziggurat precinct (*e-temen-ni-gur-ru)*, itself a spacious area able to allow large crowds of people to assemble, was heavily protected by the above mentioned 'Zingel'. This could only be crossed after the visitors had passed two main gate buildings. These gates were characterised by a remarkable formal contrast, which was at the same time functionally logical. While the actual gatehouses were monumental, the passages were strikingly narrow and therefore easy to control. The inestimable representation of power and the visible power to control access, and thus the visitors entering the holy precinct, merged in this construction. It cannot be excluded that the effect (if not the intention) of this visible consolidation of access to the holy precinct was to scare off the public or at least to raise awareness of the powerful forces connected with the building. One more solution for reaching the same end, securing protection

and control and at the same time establishing visibility was found for the temple of the high priestess (*Giparu*). A prodigious enclosure wall formed the outer facade of the building. Two entrances allowed access to the complex, both of which could allow secure maximum control of those entering the building or moving inside the huge edifice. Only after changing direction several times and passing entrance rooms and anterooms did the visitor reach the building's interior. Great diligence had thus been exercised to safeguard the interior of the building from the gaze of passersby. Easy control and at the same time difficult access into the building was the principle which the design of both approaches followed.

The building details of the ziggurat area (*e-temen-ni-gur-ru*) as well as of the temple of the high priestess (*Giparu*) of Ur illustrate the obvious demand of its builders and the function of the buildings to ensure controlled access, to hide the interior from the view of passersby, and to hinder immediate access to the centre of the building. The public precinct and the religious architecture of Ur thus had to meet quite conflicting demands – the request of the clients that the buildings be visible from a distance, thus known to the public and acting as a landmark, and at the same time to hinder uncontrolled access – by this public? – to the area.

The need to be present and immense and at the same time controlled and protected also characterises the design of the great magazine (*ga-nun-mah*), built with and thus surrounded by a broad external wall. The entrance nevertheless had been designed differently from the ziggurat area and the temple of the high priestess. The structure was equipped with only one (supposed) way in. This single front door was easy to control, but allowed nevertheless more or less direct access to the interior. After stepping into the entrance corridor the visitor turned to the left or to the right and was immediately in the centre of the building.

The concept of accessibility developed for the great magazine, the degree of separating the inside from the outside and thus the comparatively minor effort necessary when entering the building, is found again with the entrance design of the possible palace(?), the *kisal-gu-en*. For this building, the excavators reconstructed only one door close to its northwestern corner. This entrance was not monumental nor was the passageway through the entrance narrowed or made deliberately complex, as seen with the entrance of the ziggurat and the 'temple of the high-priestess'. The visitor entered the building through a small anteroom, changed direction once and stepped straight into the building's interior. Neither did the building have a thick outer enclosure wall nor was a special effort made to protect it. This was not thought necessary by those who planned and used this building.

Looking back to the question: who were the users? Or: what do the access control measures reveal in this regard?

It appears that access to the ziggurat courtyard and the *Giparu* of the high priestess, thus to the religious buildings, was impeded with more 'obstructions' than access to the worldly buildings, the palace and magazine. This seems to hint at the different vulnerability of religious and worldly buildings in respect of their functions. Whether comprehensive control measures and restrictions in the former indicate more restricted access in terms of the number and especially the background of the users remains, again, an open question.

THE PUBLIC ARCHITECTURE OF THE SUMERIAN WORLD – A RESUMÉ

The so-called renaissance of the Sumerian world in the Ur III period did not result in re-establishing forms of public buildings known from the pre-Akkadian past. This is not really surprising, since no homogeneous tradition of public architecture had developed throughout the period and geographical breadth of the so-called 'Sumerian world'. This means that an interregional tradition of a common language, a common script, a revival of the Sumerian literature and a roughly comparable common religious system, kept through the ages, did not express itself at the same time in a common building tradition. Although the Uruk powerholders 'exported' their local building types into the occupied territories along the Euphrates, these building types vanished when the power situation in Uruk changed and the old system collapsed at the end of the Uruk period. The kings of Ur also used architecture as a symbol of their power throughout their empire when erecting ziggurats in the most important cities of their empire – thus beginning the New, not the carrying on of a well-known tradition. The design of public architecture in the Sumerian world very strongly followed the needs of local interest groups. And where the representatives of, or the power relations within, those interest groups changed, their architectural expression changed too. Tradition or an assumed common past did not count for (most of) the builders of public architecture in the Sumerian world. The concrete realisation of the construction projects thus followed chiefly local demands and orders.

The underlying principles, however, by which the spatial design and the creation of a public architecture had been achieved, followed the opposite strategy and revealed several common features, independent of time and space. The principle of segregating the buildings and thus creating visibly separate precincts within the cities strove for the seemingly contradictory goal of being seen and recognised. Thus to be perceived, a substantial need for representation of the political had been achieved not by integration but by being walled off. The representational needs required to be seen, at the same time the architectural landmarks of the ruling order needed protection and secure control. Both aims were again reached by the visible separation of the public precincts from the communal surrounding. Being thus in and out at the same time created furthermore the aura of a 'visible but unknown' sphere of the life of the elites, which in return potentially intensified the impact of the 'hidden monumentality' as a stabilising force. The measures thus taken by the elites to make their self- and worldview visible followed the same principles throughout the Sumerian world, but, as illustrated above, at the same time, each building was realised according to the needs and demands of the respective builders.

AND FINALLY, LOOKING BACK TO THE BEGINNING

Several questions concerning today's knowledge about what methodological and theoretical possibilities exist to gain insights into the 'world of public buildings' were asked at the beginning of this chapter. A short reflection on the outcomes will conclude this contribution.

An answer to the question how can public buildings be recognised by archaeological research is neither clear nor simple. Monumentality, space design, localisation and thus

the effort invested in buildings are the materialised expression of resource availability and control. Control of space, control of manpower and availability of building materials indicate powerful builders. According to the texts available from the third millennium BC onwards, the kings controlled these relevant resources. A king is a 'public person' and as such he built 'public buildings', serving to represent the ruling power and demonstrating the economic ability of the community, this in turn was presented as the result of a good reign.

If archaeological research, however, takes the aspect of monumentality and the additional features discussed as fundamental parameters for identifying public buildings, it is at risk of overlooking those buildings that formally do not stand out from the building stock of a city, that have not been segregated, but integrated into the built environment of a village, town or city but do, nevertheless, serve public functions – as shown with the Small Temple in Khafajah. The heterogeneity, which is behind the phenomenon of 'public buildings', makes it difficult to answer the question of how archaeology recognises public buildings, but at the same time opens up a pioneering area of research.

To seek out which is a palace or a temple among the public buildings in the Sumerian world also seems unlikely to lead to definitive answers, regardless of whether we support our arguments with material evidence or by consulting texts, as was the case in Ur. The problem of the lack of clarity could be due to the fact that we are looking for a functional exclusivity that never existed in this form. To assume 'multi-functionality' as a starting point for future research might provide new solutions.

Who where the builders and who where the 'users' of public buildings – and how could we possibly find answers? The builders – and their intentions – have been more or less explicitly identified when it comes to the monumental architecture. Unlimited access to the resources of a community is the prerequisite for the implementation of appropriate construction projects –and this access is limited to the local elites, a scenario, that furthermore partly answers one of our opening questions addressing the communal order and the political organization of communities that need public buildings. That there might have been a basic change in the elites responsible for the spatial design and layout of public areas and architecture – in brief, the priests or the kings – has been hinted at in Uruk.

To deduce from formal aspects, especially of the access to public buildings, the circle of those who might have been allowed into the buildings or kept outside led to no solution. The variety of references to potentially 'open access' and 'easy to reach', buildings and public areas of towns and cities, versus 'closed' and 'segregated' was instead very informative concerning the control options each entrance design potentially offered and each function seemingly needed.

The insight offered above into the Sumerian world's public architecture does not intend to give an overview of the built environment throughout the so-called Sumerian world nor does it strive for a detailed comparison of the architectural evidence from this Sumerian world. Rather, the intention was to hint, on the one hand, at the seemingly contradictory circumstances of locally materialised solutions for the representational demands of the elites and the underlying general principles of building and space design, regardless of time and space; and, on the other hand, hinting at the existing dichotomy between interregional shared spiritual and ideological traits and the local expressions of the built cultural features visible in each example shown.

NOTE

1 Roughly at the same time the new building forms, the oval occurs at al Hiba and at al Ubaid – a coincidence, which, however, does not answer our question of where the new architectural form originated. The question, how the New – in general – originates and thus where the New comes from, is part of the ongoing research of the author.

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CHAPTER TEN

KINGS AND QUEENS: REPRESENTATION AND REALITY

Claudia E. Suter

> No other kind of relic or text from the past can offer such a direct testimony about the world which surrounded other people at other times. In this respect images are more precise and richer than literature.
>
> (John Berger)

> Reality is merely an illusion, albeit a very persistent one.
>
> (Albert Einstein)

Royal representation arose in Mesopotamia with the growth of urban centres and the crystallisation of the state at the end of the fourth millennium BC. In hierarchic societies, the ruling authorities tend to affirm their claim to power on a symbolic level. Thus in the Late Uruk period, we encounter the first monumental architecture, up to life-size statuary, stelae and other objects carved in stone with narrative scenes, and with them the formation of royal representation that persisted beyond the Sumerian world. This chapter focuses on early Mesopotamian royal images with narrative contexts. It explores their message against the socio-historical context in which they were created with the aim of elucidating what they tell us about royal ideology in addition to texts and other archaeological findings.

KINGS AND QUEENS

Royal propaganda promoted the view that kingship was the very basis of civilisation and that it was sacred (Sallaberger 2002; Michalowski 2008). It descended from heaven. Chosen by the gods, the king was their representative on earth. He formed the link between mundane and transcendent worlds. His responsibilities included feeding the gods, establishing justice, and prevailing over wilderness and foreign enemies. In return, the gods granted him a long rule and prosperity for his people. As provider and protector, the king was a paragon of manliness, and through his link with the divine world he was god-like. In contrast to Egypt, explicit self-deification with a royal cult was confined to two short periods during which Mesopotamia was united under kings of Akkad and of the Third Dynasty of Ur.

Kings were men. The only female king in the Sumerian Kinglist, Ku-Baba of Kish, is characterised as a brothel keeper (ETCSL 2.1.1, ll.224–231), obviously a mockery that

not only belittled the power-hungry "kings of Kish", but also bespeaks the attitude towards women in the male-dominated early Mesopotamian establishment. From their inception, inscriptions on dedicatory objects and seals identify women through their husband or father. Stereotypical gender roles existed at least since the mid-third millennium BC: in a birth incantation from Fara, the great midwife brings the girl to the world with a spindle and needle(?) and the boy with two types of weapons (Krebernik 1984: 36–47). These symbols of femininity and masculinity were not only used in magic rituals, but are also attested in literature and to some degree in grave goods: men were given weapons, women jewellery.[1] They related men to the public and women to the domestic sphere, a division still propagated by twentieth-century dictators.

Although queens and princesses were not excluded from the public sphere, they are less visible in the surviving monuments than kings and non-existent in royal inscriptions and hymns. The fact that they figure as heads of estates in administrative texts should not seduce us into concluding that the organisation of the state "was the product of a strategy implemented by men and women in which women at the highest levels of society were on a par with their male counterparts" (Wright 2008: 272). Tonia Sharlach (2007) rightly questions whether Shulgi-simti's archive, for example, was a woman's archive when men wrote the tablets and men ran the livestock foundation. This queen's estate was more likely an institution tied to her official role as one of Shulgi's wives than a reflection of her personal choices or her individual piety. The rationale behind economic units nominally headed by royal women was doubtlessly to expand the crown's control over the economy.

Royal women formed part of the elite. Accordingly a man could, in exceptional cases, be identified through his affiliation with a royal woman rather than through his father (Weiershäuser 2008: 274). Elite status, however, should not be confounded with direct political influence. Even if royal women had power behind the throne, they remained subservient to the establishment. Thus Enheduana prayed for her nephew Naramsin in order to regain her office of Nanna's high priestess in Ur, from which she had been chased away by the rebelling local governor.[2] The polygamy of kings attested since Shulgi, and possibly in existence before that (Weiershäuser 2008: 271), must have diminished the role of queens, whose principal task was to produce royal heirs. Princesses were married off to high functionaries of the government, major gods of the realm or rulers of peripheral regions. All these marriages were driven by political motives in the service of the establishment (Michalowski 2003). This is particularly obvious in name changes of some princesses when they were betrothed to foreign rulers, turning them into signs of power and prestige (Michalowski 2010).

REPRESENTATION AND REALITY

In a recent study on Cyrus the Great of Persia, Amélie Kuhrt (2007) revealed the discrepancy between this king's image and reality: rather than the liberator, the wise and tolerant statesman which he stylised himself as and which continues to dupe his audience today, he actually treated his enemies in much the same way as his imperial predecessors and successors. For the more distant early Mesopotamian kings and queens, it is harder to distinguish between representation and reality. The remnants that have survived of this remote time are utterly fragmentary. Neither history writing

nor philosophical debate were yet born. Textual sources tend to leave commonly shared knowledge unexplained (Civil 1980). Late Uruk period tablets are almost entirely confined to administrative transactions and the royal inscriptions and literary compositions that start increasing from the later Early Dynastic period onwards were issued by the establishment, as were the visual images. Whether in text or in image, what we have is largely the self-representation of the elite aimed at asserting their authority.

Although it is tempting to use every bit of information, caution is needed. Due to the accidental nature of retrieval, it is often hard to tell whether our sources are representative of actual circumstances and there is a danger of drawing conclusions on evidence that is not. Based on the surviving monuments of the Third Dynasty of Ur, for example, we could easily assume that these kings, in contrast to the preceding kings of Akkad, chose to represent themselves as temple builders only; yet copies of inscriptions inform us of now lost victory monuments. Moreover, the recording of royal deeds for eternal remembrance had an agenda other than history writing. A good example is the choice and ranking of events for naming years in the Ur III period: donations to the gods were prioritised over investitures of priests, while military victories ranked below cultic events (Sallaberger 1999: 164); or consider that royal inscriptions and hymns describe kings' relations with goddesses, yet never mention queens.

Our sources are generally not representative of power structures, not even in the Ur III period when we have an abundance of textual sources of various kinds. This is particularly true of royal hymns, which had a restricted audience in their own time and professed a static, timeless ideal of kingship and stability of rule (Michalowski 2004). Even as a source for royal ideology they are not entirely reliable, since they are largely preserved in Old Babylonian school texts, telling us more about what teachers wanted their students to learn at that time rather than what was actually composed and performed in Ur III times. The situation for the kings of Akkad is still worse, with the few contemporary texts and many legends put in writing in much later times. In reality, the kings' control over their realm, whether it was a city-state or a united Mesopotamia, fluctuated and while royal accounts make us believe that kings were omnipotent, administrative texts inform us of families who held high offices over generations and must have co-determined politics.

Only exceptionally and with a lot of wit can we see through the meshes of power and detect cases of veiled critique. In a perceptive analysis of the pertinent texts, Piotr Michalowski (2003) succeeded in exposing the legendary king Enmebaragesi as a fictional character: he who was blamed for the fall of the proto-Elamite civilisation, celebrated as author of the first royal inscriptions and identified as an example of a female king, actually entered history as part of a complex critique of contemporary politics, local chauvinism, and sexual symbolism. In a ruse, Gilgamesh, legendary king of Uruk and claimed brother of Ur III kings, offers Huwawa, mythical guardian of the Cedar Forest and paragon of – from a Mesopotamian perspective – "uncivilized" mountain inhabitants, his two sisters in marriage: one Peshtur, whose name is homophonous with an Ur III princess and may have hidden a sexual joke; the other with a name that combines a title of kings and high priestesses and first element in office names of high priestesses (En) with the name of an early king of Kish (Mebaragesi), whom Gilgamesh allegedly defeated. A less dramatic example is the resistance of the scribes of Umma against Šu-Suen's attempt to eradicate the memory of his predecessor: they continued offerings to the latter, omitted the divinity determinative in around

10 per cent of Šu-Suen's date formulae and curtailed the use of personal names including Šu-Suen as a theophoric element (Waetzoldt 2008).

MEDIA AND MESSAGE

In every communication, the circumstances – source, channel of transmission, receiver – are vital for understanding the message (Suter 2000). There are diverse channels that transmit visual images of kings and queens: statues, stelae, door plaques, cult vessels and implements, foundation figurines, rock reliefs and cylinder seals. From the later Early Dynastic period on, all these image carriers can bear inscriptions that help us determine their function and purpose. Most of them were objects set up in a temple and dedicated to a deity with a wish for the long life of the donor and, sometimes, also of the reigning king (Braun-Holzinger 1991). Dedicatory objects, especially royal statues, were ritually consecrated and could receive offerings (Winter 1992; Selz 1997). Unlike these objects on display, figurines with inscriptions recording who built a temple and for which deity, were buried in the temple's foundation (Rashid 1983). Reliefs carved onto mountains at the periphery of Mesopotamia celebrate military victories (Börker-Klähn 1982). Cylinder seals bear owner inscriptions that may identify the seal owner, in addition to his or her name, by filiation and/or profession and, sometimes, also specify his or her relation to the reigning king or other superior (Collon 1987); they guaranteed identification and authentication in transactions of state administration and expressed legitimacy and authority in social hierarchy.

While foundation figurines are cast in metal, most dedicatory objects and cylinder seals that have survived the tooth of time are carved in stone. In contrast to metal, which can easily be melted for reuse, stone is harder to destroy. In the long inscription of his Statue B (ll. 7: 49–54), Gudea points out that he had this image made of diorite rather than metal so that nobody could rework it; indeed, no other early Mesopotamian ruler has left us as many statues as Gudea. Texts and single finds, such as the life-size bronze head from Nineveh, inform us that statues of Akkad and Ur III kings could at least partially consist of metal, with some cases already known from the Early Dynastic period (Braun-Holzinger 1991: 232–234). Both materials were precious in Mesopotamia: metal was imported from Anatolia or Iran and, while limestone existed in northern Mesopotamia, most other stones were imported from farther away (Moorey 1994). The kings of Akkad, for example, imported diorite from Oman for the manufacture of life-size statues and stelae and the fact that they mention this specifically in their inscriptions confirms the value that was attributed to the material. Royal seals were often made of semi-precious stones imported from distant lands as, for example, lapis lazuli from Afghanistan.

Foundation figurines, stelae and rock reliefs were reserved for royal deeds, other dedicatory objects – statues, door plaques, cult vessels and implements – could also be donated by other members of the elite, while cylinder seals were available to a wider circle of the urban society. The artisans who sculpted the various objects remain anonymous and can be excluded as source of the messages that the carved images transmitted, since they worked as skilled labour in the service of the elite.

It is generally assumed that the donor in the case of dedicatory objects or the owner in the case of seals were the patrons who commissioned them. Although this may be so in many cases, it is by no means the rule. Inscriptions on Ur III seals of high func-

tionaries and royal wives state that the king gave the seal to his subordinate or wife (Mayr and Owen 2004); the same seems to apply to seals that mention a king of Akkad (Zettler 1977). Thus the king must be regarded as the source of the message of royal gift seals, if not directly then indirectly through his advisors. While Ur III kings are depicted on seals of their subordinates, no personal seal of an Akkad or Ur III king is extant, perhaps because self-deified kings considered themselves beyond the mundane sphere.

At least from the Akkad period onwards, the king must also have been the ultimate source for images set up in temples. The circle of donors of dedicatory objects, especially statues, was more restricted under the hegemonic kings of Akkad and Ur III. While Early Dynastic donors of dedicatory objects include a large number of non-royals of diverse professions who hardly ever mention an association with a ruler, from Akkad times onwards practically all donors are either kings, are affiliated to the crown by kin, or at least include the reigning king in their wish for a long life (Braun-Holzinger 1991: 18–21). Whether the images of Early Dynastic queens and princesses were commissioned by themselves or by the crown cannot be determined with certainty, and the few Late Uruk monuments may, in the absence of inscriptions, all be royal.

Different media target different audiences. All objects dedicated to a deity address, at least in rhetoric, the gods. Aside from them, foundation figurines were primarily aimed at future kings who would rebuild a temple; stelae, statues and other dedicatory objects set up in temples at the people at home; rock reliefs at people on the periphery of the realm; while seals circulated within the administration and royal gift seals targeted the royal entourage in particular.

Different image carriers provide different conditions for depiction. While statuary is restricted to one figure, or exceptionally a pair, objects carved in relief can depict one or more scenes of several figures. Because they provide space for extensive visual narratives and long texts, stelae were ideal vehicles for royal self-representation, so much so that the Akkadian equivalent and loan of the Sumerian term for stela came to mean "memorial monument set up by a king" (CAD N/1, s.v. narû). The few rock reliefs that are known represent only one figure or a single scene, probably due to the effort it took to carve them.

Two principles of composition are crucial for understanding Mesopotamian images: the distinction between culminating and episodic scenes and the notion of core and expansion (Suter 2000: 211–225). Culminating scenes depict one group of figures at the climax of a series of events, while episodic scenes juxtapose successive episodes of a story; the former are allusive and lend themselves to symbolism, the latter are more explicit and encourage concreteness. In Erwin Panofsky's (1962) tripartite scheme of interpretation, the former require synthesising intuition on the third layer of iconological interpretation, while the latter can usually be understood with a knowledge of literary sources on the second layer of iconographical analysis. Both can be combined on the same monument. Depending on the available space, culminating scenes can be reduced to their core elements or expanded into complex scenes, to which episodic scenes can be added. The principle of core and expansion is paralleled in verbal narratives, especially royal inscriptions.

Image and text on the same monument are not one dependent on the other, but complement one another. In the case of the Eanatum Stela, for example, the inscription serves the legal case of legitimacy of Lagash's claim over Umma, while the image's

message is related to the hierarchy and power of the state (Winter 1985). Although rarely preserved as such, sculptural programmes conveyed messages beyond individual monuments: in her study of the fragmentary statues of Manishtushu of Akkad, for example, Melissa Eppihimer (2010) showed that this king's multiple, nearly identical images participated in his effort to maintain authority over the major cities of the relatively newly united Mesopotamia.

One could organise the ensuing review of royal images in various ways, by time periods, media or themes of the representation. None of these criteria have clear-cut boundaries: media and themes transcend time and themes transcend media. I have chosen to place themes above time and media.

IMAGES OF PROVIDING

The Uruk Vase depicts the cosmos of the first urban society in hierarchic order over several registers to be read from bottom to top (Figure 10.1): water as precondition of

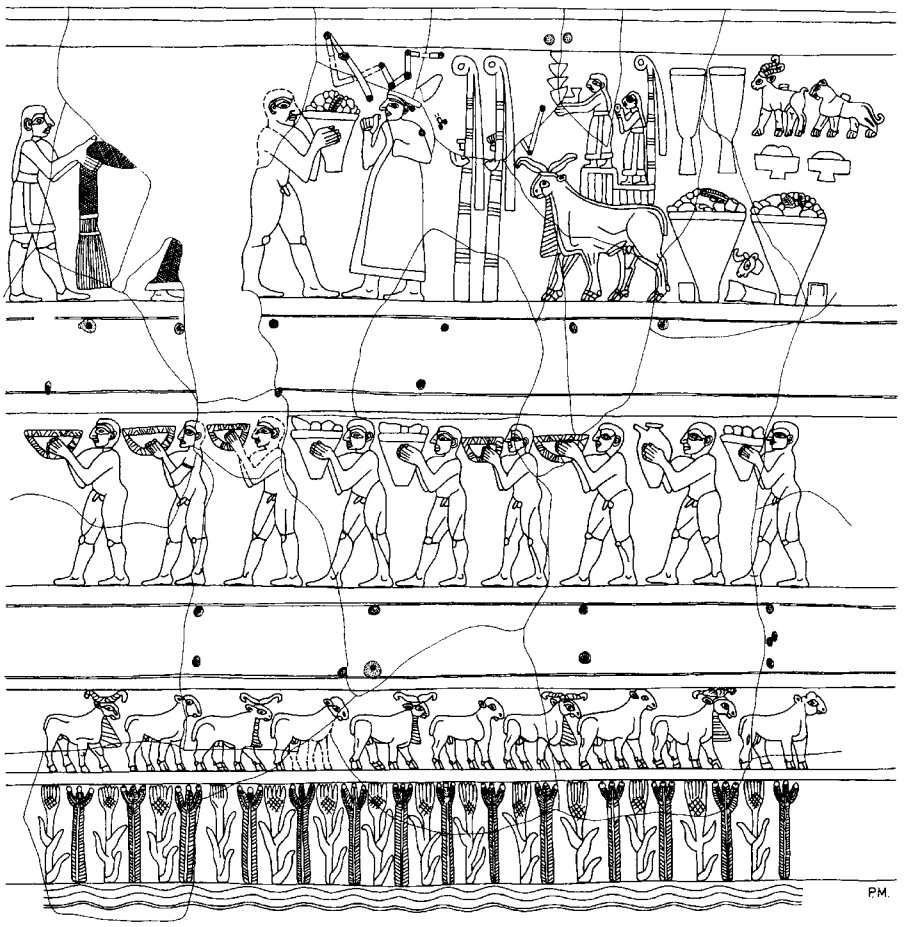

Figure 10.1 Vase from Uruk (drawing after Lindemeyer and Martin 1993: pl. 25)

the agrarian state, crop and animal husbandry, the labour force carrying the products of the economy and, in the culminating scene on the top register, the encounter of the ruler, of whom only a foot and the corner of his kilt are left, with the goddess Inana or her representative before her temple, the gateposts of which are identical with the cuneiform sign for her name.[3] The repetition of barley and flax, rams and ewes, and product-carriers can be read as a cultural rhetoric of abundance (Winter 2007). The ruler takes the surplus harvest to the temple for storage and, if we can infer from later images depicting encounters of a king with a deity, petitions for and receives divine blessings for continued prosperity. The servant following behind the ruler supports what looks like a textile, perhaps a garment, which the ruler may have offered as an additional gift to the goddess.[4]

It is generally assumed that the encounter refers to a sacred marriage between ruler and goddess. Although we lack evidence for a ritual, royal inscriptions and poems from the Early Dynastic period on allude to a marriage that was to annually re-establish the mutual obligations between people and gods and thus guarantee continued prosperity on earth (Cooper 1993).[5] The most likely occasion for a public event celebrating this marriage would have been a New Year's festival, since the beginning of the year coincided with the harvest.[6] Regardless of whether the Uruk Vase was meant to represent a sacred marriage or not, the underlying message of this most extensive visual narrative of the Late Uruk period was that prosperity depended on the ruler due to his relationship with the gods. He was the provider of his people as well as of the gods whom he fed. In addition, the allusive encounter with the female may have evoked his role as procreator.

Seals depict much abbreviated versions of this scene reduced to the two protagonists (Braun-Holzinger 2007: pls 10–11); grain sheaves in their hands and eventual storage jars leave no doubt about the context of harvest and agricultural surplus. Together with the vase, they are the only Late Uruk images in which an elite woman stands out as prominently as the ruler. Whether she was the goddess or a queen, her role was apparently confined to procreation. Further motifs on seals visualise the ruler as provider (ibid.: pls 11, 14–15): boat and land processions show him as sponsor of cult festivals, while his feeding the domesticated animals of Inana's temple with branches of rosettes, a symbol of the goddess, underline his close relationship with the goddess. His best preserved statue (ibid.: pl. 3) was apparently an icon of this latter motif: the position of arms and hands is the same, only the branches the ruler once held are now broken off.

From the Early Dynastic to the Ur III period, the ruler's role as provider centred on temple building, as recorded in endless royal inscriptions and depicted on door plaques and stelae. This was the most crucial part of maintaining the cult, since temples were the gods' abodes without which they would leave the city and withdraw their protection. Texts, such as Gudea's Cylinder Inscriptions (ETCSL 2.1.7), demonstrate that temple building was presented as a royal prerogative that required divine sanction and was rewarded with divine blessing, namely, the bestowal of a long life on the ruler and prosperity for his people (Hurowitz 1992).

The stelae of Ur-Nanshe depict the ruler before the enthroned deity for whom he built the temple, which, by analogy with the stelae of Gudea and Ur-Namma, can be understood as expressing just this message. The more detailed image on the al-Hiba Stela includes, in addition to Ur-Nanshe and his cupbearer, three male officials and, in a self-contained scene, his wife and daughter seated facing each other and holding

up a cup much like the enthroned goddess (Figure 10.2). A seated figure with a cup signified banquet (Selz 1983). According to textual sources, the inauguration of a temple, which was vital for its future use, culminated in a banquet in both the mundane and the transcendent spheres, during which the gods blessed the royal builder. A door plaque, whose inscription summarises Ur-Nanshe's construction activity on several temples, visualises construction and inauguration in two superimposed scenes (Figure 10.3): the ruler is seen carrying the basket on his head, an icon for construction work, and then seated with a cup. In either scene, he is followed by his cupbearer and faced by a group of his children.

On the stelae of Gudea and Ur-Namma, the top registers depicted culminating scenes that recapitulate the basic ideological message, while the lower registers depicted episodes of the construction and inauguration (Suter 2000: 177–234). The concrete scenes give more credibility to the ideological message on top. A similar culminating scene as on the stelae is carved on Gudea's seal (Figure 10.4). All these presentation scenes render the prosperity that the gods bestow on the ruler by streams of water issuing from overflowing vessels that the enthroned deity offers to the approaching ruler. Differences between Gudea and Ur-Namma are due to the difference between city-state ruler and king of Sumer and Akkad: while Gudea requires the intercession of his personal god for approaching the divine patron of his city-state, Ur-Namma stands directly before the divine patrons of his capital city and, with his figure repeated back to back, probably faced the chief of the Sumerian pantheon on the opposite side. The chain of authority from Enlil to city god to terrestrial ruler is well attested in literary texts.

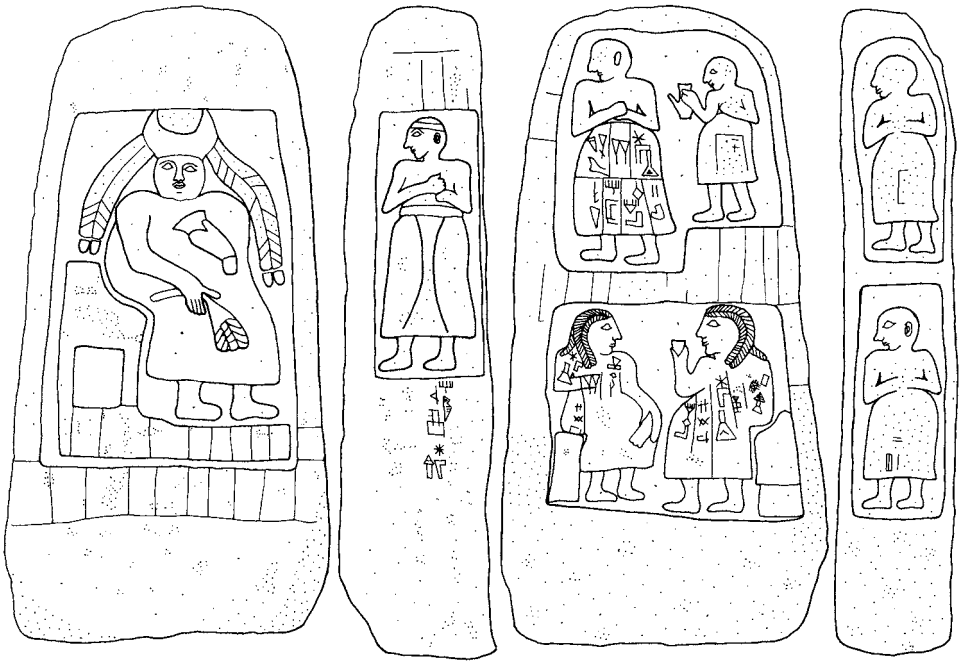

Figure 10.2 Stela of Ur-Nanshe from al-Hiba (drawing by author)

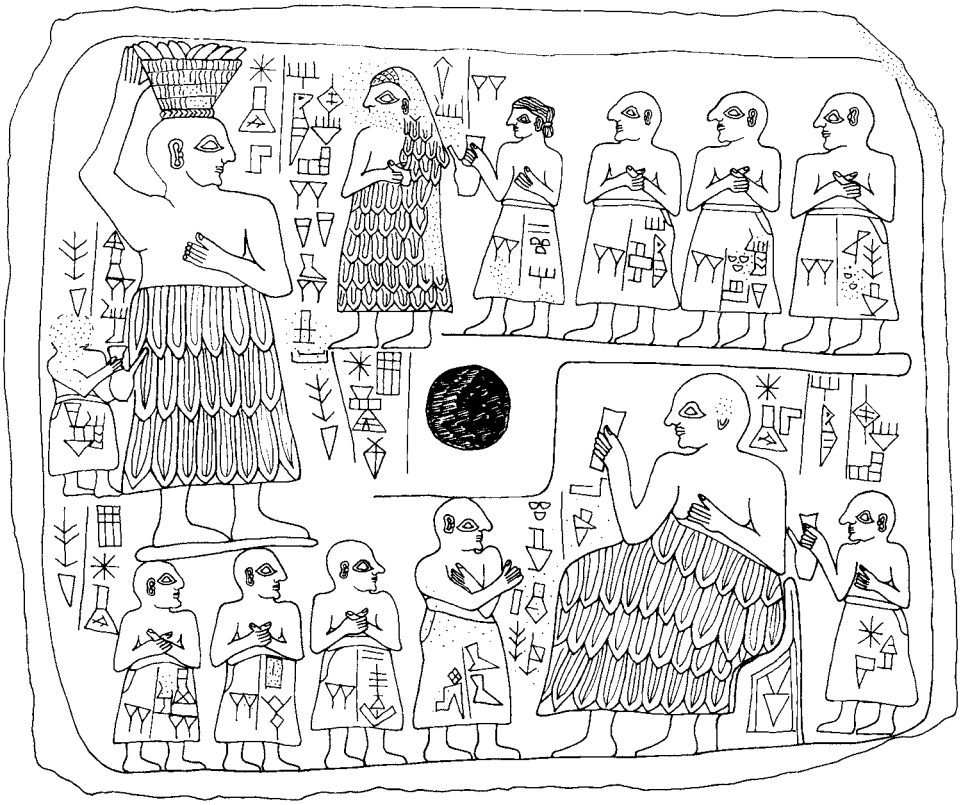

Figure 10.3 Door plaque of Ur-Nanshe from Tello (drawing by author)

Figure 10.4 Seal of Gudea from Tello (drawing after Delaporte 1920: no.T.108)

The foundation figurines in the shape of a basket carrier, which first appear under Gudea and remain standard until the Isin-Larsa period, are icons of the ruler as temple builder (Rashid 1983). In addition, the statues of Gudea that portray him drafting the plan for a temple on his lap and, in a more general way, the statue that shows him in possession of the overflowing vase, can also be linked to this theme (Suter 2000: figs. 10.4–6).

Another aspect of the king's role as provider was that of establishing justice. While Early Dynastic kings began to set legal standards, the earliest law codes date to the Ur III dynasty (Yang 1991). Like the Codex Hammurabi, they were inscribed on stelae set up in the major cities of the realm (Michalowski and Walker 1989). An anonymous stela top from Susa, attributable to a late Ur III or early Isin king, is likely to have crowned a law stela (Figure 10.5). It depicts a ruler pouring a libation before an enthroned god who extends insignia of kingship to him, thus visualising the reciprocal relationship of king and god. Since the king is invested in his office by the gods and performs his duties towards them, his authority to dispense justice is divinely sanctioned. The image of the king personally feeding the gods is also depicted on the Ur-Namma Stela (Canby 2001: pl. 10) and on Akkad and Ur III seals of high officials (for example, Collon 1982: no. 226; Suter 2010. figs. 16–17), while Early Dynastic

Figure 10.5
Stela top from Susa
(drawing by author)

libations are poured by cult personnel (e.g., Winter 1985: figs. 6, 8, 12; Figure 11.2 in this volume), and so does Gudea have a priest perform the libation (Suter 2000, pl. C).

Early Dynastic and Ur III administrative texts reveal that royal women fulfilled cultic duties (Weiershäuser 2008). Akkad to Ur III seal images depict them in worship scenes (Suter 2008). They not only follow the king into the presence of a deity, but are also seen as protagonists in the worship of goddesses and can pour libations, like kings. Since the scenes that show them as protagonists are staged in an exclusively female sphere, their occasion may have been women's cult festivals as attested in Ur III administrative texts. An anonymous Akkad-period seal of lapis lazuli from the Royal Cemetery at Ur may render two episodes of such a festival (Figure 10.6): it combines the image of a royal woman libating before a goddess with that of an audience of a group of court women with their enthroned superior, who was probably identical with the libator and the wife of the local ruler.

High priestesses could also sponsor libations, although the performance was left to cult personnel. The heavily restored, disk-shaped stone object with a dedicatory inscription of Enheduana, daughter of Sargon of Akkad and high priestess of Nanna in Ur, depicts her overseeing a libation poured probably by her male assistant, the *lagar/l* (Suter 2007: fig.1). An anonymous Early Dynastic door plaque from the Gipar at Ur (see Figure 11.2 in this volume), seat of Nanna's high priestess, depicts two superimposed libation scenes: first before the temple, then before a seated god, no doubt Nanna. The first libation is comparable to the scene on Enheduana's Disk:

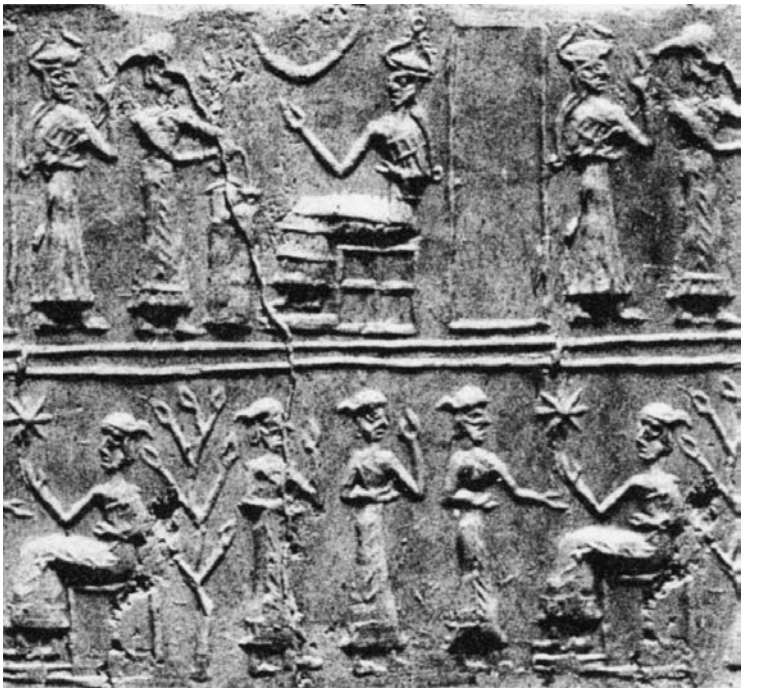

Figure 10.6 Seal from the Royal Cemetery at Ur (courtesy of Richard L. Zettler, Associate Curator-in-Charge, Near East Section, University of Pennsylvania Museum)

behind a nude male who pours the libation stands a full-face female with similar attire and hairstyle as Enheduana, followed by a royal couple, probably the local ruler and his wife. Based on these similarities, Irene Winter (1987a) suggested that the custom of kings appointing their daughters as high priestesses, which is attested in texts from the Akkad to the Isin-Larsa period, goes back to Early Dynastic times.

Julia Asher-Greve (1985: 90–92) suggested that Ur-Nanshe's child Abda, who appears on the above described door plaque (Figure 10.3), was a high priestess. She stands out not only in size and by the leading position vis-à-vis her brothers, but also wears a dress and headscarf made of the same ornate fabric as the king's kilt, like high priestesses of later periods. Moreover, she is followed by her brother Akurgal, who appears in the same place and carries the same spouted jug as the king's cupbearers, yet is characterised by a distinct hairstyle. Spouted jugs were also used for libations (Winter 1999), and cupbearers were indeed in charge of offerings on behalf of royals (Sallaberger and Huber Vulliet 2005: 635). At the time this door plaque was made, Akurgal, who later followed his father on the throne, seems to have been the high priestess' assistant in charge of libations.[7]

From the Early Dynastic to the Ur III period, libations are frequently poured into a large pot from which a date palm shoots (Figure 10.5, 11.2 in this volume). Since the palm was a symbol of fertility, this type of libation must have evoked the prosperity expected from the gods in return for the human service of feeding them.

IMAGES OF PROTECTING

As protector of his people, the king prevails over wilderness as well as human enemies. Women were excluded from both hunt and war. The Hunt Stela from Uruk depicts a Late Uruk ruler fighting lions with a spear and a bow, and similar scenes occur on contemporary cylinder seals (Braun-Holzinger 2007: 11–12). Thereafter the mastery of wild animals was elevated to a heroic, supernatural sphere: bison-men and nude heroes are the champions of animal combat, a favoured motif on Early Dynastic and Akkad seals that lives on beyond Ur III times. While in poetry Shulgi compares himself to heroes subduing wild animals (ETCSL 2.4.2.2, ll.56–113), no images of the royal hunt are extant. Although it could be that such images existed in perishable media, such as wall painting, there is another possible explanation for their absence: if the big-game hunt were not elevated to a heroic sphere, kings could not have compared themselves to heroes.

Military victory, on the other hand, was frequently depicted on royal monuments, the battlefield being an ideal arena for the demonstration of power. Kings never lose a battle. In contrast to the Egyptian pharaoh, who is unvaryingly portrayed in the act of slaying his enemy, the early Mesopotamian ruler is more frequently shown triumphing after the battle. Already Late Uruk cylinder seals depict him reviewing war captives (Figure 10.7), an image that evokes his control over the defeated. His domination is underlined by his holding an upright spear. The Early Dynastic ruler on the Standard of Ur (Figure 10.8, see also Figure 19.5 in this volume), a box inlaid in precious stones and shell, also reviews war captives equipped with a spear. This luxurious object expands the scene over three registers, including the king's charioteers and infantrymen leaving the battlefield behind the long procession of captives, as well as generals, attendants and the royal chariot behind the king. The other side of the box depicts as

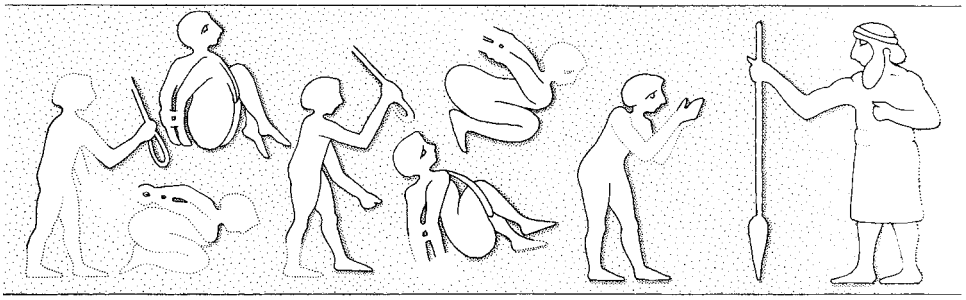

Figure 10.7 Seal from Uruk (drawing after Boehmer 1999: pl. 17 no. 4 I-L)

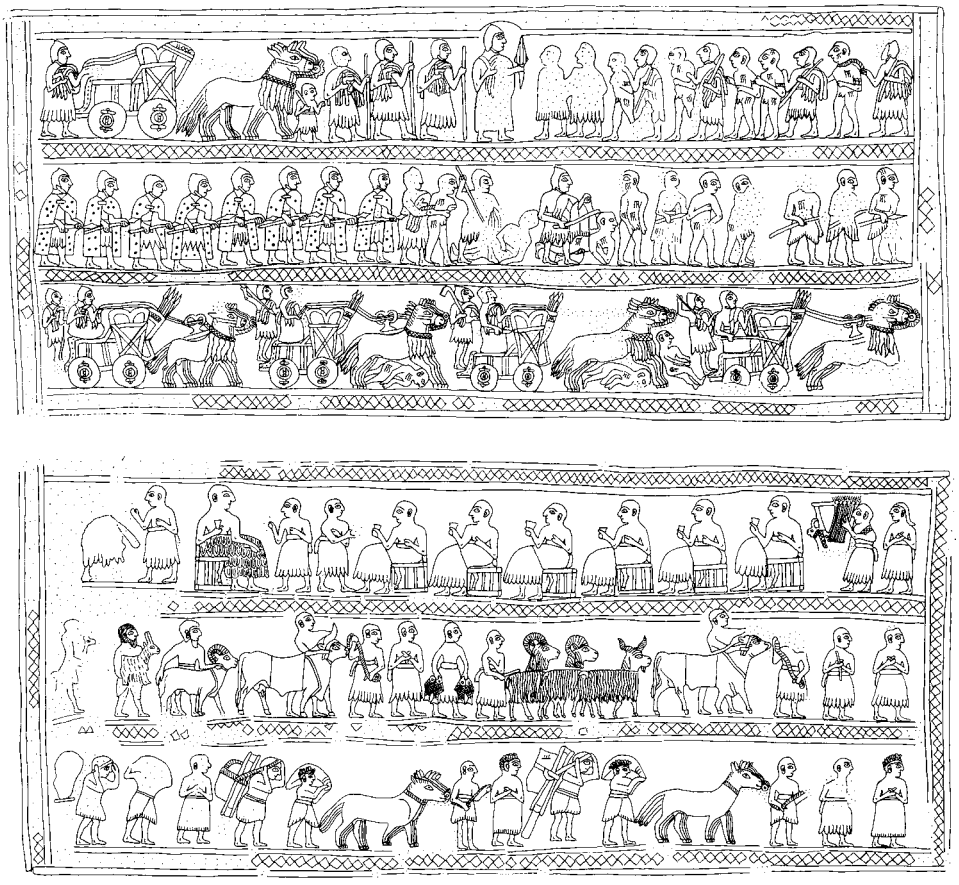

Figure 10.8 Inlaid box from the Royal Cemetery at Ur (drawing by author)

a result of the successful campaign a booty procession, followed by a procession of animals brought for sacrifice and/or consumption in the ensuing victory banquet. On either side, the king stands out by his larger size in proportion to other figures. The fragmentary banqueter on the far left behind the king was probably a queen.

The earliest identified victory monument is the Early Dynastic stela of Eanatum of Lagash. It renders on one side episodes of the military campaign with the king leading his men into battle, once on a chariot, the other time on foot, while the other side celebrates the climax of the story: Ningirsu, divine patron of Lagash, holds a large net in which the prisoners of war are captured (Winter 1985). The long inscription recounts the history of Lagash's conflicts with its neighbour Umma and ends with a series of oaths that the defeated ruler has to swear on Ningirsu's battle-net to the effect that he will legally abide by the newly determined border between the two city-states. The stela fragments of Sargon render a similar combination of episodic scenes with a culminating scene with the difference that the king himself offers the net of captives to an enthroned Ishtar (Nigro 1998).

By contrast to these stelae divided into registers, the stela celebrating Naramsin's victory over the Lullubi of the Zagros Mountains shows a dynamic composition taking up the entire front of the monument, in which the deified king is prominently placed between mundane and transcendent spheres (Figure 10.9; Bänder 1995). Above his men, moving up from left to right, and twice as large as any other figure, he confronts the mountain of the Lullubi and sets his foot on two fallen enemies, while two more fall down the middle, another collapses before him hit by a spear, a fourth begs for mercy and, in a movement down the right side, three more Lullubi capitulate. With his men below and the gods only hinted at by astral bodies above, the triumph appears to be the king's alone.

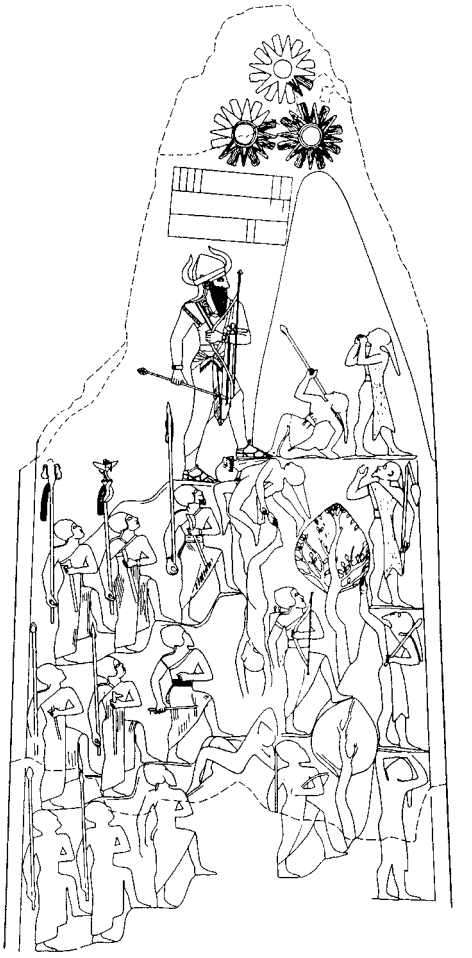

Figure 10.9 Stela of Naramsin from Susa (drawing after Winter 2004: fig. 2)

Although no identified victory monuments of Ur III kings have survived, we know of their existence from copies of their inscriptions. They inform us that the lost monuments were metal statues of the king, some of which were mounted on pedestals that depicted victory scenes of the king reviewing captives and stepping on enemy leaders. The copyists not only copied the label inscriptions identifying the various figures in the representation, but also described them. Based on their descriptions, such scenes must have looked similar as images on rock reliefs and cylinder seals of peripheral rulers that doubtlessly emulated Mesopotamian kings as, for example, that of Anubanini, chief of the Lullubi (Figure 10.10).[8] Moreover, the anonymous rock

Figure 10.10
Rock relief of Anubanini at Sarpol-i-zohab (drawing by author)

relief at Darband-i-Gawr, which depicts a king stepping over fallen enemies in a very similar stance and outfit as Naramsin but wearing the brimmed cap of Ur III kings, probably portrayed Shulgi (Suter 2010: fig.12).

IMAGES OF PATRONAGE

Patronage is an important means to foster the elite's loyalty to the crown. This concept finds expression in two motifs: the royal banquet and the audience with a royal. While the banquet is prevalent on Early Dynastic door plaques and cylinder seals and lives on in Akkad glyptic, the audience arises in Akkad glyptic and becomes standard on seals of high officials in the Ur III state administration. Since the message of these motifs was primarily aimed at the royal entourage, it is not surprising that they occur mainly in glyptic.

The Sumerian word for banquet literally means "pouring of beer" (*kaš-dé-a*). Communal drinking formed part of a symbolic system of ceremonies that cemented the recognition of authority and hierarchy and was mirrored in the mythical world of the gods (Michalowski 1994). Literary texts enlist participants ordered by rank. Sargon's claim that 5,400 men ate daily before him is a typical example of royal patronage. Old Babylonian royal correspondence attests to the custom that vassals received drinking vessels from the king as symbols of royal patronage and the vassalage relationship.

In visual imagery, the protagonists of banquets were royals and, less frequently, gods (Selz 1983). Banquets were celebrated on diverse occasions. On the Standard of Ur (Figure 10.8), it was a military victory, which also seems to be the case on contemporary door plaques that combine the banquet of a royal couple with the parade of a war chariot (Collon 1992: 24; Suter 2000: 221–222). Ur III administrative texts corroborate

that kings sponsored grand banquets to celebrate military victories with their soldiers (Lafont 2009: 6, 19–20). Another occasion was the inauguration of a temple as seen on Ur-Nanshe's door plaque and stelae (Figure 10.2 and 10.3). In the poetic account of Gudea's construction of Eninnu, it is during the inauguration banquet sponsored by the ruler that the gods bless both the temple and its builder with a long life (Suter 2000: 100–102). A few door plaques and cylinder seals of the Akkad and Ur III periods depict banquets of a high priestess with her god, probably as part of the marriage celebrations that marked her installation in office (Suter 2007). Banquets were also held at funerals. This is suggested by the poem on Ur-Namma's death, which tells of a banquet the king offered to the gods of the netherworld upon his arrival (ETCSL 2.4.1.1, ll.76–87), and by the drinking cups associated with the bodies of kings, queens, and their entourage in the Royal Cemetery (Selz 2004; Pollock 2007; for the identification of the dead, also Marchesi 2004).

Moreover, beer was poured during regular cult festivals (Cohen 1993; Sallaberger 1993). Such celebrations seem to be depicted on Early Dynastic door plaques that combine the banquet of a royal couple with a boat procession and/or temple herd. A New Year's festival, in particular, may be illustrated on Early Dynastic and Akkad seals that show a date palm or other tree associated with the banquet of a royal couple, the tree signifying the renewal of the yearly agricultural cycle. An Akkad seal that juxtaposes such a scene with the banquet of a divine couple in the presence of a tree suggests that this festival was thought to take place in both the mundane and the transcendent spheres (Figure 10.11). The above-mentioned dual function of cupbearers also implies a connection between royal banquets and feeding the gods. Although on door plaques and seals the banqueters are usually a heterosexual couple, seals also depict banquets confined to either the male or female sphere. These may render particular festivals for a god or goddess, respectively, though men's gatherings may also have had other occasions from which women were excluded. Curiously, the seal of queen Puabi from the Royal Cemetery combines a heterosexual banquet with an all-male banquet (Zettler and Horne 1998: fig. 46b).

Although banqueters can drink beer with straws from a communal pot, more frequently they hold up a cup in a toasting gesture. When attendants stand facing them (Figures 10.8, 10.11), this gesture may concurrently be evoking the image of the royal banqueter extending a cup to the approaching courtier as a token of patronage. In abbreviated form, the few Early Dynastic statues that hold a cup can be understood as sponsors of banquets. In the Akkad period, seals depicting royals in banquet were usually owned by subordinates of the represented royals rather than by the royal protagonists themselves.

Seals depicting an audience with a royal always belonged to the subordinates of the represented royal. Thus when Ur III kings extend a cup or small vessel to an approaching subordinate (Figure 10.12), it can only mean that the king bestowed this vessel upon the seal owner as a sign of his patronage and sovereignty, in parallel with the *inaba-* or *aradzu*-formula in the seal's inscription (Michalowski 1994). The unusual seal that Shulgi presented to his consort Geme-Ninlila, who is seen in possession of the vessel (Figure 10.13), corroborates this interpretation. This seal and those of other Ur III consorts depict them in the place of a high-rank subordinate rather than on a par with their husband (Suter 2008: 14–15). In parallel with seals' function of guaranteeing legitimacy and authority, the audience scene expressed the recognition of authority and

Figure 10.11 Seal of unknown provenience. Courtesy of Yale Babylonian Collection.

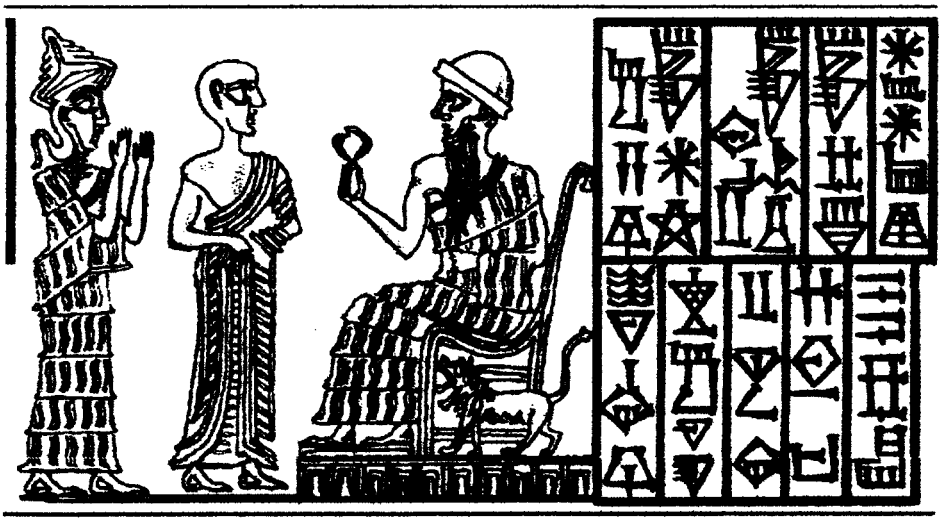

Figure 10.12 Seal given by Shu-Suen to Ayakalla, governor of Umma (drawing after Mayr and Owen 2004: fig. b)

hierarchy (Winter 1987b). By extension of the king, also queens and high priestesses of royal blood appear as patrons of their subordinates in audience scenes (Figure 10.14; Suter 2008: 21–23).

The gradual replacement of banquet with audience scenes may be related to increasing bureaucracy and hierarchy in the centralised Akkad and Ur III states, and to the self-deification of their kings, which elevated them further away from the community than the rulers of city-states had been.

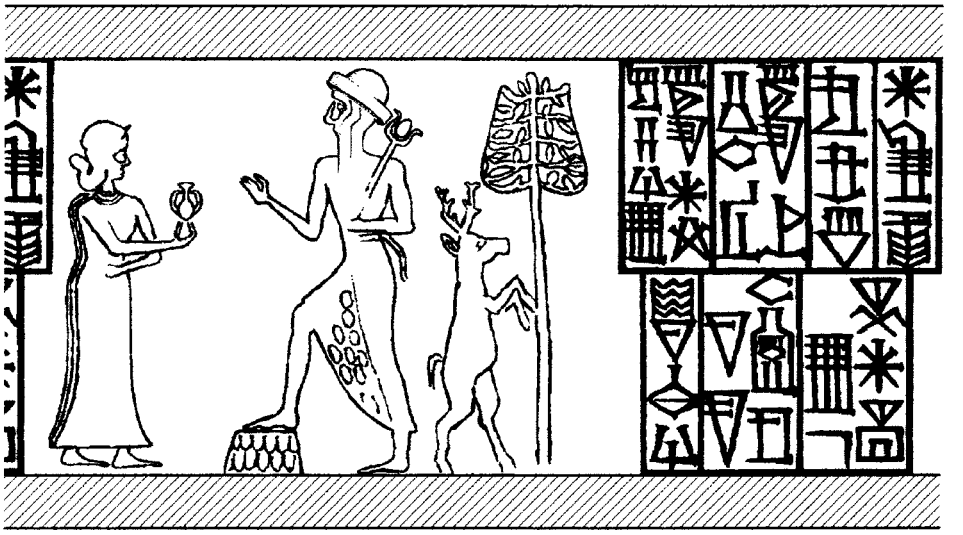

Figure 10.13 Seal given by Shulgi to his consort Geme-Ninlila (drawing after Mayr and Owen 2004: fig. 2)

Figure 10.14 Seal given by Sharkalisharri to his consort's estate manager Dada (drawing after Amiet 1976: fig. 23)

THE GOD-LIKENESS OF ROYALS

Since Mesopotamian kingship was sacred, god-like features in the portrayal of royals neither began with nor were they confined to deified kings. Both Michalowski (2008) and Winter (2008) stressed that the brief episodes in Mesopotamian history during which some kings of Akkad and Ur III assumed divine status had historical parameters previously overlooked. Divine kingship was neither the apex of a long development towards a centralised Mesopotamia, nor an autonomous symbolic system, but a component of complex reformations that took place in the aftermath of almost fatal state collapses (Michalowski 2008: 39).

From the beginning of historical kingship, rulers claimed divine parents, could be venerated after death as local heroes, and their statues could receive offerings. Poetic texts often deliberately blurred boundaries between kings and gods. Self-deified kings marked their divine status with the divinity determinative before their name, stylised themselves as protective spirits of their realm, had temples built to them and festivals named after them, and their subjects used their names analogous to those of deities in personal names (Sallaberger 1999: 152–154). However, not all deified kings used all these features and, conversly, some features also occur with kings who did not claim divine status.

In imagery, god-likeness was conveyed in single elements of attire, hairstyle, attributes, and in stances adopted from gods. Such encroachments upon the divine sphere became possible only from the later Early Dynastic period on when anthropomorphic deities began to be frequently depicted in art. Before looking at how this was done, it is necessary to recall the boundaries between royal and divine spheres and the representation of regalia in imagery.

Idiosyncratic royal iconography was only sporadically developed in early Mesopotamia (Braun-Holzinger 2007). The ruler was distinguished from other elite men more often by context than by unique attire or attributes. Exceptions are the Late Uruk ruler's hairband, hairstyle and beard; the late Early Dynastic/early Akkad ruler's hairband, hairstyle and military garb; the beard style of Akkad and Ur III kings; Naramsin's various headgears; the brimmed cap introduced under the Second Dynasty of Lagash which remain in use until the OB period; the fleece-covered stool of Ur III kings; and the high priestesses' headgears and hairstyle. Aside from that, royals are seen wearing similar garments and hairstyles as other members of the elite, which were subject to changing fashions. Deities were distinguished from humans primarily by their horned crown, marker of divinity analogous to the divinity determinative. In addition, niched thrones, certain types of weapons and, from the late Akkad period on, also the flounced garment were typical accoutrements of deities.

A number of accoutrements are regularly associated with rulership in texts, including crown, throne, sceptre, weapon and garment (Sallaberger 2002: 87–88). Kings were entitled to these regalia as the gods' representatives on earth. In fact, regalia occur almost exclusively in contexts of their transferral from deity to king. It has repeatedly been lamented that regalia are missing from images. This is not true. Just as early Mesopotamian imagery did not systematically mark the king by unique attires and attributes, it also did not canonise regalia; they were not bound to a specific form (Suter 2000: 6–7). In contrast to verbal terminology, images distinguished between the mundane and transcendent spheres. To give but one example, while gods are depicted with horned crowns, kings and high priestesses are seen wearing other headgears, which

changed over time. Yet, since these other headgears were exclusive to them, they functioned as insignia.

In imagery, royals intrude into the divine sphere precisely with regard to insignia. As a sign of his divine status, Naramsin attached a pair of horns to his helmet (Figure 10.9). Self-deified kings could appropriate divine weapons (Figure 10.13). More such images must have existed, since peripheral epigones of Mesopotamian kings are also seen brandishing divine weapons (Suter 2010: 345–346). On the Pir Hüssein Stela (Braun-Holzinger 2007: pl. 46), Naramsin is clad in a flounced robe, which by then was standard for deities. The same applies to deified Ur III kings on numerous seals (Fischer 1997; Mayr and Owen 2004); they may also sit on a divine throne rather than on the typical royal stool. The deified Naramsin and Shulgi emphasised their god-likeness by combining divine insignia with a divine stance (Figure 10.9, 10.13): the ascending pose was appropriated from the sun-god, to whom both kings likened themselves with the aim of casting themselves as the conduit of the course of destiny for their country (Polonsky 2000: 99; Fischer 2002). At the same time, Naramsin adopted the exposure of his well-formed body from the nude hero, thus endowing himself with superhuman strength and sex appeal (Winter 1996).[9] Similar images existed of Shulgi and his successors (Suter 2010: 340–346).

It was not only deified kings who crossed over boundaries. Early Dynastic kings and queens shared with deities the date cluster or branch held in banquet scenes (Figure 10.2, 10.8). This object was both an insignia of rulership and a symbol for the renewal of the agricultural cycle with which gods blessed rulers (Selz 1983: 454–456). In the transition from the Early Dynastic to the Akkad period, the king's military garb and hairstyle coincided with those of gods, and only his headgear, a headband rather than a horned crown, identified him as a mundane king (Braun-Holzinger 2007: 58–65). Sargon holds the battle-net, which in Early Dynastic Lagash had been in the hands of the city-state's divine patron. From the Akkad period on, high priestesses regularly wear flounced robes (Suter 2007). Although their crown, usually in the shape of a circlet, distinguished them from goddesses, it seems that a pair of horns may occasionally have been attached to it, as in Naramsin's helmet. They are almost exclusively represented enthroned, whether in statuary or narrative scenes carved in relief, and occasionally appropriated a divine throne. In addition, the long, elaborately knotted beard, especially of Akkad and Ur III kings (Figures 10.9, 10.12, 10.13, 10.15), must have been a sign of god-likeness, given that gods are depicted with such beards and that kings adopted the "lapis lazuli" beard from the sun-god (Suter in press).

Moreover, royals take the place of deities in the two scenes that visualise royal patronage. While this is perhaps more obvious for the audience scene due to the large number of seals that depict human petitioners before a deity, the combination of royal and divine banquets on the same object (Figures 10.2, 10.11) and the dual function of cupbearers suggest that it was also the case for banquets in general and not only for those of high priestesses with their god.

CONCLUSIONS

Early Mesopotamian royal images visualise time and again the quintessential ideology that the people's security and prosperity depended on the ruler due to his relationship with the gods. Rulers cast themselves as intermediaries between the mundane and

transcendent spheres. They claim to be installed by the gods, fulfil their duties and receive divine protection and prosperity in return. Whether on a cult vase depicting the storage of agricultural surplus, a temple building or law stela or a victory monument, culminating scenes representing the ruler before a deity encapsulate this reciprocal relationship. Expansions of such encounters with additional figures and episodic scenes elaborate on his various tasks as provider and protector, while his relation with his entourage or subordinates is visualised in banquet and audience scenes. As an extension of the king, royal women share in feeding the gods and patronage of subordinates, but are excluded from temple building, law promulgation, hunt and war. Although a female sphere is conspicuous in glyptic images from the Early Dynastic period onwards, royal women also appear in public on the side of their husbands or fathers.

Over time, the emphasis on different royal tasks shifted: the ruler of the first urban society appears as producer of agricultural surplus, big-game hunter, warrior, and possibly also procreator; Early Dynastic city-state rulers foregrounded temple building, patronage, and only in the last phase war, while elevating hunt to the heroic sphere; the hegemonic Akkad and Ur III kings highlighted war and temple building, justice and patronage.

Elite women were most visible in the Early Dynastic period: 40 per cent of all statues represent them (Asher-Greve 1985: 85), queens banquet on a par with their husbands and princesses invested as priestesses appear on door plaques in scenes relating to the maintenance of the cult. Before and afterwards, statues that do not represent a king were less frequent and smaller in size and other dedicatory objects seem to be restricted more to the crown. On royal gift seals, consorts of Ur III kings are seen in the place of high-rank subordinates, while terracotta plaques depict royal couples in embrace on a bed (Figure 10.15). Does this latter image express a female voice in popular art analogous to the female voice in love lyrics (Cooper 1997)? Or does it go back to an official statue group, as it may be described in the copy of an inscription of Shulgi's consort Ninkalla (Suter 2010: 328–329), and express her role of producing royal heirs?

Figure 10.15
Terracotta plaque from Tello (Louvre Museum. Photo ©RMN/Franck Raux)

It cannot be emphasised enough how fragmentary and spotty our record is. Hardly any objects of reusable or easily perishable material have survived and few stone monuments have been found complete. Statues and stelae, in particular, were frequently destroyed or mutilated due to their symbolic value as embodiments of power (May 2010). Thus we know victory monuments of Ur III kings only from copies of their inscriptions. Moreover, it

will never be possible to excavate all ancient sites systematically. Akkad, for one, has not been discovered, and if it lies under the current water table, it never will be.

Royals were distinguished from their entourage mainly by context and only sporadically by distinct attires and attributes. Through their link with the transcendent sphere, they could adopt god-like features, yet even self-deified kings were always recognisable as terrestrials; they merely emphasised their god-likeness more and moved further away from reality. Monuments like Naramsin's victory stela, on which the king wears horns, rises like the sun-god and flaunts his body like a nude hero while triumphing over defeated foes, must have had their share in sparking off the parodic portrayal of hero-king Gilgamesh who overwhelms the besieging Kishite army by nothing other than his radiating aura.[10]

NOTES

1 Examples in literature are: Išme-Dagan K = ETCSL 2.5.4.11, l.24; Ur-Namma A = ETCSL 2.4.1.1, ll.88–131; Shu-Suen A = ETCSL 2.4.4.1, ll.5–6. For grave goods, see Pollock 1991: 372–379.

2 Inana B = ETCSL 4.7.2. For this composition reflecting ideology of the establishment, see Glassner 2009.

3 Much discussion has ensued about whether the female figure depicts the goddess herself or a priestess as her representative (most recently, Braun-Holzinger 2007: 8–10; Asher-Greve 2008: 126–127; Nunn 2010: 248 note 35). I agree with Donald Hansen (in Zettler and Horne 1998: 46), who argued that the issue is irrelevant, since in ritual performance the participants become godhead. If the image alludes to a rite, the representative of the goddess cannot have been one of those high priestesses whose installation in office are recorded in later year names, since they were daughters of the king and the marriage would thus have entailed a ritual incest (Cooper 1993). More likely would be a situation as in later Lagash, where the governor's wife was the priestess of Baba and, together with her husband, probably represented Baba and Ningirsu at the annual festival celebrating their marriage (Sallaberger 1999: 155).

4 Garments are common gifts for gods in offering lists from the Early Dynastic period on. Moreover, textiles were an important product of animal husbandry. Although Strommenger's (2008) criticism of Czichon is more than justfied, he may be correct in this one point that the ruler took a textile to the goddess. Strommenger's reconstruction with the ruler carrying a peg makes no sense in the present scene, since such pegs were used in rituals that sealed transfers of property as shown, for example, on the Blau Monuments (Gelb et al. 1991).

5 Despite newer literature on the Sacred Marriage (e.g., Nissinen and Uro 2008), Cooper's article remains the most perceptive. I find neither the separation of theogamy and hierogamy and the emphasis on verbal communication useful for early Mesopotamia, nor the mystified correlation of Inana with the human soul. For the Ur III period, see also Sallaberger 1999: 155–156.

6 The lack of evidence for a general New Year festival may be due in part to the autonomy of local cults, in part to the vagaries of our sources. In the Ur III period, "new year" (*zag-mu*) designated the climax of the year in the cult of a deity rather than a fixed point in time (Sallaberger 1993: 310), although the year started generally in spring, coinciding with the harvest (Cohen 1993: 14).

7 An inlay from Tello depicts Akurgal with a shaven head (Braun-Holzinger 2007: pl. 19 no. FD 8). Braun-Holzinger's arguments for seeing a man in Abda (ibid.: 40 note 38, and 60 note 142) do not convince me.

8 For more examples of such images, see Suter 2010: 329–330, 335–337, 345–346.

9 It is no coincidence that his apology for self-deification is inscribed on the statue of a nude hero (Braun-Holzinger 1984: no. 61).

10 Gilgamesh and Aka = ETCSL 1.8.1.1; for this understanding of the composition, see Civil 1999–2000.

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CHAPTER ELEVEN

THE SUMERIAN SACRED MARRIAGE: TEXTS AND IMAGES

Kathleen McCaffrey

The nature of a ritual of kingship known as the "Sacred Marriage" has long puzzled scholars. With one contested exception, the famed Uruk Vase from the Protoliterate period, the testimony has appeared to be exclusively textual. The present study identifies the elusive ceremony as a specialized libation performed with twin pedestal vessels, a ceremony prominently depicted on royal monuments. The visual testimony and the archaeological footprint of the ritual equipment complement the texts, providing much-needed information about how the ritual was performed and its geographical and temporal distribution. The picture obtained by combining varied perspectives indicates a long-lived tradition and ceremonial specifics that changed over time.

DEFINING THE SACRED MARRIAGE

Assyriological treatments of the Sacred Marriage usually begin by enumerating a set of texts that mention a marriage, either between two deities or between a deity and a human. No Sumerian or Akkadian expression corresponds to "Sacred Marriage," nor does any source indicate that Mesopotamians themselves categorized all unions involving deities under a single banner. The conceptual category employed in the Assyriological literature derives from Classics, where it originally designated a marriage between divinities termed the *hieros gamos* ("sacred marriage"). Upon migrating into Near Eastern Studies in the early twentieth century (Bidmead 2002: 20–24), the *hieros gamos* retained its prior connotations and added new referents, most notably a ritual performed prior to the Old Babylonian period that transformed a Mesopotamian ruler into the spouse of a goddess.

The vague boundaries of this externally derived classification and the lack of a theoretical framework provide reason for concern for what qualifies as a sacred marriage has varied from one scholar to the next. Some scholars use the term in a limited sense to reference the union of a Sumerian ruler with the goddess Inanna (for example, Bahrani 2002: 19–21), but the imported category has allowed for considerable extension. Saana Teppo (2008: 75) proposes that ecstatic (divine–devotee) unions are a type of sacred marriage. Beate Pongratz-Leisten (2008: 66–67) disagrees with the hypostatic (flesh–soul) unions theorized by Pirjo Lapinkivi (2008: 33) but, in common with many philologists, she groups together cosmogonic (heaven–earth), hierogamic

(divine–human), and theogomic (divine–divine) unions. This variability of definition makes the Sacred Marriage a suspect empirical concept.

The present study begins, therefore, by setting aside the mega-category of "sacred marriage." If the term is to be retained, it needs to be used more judiciously, not as a category that encompasses every union conceivably possessing a sacral character but as a familiar name for a uniquely Mesopotamian institution whose native referent has been hard to pin down, namely, the poorly understood relationship between Mesopotamian rulers and the goddess Inanna. The sections that follow examine, in turn: 1) previously identified texts that reference a marital union between ruler and goddess; 2) frames of reference provided by images and equipment; and 3) additional texts indicated by the material evidence.

THE TRADITIONAL CANON

Royal inscriptions provide a stream of contemporary attestation, from the Early Dynastic down to the Neo-Sumerian era, that the concept of a marital union between the king and Inanna was a fixture of early Mesopotamian kingship. The inscriptions do not tell us how such unions were achieved, but they proclaim a tradition that was official and public. The earliest text, the legend on the ED III seal of Mesannepada of Ur, reads: *Mesannepada lugal Kiš dam nu-gig* "Mesannepada, king of Kish, spouse of the nu-gig." The *nu-gig* who is named in superior relation to this ruler was not his everyday wife but Inanna (Marchesi 2004: 178 n. 145), referenced by a title connoting holiness and non-normative gender that has no modern equivalent. The inscription on the Stele of the Vultures names Eannatum as the *dam ki-ag*$_2$ *^{d}Inanna-(ka)-ke*$_4$ "beloved spouse of Inanna" and elaborates that "Inanna, because she loved him, gave to him the kingship of Kish and the *ensi*-ship of Lagash" (Sefati 1998: 32). The goddess Inanna named in these royal inscriptions was the morning and evening star (Venus). This major figure in the Sumerian pantheon encompassed polarities such as love/war and male/female who possessed the power to invert opposites. Her worship is attested in the earliest texts from Uruk (the literature on Inanna is extensive; for a spectrum see *NIN: Journal for Gender Studies in Antiquity* 2000).

Opinion has been divided as to whether the ED inscriptions prove the practice of the Sacred Marriage in the third millennium or whether titles such as "beloved of Inanna" are merely honorific. The tradition of designating the ruler as the "beloved" or "spouse" of Inanna continued from the Akkadian to the Isin-Larsa dynasties (see Sefati 1998: 32, 38; Westenholz 2000: 81–82; Lapinkivi 2008: 20), but in the Ur III and Isin-Larsa periods, different genres supplement the inscriptions. Compositions that allude to a sexual union between Inanna and the ruler include the royal hymns of Ur-Namma, Šulgi, Šu-Suen, Iddin-dagan, and Išme-dagan, as well as several generic compositions (Sefati 1998). When specified, the encounter between the ruler and goddess often takes place at the door of the Gipar storehouse on the occasion of the New Year. The hymns supply descriptive details, mentioning processions with cultic personnel, banquets, and gifts presented to the goddess, and the bathing and adornment of the principals. The hymns that have attracted the most attention, *Šulgi X* and *Iddin-dagan A*, describe the goddess reveling in being bathed and sexually pleasured by the ruler. Other hymns (which describe the goddess with epithets such as "the wet ground," "the channel with sparkling streams," and "the true plant who mates with the shepherd") have impressed some reviewers as not very erotic (Frymer-Kensky 2000: 91).

Additional testimony comes from a myth with the modern title *Enmerkar and the Lord of Aratta* (Cohen, S. 1973; Berlin 1981). This tale about the rivalry between Enmerkar and Ensuhkešdanna, the rulers of Uruk and Aratta, is set in early third millennium Sumer, at a time when the Sumerian writing system did not as yet represent speech. The story therefore either derives from an early oral tradition or was composed long after the events. The plot hinges on Ensuhkešdanna's refusal to acknowledge the sovereignty of Uruk, expressed in the claim that he himself has wooed and married Inanna. The story concludes with Ensuhkešdanna conceding that only Enmerkar is Inanna's beloved.

Investigations of the Sacred Marriage have centered on several questions raised by this corpus. Was the Sacred Marriage a literary topos or a performed rite? The occasional scholar has been inclined to dismiss the Sacred Marriage as fiction, either because literal ritual intercourse seems implausible or because the evidence is literary (Kraus 1974: 249; Pongratz-Leisten 2008: 49). However, most would agree that the impression provided by different genres is not easily set aside. The inscriptional evidence is considerable, if lacking in specifics, and the Inanna-Dumuzi corpus is annotated with liturgical annotations that are out of place in songs of popular character. The specialized notation situates the Inanna-Dumuzi songs in the performative milieu of temple musicians, prompting several translators to identify these songs as actual liturgies sung on the occasion of the Sacred Marriage (Kramer 1963: 489; Sefati 1998: 25–26).

More attention has focused on how a ritual marriage between ruler and goddess might have been staged. The most baffling aspect is that texts describe the goddess herself as being present, leading most reviewers to conclude that the ritual must have required a human stand-in. The conundrum as to the identity of Inanna's representative has generated much commentary (see summaries by Cooper 1993; Sefati 1998: 19–21; Lapinkivi 2004; Pongratz-Leisten 2008). Various priestesses have been suggested, most often the office of the high priestess. Although the role should have conferred great honor, no woman is ever mentioned as impersonating the goddess, and actual intercourse would have presented difficulties. The high priestess was often the king's own daughter. Further complicating matters, some monarchs (for example Šulgi) came to the throne as children; others are likely to have been biologically female (McCaffrey 2008). In view of such considerations, some have postulated a symbolic ceremony (Steinkeller 1999: 133–134; Lapinkivi 2008: 23–24).

IMAGES AND ARTIFACTS

Although possible illustrations of the Sacred Marriage have been proposed over the years, most notably the reliefs on the Uruk Vase, many scholars have regarded the material evidence as speculative because no artifact is inscribed or securely related to contemporary textual testimony (Collins 1994: 110; Leick 2002: 132; Lapinkivi 2008: 11–12). Uninscribed artifacts pose an obvious problem due to the lack of a recognized procedure for identifying the Sacred Marriage. Toward this end, we might contemplate the intuitive strategy employed to scrutinize texts and artifacts. Texts are scanned for mention of a marriage that involves at least one deity. With artifacts, the same approach founders on the problem of identification. Images of amorous couples lack identifying insignia; couples of more certain identity might be merely adjacent.

Behind the search for something that looks like a marriage, however, lies an unstated assumption, namely, that we are looking for something that looks like ritual intercourse between a man and a woman. If the Sacred Marriage was a symbolic ceremony of some kind, it might present in a manner that is not immediately apparent to the cultural outsider. This does not mean that it could look like anything. A major ritual will employ established symbols and metaphors, and a simulated sex act is likely to use objects with suggestive shapes or other erotic connotations. Instead of looking for two appropriately garbed individuals in an erotic pose, therefore, the visual content can be scanned for more abstract presentations.

With this consideration in mind, a puzzling and prominent image in the corpus of royal Sumerian art invites closer scrutiny. The monuments and cylinder seals of Neo-Sumerian monarchs often feature a scene that has defied interpretation: the ruler, dressed in a fringed robe, pouring liquid on a plant in a vase (Figure 11.1). The ruler wields the pourer with his bare right arm; the left arm, bent at the elbow, is covered and held next to the body. The receiving vessel, variously termed a "biconical" or "pedestal" vase, sometimes paired, has a signature flared rim and a pronounced waist. A small fruiting palm is usually present, although the palm is occasionally omitted in depictions from the Akkadian period or in provincial contexts, for instance, in the Neo-Sumerian wall painting of the royal audience chamber at Mari (Moortgat 1969: 73–74). Although the ruler sometimes waters the palm vase outdoors, it is more often positioned in front of a cult image. The cult image has no fixed insignia but varies from one depiction to the next.

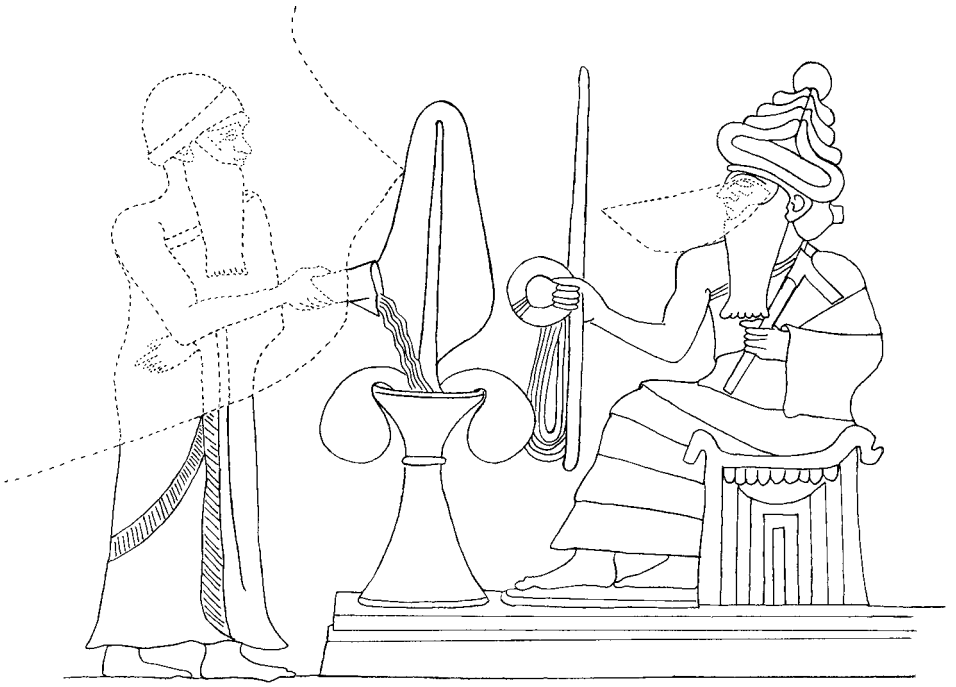

Figure 11.1 Neo-Sumerian palm vase libation, Stele of Ur-Namma detail from Register II, Side A. Sin Temple, Ur, *c.*2000 BC (reconstruction drawing by Kathleen McCaffrey)

Despite its importance in Sumerian art, the palm vase libation is not mentioned in any hymn or myth. The omission is odd because the prominence of this image implies a fundamental duty of kingship. The visual repertoire of Neo-Sumerian royalty includes scenes of processions, sacrifices, musical performances, and building activities. However, on royal monuments with a single scene, the palm vase libation is the choice of subject, as on two uninscribed royal stelae from Nippur and Susa, stylistically dated to Ur III or shortly thereafter (Van Buren 1952: 438; Harper et al. 1992: 169–171). The palm vase libation is performed twice by Ur-Namma in Register II of Side A of the Stele of Ur-Namma (Figure 11.1) and the same act is depicted somewhere outdoors on Side B. Seals associated with rulers also feature this scene (Delaporte 1920: 13, T.110; Winter 1987a: 67, 78; Nagel et al. 2005: 259–252, figs. 217, 231, 233; Suter 2010: 338, fig. 316). The seal impression of a priest named Lugal-Engardu, for example, which references the ruler Amar-Suen as the "beloved of Inanna," depicts a figure in the cap and robe of the monarch, pouring double streams onto a palm vase. Inanna stands on the other side, extending the rod and ring toward the vase.

Little has been written about the palm watering scene. Elizabeth van Buren (1954: 228–229) proposed a mimetic rain-making ceremony performed before deities whose help was solicited, but most analysts have viewed the libation as an offering. However, several considerations indicate that the palm vase libation is a more complex activity than a drink offering. If the depicted act is an offering, why does the vase usually contain a palm? The unnaturally tiny palm cannot be a real fruiting tree. The palm's unnatural symmetry and its high center of gravity suggest an object fabricated from a stiff but light substance such as wood. The importance of this object is indicated by its placement at the center of the composition, where it interrupts the line of sight between the ruler and the god.

The watering of an artificial tree seems more explicable when notice is taken of the allusive character of the ritual equipment. The cylindrical shape of the Ur III pouring vessel and the double entendre of water/semen (both *a* in the Sumerian language) are suggestive of insemination. The palm's overall shape, an erect middle element above and between two droopy fruit bulbs, is also evocative, although the image poses a contradiction: the sex of the stylized palm is feminine but its form is masculine. The rationale for the tree-vase comes into focus if one considers that vessels often symbolize wombs (Drower 1956: 3; Dasen and Ducaté-Paarmann 2006), while Inanna, a deity whose behavior and dress is outwardly masculine despite her biological femaleness, is consistently associated with the palm in Mesopotamian architecture, art, and texts. Inanna's association with the palm is also semantic since her name (usually translated as *nin-anak* "Lady of Heaven") is homonymous with *nin-annak* "Lady of the Date Clusters" (Jacobsen 1976: 36; Abusch 2000: 23).

The visual and semantic connotations of the ritual equipment and the prominence of this scene in royal Sumerian art suggest that what has been understood as a drink offering is actually a symbolic ceremony that simulates intercourse, a ritual sometimes witnessed or enabled by the city's divine patron. The womb-vases, personalized by palms, would not merely have symbolized Inanna. They would have functioned as her epiphany, enabling her to manifest and personally delight in the attentions of the ruler. In a few cases, particularly at Lagash, texts allude to rulers marrying a goddess other than Inanna (Westenholz 2000: 81–82). This deviation in the textual record is matched by a similar deviation in the visual testimony; for

example, the bushy tree in the vase libation scene depicted in Fragment ST.4, the top register of a Gudea stele (Suter 2000: 195), with the different tree representing the alternative goddess.

The interpretation of the palm libation scene as the mundane reality of the Sacred Marriage would account for the silence in the texts as to how the ritual was staged and who played Inanna. Nothing needed to be explained to the Mesopotamian audience because the procedure was familiar to everyone. The case of the Sacred Marriage demonstrates how art and archaeology can contribute to the interpretation of texts. For example, whereas texts are inconclusive about earlier eras, images confirm that the Sacred Marriage ritual antedates the Ur III dynasty. The ceremony is featured on stelae of Gudea (Suter 2000: 167–168, 195–196). It also appears on the Disk of Enheduanna from the Ur Gipar (Winter 1987b) and on various Early Dynastic plaques and seals. The ED III plaque from the Ur Gipar (Figure 11.2) (Aruz and Wallenfels 2003: 74) provides the most detailed early depiction. The libation in the top register of the Ur plaque is performed inside the temple by a naked male figure. A similar ceremony in the lower register is performed outside.

The visual evidence allows us to see how the ceremony changed over time. As depicted on the Ur Plaque, the early ceremony employed real palm branches and dates splayed in biconical vases. In contrast to earlier and later Sumerian practice, palm vegetation is largely missing in images from the Akkadian period (Orthmann 1975: 135H; Winter 1986: pl. 62; cf. the Disk of Enheduanna), perhaps reflecting a new linguistic environment that severed the semantic connection between palm and goddess. The lack of fruiting palms in the north similarly accounts for their exclusion or for the substitution of artificial trees outside the Sumerian heartland. The stylized palm introduced in the archaizing Neo-Sumerian period, a visual pun alluding to Inanna's gender variance, honored tradition but refreshed the traditional association between palm and goddess. Seals and statues depicting Ur III kings clasping the biconical vase, indicative of greater parity between ruler and goddess, represent another innovation (Zettler 1989). The Sacred Marriage is poorly attested in the textual record after the Ur III period, but the material evidence indicates that the archaic type ritual continued to be performed in the Old Babylonian period and even later in the periphery (al-Jadir and Werr 1994: 178, figs., 1, 9; cf. a palm vase with snakes on an Iron I seal from the Levant, Keel 1998: 39, fig. 63). Although we have a missing link at present between the palm vases of the second millennium and the palm-grove object known as the Assyrian Sacred Tree (the latter plausibly reformulated in an imperial setting to represent the entire pantheon, supporting the interpretation of Parpola 1993), the prominent image of Assyrian monarchs watering a mysterious artificial tree provides strong grounds to suspect a Sumerian prototype.

Palm libation images also tend toward less explicit sexuality (Danmanville 1955). In contrast to the allusive Neo-Sumerian ritual performed by a fully clothed ruler, the ED rite mimics sexual intercourse with ritual nakedness and ithyphallic pouring spouts. It has seemed obvious that only a man could become the spouse of the goddess; however, no physical impediment prevented a female ruler or a minor from performing a symbolic ceremony. The visual evidence indicates that female rulers did perform this function, although the female libators were allowed loincloths (Van Buren 1948: 108; Aruz and Wallenfels 2003: 122, fig. 137). A similar concession to modesty is evident in the ED tombs of Ur, where, in contrast to the male standard, female monarchs

approximated male dress by combining the masculine headdress and waist-dagger with a wrap pinned at the shoulder (McCaffrey 2008: 180).

The ritual nudity of the early libators fits easily with the idea that the earlier ritual simulates intercourse more plainly. Indications abound that the so-called "naked priest," a functionary identified by art historians but never mentioned in texts, is the ruler himself. Interpretations of Gudea Fragment ST.4 demonstrate how modern notions of royal decorum have contributed to the construct of the "naked priest." Taking note that the ruler is the only figure expected in the mid-top register of a stele, Eckhard Unger (followed by many scholars, see Suter 2000: 195, n.186) identified the bald libator in ST.4 as Gudea, reconstructing him in a modest robe. When the "pleats" of the presumed robe turned out to be scratches and it became evident that the libator was naked, it suddenly seemed obvious to everyone that the figure was not Gudea. The presumption that no royal monument would depict a ruler naked has been laid to rest, however, by images of Neo-Sumerian royals emerging nude from the ritual bath with a towel over one arm, distinguished from bath attendants by their royal caps (see Börker-Klähn 1975: 235–239; cf. the nude libator with a towel over his shoulder in the upper register of the Ur plaque).

Figure 11.2 ED III palm vase libation, plaque from the Ur *Gipar*, BM 118561 (courtesy of the Trustees of The British Museum)

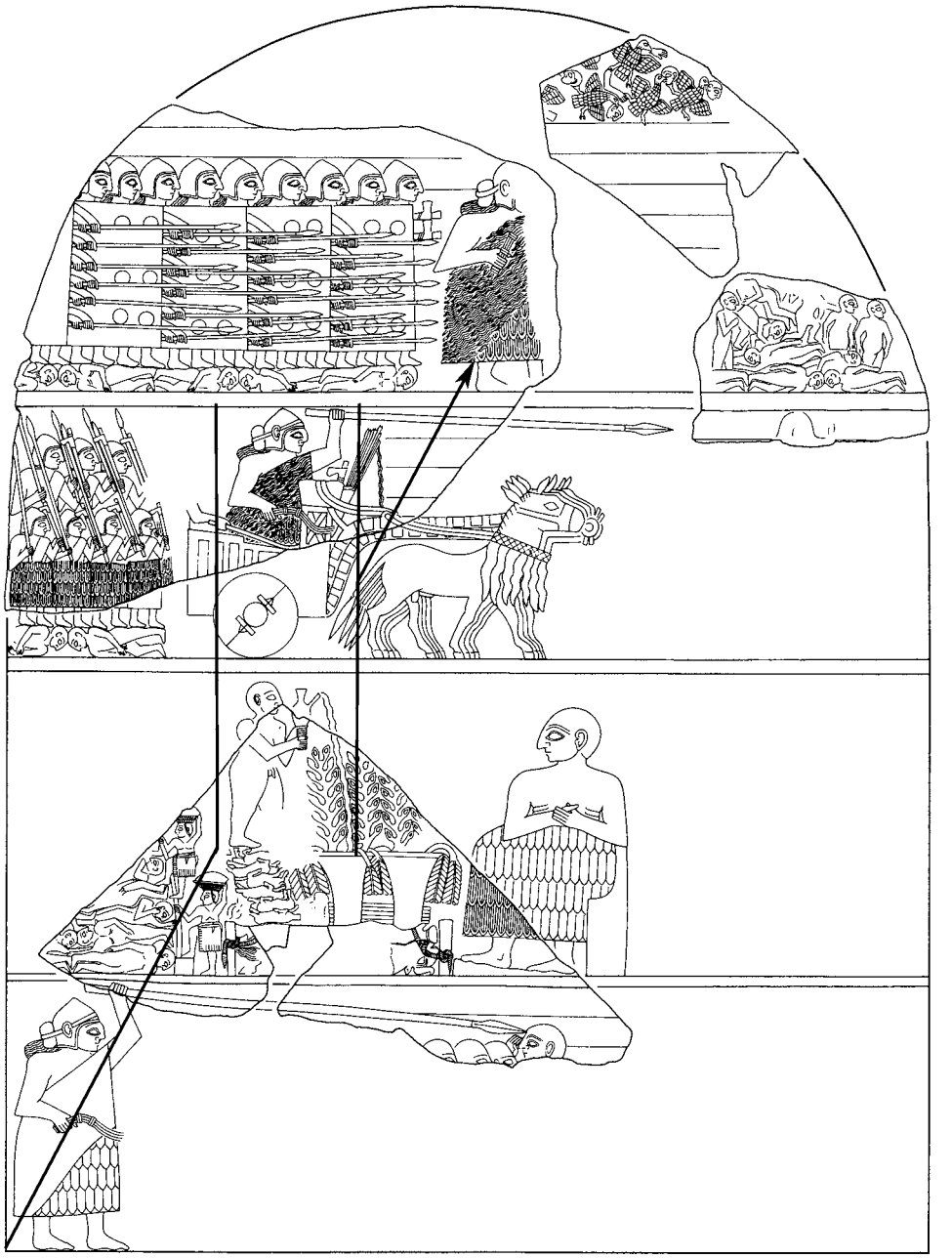

Figure 11.3 Side B of the Stele of the Vultures, diagrammed to illustrate size-rank hierarchy and gravitation toward the center. Girsu, *c.*2450 BC (reconstruction drawing by Elizabeth Simpson, originally published in After the Battle is Over: The Stele of the Vultures and the Beginning of Historical Narrative in the Art of the Ancient Near East, in *Pictorial Narrative in Antiquity and the Middle Ages*, eds. H. Kessler and M. S. Simpson, Washington, Hanover and London: University Press of New England, pp. 11–32. Courtesy Irene Winter)

Size-rank hierarchy and relative placement further indicate that the Early Dynastic "naked priest" is the city ruler himself. The libator on the Ur plaque (Figure 11.2) stands at the center of each register and is significantly taller than the other figures. The same strategies mark the exalted status of the Mesopotamian ruler on the upper register of the "battle" side of the Standard of Ur (Winter 2008: 80–81). On side B of the Stele of the Vultures (Figure 11.3), the "naked priest" appears in the third register rather than at the top, but he is much larger than the workers on the left, and, like Eannatum elsewhere on the stele, he acts alone. According to the norms of Mesopotamian royal art, we would expect Eannatum's position to gravitate toward the center, starting from the far left at the bottom to the middle of the top register. Disturbed by the apparent flouting of this convention, some art historians have been unconvinced of the accuracy of the reconstruction of the middle registers of Side B (Suter 2000: 215). However, as indicated by the diagramed reconstruction drawing (Figure 11.3), the artistic convention holds true if the "naked priest" is Eannatum himself since this posits two royals of the same size in the two middle registers, one above the other, halfway between the royal figures in the top and bottom registers.[1]

Although the Uruk IV/III corpora offer no image of a palm vase libation, we can track the ritual into the fourth millennium through the ritual equipment. The artifacts least likely to change over time are either strictly utilitarian or possess a form fixed by religious function. The pedestal vase could not have been utilitarian. It is made from a rare commodity in southern Iraq, and it was always discarded in the vicinity of temples. Stone vases of undetermined shape are also closely associated with Sumerian kingship. The earliest royal inscriptions appear on fragments of stone vessels gifted to temples, and, as Postgate (1992: 262–263) remarks, "these were acts with overtly political overtones, since the act of making this formal offering constituted a claim to hegemony, and the acquiescence of the temple personnel in accepting it must have been an acknowledgement of it."

It is difficult to compare the vessels gifted by Sumerian royals with the visual evidence because stone vessels have been published only for their inscription or decoration, with little attention to form or seriation (Potts 1989: 143; Moorey 1994: 36). The visual record indicates a distinctive typology for the biconical vase from the fourth to the early second millennia, consisting of a signature flared rim, waist, and a pedestal base. These characteristics were conserved over many centuries, resulting in a vessel whose proportions shifted incrementally, always toward a lower center of gravity. Biconical vases were also paired. Rather than imagining Inanna babbling in the so-called "plural of ecstasy" (Paul 1995), the plurality of her speech in the context of the Inanna-Dumuzi hymns (for example, "*gal*$_4$*–la-me*" "our vulvas") can be explained more simply: Inanna uses the plural because in the ritual she has two bodies, namely, the twin vases. The fluctuation of Inanna's first-person speech between Emegir and Emesal in the same songs, dialects of Sumerian that some scholars have interpreted as gender-differentiated (see discussion in Rubio 2001), indicates that Inanna's "bodies" were male and female.

The earliest pedestal vases come from the Eanna precinct at Uruk. These range from sturdy undecorated vessels, perhaps the oldest of this type, to the most famous exemplar, the Uruk Vase and its twin. The Uruk Vase, which depicts twin pedestal vases in its top register, is not just a literal self-portrait. It is also functionally and conceptually self-referential because it portrays the idea of the Sacred Marriage on the very

nexus of the performed rite. The image of the Sacred Marriage links the Protoliterate vase with the palm vase libation, but it also presents a problem. The Uruk Vase depicts the ruler (identified by his distinctive net-skirt and tassel) and the "naked priest" side by side on the top register. This would seem to confirm that these figures cannot be the same person in the Protoliterate.

The apparent inconsistency can be resolved by reconsidering the spatial configuration of the Uruk Vase. Beginning with the first description by its excavator (Heinrich 1936: 16), discussions of the Uruk Vase have followed a pattern. The ring posts in the top register, which are understood to symbolize Inanna and her temple, are typically mentioned first and function as a fixed point of reference. Things to their left are perceived as "outside" the temple; things to right are "interior fittings" (for early and recent examples see van Buren 1939–1941: 33; Collins 1994; Szarzyńska 2000: 67–68; Hockmann 2008). A second assumption that runs through the literature is the frequent comparison of the Uruk Vase with the Standard of Ur (Perkins 1957: 56; Winter 1985:

Figure 11.4
The Lion-Hunt Stele from Protoliterate Uruk (3300–3000 BC) (Iraq Museum, IM 23477, courtesy Hirmer Verlag)

19; Hansen 1998: 46; Suter 2000: 223). The latter, published in the same year that the Uruk Vase was excavated, shares a layout of three registers and a scene at the top featuring a ruler. When the Uruk Vase is read in the manner of the Standard of Ur, namely, as a consecutive narrative unfolding from bottom to top, the "naked priest" in the top register is perceived as heading a procession of nude men that continues into the middle register. The perception of a consecutive narrative has led to the conclusion that the separation of the registers on the Uruk Vase does not reflect a distinction in time or in idea (Perkins 1957: 55).

In the glare of the Standard of Ur, less attention has been paid to a royal monument from the same city and period as the Uruk Vase. The Lion-Hunt Stele (Figure 11.4) uses a continuous narrative (the depiction of a protagonist more than once within the same frame) to portray the ruler performing multiple actions. This study proposes that the Lion-Hunt Stele is actually the more relevant comparison. The grouping of the lowest three registers on the Uruk Vase (which depict, in ascending order, plants being irrigated, alternating male and pregnant female animals, and nude figures carrying produce) into two blocks, the so-called lower and middle registers, provides a first indication that the Uruk Vase is not a hierarchical narrative. Why did the artist divide three registers into two units? Content provides a clue because sowing/irrigation and animal impregnation are autumnal events in Iraq; the main harvest takes place in the spring. The activities depicted in the two groupings are thus chronological opposites. Reading the middle and lower registers as paired opposites (see Figure 11.5 for a sectioned drawing of the Uruk Vase) fits with the binary principle of composition seen on the vase as a whole (Selz 2000: 32) and explains why the figures in the middle and lower registers scroll in opposite directions and why they are separated by a large blank space.

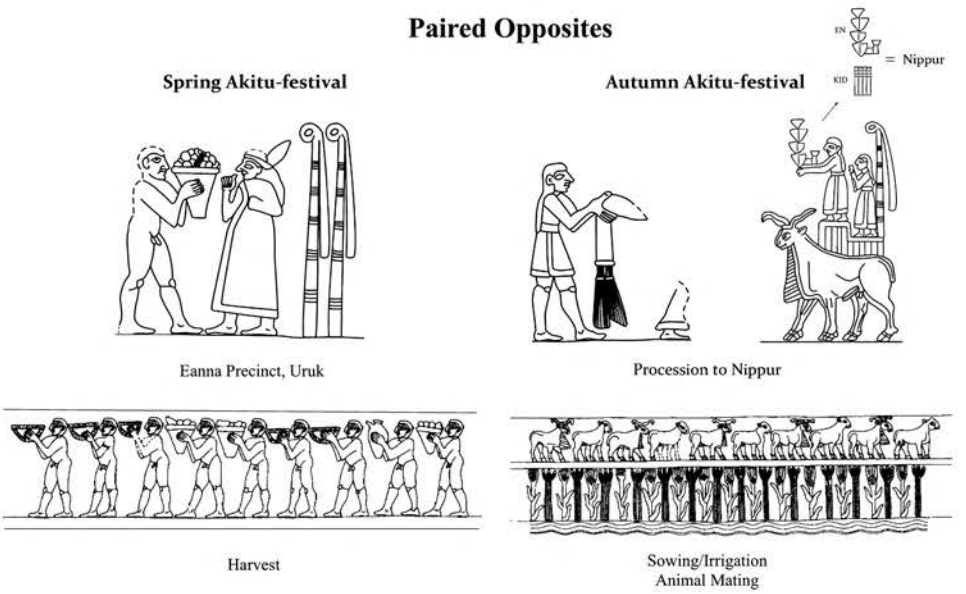

Figure 11.5 Registers of the Uruk vase, sectioned to illustrate the continuous narrative (reconstruction drawing by Catherine Lindsey after E. Lindemeyer and M. Lutz, *Uruk: Kleinfunde III*, 1993: pl. 25)

When the Uruk Vase is read as a continuous narrative, the theme of seasonal contrast can also be detected in the top register. In common with the double image of the king on the Lion-Hunt Stele, two couples are present in the upper register (Figure 11.5). The first fruits carried by the naked ruler and the ring posts situate the first couple at Inanna's doorway in the springtime. A second ruler and goddess are arranged on either side of the first couple. The ruler parades with an attendant on the left. The second Inanna on the right is also traveling in a procession, in the guise of twin statues on a stepped-platform fastened to rams. In keeping with the temporal differentiation of the lower registers, the procession is likely to have taken place in the autumn. Instead of a consecutive narrative about one event, therefore, the Uruk Vase follows the pattern of the Lion-Hunt Stele in compressing two related events into the frame of a continuous narrative.

The seasonal contrast depicted on the Uruk Vase corresponds to the timing of the early Sumerian *akitu*, a major agricultural festival celebrated twice each year (Cohen 1993; Bidmead 2002). The unknown etymology of the term *akitu* indicates the antiquity of this tradition, and the names of the *akitu* festivals match the months in which they took place: the autumnal *a$_2$–ki-ti šu-numun* "akitu of the sowing season" and the vernal *a$_2$–ki-ti še-kin-ku$_5$* "*akitu* of the harvest." Since the Uruk Vase is half a millennium earlier than the earliest text (an ED IIIa tablet that mentions an akitu-structure at Nippur, Bidmead 2002: 42) and because it depicts a biannual rite tied to the agricultural calendar, it supports the earlier view that the Sacred Marriage was performed at the *akitu*-festival as far back as the Protoliterate (Mallowan 1965: 68; Jacobsen 1975).

The twin statues that ride on rams match the duality of the Uruk Vase, and they match the duality of the separate offerings and festivals for Morning and Evening Inanna listed on Uruk III economic texts (Szarzyńska 2000: 65). They are differently dressed from the central Inanna, but this can be explained as everyday or masculine dress donned for the autumn festival. The stepped altar, the structural base for the transport of the two images, represents a temple structure particular to Inanna. House models of this type have been found in Inanna temples at Aššur and Uruk. This object is also represented on seals with the high side turned toward the masculine Inanna (van Buren 1954: 230–231). The twin statues indicate that the custom of transporting cult images to other localities, well attested in later sources, antedates the texts. The seated cult images of later times are considerably more stable than those on the Uruk Vase due to their lower centers of gravity, but, like their Protoliterate forebears, they remain perched upon models of miniature temples (Figure 11.1). This strategy, which one might call "distributed templehood," enabled cult images to remain conceptually tethered to sacred ground while journeying away from home.

Nevertheless, the statues depicted on the Uruk Vase (or at least the higher statue) cannot be literal representations. No cult image would have bowls stacked in front of its face, nor was it feasible to distribute a statue's weight above its head. As long recognized, the outline of the objects held by the higher statue corresponds to the EN sign. Based on analysis of city signs on the Archaic City Seal of Uruk, Daniel Hockmann (2008: 329–331) has proposed that EN can be read in combination with the statue's base as the city sign of Nippur (EN.KID). The relief on the Uruk Vase depicts a concept placed on an object associated with that concept; in the same vein, EN.KID is an ideogram superimposed on a picture. The most logical reason for placing a city sign on a picture of a procession is to indicate destination. The city sign on the higher

statue therefore suggests a procession headed to Nippur, a city most likely selected for the autumnal *akitu*-festival in the Protoliterate period because it was located at the very center of Sumer. Such a role would account for Nippur's later prominence as the religious capital of Sumer. Hockmann's second reading of the ring post next to the lower figure as a component of the city sign of Zabalam (MUŠ.UNUG) is questionable because the ring post might only signify the thing itself; if he is correct, the procession also stopped at Zabalam.

The middle register of the Uruk Vase can also be read as a continuous narrative. Instead of a consecutive narrative about a file of anonymous priests transporting offerings to the temple, it can be understood as a continuous narrative that depicts the repeated actions of a single person. Marking the seasonal differentiation by depicting the ruler in the nude as in the top register, the middle register portrays the ruler working magically and tirelessly on behalf of his subjects to deliver a bountiful spring harvest. Even in the Protoliterate, therefore, the festivities of the two *akitu*-festivals appear to have promoted the power and ideology of the monarchy (cf. royal rituals as historical phenomena, Winter 1992: 16–17).

NEW TEXTUAL EVIDENCE

From the visual evidence, we learn that Sumerian artists depicted the Sacred Marriage from different perspectives, some more literal than others. Texts also provide varied perspectives, although only a few examples can be offered here. In the *Debate Between Hoe and Plow* (Sjöberg and Bergmann 1969: 186, lines 24ff.; Hallo 2005: 155), the seed plow brags that the ruler himself attends *ezem-ĝu*$_{10}$ "my festival," which is celebrated in the autumn. At this festival, the ruler sacrifices animals; he has drums sounded; he harnesses oxen and plows a symbolic furrow. The Sacred Marriage rite may have been performed on this occasion because the festival also features the ruler pouring beer into stone bur-containers (the number of bur-vessels is uncertain because the Sumerian language does not make plurals out of non-person nouns) and then distributing the contents in some manner. Other Sumerian texts, for instance *Šulgi X* (lines 52–54, Klein 1981: 194f.) and *Inanna and Enki* (II iv 45–48, Farber-Flügge 1973: 52, 89), describe a similar *kaš de*$_2$*–a* "beer pouring ritual" performed by the ruler at a festival setting in Uruk. After a ceremonial boat trip to Uruk-Kullab, the area of the Anu ziggurat, the ruler proceeds to the Gipar in the Eanna precinct, where he again libates beer into stone *bur*-containers, sacrifices animals, and has the drums sounded. These descriptions can be understood as presenting a more situated view of the libation ceremony, enabling us to step back from the immediacy of the love songs and view the symbolic marriage as one of many ritual duties performed by the ruler at the *akitu*-festival.

Some "outsider" compositions, namely, texts that have seemed out of place in scribal groupings, make better sense as literal references to the Sacred Marriage. One notorious "outsider" is *Ninkasi A* (= ETCSL *Balbale to Bau;* Civil 1964), an ode to brewing and the beer goddess, which is included on two composite tablets of Inanna-Dumuzi songs. Lines 23–25, which allude to the ruler sexually pleasuring Inanna, hint that *Ninkasi A* is more than a simple drinking song. Nevertheless, the inclusion of a song about beer in the corpus of Sacred Marriage liturgies has been puzzling, causing Steve Tinney (2000: 25) to propose an unknown connection. Cross-referencing *Ninkasi A* with other texts that juxtapose beer and Inanna suggests that the hymn celebrates the preparation

of beer libated at the Sacred Marriage. The preparation of large quantities of sweet beer at a festival at Mari is attested in a letter that describes the palace kitchens providing "420 litres of sweet *alappnum*-beer, the meal of the king and men on the occasion of offerings to Ishtar, in the garden of the king" (Dalley 2002: 134). In a more literary context, the juxtaposition of beer with Inanna's genitals in *Šu-Suen A* (line 20, Sefati 1998: 89, 346; Rubio 2001: 271) *kaš-a-ni-gin$_7$ gal$_4$–a-ni ze$_2$–ba-am$_3$* "like her beer, her vulva is sweet!" falls into place if the goddess's vulva is a vessel brimming with beer. The line that follows in the same composition mentions two types of beer: her *kaš*, the standard brew, and her *kašbir*, a more diluted drink. *Iddin-Dagan A* (lines 150–158, Reisman 1973: 190) describes the two substances libated at the beer-pouring rite in greater detail: a light sweet beer made from date syrup and a strong dark beer made from emmer. The sacred union, therefore, does not seem to have been limited to an act of simulated copulation. On a deeper level, it also involved mixing liquids that were paired opposites, perhaps made from the two alternating plants depicted in the lower half of the bottom register of the Uruk Vase. In common with the binary principle of composition seen overall in the Sacred Marriage, the contrasting character of Inanna's sweet and strong brews suggests that even the libated liquids were gender differentiated, perhaps conceptualized as male and female semen.

This interpretation of the Sacred Marriage sheds light on a text bearing the modern title *The Message of Lu-diĝira to his Mother* (ETCSL T.5.5.1), which comes from the outlying regions of Hattuša and Ugarit. Exhibiting similarities in form to the much later *Song of Songs*, the trilingual elegy is written in Sumerian, Akkadian, and Hittite. A Sumerian man, far from home, asks a traveler headed to Nippur to inform Šat-Eštar, his "mother," that he is well. The traveler will recognize her by five aspects, which Lu-diĝira enumerates. She is: 1) an *alan* "statue" of the fair goddess in the city quarter of Nippur; 2) the morning star; 3) rainfall and irrigation water for the crops; 4) the *akitu*-festival; and 5) a palm. Lu-diĝira's mother can only be Inanna/Ishtar, since no other Mesopotamian deity is both Venus and the palm. The autumnal *akitu*-festival reconstructed in this study accounts for the simultaneous identification of Inanna as the morning star, one or more cult images in the residential sector of Nippur, the *akitu*-festival, and the palm. The fifth description credits Inanna with supplying water for agriculture.

WATER AND THE FUNCTION OF THE RITE

The identification of new texts and images opens the door to a different understanding of the beer-pouring ritual performed at the *akitu*-festivals. An aspect of the Sacred Marriage that has not been fully apparent from the perspective of the traditional corpus is the role of water. Texts indicate that *akitu* rituals required river water, with the specification that the water had to come from both the Tigris and the Euphrates (Bidmead 2002: 126). The "Place of the Ordeal by Water of the Nation" is mentioned in both inscription and hymn as the specific spot at the Gipar where the ruler wed the goddess at the New Year's festival (Weadock 1975: 102). Royal texts, particularly inscriptions that appear on stelae that depict the palm libation, proclaim the ruler's efforts to provide his people with water. The inscription on the Stele of the Vultures records a battle over water rights, while the inscription on the Stele of Ur-Namma lists canals dug by the ruler (Winter 1985: 24, 26). Offerings to divinized ophidian snakes,

which reference the snakes as sometimes male and sometimes female, are attested in the Neo-Sumerian era at Ur but only in texts associated with the *akitu*-festival (McEwan 1983: 225).

Seal impressions of ophidian snakes have been found in early levels at Uruk (Van Buren 1935: 53; Boehmer 1999: pl. 41), and images of paired fluvial snakes, entwined or woven into a twist, abound on the biconical vases of the Early Dynastic era (from Nippur, Khafajah, Uruk, Mari, and Tepe Yahya; see Aruz and Wallenfels 2003: 326–328, 334–338, 343). Snake depictions fade after the Early Dynastic period, but the theme of flowing dual streams continues into the second millennium in the heavenly vases depicted on the Stele of Ur-Namma and the investiture scene at Mari. Water imagery with provincial innovation is also prominent in art from the Sumerian periphery; for example, a mid-third millennium seal from Mari depicts two tree-like goddesses on either side of a seated cult image, each standing on a stream that issues from or into a snake's mouth (Aruz and Wallenfels 2003: 220–221, fig. 151). Seals from Tell Brak and Kish depict the pedestal vase with streams or with paired snakes on either side (de Genouillac 1924: 24, fig. 15; Van Buren 1949: 60–61).

The natural environment explains the Sumerian monarchs' preoccupation with water. In Sumer and along the Middle Euphrates, river and rainfall levels were at their lowest at the time of sowing in the autumn, while the rivers swelled perilously during the spring harvest (Hruška 2007: 56–57; Mori 2007: 42). Such an environment presented its inhabitants with a pressing need to control the water supply. As indicated by the paired heavenly vases, whose streaming contents travel in both directions, and by the ophidian snakes on Gudea's pourer, which entwine down the length of the portal and point their heads at the spout, the water delivery system appears to have been conceptualized as interconnected streams flowing between heaven and earth. The point of mixing symbolic male and female "water/semen" within the person of the goddess may have been to harness her power to generate reversals. Reading the Sacred Marriage as a performative act that effectuates something (as proposed by Bahrani 2002: 20), one can theorize that the merger of symbolic liquids in some specific manner reversed the dominance of one stream over the other, flipping the existing current, sending moisture toward the fields during the growing season and directing water away during the harvest.

In contrast to the autumnal ceremony performed at Nippur, which logically would have functioned to bring water to the sowed fields, the spring ceremony at the Eanna precinct sent excess water back to heaven. If so, Nippur's reputation as the place of passage for things traveling downward from the sky explains why the Sumerian kingship was always lowered from heaven at this place. This study extends Irene Winter's (1985) insight that image and text on the Stele of the Vultures are interconnected, proposing that all inscriptions on the palm libation stelae supplement the primary message relayed through images: "the ruler watered the crops and held back the flood (and also dug canals and protected access to the river)." Attributing supernatural power over the natural environment to the king justified great benefits in kind from his subjects, but it augured political instability when the weather failed to cooperate (cf. collected papers in Brisch 2008).

NOTE

1 Although Sargon is named the *mut* "husband" of Inanna in an inscription, anomalies in the Akkadian period indicate a significant deviation from earlier religious practice, possibly because Akkadian monarchs were often absent from southern Mesopotamia or because they disdained Sumerian conventions. A tendency toward the latter is elsewhere indicated by the paucity of priestly titles and allusions to providing for the welfare of the land in royal Akkadian inscriptions. In common with the Ur plaque, the libator on the Disk of Enheduanna is naked. The closest figure to the libator, rendered in profile, is identified as Enheduanna on the basis of costume and an inscription. Size-rank hierarchy and centrality position Enheduanna as the dominant figure (Winter 1987b: 921–293) in contrast to the similarly garbed priestess on the Ur plaque (Figure 11.2), who is depicted frontally and who is smaller than the libator. If the naked libator on the Disk of Enheduanna is Sargon, it is odd for his daughter to be portrayed in the more important position, even on a self-commissioned artifact. These anomalies suggest that Enheduanna differs in some fundamental respect from her predecessors, possibly further implying that someone other than the ruler performed the Sacred Marriage ceremony during her tenure. A libation of this type on an unprovenanced seal (Orthmann 1975: pl. 135H), dated to the Akkadian period on stylistic criteria, depicts a female libator in conventional feminine dress before a seated armed Inanna. In common with the Disk of Enheduanna, the biconical vase on Seal 135H lacks a palm, but the libator's headdress, fringed robe, and pourer resemble Neo-Sumerian exemplars. We have no information as to her identity, but the evidence suggests an unknown female monarch or further indication that the Sacred Marriage was delegated to someone other than the ruler in the Akkadian period.

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CHAPTER TWELVE

IN THE SERVICE OF THE GODS: THE MINISTERING CLERGY

Joan Goodnick Westenholz

THE CLERGY OF SUMER

Religious personnel occupied a central place in Mesopotamian life, for only they had the ability to communicate with the unseen forces that directed mortal lives, acting on behalf of the community as well as individuals. Ritual specialists were of many types, with different religious functions, some of which changed over time even though their titles remained the same. They were further differentiated by selection process and social role. Nevertheless, it is difficult to divide religious personnel into distinct groups since their domains of competency overlapped: administrative personnel could also perform ritual functions, and cultic celebrants could lead rites in and outside various sacred spheres. Spiritual healers as well as experts in magic and divination were not tied to any specific locality: some addressed the gods in temples while others served the king and the people. The most noticeable division was between cultic functionaries who officiated in the worship of one specific deity and non-cultic ritual specialists who operated in any setting and were not limited to the rites of a particular deity.

The focus of this chapter will be on the cultic officiants who are the mediators between the divine realm and the human world within the walls of one temple. The administrators and staff of the temple not involved in this mediation will not be discussed.

SOURCES

The fundamental problem with any investigation of religion in the ancient Near East is the nature of the evidence underlying all reconstructions. It consists of texts and artefacts, unevenly distributed in time and space. Our written sources include many scholarly catalogues such as dictionaries and administrative documents such as laconic accounting lists of personnel, ration rosters, etc. but few religious ones. These sources sometimes differ in their message. Literary narratives paint traditional imagery while administrative sources provide contemporary documentation.

Written records from Mesopotamia yield evidence of a large number of temple offices and personnel. However, in attempting to reconstruct their functions and duties, the modern scholar has few sources at his disposal. Most of our information comes from lists – of words, persons, offerings, etc. Lexical lists (ancient dictionaries) yield hundreds of titles of religious personnel. Administrative texts document the sacrifices and offerings brought to the temple and the temple officials in charge of these items.

Literary texts shed light from another angle on religious personnel. One Sumerian poem describes the fashioning of the *gala* ('lamentation priest'): Enki, god of wisdom, creates the *gala* and provides him with prayers, laments, and musical instruments to soothe the raging heart of the goddess Inana that was troubling heaven and earth (Shehata 2008). Another Sumerian tale, 'Enlil and Namzitara', recounts how the high god Enlil, disguised as a crow, meets Namzitara, a servant of the *gudu*$_4$ priests ('cultic officiants'), going home after having completed his daily work (Alster 2005: 327–338). Namzitara recognises and acknowledges the power of Enlil, who rewards him by giving him a hereditary prebend (offices having the right to an income from the temple in return for the performance of services connected with the cult, a benefice) in his temple. This folktale provides an explanation of how Namzitara's humble family gained possession of a prebend, the source of the family's wealth. Thus, literary texts provide an ontological reason for clerical positions and conceptualise the divine origins of earthly mediators.

The last major problem encountered in any attempt to reconstruct the ecclesiastical hierarchy of the Sumerian temple is the possibility of Akkadian influence, especially during the Old Akkadian period and in the Old Babylonian period. Consequently, this study relies most heavily on the third-millennium evidence from the Old Sumerian (ED III) and Neo-Sumerian (Ur III) periods and less on the early second millennium.

SUMERIAN ECCLESIASTIC HIERARCHY

Copious large temple institutions with sundry and numerous staff proliferated in the cities. The clergy who served them were divided into specific groups, each associated with a particular temple and god; these included both priestly and non-priestly offices. The non-priestly clergy consisted of the large staff necessary for the organisation and management of the temple, its industries and properties. The ordained priests officiated in the rituals concerned with the direct service of the god. All those who served in the temples, from lowly courtyard sweeper to high priest, were considered various grades of the clergy of the temple. This broad definition of religious personnel is given by Mesopotamian word lists, ration rolls, and lists of prebends of temple offices. These lists record many classes of priests but there is no temple where all the members of the various priestly classes served together.

Among the many cults that were extant in Sumer there existed differences and similarities in the rituals performed and the participants in the rituals. Ritual specialists were many and varied – of diverse types and with different religious functions. Although over 400 different cultic titles existed, a system of mutual exclusiveness among several of those priestly classes, and particular deities, limited their number serving in any single temple. This exclusivity allows for the establishment of certain hierarchic patterns of priests attached to specific temples in the cities of the ancient Sumerian homeland. Table 12.1 presents a simplistic and schematic overview of the nature of the priesthood. Since certain cultic offices were restricted in regards to the gender of their holders and others were not, the positions occupied solely by women are indicated in italics, the positions occupied solely by men in bold and those positions which can be occupied by both are unmarked.

The earliest evidence shows that each Sumerian city-state had not only distinctly different hierarchies, but designated the ritual experts by various obscure terms. For

instance, the rites of the birth goddess, Nintur, involved female celebrants, including the *a-tu*, who held the staff, the tu, who brought the gathered waters, and the *làl-e-šà-ga*, the midwife who sat in a holy place (see most recent discussion of these priestesses in Huber Vulliet 2010: 141–143). In contrast, the celebrations of the goddess Inana involved transgendered and transvestite cultic personnel.

Four ranks are indicated in Table 12.1: (A) titular sacerdotal clergy, (B) performative actors in cult ritual, (C) liturgical cantors and musicians, and (D) female votaries.

Titular sacerdotal clergy

The upper echelon of the temple hierarchy consisted of those ecclesiastics who were chosen by the gods through divination. There are six titles of holders of this rank in the temple: *en*, *lagar*, *ereš-diĝir*, *išib*, *lú-maḫ* and *egi-zi*(*-an-na)* (see Table 12.1).

En

The apex of the Sumerian clerical hierarchy was occupied by the *en*, whose gender generally depended on that of the deity. If the deity was female, the *en* was male, and vice versa. The *en* was considered the spouse of the deity and this metaphorical relationship expressed the harmony of the divine and human worlds in his/her person.

The antiquity of this title as solely a clerical office is not clear on the evidence of the archaic and Early Dynastic texts. In the human world, *en*-ship consisted of two types: royal *en*-ship and priestly *en*-ship.[1] The origin of the religious title is unknown. While it has been suggested that it came into being from a possible split, so that in certain cases the title was purely religious and at other times purely political (Steinkeller 1999: 115–117), such cannot be proven. Early evidence is meagre. There is one Early

Table 12.1 Sumerian ecclesiastic hierarchy (titular sacerdotal clergy)

Ritual Role	*Primary Religious Center*		*Secondary Religious Center*
	Main Temple	*Secondary Temple*	*Main Temple*
A. Titular Sacerdotal Clergy	en lagar **išib** **lú-maḫ** *egi-zi-mah*	*ereš-diĝir* *egi-zi* **lú-maḫ**	*ereš-diĝir / NIN* *egi-zi* **lú-maḫ**
B. Performative Actors in Cult Rituals	**gudu$_4$ / gudu$_4$-abzu** **išib** **šita** **nu-èš** **susbu**	**gudu$_4$** **išib**	**gudu$_4$** **išib**
C. Liturgical Cantors and Musicians	nar gala	nar gala	nar gala
D. Female Votaries	*lukur*	*lukur*	*lukur*

Dynastic king, Ĝiša-kidu of Umma, who bears the religious title *en* among his other royal titles: *en zà kéš* ^{d}*Nin-ur*$_4$*–ke*$_4$ 'en-priest attached to the side of the goddess Nin-ur$_4$' (Frayne RIME 1.12.6.2 line 11). Of the limited written documentation of the office of religious *en* in pre-Sargonic period, the most informative is the *Keš* Temple Hymn. The Hymn is known from both an Early Dynastic and an Old Babylonian recension. In the following, the fragmentary archaic sections are indicated by underlining. The staff of this unique temple are described in the following stanza:

> The holy house, which lets the pure enter (lit. pass), is the shrine/bedroom,
> The holy house *Keš*, which lets the pure enter (lit. pass), is the shrine,
> The house whose *en*-lords are the *Anuna* gods,
> whose *nueš*-priests . . . Inana (ED) / are the ritual slaughterers (lit. dagger bearers) of *E-ana* (OB)
> In the house the king (of Kiš ED) places stone bowls in position;
> The good *en*-priest(ess?) has on the robe of office.
> The *atu*-[priestess] holds the staff;
> The *tu*-[priestess] brings the gathered waters.
> The *lal*-[priestess] takes her seat in the holy place.
> The *enkum*-priests are casting spells on the ground.
> The *pašeš*-priests beat the drum-skins; they recite powerfully, powerfully.
>
> (*Keš* Temple Hymn 104–115, ETCSL 4.80.2)[2]

Both divine and human clerics of the temple are described in this stanza. The mention of the divine *ens* as the *Anunna* gods reflects the use of the title *en* 'lord' for the gods. On the other hand, according to an earlier line in the later recension, the spouse of the goddess, the god Šulpae, is given the secular title *ensi*(k) but is credited with the performance of the *en*-ship for his wife Nintur and this type of singular *en*-ship is more probably the priestly sort undertaken by the human en in line 109. Thus, the divine and human *en*-priests are linked as mirror images and if the reference to Šulpae existed in the Early Dynastic recension, it would demonstrate cross-gender relations between the *en* and the deity at this early period.

Sumerian political centres had individually distinct royal and religious officialdom. The occupants of the highest echelon of the temple hierarchies of the most ancient gods of Sumer had unique and discrete titles (see Table 12.2). There is one exception to this statement – the title of the high priest of Enlil had no ancient title besides *en*.[3]

As can be seen in Table 12.2, each deity was served by particular high priest/priestess whose titles were exclusive to them. It is evident that the term *en* was added in the early second millennium (Old Babylonian) references to these cultic designations.[4] In the first row appears the *zirru*,[5] the high priestess of the moon-god Nanna of the city of Ur and the embodiment of the goddess Ningal, his spouse. The two titles first appear beside each other in the titulary of En-men-ana, daughter of the Old Akkadian king Narām-Sîn: MUNUS.NUNUZ.ZI.^{d}N[ANNA] DAM. ^{d}N[ANNA] EN ^{d}EN.ZU *in* URI$_5$.K[I] '*zirru*-priestess, spouse of the god Nanna, en-priestess of the god Sîn in Ur' (Frayne RIME 2.1.4.33). Under the Second Dynasty of Lagaš, the order of the titles changes. The titulary of En-ane-pada, daughter of Ur-BaU, is: *en-*^{d}*Nanna* [MUNUS.NUNUZ].ZI.^{d}N[ANNA] [*da*]*m*$^{?}$*-*^{d}*Nanna* '*en*-priestess of the god Nanna, *zirru*-priestess, spouse of the god Nanna' (Edzard RIME 3/1.1.6.12). In the titulary of

Table 12.2 The nomenclature of the high priesthood

Deity High Priest(ess)	*Archival/ Monumental Pre-Sargonic*	*Archival/ Monumental Sargonic*	*Archival/ Monumental Lagaš II-Ur III*	*Archival/ Monumental Old Babylonian*	*Lexical Pre-Sargonic*[6]	*Lexical OB*[7]	*Syllabic versions UET 6 390*
Nanna/Sîn zirru[8]	SAL.ZI.ZI.NANNA[9] SAL.ZI.NANNA[10]	SAL.NUNUZ.ZI. ^{d}NANNA[11]	SAL.NUNUZ. ZI.^{d}NANNA[12]	EN.SAL.ME. NUNUZ.ZI.^{d} NANNA[13] EN.SAL.NUNUZ. ZI.^{d}NANNA[14]	SAL.NANNA. ZI, [SAL]. NUNUZ:NU: NANNA.ZI	EN.NUNUZ. ZI.^{d}NANNA = *e-nu-<um> ša dnanna*	EN.zi-ri = EN. ^{d}NANNA
Utu (nu)nuzzi					SAL.UTU.ZI, SAL.NUNUZ. NU.ZI	EN.NU.NUNUZ. ZI.^{d}UTU = *e-nu-um ša ^{d}utu*	EN.ne-zi (wr. GI) = EN.^{d}UTU
Nanše[15] šennu(r)			ME.AD.KÙ[16]		ME.^{d}AD.KÙ[17]	EN.ME.AD. KÙ = *e-nu-'um' ša ^{d}nanše*[18]	EN.še-úr = EN.^{d}Nanše
Inana uk/burrim[19]						EN.^{d}INANA[20] = *e-nu-um ša ^{d}inana*	EN.ubur-rim = EN.^{d}Inana
Enki/Ea murub$_2$					LA[GAR].SAL. UNU SAL.LAGAR. UNU	SAL.LAGAR[21] = *e-nu-um ša ^{d}en-ki*	

the priestesses serving during the Ur III period, the long cumbersome titles were dropped in favour of the short *en-*^{d}*Nanna*. The widespread use of the generic term *en* may have been one vehicle in the centralisation and unification of the ecclesiastical terminology that most likely began in the Old Akkadian period, perhaps under Narām-Sîn. However, this title never achieved uniformity throughout the land.

The earliest hint of a female officiant in the cult of Nanna might be found in the colophon of an archaic cultic calendar.[22] This illuminating text is an account of textiles from Uruk distributed at various festivals, including the *ezen* ^{d}*Inana-ḫúd* 'Festival of the Morning Inana' and the $NAGAR_{b}$ EN_{a} $NANNA_{a}$ '*Bulug*$_{4}$–festival(?)' for 'Lord Nanna'. The colophon seems to relate the cultic festival(s) ($EZEN_{b}$) in which a human *en* (EN_{a}), probably the ruler of Uruk, participated in the house of the woman (ZATU737xSAL) either of the god Nanna ($AN\ URI_{3}$) or in the city of Ur and a person *Diĝir-dùg* was the responsible official.

Slightly later written documentation from the archaic period in Ur provides a few references to the role and position of the *zirru*-priestess. One of these few references occurs in an early archaic administrative text from Ur which contains the concatenation of *lugal*, *zirru* and the city of Ur (UET 2 9). It seems to refer to a festival in which they may have acted in concert. Despite its fragmentary state, another text might shed some light on the importance of the *zirru* in the Early Dynastic period (UET 2 348). It seems to be a record of outlays of an unknown item to/from high dignitaries beginning with the *en*, possibly that of Uruk, followed by a couple of *ensi*(*k*)*s*, (written PA.SI), and an official of Ur. Col. ii records an event 'when the en . . .' and the summary refers to distributions (*ba*) to the temple (*èš*) as the destination of the outlays, the house of the *lugal* of Ur possibly as the distributing institution and in the last line, the *zirru*-priestess. The writing SAL MAŠ $NANNA_{a}$ ZI_{a} for *zirru* has puzzled scholars who expect SAL.(NUNUZ).ZI.NANNA. I would tentatively suggest that the MAŠ is a laconic writing of the later formula for the selection of the *en*-priestess: MAŠ-*e ì-pà* 'chosen by means of (the omens taken from the entrails of) a goat'. Consequently, I would explain this text as relating to the events surrounding the selection of the *zirru*-priestess and the attendance of the international dignitaries at that momentous occasion.

The most prominent holders of the office of *zirru*-priestess, both in image and in written sources, were the following three princesses:

1. The first known holder of the office was Enḫeduana (*En-ḫé-du*$_{7}$*–an-na* '*En*, Ornament of the heavens'), daughter of King Sargon of Akkade, founder of the Sargonic empire, *c.*2300 BC. Through her poetic works and her likeness depicted on a white alabaster plaque overseeing a ceremony of libation before a dais, the person of Enḫeduana comes alive (Figure 12.1).
2. The tenth holder of the office was Enanatuma (*En-an-na-túm-ma* '*En*, befitting for the heavens), daughter of Išme-Dagan of Isin, a city-state in the central area of the Mesopotamian plain near Nippur, *c.*1940 BC. A diorite statuette of Enanatuma (Figure 12.2) was found in the Temple of Ningal, while her brick inscriptions, her building dedications and various administrative texts relating to her have also come to light.
3. The thirteenth holder of the office was Enanedu (*En-an-e-du*$_{7}$ '*En*, made suitable by the heavens'), daughter of Kudur-mabuk, sister of the last two kings of Larsa,

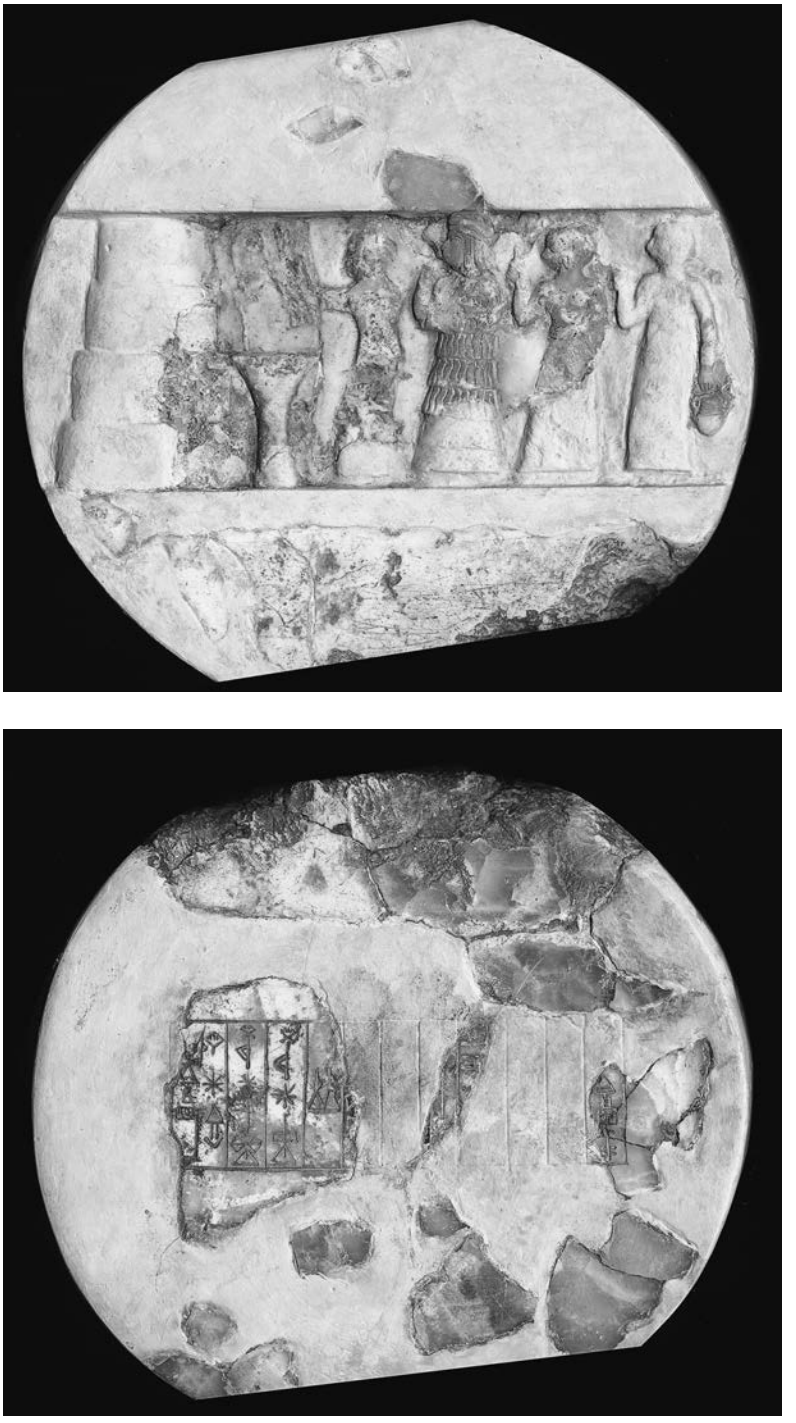

Figure 12.1 Disk of Enḫeduana, from Gipar at Ur (U. 6612)
(courtesy of the Penn Museum, University of Pennsylvania, CBS 16665)

Figure 12.2
Statuette of Enanatuma, from Gipar at Ur (U.6352) (courtesy of the Penn Museum, University of Pennsylvania, CBS 16229)

> Warad-Sîn and Rīm-Sîn, from 1826 BC. Installed in the eighth year of the reign of Warad-Sîn, she has left us both monumental inscriptions and administrative documents: a literary account of her investiture, a building inscription, and seal.

Due to the paucity of data, the following discussion will rely on the evidence provided by these priestesses covering the diachronic span of 500 years (2300–1800 BC) in order to define their ritual functions. There are two aspects to the role of the *zirru/en*-priestess in ritual – those that she undergoes to become an *en* and those that she performs as *en*.

In the ordination ritual, as in any rite of passage, each phase has its typical symbolic expressions. The first phase is the separation from the profane world after the selection of the *en*-priestess through divination. Frequent mention is made of rites of preparation such as purifications and ablutions. After describing her divine election from birth for the office of the *en* and her physical purity, an essential requirement for the priesthood, the *en*-priestess Enanedu alludes to some rite she performed as princess in front of the palace as she leaves it:

> I, Enanedu, *en*-priestess of the god Nanna, (predestined) from the holy womb (for) the great fate of the office of an *en* (and) the nobility of heaven, beloved of the heart, on whose body the goddess Ningal by (her own) hand has put the radiance of the office of *en*, ornament of Ekišnugal [temple of Nanna], who rivals high heaven, ornament of the Agrun [temple of Ningal, see below], bright light coming forth for the nation, holy suited for the tiara of the office of *en*, truly chosen for the rites and lustration ceremonies of divinity, reverent princess who stands for the lustration ceremonies at the lofty laver of the palace.
>
> (Frayne RIME 4 299–301, 4.2.14.20 lines 1–9)

The second phase is the liminal period, the novitiate, in which the novice is to learn the rituals that she will be called upon to perform. Since no texts have yet been found that even allude to this training phase, it might be assumed that the sacred traditions were transmitted orally. Two terms that are mentioned in the inscriptions of these priestesses that might relate to this period are the purification rituals *šu-luḫ* and those of the divine-given *me*-principles of human society together with the divine ordinances, the ground plan of heaven and earth, the *ĝiš-ḫur*. In the words of Enḫeduana, she was *en me-kù-kù-ge-éš pà-da* 'the en-priestess chosen for the holy *me*' (ISET 1 216 L ii 5', see Westenholz 1989: 556 Text C) and in the words of Enanedu: [*me-ĝi*]*š-ḫur [é-kiš-n]u-gál-šè [šu-du*$_7$*–du*$_7$*–]me-en* 'I am the one who perfects the *me* and *ĝiš-ḫur* for the Ekišnugal (the temple of Nanna in Ur)' (Frayne RIME 4 224–231, 4.2.13.15 Frgm. 3:9'). Knowledge of these divine offices may have been acquired during this period, probably from the current occupant of the office.

The third phase, the incorporation of the *en*-priestess into the sacred world, is attested both in administrative and in literary texts. Administrative texts record disbursements made on the day or days of the celebration of the entrance of the *en*-priestess into the *ĝipar*, the place that will be her ecclesiastic residence. A handful of archival texts can be connected with the ordination ceremonies of the *en* of Nanna of Ur as well as the *en*-priestesses of Nanna of Karzida, the quay of Ga'eš, a small town on the outskirts of the city of Ur.

Two *en*-priestesses of Nanna of Karzida were installed during the reign of king Amar-Suena of the Third Dynasty of Ur (2046–2038 BC): Enagaziana (*En-àga-zi-an-na* '*En*, the true tiara of heaven') in his second year and En-^{d}Nanna-Amar-Suena-*kiaĝana* (*En-^{d}Nanna-Amar-Suena-ra-ki-áĝ-an-na* '*En*: Nanna loves highly(?) Amar-Suena') in the eighth year of Amar-Suena. Piecing together the information provided in laconic administrative texts, we can reconstruct the events of their installation in office. The celebration ceremonies of the investiture of Enagaziana, the first *en*-priestess of Nanna of Karzida, extended over a period of at least seven days (from day 23 to day 30) during the harvest month. The beginning was marked by the new *en*-priestess festively entering the city and leading ten head of female livestock, one white cow and nine black ewes. After having taken up residence in the city, the *en*-priestess entered the temple of Gula, the goddess of healing, where she remained for the first four days. On the fourth day (the 27th of the month), the *en*-priestess performed the *ki-^{d}Utu*-rites, possibly at the rising of the sun (or said facing east), which involved invocations and sacrifices of male animals – a bull, ram and billy goat as the *siskur*-offerings. In all likelihood, these rites were designed to bring about the ritual purification of the new priestess. Following these sacrifices, she observed the *ki-du-du*-rites which included

further sacrifices of one ram each to various deities, male and female. On the next day (28th) she proceeded to the *èš-gal*-sanctuary. There offerings of male livestock were dedicated to other deities and localities, including the 'gate of the *ĝipar*', her future residence. The festivities concluded with sacrifices for 'the house of the mother of the *en*'s, the goddess Ninsumuna'. On the 29th, repetition of some of the sacrifices of the previous day preceded the next ceremonial stage of the enthronement of the *en*-priestess.

The ordination would then occur in the *Ekišnugal*, the temple of Nanna. We have only one literary text containing a hymnal discourse that alludes to the actual ordination and naming ceremony of Enḫeduana.[23] The ceremony begins outside the temple where Enḫeduana recites a hymn of praise declaring her faithfulness and fealty and undergoes purification rites in preparation for entering the temple. She is declared worthy of being brought into the temple. Upon her entrance, she extols Nanna. At that stage, she undergoes the purification rites of the *en*-ship and is endowed with her cultic name *En-ḫé-du$_7$-an-na* 'En, Ornament of the heavens'. A name, encapsulating identity, can through its ritual adoption change the identity, and thus the nature and innate powers of its owner. Enḫeduana is named four times in this text and each passage seems to refer to a different aspect of her role. In line 121 (ETCSL A 15), she is named during her elevation to the *en*-ship. In line 142 (ETCSL A 36), she is named as the embodiment of the goddess Ningal. In line 147 (ETCSL A 41), she is called by name possibly in relation to her sacred marriage rite with Nanna. In line 163 (ETCSL B 14), she is named regarding her cultic functions.

The final stage of the installation of the *en*-priestess is her ceremonial enthronement as the manifestation of the divine spouse Ningal in the temple of Nanna. The hymn cited above concludes: 'O Ningal, my Enḫeduana, may she (Enḫeduana) restore your (Ningal's) [heart] to its place, O [Spouse?] of Nanna, let me praise you. O [en?] of Nanna your name I will glorify' (lines 163–166 = ETCSL B 14–17). Images of a banquet scene in which the participants are a human priestess seated beside a god give a visual rendering of this enthronement (e.g. the so-called 'Adam and Eve' seal BM 89326, Figure 12.3). Priestesses are indeed the only humans depicted banqueting with a deity. At this stage, the *en*-priestess probably assumed the title 'spouse of Nanna' and the role of Ningal and was endowed with the paraphernalia of the goddess. A seal from Ur (U. 7956, UE II no. 188) may render in double register the enthronement of the en-priestess and her ceremonial presentation to the goddess Ningal (Figure12.4). In the lower register, the *en*-priestess is shown in her ordinary pre-ordination robes seated on her throne, and in the upper register, she is pouring a libation in the presence of Ningal. Another possible interpretation of the upper register is that the enthroned deity is the *en*-priestess as the incarnation of Ningal.

From Nanna's temple, the *en*-priestess proceeded to take up her residence in the *ĝipar*. Until her death, she was supposed to dwell in relative isolation and be surrounded by ritual *sacrae* that were associated with her cultic obligations. The incorporation rites, the last rites of passage of the *en*-priestess, were carried out on the liminal threshold of the *ĝipar*. Upon entering the *ĝipar*, her august residence, she carries out ablutions. The actual ceremony of ordination might also have involved the first wearing of specific clothing or an ornament or emblem that set the ritual specialist apart.[24]

As to the rituals she performed while in office, she was responsible for building, refurbishing, and maintaining the temples, fashioning and installing statues of the

Figure 12.3 Cylinder seal, Post-Akkadian/Ur III, British Museum 89326 (after Collon 1982: 124 no. 302)

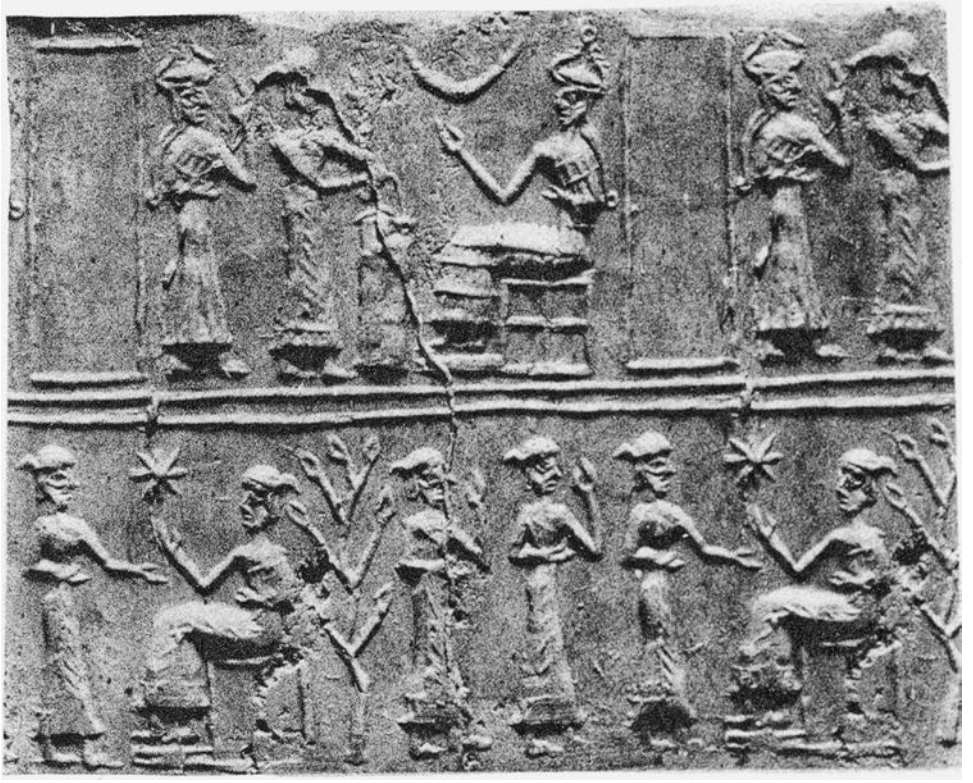

Figure 12.4 Cylinder seal from Ur, grave PG/35 (U. 7956), Post-Akkadian/Ur III, Philadelphia CBS 16856 (after Woolley 1934: pl. 206 no. 188)

deities and the king, provisioning the cult, and accompanying the divine images in procession.

The daily, monthly, and annual duties of the *en* can only be deduced through their literary compositions. Her customary tasks are enumerated by Enḫeduana in her poems; in particular, the *šu-luḫ*-purification rites that belong to the cult service and sacred spheres. She also bore the obligation to grind the groats for the meal offering, and to bring in the *masab*-basket, providing thus daily bread for the god Nanna. She lifted her voice in holy songs, in particular the chanting of the *asila*, the song of jubilation. Enanedu recorded her organisation of the regular *sá-du*$_{11}$–offerings, the regular daily outlays for both Nanna and Ningal, on a stone monument found smashed to smithereens in the courtyard of the Ningal Temple.

Of the annual festivals in the city of Ur, the participation of the *en*-priestess is only known from Nanna's journey to Eridu and the *akiti*-festival. Nanna's journey to Eridu was probably celebrated as part of the New Year celebrations. One Ur III administrative document records a royal offering in connection with such a trip of the *en*-priestess of Nanna to Eridu. Thus, one of the duties of the *en*-priestess was to accompany the divine image of Nanna on his journeys, most of which are known only from literary compositions.

The *akiti*-festivals were the pivotal annual rites of the Sumerian religious year. They were observed semi-annually in Ur at the beginning of the first and the seventh months. In Ur, the city of the moon, the moon-god Nanna departed on the darkest night of the month. The procession was led by king and priestess from the capital at Ur to Karzida, where the *akiti*-building was erected, the temporary residence of the moon-god Nanna before his glorious re-entry into the city. While administrative documents provide much information about the rites, we know little about the participants in these rites. We find just a bare mention of the *en*-priestess of the moon-god Nanna of Karzida in these bi-annual festivals.

On the other hand, the literary compositions as well as administrative documents and the archaeological evidence demonstrate the participation of the *en*-priestess of Nanna in the esoteric 'sacred marriage' rite. The 'sacred marriage' rite was a *unio mystica*, a metaphorical union between the human, who symbolised the communitas, and the deity, the source of all things, thus representing the close relationship between human and divine. It portrays the physical and spiritual union of the human and divine worlds. In particular, the rite of 'sacred marriage' in the cult of the moon-god Nanna did not involve the king and did not necessarily involve actual sexual intercourse but was rather a symbolic act in which the priestess lies down on the sacred bed in Nanna's bedchamber. Administrative documents record offerings connected with the setting up of the bed (Sallaberger 1993: Band I 51, II T7a, 75). Enanedu mentions the bed of Ningal in her broken inscription (Frayne RIME 4 224–231, 4.2.13.15 Frgm. 17:9). Direct testimony to such an act of participation on the part of Enḫeduana occurs in the verse: 'I did not reach out my hands to the flowered bed' (*Ninmešarra* 118, see ETCSL 4.07.02). In the *Lamentation over Sumer and Ur*, mention is made of the destruction of these most sacred localities: 'In the sacred bedchamber of Nanna musicians no longer played the *balaĝ*-drum. . . . The divine bed was not set up, it was not spread with clean hay' (lines 441, 443, see ETCSL 2.2.3). It was rebuilt by Nūr-Adad of Larsa: 'for his life (the king) built (for Ningal) the holy *Agrun*, her dressing-room, the bedchamber of the youthful Sîn' (Frayne RIME 4 143–44,

4.2.8.4:33–38). The *agrun* (É.NUN) 'bedchamber' of Ningal was found in the archaeological excavations of the Ningal Temple: C28, the room with a bed dais, was situated next to C27, the cella. The importance of the bedchamber of this particular temple gave its name to the temple complex as a whole. The administrative, literary and archaeological evidence thus demonstrate clearly that the celebration of a 'sacred marriage' rite between Ningal and Nanna was solemnised in the Ningal Temple.

Lagar

The *en* was often affiliated with an associate, a *lagar*, of whom we have limited information. This cleric ministered to the *en*; acted as a vizier and was of the same sex/gender of the ecclesiastic he/she served (see Westenholz forthcoming). The lagar accompanied the *en* to inspect the building of the temple in the city of Girsu in the state of Lagaš. In the service of the high god of Sumer, Enlil of Nippur, she/he performed certain liturgical actions, specified as *šu-silim-ma*, literally the 'hand of well-being/greeting' defined by an Akkadian gloss *ša karābi* 'of blessing' which covers a range of meanings including formulas of praise, adoration, homage and greeting to a god, invocation of blessing upon others in the presence of the gods, and dedication of offerings to the gods (Westenholz 1992: 299f.).

Iššib

The *iššib*-priest, a prominent male cultic functionary, served female and male deities. The importance of this position is shown by the assumption of the title by kings of Sumer. The royal title *iššib*(*-an-na*) '*iššib* (of the heavens)' was held first by Lugalzagesi, king of Umma and sovereign of all of Sumer around 2350 BC. (Steinkeller 2003: 622), and by the later kings of the early second millennium BC: Šu-Sîn, Lipit-Ištar, and Ur-Ninurta of Isin, Rīm-Sîn of Larsa. A similar title *iššib-an-ki-a* '*iššib* of heaven and earth' was taken by the Neo-Sumerian kings at the end of the third millennium BC.

Literary texts reveal *iššib* to be also a divine title and relate the origin of *nam-iššib* 'the *iššib*-craft' to various deities, in particular Enki, the *iššib* of the gods, the god of wisdom who dwells in the watery depths, the Abzu. Enki is served by Ninĝišzida who is his *iššib-maḫ* 'exalted *iššib*' and holds the sacred *ešda*-libation-goblet and is called 'my linen-clad one'. A divine model of the lower-ranking *iššib*-priest is Iggala ('Big Door') the *iššib-gal* 'great *iššib*' of the Eanna in Uruk (Richter 2004: 307–308).

The human *iššib*-priest also held different positions in the ecclesiastical hierarchy depending on the cult of the god or goddess that he served. Whilst he occupied a subsidiary position in certain cults as in the cult of the god Dumuzi in the city of Uruk where there are a number of *iššib*-priests, in others he held the highest-ranking office, in particular the *iššib* of the god Ninĝirsu in the city of Girsu in the state of Lagaš.

The state of Lagaš was composed of various cities, each of which had its own pantheon of deities and attendant clergy. The goddess Nanše dwelled in the city of Niĝin (NINA) and was served by an *en*-priest but in the capital city of Girsu, the *iššib*-priest of Ninĝirsu was the highest clerical officer in the cult of Ninĝirsu, the chief god of the city. He was the living image of his patron Ninĝirsu *iššib-an-na* '*iššib* of the heavens' and of the same sex as his patron. One of the most significant sacred rites in any Mesopotamian temple was the incarnation of the god in his image. The tran-

substantiation was done by means of a rite termed *ka-luḫ-ù-da* 'the washing of the mouth (of the statue)' followed by the *ka-duḫ-ḫa* 'the opening of the mouth (of the statue)'. This ritual enabled the statue to function as a deity, by becoming its living embodiment. This momentous ritual was probably undertaken in the third millennium by the *išib*-priest of Ninĝirsu. We know at least of one occasion that the mouth opening ritual was performed by the *išib*-priest of Ninĝirsu named Ur-DUN on Lugal-kurdub, the deified weapon of Ninĝirsu (CT 7 16 BM 017765 i 6–7, Selz 1997: 177 [34]). Ur-DUN (who served in the Neo-Sumerian period from the first year of the king Amar-Suena through the second year of the king Šu-Sîn, *c.*2046–2036 BC) belonged to a family of priests who held the post of *išib*-priest of Ninĝirsu for many generations and passed it down from father to son. His image is depicted on his sealing (Figure 12.5) where he is shown nude – sexually marked by genitals and gendered by baldness – pouring a libation in front of the god Ninĝirsu. This scene picturing a nude priest pouring liquid from a spouted jug into a conical vessel from which a bushy plant sprouts is common throughout the third millennium. Ur-DUN may be the very last priest to be so depicted. In other Ur III and second millennium seals, the *išib*-priest is shown clothed in linen (Westenholz 2009: 75f., 82f., 88–90).

Ereš-diĝir

The ecclesiastical title *ereš-diĝir* (literally, two nouns juxtaposed 'queen deity') has been interpreted as 'godly/divine lady' (e.g. Steinkeller 1999: 121 note 59) and 'dame, déesse (de tel et tel dieu)' (Huber Vulliet 2010: 138). The *ereš-diĝir* is attested as the high priestess in the cult of both male and female divinities and even living deified kings (Brisch 2006). This office is documented throughout the third and second millennia.

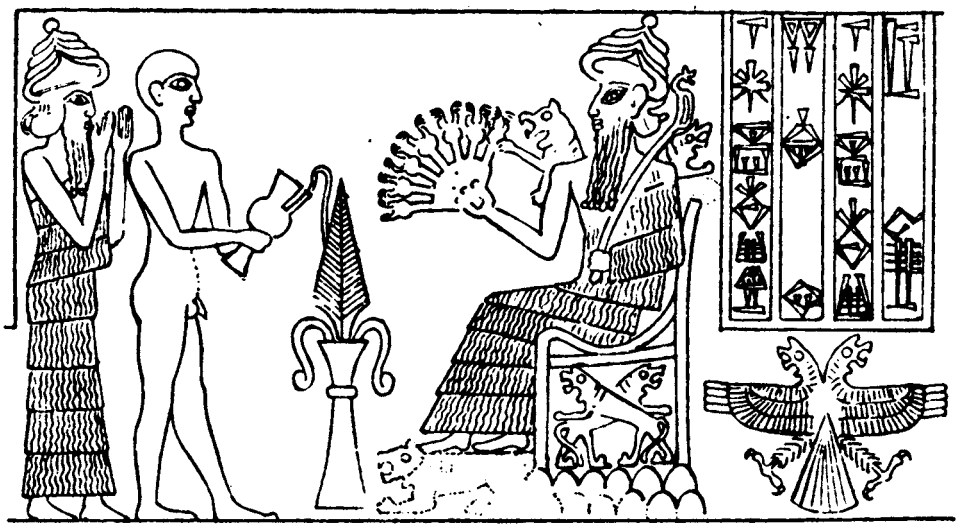

Figure 12.5 Drawing after seal impressions of seal of Ur-DUN išib-^{d}Ninĝirsu (after Delaporte 1920: no. T 110)

However, the role and status of the *ereš-diĝir*-priestess is uncertain. Steinkeller proposed that, in the pre-Sargonic period during the early dynasties of Sumer, while male priests functioned as the consorts of goddesses, their female counterparts could not do so and thus the *ereš-diĝir*-priestess 'could not have functioned as a deity's human consort. Rather, her role was that of a deity's servant or attendant' (Steinkeller 1999: 121). He further suggested that in the Neo-Sumerian period 'by analogy with the female *ens*, those of the *ereš-dingirs* that were dedicated to male deities became consequently those gods' human consorts . . . the *ereš-dingir* became a virtual equivalent of the female en . . . As for the *ereš-dingirs* that served female deities, no change occurred in their status. Accordingly, from this time on, *ereš-dingir* served to describe two different types of priestess: (1) the human consort of a god, who was identical with the female *en* and (2) the attendant or companion of a goddess' (Steinkeller 1999: 128–129). Neither generalisation seems supported by the evidence.

The counterpart of the *išib* of Ninĝirsu was the *ereš-diĝir* of the goddess BaU, the consort of Ninĝirsu. Thus, she was the high priestess of a goddess rather than her attendant. The best-known *ereš-diĝir*-priestess of BaU is Geme-Lama who held this office under Šulgi, second king of the third dynasty of Ur (*c.*2063–2046 BC). Her household, *é-ereš-diĝir-*^{d}BaU ('household of the *ereš-diĝir* of the goddess BaU'), owned vast tracts of land, orchards, forests, large herds and flocks (branded with her own brand) and employed a large staff, among whom were cultivators, gardeners, cowherds, boatmen, washers and as many as 106 weavers. There also survive numerous and sundry sealings of her subordinates as well as her own sealing. The latter is preserved on an envelope in the British Museum (Figure 12.6). Geme-Lama, as BaU's high

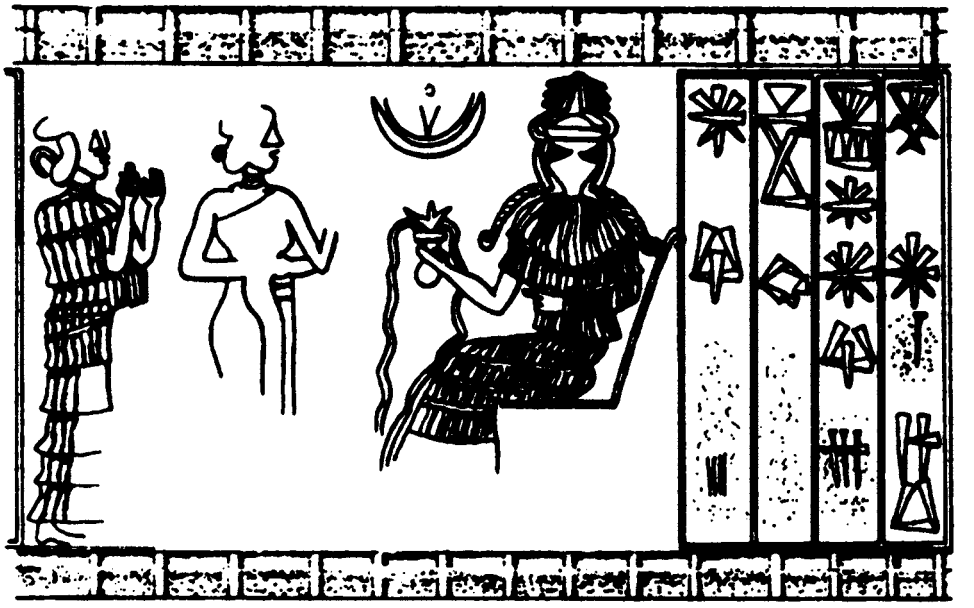

Figure 12.6 Drawing of seal impression of seal of Geme-Lama, *ereš-diĝir* priestess of BaU, British Museum 18207A (after Fischer 1997: no. 4)

priestess is not led by Lama but is privileged to stand between the two goddesses and face BaU directly. Followed by an intercessory minor goddess, Geme-Lama faces a seated goddess, presumably BaU, who extends an overflowing vase to her. In Neo-Sumerian times, deities frequently present an overflowing vase, a symbol of prosperity to rulers for their services. This scene presents a visual image of the spiritual authority of a priestess shown as an equivalent to the political authority of the monarch. Geme-Lama wears a common fringed robe and her hair is tied up like a court lady rather than wearing her hair loose and bearing the round thick headband of the *en*-priestess discussed above. Her atypical representation has been explained by the likelihood that Neo-Sumerian *ereš-diĝir*-priestesses of BaU were the wives of the governors, following the Early Dynastic period tradition when wives of the local rulers were in charge of BaU's temple estate (Suter 2007: 328; Westenholz 2009: 85).

The daily, monthly and annual responsibilities of the *ereš-diĝir* priestess of BaU are seen in the voluminous accounts of outlays for offerings to the goddess BaU, to other divinities and to her ancestors. Riding around in her chariot, she visited many shrines. At the New Moon and Full Moon, monthly funeral libations were poured out at the various funerary shrines to her ancestors, to her mother (perhaps the previous *ereš-diĝir* by the name of Geme-BaU, see Sallaberger 1993: 282 note 1314) and to her father (Sallaberger 1993: 96 and notes 414–5, 282f.). A Festival of BaU in the city of Lagaš was observed on New Year's Day by the time of the rule of Gudea, celebrating the marriage of the deities Ninĝirsu and BaU. Part of the special activities to celebrate the festival included the bringing of the bridal gifts. There has been speculation that the part played by the *ereš-diĝir* in this festival was that of the goddess BaU (Maekawa 1996: 172). Geme-Lama probably also led the procession during the pilgrimage holidays which included days of sacrifices to the various gods of the cities and towns of the state of Lagaš as well as offerings at the funerary shrines of past *ereš-diĝir* priestesses and of the deceased members of her own family. Other laconic notices refer to activities such as going to the sheepfold (CT 10 BM 014308 vi 16) and accompanying BaU in her excursions.

As chief minister to a male god, the *ereš-diĝir* served in secondary main temples, the most important of which was that of Ninurta of Nippur. The title of this particular priestess is also written solely with the NIN sign in Sumerian context but whether it should be rendered *ereš* or *nin* is uncertain (Huber Vulliet 2010: 139).

Lú-maḫ

The *lú-maḫ* ('exalted man'), a prominent male cultic functionary, served female and male deities, some major and some minor (Sallaberger and Huber Vulliet 2003–2005: 628). The importance of this position is shown by the assumption of the title *lú-maḫ* of the goddess of writing, Nisaba, probably at Ereš, by Lugalzagesi of Umma (Steinkeller 2003: 624). Although the appearance of the *lú-maḫ* has not yet been identified in visual imagery, his depiction in literary texts indicates that he was dressed in linen when he performed his ritual duties: 'Your *lumaḫ*-priest does not dress in linen in your holy *giguna*-shrine' (*Lament Over Ur* line 352, ETCSL 2.2.2).

In Girsu, the position of the *lú-maḫ*-priest in the service of BaU was subsidiary to the *ereš-diĝir*-priestess,[25] but in Umma, the *lú-maḫ* was probably superior to the *egi-zi-maḫ* in the ministry of Šara.[26] On the other hand, he was the highest official of the cult of Inana of Girsu. The information on his religious duties is sparse.

Egi-zi

One poorly known cultic figure is that of the female *egi/égi-zi*(*-an-na*) ('faithful/true princess (of the heavens)').[27] Divine *égi-zi-an-na* provide gender models: the mother-goddess Ninḫursaĝa and the goddess of exorcism, Ningirima. As for the deities whom the *egi-zi* served, those that are known are both male and female, the majority belonging to the panthea around the city of Umma. In Umma, she holds the next-to-highest rank of the ecclesiastical hierarchy (see above), in service to the god Šara just below the *lú-maḫ* of Šara (Steinkeller 2005: 304) and probably the highest in the hierarchy of Nin-ura, the spouse of Sara. Frequently, she is said to be the *egi-zi-maḫ* 'exalted *egi-zi*'. Her responsibilities included being the recipient of offerings presented to Šara (whether as beneficiary or as redistributor is uncertain) and collector of tithes.

Death, burial and commemoration

When these high-ranking clerics died, they were buried with pomp and circumstance befitting their rank in life and received perpetual funerary offerings and services. Ancient sources provide much information on the burials of the deceased *en*-priestesses of the moon-god Nanna and the *ereš-diĝir*-priestesses of Lagaš. Even the burial place of the *lú-maḫ*-priest of BaU was one of veneration. The burial complexes were composed of both a grave *ki-maḫ* and a mortuary chapel *ki-a-nag* (literally 'water-drinking place') (Jagersma 2007: 294–298).

When she died, a magnificent sepulchre was erected for the *ereš-diĝir* Gemé-Lama (Sallaberger 1995: 16, 20; Jagersma 2007: 291–300). Her chariot bore her coffin through the streets of Girsu to her final resting-place. Accompanied by wailing at her residence and then at the mortuary chapel, she was laid to rest. Grave goods of sumptuous gold jewellery and vessels were interred with Enagaziana, the *en*-priestess of Nanna of Karzida. A cemetery of the *en*-priestesses was incorporated into the plan of the *ĝipar* of Enanatuma and it was surrounded by a wall and enlarged by Enanedu who named it *únu šeš ba-an-tùm* 'Hall-that-brings-bitterness' (Frayne RIME 4 300–301, 4.2.14.20: 34–48).

Obsequies at their mortuary chapels were performed regularly; there were outlays for daily offerings in addition to the monthly expenditures at the New Moon and Full Moon festivals, and during certain holiday celebrations. To perform the obsequies at the mortuary chapel a large staff was needed among whom were *gudu*$_4$-priests (for the *ens* of Nanše). In Old Babylonian Ur, we have the description of the offerings of butter, cheese and dates that were allotted to the *ki-a-naĝ* of the *en*-priestesses but not their staff. We know that the offerings were placed at the mortuary chapel, probably before the statues of dead *en*-priestesses. These statues were very elaborate. Kudur-mabuk, king of Larsa and father of Enanedu, ordered the artisans to overlay the copper statue of the *en*-priestess of Nanna with gold (UET 5 75, see Charpin 1986: 43).

Performative actors in cult ritual

In the second rank of the temple hierarchy is the most prolific group of sacerdotal offices – that of the cultic officiants, specialists in charge of purification of sacral places and objects, as well as the performance of the care and feeding of the deities, their offerings and sacrifices. The Mesopotamian ritual specialists most commonly in charge

of maintaining the purity and holiness of the statues, the holy objects and the sacrosanct areas of the temples were the *gudu*$_4$, *šita*, *nu-èš*, *a-tu*$_5$, *sánga*, *susbu* and particularly, the *išib*-priests.

Among these many cultic functionaries, those that occur most commonly in all the temples of Sumer were the *gudu*$_4$-priests. They were not only ritual specialists in charge of the sacrifices, the care and feeding of the deities, as well as lustration rites, but also engaged at times in labour service for the household of the deity which they served. Their major responsibilities included the cults of deceased and living kings (Brisch 2006: 176) and priestesses (see above). Royal antecedents rather than any divine models for this cultic role are Ziusudra, the so-called hero of the Sumerian Flood Story and Limer, the *gudu*$_4$-priest, who was king of Mari in the Sumerian King List. We are fortunate to possess a text furnishing the incantations for the purification of the *gudu*$_4$-priest before his investiture and consecration in the temple (Farber and Farber 2003). The washing vessel of Enki was used to bathe the candidate with pure water. At sunrise there were recitations of texts and perhaps sprinkling of magical herbs before the novice entered the sacred temple. The candidates were probably shaven; their luxurious *ḫili*-wig of hair is mentioned in various literary texts. They may have then entered the holy room set aside for the *gudu*$_4$-priests, where water never ceased to flow (Gudea Cyl. A xxix 6, ETCSL 2.1.7, Edzard RIME 3/1.1.7). The duties of the *nam-gudu*$_4$ 'office of *gudu4*-priest' were considered prebendary and could be passed down through the generations or bought and sold. The tale of Enlil and Namzitara is an etiological composition on the attainment of this prebend (see above).

In the various local cults, purification priests were given many unique designations. The meanings of all these titles have been lost in the passage of time. In Sumerian sources, it is difficult to discern the limits of the competences of these clerics, whose duties seem to be overlapping, in particular in relation to lustration rites. For instance, one literary hymn provides an exceptional description of the role of the purification priests: 'Those endowed with divine powers (*me-ḫal-ḫal-ne*), 10 purification priests (išib), prostration priests (*ki-za-za-a-ne*), lustration priests (*a-tu*$_5$*–tu*$_5$*–a-ne*) and ablution priests (*súsbu-be-e-ne*) will never cease coming every month, once a month, to the great shrine, for your brother (the god Dumuzi), who has taken possession of the *en* priesthood, the *en* priesthood of Uruk' (Alster 1985: 223 lines 19–23, ETCSL 4.08.10 'Dumuzid-Inana J'). Two of these five titles are unique to this text. While in the human sphere all rites of purification were performed by men, in the divine sphere the purification functions were divided between gods and goddesses with the goddesses predominating in the earliest periods (Cunningham 1997: 16–18). Exceptionally, there were purification priesthoods in which male–female parity occurred. In the service of the god of wisdom Enki were the male *enkum* and the female *ninkum* (Charpin 1986: 389–393). Equipped with various cultic vessels and sprinklers, they used mainly water in their rites.

The *išib*-priests were responsible for the performance of various lustration rites. In general, the *išib*-craft required the learning of the rites of *šu-luḫ*, the ablution rites, performed with pure water, and the laving of the cult statue of the god. In order to carry out this function, the *išib*-priest is shown holding the *ešda* cultic vessel and could be depicted naked when bathing the sacred image of the god (e.g. the priestly officiant bathing sacred image of the god in the Ur-Namma stele). This nakedness, in contradistinction to nudity, was a functional nakedness (Asher-Greve and Sweeney 2006:

134); it became in time the traditional mark of his office in the third millennium. Regarding adornment, there is an enigmatic reference to the kohl mascara used by the *išib*-priests of Eridu (*Inana and Šukaletuda* 51, ETCSL 1.3.3).

The *nu-èš* was the key cultic functionary not only in the various temples in the city of Nippur but also in the city of Adab; for example, in the temple of Damgalnuna (e.g. Visicato and Westenholz 2010: 120 s.v. *nu-èš*; Biga 2005). He may have assumed the duties of the *gudu*$_4$-priest in these cities.[28] There seems to be no divine or royal claimant to this position of service to other deities.

Less frequently occurring purification priests are the group: *šita*, *šita-èš*, *šita-ab-ba*. Their responsibilities included the clothing of the gods. In Girsu, they may have had their own residence (*é-šita*). Gods and kings served as *šita*-priest: 'to Išme-Dagan, his joyous, reverent sacral šita-priest, who daily serves, to sanctify its food, to purify its water!' (*Lament over Nibru* 276–277, ETCSL 2.2.4). Viewed as a divine purifier, the god Nusku, was said to be both a *šita*-priest and a *susbu*-priest: *susbu šita abzu kisal-e saĝ nam-du*$_8$-ù 'susbu-priest, *šita*-priest of the abzu, you sprinkle the temple courtyard with the best!' (*Hymn to Nusku* A 23, ETCSL 4.29.1). For the *susbu*-priest, divine models were not only male but also female: 'You are most apt for the holy *susbu*-rites and lustration (*šu-luḫ*) rites' (Nin-imma A Segment B line 9, ETCSL 4.21.1; Focke 1998: 198, line 10). According to the Nanse Hymn (A), the *susbu*-priest also administered food allotments. The *sánga* (Sallaberger and Huber Vulliet 2003–2005: 631 §5.4), limited to Nippur, was known among cultic personnel of both Enlil and Inana (Zettler 1992: 193). Kusu was the divine purification priest of Enlil or of the gods (Michalowski 1993: 158).

Linen garments are assumed to be the standard cultic attire of certain priests. In literary texts, they are termed *šà-gada-lá* 'linen-clad' (lit. 'torso hung with linen'). The linen-wearers of Sumer performed the *išib*-craft for Enki in the Abzu (*Enki and the World Order* lines 141–149, ETCSL 1.1.3). These linen-clad priests perform certain ritual acts in the sacred marriage of Inana and Dumuzi (Inana Hymn G 52–55, see ETCSL 4.07.7; Sefati 1998: 42 and n. 31). They prepare the altar and set water and bread before Dumuzi. Gudea, ruler of the state of Lagaš, appoints a series of cultic officiants described by their attire and headdress: 'to their offices in the courtyard of Eninnu the skin-clad ones, the linen-clad ones and those whose head is covered' (Cyl. B vi 19–20, see Edzard RIME 3/1 92, ETCSL 2.1.7 line 952–953). The 'skin-clad' (*kuš-lá*, lit. 'hung with skin') and the linen-clad priests both appear together in the hymn to the goddess of dream interpretation, Nanše, of the city of Niĝin in the state of Lagaš. The hymn to the goddess Nanše further hints that these priests had to leave their clothes behind to confront her in ritual nakedness. Possibly, reflecting the images of the flounced wool dress or skirt seen on Sumerian figures are the references in the literary composition, the *Debate between Grain and Sheep* (lines 107–111, ETCSL 5.3.2). Sheep claims that: 'In the gown, my cloth of white wool, the king rejoices on his throne. My body glistens on the flesh of the great gods. After the *gudu4*-priests, the *pašeš*-priests and the *a-tu*$_5$–priests have dressed themselves in me for my holy lustration.'

Liturgical cantors and musicians

The third group of temple personnel are the liturgical priests, the *nar* 'musician-singer' who combined both functions, namely that of playing a musical instrument and of

singing, and the *gala*, the so-called 'lamentation priest' who was responsible for the major ritual compositions that were sung during temple rituals, state ceremonies, city observances and particularly lamentations at funerary rites (Cooper 2006) and possibly marriages (Michalowski 2006). Both these musical specialists, thus, were not restricted to temple rituals but also functioned outside the sacred sphere, particularly in the palace for which the earliest evidence is that of Šuruppak (modern Fara). In fact, the earliest documented context for the *gala*'s performance is funerary where he is accompanied by women lamenters.

The divine origin of these two musical specialists were given in etiological myths. As mentioned above, the *gala* was created by the god Enki to appease Inana, while the *nar* was created by happenstance. In the myth *Enki and Ninmaḫ,* during the banquet to celebrate the creation of humankind, the inebriated god Enki and goddess Ninmaḫ engage in a battle of wits. Ninmaḫ will create handicapped individuals for whom Enki will find an appropriate place in society: 'Second, she fashioned one who turned back [?] the light, a man with constantly opened eyes [?]. Enki looked at the one who turned back [?] the light, the man with constantly opened eyes [?], and decreed his fate allotting to it the musical arts [*nam-nar*], making him as the chief [musician] in the king's presence' (lines 62–65, ETCSL 1.1.2). It is also evident from this myth, that the *nar* was created to be a court rather than a sacerdotal musician.

Whereas most of the third-millennium records provide evidence of their functions outside of the temple, there exist administrative documents (mostly laconic allocation rosters) of these specialists as cultic performers (Gelb 1975). The lists of these specialists in the temples of Lagaš give the proportion of 135 *nar* to 29 *gala* in the service of Ninĝirsu and BaU in Girsu. Other temples of the state of Lagaš have similar proportions of musical specialists. Infrequent citations reveal the service of the *gala*; for instance, *galas* served in the temples of Niraḫ, Nergal-maḫ and Alla in Adab during the Sargonic period. In Ur III, the gender of the officiant is sometimes indicated. Whereas in the Temple of Inana at Nippur, a *nar-nita* 'male singer' occurs in the lists (Zettler 1992: 158), a text from Puzriš-Dagan (TRU 41) gives a list of female *nar*-singers on the occasion of the *èš-èš*-festival of the New Moon. While the *nar* seems always to be a professional musician, the *gala* can be either temporary or permanent as well as amateur or professional in the Ur III period.

The physical features and gender identity of the *gala* have been widely discussed in Assyriological literature. Textual and iconographical evidence have led many scholars to assume that the *gala* was of unique gender identity. Gabbay (2008: 530) advocated the opinion that the *gala* belonged to a third gender, and consequently, he was not confined by the boundaries which limited the activities of the first and second genders and thus could act as a mediator between human and divine worlds, lamenting and praying over individuals and communities, who did not possess the ability to cross the boundary separating the two worlds. Accordingly, the *gala* could act as their messenger and assuage the angry hearts of the gods for them. However, in the third millennium, the gender of the *gala* is not so delimited; both male and female *gala* are attested in presargonic Girsu (Sallaberger and Huber Vulliet 2003–2005: 634 §5.8.1, 636 §6.4.1; Cooper 2006: 43). Further, the *gala* is not merely a ridiculous figure of uncertain sexuality but a respected cleric with wife and children in many documents. As Cooper has suggested (2006: 43–44), if women's songs were the origin of lamentations and women at one time performed with *galas* in cultic lament and *galas* with women at

funerals, then it explains why the dialect of lamentation is a dialect otherwise associated with women and the ambiguity of the image of the *gala*. Furthermore, traditional compositions designated 'Discipline of Wailing (*ama-ér-ra-ku-tim*) (in the cult of) Belet-ilī' (Shaffer 1993), based on the repertoire of the *ama-ér-ra* ('mothers of lamentation'), support this supposition.

Female votaries

In the fourth rank are female votaries, temple-associated classes of women. The importance of these women as ritual specialists is highlighted by the denigration of the barbarians who lack the necessary cultivation to put into office these female cultic officiants. As the early second-millennium king Sîn-iddinam of Larsa declares in his prayer to the sun-god Utu to demonstrate the reverse of his piety:

> The Simashkian does not elect *nu-gig* or *lukur* priestesses for the places of the gods.
> (ETCSL 3.2.05, line 24)

In the third millennium sources, there is an uneven distribution of the *nu-gig* and the lukur. Both professions already appear in the Early Dynastic lexical list Lu E. The *lukur* is the most frequent; she occurs in temples of the god Ninurta as well as his spouse ^{d}Nin-nibru^{ki} in Nippur, the god Šara in Umma, and the goddess BaU in Girsu. However, attestations of *lukur* in the Early Dynastic administrative texts are quite scant and uninformative. Interestingly, the divine *lukurs* are the septuplet daughters of the goddess BaU. One of these was ^{d}Hé-gír, for whom a separate temple was constructed by Uruinimgina, king of Lagaš; he entitles her 'the beloved *lukur* of Ninĝirsu' (Frayne RIME 1 274, 1.9.9.3 v 16'-18'). Then again, she stands together with her sisters at the side of Ninĝirsu in his temple, the Eninnu, built by Gudea (Cyl. B xi 3–14, Edzard RIME 3/1.1.7.Cyl. B p. 94). The duties of the human lukur may have included the care of the deities. More than one lukur could serve simultaneously. Some come from upper echelons of society – sister of ensi(k) of Lagaš and daughter of king at Nippur – others daughters of minor priests, bureaucrats or lower echelons at Umma. They may have lived separately in a *ki-lukur-ra*/*é-lukur-gal*.

In the Neo-Sumerian period, this title *lukur* is borne both by the devotee (junior wife) of a deified king or even a local ruler (*lukur lugal* and *lukur ensí*) and by a female devotee of a deity (Sharlach 2008). The royal *lukur* also undertook religious activities and saw to the provisioning of certain deities, particularly goddesses. In the early Old Babylonian period, the *lukurs* of Ninurta (30–40) were actively involved in religious rites of a festival, perhaps Gusisu (Huber Vulliet 2010).

The title *nu-gig* occurs infrequently among temple personnel in third-millennium sources (Sallaberger and Huber Vulliet 2003–2005: 633 §5.7, 636 §6.4.1). One is the enigmatic Early Dynastic royal epithet of Mesanepada of Ur 'spouse of the *nu-gig*' which may refer to the priestess (Frayne RIME 1, 392 1.13.5.2) or to the divine *nu-gig* Inana (Zgoll 1997b). However, there is no evidence of her actual participation in cultic activities (Huber Vulliet 2010: 135–138).

Selection process

The highest officials in the temple hierarchy (*en, lagar, lú-maḫ, ereš-diĝir, išib, egi-zi*) were said to be chosen by the gods to fulfil their particular duties. This selection process was so momentous that years were named 'the year that the x-priest of the y-deity was chosen by divination (perhaps by extispicy, the reading of entrails)'. The candidates for the other ranks of priesthood commonly inherited their offices through family sinecures in which they had prebendary rights. This hereditary priesthood must be distinguished from the vocational priesthood. For example, there are examples of men from other professions entering the office of *gala*. The lower echelons, especially the female votaries, were dedicated by their families for a religious life.

GENDERIC ROLES

In Mesopotamia, as described above, there existed a functionally differentiated sacerdotal priesthood composed of members of both genders. Men and women had ritual roles that were central and indispensable to community cohesion and well-being. Both mediated between the divine realm and the human world. A major obstacle in our understanding of the roles of men and women in Sumerian cult is the lack of gender indication in the Sumerian language, which distinguishes between human and non-human (personal/non-personal) rather than between masculine and feminine. In Sumerian, the gender of the religious mediators was not marked and thus the extent of female involvement and participation in the cultic rituals is difficult to judge. The Sumerian dictionary lists fifty-nine different terms for priests but only twelve for priestesses. Those few are proven by reference to them as 'women'. However, since the language is not gender specific, women would probably have held some of the fifty-nine unmarked offices; many of the listed religious specialists would have been of either gender.

There is universal agreement that there existed priestesses as well as priests as ritual officiants in the Archaic and Early Dynastic periods. The issues revolve around their titles, roles and functions. A generalised disparity in status of female priestesses as lower than their male compatriots in the Archaic and Early Dynastic periods has been posited by Steinkeller (1999: 117–122). He maintains that *en*-ship was defined by its holder being the consort of the deity, that only male *ens* existed as consorts of the gods,[29] and that female religious personnel were merely servants of their deities, acting rather as chief attendants or companions of the respective deities. This thesis undermines the conception of complementary gender between deity and mediator. Nevertheless, in the absence of explicit factual evidence, neither the symmetry nor the asymmetry of the positions of the male and female clergy can be demonstrated conclusively.

A studied avoidance of allusion to gender in the inscriptions of certain *en*-priestesses has been noted (Lion 2009). Lion suggests that their status was equivalent to a change in gender (2009: 169).

According to Sallaberger and Huber Vulliet (2003–2005: 628), when there was a high priestess of any sort (*en, ereš-diĝir, egi-zi*), there was a necessity of a male adjutant (*lagar* and *lú-maḫ*). However, as we have seen the evidence does not support this contention.

CELIBACY

Men and women in divine service had different duties and obligations: Some may marry; others must not. Some were cloistered; others were not. Some may have children; others may not. Some may marry and have no children, some may have children but not marry. There is no vow of chastity as has been previously assumed. Further, there is incontrovertible evidence that they were not celibate. Seals of the son of Enanatumma are well known (see Frayne RIME 4 44f., 4.1.4.14 and for further references, see Van De Mieroop 1989: 247 and 1992: 110). A son of an *en* is a witness in a legal case during the period in which Enanedu held tenure (UET 5 252:2 [Rim-Sîn year 5], see Charpin 1986: 72, 218).

PRIESTS IN NETHERWORLD – THEIR ETERNAL AFTERLIFE

The religious specialists were placed in the centre of the official funerary cult to mediate not only in life but also in death between mortals and the immortals. The best description of the Netherworld is given in a Hymn to Utu. It depicts the mirror image of a temple on earth. In the Netherworld, the dead is said to approach:

> where the *en*-priest/priestess rests, where *lagar*-priest/priestess rests, where the *lumaḫ*-priest rests and *ereš-diĝir*-priestess rests . . . where the *gudu4*-priest rests . . . the *en*-priest knows the rites of the Netherworld . . . 'You fix your gaze upon the person' cries out the *gala*-priest to the Judge of the gods.
>
> (Hymn to Utu lines 58–65, Cavigneaux and Al-Rawi 2000: 72–73)

Similarly, in the *Death of Ur-Namma* the following description is given:

> He presented gifts to the seven chief porters of the netherworld. As the famous kings who had died and the dead *išib*-priests, *lumaḫ*-priests, and *ereš-diĝir*-priestesses, all chosen by extispicy, announced the king's coming to the people, a tumult arose in the nether world.
>
> (*The Death of Ur-Namma* (Ur-Namma A) Lines 76–79, ETCSL 2.4.1.1)

Both the living and the dead brought offerings to the priestly inhabitants of the Netherworld. For instance, Gilgameš brings gifts 'for the dead *en*-priests/priestesses, the dead *lagar*-priests'/priestesses, the dead *lumaḫ*-priests, the dead *ereš-diĝir*-priestesses, and the dead *gudu*^{4}-priests, the linen-clad and . . . priests' (*The Death of Gilgamesh* ETCSL 1.8.1.3 Nippur version 2, line 25) to ensure his welcome in the realm of the dead.

A more enigmatic description of their function in the realm of the dead is given in a hymn to Inana:

> At the New Year, at the festival of Dumuzi, your spouse Ama-ušumgal-ana, lord Dumuzi, steps forward to you. . . . of weeping are brought to you, Inana, as offerings. The tubes of the underworld are opened for you, and memorial libations are poured down them for you. The *en*-priests/priestesses, the *lumaḫ*-priests and the *ereš-diĝir*-priestesses, the *luzi*, the *amalu*, the deceased, eat meals for you, to keep

away the ghosts, and drink water for you, to keep away the ghosts. Your holy dais is set up beside them.

(Hymn to Inana as Ninegala (Inana D) lines 66–76, ETCSL 4.07.4)

CONCLUSION

Thus, the Sumerian cultic officiants laboured for the gods, interpreting their will, assuaging their anger, providing them with nourishment and adornment, and being the means for their manifestation to the populace. They prayed for individuals and communities. However, the priests did not merely serve the deities in any and all the offices of the temple, they were also the mediators between the divine and human realms and partook of both. They were made holy by their contact with the divine, which they retained in their eternal afterlife.

NOTES

1 For deities assuming *en*-ship, see below. For the term '*en*' applied to deceased persons, see Jagersma 2007: 296 who translates as 'ancestral lords'.

2 The translation is based on that given in ETCSL with modifications based on interpretations of other scholars who have treated this text: Gragg 1969; Biggs 1971; Jacobsen 1987: 377–385; Geller 1996; Wilcke 2006. For the most recent edition of these lines, see Wilcke 2006: 233–234.

3 While the title of the high priestess of Enlil is written en in Sumerian texts, there is a variation between *entu,* NIN, and possibly NIN.DINGIR in the Akkadian texts (Westenholz 1992: 302; Huber Vulliet 2010: 138). The title rendered by the logogram NIN is not limited to Nippur where it occurs also as the title of the high priestess of Ninurta but is found in sites north of that city. Huber Vulliet (2010: 139) suggests that 'il est don possible que le titre NIN désignait la grande prêtresse d'un dieu poliade dans le centre et le nord mésopotamien dès le troisième millénaire'.

4 Already pointed out by Steinkeller 1999: 121 note 61 and 128. It is interesting to note that the reference to NUNUZ.ZI.^{d}NANNA in the Enḫeduana composition, *Innin-šà-gur$_4$-ra* line 219 maintains the pre-OB form without the en: *En-ḫé-du$_7$-an-na-me-en* NUNUZ.ZI.^{d}NANNA (Sjöberg 1975: 198). In the ETCSL rendering, there is an attempt to change this line to conform to OB expectations: *En-ḫé-du$_7$-an-na-me-<en> zirru* (ETCSL 4.07.3, Inana C), undoubtedly reading EN.NUNUZ.ZI.^{d}NANNA.

5 Although the etymology and meaning of the title *zirru* is unknown, certain scholars analyse the *diri*-compound as if it were an *izi*-compound into its constituent logograms signifying 'faithful woman of Nanna' which they assume is its meaning. For a discussion of the possible meaning '*zirru-hen*', see Westenholz 1989: 541–544. See further Zgoll 1997a: 145–146, 301–302; Steinkeller 1999: 121–122 and note 61, 128; Marchesi 2004: 170 and note 109 (rather than *zirru*, he reads $^{(nu)}$*nunus$_x$(MUNUS)$^{(nus)}$-zi-(^{d})nana* 'the good (/zid/) woman or *zir*-woman(?) of Nanna'); Veldhuis 2004: 279.

6 First entry from Deimel SF 57 col. i 3–5; second entry from OIP 99 AbS 46 i 3–5; in general, for a discussion of these lexical sources, see by J. G. Westenholz 1992: 300–301. These lexical lists limited to cult personnel have no later exemplars.

7 Diri Oxford 396–400 (MSL XV 45), see Diri Sippar 1 ii 09'–13' (MSL XV 59), see also new bilingual Diri in Veldhuis 2005: 319f.; Proto-Lu 233ff. (MSL XII 41), see also DCCLT OB Nippur Lu. For discussions of the lexical sources, see Renger 1967: 114f. and Steinkeller 1999: 121 notes 60 and 61 and 127 note 84.

8 Rather than *zirru*, Marchesi (2004: 170 and note 109) reads the compound as a series of logograms and phonological signs: $^{(nu)}$*nunus$_x$(MUNUS)$^{(nus)}$-zi-(^{d})nanna* "faithful woman of Nanna." This reading would create confusion between it and the *(nu)nuzzi* of Utu which would then sound

extremely similar and indeed Steinkeller (1999: 121 note 61) relates the two titles and posits that the latter was the primary. Furthermore, the ancients considered SAL.NUNUZ.ZI.^{d}NANNA a Diri-compound which is a combination of several cuneiform signs in which the whole has a pronunciation and meaning that differs from that of its constituents (Civil 1995: 2310).

9 UET 2 9 i 3

10 UET 2 348 iv 2, see discussion below.

11 Enḫeduana, Frayne RIME 2.1.1.16.

12 En-ane-pada, Edzard RIME 3/1.1.6.12.

13 En-ana-tuma, Frayne RIME 4.1.4.3.

14 En-ana-tuma, Frayne RIME 4.1.5.2.

15 In the standard recension of Diri IV 58f. (MSL XV 152), there is no mention of Nanše, the title of her priest has been given to Ea and the title of Ea's priest (written EN.ME.LAGAR) has been given to Nisaba. However, in the section SAL.LAGAR (Diri IV 178f., MSL XV 158), the compound is identified as that of the Ea with glosses, *ú-su-uḫ* and *e-meš*. Foxvog (2007) suggested that the position of *en* of Nanše in the Early Dynastic hierarchy was taken by the ábgal (written NUN.ME.KA×GÁN^{tenû}).

16 Ur-^{d}Ningirsu, Frayne RIME 3/2.1.2.2032, 3/2.1.5.2005, 3/2.2.1.1-2; Ur-^{d}Nanše Frayne RIME 3/2.2.2.1; see Cavigneaux 1991b. In this period there seems to be an additional title: *En-me-zi-an-na*, which occasionally precedes *šennu*. For a variant *En-zi-an-na*, see d'Agostino and Pomponio 2005: no. 50 sealing.

17 This title does occur in the same section in the listing of cult officials but further down in the listing of the ME clerics: IAS 46 x 9, see Mander 1986: 103–108 (p. 106: 5). It is missing in the lacuna in Deimel SF 57.

18 MSL 15 OEC 4 pl. xxix col vii line 52 Frayne RIME 3/2 p. 218 reads *e-nu-um ša ^{d}ad-kù*.

19 For the [b] ~ [g] alternation in this lexeme, see Civil 1973: 60.

20 The entry in OB Proto-Lu 235 adds a ME: EN.ME.^{d}INANA. For a review of the lexical sources pertaining to this title, see Steinkeller 1999: 127, note 84.

21 For a discussion of the clergy of Eridu in the Proto-Lu entries, see Charpin 1986: 379ff.

22 W21671, ATU 7, pl. 77, see Englund 1998: 127 and CDLI P004434. For a treatment of this text, see Wu 2005: 446–447.

23 TuM NF 4 7 iii 7–iv 19, see Westenholz 1989: 552–555 Text B = ETCSL 4.13.03 (Nanna C). The two editions have different line numbering so they will be cited as according to the line numbering in Westenholz l989 and the ETCSL line numbering will be given in parenthesis.

24 For discussion on insignia, paraphernalia and attire of *en*-ship, see Westenholz 2006: 36–37.

25 Steinkeller (2003: 636) maintains that the opposite configuration: the *ereš-diĝir* priestess was subsidiary to the *lú-maḫ*-priest in the service of BaU based on his mention in one year date and on later literary compositions. However, in administrative texts from Lagaš, the order is išib of Ningirsu—*ereš-diĝir* of BaU—*lú-maḫ* of BaU (e.g. MVN 17 iii 13–17). See also Sallaberger and Huber Vulliet 2003–2005: 628.

26 As to the hierarchy in Umma, the situation seems to be ambiguous. While Sallaberger and Huber Vulliet (2003–2005: 628) maintain that the *lú-maḫ*-priest in the service of Šara was subsidiary, the evidence from the administrative texts seems to list the *lú-maḫ*-priest before the *egi-zi-maḫ*.

27 See in general, Steinkeller 2005 and Huber Vulliet 2010: 143–144. The third millennium form is *egi* (*igi*) rather than *égi*. The addition of *an-na* is also of Old Babylonian date.

28 Sallaberger and Huber Vulliet (2003–2005: 630) suggest that the nu-èš was the equivalent of *gudu*$_4$ in central Babylonia.

29 The association of the title *dam* DN 'spouse of a divinity' and the en cannot be proven on the basis of known facts. There are two references to *dam* DN in Sumerian sources: *dam nu-gig* of Mesanepada of Ur (Frayne RIME 1.13.5.2) on the assumption that *nu-gig* stands for Inana and not the priestess, and *dam Nanše* of a priest Ur-Nimin (Frayne RIME 1.9.1.17). For the relation of Inana as *nu-gig* and the king, see Zgoll 1997b: 192–194. The latter reference does indeed

demonstrate that at least one male priest functioned as the consort of a goddess (Steinkeller 1999: 120) but not that the male priest was an *en*-priest. There is no reason to assume that the title of DAM.DINGIR for priestesses in Ebla has any relation with Akkadian practice (Steinkeller 1999: 122–123) rather than Sumerian. Furthermore, I would maintain my supposition (even if the previous documentary basis was weak) that DAM.DINGIR in Ebla was the equivalent of Sumerian *ereš-diĝir*. Suter (2007: 323 n. 16) compares this Eblaite office to that of the Old Babylonian *nadītu* since there were several holding the same office at the same time (Archi 1998: 52–53). Further, although DAM.DINGIR were mostly members of the royal family, they served both male and female deities, the deities Idabal of Luban and his consort the Lady of Luban, as well as the goddess Adamma (see Archi 1998). Renger (2001) posited that there were no *en*-priests or priestesses before the Old Akkadian period and that they were a creation of the Old Akkadian kings.

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PART III

SYSTEMS OF GOVERNMENT

CHAPTER THIRTEEN

DEMOCRACY AND THE RULE OF LAW, THE ASSEMBLY, AND THE FIRST LAW CODE

Marc Van De Mieroop

One Ancient Mesopotamian only has found his way into the US House of Representatives in Washington DC: Hammurabi of Babylon's sculpted portrait joins those of Moses, Justinian, Thomas Jefferson, and others as "historical figures noted for their work in establishing the principles that underlie American Law." As author of the code of Hammurabi, the king has become a widely recognized world-historical figure. People who know somewhat more about Ancient Mesopotamia realize that his work was not a new beginning, but the culmination of processes that had started much earlier and the evidence for which is mostly written in the Sumerian language rather than the Babylonian of Hammurabi's code. I will discuss that material here, focusing on third millennium BC developments in law and politics. By necessity, I will use assorted evidence that is much dispersed in space, time, and character. The Code of Hammurabi, written some 250 years after the end of the third millennium, provides a means to keep those different strands together as it addresses all the issues, perhaps seeking to resolve conflicts between the different interests involved.

THE RULE OF LAW

A summary of court records drawn up in the year 2034 (the fourth year of the reign of King Åu-Sîn of Ur) reports this case:

> The heirs of Lugula raised a claim against the daughters of E'urbi, slave of Lugula. Ninduga, child of the slave E'urbi brought before the vizier the tablet of Lugula, that Lugula, when alive, had appeared and declared: 'In the name of the king [I swear] that herewith I set free the daughters of my slave E'urbi.' The children of E'urbi proved themselves to be free from the heirs of Lugula. Ur-Lama, son of LuÑu was the bailiff.
>
> Falkenstein 1956: II, no 205, 27–42, translation after Wilcke 1998: 50–1)

The record reveals that a clay tablet, drawn up perhaps years earlier, provided evidence that the children of a slave woman had been freed by her owner Lugula and that Lugula's heirs had no claim on them. The Sumerians can be credited with the invention of an instrument of law that is still crucial today: the legal contract – the German term *Rechtsurkunde* may be more articulate. With its creation, a third element came into

being in the relationship between two parties engaging in a transaction, a record that surpassed the limits of time, space, and social divisions (cf. Postgate 1984: 15). While such documents were not mandatory to make a transaction legal, it is clear that their existence was a safeguard against accusations that ownership was illegal. In the case cited here, the women could prove they owned their freedom. Some scholars argue that documents were merely an *aide-mémoire* that was accidental to the transaction (e.g., Wilcke 2003: 76), but the early history of such records written in Sumerian suggests that they were considered as important and valuable as they are today. In that sense, the Sumerian contribution to the history of legal institutions was perhaps more crucial than Hammurabi's.

No private legal documents appear in the earliest corpus of tablets from the late Uruk period, and throughout the Early Dynastic period they remain very rare. The earliest were all found in a secondary archaeological context or out of context altogether, and dating them relies on paleographic and iconographic criteria with a large margin of error. They are special documents because they were written on stone monuments, mostly integrated in a sculpted relief scene (Gelb, Steinkeller, and Whiting 1991). Probably the oldest are the so-called Blau monuments (Aruz 2003: 39), which seem to date to *c.*3000–2900. The Ushumgal stele (Aruz 2003: 53) and the "*Figure aux plumes*" (Orthmann 1975: pl. 75) likely date to *c.*2800. They all contain sculpted depictions of various individuals and record multiple transactions involving real estate. The "*Figure aux plumes*" combines the legal document with the difficult text of a hymn to the god Ningirsu (Wilcke 1995). Only from *c.*2600 onward do records on clay appear as well, but not at the exclusion of stone monuments until the twenty-first century. The most elaborate of these monuments is the obelisk of Manishtushu – although written in the Old Akkadian language it is part of the same tradition – which records the king's acquisition of 3,420 hectares of land from eight groups of sellers in northern Babylonia (Westenholz 1999: 44–45). The monumentality of the object, covered with exquisitely carved cuneiform signs and without a sculpted scene, made it so valuable that 1,100 years after its erection it still stood somewhere in Babylonia visible to the raiding Elamites who took it as booty to Susa. Even if these stone monuments may contain abbreviated copies of records on clay, as some scholars assert (Wilcke 2003: 26), the care and effort devoted to establishing them shows that the contracts were highly regarded items. This suggests that contracts were a crucial element in transactions. That was especially true for those involving real estate. Although we cannot document this in the third millennium, we know that in the early second millennium an owner ideally would hold all records of earlier sales, exchanges, and inheritances to provide evidence for the legitimacy of his or her ownership of the property (Charpin 1986; Janssen, Gasche, and Tanret 1994). In the twenty-first century Ur III period, sale documents became more common and were generally written on clay tablets. Real estate (houses and orchards) remained the main object of the transactions, but also sales of humans and animals were recorded (Steinkeller 1989).

The Sumerian invention of a record with legal value should be seen as a seminal contribution to intellectual history. Henceforth, legal challenges could be settled on the basis of inanimate and unchanging testimony. In early Mesopotamian history, such records never became mandatory and many transactions took place in front of witnesses and involved an oath before gods and king. The fact that oaths and witnesses are regularly mentioned in contracts shows that the arrangements were not exclusive.

We are uncertain about the relative authority of witnesses and contracts. Hammurabi's laws repeatedly place witnesses and contracts on the same level (paragraphs 7, 122–123) and that seems already to have been the case in the earlier Ur III period (Falkenstein 1956: I 73). Witnesses could tell untruths – as the Laws of Ur-Namma acknowledge (LU § 28) – and people could swear false oaths – as a baffled litigant learned when trying to recover a loan from a repeat perjurer before the gods (Foster 2005: 215–216). Although there are some (but remarkably few) accusations of false documentation, the written contract did not lie.

THE PEOPLE AND THE STATE

Adjudication was just one of the ways in which state authorities interacted with the people. It is clear from the Ur III period that the power to pronounce judgments lay in the hands of the king and that he delegated it to locals who judged on his behalf. Although the king may have been directly involved in some high-profile cases, he did not appear regularly as a judge. In Ur III times the provincial governors (Sumerian *ensik*) sometimes acted for him but most often cases were judged by groups of men, the *di-ku*$_5$ in Sumerian, up to seven in one case. We know nothing about how they were selected, trained, and rewarded. The same group could hear various cases in one day, but the judges did not constitute a standing body with rotating or permanent membership. Judges appear with other professional titles and they seem to have been called up on an *ad hoc* basis, with those holding socially prominent professions judging high-profile cases. For example, in the Ur III period, the vizier and the governor heard a case of embezzlement from the temple (Lafont 2000: 49 no 9). Probably the same happened earlier in the third millennium. To be a judge was not a profession, but a responsibility. An authorized representative (Sumerian *maåkim*) was in charge of preparing the case and recording its outcome. The job was not permanent and men with various professions, such as singer and messenger, appear in the role (Sallaberger 1999: 225). They must have been literate to perform the duties involved.

It seems that in other areas of life as well a similar structure existed: the ultimate authority was the ruler, who needed the cooperation of the people to ensure the proper functioning of the state. In war he needed troops, for economic development he needed labor, for the cult he needed donations, etc. In essence, the third millennium Mesopotamian state was a city-state: it encompassed an urban center and its surroundings with villages, farmsteads, and open steppe areas. In most cases, one could walk from the urban center to the outer boundary of the territory in one day. In the southern part of the region some twenty city-states abutted one another in a territory some 200 by 100 kilometers in size. Despite moments of political unification incorporating multiple city-states – most successfully in the Sargonic and Ur III periods when the entirety of Sumer and Akkad was under one ruler – the city-state did not disappear. When the kings of Akkad and Ur had hegemony, local dynasts became governors subject to them, but the relationship between populations and the state did not change fundamentally. The ultimate destination of their contributions may have been the elite in a distant capital, but the people still provided them to the local authorities.

The social structure of Sumerian cities is far from clear to us. Many people were part of what modern scholars of Mesopotamia call "the great organizations" (Oppenheim 1977), that is, various temples and the local palace, which employed men, women, and

children and in return provided them and their dependents, including babies and the elderly, with rations and other kinds of remuneration. These institutions seem to have defined fully the social identity of numerous individuals, but they also interacted with people whose primary affiliations were elsewhere, hiring their part-time labor, for example. Those people were part of nuclear or extended families whose primary activities were outside the institutional domain. The fundamental building blocks of society were "households" –the Sumerians used the term *é* – units comprising people related by blood or dependence. These could be small or large families, the household of a god incorporating thousands of people, or the great household, Sumerian *é-gal*, that is, the palace. The latter did not include all people of the state, however, but only those who depended directly on the household of the king. People did not only associate with their family members, of course; for certain purposes they felt closer to colleagues in their profession or to neighbors where they lived. Sumerian terminology may distinguish between these types of associations, but the interpretation is difficult and debated. When Gudea of Lagash called up for labor service men of groups called *im-ru-a*, some scholars see a reference to clans, others to some geographical entity (cf. Van De Mieroop 1997: 105). Such associations remain a characteristic of ancient Mesopotamian society for its entire history.

What also remained a constant in Mesopotamian history is that the members of associations held meetings. The status and functions of those meetings are controversial but crucial for our understanding of the political structure of Sumerian society. The term used most often to refer to them is the Akkadian *puærum*, from the verb *paæΩru*, "to gather," which became a loanword in Sumerian texts of the Ur III period. A Sumerian synonym, unkin, is attested from the Early Dynastic period on and remained the Sumerogram for *puæru(m)* until the end of cuneiform writing. Both terms are extremely rare in the third millennium, and even in the better-documented early second millennium references are few and far between. *Puærum* and its Sumerian equivalent *unkin* are ordinarily translated as "assembly." Most scholars see it as an institutionalized decision-making body, albeit with diminishing powers as time passed; others consider it to be an *ad hoc* meeting of people with shared interests.

Legal accounts and letters from early second millennium Babylonia and Assyria occasionally mention that an "assembly" decided a lawsuit. Those from Assur do not state much else than that the *puærum* issued a verdict. Many Babylonian accounts are from the city of Nippur and not actual documents but paradigms to teach scribal students legal terminology. One such text may give more detail, if the procedures described are real. It records a trial for homicide taking place in Nippur. When the case was brought before the king, he convened "the assembly of Nippur." The names and professions of some of the men who spoke are recorded and include potters and gardeners, apparently commoners in the society. They do not discuss the question of guilt, only what the proper punishment of the various accused should be (Van De Mieroop 1997: 12). A letter from Sippar suggests that the discussions could be quite acrimonious and that contestants used their connections to get the upper hand. After Ilåu-ibni had written to Iluni in Babylon that the judge Ipqu-iliåu had spoken at length against him in the assembly, Iluni replied:

> I have spoken to the gentleman [i.e., a man called Nabium-nΩœir in Babylon] and I have written a strongly worded letter on his behalf for the director of the assembly

> to Ipqu-Nabium, the barber, a letter for information to Sîn-rËmËni, the judge, and a letter of the assembly [*puærum*] to the honorable judges. Do not spare Ipqu-iliåu during debate in the assembly! In accordance with the words that you and he speak against each other in the assembly, the gentlemen will reprimand Ipqu-iliåu the judge and they will send me a copy of their tablets. The gentleman [Nabium-nΩœir] will inform the king according to the debate he will hear.
>
> (van Soldt 1990: no 2, translation slightly modified).

Unfortunately, the subject of the dispute is not mentioned.

The details these records provide on the functioning of the assemblies are thus frustratingly scarce and scholars have combed sundry sources from the third to the first millennium to find more information. The combined data suggest that Mesopotamian citizens had the right to be judged by their peers and occasionally this happened in so-called assemblies. How these related to the bodies of judges, we do not know. Judges regularly appear as speaking in an assembly (Seri 2005: 168) and Hammurabi's code punishes a judge who reversed his opinion by unseating him "from his judgeship in the assembly" (LH § 5). A gathering of judges and an assembly do not seem to have meant the same, however. Evidence from the city-state of Assur, where merchants involved in trade with Anatolia were very prominent, suggests that the assembly there actively promoted commercial policy (Veenhof 2010: 65–67). How far that extended beyond court cases remains vague, however (Van De Mieroop 1997: 128).

But, as is true for the English word "gathering," the term *puærum* can also be understood as an ad hoc meeting of people with related interests (Charpin 2007: 181). The gatherings documented in early second millennium sources regularly are said to be of "elders," probably the heads of families, but some very specific groups, such as innkeepers appear as well (van Soldt 1990: no 89). It seems very possible that men assembled whenever needed to make certain decisions, especially regarding legal disputes. They would have been more mediators then than courts, and sometimes may have addressed other business. The configuration of the group would have depended on the nature of the case and the parties involved.

The existence of self-constituted groups of people was to the benefit of the state. Power was in the hands of elites, which from late Early Dynastic times on formed the entourage of what we call kings. Perforce the ruling elites had to interact with the general population, which was much easier if it was organized into groups, whose nature depended on the type of interaction: professional associations, clans, neighborhoods, etc. It seems that each one of these groups could constitute a *puærum*. The interactions required intermediaries whom both parties accepted as representative. Again, we are much in the dark about these individuals; who selected them, what were their areas of competence, how were they trained, and so on. The Ur III state, which we consider to be highly bureaucratic, had a multitude of official titles, but there is little clarity about what exactly people holding them did – and, not surprisingly, no scholar so far has attempted a detailed analysis of Ur III officialdom (Sallaberger 1999: 186).

The officials who represented the state to the people collected taxes and fees, levied troops and requisitioned labor, and had to rely on the force of the law to obtain the desired results. We know frustratingly little about the procedures involved, but it is clear that abuse of power was as tempting in ancient Mesopotamia as it is today: officials who acted on behalf of the state easily betrayed the professed ideals of the state.

Their actions seem to have inspired the creation of the instrument for which Hammurabi is so widely praised: the law code.

LAW CODES

Hammurabi's laws rightly deserve the attention they receive. Recorded around 1760 BC they show the most coherent and elaborate engagement with questions of justice in early world history, unequalled so far as we know for more than a millennium. The ancient Mesopotamians themselves realized their importance, copying passages from Hammurabi's text into the fifth century BC. Hammurabi was not a true innovator, however. His laws include clauses King Dadusha from the kingdom of Eshnunna had formulated a few decades earlier in the Babylonian language, and the form he used to express the laws translated a paradigm in the Sumerian language, known from the earlier laws of Ur-Namma (or his son Shulgi) of the twenty-first century Ur III period and of Lipit-Eshtar (ruled 1934–1924) of the Isin dynasty. Ur-Namma's laws were the first to employ the casuistic format, for example: "If a man commits a murder, they shall kill that man" (LU § 1). The format remained standard for expressing laws in Mesopotamia and inspired the adjacent cultures of the biblical world and Greece. At the time that Hammurabi used it in Babylonia, schools in his kingdom taught it in Sumerian using the laws of Ur-Namma and Lipit-Eshtar as examples.

The purpose of this group of four early law codes is not obvious, nor does it have to be exactly the same for each one of them. They were certainly not on a par with the *Code Napoléon* or the like and do not feature as a source of reference and authority in contemporary court documentation. The question has generated a large literature, especially focused on Hammurabi's text (Stol 2004: 655–658). The law paragraphs never appear alone; they are always preceded and followed by royal statements – prologues and epilogues – that provide a temporal setting to the cases. The context is quite clear in the case of Ur-Namma's code – the only third millennium example – even if the epilogue is lost. Issuing the code was part of his policy of protecting the weak in society from abuse by the strong: "The orphan was not given up to the rich; the widow was not given over to the powerful; the man who owns one shekel was not given over to the man who owns one pound [i.e., 60 shekels]; the man who owns one sheep was not given over to the man who owns one ox" (translation after Wilcke 2002: 310). Ur-Namma seems to identify specific abuses in a damaged and opaque passage: "At that time, there was a *nisKum*-official[?] for canals; there was a chief-sailor for foreign traders; there was someone who took oxen, someone who took sheep, and someone who took donkeys for herdsmen" (translation after Wilcke 2002: 306). The laws Ur-Namma promulgated liberated these people from oppression by officials.

Ur-Namma's actions place him in a sequence of rulers that started in Early Dynastic Lagash – the first evidence comes from Enmetena around 2400 – and continued to the end of the Old Babylonian period – Ammisaduqa of the seventeenth century is the author of the latest known edict (see Renger 2002 for survey). The later edicts dealt primarily with freeing people from oppressive debt burdens (Stol 2004: 865–867); those of the third millennium seem to focus on protecting them from abuse of power. The most elaborate third millennium example is one of the earliest: the enigmatic statements by Urukagina (alternative readings of the name are Uruinimgina and Irikagina), often called his "Reforms." Preserved on multiple clay cones and one clay plaque, they

depict a situation where officials charged excessive fees, appropriated labor, and diverted temple resources to the palace (see Cooper 1986: 70–78 for a translation). Urukagina reduced fees, established proper rewards for services, forced powerful people to pay fair prices to weaker ones, and abolished debts. However varied these proclamations are and however perplexing they remain, Urukagina's and Ur-Namma's statements, as well as those of Lipit-Eshtar, Dadusha, and Hammurabi, all seem to desire the same outcome: they want to create conditions that are correct and just. Hammurabi states repeatedly that he established *kittam u mÏåaram*, "truth and justice." These actions were not purely altruistic, but sought to strengthen the ideological foundations of the kings' powers.

THE SOURCES OF ROYAL POWER

We tend to call men like Urukagina, Ur-Namma, Lipit-Eshtar, Dadusha, and Hammurabi "kings," a term that most modern readers associate with a type of rule characterized by the concentration of power in the hands of one man. These five actually all used the same title in their own inscriptions, Sumerian *lugal* and/or its Akkadian equivalent *åarrum*. Those are not the only designations that rulers of the states in third millennium Babylonia used, however. Three Sumerian titles were the most common: *lugal*, *en*, and *ensik*. The details of when and where they appear are complicated, but it seems that each one had specific connotations. Scholars quite often consider the *en* to have more of a priestly role than the lugal, whose powers seem primarily based on his military functions – something that is suggested by the etymology of the word *lugal*, literally meaning "big man." Only rulers of Uruk, like the famous Gilgamesh, seem to have used *en* as a royal title, while lugal at first was always associated with the city Kish. The term *ensik* indicated a local governor when the dynasties of Akkad and Ur III held hegemony over Sumer and Akkad, but also independent rulers, especially in the city-state of Lagash, employed the title. Urukagina started his career as *ensik* of Lagash and changed his title to *lugal* after a few years. The evidence allows for many reconstructions (Edzard 1972–1975: 335–338 gives a sober survey; Steinkeller 1999 proposes an evolution of Early Dynastic kingship, which Westenholz 2002 rejects outright). The variety of titles should warn us that the ideological foundations of rule were not always the same. Moreover, we cannot forget that there was historical change: just as we do not imagine that the king of Spain today has the same powers as Philip II did in the sixteenth century, we should not equate the status of the first men attested with the title *lugal* around 2600 with that of the last one of the third millennium, Ibbi-Sîn of Ur. If we abandon the search for definitions of individual Sumerian terms, I think we can sketch the broad outlines of an evolution in how rulers established their authority throughout the third millennium.

In the creation of the city-state in southern Mesopotamia of the mid-fourth millennium, the temple played a critical role. The layout of Uruk, the first city in world history, was dominated by the religious structures in its midst, and in every other Sumerian town the temple was pre-eminent. It is thus no surprise that the head of the temple organization was the head of state. His powers extended into the economy and probably other aspects of life, but his authority derived from his association with the city's patron deity. The Uruk vase (Orthmann 1975: pl. 69) portrays the ideology visually: the city ruler acts as the intermediary between the people bringing agricultural

goods and the goddess Inanna receiving them. In the early third millennium, the architecture of cities starts showing two new elements, however: a monumental building with a different layout from temples, first attested at Kish, and city-walls, first attested at Uruk. They suggest that a non-religious source of authority had arisen, connected to warfare, which was perhaps on the increase because growing populations demanded greater hinterlands and fought over the agricultural zones between the cities. The people reacted by seeking protection behind walls and military leadership. The person in charge demanded his own special residence, the palace. It is clear that by the mid-third millennium military conflict was common in southern Mesopotamia and that army leaders acquired supreme powers. The earliest preserved documentation of a war, the conflict between the cities of Umma and Lagash over territory on their border, which lasted several generations, shows how the rulers gained prominence through victory in battle.

It seems that rulers of the middle of the third millennium did away with the parallel existence of two sources of power, secular and religious, and merged them into one. Urukagina's reforms, already mentioned here as an edict to protect the people from officials' abuse, claim that the king restored domains that since time-immemorial had been owned by the city ruler and his wife to the gods Ningirsu and Bau. Rather than seeing a restoration of religious authority, one can see this as Urukagina integrating the divine domains into his own secularly based one (Foster 1995: 169). Administrative documents of his reign show his wife in charge of the goddess' estate. Around the same time in the city of Ur, rulers were buried with gigantic riches and were even able to demand that humans were sacrificed to assist them in the hereafter, a practice that later Mesopotamian rulers abandoned. The ceremonies attached to the burials probably were important in the celebration of power and its transfer, and may have turned the corpse of the deceased into something akin to the divine image (Cohen 2005: 147–156).

The usurpation of divine powers did not stop there. The fourth king of the subsequent Sargonic dynasty, Naram-Sîn, became a living god himself. The official announcement of that transition is preserved; the inscription on the Bassetki statue states that after he had won numerous military encounters the people of his land pleaded with the various gods to make Naram-Sîn a god as well (Van De Mieroop 2007: 68). Henceforth, he could write the divine determinative in front of his name, depict himself with the divine crown, and call himself god. The impact of this move is hard to fathom for modern observers with ideals of a separation between church and state, although similar deifications of living rulers have occurred throughout history. It was not an automatic status Babylonian rulers received from then on; in the period of confusion after Naram-Sîn's successor Sharkalisharri kings stopped using the divine determinative and the practice only re-emerged with the founder of the Ur III dynasty, Ur-Namma. It was probably Ur-Namma's successor, Shulgi, who developed practices that made the divine character of the living king a central part of royal ideology. Starting in his reign, many state officials began to adopt names that included a reference to the king as god; for example, Shulgi-ili, which means "Shulgi is my god." He also promoted a literary genre of royal hymns that praised kings as gods and that became fundamental in the educational curriculum of the scribes who would become government officials. The idea that the king was a charismatic god was at the center of the ideology spoon-fed to young students, a practice that persisted into the early second millennium (Michalowski 1987). One note of caution is appropriate: although

inscriptions focus on the king as an individual, we should not believe that the king himself always was a powerful man. In a sense, he was a figurehead of an institution called king and members of his entourage could de facto have control over large segments of the state (Michalowski 2004).

The Sumerian Kinglist, mainly known to us from early second millennium manuscripts, records rulers with and without the divine determinative. It does not grant kings of the Sargonic dynasty divine status, and reserves it for all but the last of the Ur III dynasty and selected kings of the succeeding Isin dynasty (Glassner 2004: 124–125). Why certain rulers were deified and others not, is unclear, and the idea of the king as a living god seems to have disappeared after the Larsa dynasty ended in 1763. Subsequently the occurrences are very few (Seux 1980–1983: 170–171). That does not mean that religious authorities were separate and independent from the secular ones; by Ur III times the temples were fully integrated into the royal administration and the priestly roles of kings remained essential for their authority throughout Mesopotamian history.

PRIMITIVE DEMOCRACY?

Popular assemblies and divine kings may seem to be mutually exclusive. If kings had the same status and powers as the gods, how could they have tolerated the interference of commoners in political life? Should we see early Mesopotamia as an example of despotism, so commonly associated with the east in Orientalist stereotypes, or should we underscore the power of the people? Intuitively, we may imagine the first scenario, since we read so much more about kings and their exploits and see so many more of their remains in the archaeological record. But the second approach has a great appeal and allows for a broad view of the role of the assembly. All surveys of early Mesopotamian history at some point mention the concept of "Primitive Democracy," one of the most influential legacies of the famous Sumerologist Thorkild Jacobsen. Prevented by the Second World War from excavating in Iraq as he had done before and restricted to library research at the University of Chicago, he turned his attention to political institutions, and in the midst of the war published a seminal article "Primitive Democracy in Ancient Mesopotamia"(1943), based on a lecture he had given in 1941. He used the term "democracy" with a classical Greek model in mind, involving all free male citizens, regardless of class or wealth, and argued that the existence of assemblies showed that popular participation in the political process had been essential at the start of Mesopotamian history. A subsequent article, "Early Political Development in Mesopotamia" (1957), depicted how people's powers gave way to royal control rooted in force: primitive democracy became primitive monarchy. Later Mesopotamian history saw the primitive empire of the Old Akkadian period, a bureaucratic national state of Ur III, and, after a long time of political stagnation, the birth of the Assyrian empire as the first of a sequence of increasingly large empires. How could an emperor like Assurbanipal, master of the entire Near East, pay heed to the political wishes of his subjects? Jacobsen did not consider Mesopotamia the sole example of an early society that relied on mutual agreement and consultation; his 1943 article ended with a reference to primitive Teutonic societies. One wonders whether his nostalgia for a distant past with popular participation in political life was not inspired by the events in his own life. He defended his doctoral dissertation on the Sumerian Kinglist at the

University of Copenhagen while Hitler's troops invaded Poland in the fall of 1939, and must have observed in horror the German occupation of his native Denmark soon afterwards. His article may have been "a Sumerological contribution to the fight against Nazism" (Liverani 1993: 11).

Jacobsen's view of the assembly was encompassing. He suggested that at the cusp of Mesopotamian history, societies governed themselves through consultative meetings in which every citizen (an ill-defined term, but likely limited to free men) had the right to express an opinion. Only in times of crisis the need for decisive leadership forced citizens to select an individual to take full control, and already in the third millennium "kings" refused to relinquish power and autocracy replaced democracy. Yet, for several centuries the assemblies continued to hold certain powers. In Early Dynastic times, the king had to obtain their permission to go to war, and into the early second millennium they acted as courts of law, an activity the available sources document most often. Because already in the early historical period the assembly's role had been much reduced, Jacobsen relied especially on myths to depict how it functioned, most prominently the Babylonian Creation story, or *En, ma eliå*, a poem that dates to the latter part of the second millennium (Foster 2005: 436). In it, the gods threatened with annihilation by their mother Tiamat, selected the strapping young Marduk as their champion to confront the monsters she had created. In return, Marduk demanded and received kingship. Although the story was written some 2,000 years after kingship emerged in Mesopotamian society, Jacobsen thought it reflected what had happened in human society. According to him, popular assemblies made decisions in Mesopotamian prehistory; early in the historical period the kings usurped the powers to rule. His narrative closely resembles the biblical description of the rise of the monarchy as well as the political developments in late Republican Rome, parallels he (surprisingly) did not point out.

For several decades, Jacobsen's ideas were very popular and widely quoted. Some scholars tried to elaborate on them and envisioned strong parallels with the Classical Graeco-Roman world with its various assemblies and popular courts (e.g., Evans 1958). Scholars working outside the field of Near Eastern studies who sought antecedents for Classical Greek democratic practices also regularly referred to the concept of Primitive Democracy (e.g., Bailkey 1967; Momigliano 1973; Wills 1970). But at the same time, others expressed many caveats. For example, they questioned the use of second millennium literary descriptions of the divine world to study human affairs of the early third millennium, and even contested Jacobsen's reading of the literary materials: assemblies do not assert much power in them, but merely endorse the king's suggestions (Garelli 1969: 248–252). Another concern was the assumption that the words *unkin* or *puærum* continued to indicate the same thing for more than a thousand years (see Seri 2005: 159–180 for a convenient survey). These lingering questions have made the concept of Primitive Democracy less popular in recent years. Even scholars who see an authoritative assembly at the start of Mesopotamian history are skeptical about the use of the word "democracy" (Glassner 2000). In a postmodern world, the teleological implications of the very terminology "Primitive Democracy" have become suspect (Keane 2009: 112). The term still appears in studies of political structures, but hesitantly and seemingly more to encourage book sales than to elucidate. A recent book that uses the term in its title, *Democracy's Ancient Ancestors*, states bluntly: "I find the word 'democracy,' however broadly defined, a barrier to understanding the diverse Near

Eastern tradition of group-oriented decision making that may somehow stand behind the remarkable development in Athens" (Fleming 2004: 16).

Should we think of early Mesopotamian societies as under the thumb of despotic rulers and strongmen then? No. Throughout Mesopotamian history there existed self-governing civic institutions, which we even find attested in the first millennium, the era of empires (Barjamovic 2004; Liverani 1993; Van De Mieroop 1997: chapter 6). The relationship between state rulers and their subjects always was one of negotiation, where each side had to adjust to internal and external realities. An emperor intent upon far-flung conquests might want to secure his back by granting urban privileges in the empire's core, while urban residents who felt threatened by hostile inhabitants of the surrounding countryside might want to grant full authority to a distant emperor's representative. The systems of mediation make the analysis of ancient Mesopotamian political structures interesting and still relevant, for creating them ranks among the greatest challenges every society faces. Throughout history there were many ways in which people organized themselves and came to formulate their opinions. A detailed study of collective governance in early second millennium BC northern Syria, based on the rich material from the palace at Mari, shows how varied these organizations could be. Some focused more on family connections, real or perceived, others on locality, etc. (Fleming 2004). The third millennium situation in southern Mesopotamia was probably not simpler; although the city-state was the common political structure, there could have been differences between the assorted cities and everywhere the kind of concerns involved probably led to variations in practices. Unfortunately the evidence at hand is scarce and too unfocused to allow for grand conclusions, and the royal personage will always remain dominant in our view. But that should not mislead us into believing that the people had no role in historical developments. However much a king's authority may have been rooted in his ability to muster force, it is clear that he needed support from others for his rule to be successful. Not only the gods needed to approve of him, but also the people had to be content with him. The purpose of his rule was to do good for the people, even if that meant going against the powerful in his land, as the law codes and edicts show. Hammurabi's famous code draws all of these elements together: he was successful in war and battle defeating all of his opponents and this enabled him to honor the gods of the lands he had conquered properly. But, the main beneficiaries of his accomplishments were his people who had the guarantee that truth and justice would rule their lives. Ultimately he was a good shepherd.

ABBREVIATIONS

LU = Laws of Ur-Namma (see Roth 1997: 13–22).
LH = Laws of Hammurabi (see Roth 1997: 71–142).

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CHAPTER FOURTEEN

ADMINISTRATORS AND SCHOLARS: THE FIRST SCRIBES

Jon Taylor

We can only really approach scribal ethos obliquely via the writing system and such documentation as was written using it and has been excavated, published and understood by modern scholarship. Explicit statements on what it meant to be a scribe, and what values a scribe should hold, are completely lacking from the third millennium. Virtually all the material available to us is administrative in nature, often laconic, and not always easy to understand. We can pick out numbers and commodities, personal names, official titles, some processes, and a few dates. The context behind the documents is rarely spelled out, since such information was self-evident for those producing the documentation. Some progress has been made in reconstructing the various bureaus and their systems, but more needs to be done. And of course the sources available to us are far from evenly distributed. Our knowledge of the archaic period is dominated by the texts from Uruk, almost all found in tertiary context in a small area of the site; our knowledge of ED IIIa is dominated by archives from Fara (a major center, but most of whose texts may derive from a single year) and Abu Salabikh (a minor one, which has yielded almost entirely scholarly texts); that of ED IIIb by an archive from Girsu, documenting maybe twenty years of one household. Most of what we know about Sumerian literature derives from a brief period of time in a post-Sumerian age, and is dominated by remains from the education of a small handful of scribes. Such textual hotspots are accompanied by numerous smaller finds of tablets, from a range of sites across Mesopotamia and neighboring areas. Were we able accurately to date and provenance every single available text, and display the results in a single image, we would see scattered specks of light against an overwhelming sea of darkness, punctuated by a few spots of intense brightness. We can only hope that what survives gives us a reasonably representative impression of what once existed. The history of the field suggests otherwise, however.

THE FIRST SCRIBE(S): THE LATE URUK PERIOD

A technological revolution

With the benefit of hindsight, the invention of writing is recognizable as one of the most momentous events in human history. Modern life is unthinkable without it. Yet at the time, this extraordinary invention would have gone largely unnoticed. And even

its inventor – surely just one man – would not have realized the full potential of what he had just created, nor had any idea of the consequences. Around 3400 BC an official in charge of the stores at Inanna's temple in Uruk enjoyed a moment of sublime inspiration. He was responsible for controlling the income and expenditures of the temple household. Up till now a few basic tools had been available: clay tokens in a variety of shapes, seals to validate the record of a transaction, clay tablets on which to mark numbers and possibly a counting board (as Friberg, in Englund 2001: 499 interprets the sign for scribe). His idea was that instead of using shapes of clay or their impressions to serve as mnemonics for commodities, he would draw marks on the clay. These marks allowed him to specify the different commodities in his care – plants from the temple fields, animals from the temple herds, products, and storage jars – and the people with whom he interacted on a daily basis. To his contemporaries it must have seemed amazing how much information he could store reliably on his tablets. Or at least something like that must have happened. There is much about early writing that remains a mystery to us.

It's magnificent, but is it writing?

This new intellectual tool would in time spawn the cuneiform writing system, but "proto-cuneiform" itself occupies a transitional stage between non-writing and writing. Although clearly something more sophisticated than semiotic systems like airport signs, it does not fully meet the usual criteria for writing; in particular, its relation to language is tenuous. For the sake of convenience I shall refer to it henceforth as a writing system, although it is not unambiguously such until a few centuries later. At the outset the system was used only for administrative purposes. There was no literature, no letters, no royal inscriptions. The only other texts so far discovered are those dedicated to schooling beginner scribes in the use of the new technology. There are of course practice texts where the trainee bureaucrats have rehearsed their future trade. There are also lists of signs used in writing. Whilst such lists are a ubiquitous feature of later cuneiform culture, their creation at this early stage is noteworthy, and marks a degree of abstraction in the system. The original purpose of the lists was presumably to define and prescribe the sign corpus. The system could only function if every user shared a common set of signs. They are unlikely to have been an arena for scholarly speculation. In fact there were no scholars as such at this time.

This new system had much in common with the old ones. Lumps of clay were covered with arbitrary shapes standing for something in the real world, and impressed with seals. The information encoded was very similar – commodities and quantities. But the new tool had advantages – greater precision, extensibility, and flexibility. It is this that constitutes the real cognitive breakthrough rather than the materials, method of inscription or technique of representation. Mesopotamians had long known the practice of representing elements of the world around them using images, as abundantly evidenced by stamp seals and ceramic decoration. Potters had started to use abstract and arbitrary pot-marks to distinguish the work of different craftsmen. But here now was a standardized system capable of conveying reliably whatever information was needed. The reader may ask why an ink-based system was not used. The answer to this probably lies in the requirements of sealing practices, and the weight of clay-based tradition already established by the forerunners to writing. The small

number of gypsum tablets may be explained as use of readily available material. The few stone tablets are harder to explain.

At the outset the messages recorded were brief and simple (see Englund 1998 for an account of the document types). Tags of clay attached to containers were marked apparently with a single unit of information, perhaps a reference to the contents of a jar or the official connected with it. Soon though the potential of writing began to be realized and longer and more complex documents followed. Tablets recorded individual transactions in greater detail. The next step saw several transactions being gathered into a single document. At this point a new level of sophistication and abstraction was reached – the transactions could be totaled, with both that total and each individual transaction (and sometimes also sub-totals) recorded on the same tablet. The simple link between each mark on the tablet and an object in the real world was gone. Documents could summarize transactions over a period of months or even several years. The signs used to write each transaction were grouped into their own box on the tablet surface; while the entry would start with a quantity and a commodity, what followed was not written in any particular order.

The conception of the system

In this writing system the characters were mostly pictures. Barley was represented by a drawing of a stalk of barley, a vessel by its outline – modified if necessary by drawing inside it a representation of whatever its contents were. Large animals were represented by a drawing of their head, this being the distinctive part of their body shape. Various birds are shown more or less whole, and the fish-sign is recognizably fish-shaped. More complex concepts could be communicated by combining signs, such as the disbursement of rations to workers being represented by a human head plus a ration bowl (apparently a drawing of one of the ubiquitous, mass-produced beveled-rim bowls).

Our understanding of proto-cuneiform is grounded in our knowledge of later cuneiform. Even armed with this substantial body of knowledge, proto-cuneiform is stubbornly opaque. One crucial avenue of investigation has been the lists of signs compiled by the first scribes. These were copied again and again by countless generations. This has allowed us to match up archaic characters with their better-known cuneiform descendants. Yet this has only allowed us a partial decipherment of the system. And cuneiform developed many innovations of its own, so it is not safe simply to transfer its mechanisms and the detail of its content back into proto-cuneiform.

What language does the Uruk writing system represent?

This system recorded individual items of information rather than flowing sentences. Since the signs did not represent sounds within the stream of speech but rather whole words, it is not clear what language the first scribes spoke. Furthermore, much of the information was transmitted through the formatting of the tablet itself. Key words are written as an *aide-memoire*. It is roughly analogous to a modern shopping receipt, where the time and date of transaction, the name of the office (or shop) and official (or server) involved, the individual sums and the total are given in set places. These texts were probably not read, as such, although their contents could of course have been vocalized, quite possibly in set format. The lack of explicit linguistic information is one

of the reasons why proto-cuneiform is so difficult for us to understand, despite our being able to read the cuneiform which developed out of it. And this also makes it difficult to discern whether or not the language spoken by its inventor was Sumerian. There are a few hints such as sign combinations to suggest that it may indeed have been Sumerian, but the evidence is not conclusive (see Englund 1998: 73–81). Another pointer in this direction is provided by the fact that writing has been invented only a limited number of times in world history. In each clear case, the language behind the writing is monosyllabic, thus basic units of meaning are equivalent to basic units of speech and in turn to basic units in the writing system (Daniels 1992). Sumerian fits this pattern, although another – to us unknown – language may also have done so.

Mature cuneiform is replete with multivalent signs – where one sign can have multiple readings; some are difficult to explain within Sumerian. Finkel (2010: 22–23) suggests that the reading NAB of the sign written with two DINGIR-signs may be Elamite in origin. Englund (1998: 80) hypothesizes an "archaic" language behind the Uruk documents. Rejecting, for example, the conventional interpretation of the AB-sign as a shrine on a mound, he prefers to see it as an image of the Persian Gulf and southern marshes. The word *ab* "shrine" is thus written using the sign for the putative homophonous word, *ab* "sea"; in turn, the Sumerians attach their word for shrine (*esh*) to it. Neither the implausibility of the conventional interpretation nor the plausibility of the proposed interpretation are clear, however, and it has yet to be shown that *ab* is used to mean "sea" (Sumerian *a-ab-ba*) in the archaic texts. Whatever the solution to such problems, it is worth considering the possibility that several languages may lie behind proto-cuneiform, and enigmatic cuneiform values. The Uruk world was surely alive with the sound of many tongues.

But were the signs of proto-cuneiform multivalent? This was an administrative device, one that had no use for poetry, philosophy or propaganda. It did not record speech. It was concerned with numbers, commodities, animals, officials, institutions and places. It also seems to write personal names – interestingly, the first recorded names in history belong to commoners, not kings. The sign repertoire was large, and most characters are attested only infrequently in the surviving texts. They often differ from each other by the subtlest of degrees. Many were subsequently lost or coalesced during the Early Dynastic period, and perhaps as early as Uruk III. The benefit of differentiation became outweighed by the difficulty of retaining differentiation among an increasingly stylized character set and the trouble of learning, producing and recognizing the extra signs. It is at this point that we might expect the first major wave of multivalency to have occurred. A second wave might be expected as cuneiform came to be put to new uses: writing royal inscriptions, letters, treaties, and literature. Then the scribes would need to think laterally to produce a whole series of new readings, as they strove to find ways to represent the more abstract elements of the language.

Who used writing?

It is perhaps at first surprising that the word we later know as "scribe" (Sumerian *dub-sar*) is missing from the Uruk texts. On reflection this makes sense, however. The administrative operations for which writing was invented pre-existed, performed using earlier technologies. Writing was thus just an updated tool. Those who used it would presumably have retained their title and function. Those who produced the tablets do

not give us their titles, let alone their names, since this information was redundant. But what does seem clear is that the first scribes were highly skilled and important officials. Their control over resources underpinned Late Uruk civilization. The suggestion to see the DUB.SANGA of Uruk III as scribe (ultimately Nissen in Damerow et al., 1993: 105) is a tempting one, although it is not clear that DUB means either "tablet" or "scribe." Many other types of SANGA are also attested; were they (too) scribes?

Most people would have had no contact with writing, nor would they have needed to. Anatomically modern humans, with language skills, have managed to live entirely without writing for all but the last 2–3 percent of their time on earth. Even then most cultures have not used writing, and among those that have, usually only a minority of people have been able to read and write. Mass literacy, as a product of universal schooling, is more or less a modern concern. While scribal training would have been key to a small number of high-ranking posts in Uruk society, it is not clear that other officials would have had any interest in it, that training was in principle open, or that there was any frustrated wider appetite for it.

What is remarkable is how quickly and widely the new technology of proto-cuneiform spreads to other centers. Most of our evidence comes from Uruk. Yet sources have also been found from other sites: Al-Uqair, Jemdet-Nasr, Tell Asmar and perhaps Kish and Larsa. It was no doubt in use at other sites too. And a parallel writing system inspired by that of Uruk has been found in western Iran – so-called Proto-Elamite. It is clear that writing was considered superior to pre-writing information technologies, and was coveted by bureaucrats elsewhere. It presumably offered greater accountability, economic advantage and conferred status on its practitioners. It is remarkable that this cutting-edge technology was not more closely guarded.

What remains to be explained is the lack of proto-cuneiform from many sites across the ancient Near East that shared in the "Uruk culture." These sites yield examples of the forerunners of the system – sealings, bullae, and numerical tablets – but not proto-cuneiform tablets. This anomaly may be explained in part by a break in contact between the west and the heartland, and in part by the vagaries of preservation and excavation. But perhaps another factor was also at work. Might the new system have been more trouble than it was worth to the administration of many smaller sites, a system far more sophisticated and complex than required? Two tablets from Tell Brak raise the possibility of further daughter systems, inspired by proto-cuneiform but taking their own local form (Finkel 1985: 187–188). These two tablets appear to parallel the numerical-ideographic tablets of Uruk, with a number and an ideogram in each case. They differ from the Uruk examples in that the animals – a goat and a sheep – are shown full-bodied. With only two examples known, it is impossible to prove that they represent the remains of an administrative system, but given the importance and location of Tell Brak and the presence of forerunner technologies there, it must remain a serious possibility. Attempts to ignore them or dismiss them as ornamentation are unsatisfactory. There is no reason why Proto-Elamite should be the only daughter system of proto-cuneiform; writing systems have a tendency to spawn offspring. This was a period that had seen a series of recording technologies appear in rapid succession.

Refining the tool: the first period of canonisation – Uruk III

Until recently it was thought that the Uruk IV texts were the first to be written. Now we know of texts that may be even earlier; until they are published it is impossible to judge what developments had taken place by the time of Uruk IV. But the Uruk III sources seem to reveal a thorough-going set of reforms. The sign repertoire had exploded, allowing the scribes to record ever-finer levels of detail; it may now have started to contract. Certainly variation in the sign repertoire was tackled, with preferred versions of each sign being authorized. Given the potential of proto-cuneiform to generate signs, it is remarkable how few existed; cuneiform always maintained a much smaller character set than does Chinese. Each sign became more abstract and simplified, and was now written with a shaped rather than pointed stylus. While the scribes surely had a sense of aesthetics and would have been careful in their execution of the signs, this was writing not drawing and what was of prime importance was that each of these now abstract characters could be distinguished from each other. One might wonder if by this period we can talk of a *collegium* of scribes. At the same time tablet formatting conventions take on a high level of sophistication. There is routine separation of sign groups using rulings, more complex conventions determining meaning through location in the document, as well as the use of additional notations (Green 1981). This phenomenon is perhaps partly driven by the increase in the quantities of commodities being managed (see Englund 1998). The system suggests central control.

The first lists of signs

Standardizations in the script were paralleled in the canonization of the control lists of signs. We begin to see the first signs that the scribal art was a prized skill, and its practitioners guardians of a valued heritage. Few such lists survive from Uruk IV, but we can see evidence in them of thematic ordering principles (Englund 1998: 82–106 for an overview). There are copies of the so-called Standard Professions List, Vessels, Metal, Cities and Grain. Already at this point, and continuing throughout their history, the Standard Professions List is the most commonly found of the lists. It is not immediately obvious why this should be. One might speculate that this is connected to the relatively unintuitive nature of the signs used to write official titles (exacerbated by the lack of a common determining sign) compared to those used for animals or vessels, for example. Or perhaps we can see in this a reflection of official titles being the significant new category of information brought by proto-cuneiform; beyond numbers and commodities the records could now include the identity of the issuer (bringing accountability) and the recipient (bringing traceability).

In the early twentieth century, researchers saw in the lists a particular importance (von Soden 1936). The idea was that the lists were an attempt by the scribes to classify the world around them, satisfying a supposed drive for order. Everything was assigned to a conceptual category, a special character then marked each category, and everything within each category was arranged in order in comprehensive lists. However, new material, increased understanding of older material, and improved methodologies now render this theory implausible, if not outright untenable. These seductive claims nevertheless persist among modern survey works.

The Standard Professions List is often taken as a classic example of Sumerian list science, although it differs from the other lists in several respects. And it is held up as a hierarchical representation of Uruk society, with the "king" in first position, heads of departments next, followed by everyone else in order (Nissen 1976). While ordering is visible in this list, with at least some of the high officials known to receive large quantities of goods, and groups of related entries being listed with a senior official before his junior counterpart, there is no good reason to believe that these are anything more than convenient devices to facilitate memorization. Nor is there compelling evidence to suggest either that the first official is "king" or that the list closely reflects the full hierarchy of Uruk society. The identities of some of the putative departments – based on readings of signs and meanings from later cuneiform texts – are highly suspect here: was there really a department of justice? Later Mesopotamian history suggests otherwise. A significant feature of the Uruk IV lists is that their contents vary from one manuscript to the next, in contrast to their Uruk III and later descendants. Many officials from the Uruk IV sources do not survive into the Uruk III version. The Uruk III scribes would also copy another list of professions (the "Officials" list), the contents of which partially overlap those of the Standard Professions List, but in a different order.

The extant Uruk III list repertoire is much wider than that known from Uruk IV, although it would not be at all surprising were Uruk IV sources one day to be found. Other lists, built around graphic similarities, are now also known. Among the thematic we find lists for bovines, birds, fish, vessels (and foodstuffs and textiles), metal objects, trees and wooden objects, grain products, plants (and time designations), and cities. They display fixed contents in a fixed order, although there is some variety in that occasionally lists can be combined on the same tablet. They would maintain this fixed form as they were copied for more than 1,000 years hence.

A disconnect is visible between the contents of the lists and the signs found in the administrative corpus. It is often suggested that the reason for this is that the missing signs never actually existed. The lists are said to function as a theater for learned speculation. This would be remarkable in a system used purely for administrative purposes, by practitioners who all dealt with the commodities in question. Altogether this is a limited corpus. There are still relatively few lists, still no lists for categories that do not feature in the documentation, and the longest lists contain barely more than 100 entries each. They seem to be arbitrary (but not random) selections of words, arranged systematically; many signs are lacking from the lists. The degree to which lists contain entries generated purely by paradigm is greatly exaggerated in the secondary literature. It is difficult to believe that most of the entries in the archaic Vessels list were fictional, especially while the Standard Professions List is supposed faithfully to document the administrative hierarchy. Almost half of that list's entries are lacking in administrative texts (two-thirds for Uruk IV); a further third are attested no more than five times, and previously unattested entries are being found as new texts come to light. There is a limit to which impossible entries could have had didactic value in this system; similarities with much later cuneiform traditions are only partial, and comparisons may be misleading. About a third of all signs in the proto-cuneiform repertoire are attested just once and another fifth are attested only two or three times (Englund 1998: 8 n. 131). The sign repertoire is large, and populated with many forms that resemble each other increasingly closely. The Uruk III scribes systematically controlled the variation that

had existed in the system. To what meaningful end would they have indulged in extended flights of fancy, and would such fancies really have become canonized? Veldhuis' proposition (2006: 189) that lists contain signs regardless of how often they would be needed is probably closer to reality.

OPENING THE MIND AND WIDENING THE SOCIAL GAP – THE EARLY DYNASTIC AND OLD AKKADIAN PERIODS

The rise of the scholar scribe

In the city-states of third millennium Sumer, we see writing being used in a different form and for a much wider range of purposes. We see now the first unambiguous evidence of cuneiform signs being used to convey sounds, and those sounds belong to the Sumerian language. By this stage, cuneiform is definitely writing proper. And the use of signs to convey sounds as well as whole words opens the way for many new uses of the system. In addition to representing concrete objects, animals, plants, and people, writing now conveyed abstract ideas. We see the first literature, letters, royal inscriptions, and legal texts. Every major urban center had its scribes and its scribal traditions. Now we also see the beginnings of the habit of writing signs in the order in which they were to be read. Yet most people were still illiterate, and this would remain the case throughout the history of cuneiform. What did this all mean for the scribes?

The scribal control of goods gave them status. Now they performed other roles and their status must have grown accordingly. City rulers could command their services to write inscriptions recording royal piety and marking boundaries. Scribes would also put into visible form the terms of state treaties. Their activity was no longer behind the scenes but could be very public and high profile. We see the rise of scholar scribes. Practical training was carried out using practice tablets and ad hoc lists of signs and words. We also see the first examples of mathematical training, with exercises to equip scribes with the skills to manage quantities or survey fields. But scribes still assiduously copied the sign lists of the Uruk period. By now the contents of these lists bore very little relation to what was in use in administrative documentation. They were already ancient, and prestigious. These copies of lists are signed by several scribes, sometimes a dozen or more (Krebernik 1998: 325–333). One scribe is said to have written the tablet, another seems to own it, the others perhaps jointly certify the correctness of the text according to its traditional form. An interesting oddity at Fara and Abu Salabikh is the existence of elaborate drawings on some of these tablets, and on some otherwise uninscribed tablets. The scribes were obviously also skilled draftsmen, although it is not clear what the purpose of this training may have been. Its origins may be traced back to the Uruk period, through examples such as W 20921 and W 21163,1 (Lenzen 1965: pl. 16), W 23997,2 (Cavigneaux 1991: 71) or W 9851 (Englund 1994: pl. 118).

New standard lists of words were created, similar to the old Uruk lists in that they typically collect words of similar meanings together, but with contents more relevant to contemporary texts. There are, for example, another four lists of professions. The most common of these is Lu E, which is found at sites across northern Mesopotamia and Syria. Its contents are not related to the old Standard Professions List, but rather to the professions known from contemporary texts. Appropriately enough, the first two entries of that list are *dub-sar* and *umbisag*, words for "scribe." There was also the

Names and Professions List, found in several versions, and of course various other thematic lists, as well as graphically ordered lists. An innovation of this period is the god list; interestingly, the Fara and Abu Salabikh versions differ significantly from each other. There are few lists surviving from the Sargonic period, but the same corpus of material seems to have been copied, in much the same way as before.

Literature is by now known at several sites: Abu Salabikh, Fara, Girsu, Nippur, Adab, Ebla, Mari. This in turn suggests that the origins of written literature are to be found even earlier, and W 19412,2 (van Dijk 1960: 58–59) and U 12576 (Burrows 1935: no. 69) may be examples of such earlier literature. The Uruk period "Tribute List" has been claimed as literature, but the explanation as a practice text (Veldhuis 2006) is more convincing. Some of the Early Dynastic literary texts survived into much later periods: the Instructions of Shuruppak and the Kesh Temple Hymn are known from Old Babylonian manuscripts. Other compositions were lost. The latter include hymns that are difficult for us to understand because of the scarcity of explicit linguistic information, and partly also because of the use of a special form of orthography, discussed below. Proverbs and incantations are also known from this period. The Fara material is paralleled in the Ebla sources, mirroring the shared lexical traditions. Such incantations are usually found on practice tablets. Perhaps more significant here are another fragment of exercise – recording a story about Lugalbanda (whose dynasty would become popular in later literature) – and an Akkadian hymn to Shamash.

The first references to a *dub-sar* "scribe" may occur at ED I Uruk (Nissen 1974: W 21906, pl. 27a,b). By the time of Fara and Abu Salabikh (*c.*2600–2500 BC) *dub-sar* is a well-attested status. There are various types known, including scribe of the city ruler, no doubt a prestigious and powerful role; presumably these were the men who composed the first royal inscriptions. There is clear evidence of hierarchy among scribes, in the titles *dub-sar-mah* "senior scribe", and less commonly *ugula-dub-sar* "overseer of scribes" or *dub-sar-gal* "chief scribe". Some of the designations are so specific that they look more like descriptions of a function in a transaction than full-time jobs. We can sometimes trace career progression. From Fara there are suggestions that, for example, a *dub-sar-gana*$_2$ "scribe of the fields" could work his way up to positions such as *sa*$_{12}$–*du*$_5$ "land registrar" or *um-mi-a* "master" (who acted as land surveyor). Possibly already in Early Dynastic but certainly by the Old Akkadian period, scribes could be elevated to the position of *ensi*$_2$ "city governor", such as happened to Lugalushumgal of Lagash (who left us an unusual attempt to copy the archaic list of professions) or Lugalgish of Adab (Yuhong 1995).

In the scholarly texts, ED IIIa scribes typically refer to themselves as SANGA, apparently to be read *umbisag*. Those claiming this title at Abu Salabikh are known to have performed *dub mu-sar* "written the tablet", and at Fara some are attested in the administrative corpus as *dub-sar*. Visicato (2000: 4) compares the types of *dub-sar* known from Early Dynastic texts to the types of SANGA known from Jemdet Nasr and Uruk III texts, and finds many similarities. It is not entirely clear what the difference was between *umbisag* and *dub-sar*, but perhaps it was simply "administrator" versus "scribe." Later in the third millennium "scribe" was a status attained through training, and which led to one of several jobs. *Umbisag* seems to fall out of mainstream use, with *dub-sar* taking over as the standard expression for "scribe," although scribal training can be assumed behind various other official titles. At least 100 scribes are known each from Fara and Abu Salabikh (Visicato 2000: 22, 50).

Early Dynastic scribes seem to have been considered, maybe even by themselves, as a type of craftsman, like various other professionals who performed skilled work with their hands. The high status of some scribes is visible in new ways: at Lagash one of King Ur-Nanshe's wall plaques depicts Namazu the scribe alongside the royal family (Cooper 1986: La 1.4); King Enanatum's scribe of the treasury (Cooper 1986: La 4.17) commissions votive clay nails; and many examples are known from Old Akkadian cylinder seals of scribes who were honored "servants" of royalty or local potentates.

An unsolved mystery

One persistently enigmatic scribal habit of the Early Dynastic period is the use of so-called UD.GAL.NUN orthography. This gets its (modern!) name from a commonly found combination of three signs – UD, GAL, and NUN – which represented the name of the god Enlil. The system works on a series of what appear to us to be sign substitutions. Here UD stands for normal orthography AN, GAL for EN, and NUN for LIL_2. The substitutions are based on similarities in form, sound or meaning, as far as can be discerned. This orthography is used sporadically in texts of (almost always) literary nature, in Fara, Abu Salabikh, and Nippur. UD.GAL.NUN and normal orthography may switch within a text and even within a word. Some UD.GAL.NUN sign values are also attested outside the corpus. It has been argued that UD.GAL.NUN is to be explained as a scribal code, or that it is the survival of an alternative use of writing. Whatever its origin, the practice soon died out, perhaps actively suppressed, with only isolated instances surviving. Other old-fashioned practices also survive, such as the habit of writing ZU.EN and ZU.AB for Suen and *abzu*, or GAL-combinations like GAL.USHUM for ushumgal and the LUGAL sign written as GAL+LU2. Such orthographic habits, combined with what we know of third millennium practices in the arrangement of signs, and numerous examples of variant practice in the writing of noun and adjective pairings in archaic texts, render efforts to use the order of such pairings to determine the underlying language of the archaic texts futile. UD.GAL.NUN is exceptional, which is perhaps surprising, given the long history and numerous scribal centers and cultures of Mesopotamia.

A branching tradition

When the art of writing spread to new centers such as Ebla in Syria, it traveled as a package. The scribal practices seem to be heavily colored by Mesopotamian models. Copies of the lists are being found at many sites, including Tell Brak, Tell Mozan, and Tell Beydar. These scribes would learn words for species that they would never encounter, and places they would never visit. We also know from Ebla that trainee scribes could be sent to more established centers for expert training. The colophons of two lists from Ebla note a time "When the young scribes came up from Mari" (Pettinato 1981: nos. 47, 50). Another Ebla text is labeled as being written by a scribe of Kish (Pettinato 1981: no. 73). Indeed, Kish seems to have been home to a northern branch of cuneiform tradition, whose influence was felt at western sites like Mari and Ebla (Gelb 1981). A noteworthy innovation of the Ebla school was a long list of signs known as the Ebla Vocabulary. The order of signs was governed by that found in the Standard Professions List. The traveling scribes of Ebla point toward what was probably a much wider phenomenon. We are unlikely to be too far wrong if we posit

a situation whereby writing and written traditions travel between sites via scribes rather than just tablets, perhaps through inter-city relations of various sorts.

The emergence of Akkadian

One of the most remarkable revelations to arise from the excavations at Abu Salabikh was that about half of the scribes who wrote the scholarly texts had names which were not Sumerian as would have been expected, but Akkadian (Biggs 1974). Other glimpses of Akkadian can be found. One royal inscription belonging to Meskiagnuna of Ur looks every bit Sumerian except for a single sign that makes it clear that it is written in Akkadian. At least two of the Abu Salabikh administrative texts are written in Akkadian, and a more widespread practice is no doubt concealed by the writing system. Many texts that look Sumerian may in fact have been read in Akkadian; the relationship between the language in which a text is written and that in which it is read is not entirely straightforward. We may speculate that the writing of Akkadian was a factor behind the move toward routinely writing signs in the order in which they were to be read. This language was less well suited to logographic cuneiform than was Sumerian. While the latter was agglutinative – with morphemes being added in strings – the former utilizes internal variations to convey distinctions in meaning. Accordingly, Akkadian writing developed a style that made much greater use of syllables. Signs come to be written in order by around the twenty-fifth century BC in Lagash, although slightly earlier at Abu Salabikh this convention is followed with personal names.

The rise of the Akkadian empire elevated the Akkadian language to official status. By now the old habits had given way to writing in lines, with signs routinely written in order. The rise of an empire also brought with it other changes for the scribes to master. Now in addition to their own local traditions, they had to master an elaborate imperial style for government business. Sargon's conquests did not immediately herald a revolution in scribal practices, however. The old systems seem to continue until the reforms of Naram-Sin. These included measures that brought a greater degree of standardization across Mesopotamia, and saw explanatory phrases become more frequent (Visicato 2000: 9); Old Akkadian texts are slightly easier to understand than their predecessors.

ADMINISTERING AN EMPIRE – THE UR III PERIOD

A Sumerian renaissance?

The collapse of the Akkadian empire and rise of the Third Dynasty of Ur saw the balance of power swing back in favor of the south, and provoked a resurgence of Sumerian identity. Sumerian regained its status as official language of government, although the kings would not shy away from commissioning bilingual Sumerian–Akkadian inscriptions. Sumerian seems to have been falling out of ordinary daily use, however, and we see increasing explicitness in written Sumerian.

The scribes of this period have gained a reputation for being excessively zealous bureaucrats. They have given us almost one-fifth of all cuneiform texts so far recovered, most of these coming from just a fifty-year period, and many of those from just a few large archives. Waetzoldt (2009: 254) claims more than 2,000 active scribes during this time. This is far more than is known from earlier periods. It has often been argued that

the Ur III kings, and Shulgi in particular, established a large cadre of bureaucrats trained in a common system of values. We see an imperial calendar created, although it is not universally enforced even in the capital, Ur. We also see a centralized administrative center at Drehem charged with accounting for the transfer of commodities between the provinces. The site has never been excavated scientifically, but recent research suggests that much of the activity was federated to outlying centers; Drehem itself was more of an administrative headquarters.

The case of Shulgi sheds interesting light on the politics of identity. Scribes had long been used to celebrate rulers – from votive dedications through to display inscriptions. Now their role included a more overt propagandizing. Shulgi was keen to establish a tradition of royal praise for himself in the temples, and many hymns were composed in his honor. The king asserted his wide-ranging prowess, and boasted superlative feats of performance. Meanwhile other texts – and the reputation of the rulers celebrated in them – were suppressed. Scribes were an instrument for controlling the image of the ruler, and shaping historical memory.

The education of scribes during this period seems to be more or less a continuation of earlier third millennium practices. The traditional texts were still copied. And elementary education is based on practical exercises and ad hoc lists. This is very similar to the situation that existed as far back as the archaic Uruk period. An interesting phenomenon is visible in cylinder seals of this period. It seems that the practical training of scribes lasted several years before a literate official could actually claim the title "scribe." In his early years, he would seal documents using a seal that bore his name but no title, later commissioning a new seal, or re-cutting his old one, to include the scribal title (Waetzoldt 2009: 255).

The range of literary texts in written form expanded. In addition to the Temple Hymns, known from Early Dynastic copies, we see other texts known from Old Babylonian copies, of which some differ only in orthography (such as the Curse of Agade) while others differ more substantially (such as Lugalbanda). There is also a new text about Gilgamesh, whom Shulgi claimed as his brother. Perhaps more central to the enculturation of scribal minds was the Sumerian Kinglist. This celebrated the fiction that the land had always been ruled by one person. It thus legitimized the rule of all Sumer by one man in the then present, but also cultivated a sense of a long-standing common Sumerian identity. The absence of Lagash's rulers from the list is conspicuous.

Perhaps the most remarkable sign of how far the scribal art reached is the fact that King Shulgi, ruler of the Ur III empire, had himself been trained as a scribe. He boasted at length about his training from boyhood, and the range and depth of his talents. We can only speculate as to why he had been put through this training, apparently an extremely unusual state of affairs for one destined to rule. We do know that Shulgi was not alone among powerful men who had received an education. Waetzoldt (2009: 255) has gathered evidence of the sons of rulers who boasted scribal qualifications. At the other end of the spectrum, there seem to be many individuals with low levels of scribal ability, producing texts that are poorly written and harder to read. Some scribes appear to have been taught the trade by their father – which may be assumed to have been a common practice from earliest times – although others seem to have come from other areas, such as the son of an oil presser. Some scribes occupied high-ranking positions, while others seem to have been slaves. A scribal education could set a man on a positive career path, but while it seems to have been a relatively open option, one wonders

whether the influence of the family might not have been a more important factor in deciding which of various candidates would get a job.

RELIVING A GOLDEN PAST – THE OLD BABYLONIAN PERIOD

Sumerian in a post-Sumerian age

If Ur III Sumerian identity was increasingly distant from reality, Old Babylonian Sumerian identity seems to be fiction. This is not to say that scribes did not cultivate their identity, and take great pride in their Sumerian heritage. Many took Sumerian names. Sumerian was the dominant written language, especially in education. A little like Mediaeval Latin in England, Sumerian continued in use in learned and religious contexts long after mothers stopped talking to their babies in it. Old Babylonian Sumerian is somewhat different from classical Sumerian.

The trainee scribe at this time was taught through a radical, new system. A set of new lists of signs and words had been created, similar in style to the traditional ones, but far more wide-ranging and longer. They contained words more closely related to contemporary documents, although old and rare words were not excluded. The lists first compiled during this period would provide one of the keys for modern scholars to unlock the secrets of third millennium Sumerian. The old lists were still copied too – and apparently still understood – but less commonly and only later in the education process (Taylor 2008; Veldhuis 2010). Practice documents were also still used, although again this seems to have taken place later in the scribe's education. First came signs and words, then math and metrology, practice contracts and letters, then finally more literary works. In fact, it is largely through the work of young trainee scribes during this period that we know most Sumerian literature. The corpus is remarkably wide and varied, ranging from proverbs through royal hymns, myths and epics, literary letters, fictional debates arguing the benefits of bird versus fish or summer versus winter, and much more besides. The proverbs include many related to scribal ethos: "If a scribe knows only a single line, but his handwriting is good, he is indeed a scribe!"; "A scribe whose hand can follow dictation is indeed a scribe!"; "What kind of a scribe is a scribe who does not know Sumerian?" (Taylor 2002: 2.38, 2.40, 2.47). There were also several texts relating to school life. They concern the routine of daily life at school, tell of fierce competition between students, and offer accounts of the relationship between a master and student. It is difficult to tell to what extent these texts reflect the scribal ethos of the time, since some at least appear to be humorous. In any case, the picture they paint does not match the reality of education as we see it in the archaeology of the period, where teachers trained their son and maybe one or two other pupils at home. They probably do not reveal the reality of life in Ur III schools either. Some of the Old Babylonian Sumerian literary texts are possibly products of the Old Babylonian period itself. Others clearly derive from the Ur III period, although in most cases we have yet to find those manuscripts. Old Babylonian education seems also to have included music lessons (closely related to the study of literature) and practical training, such as how to solve disputes.

Old Babylonian education is characterized by several features. One is a great breadth of learning about the cuneiform writing system. Another is an emphasis on Sumerian, and a complex relationship with Akkadian. The lists were still mostly presented in

Sumerian, although there are indications of Akkadian in the ordering of entries. And the scribe was trained to translate back and forth between Sumerian and Akkadian. The long lists of words were designed to be internalized. There was much greater flexibility in terms of the content and ordering of what the student had to learn, and many devices were used to help him commit this great bulk of knowledge to memory. Unlike the third millennium lists, the Old Babylonian lists were the most elementary tools. They are commonly found on crudely made tablets or written with crudely made signs.

Lessons at school sometimes included the copying of old inscriptions. These stretched back to the Old Akkadian period, through Ur III period and into the more recent Old Babylonian period itself. There are two interesting features of these texts. First, copies survive of inscriptions by a Gutian king, indicating not only that the monuments of these rulers, elsewhere in the literature derided as the "fanged snake of the mountains" were preserved and respected, but also that they were considered worth studying. Second, it is perhaps surprising that there is not a prevalence of pious frauds, with similar inscriptions made up for famous old Sumerian rulers such as Gilgamesh. This was part of an enculturation process, but in this instance at least, there was a clear distinction between rhetoric and reality.

Letters could sometimes still be written in Sumerian, although perhaps this is more akin to the nineteenth-century academic habit of publishing in Latin, or to King Sargon of Assyria's insistence that his officials write to him in Akkadian, not the vernacular Aramaic. In the linguistically mixed situation of Old Babylonian Mesopotamia, all scribes were trained in Sumerian, whatever their mother-tongue. It was the mark of an educated man.

Just as the Uruk traditions were maintained for over 1,000 years, so too the Old Babylonian traditions would in turn be faithfully nurtured until the end of cuneiform almost another 2,000 years later. Again the lists traveled with the writing system, as the appropriate means of education. Like their Early Dynastic predecessors, the scribes of second millennium Syria–Palestine (and even Anatolia and Egypt) would learn lists of words for plants, animals and places that bore little relation to the world around them. The great libraries of first millennium Mesopotamia contained copies of these same lists, even though their contents were becoming archaic and difficult to understand; one response was to create new texts to help interpret them. The tradition was not broken by either the Persian conquest or the Greek one. Some of the latest known cuneiform texts are the product of Greeks learning Sumerian by copying these lists (most recently Westenholz 2007). On one side of the tablet is the old text, on the other the sounds of the Sumerian and Akkadian words spelled out in the Greek alphabet. Much of the Old Babylonian literature fell out of use, although some texts would live on for centuries to come.

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CHAPTER FIFTEEN

CALENDARS AND COUNTING

Tonia Sharlach

> The past is a foreign country: they do things differently there.
>
> (L. P. Hartley)

> Do not worry about your problems with mathematics: I assure you mine are far greater.
>
> (A. Einstein)

General histories of the Ancient Near East often stress the huge treasure-trove of tablets that survive from Mesopotamia and the economic focus of many cuneiform archives. It is true that the vast majority of tablets that have been recovered to date from the third millennium BC are administrative in nature (Figure 15.1). Accounting and administration being what they are, counting, measuring, and dating are central. The scribes wrote to record how many workers at what rate of pay, how much of the canal had been dredged, how many units of barley were harvested, what interest rate a loan bore, and so on. To convey this information clearly, the Sumerians used unique systems of counting and calendrics. While they may seem cumbersome to us, studying them can reveal a world wherein everything had its proper place. This chapter aims to provide an overview of counting – that is, numbers, metrology, mathematics and its evolution, and numeracy and scribal education in the third millennium. We will then turn to calendars, that is, year names and month names, as well as calendrical oddities and reforms.

COUNTING

That one could (or should) write more than a paragraph on counting may surprise and dismay the reader: the average historian has little affinity for mathematics. Because we count using a decimal system (1, 10, 100, 1000 etc.), and other people, such as the Greeks and Romans, did too, we may imagine that a decimal system was somehow universal. Some have even linked this to human anatomy: a guide to ancient mathematics tells us, "As Aristotle had noted long ago, the widespread use today of the decimal system was but the result of the anatomical accident that most of us are born with ten fingers and ten toes" (Boyer 1991: 4). Indeed, some early scholars saw in cuneiform records evidence for a decimal system.[1] But the main Sumerian counting system used sixty as a base. The critical numbers were thus 1, 10, 60, 120, 360, 3600 etc.

Figure 15.1 HSS 3. 35. An Early Dynastic tablet from Girsu (courtesy of the Semitic Museum, Harvard University)

The reasons for the base 60, or sexagesimal, system are now lost in the mists of time. Boyer suggests that one possible reason may have been that so many different subdivisions are possible with 60 as a base: "it has been suggested that astronomical considerations may have been instrumental . . . it appears more likely, however, that the base sixty was consciously adopted and legalized in the interests of metrology, for a magnitude of sixty units can be subdivided easily into halves, thirds, fourths, fifths, sixths, tenths, twelfths, fifteenths, twentieths, and thirtieths, thus affording ten possible subdivisions" (Boyer 1991: 25). Not all scholars agree. Powell hypothesized that the sexagesimal system was "an ethno-linguistic phenomenon and *not* a mathematical creation" (Powell 1976: 418). He noted that the Sumerian language contains "sexagesimal number words. The reasons why their language used this counting structure are inadequately known and cannot be reconstructed with certainty" (Powell 1976: 418).

Regardless of their origin, the basic Sumerian cardinal numbers are well known.

One	*aš* or *dili* or *diš*
Two	*min*
Three	*eš*$_5$
Four	*limmu*
Five	*ia*$_2$
Six	*aš*$_3$
Seven	*imin*
Eight	*ussu*
Nine	*ilimmu*
Ten	*u*^{2}

A notation for zero had not yet been invented by the third millennium BC.

The real intricacies of the Sumerian counting system originate from a basic difference between modern thought and ancient Near Eastern thought. Whereas we think of counting as made up of two parts, a number and a thing being counted the number being abstract and the thing concrete (e.g. 3 bushels, 3 men, 3 acres), the Sumerian conception of counting seems to reveal an integral link between the thing being counted and the number. In other words, there was no abstract number three divorced of any object or context. Numbers were dependent on that which was counted. Learning all these different systems of counting and measuring is a major challenge for the student learning to read Sumerian administrative texts.

To write a "number" in Sumerian was therefore a complicated thing. In fact, the earliest corpus of writing known, the archaic tablets from Uruk, list sixty separate number-signs.[3]

METROLOGY

Metrology, or how to measure things, is therefore inextricably linked to counting in Sumerian. To give just a few examples, if a Sumerian counted sheep or birds, the individual wedges for ones were similar to a Roman i – vertical strokes (Figure 15.2).

Figure 15.3 shows that the sixty wedge is bigger and deeper than the one wedge, but otherwise very similar—also a vertical stroke. Here what is being counted is birds.

Often, administrative concerns being financial, what was being counted was grain, or workers, or weights of silver. There were different ways to count each of these.[4]

This chapter is not the place for an in-depth review of Sumerian metrological systems. Nevertheless, looking at one example, the system for measuring grain, may give the reader a clearer idea of the complexities involved. The system for counting and

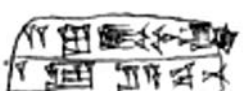

Figure 15.2 ITT 3. 5003. 2 sheep...; 1 lamb...

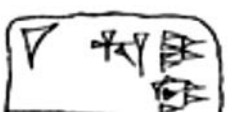

Figure 15.3 ITT 3. 4968. 60 birds (*mušen tur-tur*)

measuring grain in the third millennium was by the gur system, that is, using a unit known as the *gur*. The *gur* was a large unit, divisible into a handful of smaller constituents: the *PI* or *bariga*, the *ban*$_2$ and the *sila*$_3$. We know that the *sila*$_3$ was about the same size as a liter today. In different places and locations, these subunits were organized a little differently. In Early Dynastic Lagash, the *gur* was made up of 240 *sila*$_3$. Sargonic reforms altered the *gur* to 300 *sila*$_3$(Powell 1976: 42).[5] When writing a tablet about grain measurement, Sumerian scribes generally would note at the end of the line that they were in the *gur* system (Figure 15.4). They would not write out x *gur*, x *PI* and so on: they would simply arrange the numbers in the proper orientation so that context would guide the reader. *Sila*$_3$ however were written out.

Note that there are fairly major differences in the numbers in the *gur* system. The cardinal one in Sumerian is always a vertical wedge, whereas one *gur* is a horizontal wedge. The cardinal two in Sumerian is always two side-by-side vertical strokes; the way of writing 2 *PI* is two wedges stuck on top of each other (Figure 15.5).

Thus, in order to read or write an administrative tablet, one had to have a firm grasp of metrology and how to count in the various systems to grain measurement, land mensuration, weight, volume, and so on.

BABYLONIAN MATHEMATICS

In comparison with other Near Eastern cultures, Babylonian tablets evince a far greater degree of mathematical understanding. Egyptian sources show that Egyptians could find the area of a circle and work well in applied arithmetic (Boyer 1991: 17, 21). At its most advanced, Babylonian mathematics far surpassed Egyptian achievements in this field. A full-scale description of Babylonian mathematics is far beyond the scope of the present work. Certainly by the Old Babylonian period, the extant texts record a sophisticated body of mathematical knowledge. They had algebra: "Many problem texts from the Old Babylonian period show that the solution of the complete three-term quadratic equations afforded the Babylonians no serious difficulty, for flexible algebraic operations had been developed."[6] Babylonians could solve cubic equations, had algorithmic procedures and understood square roots (Boyer 1991: 33, 28).

Such accomplishments are well attested for the second and then late in the first millennium, that is, in the Old Babylonian and Seleucid periods, from which the vast majority of our mathematical sources derive (Neugebauer 1969: 29; Boyer 1991: 26). Robson calculated that the known mathematical corpus as of 2008 was approximately 950 tablets (Robson 2008: 8). Eighty percent of these (that is, 780 tablets) date from the Old Babylonian period, that is, the early second millennium. Only about 6 percent date to the third millennium (Robson 2008: 8).

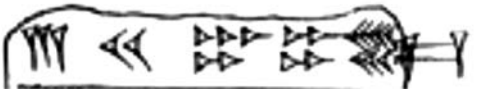

Figure 15.4
$e gur. ITT 3. 4811. 3(60) + 20 + 9 (*gur*)

Figure 15.5 ITT 3. 4850. 2 (*gur*) 2 (PI)
$e gur, units of barley in the *gur* system

Mathematics in the third millennium

To what extent the mathematical advances attested in Old Babylonian and Seleucid documents existed in earlier centuries is difficult to know, principally due to a shortage of sources. On the whole, we seem to see a steady development of complexity and achievement.

Pre-Sargonic mathematics

Possibly mathematical exercises existed as early as the late Uruk period (Robson 2008: 29). But, as Robson notes, "Up to the period around 2400 BC mathematics did not have a very strong self-identity. Its terminology, subject matter, methodology, and conceptualization were adopted directly from the culture of numerate bureaucracy from which it developed, and which it directly served" (Robson 2008: 51).

Although there is clear evidence in the administrative texts for well-developed abilities to handle complicated accounting and metrological calculations, there are very few examples of mathematical exercises. From the excavations at Fara are a cache of approximately sixty school exercises dated to *c.*2450 BC. Five tablets from here can be securely identified as mathematical. One is a table of squares, four are problems for the student to solve.[7] Archives from Ebla and Adab may yield a further five or six mathematical tablets (Robson 1999: 168; Robson 2008: 32). On the basis of such scarce evidence, we obviously cannot draw many conclusions, aside from the obvious one, that the florescence of mathematical abilities evinced in later cuneiform archives had mid-third millennium forerunners.

Sargonic mathematics

It is with the Sargonic period that major achievements in mathematics begin to appear. This may have been a new development or simply may appear to be new due to a paucity of surviving evidence from previous centuries.

Administrative texts indicate a trend toward commodification of labor (Robson 2008: 67) and a desire on the part of the administration to predict and estimate for the future, as opposed to tallying up actual results (Robson 2008: 69).

However, the clearest evidence for mathematical knowledge comes from school texts, specifically, mathematical exercises, known from this period. Robson identified twenty-two published Sargonic texts, mainly from Girsu (Robson 2008: 55). Many are problems: e.g. "4,3 *nindan* [is the] side. The front [is such that it encloses an area of] 1 iku. Its front is to be found" (Powell 1976: 425–6; Robson 2008: 55.)[8] Additionally, there are model accounts, silver weights and a geometrical diagram (Robson 2008: 55). Powell described these as "the oldest well-defined group of cuneiform documents showing an unequivocal interest in playing with numbers" (Powell 1976: 422).

Another important mathematical skill that began to develop in the Sargonic period relates to how to write numbers via positional notation.[9] Previous generations of scholarship had considered the Old Babylonian period the apogee for early Babylonian mathematics. One key element in this valuation was its use of positional notation. In the words of Boyer, "The secret of the clear superiority of Babylonian mathematics . . . undoubtedly lies in the fact that those who lived 'between the two rivers' took the most felicitous step of extending the principle of position to cover fractions as well as whole

numbers. . . . Accuracy in approximations was relatively easy for the Babylonians to achieve with their fractional notation, the best that any civilization afforded until the time of the Renaissance" (Boyer 1991: 27). The small Sargonic corpus of mathematical texts seems to display the germ of positional notation, as noted by Powell in 1976: "Astonishing as it may seem, the conclusion forced upon us by these texts is that calculations involving the conceptual framework implicit in Old Babylonian place notation were already being performed in the Sargonic period . . . it is well to keep in mind the wise admonitions of O. Neugebauer . . . who has repeatedly stressed that the written record constitutes an insufficient witness to the real nature of Babylonian mathematical thought" (Powell 1976: 427).

However, the full development of positional notation cannot be demonstrated until the next era, the Third Dynasty of Ur.

Mathematics in the Third Dynasty of Ur

Our knowledge of mathematics in the Third Dynasty of Ur is mixed. While we have an (over-) abundance of archival material, which allows us to see mathematical and metrological knowledge in practice, we have almost no school tablets from this period due to accidents of preservation and discovery. The known corpus of Ur III mathematical texts is therefore ridiculously small – identified by Robson as eight tablets, three of them accounting exercises (Robson 1999: 171, 2008: 59). From the extant evidence, two new mathematical developments manifest themselves in the Ur III period: first, reciprocal tables, which were useful in allowing a scribe to divide easily to calculate volumes, building calculations and workdays (Robson 2008: 82). Second, and more importantly, we have clear evidence from a tablet dating to the reign of Amar-Sin that sexagesimal place value notation had been developed.[10]

NUMERACY AND SCRIBAL TRAINING IN THE THIRD MILLENNIUM BC

The tablets that do survive, however, allow us a window into how a scribe for a "great institution," that is, a temple household or one run by the state, used and understood numbers.

Scribal training did not produce merely men who could read and write: the scribal school trained boys for a number of jobs, including many important administrative/accounting positions. Numeracy was critical for these positions and hence had an important role in the school curriculum. Most of what we know about schools comes from the early second millennium, that is, the Old Babylonian period. Interestingly, many Old Babylonian teachers held administrative positions too (Robson 2002: 118). Old Babylonian school dialogues, often taking the form of jibes or insults hurled by one schoolboy against another, stress that a scribal graduate had to master a number of subjects.

> You have written a tablet, but you cannot penetrate its meaning; you have written a letter [but] that is all you can do.[11]
>
> Do you know multiplication, reciprocals, coefficients, balancing of accounts, administrative accounting, how to make all kinds of pay allotments, divide property, and delimit shares of fields?[12]

Another Old Babylonian school text similarly stresses how mathematical knowledge and numeracy were part of a well-rounded education. But the text, which we call Shulgi B, a royal hymn of the third millennium ruler, was quite possibly originally commissioned by that king himself. According to his self-praise,

> I, Šulgi the noble, have been blessed with a favorable destiny right from the womb. When I was small, I was at the academy, where I learned the scribal art from the tablets of Sumer and Akkad. None of the nobles could write on clay as I could. There where people regularly went for tutelage in the scribal art, I qualified fully in subtraction, addition, reckoning and accounting. . . . I am an experienced scribe who does not neglect a thing.[13]

Since we have little information on schooling prior to the Old Babylonian period, the most we can do is retroject and surmise that third millennium scribal students probably also had a strong mathematical component to their schooling.

One of the most basic things that a scribe entering into an administrative capacity had to learn was how to date a tablet, that is, to calculate the passage of time. This then brings us to the second half our investigation: calendars of the third millennium BC.

TIME

Like a clock, a calendar is a means of counting time. We count time in seconds, minutes, hours, days, weeks, months, years, and finally, eras. Here we shall consider, in turn, years, months, leap years, and whether a week existed in ancient Babylonian thought. Finally we will touch upon calendrical oddities and reforms. Because counting time, particularly years (but also months) was political, third millennium calendrical systems varied from place to place and time to time. Thus, we see a hodge-podge of third millennium calendrical systems, a contrast to the seemingly orderly progression of mathematical achievement occurring contemporaneously.

CALENDARS

Ancient Babylonian calendars differ from modern Western ones in many ways. We begin a year of 365 days in the winter and have a set calendar in which the number of months in the year and the order of the months are immutable; further, we calculate years sequentially in a BC or AD system. The current conception of the year beginning on January 1 in the AD or BC system is surprisingly modern.[14]

Year names

It would have been convenient for us if Babylonians had a fixed starting point and had reckoned the years sequentially after that (e.g., one could imagine something like year 52 since Sargon united the land), but Sumerians did not in fact use a sequential numbering of years over centuries, or even over the span of a dynasty. In fact, for most of the third millennium, years were named, not numbered. Scribes kept lists of the year names, allowing us to order them when we have the lists. But for a number of kings, even very important ones like Naram-Sin or Ur-Namma, year name lists are now lost.

Since we do not know the order of the various year names, instead of numbering them, we assign these year names letters.

Naming the year appears to have been a royal prerogative. Year names commemorated notable achievements that had recently taken place: these could be military, diplomatic, cultic or building accomplishments.[15] Military defeats were a frequent source for the year names; for example, Naram-Sin year e, year "Naram-Sin defeated Maridaban" (Frayne 1997: 85), Ur-Namma year k, year "The Land of Guti was destroyed"; Shu-Sin year 7, year "Shu-Sin, king of Ur, king of the four quarters, destroyed the land of Zabshali."[16]

Diplomatic alliances, chiefly through dynastic marriage, were also often commemorated in year names, such as Shulgi Year 30: "The 'governor' [that is, king] of Anshan married the king's daughter," or Ibbi-Sin year 5, "The 'governor' [king] of Zabshali married Tukin-hatti-migrisha, the king's daughter."[17]

Cultic matters commemorated in year names can be subdivided into first, the appointment of cultic officials, and second, building. Babylonians believed that cultic officials were not simply appointed by the king; rather, the gods, through extispicy, manifested their will and chose their clergy. Thus the year names generally stress how the omens picked the priests and priestesses commemorated, as the following examples show. An unplaced year name of Utu-hegal was "The year the chief priest of Inanna was chosen by omens" (Frayne 1997: 280). Naram-Sin's year II was the year the en-priestess of Nanna, daughter of Naram-Sin, was chosen by omens (Frayne 1997: 87).

Sometimes the building was the (re)construction of temples, but sometimes the year names refer to creating objects for use on the gods' statues or by the gods. Naram-Sin year m commemorates the construction of a temple of Inanna in Agade (Frayne 1997: 85). Ur-Namma year o refers to the construction of a chariot for the goddess Ninlil.[18]

Building activities of national importance could also serve as the basis for a year name. For instance, Ur-Namma year n commemorates the digging of a major new canal.[19] Shu-Sin year 4 commemorates the construction of a wall intended to keep Amorites out called the Muriq-tidnim, "wall that keeps the Amorites at bay."[20] Shulgi year 39 was named after the construction of a "household" of Shulgi's called Puzrish-Dagan: we know this better by its Arabic name, Drehem. The event thus seems to commemorate less the actual brick and mortar building and more the institution of a new form of administration.

An event that was viewed as particularly important could be used as a year name over several years. Shulgi's construction of the Puzrish-Dagan establishment gave its name to Shulgi year 39, year 40 (the year after. . .) and 41, (the year after the year. . .) (Sallaberger 1999: 143).

Each reign was apparently self-contained. There were occasional exceptions. Although much of the third millennium documentation that we have refer to various years in a king's reign by year names, as just discussed, there are some earlier archives in which the years were numbered. For instance, year numbering is attested in Early Dynastic Lagash (Yamamoto 1979: 85–97 and 1980: 169–187; Sallaberger 1999: 232), and in the province of Umma under Sargonic rule.[21] Such patterns of dating years by reign may show the germ of a conception of sequential numbering of years, but these were the exception rather than the rule in the third millennium.

Month names

We subdivide the year into twelve months. We begin our year in winter and use traditional month names, many handed down from Roman times (e.g. July after Julius Caesar, August after Augustus, December from Latin *decem*, ten, originally the tenth month in the Roman calendar). Our year is based in the solar year, that is, the time it takes for the earth to complete its orbit around the sun. The solar year, sometimes also called the tropical year, is reckoned at 365 days in length, but its actual length is fractionally more than that (365.242 days).

Such was not the case in ancient Mesopotamia. Babylonians began their year in the spring and used a lunar calendar. As Horowitz explained, "In the lunar calendar, months begin with the appearance of the new moon on the western horizon at sunset at the end of the first day of the month, and continue for twenty-nine or thirty days until the last night of the old month, when the moon is not visible at all." (Horowitz 1996: 36, see also Sallaberger 1993: 306). Human observation determined the month's length, that is, whether it had twenty-nine or thirty days (Cohen 1993: 4; Sallaberger 1999: 233).

Almost all third millennium calendars feature twelve month names. There were, however, exceptions. In the powerful Early Dynastic city state of Lagash, for instance, forty month names are attested,[22] as will be discussed in the section on calendrical oddities that follows.

Many third millennium month names were linked to agricultural or religious events that took place in that month.[23] For example, Sumerian names for months include *iti ezem-mah*, "month of the great festival," *iti maš$_2$-da-ku$_2$*, "month (for) eating gazelle," *iti še-KIN-KUD*, "month (for) harvesting barley" (Sallaberger 1999: 234–236, Cohen 1993: 119). Month names and the celebrations they reflected were often local.

Third millennium month names in Akkadian are attested too, and these, according to Cohen, particularly stress natural and agricultural events (Cohen 1993: 8). These month names might be used in several different city-states. Examples include *Za-'a-tum*, "Flocks," attested at Ebla, Mari and Abu Salabikh among other places (Cohen 1993: 25), and *Bahir warki* (written *ba-hi-ir EGIR*, "Later Heat") attested at Adab and Eshnunna (Cohen 1993: 35). Much later on, a standard list of Semitic month names would be used in Mesopotamia.[24]

While months no doubt served to mark the linear passage of time, it is hard to escape the conclusion that the primary use of the months in the third millennium BC was to mark cycles of the cult, to know when to make the proper offerings. Because each city-state had its own patron goddess or god, and its own individual version of the cycle of festivals and religious celebrations, each city-state used its own set of month names. From a religious point of view, this makes eminent sense. From an administrative point of view, keeping track of a multiplicity of calendars is problematic.

A further headache stems from the apparent lack of synchronicity among local calendars. If all the various city-states began a year of 360 days on the same day, then month i in one city state, for example, Ur, would correspond to month i in Nippur or month i in Ur. One would simply need to know all the names for month i in the various regions.

Surprisingly, even for periods as centrally organized as the Third Dynasty of Ur, local calendars ran independently. Aside from the fact that the length of the year could vary

from one place to the next, depending on whether a "leap" month was being added in that region or not (on leap months, see below), calendars did not necessarily dovetail.[25]

Thus, the crown bureaucracy of the Third Dynasty developed a calendar for use in supra-regional administration: we usually refer to it by a German term *Reichskalender*, coined by B. Landsberger in 1915 (Sallaberger 1993: 38). The *Reichskalendar* seems to have been intended to get around the problem of dozens of local calendars. Used by representatives of the crown, such as scribes at the livestock center called in antiquity Puzrish-Dagan, the *Reichskalendar* could be used in provincial archives when the transaction recorded was of importance to the royal sector (Sallaberger 1993: 49 note 204). However, local transactions continued to be noted texts using only the local calendar (Gomi 1979: 1; Sallaberger 1999: 236). We still have not figured how how some local calendars synchronized with the *Reichskalender*.[26]

The *Reichskalendar* did not survive the fall of the Third Dynasty of Ur. Political fragmentation resulted in little need for supra-regional administration. Local calendars, which after all had continued to be used throughout the period, won the day.

Intercalation

A major problem with the third millennium calendar derives from the discrepancy between the lunar and solar calendars. The figure of 365 days is based on the solar year. A purely lunar calendar consists of fewer than 365 days: if half the months were twenty-nine days and half were thirty, one arrives at 354 days, or eleven days short of 365 (Horowitz 1996: 37). Obviously, over time, one will end up celebrating the harvest-time month in the dead of winter, and so on.

To fix the slippage, extra time was added to the calendar. In second and first millennium Mesopotamia, this appears to have been done fairly regularly.[27] The Sumerians called these months "extra" (*dirig*) or "double" (*min*): modern scholars usually refer to them as leap months or intercalations. One ought to have an intercalation once every three years, or a total of seven intercalation for a nineteen-year period, for the calendar to run smoothly.[28] But for whatever reason, the various local authorities did not appear to add intercalations regularly at all times or in all places. Even in periods of centralization such as the Third Dynasty of Ur, different regions intercalated as each saw fit.[29] This system clearly was flexible enough to allow intercalations when they appeared to be called for, but variable enough that archivists could be confused about how many months a given year contained, For that reason, archivists sometimes would label "file folders" (literally, tablet baskets) to include not only the years covered in the file but how many intercalations were made in that time.[30]

Calendrical oddities

We would be deluding ourselves if we did not recognize that our own systems for calendrical and temporal calculation are convoluted. Nevertheless, it is always a rude awakening to think that one has mastered the intricacies of Mesopotamian calendrical calculations, only to find repeated instances of seemingly inexplicable data. For example, there are several instances when "years" had far too many months. As already mentioned, Early Dynastic Lagash appears to have used forty full-length months per year.[31] Even in the heart of the seemingly highly efficient Ur III period, we find

calendrical aberrations like Shulgi's forty-fourth year, which appears to have had a total of nineteen months, created by repeating each one of the first six months.[32] Certainly we are missing a great deal of information from these periods, but enough data from the relevant archives survives to show such "superyears" existed. One could also have years that appear to have too few months, for instance, Shulgi's forty-eighth year appears to have had only seven months.[33] Why is another matter. It seems possible that marking off periods of exactly 360–365 days was not necessarily the calendar's only or even chief purpose in ancient Mesopotamia.

Calendrical reforms

Third millennium calendrical reforms can be subdivided into two categories: reforms intended to increase the efficiency of administration, and reforms with a political or religious agenda.

A prime example of the first type of reform occurred late in the Ur III period, when the new king Shu-Sin undertook to reform administration, including the *Reichskalendar*. Shu-Sin's administrative reforms had multiple elements, some seemingly intended to make the government run more smoothly by synchronizing calendars and intercalations, some seemingly intended to streamline administrative transactions through new terminology and practices (Sallaberger 1999: 170). After Shu-Sin's calendrical reforms, major state centers of government such as Ur and Puzrish-Dagan began with the same month and intercalated at the same time (Gomi 1979: 2–3; Whiting 1979: 12). Such reforms were no doubt great aids in administration.

But we must not lose sight of the fact that the calendar's chief purpose was to keep the local cultic calendar rolling along. While the calendrical regularity of the Standard Babylonian calendar used in the late second and first millennia may seem a welcome relief from the anarchic plethora of third millennium calendars, its very standardization is a mask. Political and religious reforms there no doubt were in later centuries, but the standardized calendar cannot reflect them, resulting in a net loss of information.

Subdividing the month: days and weeks

We subdivide the month in two different but concurrent ways. Each day of the month is numbered, from the first to the thirtieth (or the requisite number allotted for that month). Babylonian scribes also show evidence of this practice, often noting on a tablet *ud-4-kam*, "it is the fourth day" or the like.

We also subdivide by weeks, that is, a period of seven days, starting either Sunday or Monday. The week is organized around a sequence of day names, Sunday, Monday, Tuesday etc. There is no connection between the numbering of the day (its position in the month) and the day name. November 1 can be a Monday, but it can also just as easily be a Friday. Weeks can start in one month and end in the next.

Did ancient Near Eastern people utilize the concept of a week? Certainly no evidence for day names survives from ancient Mesopotamia, and administrative tablets from the third millennium subdivide the month by notations like *ud-x-kam*, it is day x, and never with reference to a week. Powell concluded, "the seven-day week played no role in Sumerian accounting procedures" (Powell 1976: 433). Although much ink has been spilled on the topic of whether the Sabbath of ancient Israel had any

precursors in Mesopotamia, it now seems most probable that Mesopotamia had no idea of a sabbath.[34] They did not have weekends, but certain phases of the lunar cycle were holidays. At Girsu, for instance, the "new light" of the moon (usually the twentieth day of the month) was always a day off (Sallaberger 1993: 96 and footnote 418). Workers generally had five or six days off per month (Gomi 1984: 6).

CONCLUSIONS

It is hard not to wonder at the contrast between the evolution of counting and mathematics in Mesopotamia, which seems to have a clear progression and concrete stages of development, with the anarchy and perhaps conceptual stagnation of the third millennium calendrical systems. Our own methods of calendrics are somewhat archaic and convoluted, so we would be uncharitable to throw stones. Most importantly, however, as I have tried to stress, calendars in the third millennium were subordinate to other, chiefly cultic needs, and could be adjusted as needed. Both calendars and counting provide windows into the fascinating world of third millennium Babylonia, a world in which everything had its proper place.

NOTES

1 Originally put forward by Hildegard Lewy in 1949, the idea of a decimal substratum to Sumerian counting was soundly rejected by Powell (1972: 166).
2 Edzard 2003: 62.
3 Englund 1988: 133. These sixty signs are to be found in the Uruk Signlist and are referred to by scholars as ZATU N-1 through N-60, or N_1 etc.
4 Also there were systems for liquid measurement, which we will not consider here.
5 Note the local variations: Lagash had had a *gur* of 144 $sila_3$.
6 Boyer 1991: 30. That is to say, Babylonians could solve three-term quadratic equations which, in our systems of writing, would look like $x^2 + px = q$, or $x^2 + q = px$.
7 Powell 1976: 430 (the table of squares is sometimes identified as a metrological table); Robson 1999: 168; Robson 2008: 31–32.
8 The Sargonic problem texts are also discussed in Friberg 2005: 1.
9 Positional notation, also called place notation, or in Robson's terminology, the sexagesimal place value system (SVPS), had as its function the aim to "ease movement between one metrological system and another. Lengths, for instance, that were expressed in sexagesimal fractions of the rod instead of a combination of rods, cubits and fingers, could be much more easily multiplied . . . and then converted to more appropriate units if necessary. The SVPS, in other words, was only a calculational device: it was never used to record measurements or counts. That is why it remained a purely positional system" Robson 2008: 16. Note that Friberg doubts that place value notation was operational in the Sargonic corpus: he notes that his is a minority opinion, Friberg 2005: 1, 21.
10 Powell 1976: 421. The tablet in question is YOS 4. 293.
11 Dialouge 3: 15ff; Civil 1966: 123.
12 This school dialog appears in A. Sjoberg, "Der Examenstext A," *ZA* 64 (1975): 144; discussed in Robson 1999: 181.
13 This translation of Shulgi B is from ETCSL, available online at http://etcsl.orinst.ox.ac.uk.
14 The Gregorian calendar was adopted in 1582, though some places – such as Sweden – did not adopt it until the early eighteenth century.
15 Usually a year name would commemorate only one category at a time. There are occasional exceptions, such as Naram-Sin year k, which refers both to the laying of the foundations of a

temple for the goddess Annunitum (a form of Ishtar) and Ilaba in Babylon and to the capture of Sharlak/g, king of the Guti. See Frayne 1997: 183. Different classifications of year names are possible; for instance, Sallaberger divided Shulgi's year names into the categories *kultisch*, *innenpolitisch* and *außenpolitisch*, Sallaberger 1999: 141–143.

16 From the online year name collection at CDLI, to be found at http://cdli.ucla.edu.

17 CDLI, http://cdli.ucla.edu.

18 From CDLI, http://cdli.ucla.edu.

19 On Ur-Namma's canal building, see Sallaberger 1999: 135.

20 From CDLI, http://cdli.ucla.edu.

21 These Sargonic tablets are in fact sometimes referred to as an archive as *mu iti* (year, month) tablets due to this distinctive system of calendrical calculation. The tablet here referred to is Foster, B.R. (1982) *Umma in the Sargonic Period*, Memoirs of the Connecticut Academy of Arts and Sciences 20, Hamden, CT, p. 134. See also Sallaberger 1999: 232.

22 Englund 1988: 144: "The various attempts to synchronize Lagash' cultic calendar, comprising some 40 month names, have been on the whole unconvincing."

23 Cohen 1993: 5. "Cult festivals based in part on the agricultural year dominated in the designation of nearly all third millennium month names." Englund, 1988: 122–123. On Ur III month names, see Sallaberger 1993: 7–11.

24 Cohen 1993: 297 ff. The earliest date for such a calendar seems to be the reign of Samsu-iluna.

25 Mesopotamia was hardly unique in the ancient world in its calendrical anarchy. Classical Greek city-states also had their own month names and in fact would start the year in different seasons.

26 For instance, how Umma's local calendar related to the *Reichskalendar* is still a work in progress, see Sharlach 1993: 25, 57.

27 Horowitz 1996: 37. An ideal three-year cycle in which two years were regular, lunar years with twelve months of about 354 days each, and a third year with an intercalation or leap month added, making that year approximately 384 days. One should then have seven leap months for every nineteen years to keep the lunar and solar calendars running more or less in synch.

28 Whiting 1979: 22. Intercalations were not always placed at the same point in the year, for reasons which are now obscure. They could go between months five and twelve in some calendars, or after month eleven or twelve in others. Gomi 1984 : 6 and Whiting 1979: 17.

29 Gomi 1979: 3. Amar-Sin year two, for instance, was intercalary at Ur but not Puzrish-Dagan. Even sites in the same province, such as Nippur and Puzrish-dagan, do not necessarily intercalate in the same year. Whiting 1979: 28

30 For example, the filing tag TRU 2 notes that in the years Shulgi 26–41 there were six intercalations. Gomi 1979: 6.

31 See note 22.

32 That is, month i, month i min, month ii, month iii min, and so on. To top it all off, an intercalary month (*dirig*) was also added in this year! According to Whiting, "The idea that this year actually had nineteen months is clearly impossible." Whiting 1979: 25. Lacking any other explanation, we should perhaps entertain the possibility that what appears to be a nineteen month year was in fact just that. See also Sallaberger 1999: 237.

33 Sallaberger 1993: 5. Surprisingly, this was months 6–12, not 1–7. Sallaberger 1999: 237.

34 Sasson 1992: 184 footnote 7: "The hopelessly muddled debate about the Sabbath's Babylonian origins is, however, coming to a sane end, with a clear rejection that Israel had . . . 'borrowed' the concept and the institution from Mesopotamia."

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CHAPTER SIXTEEN

SEALS AND SEALINGS IN THE SUMERIAN WORLD

Holly Pittman

We are all familiar with stamps that make marks, either in ink or with an impression, to prevent unauthorized tampering of letters or packages. An equally familiar use for such marks is on official documents. You cannot get a loan from a bank or pass through an international border without receiving an official authorizing stamp on your papers. The problem of securing and protecting possessions against illegitimate use and the recording of authorization has been a challenge for a long time. As early as the sixth millennium BC in villages of the aceramic Neolithic period, a particularly creative and enduring solution to the monitoring and tracking of things was found. During the excavations at the site of Tell Sabi Abyad in Syria (Duistermatt 2000), abundant evidence indicates that a simple and profound solution had been found: a unique and distinctive mark that held conventional meaning familiar within the community could be repeatedly made through impressions into a soft material, like clay (Figure 16.1). Some two thousand years later, at the time of the first urban centers, the potential of this ingenious system of a unique but reproducible mark with shared meaning was the centerpiece of an administrative system of the control of goods and the identity of actors that remains in use today. The first seals were stamps that were carved with designs, both abstract and figural, that were impressed into clay masses used to secure stone and clay vessels, bags, bundles and finally doors (Ferioli et al. 2007). Later, appearing alongside the invention of proto-writing, a new form of seal was invented. This cylindrical form carried imagery on its continuous side that was transferred through rolling into soft clay applied to secure mobile containers, stationary doors or administrative documents made from clay.

Like pottery, seals and their impressions are important and abundant artifacts for the study of the societies of the ancient Near East. In addition to their continual and evolving administrative role, they are the single most abundant art form that we have from Sumer and Akkad, serving as the single source of an unbroken sequence of style and imagery (Frankfort 1939, 1955; Moortgat 1940; Porada 1948, 1980, 1993; Amiet 1980a; Collon 1987). Seals were used in almost all communities that participated in the greater Mesopotamian cuneiform culture, and because they are small, made of durable materials, and are preserved both as seals themselves and through their impressions, we have literally tens of thousands available for study. These small and intriguing documents are evidence for a variety of different themes about ancient societies including issues of economy and hierarchy, trade and interaction between communities

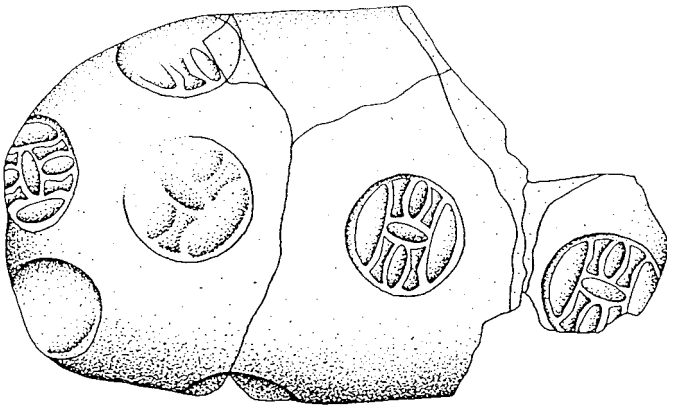

Figure 16.1
Drawing of an ancient clay jar stopper impressed multiple times with a stamp seal. From Sabi Abyad (after Duistermaat 1986: 393: 16.5.14:1)

both close by and distant, as well as the character and meaning of imagery in different communities. Seals and their impressions are also critical evidence for establishing relative chronological position of archaeological contexts because every period had unique ways of engraving seals.

Throughout the history of their use, seals were first and foremost tools in the administration of economic and judicial matters. Closely aligned with cuneiform writing for the three millennia of their use, cylinder seals spread together with the script to many parts of the Near East and were adopted and adapted to local customs and requirements. The script carried the authority of the word, and the impression of the seal authenticated the message as genuine. Seals were never used to "decorate" a tablet or a clay lock. Even when they were impressed on ceramic jars, a practice concentrated in the piedmont zone surrounding Sumer, their function was not decorative (Mazzoni 1993). But seals also were not just administrative tools. They also carried magical or amuletic meaning, they served as jewelry or markers of status, and they were frequently deposited in sacred spaces as votive objects. But their association with identity, power and authority is what established their centrality and longevity in cuneiform cultures. Given the original and enduring function of seals as vehicle of authority and legitimacy, it is necessary to think about the kinds of marks, both images and texts, that were engraved on their surface not simply as reflections of local styles and fashion but rather as carriers of culturally salient meaning. The changes that we see in the seal designs directly reflect changing messages central to the smooth functioning of the society. Because of the fragmentary and partial nature of our evidence, we can often only observe but not explain the meaning or precise motivations for the changes. But on occasion radical or subtle changes can be correlated with other evidence to provide insight into the legitimizing power of the imagery.

Seals are commonly understood as the equivalent to the personal signature of modern times, that is as a mark made by an individual signifying the acceptance of an obligation, or a personal recognition by the owner of the seal of the accuracy of the content of a written document, or when applied to a commodity, authorizing the dispersal or receipt or integrity of such commodity. While the analogy to the modern signature is broadly correct beginning with the Ur III period, our understanding of the message carried on the seals used in earlier periods cannot be limited to this modern equivalency. In different periods, different patterns of use suggest that there was a

variety of messages, sometimes nested, that the imagery of the seal could carry. What follows is a selective survey of seals and sealings within the Sumerian world with a focus on the message carried by the imagery. The third millennium BC in southern Mesopotamia is a time when both writing and image making were charged with the task of keeping order in a society that had become so complex that word of mouth or a handshake could no longer suffice to protect the innocent from the unscrupulous. At the beginning of this period, the images carried on the seals were the pictorial equivalent of later text (Nissen et al. 1993). During the following millennium and a half, the images were gradually freed from their textual burden and allowed to become complex, multivalent, pictorial symbols. This cognitive achievement together with the material embodiment of spoken utterance through writing, are among the intellectual foundations upon which civilization exists.

SEALS AS OBJECTS

Cylinder seals, and their forerunners, stamp seals, are by necessity made of sturdy, durable materials that could both receive marks and withstand pressure against a soft malleable material, which in the case of southern Mesopotamia was abundantly available as prepared clay. When the imagery carried on a seal is impressed, it produces an identical copy of the image, only in reverse. Seals are almost always engraved by the *intaglio* process which creates in negative a reversed version of what will be rendered positive in an impression. When the seal carries an inscription, the signs are normally carved in reverse so that they are legible in the positive impression. Only on seals that were never meant to be impressed, such as divine or dedicatory seals, is the inscription written to be legible on the seal itself.

The most common material used for seals in Sumer was stone, but metal (copper/bronze, silver and rarely gold) and composite materials (terracotta, faience, and frit) were also used. Organic materials such as bone and ivory are also documented, and it is not impossible that wood was also used, although no examples survive. In the case of metal or frit seals, the imagery was either engraved or more rarely cast. Southern Mesopotamia, rich in water, fertile soil, reeds and date palms, has only poor quality limestone stones locally available. Therefore, most of the raw materials used for seals were by necessity imported from the highland regions surrounding the Mesopotamian floodplain. Trade with these resource-rich highland zones to the east and west is documented from the earliest times.

By the Uruk period, the movement of stones, metals, woods and other raw materials into Mesopotamia probably in exchange for finished products including textiles and prepared foods is well established. While exotic and very hard stones like obsidian (Figure 16.2) and rock crystal were used for cylinders from the beginning, softer stones, marbles, calcites, colored limestone, serpentine, chlorite and steatite, are more typical. The sources of soft stones were many and various and are for the most part impossible to pinpoint. But lapis lazuli, the luxurious dark royal blue stone, common in Mesopotamia only during the Early Dynastic III period, comes exclusively from the province of Badakshan in northern Afghanistan. Lapis combined with other materials like carnelian and shell are especially abundant in the Royal Cemetery at Ur. Their presence testifies to the extensive trade relations between southern Mesopotamia and the east that thrived during that period. When these commercial relations became

militarized during the Akkadian period, lapis lazuli became extremely rare. Surely this is not because the material had lost its value, but rather because the supply that had flowed so freely through the hands of the maritime merchants had been cut off or diverted. Instead, the more readily available serpentine became the most common stone for seals (Sax et al. 1993), together with a number of harder and colorful stones. Especially prominent are the micro crystalline quartzes including red, green, and yellow jaspers, agates and greenstone. Rock crystal is largely restricted to the Akkadian period as is the black and white spotted diorite that comes from central Iran. The famous seal of Kalki, the scribe of Ubil-Eshtar, an official and brother of an Akkadian king is made of this material (Figure 16.3a, b). Shell, frequently used in the ED period, continues to be popular into the Akkadian period. These materials, most of them coming from the Iranian plateau and region of the Persian Gulf, demonstrate that Mesopotamian lapidaries had mastered the techniques for cutting very hard stones. Harder bronze tools and new, more effective abrasives had become readily available (Sax and Meeks 1995; Sax et al. 1998).

Figure 16.2
Cylinder seal carved from obsidian of the Uruk/Jemdet Nasr period, *c.*3100 BC (ex-collection Moore. The Ada Small Moore Collection of Ancient Near Eastern Seals, Sotheby's sale catalog auction December 12, 1991 #7)

After the collapse of the Akkadian central control in the region, a radical change is visible in the kinds of material used for seals. Trading links to the eastern plateau were apparently broken. Colorful hard stones were no longer easily available. During the transition to the second millennium, under the hegemony of the Ur III kings, colored stones completely disappear replaced apparently by both preference and necessity with dark stones. Chlorite is the single most common stone for seals of the Ur III period. And a new material, iron oxide, primarily hematite but also magnetite and goethite, is used for the first time. It is thought that the primary source for commonly occurring

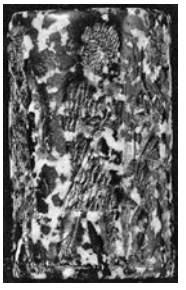

Figure 16.3a (left) Cylinder seal of speckled black and white diorite. Akkadian period. Inscribed "Ubil-Eshtar, brother of the king, Kalki, scribe, is your servant" (British Museum BM 89137, courtesy of the Trustees of the British Museum)

Figure 16.3b (right)
Modern impression of cylinder seal of Kalki (British Museum BM 89137, courtesy of the Trustees of the British Museum)

iron oxide was in eastern Anatolia. Its dark color and shiny surface is consistent with the subdued aesthetic of the Ur III court. Hematite was used for some of the finest seals of the Ur III period. In the hands of a skilled craftsman, hematite seals can carry an extremely finely carved image typical of the finest royal seals (Sax et al. 1993). Hematite remained an important material during the period of the Amorite Old Babylonian kingdoms. We have texts from later periods that record the meaning and importance of certain seal stones. Although there are no texts from the third millennium telling us about the meaning of seals and their material, we know from the myths and royal hymns of time that deep blue lapis lazuli and red carnelian were closely associated with the gods.

From the earliest stamp seals, both the standardization of shapes, styles and iconography and the skill involved in making a seal indicate that both skill and training were involved in their manufacture (Von Wickede 1990). Certainly by the time of the invention of the cylinder seal in the Late Uruk period, seal cutting was a recognized specialized profession. The earliest mention of a seal cutter (*BUR GUL* in Sumerian, *purkullu* in Akkadian) dates to the ED III period (Porada 1977:7). Seals of all periods show a very wide range of ability; some are small-scale masterpieces that must have taken a huge investment of time and skill while others are highly schematic and could have been made quickly with mechanical tools (Figure 16.4). While it has been argued that a small number of poorly cut seals were made by scribes, most of the seal production would have been organized in workshops (Porada 1977). Large cities would certainly have had more than one workshop. We know nothing about their structure, whether they specialized in subject matter or materials. By the end of the Akkadian period, when inscriptions became common, scribes specializing in the cutting of lapidary inscriptions must have been part of the workshop personnel. Several finds have been identified as the toolkit of seal cutters or jewelers. At Tell Asmar, Henry Frankfort reports finding a collection of seal cutter's tools in a cache in a house of the Akkadian period (Frankfort 1939: 5).

Technical studies of the carving of seals have revealed interesting information about the development of lapidary technology (Sax et al. 1994, 1995, 1998). Files, gouges, and rotary drills were readily available during the fourth and third millennia BC. While some seals of this early period appear to be cut by rotating wheels, detailed investigation has shown that in fact the cutting wheel was introduced only in the middle of the second millennium (Sax and Meeks 1994). The range of forms that make up the seal images extend from gouged lines and drilled forms that are unmitigated by any kind of finishing (Figure 16.5) to highly modeled forms that exhibit tremendous interest in naturalism and realistic detail (Figure 16.6). Style is as important a feature of glyptic art as iconography, making it necessary to discuss both in any characterization of a regional or period glyptic art.

Figure 16.4 Modern impression of a highly schematic seal showing an animal and a star. Early Dynastic I period (Fara. CBS 19861. Legrain 1925: 29. Courtesy of Richard L. Zettler, Associate Curator-in-Charge, Near East Section, University of Pennsylvania Museum of Archaeology and Anthropology)

Figure 16.5 Modern impression of a highly schematic seal showing a file of three horned quadrupeds. Late Uruk/Jemdat Nasr period (Porada 1948: 18. Courtesy of the Pierpont Morgan Library)

Figure 16.6 Modern impression of a cylinder seal showing a presentation scene. Ur III period (Porada 1948: 277. Courtesy of the Pierpont Morgan Library)

SEAL IMAGERY AND FUNCTION: CHANGES THROUGH TIME

The first cylinders: Uruk and Jemdet Nasr/Proto-Elamite periods

During the Middle and Late Uruk periods, the storage and transmission of information crucial to the administration of the economy and labor had to be radically reorganized because of the increased complexity of mobilizing a large body of specialized (and forced) labor that was supported through food rations and was supervised through a hierarchy headed by a newly emergent elite. Within this context, several cognitive leaps occurred at essentially the same time. First was the invention of abstract numbers, next was the invention of the cylinder seal and the system of imagery that carried information central to the administrative process, and third was the invention of proto-writing that would shortly develop into the cuneiform script that would over the course of the third millennium evolve into a system capable of recording spoken utterance in symbolic form (Nissen et al. 1993). This script was applied to many of the languages of the ancient Near East for millennia to come. While the invention of numbers and writing are covered in more detail elsewhere, it is important to emphasize that cylinder seals first appear in this context.

It will probably never be possible to locate exactly where the cylindrical shape of the seal was invented, but there can be no question that, like proto-cuneiform, it was a single invention whose usefulness was immediately appreciated within the administrative circles. The earliest stratified evidence for the use of cylinder seals comes from several sites, none in southern Mesopotamia, in contexts dating to the late Middle Uruk period. They include Sharafabad (Wright et al. 1980) and Susa Acropole sounding I (Le Brun 1999) in southwestern Iran; Tell Brak (Oates and Oates 1993: figs. 31, 44) in the Habur region in northern Mesopotamia and at Sheik Hassan (Boese 1995), an early colony site on the upper Euphrates. All of these were big cylinders that carried figures rendered in the same "baggy" style aptly named because of the heavy and unmitigated use of the drill (Figure 16.7). The only example of an actual seal of this style found in a controlled stratified context comes from Tell Brak, but others of exactly the same type are known from Uruk, Susa, Telloh and Nuzi. We know that this type

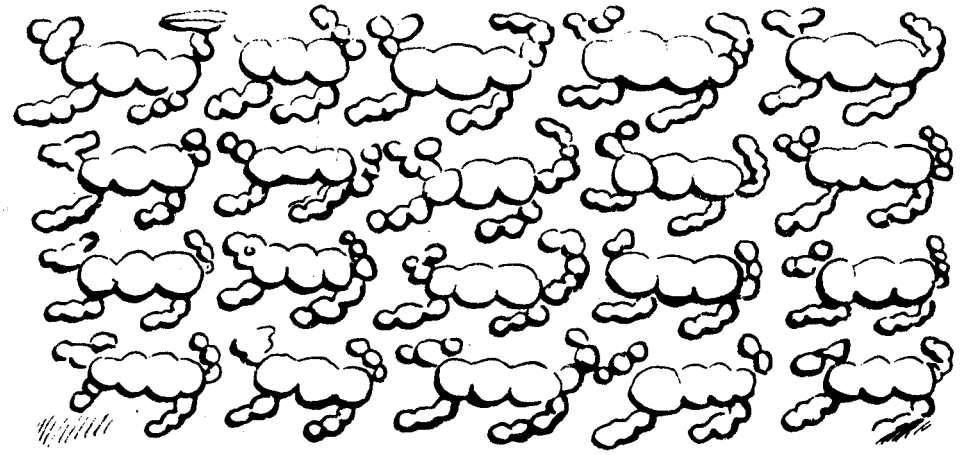

Figure 16.7 Drawing of a modern impression of a cylinder seal from Telloh carved in the baggy style (after Amiet 1980a: 297)

of seal was invented before the first signs of writing because they are impressed on hollow clay balls often containing tokens that are recognized as document forerunners of numerical and proto-cuneiform tablets.

During the next century or more, cylinder seals were a central component of the administrative toolkit that included hollow clay balls and tokens, tablets impressed with numbers, and finally tablets impressed with numbers and one or two pictographic signs. These administrative documents along with the clay closing devices were used to monitor the production of commodities and the distribution of rations, the control of herds, and other economically vital activities. It is during this period of the very first cylinder seals that we see the most expansive iconography ever employed in glyptic art (Amiet 1980a; Boehmer 1999). One reason for this explosion of visual imagery must certainly be that at this early period, with writing in its infancy, images played a central role in storing and transmitting the literal messages vital to the functioning of the sector of the economy run by the state. Several scholars have offered interpretations about the meaning of the imagery carried on the Uruk period seals. The most convincing (Brandes 1979; Dittmann 1986) propose that the imagery should be understood not as "signatures" of responsible individuals, but rather as pictorial messages transmitting information about economic units, or the identity of the receiving or sending institutions, or the particular event that was associated with the administrative transaction (Figure 16.8).

During the Uruk period, there is a remarkable consistency in style, imagery and patterns of use of cylinder seals throughout the vast geographic expanse of the Late Uruk culture. Glyptic evidence from the sites on the middle and upper Euphrates (Arslantepe, Habuba Kibira, Jebel Aruda, Sheik Hassan, Hacinebi), the Jezira (Tell Brak, Hamoukar), the central Zagros (Godin Tepe) and Susiana (Susa and Chogah Mish) all share the same stylistic characteristics with seal impressions from Uruk itself. Each corpus, however, has a distinct distribution of themes which suggests that different economic concerns and sectors dominated at individual sites (Pittman in press). Almost every site with Uruk-style glyptic has produced at least one image of

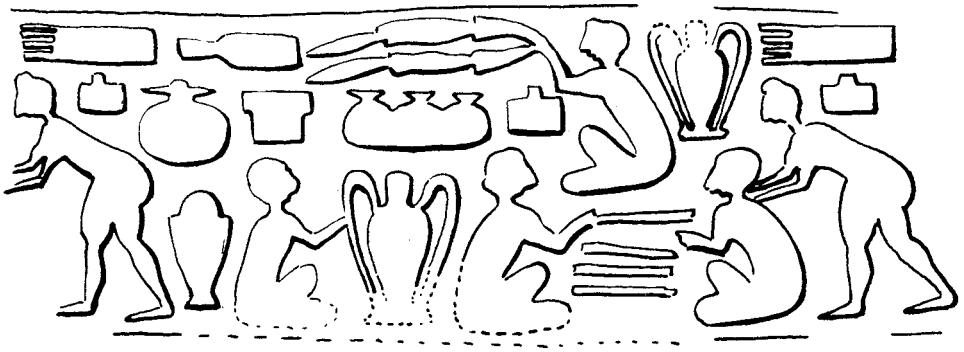

Figure 16.8 Drawing of an ancient impression of a cylinder seal from Susa showing a scene of administration (after Amiet 1972: 646)

the paramount ruler of the Late Uruk period, the so-called "priest-king" who in every instance wears a distinctive rounded headband to secure a pageboy hair style (Figure 16.9). He usually wears a long skirt, sometimes of hatched netting. He is shown in what became the paradigmatic roles of the ruler – as the main actor in relation to the temple or the gods, as a warrior, and as a hunter. An unresolved question is whether this figure represents an institution or is a generic image of the local ruler. If the former is true, then we must look to one site (by default Uruk) that projected the structure of centralized control across the cultural space. If the latter is correct, then we can understand that the local organization of power across the wide zone was uniform, and that there was little interregional competition that would have required the visual differentiation of power. The image of the ruler reminds us that together with the invention of the cylinder seal and writing, we are also at a moment when the elaborated imagery necessary for a complex urban society was also invented for the first time. Beneath the seemingly clear and easy to read images of the Late Uruk seals lay the proof that images would from now on play an expanded role in the efforts made by power brokers to effectively project their demands and expectations onto the various tiers of actors in the new social and economic order of increasing inequality. Images had acquired new functions that were vital to the smooth operation of a complex economy organized to reinforce the power and privilege of the ruling elite. We will see that in the following centuries, the imagery engraved on seals continues to project the authority and the legitimacy of those holding the economic and legal power. However, with the increasingly articulate and broad use of writing, the messages carried by the images became increasingly symbolic.

The Late Uruk administrative system underwent rapid change. At the beginning, just before the invention of writing, cylinder seals were the sole carrier of information in the new administrative system. When the hollow clay balls were replaced by numerical tablets and ovoid tags, cylinders continued to be impressed on all documents. They complemented the numerical information embedded in the document. This linkage of glyptic image and message carried on the tablet changed radically when protowriting first appeared in the latest phase of the Late Uruk period, in level IV of the Eanna precinct at Uruk (Boehmer 1999). While clay sealings securing mobile containers and immobile storage rooms continued to be impressed with cylinder seals,

Figure 16.9 Modern impression of a cylinder seal showing the "priest-king" offering vegetation to sheep with three Inanna gate posts (British Museum WA 116722. Wiseman 1962: pl. 1a. Courtesy of the Trustees of the British Museum)

only a very small number of tablets inscribed with the proto-cuneiform script carried seal impressions, suggesting that the images carried on the seals were replaced by proto-cuneiform signs. This separation of cylinder seals and tablets is maintained until the very end of the third millennium, when, in the Ur III period, cylinders again regularly mark tablets but now as individual or official signatures.

Sometime just after 3000 BC, the cultural unity of the Late Uruk phase was broken. At Uruk and other sites in southern Mesopotamia, the figural style showing domestic animals, the priest-king and ritual activities in front of the temple continues. But outside of the southern Sumerian heartland, regional styles emerge that are very distinctive. In Iran, the so-called proto-Elamite style seals, along with a short-lived script of the same name, carry images showing animals acting as humans and animals carved in a highly distinctive style (Figure 16.10). In addition, several new styles appear that show a clear movement away from literal toward more symbolic imagery. They are concentrated in the region of Central Mesopotamia in the Diyala River Valley (Frankfort 1955). One, called the Brocade style, is very local (Figure 16.11). Carved on thin tall cylinders of colored limestone, the brocade-style designs are images of horned animals, often in alternating and reversed patterns. Very few impressions of these seals suggest that they did not play an important role in the administration. The other, called the Glazed Steatite or the Piedmont style, are widespread across the piedmont zone from western Syria across the Jezira to Nineveh, to the Diyala and Hamrin valleys, to Susiana, and then across the southern route of Iran all the way to the border with the Indus Civilization (Figure 16.12). This distinctive style, whose designs often consist of symbols that are closely related to the proto-Elamite script, are impressed occasionally on proto-Elamite tablets but they were used primarily for clay sealings of containers and doors (Pittman 1994). While the exact significance of this extremely broad distribution is unknown, it mirrors exactly the most active overland trade route. Very few examples of this distinctive style are found in southern Mesopotamia suggesting that the Sumerian urban centers were not directly involved in the long distance overland commerce and interaction.

A new type of seal design does appear at several sites in southern Mesopotamia that does indicate vibrant regional interaction. This style is named the "City Seal" style

because it consists of pictorial variants of the cuneiform sign groups designating cities. At the sites of Jemdet Nasr and Uqair, a small number of inscribed tablets carry impressions of these fascinating seals that list the cities of Ur, Larsa, Nippur, Uruk, Kesh, Zabala, and at least ten others a single image (Matthews 1993: 37; Moorey 1976).

Figure 16.10 Modern impression of a cylinder seal of the proto-Elamite period showing a scene of administration (VA 10347. Moortgat 1940: 775. Courtesy of the Vorderasiatisches Museum, Berlin).

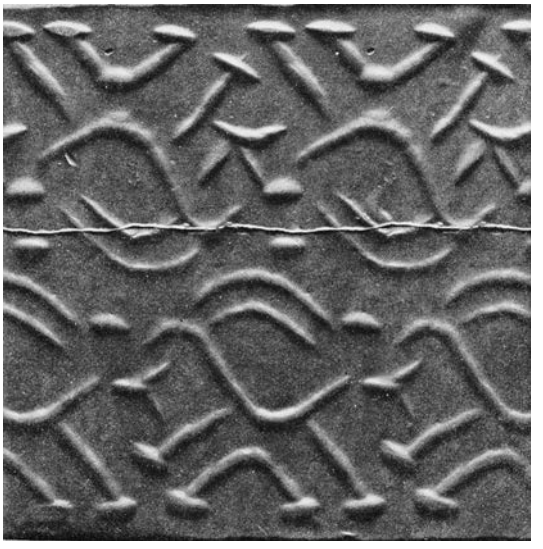

Figure 16.11 Modern impression of an Early Dynastic I cylinder seal carved in the Brocade style. From Khafajeh Sin Temple VI (Kh. V 191 Frankfort 1955: 229. Courtesy of the Oriental Institute of the University of Chicago)

Figure 16.12 Modern impression of an Early Dynastic I cylinder seal carved in the Glazed Steatite style. From Khafajeh Sin Temple IV (Kh. V 369. Frankfort 1955: 142. Courtesy of the Oriental Institute of the University of Chicago)

While the exact meaning of this grouping is unclear, scholars have used these seals as a material expression of an early trading league that was perhaps organized in the service of the gods (Jacobsen 1937; Matthews 1993; Steinkeller 2002). The tablets impressed with these seals record the delivery and dispersal of luxury foodstuffs and textiles, perhaps designated for the temple of the goddess Inanna. These city seals, together with proto-Elamite seals that also carried short inscriptions, are the first experiments that we see in seals of the combination of images and text in glyptic art. Although we cannot read them, it is interesting that the names of cities, and perhaps individuals, were carried in these earliest seal inscriptions. This relationship of text and image carried on the seals continues to evolve during the third millennium.

The Long Early Dynastic period (2900–2250 BC)

The Early Dynastic period, so named for the first historically documented royal dynasties of Sumer and Akkad, is a long one of almost seven centuries. It is divided into two phases of unequal length: the first (ED I and II) is charted archaeologically through the changing character of pottery and glyptic art; the second, considerably shorter period (ED IIIa and IIIb) is the first to be defined through a succession of rulers. Our knowledge of these seven centuries is dim, but through the efforts of archaeologists, philologists, and art historians working together we can sketch at least the outlines of development in both the style and the iconography of seals and the function of seals in the administration and society.

Seals of the ED I period are best known from the site of Ur, in the so-called Seal Impression Strata 8–4 that underlay the Royal Tombs of ED IIIa date (Legrain 1936). In these layers of trash were found seal impressions on containers and doors as well as about 500 tablets written in Archaic cuneiform script. None of these tablets, which continue as before to provide records of economic and administrative matters, are impressed with seals. The complete separation of the cuneiform tablets and the seals is characteristic of the entire length of the Early Dynastic period. By the end of the period, cuneiform script has developed into a full-blown writing system that can record more or less completely spoken utterance (Cooper 1983). The language underlying these earliest cuneiform documents is Sumerian, but other languages, especially Semitic Akkadian but also Hurrian, are recorded primarily in the form of personal names. This very separation of inscribed tablets and seal impressions must reflect a profound change in the function and ways in which images carried meaning. No longer was it necessary for the seal image to contribute directly to the administrative message. It is during the long ED period that seals become more and more closely associated with their owners, not as individuals perhaps, but as members of groups who held positions in the recognized administrative hierarchy.

The City Seals' imagery that first appears in the previous period becomes more elaborate and difficult to decipher combining both figural and script in single image fields (Figure 16.13). Best known from the Seal Impression Strata at Ur, City Seals are also recorded at a small number of other centers in the south and in southwestern Iran (Matthews 1993). Remarkably the impression of a City Seal with the sign for Ur was also found at a site on the Iranian plateau suggesting that the trading route along the Persian Gulf was well established even at this early date (Pittman 2008). In addition to the City Seals, narrative scenes related to earlier Uruk compositions continue

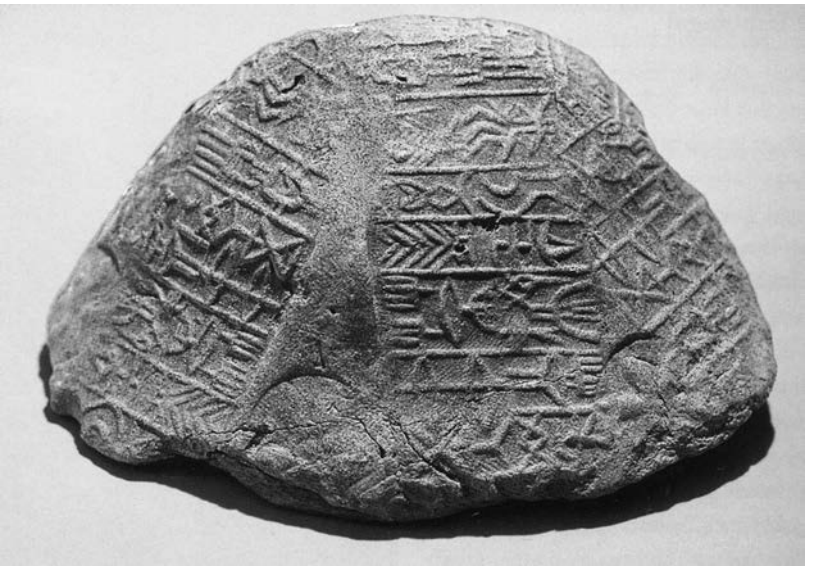

Figure 16.13 Ancient impression of City Seal on clay mass (Ur. U. 14896a. Penn Museum 31.16.604. Courtesy of Richard L. Zettler, Associate Curator-in-Charge, Near East Section, University of Pennsylvania Museum of Archaeology and Anthropology)

including animal files, usually domestic animals, but also wild beasts who engaged in combat.

Scenes of animal predation are documented among the earliest stamp seal imagery (Von Wickede 1990). Most commonly a feline, lion or lioness, attacks a wild cervid, goat, or less commonly a bull. During the transition to the first cylinder seals, these animal combat scenes fell entirely out of favor. However, with the appearance of the Late Uruk tablets, scenes of predation reappeared alongside scenes of production, animal husbandry, transport of goods and the like. This scene of combat develops in the Early Dynastic period to depict wild animals struggling with heroes which becomes the single most common theme in glyptic art for the next seven hundred years until the collapse of the Akkadian empire. While it began as a depiction of an actual event probably symbolizing the competing forces in nature, by the Early Dynastic period its meaning no longer referred to the actual struggle between felines and horned quadrupeds but rather it was elevated to a symbolic plane that was probably associated with the assertion of control over cosmic and real forces of nature and society. Both its compositional structure and the details of its iconography evolved over the centuries, but it remains remarkably central to glyptic iconography. While its precise meaning is allusive, it is clear that is it associated with the court and official power.

By the ED II period, a phase known only through glyptic and other arts and not through ceramics, the contest scene between felines and horned quadrupeds is expanded to include several different heroic human figures who must have been players in the current myths of the day. There is the nude hero wearing the belt, the hero with erect curls, the bull man, and the human-headed bull who now engage in the struggle.

Usually they fight against the attacking feline, but they can also struggle with the quadrupeds. The composition of the contest scenes, which was originally horizontal, gradually became more and more upright with the struggling figures crossing over each other. These scenes become very difficult to unravel visually. The element of combat is lost in what becomes an unbroken band of overlapping figures, each virtually indistinguishable from the other (Figure 16.14). The literal quality of the earliest cylinders has now been completely lost, replaced by a single pattern that must have always carried the same meaning, as the mark of an authorized official. While known throughout the region, this phase is called the Fara Style, because the most distinctive examples come from the site of Fara (Martin 1988). It is at this time that the very first seals begin to be inscribed with personal names that can be read, often inserted rather haphazardly between contesting figures.

The contest scene continues to evolve stylistically during the historic phase of the ED III period. By this time, personal names, and occasionally titles or patronymics, are incorporated into the compositions, now in spaces that are especially reserved for the signs. In the Royal Cemetery of Ur, seals and impressions that carry the names of rulers were found. And in the trash levels that lay over the Royal Tombs are the impressions of the later kings of the First Dynasty of Ur Mes.anne.padda (Figure 16.15) and A.anne.padda. The end of the ED IIIb sequence is known through impressions of the kings of the First Dynasty of Lagash: Enmetena, Lugalanda, and his wife, Barnamtara. Throughout, the elements of the contest scenes remain the same, while small details of carving, the treatment of the animals' manes and tails, the degree of overlapping, and the increasing legibility of the inscription allow us to describe a clear stylistic evolution for the last stage of this period (Boehmer 1969; Hansen 1987).

While the contest scene is the most frequently occurring scene, and is the one associated most closely through inscriptions and archaeological context with males connected with the court, other themes are almost as important in the ED period. In the Royal Cemetery especially, the scene of a banquet showing two facing participants sipping beer through a straw and often in the company of musicians or other secondary participants is prominent (Selz 1983). Queen Pu Abi, laid to rest in Royal Grave 800

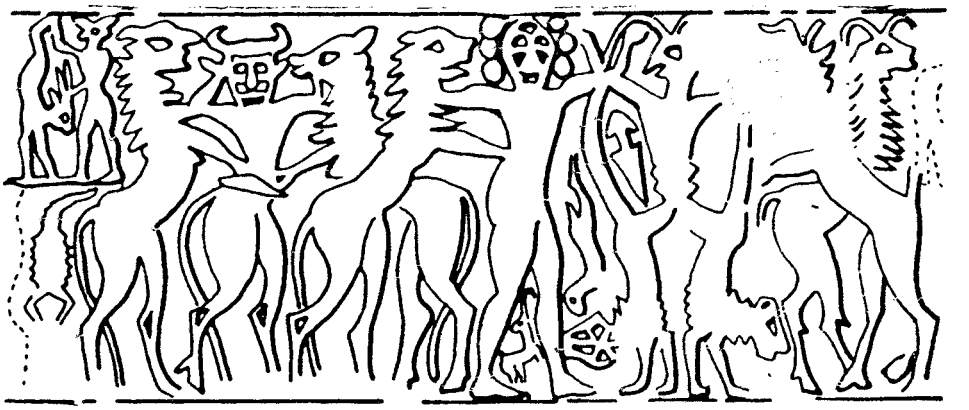

Figure 16.14 Drawing of an ancient impression of a cylinder seal from Fara. Early Dynastic II (after Martin 1988: 391)

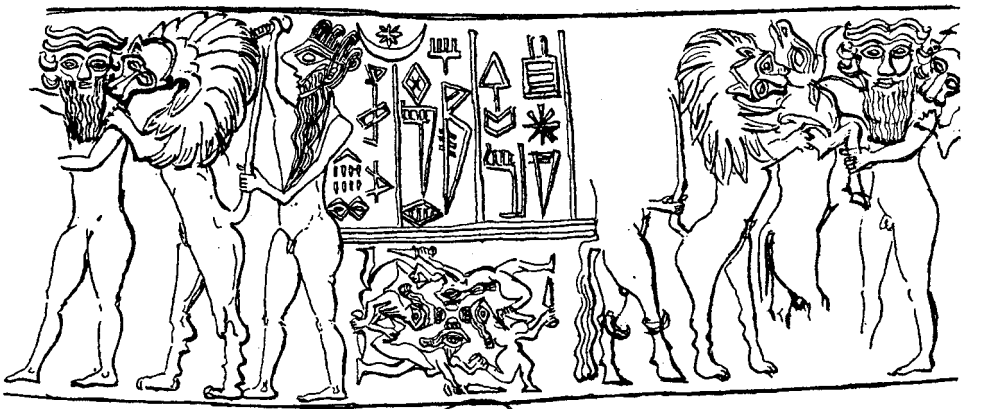

Figure 16.15 Drawing of seal impression of Mesannepadda: inscribed: Mes.anne.padda, the king of the universe, the spouse of the Hierodule (= the goddess Inini) (Ur. U. 13607. After Legrain 1936: 518)

at Ur, had three seals associated with her person. The one inscribed with her name shows in a two register scene the banquet above, and the celebration with musicians and dancing below (Figure 16.16). Both the combat and the banquet scenes appear not only on seals but also on other media suggesting that their symbolic and sociological meaning was integrated and continually reinforced. A survey of the association of the seals with other grave goods in the Royal Cemetery (Rathje 1977) concluded that contest scenes are associated with members of the court and "public economy. " The most common materials for seals in the Royal Cemetery were blue lapis lazuli and white shell or calcite. Roger Moorey (1977), associating the contest scene with males, observed that those cut in lapis belonged to members of the royal court, while those of calcite or shell were most often found with individuals buried with weapons.

Scenes with any kind of historical reference are rare in glyptic art during the Early Dynastic period. Depictions of warfare, showing a ruler figure in a chariot together with troops and defeated enemy (Mayer-Opificius 2006) similar to the war side of the Standard of Ur, are known, especially from the northern cites of Mari, Ebla, and Tell Beydar. Also rare, but present during the Old Sumerian period, are images of the divine, ritual performances and scenes with narrative structures that refer most probably to myth. Both in glyptic and in monumental arts we now see the earliest images of gods

Figure 16.16 Modern impression of seal found near Puabi's body in PG 800. Inscribed: Pu Abi, Queen (U. 10939. British Museum WA 121544. Courtesy of the Trustees of the British Museum)

and goddesses, recognizable by their headdress of bull horns. Among them is a front-facing fertility goddess (Figure 16.17) and a deity who presides over the ritual building of a stepped platform remarkably similar to the later ziggurats. Another theme showing the divine that may refer to a myth is the theme of the Sun god Utu in the god-boat (Figure 16.18). This visual narrative continues in the Akkadian period.

Akkadian period: Early and Classic

During the period of Akkadian consolidation of the competing Mesopotamian city-states under centralize rule, radical changes took place in all aspects of society (Liverani 1993). This is reflected in both the glyptic arts and the administrative practices. As discussed in other chapters in this volume, many factors contributed to shaping these changes. Centrally important is of course political change (Nissen 1986) but perhaps

Figure 16.17 Drawing of a modern impression of a cylinder seal showing a front-facing fertility goddess (after Amiet 1980a: 1357)

Figure 16.18 Modern impression of Early Dynastic III cylinder seal showing the god-boat and human-headed feline (Porada 1948: 126. Courtesy of the Pierpont Morgan Library)

equally important in the character of these changes is the increased role that the Semitic-speaking people of northern Mesopotamia (the Akkadians) played in the production and consumption of cultural expression.

There is very little archaeological evidence for the Akkadian period in southern Mesopotamia cities. Indeed, even in the Diyala region and northern Mesopotamian kingdoms of Nagar, Ebla, and Mari, the chronology of the Akkadian period is not securely established. We know the outlines of the development of glyptic and administration because of the abundant seals, some carrying inscriptions, and the almost 5,000 cuneiform tablets that record historical events, literary compositions, royal proclamations as well as economic matters. Seals continue to play a central role in the economic administration to judge from the hundreds of impressions on clay containers and storage room sealings. Although still rare, seals are occasionally impressed on cuneiform tablets, reviving a practice that completely disappeared after the Jemdet Nasr period. There is also a type of blank tablet of uncertain function that carries carefully impressed seals. In addition, there are numerous examples of disk-shaped labels, seal impressed on both sides and run through with a string for suspension.

The iconography of Akkadian period seals builds on the ED foundations (Boehmer 1965). The combat scene continues to be the single most frequently occurring scene, making up half of the almost 2,000 seals known from the Akkadian period. In the early contest scenes of the Akkadian period, variety dominates. There is the multiple figure group that has three or more pairs of combatants; and there is the five figure group where one group of three and one group of two contestants struggle. Late in the Akkadian period, associated with the radical administrative changes made under King Naram Sin, the Classic Akkadian contest scene is introduced (Figure 16.19). Now, the composition always consists of two pairs of contestants, perfectly balanced if not mirrored, on either side of a framed inscription that carries the personal name, the title, and the affiliation of the owner. These seals are known as the "*arad zu*" seals, a rubric derived from their inscription which designates that the seal owner was the "servant of" the court. Previously, Richard Zettler (1977) convincingly argued that these contest scenes were official seals whose owners used them not in any personal capacity, but as a mark of their position in the bureaucracy of the royal court. More recently, Rakic (2003) has shown that this type of official seal was standardized late in the Akkadian period, and that most of the examples belong to the reign of Sharkalisharri, or later.

In addition to the contest scenes, the imagery carved on Akkadian seals explodes to depict in images a world of myth and sometimes history. Not since the Uruk period, and indeed never again in the glyptic art of Mesopotamia, do we have a visual window into the cultural imagination (Frankfort 1934; Porada 1980; Amiet 1980b). The actors in these scenes are not the anonymous workers of the fields or manufacturing fields of the Uruk. The scenes apparently contribute nothing directly to the administrative message. Rather these scenes express the emer-

Figure 16.19 Modern impression of a cylinder seal having the classic Akkadian combat scene (CBS 1831. Legrain 1925: 141. Courtesy of Richard L. Zettler, Associate Curator-in-Charge, Near East Section, University of Pennsylvania Museum of Archaeology and Anthropology)

gence of a vibrant mythology that has not yet been discovered in cuneiform texts, and may have been been transmitted solely through the oral performance of stories that enacted explanations for the order and shape of the universe (Steinkeller 1992). For example, one type of scene shows the battle of the gods. While we have no texts contemporary or later to illuminate the specific meaning of this image, scholars have associated it with the Enuma Elish story of the creation of the universe written down centuries later. The only theme that has been convincingly linked to the later Mesopotamian textual tradition are the so-called "Etana" seals that have consistent and shared elements of a story that refer to the later myth of "Etana" the shepherd, who became king of Kish and sought the plant of fertility for his wife by flying to heaven on the back of an eagle.

Although we cannot penetrate every detail of these images, for the first time we can begin to distinguish and identify the attributes of various deities (Finkel and Geller 1997). In the ED period, the goddess Inanna is represented by her symbol, the gate post, and the goddess of fertility, Ninhursag, the mother of Ningirsu, is shown with maces and plants rising from her shoulders. In the Akkadian period, Inanna merges with the Semitic goddess Ishtar, and in addition to her association with fertility and love, she becomes a paramount warrior goddess. The water god, Enki in Sumerian and Ea in Akkadian, is seen for the first time surrounded by a house of water, and is associated with his nude heroic acolytes. The Sun god Utu (Sumerian)/Shamash (Akkadian) we can now recognize as the male god with the rays of the sun emerging from his shoulders or surrounding his entire body. At last, the polytheism of the Mesopotamian world, in which each city has its own resident god, and each feature of nature was an embodiment of a supernatural spirit, comes alive in pictures. This is a remarkable achievement which indicates that even without textual elaboration, the world of the spirits had been tamed, rationalized, identified, and controlled. Through images, man now could express his domination over both the known and the unknown, the seen and the unseen.

There has been a long-standing debate about the meaning of these highly varied scenes in which divine figures, and more rarely humans, engage in lively highly detailed scenes whose meaning is encoded in the iconographic details. Henry Frankfort (1939) in his classic study of Mesopotamian seals insisted that all of the narratives of the Akkadian period depended on textual sources, many of which are now lost to us. He and others (Steinkeller 1992) have made the obvious connections with later texts, but many of the scenes find no analog in texts. At about the same time, Anton Moortgat (1940) argued that all of the mythological imagery referred to the grand narrative of Tammuz, the sacred marriage and the eternal cycle of the dying god reborn every spring. Marie Therese Barrelet (1970) argued that the wealth of detail found in the narrative seals of the Akkadian period could not have originated in the imaginations of the seal cutters, but must have depended on large-scale tableaus rendered in paint or textile that decorated the walls of the palaces and the temples. Pierre Amiet (1980b) argues the seal carvers themselves were allowed to exercise their own artistic freedom, and could develop the visual formulas for these myths according to their own inspiration. He does hold that all the mythological images in Akkadian seals refer to a single large theme of the cycle of nature that was personified in the form of deities, creatures, and features of nature, trees, mountains and the like. More recently, scholarship has tended to focus on individual seals or groups related through iconography to

try to penetrate into the internal logic of the details of the scene. Gratifying results have come from this approach that do not depend on an underlying unified message or on reflections of texts from much later periods (Fischer 2002). As we learn more about the role of individual actors outside of the control of the imperial court through the important work of the philologists, we can begin to see that in the Akkadian period there was room for merchants and traders and independent craftsmen who needed cylinder seals to participate in the administration of their livelihood. It is likely that they were free to choose the imagery on their seal to reflect some aspect of their identity. There is much work to do to reveal the social, political, and cultural messages contained in these images. Whatever the answer, there is no question that, like the Uruk period a millennium earlier, the production of visual imagery was pressed by elites to capture and project the important messages of the day.

In addition to the official contest scenes, and the apparently narrative representations of myths and stories, other new themes are also carved on Akkadian seals. Some refer to activities in the human domain. These include most prominently the theme of a heroic human with bow and arrow hunting wild game in the mountains. On the remarkable seal owned by Kalki the scribe, mentioned above, this hunter is shown leading an expedition of the royal prince (Figure 16.3b). This seal also illustrates another innovation of Akkadian glyptic, the representation in image and in text of an individual. Kalki the scribe can be seen standing with his tablet and stylus directly behind his royal patron, Ilubani, who wears the royal headdress and a flounced royal garment. Surely this depicts an actual expedition, probably to the Iranian highland, that was recorded by the scribe. Another such individual seal is inscribed with the name of its owner Shu ilishu, interpreter for Meluhhu. The translator is shown on the seal seated on the lap of a goddess and translating for a man who approaches holding a goat and gesturing to his mouth. A third such seal shows is an extraordinarily well-carved seal in lapis belonging to the wetnurse Takunai, of the daughter of Naram Sin, being brought into the presence of enthroned Ishtar. Another preserved in impression (Boehmer 1965: no. 657) is the seal of Dada, servant of Tudasharlibsih, wife of Sharkalisharri. As Zettler (2007) points out, the inscription is divided so that the name of the wife of the king is close to her while that of the Dada is close to him, serving as a label. Never before, and rarely after, do we find what amounts to actual depictions of individuals on seals.

Finally, in the Akkadian period, we have the first appearance of the "presentation scene" which will come to replace the contest scene as the imagery used for official or royal seals in the last period of the Sumerian era (Haussperger 1991). The presentation scene, sometimes called the "introduction scene" or the "audience scene, "can occupy either the mortal or the divine sphere. Indeed, it is in the context of this scene that humans and divine are shown to interact. The structure of the scene shows a seated figure, either human or divine, who receives a standing supplicant. In the Akkadian period, the participants can be either gods or humans approaching an enthroned deity (Figure 16.20).

Figure 16.20 Modern impression of an Old Akkadian cylinder seal with a presentation scene of goddess approaching Shamash, the Sun god (CBS 8982. Legrain 1925: pl. 12, 181. Courtesy of Richard L. Zettler, Associate Curator-in-Charge, Near East Section, University of Pennsylvania Museum of Archaeology and Anthropology)

Ur III: the official function of the presentation scene

After a brief period of political and economic disorder following the collapse of the Akkadian empire at the hands of "barbarians" from the east, the rulers from the southern cities of Ur and Uruk again projected centralizing order over the southern alluvium. The so-called Neo-Sumerian Renaissance did not, however, signal a return to Early Dynastic administrative practices. For the first time since the Middle Uruk period when cylinder seals were impressed on numerical tablets, cylinders are again regularly applied to inscribed documents that recorded agreements between institutions and individuals as well as on standard administrative texts, rations lists, receipts, dispursements, bullae, and letter orders (Figure 16.21). But now the role of the seal image had profoundly changed. It no longer carried substantive information about the content of the document. Rather the seal impressions served to create specific legal obligations. The person who sealed was responsible for received goods, the borrower who sealed was obligated to repay, the seller could not raise claims against a buyer. For the first time, the significance of the seal impression approached what we now recognize as the authority of a signature that legitimizes the content of a written record (Steinkeller 1977; Gibson and Biggs 1987).

The official seal type of the Late Akkadian period, the two-pair contest with inscription, continued in use during the early years of the Ur III Dynasty augmented by a new three-figure contest composition. But the rich mythological and narrative world of the Akkadian predecessors was abruptly and completely rejected. Only the presentation formula survived. It is through the correlation of the inscription and the details of the imagery that the administrative hierarchy has been illuminated (Winter 1987; Zettler 1987; Fischer 1997; Mayr and Owen 2004). Within the Ur III bureaucracy, this composition became highly standardized, showing most commonly an enthroned god or ruler on the left being approached by a human adorant who was either introduced or was followed by a minor goddess (Figure 16.6). By the end of the reign of Shulgi, these scenes were by far the most common. Presentations before a god were far more common than before a king. The king can be clearly identified by his round cap and turban that differentiates him from the deity who wears a horned headdress.

Figure 16.21 Cuneiform tablet impressed with an *in-na-ba seal*. Inscribed: Ibbi-Sin, the mighty king, the king of Ur, the king of the four regions of the world, to Sag-Nannarzu, priest of Enlil, his servant, has given as a present. Nippur. (CBS 12570. Legrain 1925: 284. Courtesy of Richard L. Zettler, Associate Curator-in-Charge, Near East Section, University of Pennsylvania Museum of Archaeology and Anthropology)

Further, the king can wear either a fringed robe or the flounced robe of divinity. The earliest instance of the presentation scene with the king dates to the beginning of the dynasty in the reign of Ur Namma with the seal of Hashamer, governor of Ishkun-Sin (Collon 1982: 532). The formula was restricted to the high-level administrators who had been appointed by the king (Franke 1977; Winter 1987; Mayr and Owen 2004). Usually the inscription ends with the phrase "*arad-zu*" (or IR $_{II}$ ZU) which indicates that the owner is a member of the royal court and his seal was a token of office (Franke 1977). In addition to these official seals is the far rarer "royal gift" or "*in-ab-a*" seal that carry long inscriptions in the form of a sentence that specifically state that the seal is a gift of the king to the owner. These seals are of the highest quality and were limited to the closest associates of the ruler (Mayr and Owen 2004).

Most of the seals of the Ur III period, especially after the reforms of Shulgi, were inscribed. Seal ownership was apparently open to all who had the means and the need from the highest-ranking officials to slaves. Apart from the finest seals carved in the royal court, the imagery is highly uniform, making it impossible to tell from quality alone the station of the owner. The reuse of seals in the Ur III period was particularly common. It was not unusual for an individual to have a number of seals throughout his official career, sometimes a seal would be recut when a promotion or a change in the sponsoring court figure occurred (Steinkeller 1977; Mayr 2002).

Following the collapse of the Ur III dynasty, again at the hands of invaders coming both from the east and the west, seal use continued in the Mesopotamian world of officialdom and commerce. New imagery and styles of carving continued to be introduced as Mesopotamia began an era of increasing engagement with neighbors to the north and west through trade and acculturation. Only in the first millennium, when clay was replaced by papyrus and leather as Aramaic began to dominate in the administrative domain, did cylinder seals diminish in popularity. Long gone were the mythological narratives, images of kings, and cosmic contests. The last seals of the Mesopotamian tradition were stamps engraved with simple devotional imagery.

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PART IV

LIFE AND DEATH

CHAPTER SEVENTEEN

EVERYDAY LIFE IN SUMER

Paul Collins

Daily life in ancient Mesopotamia has often been depicted using a very broad brush, relying on archaeological and textual evidence gathered from across at least three millennia (e.g. Saggs 1965; Nemet-Nejat 1998; Bottéro 2001). Given the paucity of information from any one period for the daily activities of individuals or groups (especially before 2000 BC), such an approach is perhaps inevitable. It may also be justified by the perceived *longue durée* of Mesopotamian culture, a recognition that there was much continuity in administrative, religious and artistic traditions (largely preserved by the literate elite) and in the use of resources and their manufacturing (seemingly paralleled in rural communities in Iraq until recently). In addition to such generalisations, a preference by early excavators for the exploration of sacred and palatial areas has led to a very biased view of daily life that focuses on the activities of elite sections of society as revealed by monumental architecture, art and texts, at the expense of the vast majority of the population who were engaged in agricultural, industrial and ordinary domestic activities.

To help illuminate a greater range of activities within Mesopotamian daily life, scholars have sought help in ethno-archaeology; a method of reconstructing ancient ways of living by studying the material and non-material traditions of modern societies (London 2000). One of the most extensive ethno-archaeological studies that has direct relevance to the reconstruction of life in ancient Sumer was undertaken by Edward Ochsenschlager from 1968 to 1990 in the modern villages around the ancient mound of al-Hiba (ancient Lagash) (1998a, 1998b, 2004). He was struck by the fact that people living in the area depended on many of the same resources as the people who lived there in the third millennium BC. This raised questions about whether the resources were used and transformed in the same way as in antiquity. Ochsenschlager focused his work on the use of clay, reeds, wood, bitumen, cattle and sheep. His conclusion was that 'there was abundant evidence that many of the details of village life had parallels in the archaeological record' (1998b: 29).

Perhaps inevitably, ethno-archaeology has its limitations. David and Kramer point out that, 'cross-cultural comparisons even of data collected by ethno-archaeologists and limited to a particular domain of material culture are . . . likely to be subject to biases' (David and Kramer 2001: 101). Indeed, Ochsenschlager highlights issues raised by his own study, which

> brought home the complexity of behavioral and cultural choices and their impacts in ways that would be almost impossible to decipher from the archaeological record alone. Shortly after change occurred the reasons for it often disappeared as part of a new mythology. Sometimes highly visible change is of little cultural significance, while major cultural change is accompanied by little or no change in the material record.
>
> (1998b: 39)

Nonetheless, ethno-archaeology can provide a useful guide to past practices. However, it is often the case that studies, such as Ochsenschlager's, have been conducted in village settings and any conclusions are simply transferred to life in towns and cities as if the two modes of living are identical. As Van De Mieroop puts it,

> non-monumental sectors of [ancient Mesopotamian] towns – if considered at all – are portrayed very much like the present-day villages we encounter on the tells we excavate: poor, dirty, and totally unaware of the existence of majestic complexes nearby. Ethno-archaeologists have tried to institutionalize this portrayal by telling us that modern Middle Eastern villages provide an insight into Ancient Mesopotamian city life, as if these cities were just large villages.
>
> (1997: 4)

Cross-cultural work in urban settings, such as the study of religious practices in India by Irene Winter (2000), may begin to help to rectify this imbalance. This is important if we are to fully understand the Sumerian world, as it was based largely in an urban setting.

Rather than attempting to explore daily life, with its almost countless interlocking activities determined by age, gender and profession, I will here focus on a more limited, and perhaps achievable goal: what archaeology and, where relevant, ethno-archaeology may be able to tell us about the world of the Sumerian home based on evidence from the heartland of southern Mesopotamia.

FIFTH AND FOURTH MILLENNIUM HOMES

From at least the seventh millennia BC, the people of southern Iraq had lived in small communities; villages of farmers and fishers, that were interconnected through systems of ideology and exchange. The evidence from sites such as Qalinj Agha, Grai Resh and Kheit Qasim shows that, by the fifth millennium BC, mud brick homes had a common layout of a central T-shaped or modified rectilinear central hall flanked by smaller rooms. Forest (1983) has interpreted this layout as reflecting a division between the sexes, though other divisions are of course possible. Whatever the meaning of this particular arrangement of rooms, their layout was determined to some extent by specific activities that took place within them (often conditioned by social conventions) and as a response to environmental conditions (especially extremes of heat and cold).

A significant social change occurred during the fourth millennium BC that resulted in the defining characteristic of the Sumerian world; large numbers of people came to live within an urban setting. The possible reasons for this have been explored elsewhere in this volume but towns and cities became the focus of political and economic

activities that also shaped the world of rural village dwellers and more mobile populations. Thus home life existed as part of a much larger community that probably helped to shape and support it.

The archaeological evidence for homes from southern Mesopotamia during the later fourth millennium BC is limited to the so-called H5 building at Eridu. Dominated by a two-storey kiln lined with bitumen and surrounded by pottery, this may have been part of the town's religious complex, and as such has been interpreted as a priest's house (Crawford 2004: 90). Our understanding of purely domestic structures comes from the sites of Habuba Kabira and Jebel Aruda, lying beside the river Euphrates in modern Syria. These two settlements were built over stages on virgin soil. Sharing all the characteristic features found at sites of southern Iraq, they are generally interpreted as colonies, established as new settlements designed for permanent residence. We can therefore postulate with some confidence that domestic architecture found at these sites would share similarities with those of the south. Indeed, at both Habuba and Aruda, people's homes parallel in layout the monumental public buildings of Sumer, with rooms ranged around a rectilinear or T-shaped room or courtyard, and sometimes a combination of the two; they thus follow something of the traditional organisation of space found in the earlier fifth millennium houses.

In Habuba Kabira, homes were organised into densely built blocks, separated by streets but approached from side alleys. There is a very real sense that the buildings were planned from scratch and, although there were modifications over time, many of these houses may represent an 'ideal' layout in which the configuration of buildings and streets both mirrors and determines social behaviour. The larger Habuba homes have an average area of 300 square metres (Sürenhagen 1986: 18). This is considerably more than the average Sumerian home known from later (see below) and perhaps reflects the greater space available to the architects at the newly founded site. The houses at both sites have a tripartite arrangement (or variation on the theme) and both Vallet (1996, 1998) and Forest (1998) suggest that this layout consists of a reception area alongside an open central hall, containing a frying pan-shaped hearth, which acted to isolate a domestic unit at the rear. Kay Kohlmeyer proposes that the hall was the multifunctional centre of life where food was eaten and all indoor work other than cooking took place (1996: 95). She also identifies among the houses at Habuba unusual structures consisting of a single hall, often with frying pan-shaped fireplaces, and sometimes with a single adjoining room; these may have been used for formal occasions, as well as living quarters, perhaps for guests (Kohlmeyer 1996: 95, 97). Forest concludes that the people of Habuba were interested in non-family members and social appearances. The fact that houses do follow a pattern of design suggests common concerns about accessibility and internal organisation and thus a shared notion of behaviour as well as a common size and structure of families and dependents.

THIRD MILLENNIUM HOMES

The end of the fourth millennium was marked by the abandonment of the so-called Uruk colonies. There appears to have been a gradual reorganisation of economic and perhaps political and social relations reflected in the development of new ceramic forms, building practices and artistic traditions. Particularly characteristic of Sumerian homes was the use of so-called plano-convex bricks that slowly appeared at the start

of Early Dynastic I, and began to disappear in the later part of Early Dynastic III. This appears to have been a development within local brick-working traditions (Moorey 1994: 308), perhaps reflecting divisions of labour driven by expanding economies: workers skilled in laying flat layers of regular bricks were still needed for structurally important parts of a building, such as corners, but less experienced people could now build walls using the irregular, domed shaped plano-convex bricks, quickly filling the hollow spaces between them with mortar (Nissen 1988: 93).

The majority of people continued to rely upon the temple, and increasingly the palace, for their livelihood. These institutions were organised much like large households with dependents who provided labour. If these institutions represented the largest social unit, domestic life was centred on the smallest one: a nuclear family of a patriarch and his sons and grandsons with their wives and children or an extended family group consisting of several generations. Urban life remained the defining characteristic of Sumer. Of course, the urban population was not fixed and people moved in and out of the settlements depending on circumstances; in times of war and uncertainty, rural populations might seek security behind city walls, while periods of peace and plenty may have encouraged settlement in the suburbs or even the countryside.

Archaeologically, the best-known settlements of the third millennium BC that provide evidence for Sumerian home life are a number of small towns located in the Diyala Valley to the east of the Mesopotamian plain: Tell Asmar (ancient Eshnunna), Khafajeh (ancient Tutub) and Tell Agrab. Evidence from the plain itself comes from Abu Salabikh (perhaps ancient Eresh) with some late examples of houses (around 2000 BC) known from Ur. Additional information is also provided by finds from Al-Hiba and Fara (ancient Shurrupak).

As in the colony towns of the Uruk period, homes at these sites were packed together in agglomerations along streets and approached via alleys. Space in the settlements was restricted by the height of the tell, the extent of the fortification wall, and the need to preserve surrounding land for agricultural. Mixed together with the domestic areas of Abu Salabikh were industrial sectors where craft production took place. At Ur *c.*2000 BC small shops, chapels and a school were found among the houses, which range from large houses to small, cramped rooms that were squeezed into available space (Woolley and Mallowan 1976). There were benefits of this compact arrangement of houses such as protection from the heat provided by the shade of walls. The organisation of houses within settlements, however, varied between sites, perhaps determined by the relationship of the inhabitants to each other and to the institutions that employed them. At Abu Salabikh, for example, the Early Dynastic I housing on the west mound was subdivided by a heavy perimeter walls into discrete blocks of buildings: these are suggested to have housed co-resident extended families (Postgate 1983, 1992:91). In contrast, the later Early Dynastic III settlement on the main mound had a more traditional arrangement of public thoroughfares separating groups of houses reached by lanes. However, during the same period at Khafajeh, the area of housing was rebuilt with straight streets and alleys suggesting deliberate planning, and enclosed behind a wall (Pollock 1999: 131). Some alleys in these settlements are cul-de-sacs and, as suggested for similar lanes in the later Isin-Larsa/Old Babylonian area of private housing at Ur, may have been jointly owned by the residents (Crawford 2007: 91); the inhabitants may have been related by blood or marriage, or were perhaps part

of the same professional group, as Susan Pollock argues was the case for Early Dynastic I Khafajeh (Pollock 1999: 123–134).

Although the size of houses within the settlements varied considerably, none were very large, ranging from around 50 to 250 square metres. Exceptionally large houses at Khafajeh with areas of 356 and 528 square metres had unusual plans and were perhaps not 'normal' homes (Delougaz et al. 1967: 277). Wealthier citizens presumably were in a position to build larger houses, while the poor were restricted by available space and thus their dwellings were more tightly packed together. Dividing the floor areas of the houses in Tell Asmar into three groups, Henrickson (1981) suggests that the smallest units may have represented shops, the next size up housed single nuclear families and the largest units were home to wealthy nuclear families or extended family groups. Regardless of available space, the plans of houses would have changed constantly as, for example, when homes were divided among brothers at the father's death. Thus a large building might ultimately house a greater number of inhabitants rather than reflecting a family's prosperity.

What might one have seen when visiting a home at Eshnunna in the middle of the third millennium BC? The building would have been approached along a narrow lane, in some cases no more than a metre wide. These tiny alleys were lined with blank facades formed by the thick mud brick walls of adjoining houses; outside windows were rare and public space was clearly unimportant. The visual privacy of domestic dwellings was a theme repeated in most dwellings, apparently regardless of whether they housed the rich or poor. The majority of homes had only one entrance and the doorways were small with a width of between 45 and 150 cm (Delougaz et al. 1967: 153). Pivots of stone or baked bricks were placed at both entrance and internal doors, so wooden doors could be swung from an upright pole, the bottom of which rested in the pivot, usually below floor level; only a few pivots have survived in the archaeological record as they were presumably reused.

In layout there was much continuity with the Uruk period; although pure tripartite houses disappeared, the arrangement of a central room or courtyard flanked by rooms persisted. The entrance to the central courtyard was usually through a vestibule and not directly from the street. Homes were thus completely introverted, they looked inwards towards the courtyard, making the house an entirely private space; it had no public role to play. The courtyard was literally the heart of the building, a communal space and an area where the occupants could work without being subjected to the gaze of outsiders. Harold Hill, the excavator of Tell Asmar, argued that these spaces were roofed (Delougaz et al. 1967: 148–149) but his evidence was questioned by Delougaz (Delougaz et al. 1967: 275) and it is generally accepted that the courtyard was open to the sky. They were small spaces, with the largest courtyard only some 7 metres square, but they nonetheless provided the principle source of light and air to the rooms around its sides. The open courtyard was part of the adaptation of the building to the climate, designed to protect the inhabitants from the daytime heat and cold at night. At night the courtyard, and the rooms leading off it, were filled with cool air, which during the day was heated by the sun. The rising hot air provided cooling breezes. At the hottest time of the day, shadow helped to produce similar breezes.

The courtyard allowed the rooms around it to be subdivided into smaller dwelling units for different members of a family by providing a common equal route of access. The layout of rooms does not indicate a strong gendered separation of space within the

household. A single entrance means access was shared by men and women, and most of the rooms are accessible via each other and the central court. The width of rooms was determined by the length of the timber available (which for domestic buildings was limited to local palm or willow), so that rooms were often rectangular rather than square. In many of the larger houses there was sometimes a long oblong chamber adjoining the courtyard that perhaps represented the main reception room (Delougaz et al. 1967: 276–277). Internal windows were apparently rare but when present were very small – an example discovered at Tell Asmar was only 25 cm across (Delougaz et al. 1967: 154) – and might be closed with grilles (see below) that were presumably designed to exclude the sun, sand and dust in summer and conserve heat in winter. For the same reasons, internal doors were also small and varied in size from 60 to 90 cm (Delougaz et al. 1967: 277). They were placed near one corner of a room rather than in the middle of a wall.

Due to the lack of long roof beams, the rooms in homes were small and dimensions of about 1 by 2 to 5 metres were not uncommon; a result of this may have been that activities took place in the courtyard. It is because of this lack of domestic space for productive activities that city dwellings may have differed from rural dwellings. In the latter, space allowed for rooms to be ranged around a larger, open compound, as may have been the case, for example, in the village site of Umm al-Jir (Crawford 2004: 107). Although houses with compounds are known from urban settings in northern Iraq, such as at the late Early Dynastic III–Akkadian period site of Tell Taya (Reade 1973, 1982), this layout of buildings does not appear to be a feature of Sumerian towns. The rooms of many rural houses were also probably given over to storage and shelter for animals as well as for living; in this respect, many city dwellings may have been different. Nonetheless, it is possible that courtyards in Sumerian city houses would have been given over to some production (e.g., to house textile looms). Additional living and storage space in the summer might have been provided by the roof which ethnographic evidence from southern Iraq suggests would have been flat; access may have been by stair from the courtyard. The reconstruction of second storeys of homes at Ur by Leonard Woolley has been shown to be flawed (Crawford 2004: 114).

Although the plan of domestic buildings remained essentially the same, there were some developments from the Akkadian period onwards. Toilet rooms were introduced into homes where, with the use of water in these spaces, baked bricks and bitumen became more common. In addition, a damp course of baked bricks, which was only used occasionally in homes in the Diyala, was increasingly utilised, becoming a common feature in houses of the early second millennium BC at Ur (Delougaz et al. 1967: 151). Baked brick was also used more widely for thresholds, pavements and door arches. One significant new feature of the Ur III period houses at Ur was the presence of shrines in prosperous houses; these rooms lay parallel with the main living space, located in the most private area of the house, furthest from the door and work areas. The shrines, which may have related to household deities and ancestors, were generally associated with a baked brick burial vault (see below).

INTERNAL FITTINGS, FIXTURES AND FURNITURE

Only occasionally is it possible to explore the changing nature of a home over time as well as its consistent features. One such example, among the finest and largest

dwellings at Tell Asmar, was rebuilt a number of times through the Early Dynastic to Akkadian periods (Delougaz et al. 1967: 154–58, pl. 33). Named the Arch House because of the four or five distinctive arched doorways that led off the central hall, this home embodies most of the characteristics of the other houses of Eshnunna.

In Early Dynastic III (level Vc) the house was already larger than its neighbours, consisting of an irregular plan of ten or eleven small rooms. The entrance doorway led into a narrow vestibule, the floor of which was partially covered with a thin coating of gypsum; a pot set into the floor next to the entrance, suggests that water was used here, perhaps as part of a reception ritual for inhabitants and/or guests. The vestibule led into a small room that gave access to both the central courtyard and a kitchen which contained a large bread oven and range. On the floor of the courtyard, in the east corner, a rectangle of gypsum plaster with a basin-like depression lined was perhaps where a water pot stood. Niche-like recesses in two of the rooms may have served as cupboards.

At some point, the house was rebuilt (level Vb) and, although it now incorporated much of the next door house and was therefore larger, the number of rooms remained the same. The courtyard was provided with a mud brick bench in the south corner and one of the internal walls was pierced by a window with wooden lintels set about 1.70 metres above the floor. A depression in the floor of the courtyard may have been a fireplace or open hearth. Two large bread ovens were built at the end of one rectilinear room, adjacent to the kitchen but not connected to it. The presence of large jars and thick-walled ribbed pots, a number of goat horns and a quern with rubbing stones indicate domestic processing and production.

By the early Akkadian period (level IVb) the Arch House had been rebuilt again and while the southwestern part was hardly modified, the northeastern section was completely changed in layout. Three querns were discovered in one room and storage bins formed from walls of unbaked clay, one paved with baked bricks, were a feature of a number of rooms. Narrow sills were found in the doorways. A baked clay grill, its slot-like perforations giving the appearance of bars, was found on the floor but was probably fitted into a small window. One of the most significant additions to the house was a room containing a paved rectangle of baked bricks that supported a toilet from which a baked-brick drain ran through an outer wall and emptied into a baked clay trough.

What is clear from this brief survey of the fittings and fixtures in the Arch House is how few there were. Elsewhere at Tell Asmar and Abu Salabikh, the evidence for domestic installations is equally minimal (the presence of hearths and ovens will be discussed below). Similarly, there is little evidence for the use of furniture in ordinary domestic settings (Crawford 1996). Ethnographic studies suggest in place of wooden furniture, rugs, carpets and carpet-encased pillows placed atop reed mats covered the floor (Ochsenschlager 2004: 165). These are all ephemeral and therefore do not survive well in the archaeological record. Mats, rugs and low stools may be depicted on seals of the late fourth millennium BC that show them being used by women squatting while engaged with the production of pottery or textiles (e.g., Collon 1987: 16, no. 15). Indeed evidence for reed mats (and baskets) has been recovered from a number of sites (e.g., Crawford 1981: 109; Ochsenschlager 2004: 144).

Beds appear on cylinder seals from the mid-third millennium BC (Crawford 1996: 38), and Leonard Woolley reports finding a wooden bedstead in a house at Ur dating

to *c.*1900 BC (Woolley and Mallowan 1976: 25). However, like the other furniture of Sumerian homes, beds are transient in nature. Studies of modern village life suggest that during the extreme heat of summer, people spent the evenings outside their houses, constructing sleeping platforms in their courtyards to raise their bedding high enough above the ground to avoid disturbance from animals and ground-dwelling pests. These platforms are formed from parallel walls of mud with reeds laid across the top onto which bedclothes are placed. During the winter, when the structure is no longer used, the reed platform is often used for fuel and the foundations fall into disrepair (Ochsenschlager 2004: 108–110). It is possible that similar constructions were made in Sumerian houses, perhaps on the roof where there would have been more space than in the courtyard.

COOKING, EATING AND DRINKING

Evidence for both the cooking and serving of food has been found in the Early Dynastic homes of Abu Salabikh and the Diyala sites. Houses were outfitted with hearths and/or ovens, and storage jars set into the floors. The most common form of fire installations was small, clay-lined open hearths that vary in size and shape. Occasionally, as in the Arch House at Tell Asmar, they were formed of baked bricks set on edge on the floor or by a mud enclosure paved with baked bricks. More elaborate cooking devices are bread ovens; the remains of the lower portions of which have been recognised in many excavations. Their form is very similar to the *tannurs* still in use in the Middle East where the oven is heated by a fire of dung patties and reeds. It is sometimes used to cook meat and fish but primarily used for baking flat wheat bread. Some *tannurs* at Abu Salabikh were encased in a brick or clay surround. Crawford (1981: 108) suggests this structure might have been used to support pots for boiling or stewing. It may also have provided additional protection for the oven during the rainy season (Ochsenschlager 2004: 52). Bread ovens were placed, almost without exception at Tell Asmar, near the outer door. In addition, examples of two-storey ovens, with perforated floors over a firebox below floor level are known close to *tannurs* at Abu Salabikh and Khafajeh (Crawford 1981: 108–111). Other forms of cooking apparatus found in homes at both Abu Salabikh and Tell Asmar are so-called ranges, a covered clay box, that contained the fire, with holes in the top, the inside divided into three parts.

Ovens, hearths and ranges were not just for cooking but, as winters can be cold in southern Iraq, they were an important source of heat. This makes it all the more extraordinary that in Early Dynastic I Khafajeh the houses have no cooking or heating facilities. Susan Pollock has explained this by arguing that the houses belonged to temple personnel and that their food was being produced and supplied by their employing institution (Pollock 1999: 123–134). There may also have been communal ovens serving neighbourhoods; a group of houses at Abu Salabikh with elaborate two-storey ovens, for example, may have been a baker's quarter (Crawford 1983). By Early Dynastic III, however, many of the houses at Khafajeh contained fire installations suggesting that the inhabitants had by that time become responsible for preparing their own food. This may reflect the gradual loss of economic control by the temples in favour of households.

Other cooking equipment has been identified in the archaeological record based on ethnographic analogies. For example, at Al-Hiba fragments of a heavy disk of sun-dried

mud with a slightly concave wet-smoothed side were recovered. Similar objects (modern term *tabag*) are used for cooking and baking when placed on separate mud legs over a hot fire (Ochsenschlager 2004: 47, 71). Also from Al-Hiba come fragments of a mud form identical to a shallow mud dish, sometimes with three attached legs but sometimes legless, that can be used as a portable hearth called a *mangala*. A fire fuelled with dried dung patties is started outside the home and allowed to burn down until the hot coals remain. The dish containing the coals is then brought inside where it produces a great deal of heat but little smoke. During the winter, the *mangala* supports a cooking pot, and also functions as a portable brazier (Ochsenschlager 2004: 46–47). Similar devices may have helped to heat houses in Early Dynastic I Khafajeh.

Varieties of food and drink and the way that they are prepared and served have great cultural significance. In the preparation of food in the third millennium BC, there was a huge domestic consumption of pottery. Although simple vessels were probably made in the household by women, pottery appears to have been manufactured by a specialist group, although small-scale pottery production may have occurred in neighbourhood kilns such as the one discovered at Abu Salabikh in a residential area (Postgate and Moon 1982: 120). Typical Early Dynastic vessels include conical bowls which may have had a variety of uses from containers to serving dishes (Ellison 1984: 64), solid-footed goblets (Moon 1987: 17–19), stemmed dish 'fruit stands' (ibid.: 46–57), and jars with upright handles decorated with incisions and occasional pellets imitating eyes (ibid.: 151–165). Small saucers may have been used for dining (Ellison 1986: 157–158). Also common among the small finds from domestic contexts were stone bowls made of locally available calcites. These were apparently widely available, reaching their greatest use during the second half of the third millennium BC (Moorey 1994: 44).

Beer and wine were widespread beverages (Postgate 1977: 293; Reade 1995) but because of sediment they required the use of spouted pouring jars (or straws); canal water may have been risky to drink, especially in summer when the water levels were low. These drinks may have been produced in local workshops rather than in the home but water, even if not widely used for drinking, would have been necessary for ablutions; it may have been distributed by water carriers or it would have been necessary to fetch it – perhaps a task assigned to women – from the nearest canal or river. In addition to the staples of bread and beer, other grain products, vegetables and dates, meat was available, at least in affluent households. Pig and sheep bones were found in houses at Tell Asmar and the young age of these animals when slaughtered shows that the inhabitants were sufficiently affluent to be able to eat prime cuts (Hilzheimer 1941). A similar range of meats is represented in the archaeological record at Abu Salabikh where there is evidence for the consumption of pig, cattle, gazelle, goat, antelope, fish and birds (Clutton-Brock and Burleigh 1978: 89).

WORKING FROM HOME

The home was not just a place for food preparation, eating, sleeping and raising children. It could also be a place for storage, small-scale production, such as pottery and textiles, or administrative tasks. There were probably never specific spaces in homes assigned for these activities and the place of each task probably varied according to the seasons and the number of inhabitants. Activities which in winter would take place indoors might be performed in the courtyard or on the roof in the summer.

Over the course of the third millennium BC, the range of activities undertaken by households may have altered in response to economic and social developments in the wider community. A better understanding of these tasks and use of space will be possible following the complete publication by the Oriental Institute of the University of Chicago of the small finds from the Diyala excavations (Diyala Miscellaneous Objects Publication Project). Susan Pollock's (1999: 123–134) preliminary analysis of the finds from Khafajeh suggests that by the middle of the third millennium BC temples were losing much of their central economic role in favour of the 'secular' palace and households, especially in regards to food acquisition and preparation. So that while houses in Early Dynastic I Khafajeh have few tools suggesting any involvement in production at home, by Early Dynastic III some inhabitants were engaged in fishing as evidenced by the find of net sinkers. Certainly by later Early Dynastic III the Khafajeh residents were keeping weapons and participating in exchange and the authorisation of transactions as indicated by the presence of cylinder seals, sealings and tablet fragments (Delougaz et al. 1967: 30). Similarly at Tell Asmar, large numbers of seals, sealings and stone weights reflect authorised transactions and exchange. It should be remembered that the homes explored at both sites may not be representative of the town as a whole and that the inhabitants were probably not average city residents (Pollock 1999: 137), thus the range of objects and materials found in their homes may also not be representative of 'ordinary' home life. Nonetheless, it is clear that, in at least some households, space was required for what might be termed an 'office'.

Numerous fragments of mud and baked pottery animals, human beings and vehicles have been found in Early Dynastic III domestic contexts. Based on Ochsenschlager's (1974) study of the terracottas made by children in the modern village of al-Hiba, he postulated that the ancient examples may have been toys. A similar conclusion was reached for miniature clay vessels at Abu Salabikh (Moon 1987: 34–35, 170–174).

However, given the range of materials and objects that point to administrative activities in the Akkadian period homes at Khafajeh, an alternative explanation for these models is possible. Moorey (2004: 55) argues persuasively that many of these terracottas 'are best regarded as "tokens", in the sense of a means of record in a society where the great majority of people . . . were illiterate'. Thus the terracotta miniature bowls, animal figurines and chariot wheels found in Khafajeh homes might suggest a concern with recording the transportation of commodities using land vehicles, contrasting with the high proportion of model boat fragments found at al-Hiba where water transport would have been more practical (Moorey 2004: 55).

Extensive trade and exchange networks brought materials to the towns. Presumably much of the exotic materials were destined for the palace and the temple. However, some of it filtered through society and is present among the small finds of the Diyala (e.g., Delougaz et al. 1967: 27–58) and Abu Salabikh homes. Amulets and beads in a variety of materials including carnelian and lapis lazuli, baked clay and frit are common. These are known from a number of Sumerian sites in southern Mesopotamia from at least the middle of the fourth millennium BC (Moorey 1994: 89). The combination of carnelian and lapis lazuli beads in the Early Dynastic III houses reflects a peak in the import of these stones, a pale reflection of the magnificent beads in the Royal Graves at Ur (Moorey 1994: 89, 98). Metal objects are also represented in the home, especially copper pins and needles and axes. Copper was the metal of utility and routine tools but the few finds in domestic settings is probably due to the fact that it

had to be imported over considerable distances and, being highly valued, was recycled rather than discarded. Among other materials utilised was bitumen, and although it had to be transported from sources on the middle Euphrates, was widely circulated. Bitumen had a broad range of uses, including decorative elements such as, for example, a bitumen plaque with shell inlays found in a level four house at Khafajeh (Delougaz et al. 1967: 31). In more practical terms, it came to replace gypsum plaster as the main waterproofing material along with baked bricks during the Akkadian period such as in the toilets of houses at Tell Asmar (Delougaz et al. 1967: 176).

DEATH AND BURIAL

The Sumerian home was not only for the living; it was also a place for the dead. A defining characteristic of Early Dynastic homes was that graves were dug beneath the floors of rooms and courtyards. The location of graves varies between homes, perhaps reflecting the fact that the use of rooms was not fixed until the Ur III period (see below). They are simple inhumations of both sexes with a wide age range; most of the burials found at Khafajeh were in pits dug to depths of 0.75–1.50 metres; the majority of bodies were lying on their side in a flexed position (Delougaz et al. 1967: 58). Traces of matting suggest that some of the bodies had been enclosed in coffins. Some had rich grave goods, others nothing but generally accompanied by ceramics, often in very large quantities; Abu Salabikh Grave 80, for example, contained 135 conical bowls, seven spouted jars and a bottle (Martin et al. 1985). The pottery may have been part of funerary meals (Cohen 2005) or possibly for libation ceremonies or part of a funeral offering (Postgate 1992: 99).

Towards the end of the Early Dynastic I period, although simple graves continued to be dug, some Khafajeh tombs were being built of plano-convex bricks with vaulted roofs. There were few apparent differences in wealth between the tombs although some had more pottery than others, and a range of small items of the sort found in the floor levels in the houses suggests a close relationship between the activities of the living and supposed needs of the dead. These vaulted tombs could contain single or multiple burials. Grave 33 at Khafajeh can serve as a representative example (Delougaz et al. 1967: 119–121, fig. 91). Although the vault was intact, the tomb had been disturbed, as shown by scattered skulls and detached bones. Of five skulls, two could be related to bodies that were oriented in opposite directions. This might suggest that the tombs were intended to be used more than once and that with each new burial the earlier remains were pushed aside. An additional result was that accompanying objects accumulated in the tomb. The greatest profusion of objects continued to be pottery. Other, perhaps personal items in this tomb included copper pins, a shell-shaped cosmetic bowl containing pigment and a shell cosmetic container. There were also a number of beads, a fragment of a cylinder seal and four stone bowls. More exotic items included twenty-five shell rings that might have been from a belt, and a silver spiral ring.

Although the vaulted tombs might contain multiple bodies, the number of burials is insufficient to account for all the inhabitants of the houses and many burials took place presumably in extramural cemeteries. Indeed, it has been suggested that the number of burials beneath a home is related to whether or not the household was affiliated with a temple or palace. Thus households without any association with a major institution had more burials than those with an affiliation; the latter were buried

in cemeteries that allowed the possibility for elite public display (Cohen 2005: 80). At home, connections with the deceased may have been maintained through rituals and offerings placed near or in the tomb. Below a house at Tell Taya, for example, a terracotta statuette of a naked female was found in the cellar leading to a cavern containing three adult skeletons (Reade 1971: 97–98). The cellar may have been acting as both a place for storage and a shrine for the ancestors. By the Ur III period, comparable practices are found in the Sumerian heartland and prosperous households at Ur were now burying their dead at home, in family vaulted tombs below the floor of the chapel; infants were kept closer to the living being placed in clay pots before the chapel altars.

CONCLUSION

This survey has highlighted that the *longue durée* of Mesopotamian culture is a relevant concept when applied to Sumerian home life. Despite what appear to have been fundamental changes in the political and economic organisation of society during the fourth and third millennia BC, that is, a shift from a temple to palace-based economy, there was considerable continuity in the domestic sphere. Urbanism was the defining characteristic for a large number of people in Sumer; living together in densely packed communities helped to mitigate some of the challenges of the harsh environment of southern Iraq. Such close proximity might have also helped to preserve long-established traditions of social relations, as well as kinship and family structure; these are reflected in the physical remains of homes, the enduring layout of which includes a small, central courtyard, where work activities took place, surrounded by rooms used for reception, storage, cooking and sleeping. Ethno-archaeological studies and archaeological evidence suggest there was a persistent relationship between the scale of buildings and family structure (Stone 1996: 229); it is possible that smaller houses may have been occupied by nuclear families, while larger ones sheltered extended ones (Stone 1996: 233; Brusasco 1999–2000: 67). In addition, the close proximity of 'rich' and 'poor' houses within these neighbourhoods may indicate that they were inhabited by groups who were related to each other, rather than by groups of similar economic standing (Brusasco 1999–2000: 144). Thus, despite changes in the activities that took place within houses, the continuity in planning and construction of Sumerian homes suggests that in the domestic world social conditions altered very little across the millennia of time.

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CHAPTER EIGHTEEN

WOMEN AND AGENCY: A SURVEY FROM LATE URUK TO THE END OF UR III

Julia M. Asher-Greve

Agency, the capacity of acting, of a person or group, depends primarily on access to social and cultural resources, and secondarily on gender and status. Also critical is if a person or group can influence the creation and interpretation of symbols and symbolic representation. Status may change quickly, but gender regimes are of *longue durée*. Change is often caused by socio-political upheaval, revolt or revolution and particularly war, whether victor or vanquished. Ancient Mesopotamians recurrently experienced upheavals, but fragmentary and uneven chronological and geographical distribution of sources preclude comprehensive reconstruction of the history of Mesopotamian women. In addition, scholarly interpretation of texts and images is often controversial and conditional.[1]

The social forces of urbanism – transition to city or state economies, new technologies, division of labor, erosion of extended families, and increasingly complex and stratified social structures – also changed the lives of women. The economic foundation of Mesopotamian polities was agriculture and animal husbandry; most Sumerians and their Semitic neighbors were rural, but nearly all our sources come from cities. Based on anthropological research, women's life in farming communities differs from that in cities, but village structures vary. For example, matrilocal village communities still exist in India.

Because of non-Sumerian names occurring in Sumerian texts and discontinuities in the archaeological and epigraphic records, some scholars believe Sumerians may have come to southern Mesopotamia after the Uruk period, around the turn from the fourth to the third millennium. However, similarities between Late Uruk and Early Dynastic architecture, art, and administrative records suggest Sumerians were the dominant ethnic group in southern Mesopotamia (south of Nippur) in the Late Uruk period.

The Sumerian language, contrary to Semitic Akkadian, does not differentiate grammatical gender; even personal names are often not gender specific. Persons listed by name are occasionally summarized into gender category groups such as "they are women" (*munus-me*) or "they are men" (*nita-me*). Women may also be distinguished from men by adding the suffix "*mí/munus*" (women) – for example, daughter (*dumu-mí*) – whereas gender-neutral "*dumu*" often means son. Spouse (*dam*) is usually written in gender neutral form, but even then translated as "wife" when the personal name of the alleged husband could also be that of a woman. Gender ambiguity is also evident in visual representations, suggesting that Sumerians were not particularly interested in

specifying sexual differences in texts or images. There are grounds to doubt that Sumerian social structure was strictly patriarchal, because accession through the female line was possible, and women occupied high positions in states, economy, and cult, could be head of a family, and had substantial legal rights (e.g., A. Westenholz 1999: 70–72; Selz 2005).

Under the ideological umbrella provided by religion, those persons with close ties to deities and temples – rulers and their families, priests/priestesses, temple administrators – were the most powerful agents in the polities. The rulers' functions included that of intermediary between deities and people, a reciprocal symbolic role representing the city deity vis-à-vis the people as well as the people vis-à-vis the city deity. Women's various functions in cult and ritual were also significant throughout the third millennium but are best attested for royal women.

WOMEN IN THE LATER URUK PERIOD

In the second half of the fourth millennium, the city of Uruk developed into the most important urban centre, its influence extending as far as Iran (Elam) and Anatolia which prompted the modern notion of the "Uruk World System." The "world view" of Uruk culture is believed to be represented on the large vase found in level III A (*c.*3000) of the treasury of the Eanna sanctuary at Uruk (see Figure 11.5, this volume). From the bottom up, water symbolizes the foundation of all life, plants and animals represent the economic foundation, the arrangement of rams and ewes in pairs alludes to male and female roles in reproduction. The procession of nude men bringing offerings, together with the ritual scene in the top register, allude to the ideological foundation resting on kingship and temple. In the center of the top register stands a woman – whether Inana or priestess is uncertain – and two Inana symbols, framed on the left by three men connected with offerings, on the right by the temple storehouse filled with produce and votive objects. The bearded man in a long "net skirt" (in part reconstructed) is well known from other images and supposedly represents the priestly ruler of Uruk. The total image symbolizes human dependency on nature, agriculture, animal husbandry, and a storage economy as well as religious–political ideology. Nude men bring offerings which a ruler/priest presents to Inana or her priestess; in turn, Inana guarantees abundance. According to Mesopotamian mythology, deities created humans to free them of their toil; consequently, the purpose of human life was to build temples and provide deities with everything they needed. A fragment of a second vase is preserved (Becker 1983) and perhaps a procession of women (which are depicted on seals; Asher-Greve 1985) replaced that of nude men.

At the end of the fourth millennium (*c.*3200) writing was invented – whether in Uruk or Susa is controversial. The script was used to record calculations and economic transactions and does not represent spoken language. The few other, non-administrative, tablets contain lists of categories such as trees, domestic animals, locations, titles, or professions. The hierarchical arrangement of titles and professions seem to reflect social structure. No gender is attached to titles and professions, but it is assumed that office holders and professionals were men. The signs may not refer to Sumerian words but many, including some designating women, can be "read" as such. For example, AMA (mother), NIN (queen, mistress), SAL/MÍ/MUNUS (woman), DAM (wife or husband), TUR (child, boy, or girl), SAL + TUR (girl) also occurs several times. Further

juxtapositions such as DAM EN (wife of EN?), NIN EN, SANGA SAL, and PAP SAL may refer to high-positioned women and perhaps priestesses. SAL also means female slave or maid who according to statistics were more numerous than male slaves. The economy was largely redistributive, the labor force consisted of various groups of men, women, slaves, and perhaps children who received food and occasional clothes rations. This system is characteristic of Sumero-Akkadian labor management.

Differentiation between gender categories and status is seen in seal images, with a rather complex visualization of gender and status differences. The main distinctions concern body form and style, but human figures are rarely sex marked. The majority of men are naked, without genitals, and bald whereas most figures interpreted as women have "formless" bodies, covered by clothes, and long hair indicated by a line (so-called "pigtail"). The form of squatting woman resembles the shape of anthropomorphic stamp seals and small women figurines in kneeling posture are known whose legs are hidden under the dress. However, this general rule has numerous exceptions. Seal images were carved in two styles: the so-called "naturalistic" or "complex" style, predominantly known from seal impressions with few female figures. "Schematic" style seals feature mostly "pigtailed women" but also men and occasionally children. The discrepancies between "naturalistic" seals used for sealing and schematic seals, apparently hardly ever used to seal objects, are explained by theories of institutional use and division according to gender; for schematic seals several other purposes than sealing are suggested (for a summary, see Asher-Greve 2008). Seal impressions were not found in original contexts in Uruk, but at other sites seals and sealings were found in private houses and therefore it is unlikely that seals were only used by gender-segregated institutions.

Four iconographical types are associated with four gender categories: men, women, "pigtailed women" and "genderless people". However, gender differentiation in visual imagery is not representative of reality; naked bald men without genitals (the category termed "genderless") are symbolic figures either representing a hero, or contrasted with women or clothed higher ranking men. Images of women are less varied than those of men, but there are also squatting figures of ambiguous gender (Asher-Greve 2008). The general rule was apparently to distinguish gender and/or hierarchical difference in the context of one scene.

Scenes with women pertain to cult/religion or daily life but interpretation of women's specific activities differs. Particularly women with raised arms are variously seen in the context of cult or daily life. Women's role in cult is evident in seal images, where either a single woman is the principal figure, perhaps representing a high-ranking priestess or queen in cultic function, or several women in secondary positions may represent a group of female cult personnel or members of the ruling family. As in later periods, female members of the ruling family served as high priestesses. Seal images also show women in processions carrying objects resembling emblems, or squatting with raised arms, a gesture probably signifying worship or mourning; the latter documented in Early Dynastic III texts where female mourners receive rations for their service. Most women depicted on schematic seals handle pots; some are associated with a "spider," a symbol of spinning, or rarely whorl or loom. That women were occupied in textile production is attested in numerous third millennium administrative texts. Pottery production is rarely depicted, women with vessels are shown either holding, sitting behind, or surrounded by vessels; only one seal shows a con-

struction resembling an oven. Women never mingle with men in "masculine" occupations which are mostly rendered in complex style, but occasionally the genders appear together on schematic seals; some images may depict a family with children represented by tiny figures. Seal imagery suggests men and women largely worked in separate groups, presumably also at different locations, but it is unknown if the women depicted on schematic seals are synonymous with the female slaves/maids in texts, or if they were married and lived with their family. There are few images from the Early Dynastic period showing men or women working other than in ritual scenes because written language could record economic matters in detail on tablets.

Toward the end of the Late Uruk period (Uruk III *c.*3000–2900) for the first time the name of a woman was inscribed on a relief presumably from Tell Uqair, probably the ancient city Nutur, whose proprietary goddess is Ninhursanga. This relief is known as "Blau Plaque" (Figure 18.1) and records a land transaction involving seller(s) and a buyer who is depicted on a second inscribed relief. The woman, whose name is written KA-GÍR-gal, faces a man of high status, indicated by skirt and headband, holding an unidentifiable object. She may be his wife, daughter, or an independent woman, and her function as seller, co-seller, or witness is evidence of women's agency. KA-GÍR-gal's facial features, hair style and garment resemble the small statue of a woman from the Sin temple at Khafajeh (Figure 18.2), the oldest known sculpture of a woman "worshipper" dating to the Jemdet Nasr period (Uruk III, *c.*3100–2900). Early Dynastic (*c.*2900–2350) statues of women and men were found in temples throughout Mesopotamia.

Five "categories" can be distinguished: single or groups of women in cult/ritual, individual women in legal transactions, groups of women in daily life scenes, and "*géme*" receiving rations. According to context, a single woman has high rank because

Figure 18.1 "Blau plaque," Jemdet Nasr period (London. British Museum 862660.

Figure 18.2 Statuette of woman from Khafajah, Jemdet Nasr period (Baghdad, Iraq Museums. After Frankfort, OIP 60: pl. 1)

she stands out or is the sole woman in a scene; among groups one can differentiate small groups depicted on naturalistic style seals, perhaps princesses, priestesses, or other elite women, groups on schematic seals performing ritual tasks, perhaps cultic personnel, and groups of working women.

WOMEN IN EARLY DYNASTIC CITY-STATES

No other period in Mesopotamian history yielded such rich and varied material on women as the Early Dynastic period. Numerous women of different social status are named in written records, or are represented on reliefs, seals, and other objects, or in form of statues, and at Ur some women were buried in the Royal Cemetery in splendid tombs together with attendants.

The idea of citizenship may not have been alien to Early Dynastic Sumerians, who identified persons with their home city, city-state and/or its proprietary deity. Presumably women were also considered "citizens" although heads of a family were generally men but women also had this function in certain circumstances. Women citizens, in particular married, divorced or widowed, had legal agency that Uruinimgina (*c.*2350) tried to restrict at the end of the Early Dynastic period. Complex terminology indicates many different social groups had access to more, less, or hardly any resources other than food and clothes rations.

Real-estate transactions were inscribed on stone, some also with images. Two women are named and depicted on the so-called "Ushumgal stele," an Early Dynastic I (*c.*2900–2800) document recording transaction of property (Figure 18.3). On one side Ushumgal faces a building into which a peg is inserted as proof and proclamation of the transaction. Ushumgal was the "*pap-šeš*'-priest of Shara, proprietary god of Umma. The second principal figure is his daughter Šara'igizi-Abzu whose title remains obscure. She is followed by a smaller-sized woman, the daughter of Mesi, "*pap-šeš*'-priest of the Enun-temple, and may be a witness. The three men behind Ushumgal hold high positions and may either authorize or witness the transaction of 158.75 hectares of land, three houses and cattle. Apparently Ushumgal had no sons and therefore bestowed his possessions on his presumably unmarried daughter. Her importance is evident in the composition as she is equal in height to her father and occupies one side of the stele, whereas the other figures are smaller and occupy less space. If interpretation of the difficult text is correct, Šara'igizi-Abzu became a very rich woman.

Texts, statues, and scenes with ritual themes attest to women's presence in temples. In Lagash other members of the royal family received offerings (Figure 18.4); the only

Figure 18.3 Stele of Ushumgal, Early Dynastic I (New York, Metropolitan Museum of Art. 1958, 58.29. After OIP 104: pl. 13)

Figure 18.4 Early Dynastic statues from Sin temple at Khafajeh (Courtesy of the Iraq Museum, Baghdad)

statue of a woman with an intelligible inscription is that of the daughter of Enentarzi of Lagash, but it was made before he succeeded to the throne (Frayne 2008: 239–240 no.1). If one postulates that having one's statue in a temple was the privilege only of ruling families, then all female statues found in temples would have to represent relatives of rulers. Because no such rules existed for men, one can equally postulate that non-royal women may have had the right to place their statue in a temple. Statues were also proxy worshippers during the lifetime of the person they represent. It is not known if these statues were the same that received offerings after the person's death. In Lagash, statues of deceased persons who received offerings were those of members of the royal family, high priest, officials and their families. Further some women, mostly wives of important, high status men, had the means to provide "*mašdaria*," presumably an obligatory "gift" used for sacrifices (see Rosengarten 1960; cf. Prentice 2010: 187–198). Rarely, a statue was buried together with a person as in the one example from Ur, the grave of a man, perhaps a husband buried with the statue of his (deceased?) wife (Woolley 1956: 39–40, pl. 37).

The first royal women pictured and named on public monuments are the wife and two daughters of Urnanshe of Lagash (*c.*2550), founder of the first Lagash dynasty. On the stele of Urnanshe, (Figure 10.3) his wife Menbara'abzu and his daughter Ninusu participate in the inaugural ritual for the Ibgal temple in Lagash-city. Urnanshes's daughter Abda (reading of name uncertain) is shown together with her father and brothers on a relief showing a procession also connected to temple building. Abda's prominent position before her brother, the crown prince Akurgal, indicates her high status, probably as high priestess, a position attested for royal daughters in later periods.

On a votive relief from the Gipar at Ur (see Figure 11.2, this volume), four women are shown with headband and long hair, insignia of "*en*"-priestesses in later periods. The *en*-priestess of Nanna may be identified in the woman shown *en face*, whereas the three women in the upper register may represent *ereš-dingir*-priestesses of other gods at Ur. Early Dynastic texts do not mention an *en*-priestess, but *ereš-dingir*-priestesses are mentioned in Lagash, and the seal of Hekunsig, *ereš-dingir*-priestess of the god Pabilsag, was found near Royal Tomb 580 at Ur, where she may have been buried. The fifth woman on the relief possibly represents a queen of Ur as she follows a man with a sacrificial animal, an offering associated with rulers.

Banquet is a major theme on votive reliefs and seals with women pictured as principal participant(s), musicians, or servants (Figure 18.5). The principal woman is shown as equal to the principal man; in some scenes the woman has a footstool, probably indicating higher rank than that of the male participant. There are also banquets with a second woman or only women participants; the latter indicating that women celebrated festivals without men. Several hypotheses are suggested for the identity of the principals, that is, the seated participants, and for the meaning of the banquet. The seated participants on the plaques holding a cup and a piece from a date palm (branch or date cluster?) resemble statuary images. Both statues and reliefs belonged to inventories of temples, and the *mis-en-scène* in two-dimensional images includes offerings, transport of produce, animals and other goods. The principal figures may be shown "eating from the table of the deities," a prerogative of highest clergy and royalty. Images of banqueting couples possibly allude to the divinized status of royal couples, who may also be represented in statuary either together or separately but staged as couples (Asher-Greve 1985: 84; Selz 2004). Pictorial variations reflect different occasions for

Figure 18.5 Votive relief from Inana temple at Nippur (7N 133/134), Early Dynastic III (Baghdad, Iraq Museum. Courtesy of The Oriental Institute, Chicago)

banquets. Because religious and socio-political actions were intertwined, all banquets have religious connotations including those associated with war.

Seals with banquet scenes were buried with their owners in the Royal Cemetery at Ur. Puabi had three lapis-lazuli seals with banquet scenes (Figure 16.6), one inscribed with her name and the title "*nin.*" Some scholars suggest women with the title *nin* (queen, mistress) may have governed in their own right. Puabi, who does not carry the title "*dam*" (wife) was buried in an enormously luxurious tomb, interpreted as a sign of her status as reigning queen (Figure 19.3). Although her three seals vary in detail, Puabi may be the sole principal woman on all of them (Zettler and Horne 1998: 77–78, figs. 17a, 46a, b). Royal women also had seals with contest scenes; for example, Ninbanda, whose sole title is *nin,* and Baranamtara, wife of Lugalbanda of Lagash, whose title PAP.PAP is unclear. "Masculine" contest themes may be indicative of a woman's powerful status. Baranamtara as head of the *É-mi* in Girsu, a large rich temple household, was a powerful force in the state of Lagash. Because the queens who headed the *É-mí* used its resources for private purposes, Uruinimgina, last Early Dynastic ruler of Lagash, tried to halt this abuse. He changed the *É-mí*'s name to *É-BaU*,

(re)established ownership to the goddess BaU and installed his wife Shasha as head. But Shasha continued the practice of using temple-household resources for the royal family's benefit. Was she strong-willed, persuading her husband to change his mind, or a princess to whom he owed his throne, or was the "reform" of the *É-mí* merely the propaganda of an usurper?

The importance of royal wives derives from the royal couple's role as earthly representatives of the divine couple symbolically presiding over a city. As a city's divine proprietor could be god or goddess, the queen represented the highest city-goddess or the spouse of the highest city-god. Like their husbands, queens may also have been deified and their statues received offerings during their lifetime; Shasha had her statue made of silver and directed offerings to it (Selz 1992). A silver statuette representing a woman was recently found at Ebla (Matthiae 2009). The royal wives of Lagash had substantial agency, and it may have been the same in other Sumerian city-states. Their functions were considerable: spouse and mother, highest female representative of their state, cultic/ritual obligations, heading a large institution with property and numerous dependents, engaging in trade, and (diplomatic?) relations with queens of other cities. The example of Shasha's statue shows these women also controlled their "public image" and symbolic representation.

Costly votive vessels inscribed with pleas for long life for oneself, one's spouse and children were donated by royal women, non-royal wives, daughters, and widows. One source of wealth for women was the special royal ceremony of gift-giving to the wives of officials. Women with legal agency could be the wives of rulers, married women, widows, sisters, and daughters most often listed as members of a family clan selling real estate, or named as witness. Except for a midwife named as witness, most women apparently had no profession.

In Early Dynastic administrative texts, individual women are few compared to those listed as groups. Apart from *ereš-dingir*-priestesses, there are two groups whose position and function are unclear: *lukur,* listed individually or as group, and *nin-ensí-ka*. It is suggested that they are classes of priestesses, or are related to the city's ruler, probably his sisters (Selz 1989: 236 (3:7); Sharlach 2008: 178; see also Westenholz this volume).

Wet-nurses and midwives received higher rations than other women and often worked for royal households with close contact to members of the ruling family. It is written that wet-nurses "decide the destinies for their lords" (Alster 2005: 98 line 264).

In the Akkadian and Ur III periods, some midwives and wet-nurses had expensive, inscribed seals (Figure 18.7). Women harp and lyre players are depicted in banquet scenes (Figure 18.5); female musicians (*nar*) and lamentation singers (*gala*) are attested in texts. Music was considered entertainment and in the Ur III period many musicians worked for the king.

The largest groups of low social status women are called *géme,* dependent female workers; few were enslaved. The majority was occupied in textile production, milling, or households. Many *géme* worked in premises of overseers who received rations for them, but if they also lived there is uncertain. Women who "lived with someone" usually had children (*géme-dumu*) and worked full time for the organizations of queens, princes or princesses. Another low-status group is called HAR.TU-women (precise meaning unclear) who worked in the private quarters of royal households (Selz 1993: 209–211; on *géme-dumu* and HAR.TU-women, see also Prentice 2010: 47, 52–65).

Like the rations for men, those for women vary by type of work, but women's rations were distinctly lower than those of men. So-called land allotments – fields to be harvested – were mainly or exclusively given to men (Prentice 2010: 73–80).

Women are also a theme in the so-called "Instructions of Shuruppak," first written down around 2600 BC but probably older and orally transmitted. An "old, intelligent, wise man" named Shuruppak communicates his thoughts and ideas to his son in the form of instructions. On women, marriage, family, and household he says (Alster 2005: 56–203) the son should not choose a wife during a festival, or one who has a fortune; the wife should not be weak; marriage is positive because a married man is well cared for; family is supportive, an older brother is like a father, an older sister like a mother but a son should also be supportive of his mother and older sister; mother's words are like those of a god to be respected by the son; a son will speak for his family ("house"), a daughter for her women's quarters. On behavior vis-à-vis young married women the father admonishes sons not to laugh with or sit next to them. Sexual intercourse with a slave girl or prostitute has negative connotations. Buying a slave girl from the palace is not advisable, instead the son should bring one from the mountains. It is difficult to judge what is intended as humorous or ironic. From the end of the Early Dynastic period, there is evidence that lower status women were harshly punished if they spoke to higher-ranking men in public (Frayne 2008: 273: III. 14–19) Although I think that the misogynist school texts may be the scribblings of adolescent boys, they may also have written down what they heard when men were among themselves. In view of the respect sons owed mothers and other women of their class, it seems unlikely they would say such misogynist things at home or even in public when women were present.

According to Early Dynastic documents, marriage was monogamous even in royal families. Marriage between cousins is attested in the inscription of Bara'irnun, wife of Gishakidu, king of Umma, the only royal woman whose genealogy is known; she was the daughter, granddaughter, and daughter-in-law of kings of Umma. That women at some time practiced polyandry is based on a "reform" edict by Uruinimgina, however translations vary. For example, Wilcke (2003) "it was so that women of former times took two husbands each. Today's women have dropped that crime"; Frayne (2008), the opposite, "as for women of former times – a man (could) take two of them; but for women of today – indemnity payments (for debts?) have been removed (and the practice has been abolished)." There is no evidence for polyandry but according to later sources female household slaves could be concubines and become secondary wives when the first wife remained childless and a slave woman gave birth to her master's child.

Social inequity must have been severe because Enmetena and Uruinimgina issued edicts enabling families to reunite. Causes of separation were *corvée* labor and enslavement or imprisonment, often of children, because of debt. The Sumerian technical term for "freedom, liberation" literally means "to return to the mother" (*ama gi*$_4$), perhaps indicating that mothers were not enslaved or imprisoned for debts but functioned at least as interim head of the family. Uruinimgina also proclaimed a general amnesty to establish justice regardless of rank or status and explicitly stated he would not deliver orphans and widows to the powerful. The king further discontinued the practice of payments for divorces and apparently marriages to high officials, and also abolished taxes and fees for funerals, divorces and marriages. If costly, most people may not have been formally married, divorced, or buried.

WOMEN UNDER AKKADIAN RULE

During his reign, Sargon of Akkad (*c*2324–2279) conquered Sumer and established a unified, centralized state with Akkad as the political and administrative center. Different mentalities may have been one reason for recurrent revolts of Sumerian cities during the 140 years of Akkadian rule. For Sumerians law and order were important, everything in the universe including humans had its rightful place and purpose based on divine design. While Sumerians were poetic, evident in the use of metaphoric language, Akkadians were more dramatic, temperamental, and individualistic. Sumerian popular religion was local and centered on one city god or goddess, Akkadian religion was more universal but less structured (A. Westenholz 1993).

Akkadian kings controlled temples and their wealth by establishing their daughters as high priestesses of major Sumerian gods, but did not impose their religion. Royal princes became governors, and the kings also relied on a new class of loyal Akkadian notables and royal servants. Although Sargon claimed he appointed Akkadian governors (*ensís*) throughout Sumer, according to later records most *ensís* of Sumerian cities were local but subservient to Akkadians. When a city revolted free men and women were forced into labor as state dependents, or for Akkadian masters. In Akkadian society, gradations of status were important. Economic change is attested by unification of measures and weights, new materials and technologies. Further, agricultural land was purchased or confiscated and largely redistributed to Akkadians. In Sumer, large estates were now owned by Akkadians and more land was in private hands than previously.

Royal women of the Akkadian dynasty had access to resources, held land, conducted business, dedicated votive gifts, and traveled in high style. Royal marriages were monogamous as were those of ordinary people. Most famous is the *en*-priestess of Nanna at Ur, Enheduana (Figure 12.1), daughter of Sargon, who was also a poet. It is remarkable that from the Akkadian period onward we have only statues of royal women and priestesses (Figure 19.7), whereas votive gifts were also donated by other women.

Women are rarely named in legal documents, but more women who did not belong to the royal family or were priestesses owned a seal. According to inscriptions, they were predominantly women in the service of an elite woman (for Akkadian seal images, see Boehmer 1965; Collon 1982; for inscriptions, Edzard 1968). Occasionally a couple is depicted, as on the seal of a translator of Meluhha whose wife stands behind him (Boehmer 1965: fig. 557). Anonymous women seal owners are shown in presentation scenes, or as elite woman receiving other women (audience theme), or in ritual scenes with a palm tree. Mothers are more visible, as on the seal of a wet-nurse accompanied by the mother of her charge (Figure 18.6), or in images with mother and child (Collon 1982: no. 142); women are also shown serving or entertaining other women (Asher-Greve 2006: figs. 15, 16; J. G. Westenholz 2011). But increased visibility of individual women is deceptive because, compared to men, few women owned a seal. The estimate based on inscribed seals that roughly 5 percent of Akkadian seals were owned by women may be too low because most seals are not inscribed and, as in the Early Dynastic period, woman also owned seals with the same themes as men so ownership is impossible to determine from the theme alone.

Economic agency of some women was substantial, they could make investments; for example, Ama-é was custodian of the family finances and leased land whereas her

Figure 18.6 Akkadian seal with inscription and libation scene (Chicago, The Oriental Institute Museum A 7123. Courtesy of The Oriental Institute Chicago)

husband's responsibilities were herds and husbandry. Private family estates are attested for the first time and according to their records employed single women and mothers not protected by either husband or family, but not girls, old men or women. Women, whether married or unmarried were scribes, musicians, singers, cup-bearers, midwives, wet-nurses, and could independently conduct business and mingle with men.

Géme continued to work in textile production, milling, households, or occasionally as shepherds of pigs, but they could be moved around to do other tasks. Among the female work force were also groups just called "women" (*munus*), who may have been local Sumerians forced by the Akkadians to work for them. Slaves were either prisoners of war, or poor people who worked to pay off debt; women were often sold into slavery by their father or brother.

According to Aage Westenholz (1999: 70–71) from the queen to ordinary married or unmarried women, Sumerian or Akkadian, women "were free to participate in public life, on a par with men and mingle freely with men"; he concludes that women could do the same things men did on an equal basis "but few did" which means they did not take advantage of their agency.[2]

Although there is no evidence of different rules and norms for Akkadian and Sumerian women, it cannot be excluded that different traditions and mentalities influenced notions about sexual difference and gendered behavior. Women's lives certainly were influenced by constant warfare which in Sumerian cities meant husbands, brothers, and sons had to fight for a foreign king often far away from home. But those women not forced into labor may have had more agency while men were absent and when they did not return.

The years from the fall of the Akkadian empire (*c.*2193) to the beginning of the Neo-Sumerian period (including the second dynasty of Lagash *c.*2150) are known as the Gutian interregnum. Little is known about this time.

WOMEN IN THE SUMERIAN EMPIRE (UR III)

With Ur-Namma (*c.*2112–2095) began the rule of the last Sumerian dynasty, which ended *c.*2004. Numerous publications deal with Neo-Sumerian royal women, priestesses, and women textile workers, other women have received less scholarly attention. With the exception of seals depicting women from different strata of society as worshippers, there are hardly any other images of women aside from statues/statuettes and several reliefs probably exclusively representing royal women or priestesses. Whether this was caused by changing views on gender or for other reasons is a matter of conjecture.

According to an Ur III birth incantation, sexual difference is associated at birth with gender roles, the boy should become a strong hero and warrior, the girl "sexy" and a good housewife. A son should be like his father, a girl like her mother, that is, attractive, smart, moderate, modest, not engage in gossip, nor talk to men, fight, or linger in public places; girls were also encouraged to keep silent and not to chatter. As these norms contrast with Akkadian freedoms (although apparently not appreciated by most women), one may ask if Ur III social norms represent a return to Early Dynastic standards, or if these changed in Neo-Sumerian times. Boys were preferred over girls, which may have resulted from a shortage of men due to long periods of warfare.

A major change occurred in the Ur III dynasty, where the marriages of kings and some governors were no longer monogamous. Although some rulers of the second dynasty of Lagash ascended through the female line, they also had more than one wife, but we do not know if the marriages were simultaneous. Kings of the Ur III dynasty had several wives with different titles; many of their marriages were politically motivated and they married their daughters to other potentates (for a detailed study, see Weiershäuser 2008).

Prior to the "Laws of Ur-Namma" no law code is attested. Additionally, there are numerous legal documents with information on women's status and rights (see Lafont and Westenholz 2003). Gudea of Lagash (*c.*2125–2110) first gave daughters of families without a son the right to inherit their father's estate. In principle a daughter did not inherit from her father but received a dowry and could otherwise acquire property. Dowries included houses, slaves, personal property. Marital gifts from husbands included land and slaves, sometimes estates, and some married women had their own earnings with which they bought property. The husband probably controlled at least part of his wife's property, but she had sufficient control to conduct transactions.

In many circumstances, women had legal agency in litigation, as property owners, as contracting parties, and as witnesses; they could own, sell, buy or make gifts of real estate, slaves, or cattle. However, according to legal documents most women were, in fact, dependent on their husband or father, but widows could become head of a household and might have had the primary right to inherit their husband's estate unless his will stated otherwise (Owen 1981: 175). This is attested in suits brought to court by widows against their son or other relatives. Unfortunately, it is not clear whether a

woman could act without her husband's consent. Those presumably independent actions may have been limited to the woman's personal estate and property.

Apart from the governing elite, marriage, according to legal texts, was monogamous. Bride and groom needed parental permission and parents made the marriage contract. Widows could remarry without parental permission. Oral betrothals preceded marriage and included an oath but could be dissolved by marrying somebody else or through withdrawal from the contract. If the engagement was broken without justification, a penalty in the form of silver had to be paid. Couples (or bridegrooms?) received a royal gift at marriage, explicitly women after giving birth. Dissolution of a marriage could be ordered by the court. If a husband divorced his wife without grounds, he had to pay her in silver, one mina if she was a first time wife, thirty to forty shekels if she was a widow; if the wife agreed to divorce, she got only ten shekels. Grounds for divorce were unconsummated marriage and adultery. The death penalty awaited a woman who committed adultery, but not the lover if she had not told him she was married; however, it was at the husband's discretion to kill or divorce her.

Women's legal agency is also reflected in the growing number of women seal owners but, as in preceding periods, remains small in comparison with seals owned by men. The majority of women's seals show the mainstream presentation scene with the "generic image" of a female worshipper led by a protective Lamma-goddess before an enthroned goddess (Figure 12.6) (on "generic figures," see Asher-Greve and Westenholz forthcoming); some women owned seals with contest scenes. In inscriptions, women are frequently identified as "wife" (*dam*), some add the husband's position or profession; for daughters, affiliation with the father is most common. But not all women are identified as wives or by patronym, particularly those who worked for queens or other court women, priestesses, daughters of priestesses, and some independent women, such as Ninkalla, the midwife of BaU (Figure 18.7). For the first time we have numerous seal impressions attesting that more women used their seals, but the numbers are small compared to those of men who sealed documents. Most impressions of women's seals are those of priestesses, royal and governors' wives, or their servants. For women who did not own but needed a seal, an anionic so-called "burgul"-seal could be made. Apart from midwife and wet-nurse, professions attested for women are scribe, governess, doctor, barber (hairdresser), and singer.

Women workers (*géme*), often with their children (*géme-dumu*), were employed in textile production, as millers, straw binders, and in the countryside as field workers, porters, and during harvest. They received monthly rations of barley that could be exchanged for bread, flour or a beverage (mostly beer), and a yearly ration of wool or a garment. The amount depended on qualifications and output but also on age and status. Women's average payment was between thirty and forty liters, but the best weavers were paid up to 100 liters. Old women received a barley ration of twenty liters and once per year about one kilo of wool, enough for one garment. Middle and higher ranking personnel, mainly men, got land allotments, that could be inherited by widows, however, this may have changed with Shulgi's social reforms when land allotments were given to state dependent workers either belonging to the lower social levels or to administrators (Dahl 2002). Extraordinary rations of oil, meat, fish, milk products, vegetables, or beer were distributed either when there was a large surplus or on special occasions such as New Year. Based on age, children received between five and twenty liters. Probably at puberty boys were separated from their mothers and followed

Figure 18.7 Seal of Ninkalla, midwife of Bau, Neo-Sumerian
(Formerly Erlenmeyer Collection, Basel. Author's photo)

their father's professions, while girls followed their mother's. Most mothers had two children (at the time of each listing), who presumably began work at a young age. The average amount of monthly barley rations for a couple and their children just covered subsistence; craftsmen were paid between 60 and 300 liters of barley, some specialists 300 or 510, and supervisors up to 1,200. The most important employer was the state, followed by temples.

Several categories of low status women occur in texts. Institutions like that of king Shulgi's wife, Shulgi-simti, employed numerous women; men worked more often for the king. At the bottom of the social hierarchy were female slaves (listed as *géme* or *sag-munus*) and probably the so-called Martu-women with unspecific tasks in sanctuaries and other institutions, as well as so-called *a-ru-a*-people, including *géme*, *géme-dumu*, widows and orphans unable to support themselves, who were votive offerings (*ex voto*) to temples. People acquired as war booty were enslaved and forced to work in public institutions. Private households had female slaves, the property of their owner, who could be sold, hired, pledged, given as dowry, or inherited. If all or only some slaves had legal status is not clear, but they could marry and have children with legitimate status. Poverty was the main cause of enslavement. Widowed mothers were often forced to sell a daughter; some women sold themselves into slavery. Another cause was

legal punishment; victims of crimes could enslave or sell into slavery the family of the guilty party. Women slaves could have property, make transactions, and buy their freedom but more often were set free without payment.

Concerning ownership of arable land, different rules existed in Sumer (region south of Nippur) and in Akkad (region north of Nippur). In the south, arable land was owned by state institutions and were forbidden to sell it, whereas in the north, institutional land was insignificant. As women in the Ur III empire owned real estate, those living in the Akkadian region may have held more arable land than those in the Sumerian region where private ownership of land was restricted to orchards and urban real estate.

Evidence of women's agency is ambiguous, particularly below the ranks of royalty. For no obvious reason, women's agency differs independently of civil status. That Shuruppak advised his son not to marry a rich woman, may indicate rich women had more agency than women with less property. The degree of agency apparently depended on various factors, of which rank, status, and access to property were the most decisive. There is no evidence that Sumerian women had more rights, freedoms, or access to resources than Akkadian women, perhaps the reverse was true.

After the fall of the Ur III empire, conditions for women deteriorated. This coincided more or less with the changing status of many goddesses (Asher-Greve and Westenholz forthcoming), but the causes of changes in religion are different from those for gender roles and regimes. The process may have been slow, but in the code of Hammurabi (*c.*1792–1750) women are second-class citizens. It seems likely that at least some paragraphs were based on Amorite concepts on women. Although we cannot trace this development, apart from laws restricting women's agency, there is other evidence of change, in particular much reduced visibility of royal wives, termination of the office of *en*-priestess, women including princesses living in cloisters (*nadītu*), and the disappearance of women from seal imagery with the exception of a generally small-sized nude female figure. Images of women are also signs of their agency and potential models for identification; with the disappearance of women in imagery, they became symbolically invisible.

NOTE

1 Issues connected to sexuality are highly controversial. However, third millennium sources contain no information on the sexuality of ordinary women (see most recently Wiggermann 2010).

2 There is evidence from the ED/Early Agade period that royal women had substantial agency and power (Archi and Biga 2003; Tonietti 2010).

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CHAPTER NINETEEN

A NOTE ON SUMERIAN FASHION

Lamia al Gailani Werr

Archaeological evidence is abundant from works of art: statues, reliefs, cylinder seals, and written documents. Evidence from actual remains of cloth, linen, wool or skin is sketchy. Such evidence as there is comes from a few fragments found mostly in the Royal Cemetery (Woolley 1934: 238). Ration payments for weavers and the quantities of garments for sale or for export are documented in the texts (for the textile industry, see Wright this volume).

The archaeological evidence from the later fourth millennium shows men wearing long belted skirts with pronounced hems. On the seals, the male's skirt is made of what seems to be net-like material (Figure 19.1; Amiet 1980: pl. 44). The garments must have been made from very high-quality material such as very finely woven wool, like the hand-woven cloaks worn by Arab men today–the finer the material the more prestigious.

The relief on the Warka vase is perhaps the best example of the prevailing 'fashion' especially for formal and religious ceremonies in the late fourth millennium (see Figure 10.1 this volume). The upper row shows a ritual scene where the king or priest who is facing the goddess or priestess is mostly destroyed and only part of the king's long skirt possibly made of net material is visible, with a long tasselled belt made again of a net material, and held by an attendant or a priest. The latter wears a short belted kilt with a thick border, which runs down the centre of it and round the hem. The 'goddess' is wearing a long plain bordered garment that covers all her body with the exception of one bare shoulder. This style, a long garment with one bare shoulder, prevailed as the main style for women right through the following Early Dynastic period and continued into the Old Babylonian period.

The crown or the headdress of the goddess is damaged, and only a small part can be seen. It may be part of a feathered crown, similar to the headdress on the Early

Figure 19.1
Cylinder seal impression from Warka showing a man in a net skirt feeding the flocks (Iraq Museum 18828)

Dynastic 'Figure aux Plumes' limestone plaque from Lagash (Aruz 2003: 68, fig. 27). The figure on the plaque wears a net skirt, like the one described above.

Another type of men's dress is depicted on seals and on the Lion Hunt Stele, where the main figure/king is wearing the short kilt with thick border and a cap with a scarf tied round it (see Figure 11.4 this volume). The round cap with a scarf seen on cylinder seals and reliefs is worn by male figures wearing the short kilt or the net-like long skirt. It is the only type of headgear from the pre-Early Dynastic period, and may represent a crown or indicate an important personage.

Unlike in later periods, the dress worn by the 'goddess' on the Warka vase is the only archaeological evidence of the type of dress elite women wore (see Figure 10.1 this volume). The female workers who appear on many seals are depicted in plain garments, this is possibly due to the stylised carving of the period, but it may also be how the common people dressed (Amiet 1980: pl. 18, fig. 305–306). Elaborate dress was the domain of the rulers, particularly when participating in religious ceremonies. It is, however, sometimes difficult to differentiate the rank of the figures by the short kilt which is worn by both the 'king' on the Lion Hunt Stele and the attendant on the Warka vase. It is the scarf round the headdress that seems to indicate high rank. The scarf seems to survive into later periods as a symbol of high rank. It can be seen on the bronze head of Sargon, and on representations of Gudea and Hammurabi. The scarf was not confined to the male headdress: Enheduana, the daughter of Sargon and priestess of the Moon god, is wearing a cap with a band round it on the stone disk found at Ur (see Figure 12.1 this volume). In the Gilgamesh Epic, Utu-napishtim instructed Ur-shanabi the boatman to prepare Gilgamesh for going back to Uruk: 'Put a new band on his head' (Dalley 2008: 118), a clear sign of the importance of the *br'm*. It is tempting to say that such a headdress survives today in Baghdad–a distinctive dress of the local men, a cap with scarf-like cloth folded and wrapped around the head.

THE EARLY DYNASTIC PERIOD

Evidence for the dress of the first historical periods comes mostly from ceremonial contexts, religious, military, or funerary, and they belong exclusively to the elite of the society. Our knowledge of what ordinary Sumerians who were not in the service of the temple or the royal court wore is sparse.

Evidence of differing styles from the Early Dynastic statues

Among the remarkable relics the Sumerians left us are numerous statues and reliefs, in addition to the cylinder seals. They were mostly discovered in temples. The Standard of Ur (see below) and the hoard of statues from the Abu temple at Tell Asmar are the best examples to illustrate the various types of dress worn by men and women (Figure 19.2).

Women

Women's fashion as seen on statues, and occasionally on seals, consisted of plain or tufted/fleeced garments. The garments are usually draped over the left shoulder with the other shoulder bare, and fall down in folds indicated by incisions or borders (Aruz

Figure 19.2 Hoard of Sumerian statues from Tell Asmar, Iraq (courtesy of the Oriental Institute, University of Chicago)

2003: 153, cat. no. 92a). From the statues it is not clear that a plain or a tufted garment indicates the social status of the individuals, although the small green marble statue of a female with a gold head from Nippur, wears a garment of the fleeced type while the large statue of the female among the Tell Asmar hoard has one of the plain type, as does the second female (Figure 19.2).

There are also regional and individual variations, seen particularly on the statues and the inlays from Mari, where the fleeced garment is more common. The fleeced material is used on one female statue from Mari for the dress and for the shawl draped over her headdress and falling down the side (Aruz 2003: 66, 28). Similar attire is seen on a fragmentary and unprovenanced seated female statue, now in the Iraq Museum. The woman is wearing a hat under the shawl, similar to types found in the Diyala region (Frankfort 1939/1943: 287, pl. 43).

The real variation is in the hair style and headdress. The common style shows the wavy hair held in place by two bands, while two curly locks hang down on either side of the face. Another style has the mass of hair secured by a headband above a row of curls framing the face (Aruz 2003: 67, cat. no. 28), or the hair was dressed in thick braids wrapped in a circle around the crown of the head (Frankfort 1939: 116, pl. 82). Sometimes, the hair was braided and left to fall on either side of the face and the shoulders (ibid.: 123, pl. 85). On a plaque from Ur, the female figures on the upper register are wearing what appear to be cloaks over their long garments, their hair falling

down to their chest, ending with a knot (Aruz 2003: 74, 33). In the lower register, the main figure is wearing similar attire, but her headgear of brimmed cap is similar to that of Enheduanna, and may indicates her importance as a priestess (see Figure 12.1 this volume for Enheduanna).

The Royal Cemetery provides the best examples of the dress of the royal court. Pu-abi's tomb contained not only her body and the funerary furniture, but also elaborate costumes and jewels. The female attendants who accompanied her were similarly so although less elaborately so. One of the intriguing finds from Pu-abi's grave is what looks like a cape made from around fifty strings of gold beads and semi precious stone: carnelian, lapis lazuli and agate (Aruz 2003: 112, cat. no. 62). The cape consists of a collar of alternate triangles of gold and lapis lazuli. The string of beads fall down to the waist to join a belt made of ten rows of beads, again of gold, carnelian and lapis lazuli, ending with a hem of dangling gold rings (Figure 19.3). All the beads of this elaborate cloak must have been sown to a lining of which, unfortunately, no trace survives. The beads from this cape are now in the Pennsylvania Museum.

Figure 19.3
A 2009 reconstruction of the beaded cape and headdress of Lady Pu-abi (burial PG 800, Royal Cemetery of Ur, southern Iraq. Courtesy of the Penn Museum, image 184432)

Pu-abi's headdress was the most elaborate one found (Figure 19.3). It, too, was made of gold and semi-precious stones. Gold ribbons wind round the head crossing each other, sometimes falling down the sides. Over these are strands of lapis and carnelian beads supporting gold rings. Over the beads are rows of willow and beach leaves made from sheets of gold. Above them are small gold rosettes and at the back is a comb crowned with six large rosettes with blue and white petals (Aruz 2003: 110, cat. no. 61). The sumptuous and expensive dress styles of the Royal Cemetery and also from the statues and reliefs must belong to a selected group of Sumerian society, that is, the ruling class. Our knowledge of what the ordinary people wore is negligible. Texts from the Ur III period only mention garments, and there is no indication of how they were worn or who wore them.

Men's dress

The men's attire differs from that of the women. Men mostly wore either a short or a long belted skirt of plain material with a fleeced hem and a tasselled knot at the back. A variation is a skirt made of tufted or fleeced material in several rows, sometimes overlapping, and a cord-like belt with tasselled knot at the back (Aruz 2003: 63, cat. no. 26). A third type of skirt is shorter than the other two styles, it has a belt, and the material hangs down in long tufts from the waist and has a plain triangular cloth at the front which may indicate a skirt underneath with tufts wrapped over it (Aruz 2003: 72, cat. no. 31). Men were either depicted clean shaven or with long hair and beard. Perhaps the best portrayal of the varied styles is the hoard of statues discovered buried in the Abu temple at Tell Asmar in the Diyala region showing both men and women worshippers (see Figure 19.2). In this group, the plain garment with tufted hem is common, the men's chests are bare and all have beard with the exception of one worshipper with a bald head.

The plain skirt with the fleeced hem was probably the most common type on the Standard of Ur, another object illustrating many types of male fashion (Aruz 2003: 97, cat. no. 5). Most of the figures, attendants, tribute bearers and military personnel, musicians and porters are clad in the plain skirt. The exception is the main figure depicted larger in size than the others. He wears the all-tufted skirt, perhaps to distinguish him from the rest of the courtiers who are participating in the festivities.

It is to be noted that the fleeced skirt seen on male figures on statues and reliefs is almost absent on cylinder seals (exceptions, Amiet 1980: pl. 61, fig. 827; pl. 89, fig. 1179). This could be due to the limited size of the cylinders. The diorite statue of Enmetena (Figure 19.4), ruler of Lagash, is perhaps one of the best-known representations of the elaborate rows of fleece on a skirt. On the plaque of Ur-Nanshe, another ruler of Lagash, he is shown with a shaven head, bare chest and wearing a fleeced skirt. On the upper row, he is carrying a basket. In the second row of the same plaque, Ur-Nanshe is enthroned and wearing again a fleeced skirt. The occasion may have been to celebrate the completion of building the temple (Aruz 2003: 31, fig.16; Figure 10.2 this volume). On both sides is a procession of his sons, their names are inscribed on their plain skirts. The exception is the standing figure, possibly his daughter, who is wearing the fleeced skirt and a fleeced shawl draped over one shoulder (Aruz 2003: 31, fig. 16).

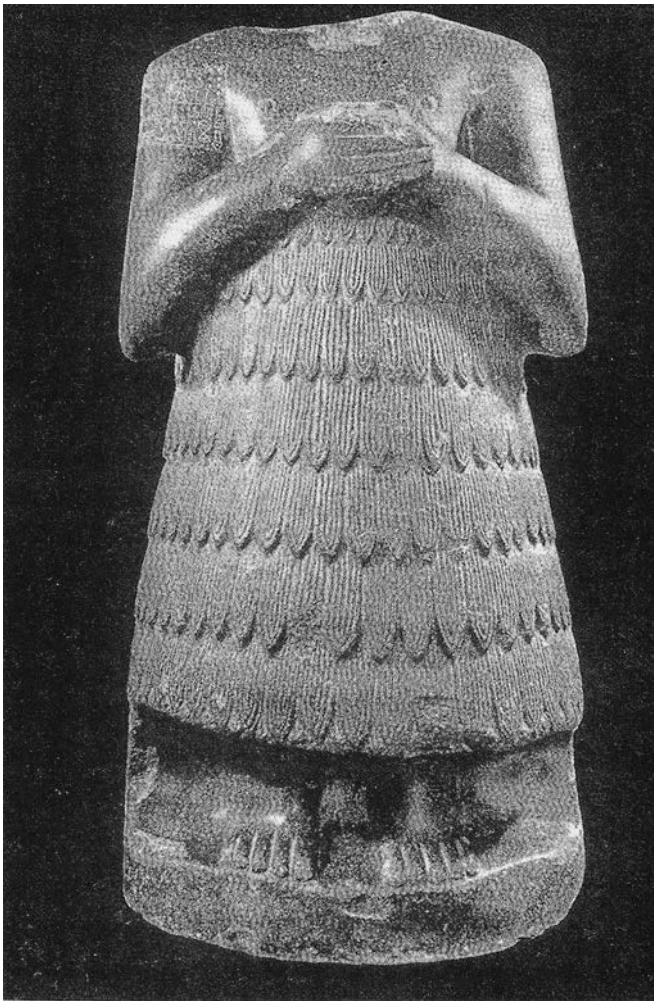

Figure 19.4
Statue of King Enmetena
(Iraq Museum IM 5)

Military costumes

Military ceremonies are one example of official occasions and are sometimes commemorated on victory stele in the Early Dynastic period. Two well-known examples are the Stela of the Vultures, and the Standard of Ur. Both are commemorating a victory and on both the military personnel wear distinctive attire. On one side of the Ur Standard (Figure 19.5), the soldiers are dressed in several types of uniforms presumably indicating their military rank; the spear holders on the first register and the soldiers standing behind the chariots are wearing plain skirts with fleeced hems and a fleeced shawl that covers one shoulder. The charioteers, one of whom is seen on the upper register behind the king's chariot, and others on the chariots in the lower register, wear a pointed helmet and their uniforms are similar to those of the regular soldiers, a plain skirt with fleeced hem and a fleeced shawl covering one shoulder. On the second register are a row of armed warriors wearing pointed helmets held by straps under their chins, each wearing a cloak over a plain skirt ending in a fleeced hem. The cloaks and the helmets were possibly made of

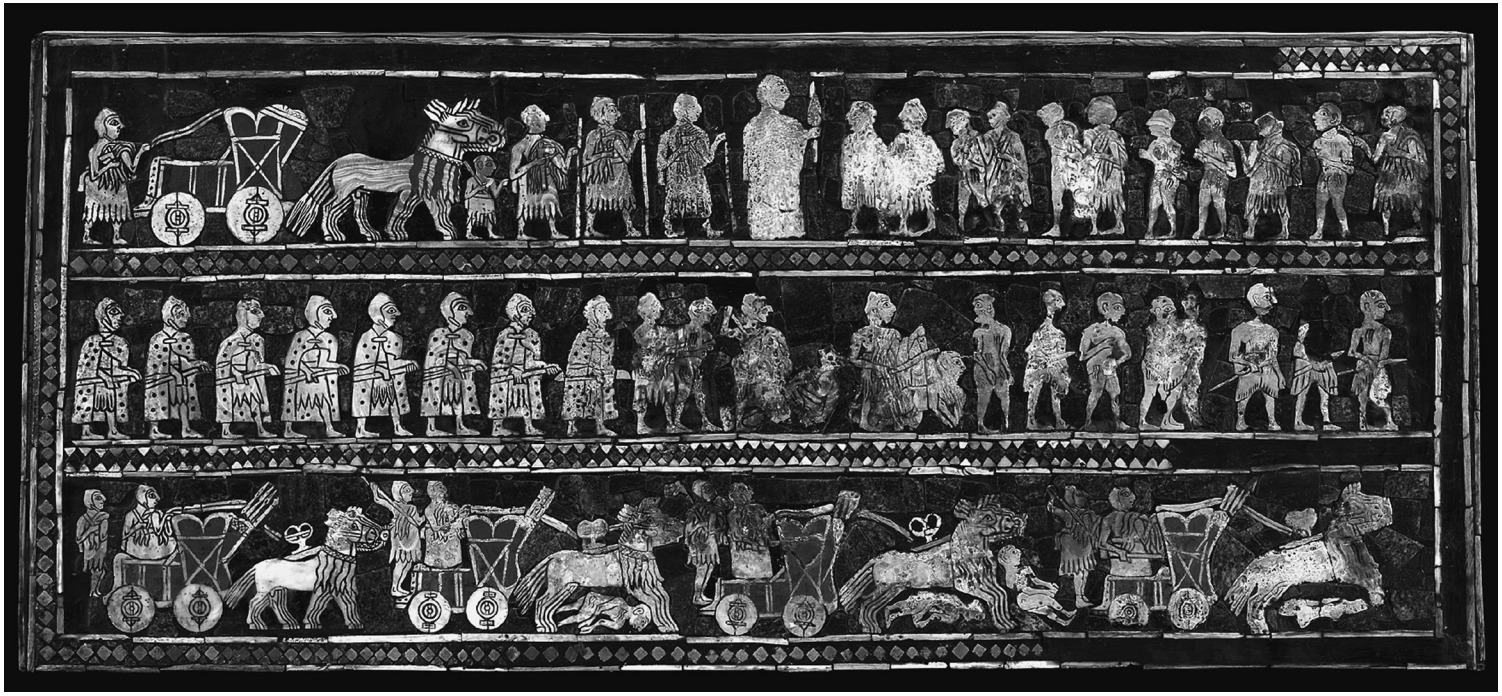

Figure 19.5 The 'War' side of the Standard of Ur, Early Dynastic III (*c.*2600–2400 BC), Ur, southern Iraq (British Museum 1928, 1010.3. Photo © The Trustees of the British Museum)

leather, and the round holes decorating the cloaks were either indicating metal studs or the leopard skin the cloaks were made from. Woolley suggested that they were made of felt (Woolley 1934: 239) or they may been made of sheepskin with the wool on the inside like the Bedouin coats seen today in Iraq, Syria and Jordan.

The Stela of the Vulture is another example of the various styles of military dress worn by the Sumerian commanders and soldiers (see Figure 11.2 this volume). The relief covers both sides of the stela, on the reverse there are four rows illustrating the victory of Eannatum, the ruler of Lagash, against the city of Umma *c.*2460 BC. The king is seen leading a phalanx of warriors holding spears, only their pointed plain helmets are visible above the rims of their large shields. The king is wearing a flounced garment possibly of sheepskin wrapped around his body and draped over one shoulder. He is portrayed at war, the commander of his army wearing a helmet similar in style to the MES-KLAM.DUG gold helmet (Aruz 2003: 35, fig. 18). The soldiers on the second row, bearing spears, have no shields to hide behind and are wearing short fleeced skirts. Their helmets are similar to the helmets on the upper register. On the obverse side of the stele, the king is celebrating his victory, thus wearing a different, perhaps more ceremonial attire.

On the Standard of Ur the uniform of the soldiers on the upper register consists of the short skirt with a fleeced hem, and a fleeced shawl is thrown on one shoulder (Aruz 2003: 97, cat. no. 52). The soldiers in the middle are each carrying a weapon and they wear the short skirt with the fleeced hem and a cloak over their shoulders tied at the neck. The cloak was probably made of a thick material or skin, hence the holes to fasten the pieces together. The charioteers on the lower register wear a similar uniform to the figures on the upper register. It is likely that the short skirt and the fleeced shawl were the regular uniform for the ordinary soldier.

Dress of the gods

Deities, though mentioned frequently in the texts, were rarely represented during the Early Dynastic period. Normally they were depicted in human form, only to be identified by the horned crown, the distinctive feature indicating their divinity. It appeared for the first time during this period and became the major symbol of the gods across the whole history of ancient Mesopotamia. Initially, most of the representations of gods were of female deities associated with vegetation. One of the best examples is a fragment of a stone vessel showing the goddess carrying a cluster of dates with vegetation sprouting over her shoulders. She is wearing a plain garment with a cloak draped over her shoulder (Aruz 2003: 77, cat. no. 36). The style is similar to the female figures, possibly priestesses, on a plaque of the same period. Her crown consisted of sprouting plants between two horns. A rather interesting cylinder seal from Tell Suleimeh in the Hamrin clearly depicts a harvest festival: the goddess is wearing a horned crown with a plant in the centre, she holds a plant with one hand and drinks from a tube. Her throne seems to be made of a human figure holding what looks like a bundle of straw and bending over a hay stack (Al-Gailani Werr 1992: 11, 14). The same type of horned crown can be seen on a fragment from the Stela of the Vultures which shows a goddess wearing a similar crown (Winter 1985: 13, fig. 3). The horned crown that in later periods developed into multiple horns and became the distinctive feature of the gods may have had its origin as a fertility and agricultural symbol.

However, unlike later periods where dress and crown separate the gods from mortals, in the Early Dynastic period, deities had similar attire to that seen on mortals, the vegetation goddess already mentioned is wearing a similar plain garment beneath a cloak draped over her shoulder like the priestesses on the limestone plaque (Aruz 2003: 74, cat. no. 33). Deities also wore the flounced garments worn by worshippers–the Suliemah seal is one example. The best representation of a male deity is on the Stela of Vultures, where the god Ningirsu is wearing a plain skirt with two thick folds in the centre (Winter op. cit.).

THE AKKADIAN PERIOD

Politically and linguistically, the Akkadian Dynasty is not Sumerian, but their influence on dress was so profound that their dress became the classical and predominant style in the following periods. In the first stages of their rule, Akkadian kings continued dressing in Sumerian dress and then gradually developed their own style, which consequently became the prevailing style of dress for the rulers of Ur III and later the Babylonians. Like the earlier period, our knowledge of Akkadian dress comes mostly from royal monuments and cylinder seals.

On a diorite stele, King Sargon is dressed in a Sumerian military uniform similar to that of King Eannatum on the Stele of the Vultures: a fleeced garment covering the right shoulder. He is bearded and his hair is gathered in a royal chignon, a continuation of the tradition from the Early Dynastic period (Aruz 2003: 192, fig. 54).

This military uniform must have been much prized because Naram-Sin of Agade is wearing similar attire on a victory stele, although the carving of the fleece here is more refined due to either a different type of garment or the change in carving technique. However, on his famous victory stele (Aruz 2003: 196, fig. 59), Naram-Sin is wearing the new type of dress–a short kilt with a sash/shawl covering one shoulder and falling down to his knees (see Figure 10.9 this volume). This form of dress was developed and later adopted by the Babylonians. The wrapped kilt is seen best on the Old Babylonian 'figure with mace', a popular motif on many cylinder seals (Collon 1987: fig. 1, 166–167).

The warriors on the Naram-Sin stele (Figure 10.9) are also wearing a type of short kilt with a shawl draped down the front. A better example of the short skirt/kilt with a draped shawl is the soldier in the central register of the fragment of a stela attributed to King Rimush. However, the sash/shawl may have been introduced earlier as a suggested by fragments from another stela where the warriors also have the shawl draped down over a fringed skirt, a remnant style from the Early Dynastic period (Aruz 2003: 192, fig. 54).

The lower part of a diorite statue of King Manishtushu shows a new style of civilian dress which is a long garment wrapped around the body with a fringe on one side. The fringe is very well executed with particular emphasis on the details. Although, the polished surface is very smooth, the slightly raised folds indicate the soft cloth of the garment. The fringe is made of a repetitive pattern, well executed with knobs and tassels (Aruz 2003: 193, fig. 56).

At the beginning of the Akkadian period, the kings' headdress, like their attire, was still following the style of the Early Dynastic period: Sargon on his stele is bearded and the hair is tied into a chignon, reminiscent of Eannatum on the Stela of the Vultures (Figure 11.2). The soldiers behind him are beardless and bare headed. On another stela,

soldiers are seen covering their heads with narrow helmets, possibly made of leather (Aruz 2003: 201. cat. no. 129a, and 204, cat. no. 131). A recent discovery from Tell al-Baqarat in eastern Iraq of a fragment of a stele depicts a helmeted soldier. On the basalt stele, Naram-Sin has an elaborate long beard and wears a conical brimmed cap/crown decorated with horizontal lines. What is left of the hair indicates that it was gathered into a chignon (Aruz 2003: 203, fig. 130). On the Louvre stela, he is wearing a unique crown, a horned helmet, a symbol of divinity–Naram-Sin considered himself a god and king (Aruz 2003: 196, fig. 59)

Most of the evidence for Akkadian dress comes from royal personages on commemorative monuments where ordinary citizens are seldom represented. One unusual cylinder seal in the British Museum shows male figures wearing a variety of styles (see Figure 16.3a and b this volume). The seal belonged to Kalki the scribe, the servant of Ubil Eshtar, the central figure on this seal, a high-ranking official indicated by the flat cap, short beard and with his hair gathered at the back into a bun. His short fleeced garment is worn over one shoulder, leaving the other shoulder bare. Two figures stand in front of him, possibly his attendants–the first wears the short wrapped kilt and shoes with upturned toes. This is a rare example of shoes depicted on a cylinder seal; another seal also in the British Museum (Collon 1982: 213, pl. XXXI), depicts a nude hero wearing boots from the Diyala region and dating to the ED period. A further example is the Proto Elamite horned demons who also wear boots with turned up toes (Aruz 2003: 46–47, pl. 15a and b), otherwise, all figures, male or female, are seen with bare feet, due perhaps to the religious nature of the representations.

The main figure's uniform on the Kalki seal and the weapons he is carrying could be an indication of his position which in our modern language may be that of a bodyguard. The dress of the second and fifth figures is similar to Ubil-Eshtar, but being of lower rank they wear no caps and their hair is left loose. Kalki, the owner of the seal, must be the figure behind Ubil-Eshtar, he is beardless and bare headed, wearing a plain knee-length fringed garment that covers one shoulder and part of one arm. This style of outfit with slight variations is the predominant one to be seen on most ordinary Akkadian men, a tradition that continued for several centuries to the Old Babylonian period (see below).

A good example of this basic style of worshipper's dress which was adopted with little variation is best illustrated on a reused lapis-lazuli seal from Tell Suleimeh. Little of the original Akkadian scene has survived (the hoofs of a goat or bull), the original inscription had been erased and replaced by an Ur III one and second smaller writing was added by his son. It is the worshipper who has kept most of its original features with few retouches to give it the appearance of the contemporary Ur III period (Figure 19.6).

Women's dress

The Disk of Enheduanna, the daughter of Sargon, illustrates the dress of a prominent female in the earlier phase of the Akkadian period (Figure 12.1). She is wearing a brimmed cap seen earlier on the priestesses of the Early Dynastic period (see above). Her garment consisted of several tiers of flounced material, a type that from the Akkadian to the Old Babylonian periods was the traditional style for the gods.

The female figure was not as popular as the male, but enough examples occur on seals to give a good picture of feminine fashion. Like the male dress, it is the fringed

Figure 19.6 Ur III impression of cylinder seal (Tell Suleimeh 222.IM 83701)

garment that was the prevailing fashion. This is best seen on a worn seal in the British Museum depicting what appears to be a domestic scene of four females, a mother seated with her child on her lap and an attendant (servant) whose chest is bare and who wears a long fringed skirt. The other females are wearing the long fringed garment with one bare shoulder. All have the same hairstyle, a band round the head holding the long hair at the back in a bun (Collon 1982: pl. xx, 142). Another seal from the Borowski Collection, executed in the best Akkadian classical style, shows an enthroned mountain goddess receiving another goddess who is leading a female worshipper wearing a long pleated garment made of two layers and showing one bare shoulder. Behind her is a female attendant who is wearing the common fringed garment (Figure 19.7). Both females have a similar headdress to the previous seal–a headband that holds the long hair into a bun.

The dress of the gods

By the Akkadian period, representations of deities, particularly on cylinder seals, were common. There is a rich variety of dress represented. Two main styles of dress can be identified as associated with the gods: the long multiple tiered flounced garment draped over one shoulder, and occasionally a flounced skirt. The pleated or seriated long skirt is the other type of dress. All these styles are best seen on one seal in the British Museum (Figure 19.8; Aruz 2003: 213, cat. no. 139).

The multiple horned crown is the standard headdress, the definitive symbol of divinity, for both male and female deities. The male hair style is similar to what a number of the rulers were wearing, long and tied at the back to a chignon, while the female deities had their hair loose falling down their shoulders and back.

Figure 19.7 Cylinder seal impression of Akkadian presentation scene of females, BLMJ 2785 (courtesy of the Bible Lands Museum Jerusalem. Photographer: H. Hinz)

Figure 19.8 Impression of Akkadian greenstone cylinder seal (the 'Adda Seal') showing a number of gods, *c.*2300 BC (British Museum 1891, 0509.2553. Photo © The Trustees of the British Museum)

THE AGE OF GUDEA AND THE UR III PERIOD

During the last phase of their political and cultural power, the Sumerians followed the fashion already devised by the Akkadians. Again our knowledge comes mainly from royal monuments. Unlike the previous period, the Sumerians seem to have limited themselves to one style best typified by many of the statues portraying Gudea, the ruler of Lagash. On his statues, whether seated or standing, he is wearing the long fringed wrap-around garment covering one shoulder, while leaving the other bare (Figure 19.9). The edges are decorated with tassels (Aruz 2003: 431, cat. no. 307). On most of the statues he is beardless and wearing a broad brimmed cap decorated with possibly embroidered curls. Similar wide brimmed headdress is worn today in Iraq particularly in urban centres, and it is always has a special embroidered pattern. It is tempting to think it is a remnant from the Sumerian period. Certainly Iraqi archaeologists when describing or discussing Gudea's headdress use the local Arabic term *charrawiya*–a cotton cap and a cotton square of decorated cloth folded and wrapped round the cap to form the brim. During the late Sumerian period and the following Old Babylonian period, it became the classic cap worn by royalty: Ur-Nammu on his stela and later Hammurabi on his Law Code is seen with such a cap. The brimmed cap was always worn by the 'figure with mace' seen on numerous cylinder seals (Collon 1987: 149, fig. 646).

Figure 19.9
Statue of Gudea of Lagash, *c.*2150 BC (Telloh, Louvre Museum. From C. Gates, *Ancient Cities*, second edition, Routledge, 2011. Courtesy of the author)

Ur-Nammu on his stela is wearing the long fringed garment, is bearded and is wearing the brimmed cap. One difference from the portrayal of Gudea, Ur-Nammu is depicted on the third register wearing a necklace (Aruz 2003: 444. cat. no. 317; also, 445, fig. 109 a and b).

Gudea, on his stela, is beardless and bareheaded, and wears the long fringed garment (Aruz 2003: 437, cat. no. 311). Ordinary male worshippers are also depicted in similar dress. It is possible that by this period both royalty and the rest of the citizens had one style of dress. The style is similar to the dress worn by worshippers of the Akkadian period with some refinements. One lapis-lazuli cylinder seal from Tell Suleimeh in the Hamrin, originally cut in the Akkadian period and then reused in the Ur III period, illustrates this (Figure 19.6). Part of the scene was erased to make a space for the inscriptions. However, there was little alteration to the figure of the worshipper because of the similarity in the style of the dress in the two periods.

Female representations are rare in this period. The upper part of a small statue from Tello (Aruz 2003: 436, cat. no. 310) shows a female wearing an inner garment with a decorated edge just below the neck, a shawl with similar decoration to its edges is draped over it covering both shoulders, the back shows the two ends of the shawl crossing over. The statue is broken at the waist, making it difficult to ascertain the length of the garment. It is similar to another statue of the same period, also broken at the waist (Figure 19.10), which wears a necklace made from five rigid hoops, a headband round her forehead, and the hair is pulled to the back and gathered into a chignon.

Figure 19.10
Ur III statue of a female (possibly the wife of Gudea?), *c.*2120 BC (Telloh, Louvre Museum AO295. © RMN-GP (Musée du Louvre)/Les frères Chuzeville)

Deities follow the style already established in the Akkadian period: the male gods are depicted with long elaborate beards, their hair drawn back into a chignon and the horned crown consists of four pairs of horns crowned with a 'blob'; the hair is probably made into plats then gathered into a chignon. On the Gudea stela, they all wear long flounced garments covering one shoulder (Aruz 2003: 437, cat. no. 311). On the Ur-Nammu stela, the principal god and goddess are dressed in similar attire, consisting of the flounced garments and the horned crowns. The two goddesses on the second register wear the pleated long garment (Aruz 2003: 443–446, fig. 109b). The pleats may indicate the dresses were made of soft material. On a water basin dated to the time of Gudea, the water goddesses are shown wearing long garments decorated with undulating lines. They may have been pleats, but cut deliberately into wavy lines to represent water (Moortgat 1969: pl.188).

NUDITY AS FASHION

On many of the religious or mythological scenes across the span of the Sumerian period, nude figures occur performing various duties. On the Warka Vase they are the bearers of food (cf. Figure 10.1 this volume.) A broken, damaged and partly worn stela acquired by the Iraq Museum in 2004 and said to come from southern Iraq in the vicinity of Ur depicts festive activities (Figure 19.11) On the front face, the bottom three registers are rows of vessels, maybe containing food and drink, above them are four seated figures performing domestic activities. On the register above are three figures: one standing placing both his hands on a large round object, opposite a seated women with raised hands and behind her is a second seated figures who is holding stick-like objects in his raised hands, giving the impression that he is shaking them. It is possible that they are musicians: a drummer, a singer accompanied by a musician. On the register above, which is slightly worn, is a row of dancing nude figures. On one side of the stele are four registers of pairs of dancing figures: one is nude and the other wearing a short kilt. All this is taking place by the river where fish, tortoise and a duck can be seen swimming. Is this Early Dynastic stela an early example of landscape design?

Nude figures appear in fighting scenes usually in combat with beasts (lions) defending domestic animals (goats or gazelles), a popular motif from the early Dynastic period on cylinder seals, and continue to the following periods. In the Akkadian period, in addition to the nude hero who by this period acquires his classic characteristics: long curly hair that falls down to his shoulder and a tasselled belt (Aruz 2003: 217, cat. no. 146). A similarly clad figure appears as an assistant to the gods, particularly the water god Enki (Ea) (Aruz 2003: 215, cat. no. 141). Nudity played an important part in religious and ritual ceremonies, possibly representing a particular class of priesthood, and it also was the uniform for aides of the gods. An Early Dynastic copper statue (a valuable and scarce mineral in Mesopotamia) of a nude figure may illustrate the important position of such a person, a class of priest in the temple. Here he is performing his duty carrying a box-like object on his head (Aruz 2003: 79, cat. no. 38).

By contrast prisoners are also represented nude on the Standard of Ur (Figure 19.5), and later on a number of the victory stele as fallen enemies (Figure 10.9). Here nudity played an important role in humiliation of the enemy, portrayed stripped of dress.

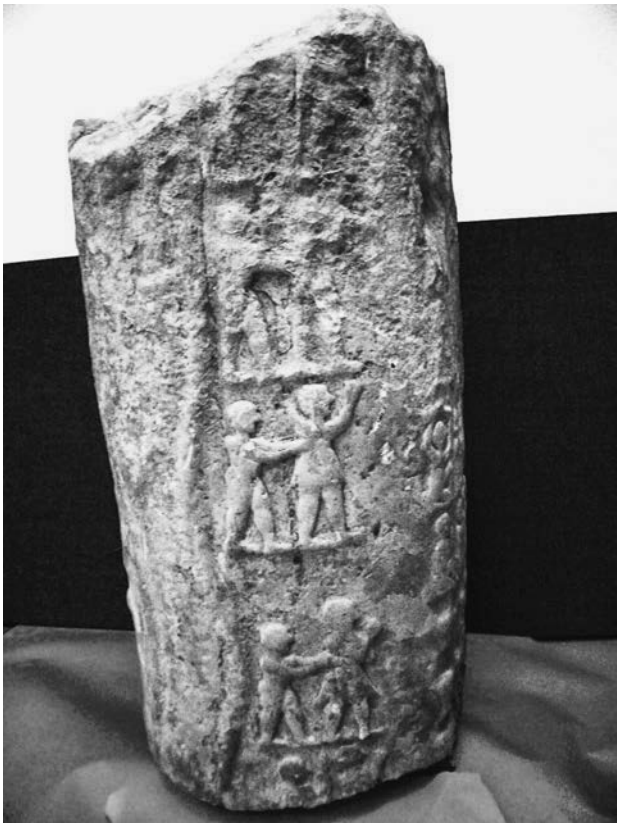

Figure 19.11
Early Dynastic stele in the Iraq Museum (unprovenanced)

CONCLUSION

Sumerian fashion was varied and differed throughout the Protoliterate, Early Dynastic, Akkadian and Ur III periods. It was the domain of the elite and the ruling classes. They were the first to assign certain styles (uniforms) to particular official positions both military and religious. Dress differentiated between mortals and divinities and between Sumerians and people from neighbouring regions. In matters of dress, the Sumerians were the style setters of the ancient world, in the same way as Western dress dominates the world today.

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CHAPTER TWENTY

SUMERIAN AND AKKADIAN INDUSTRIES: CRAFTING TEXTILES

Rita P. Wright

Roger Moorey's *Ancient Mesopotamian Materials and Industries* (1994) and Dan Potts' *Mesopotamian Civilization: The Material Foundations* (1997) are the basic works on Sumerian craft industries. Moorey provides a comprehensive discussion of crafts throughout the greater Near East from the prehistoric (Aceramic Neolithic) to the historic (Early Dynastic to the Achaemenid Persian), detailing stone, bone, ivory, shell, ceramics, glass working, metallurgy and building crafts but not textiles. Potts has a brief section on textiles among many other crafts. The goal of this chapter is to partially restore a place for the textile industry by offering a view restricted to southern Mesopotamia and the third millennium BC with occasional references to textile production in earlier periods.

Agriculture and pastoralism were at the center of the Sumerian economy and critical to the development of the textile industry. Situated on an alluvial plain, the civilization lacked important natural resources such as stone and metal, but was a prime location for cultivating wheat and barley and herding sheep and goats. The Sumerians successfully parlayed these agricultural and pastoral products into a number of productive industries that provided the goods necessary to acquire the resources it needed. Agricultural and craft workers were remunerated with barley and wool, as well as textiles and land in some cases. A system of taxation, referred to as a *bala* tax (Sharlach 2004), which may not have been instituted until the Ur III period, brought in additional revenue based on the annual harvest.

In addition to these primary products, Sumerian farmers developed secondary products. Barley, wheat and grapes were brewed into beer and wine and sesame into oils, animals for dairy products and the development of special breeds of woolly sheep and the production of textiles. These two products, wool and textiles, were critical to internal exchange and to foreign trade from which stone and metal were procured. In a later section of this chapter, "Redistribution, commercial exchange and reciprocity," these exchanges will be discussed in more detail

An account of the textile industry calls upon a number of sources. Its investigation normally begins with the examination of textiles left behind in excavated contexts in order to determine production techniques and function. Unfortunately, due to poor preservation conditions in southern Mesopotamia, there are very few cloth remains with which to undertake such a study. Our major sources from which to observe textile production are the representations of clothing on humans and gods and goddesses

depicted on statuary, engravings on seals and sealings, and art works. For reconstructing the production process, analogies can be drawn from modern practices in which similar technologies are employed and that can be correlated with extant artifactual evidence. Finally, a major source is the texts kept by a number of institutions (royal, temple, private estates, and even a few private letters) in which details of production and function are recorded. I have included a section on household production based on the limited available evidence.

THE CLOTHES THEY WORE

Wool and textiles were essential parts of Sumerian life and touched on virtually all aspects of its social, political, economic, and religious functions and at all levels of society. Specific garments, grades of wool and textiles were reserved for royal and temple personnel and public displays in ceremonies and feasts. People in lower echelons were provided with cloth of coarser varieties and at lower levels of quality. Textiles, therefore, were emblems of status and were not only worn but also displayed in the form of tapestries and rugs that hung on palace walls (Postgate 1992: 143). Among their uses beyond the internal and foreign economy, they cemented marriage agreements, established alliances between governments and cities and rural areas, and were gifted to others on certain occasions.

Lists include an array of types of cloth that were for different functions. Some were hand-loomed, plaited or fleeced. Robes and garments were woven of linen wool; wool was made into saddle cloth, shaggy garments, headbands, headdresses, loincloths and menstruating garments, menstruating bandages and underwear (for clothes cf. al Gailani this volume). Pomponio translates terms "rag, sanitary towel," as a textile in poor condition (2010: 193). Other categories into which cloth was graded were sumptuous, best, third and fourth grade and sizes that were small, middle, and large (Kang 1973: 297ff.; Wright 1996).

There was a darker side to woven cloth, however, observable in the texts that recorded the circumstances under which it was produced. The term "workshop" is usually applied to the industrial quarters where the textiles were produced, although no place of this kind has been discovered in excavations or surveys. In any event, production took place among teams of workers, some of whom were local citizens, while others were indebted or purchased persons, or prisoners of war. Some were conscripted for seasonal labor *corvée* service, while others were permanently attached to the organization (royal, temple or private estate), where the textiles were being produced. Although we do not know the precise conditions under which the producers worked, many attempted to run away, suggesting that conditions were not good. More on this will be discussed in the later section "The organization of production."

BASIC RESOURCES: WOOL AND LINEN

Among the cultures contemporary with the Sumerians, other plant fibers were used, such as cotton, hemp, and jute, but outside of reeds and palm, there are no records for the use of any other fibers in Mesopotamia. The two basic ones used for Sumerian textiles were from the wool of sheep and from flax for linen. The uses of plants and animals for these purposes are considered secondary products. Andrew Sherratt (1981)

hailed the development of special breeds for wool as significant a technological advance as domestication, as they made possible new production technologies and potential reorganizations of labor. In Sumer, the shift to wool catalyzed "the initial development of large textile workshops and the labor class" (McCorriston 1997: 518).

Linen

Linen fiber is produced from the flax plant and is known as early as 8000 BC. The discovery of a linen textile at the site of Nahal Hemar in the Judean desert in Israel was the first evidence for this use (Schick 1988). From the Neolithic on, flax continued to be processed into fiber at sites in the Levant and in Turkey, but it was not until the Ubaid period, 4500–4000 BC that the use of linen for textiles is attested at the site of Tell Ouelli.

By the third millennium, wool had overtaken linen in the production of textiles when only about 10 percent of Sumerian textiles were made of linen. Joy McCorriston (1997) has suggested that the shift to a greater dependence on wool may have been the result of the limitations on available agricultural land that needed to be well-watered and labor requirements necessary to process flax into fiber when compared to wool. While the amount of land required to produce flax is lower than wool, it requires prime agricultural land and high labor expenditures. Sheep herds, on the other hand, can be pastured on marginal lands and labor expenditures are lower.

In spite of these economic differences, linen cloth continued to be produced in Sumer. Fabric and garments made of linen were restricted to elite clothing and a variety of accessories to be discussed later (Waetzoldt 1983: 2010).

Wool

The use of sheep for meat and wool has a long history in the Near East. Zooarchaeological and genetic evidence indicate that sheep were domesticated sometime around 9000 BC (11,000 and 10,500 cal. BP) throughout a region that stretched from Iran to Turkey (Zeder 2008, 2009: 37). When and where special breeds of sheep for wool were developed is less certain. Although spindle whorls were discovered in contexts dating to around 7000 BC (9,000 cal. BP), it is unclear whether they were for spinning linen fiber or wool. The overall size of the whorl, the perforation at its center and its weight differ depending on the fiber being processed (Parsons and Parsons 1990; Kimbrough 2006). Studies of this kind have not been done on the whorls, so it remains uncertain as to whether they were for spinning wool or linen. The methods used to determine these differences will be discussed later in the section "Tools of the trade."

In Sumer, references to sheep herds in the Archaic texts that date to the Late Uruk period (Green 1980: 8) suggest that by the fourth millennium sheep herds were a major focus of the Sumerian economy. There is no direct evidence for the presence of wool-bearing sheep in the south during the Uruk period, although they are present in the upper Euphrates (Algaze 2008). Certainly, by the Early Dynastic and Akkadian periods, the presence of wool-bearing sheep in large herds had come into its own.

By Ur III, textile production had become an industrial activity. Standardized qualities for wool were established, earmarked for specific fabrics, and recorded by

weight sufficient for certain types of garments (Pomponio 2010; Waetzoldt 1972, 2010). The wool standards and others for finished cloth were essential in order to produce textiles that were suitable for garments with which to honor its gods, to adorn royalty and other elites, to bring together large teams of laborers, and to establish networks of inter-city and foreign exchange.

In one Ur III text, 2,259 sheep were recorded as having been brought in for what today would be sheep shearing, but in Sumerian times amounted to plucking. Until shearing implements were invented, the wool was hand plucked from the animal. Based on a text from Girsu (in Lagash province) in Ur III, Dan Potts notes that on a single day 2,259 sheep were plucked (Potts 1997; Waetzoldt 1972: 24). He calculated that over a three-month period 203,310 sheep would have been plucked in Girsu alone. This amount accords well with other Ur III texts in which 375,000 kg of wool from fat-tailed sheep were recorded. "Based on the average yield per animal of 0.7 kg" (1.4 *minas* in Mesopotamian weight calculations), this would come to "roughly 535,714 animals" (Potts 1997: 93).

Most of what we know about shepherds and herding of sheep is from records of animals brought into the city of Umma. Different breeds of sheep were recorded and sorted by quality. In a fifty-seven-year span at Umma, there were 380 individuals identified as shepherds. Fat-tailed sheep were the highest quality and ranked as first and second class, while highland mountain sheep were ranked third, fourth and fifth class. An additional grade was referred to as common, the coarsest wool. Pomponio, however, refers to a text from Umma in which "wool of mountain sheep" were considered the "most prized wool" (2010: 194). All of these matters and others were subject to strict accounting, especially in the texts in question, where the herds were being monitored by the central administration. As animals were brought into the city, they were fed on grass and in fattening pens where they were provisioned with grain and reeds. Robert Adams suggests that about twenty-five shepherds operated at any one time (2006: 150). Based on the numbers of animals recorded and the estimated herding ability of a single shepherd, Adams calculates that the number of state administered herds may have ranged as high as 10,000 in Umma province. In distinction, in nearby Lagash, the much higher number of 66,095 for fat-tailed sheep (Adams 2006: 151) attests to its larger textile industry.

FABRICS AND THEIR USES

As noted, most textiles were produced from wool, rarely flax, with the exception of the fabrics for royalty and the gods. Our knowledge of the fabrics and garments produced during Sumerian times is based principally on depictions of humans and gods on seals, statues, plaques, and textual sources. In the following, the kinds of garments worn are traced over time inasmuch as this is possible.

In the Early Dynastic period, women and men depicted on statuary wore similar garments to which embellishments were added depending on the sex of the wearer. These garments were either a plain weave in which long fringes of fleece were woven into the fabric or a sheepskin worn with the fleece side shown. It probably is the garment most representative of rank and status, as it is shown most often on gods and goddesses and priests and priestesses (Winter 1987). For women the cloth was draped over the left shoulder. It could be covered with robes or capes that had fringes or hems

(Baadsgaard 2008: 293). Women wore them ankle length while men wore kilts that extended to the knee. Men sometimes wore a sash over one shoulder.

These basic styles were embellished with decorative elements and patterns. Military uniforms which are visible on the "standard of Ur" (Postgate 1992: 246, fig. 13:1), a plaque discovered in a burial at the Royal Cemetery at Ur, depicts a military scene showing rank-and-file soldiers in distinctive uniforms. Men wear kilts with a long wool fringe. Over the kilt they wear a cape of either cloth or sheepskin and a helmet of similar materials. The cape has a neck clasp and holes perforating the cloth at intervals, either to serve as decorative elements or an unknown function. Other military personnel, cart drivers, also wore a fringed kilt and helmet but instead of a cape, sashes were thrown over their left shoulders. Finally, Audrey Baadsgaard (2008) refers to the most distinctive fashion as "unclothing," the nudity, depicted on priests, male workers and prisoners of war.

Our view of the production of fabric and garments from this period comes on the heels of a major transition in Sumerian society, when southern Mesopotamia was centralized under the Akkadian dynasty and additional changes in the control of wool, garments, and cloth production took place. In this period, many of the garments worn in the Early Dynastic period continued to be depicted in imagery but new forms were added. Benjamin Foster has identified four different types of garments. One is the "flounced, fleecy, tiered, ruched, ruffled, stripped, plissée or tuyautée" (2010: 123) garment worn by gods and goddesses and already known in the Early Dynastic period. A change, however, is the depiction of king Naram-Sin (Foster 2010: fig. 7.2; Winter 1996) wearing this garment, signaling his apparent desire to be considered a god. Alternatively, wearing the garment could signal his participation in a festival in which he impersonated a god; for example, in the sacred marriage of the god Dumuzi to the goddess Inanna.

A second type of garment was a skirt worn by women and a kilt by men, again similar to the dress of the Early Dynastic but with added details. The garment was made into a single rectangular piece of cloth (or a sheepskin) and finished either with a rolled edge or a long fringe of fleece. Rolled cloth or ribbons may have helped to secure the garment. This was accomplished either by rolling the upper edge or securing the garment with a girdle or sash-like waist piece with a fringe that hung at the back (Foster 2010: 125, figs. 7.3, 7.4). This garment was worn by elites and non-elites. In texts it is referred to as "worn at the middle/waist" (ibid.: 129) and weighed 1.5 kg. It also could be worn with an additional garment made of linen that was wrapped over the skirt or kilt. At religious festivals, women of high status wore this skirt with a linen outer wrap. Males who wore the kilt also appear to have worn an outside cloak, referred to as *bar-dul*$_5$ (see below) in the Ur III period.

A third type is a plain cloth with finished bands or fringes along its edges (ibid.:126, fig. 7.5). On statuary it appears as a smooth fabric (therefore, woven in a plain weave), but this could be deceptive, since the undraped surface may be an artistic convention. What distinguishes this garment is its large size and the finishing work of tassels, fringes, rolled fabrics or ribbons and possible embroidered edges. The fabric was produced in the form of a rectangle and worn with the long end draped across the left breast and shoulder and wrapped around to the right hip, perhaps twice. The waist was secured with rolled material, possibly ribbons, and could be worn knee or floor length (for women).

A fourth type was a simple toga style that Foster believes was an innovation that enjoyed "a vogue at court." It most likely was brought about based upon garments seen during conquests. In Sumer, it was worn by local notables (ibid.: 128, 134, fig. 7.11) for a more cosmopolitan look. Like the garment just described, it was a large full-body cloth worn exclusively by men, draped over the left shoulder with a fringe running vertically from top to bottom. The word used to describe this garment is translated as "over the heart" (ibid.: 133).

The Akkadians wore a number of different accessories with these garments and some kept large quantities of cloth for their wardrobes. The sashes known from the Early Dynastic period became more elaborate. For men, they were worn at the hip, loins, and waist, as shawls, and as a kind of undershirt. They were fringed, folded, and possibly embroidered (Foster 2010: figs. 7.12–7.14). It too could be worn with a wrap-around cloak. One official left a sizable number of garments at his death. These included eighteen pieces of cloth or clothing, "twenty bolts of woolen cloth and thirty bolts of linen cloth" (ibid.) a sizable cache of luxury goods.

In the Ur III period, the texts take over and provide details regarding the quality standards applied to wool and to finished cloth. During this period, and most likely these standards differed in specific cities and from one period to the other, there were five qualities that ranged from first to fifth and an unclassified wool (Waetzoldt 1972). What did not change was the relationship between quality terminology and the status or roles of the individual who wore them. Garments made from the two or three best-quality wool were restricted to the royal family and other elites (Waetzoldt 2010: 201), for example.

There is a correlation between the value accorded the cloth, the status of its owner and the different terms used for fabrics. Most fabrics were produced in a balanced weave in which the ratio of warp (vertical threads) to weft (horizontal threads) was equal. This type of plain weave is the most common. Other factors included wool weight and size of the garment. The six fabrics listed in Table 20.1 define specific types of cloth. Rather than use the Sumerian names (also listed), they are designated as Types 1 through 6. These fabrics were used for several different types of apparel that included capes or shawls that wrapped around the shoulder (*túg gú-è*); caps (*túg sagšu*), loincloths, skirts or kilts (*tug šà-ga-dù*); a coat or a long cloak (*túg bar-dul5*), and a heavy coat or a long cloak (*túg mah*).

The most "highly regarded cloth was from Type 1 (*ba-tab-du$_8$*). The high weft to warp ratio suggests that several weft threads were woven at once, perhaps creating a twill-like pattern. Type 3 (*ni-lám*) may have been the next best for opposite reasons. This cloth has a ratio of warp to weft that is just about equal, thus producing a finer cloth but one that was not very thick, since it weighed in at 333g. Although size is rarely given, they were between 3.5 and 4 meters and as much as 4 meters wide, even up to 6.8 meters that could be used as a wraparound garment. Type 2 (*guz-za*) cloth has a high warp to weft ratio, possibly the type of shaggy cloth referred to as "flounced and fleecy" earlier. Type 5 (*bar-dul$_5$*) has a warp to weft ratio that is just about even, a plain woven fabric of light weight that could be produced from the finest or coarser wool. Type 4 (*tá-ki-ru-um*) appears to have been a specialized cloth produced at Ur and in Garshana that may have been for deities. Finally, (*túg-mug*) Type 6 was a thick weft-faced cloth and of a lower quality.

Colors were recorded for different garments along with the cloth and wool quality as noted in Table 20.2. The table is based on the colors, uses, and recipients of garments.

Table 20.1 Ur III – ratio of warp/weft, size, weave, wool quality, time spent in production

Types	*Possible garments*	*Warp/weft*	*Weight*	*Length/width*	*Weave*	*Size/time*	*Wool quality*	*Notes*
ba-tab du$_8$–khu-um Type 1	Wrap-around garment, cape/shawl for the shoulders, loincloth/skirt/kilt, cap,	1 to 4.27			Twill or rep weaves		Very good	240 days (2nd quality), 480–960 days (1st quality); Völling (2008) cites this as most commonly found in excavated contexts
guz-za Type 2	Wrap-around garment, cape/shawl for the shoulders, possibly a shaggy cloth	1 to 5, 1 to 4, 1 to 4.2	1.7–3.35 kg	3.5 × 4.5 m, 4 × 4.5 m (occasionally 6.8 × 4.5 m)		0.5m/day	4th class	7 days (4th quality)
nì-lám Type 3	Wrap-around garment, cape/shawl for the shoulders, loincloth/skirt/kilt, cap	1 to .094, 1 to 2.25	333 g	3.5× 3.5 m, 4 × 3.5 m, 4.5× 6 m, (occasionally 7.5 m length)	Plain (balanced) weaves	0.25m/day	Best	For the king's bed
tá-ki-ru-um Type 4	Wrap-around garment cape/shawl for the shoulders, cap	No wool recorded	2.6–3.5 kg	2.59 × 1.25 m (small)				Ur-centric, Garshana; deities could be gifted them
bar-dul$_5$–U$_2$ Type 5	Coat or long cloak	1 to 1.25	.604–1.8 kg	up to 4 m (L)	Twill or rep weaves		Very good	1,080 days (1st class), 77 days (5th class)
túg-mug Type 6	Heavy cloth or carpet?	1 to 5, 1 to 7; weft-faced					Very cheap	

Table 20.2 Colors, uses, and classes

Color	*Use*	*Technique*	*For whom*
Light or white	Garment or fabric	Woven	Various
Dark or black	Garment or fabric	Woven	Various
	Lowest quality wool	Woven	M/F slaves
Multicolored wool	3rd/4th quality wool*	Woven	Upper classes
Shiny yellow	Finest quality garment	Woven	King only
Reddish-brown	Shoes, sandals and belts	Braided	Unknown
Yellowish	Ribbons		Unknown
Greenish	Ribbons		Unknown
Multicolored	Ribbons		Lower deities
Black and yellow	Ribbons		Unknown

Of the colors listed in Table 20.2, 90 percent were light, white, black, reddish-brown, and multicolored. Shiny yellow was used to produce 1 percent of cloth and was exclusively worn by the king. For others in Sumerian society, the marking of color by social status was situational. White and black often were recorded at the end of lists, suggesting that the cloth might be less valued because it was listed in connection with persons of low status. For example, white fabric/cloth was listed for an old man and a water carrier, while black was given to 10 percent of men and women slaves.

In distinction, white, black, and multicolored garments were produced for gods or goddesses and used for dressing statues, suggesting that color could take on symbolic qualities under specific circumstances. In myths, for example, Dumuzi, the god of flocks, desired black and white, while the goddess Ninhursag wore a black garment. She was given black wool and had a heavy-black cloth made for the goddess Inanna. In the Enmerkar epic, the king specifically asked for a multicolored cape in an enactment of a sacred marriage which he wore in the role of Dumuzi, while Inanna wore a white garment. More powerful, however, was a black and multicolored garment that Inanna wore which was said to have "numinous powers," suggesting that under some circumstances gods became more powerful with colored garments (Waetzoldt 2010: 203).

Other fibers and fabrics

In addition to loom woven linen and wool, cloth was produced from a felting process. Felters (*Tu'g-du*$_8$) produced a special type of cloth that was made from wool and goat hair using a different process from loom woven fabrics. It came in different sizes and thicknesses and cut into appropriate pieces for various uses. Based on analogies with modern-day felting processes in Iran, Piotr Steinkeller has reconstructed the felting process based upon the raw materials brought into the felters workshop. They include various mineral and plant dyes, "powdered chick peas," flour, ordinary beer, "horned alkali," "pig oil," and "gold-coloured earth" (Steinkeller 1980: 96ff.). The pig oil, alkali, and beer were used for the final sizing of the cloth; the chemical dyes, as they are today, for motif designs composed of "colour patches of wool" that are pressed into felt" (ibid.: 99).

The uses for felt are described in some detail in connection with the production of different objects (ibid.). Among them were mattresses, which had been brought to a location where some were assembled and others cleaned (with an alkali). The fibers used were (ordinary) combed wool, goat hair and, more rarely, palm. Felted cloth also was used to produce clothing, including sandals and padding or lining of shoes. A special pair of shoes was made from fourth-class (the highest?) combed wool and third-class linen for "royal white sandals" (ibid.: 88). Other clothing included belts, caps, ropes, and rags. Several different types of accessories for furniture also were listed, including upholstery such as an armchairs and cushions for chairs; lining boxes, bronze objects, and other containers; mats and tablecloths and household needs. They included felt pieces for a bathroom, floor coverings, and ropes. Outdoor uses were for caulking boats and a lining for the "king's wagon" (ibid.: 87).

TOOLS OF THE TRADE

The production of cloth was a major industry. The extensive agricultural and pastoral economy provided the basic resources for a large-scale industry. In this section, the processes of production are outlined as much as possible given our sources. Some methods are introduced in order to further advance the study of production processes. Since most textile products were produced from wool, this chapter deals only peripherally with the processing of linen. The following main stages in textile production are based on modern studies of weaving, artifacts extant from excavations, and imagery on seals. Additionally, the textual sources outline aspects of the production process (Waetzoldt 1972), such as the following description from a workshop at Umma in the Ur III period (Waetzoldt 2010: 205):

1 *guz-za* fabric from fourth-class wool,
the mixed wool for it [weights] 4 kg,
1 woman cleans and combs 125 g in a day [and]
1 woman 'mingles' 1 kg in a day
the warp threads for it weighs 333 g [and]
1 woman spins 8.3 g strongly twisted threads [for the warp]
the weft threads for it weigh 1.66 kg [and]
1 woman produces 61 g [of them] in a day [for the weft]
[the] length [of the *guz-za* fabric is] 3.5m [and]
[the] width [is] 3.5 m;
3 women warp in 3 days [and]
2 women weave 50 cm in a day.

Plucking

The first step, not recorded in the above, obviously is in the collection of the basic raw materials, a matter discussed earlier in connection with the herding industry in the section "Basic resources." Plucking wool from sheep occurred twice a year, judging by the notation of "sheep-plucking shed" on the Mesopotamian calendar (Potts 1997). We have very little visual evidence in the form of artifacts or imagery for this process but based on analogy with current practices, the finest fleece would have come from the

outer coat of the animal where "springy wool" is found. This wool is the most easily spun. Two less fine types of wool are a medium-thick coarse hair that can be spun if mixed with wool (Barber 1991: 21; Kimbrough 2006: 29), and a type referred to as highly coarse. Without examples of Sumerian fibers, it is not possible to determine whether the highest qualities of wool described in Table 20.1 corresponded to springy wool and the lower grades to the medium-thick and coarse types at the lower end.

Cleaning, rolling, stretching the fiber

After plucking the wool from the sheep, additional steps were taken before it was ready for weaving. Although there are no images that show this step, based on current practices where it is carried out manually without the benefit of mechanized equipment as it is done in modern factories, this process involves cleaning the wool, combing it, and teasing it by hand (Ochsenschlager 1993), rolling and stretching the fiber (Breniquet 2010: 59, fig. 4.3). This is the "cleaning and combing" referred to in the records from Umma. Wool can also be carded by brushing it between tooth-lined boards (Kimbrough 2006: 37). Carding boards most likely would have been made of wood, and not preserved, if in fact they did exist in these early periods. This entire process is much more difficult with flax because the plant needs to be soaked, beaten, and scraped, then combed out (Forbes 1987: 152) and may explain why it was produced exclusively for cloth worn by higher status persons, gods, and goddesses.

Spinning

After preparing and cleaning the wool, the next step is to spin it into a yarn suitable for weaving. The purpose of spinning is to "convert a massive quantity of fiber into a stable yarn" (Wild and Rogers 2002: 11). This usually is done with a spindle consisting of a shaft and a whorl with a perforation near its center. The use of spindle whorls in the Near East stretches back to the Neolithic. In Sumer, there are images on cylinder seals from the Uruk period of women seated and standing while spinning (Breniquet 2010: fig. 4.4a–d). They are holding a stick that has rounded ends on both sides. The rounded end at the top holds the wool and at the lower end, the whorl provides the weight (Kimbrough 2006: fig. 2.3). The spinner holds the spindle with one hand while drawing and twisting the fibers with the other. This twisting process presses the fiber together and strengthens the thread, as in the "8.3 g of strongly twisted threads" for the warp and the 61 g for the weft for the *guz-za* fabric referred to above.

Round disc-shaped objects of clay and stone are often present in small quantities at archaeological sites. Many of them are misidentified as beads, when in reality they are spindle whorls (Liu 1978; Kimbrough 2006). Beads can be easily differentiated from whorls by their size. Beads usually are less than 2 cm in diameter and although some beads may be larger, they are rare. Therefore, a round object with a centrally pierced hole is more likely to be a whorl than a bead (Barber 1991; Forbes 1987).

Although whorls are an excellent source for determining the types of fiber spun, its fineness, and the quality of the yarn, they are rarely studied by Near Eastern archaeologists (but see Keith 1998; Kimbrough 2006). Archaeologists working in Mesoamerica have developed whorl typologies based on the weight of the whorl, the external diameter, and the perforation at its center. Finer yarns are spun with lighter

weights (Barber 1991; Brumfiel 1991; Costin 1993; McCafferty and McCafferty 1991; Parsons and Parsons 1990; Ryder 1983). Whorl diameter determines the quality of the yarn spun since a whorl with a smaller diameter spins faster and produces a tightly spun yarn (Kimbrough 2006).

Christine Kimbrough (2006) developed a typology based on spindle whorls from two archaeological sites in northern Mesopotamia. Three functionally related criteria were used. The overall shape of the whorl, whether it is round, discoid, bicone, etc. is the first criterion. The second and third are its overall diameter and weight ranges. For example, a disk-shaped whorl, with a diameter range of 4–6 cm and weight of from 25 to 55 g is best for producing a medium fiber or coarse thread. A bicone-shaped whorl with a diameter of 1–2 cm and weight of 4–17 g is best for fine/medium fiber and fine thread (Kimbrough 2006: 122). The ratio of whorl weights and diameters can be expressed on plots (ibid.: 134) in order to identify different types.

At the archaeological site of al-Hiba, Edward Ochsenschlager identified a number of hemispherical, flat-bottomed spindle whorls. Many of the whorls had minor imperfections, such as the skewed placement of the central perforation. He noticed that several village women were using whorls that they had picked up from the surface at al-Hiba. In spite of the somewhat random location of the perforation, the whorls functioned properly. He also observed a local woman spinning with a disk that was hand formed of sun-dried mud which she managed very well.

He established other evidence with respect to spun wool from cord impressions on the sealings of jars that he identified as two-ply and four-ply yarns at al-Hiba. The two-ply yarns also were found on fabric impressions observed on sealings and copper objects. There was an absence of loom weights that probably rules out warp-weighted looms at al-Hiba (Ochsenschlager 1993: 55).

Whorls, loom weights, heddles, and needles are found widely throughout Mesopotamia from earliest times and are an under-studied resource waiting for analyses with which to achieve a better understanding of the textile industry.

Dyeing

Dyeing usually takes place before the fiber is brought to the loom. In a village near al-Hiba, Ochsenschlager observed women dyeing wool by first soaking it in a warm solution of potash, a substance used as a mordant (1993). Mordants are necessary when plant dyes are used in order to fix the color in the yarn. In Sumer, there is very little evidence for the dyeing of fiber. Of the colors listed in Table 20.1, the white, black and red/browns most likely were naturally colored wools straight from sheep or possibly goat hairs, which could be mixed with wool. The multicolored fabrics listed in the Umma texts during the Ur III period and also at a royal estate near Nippur could be a combination of the naturally coloured yarns. The only exceptions are the yellow and green colors recorded during the Uruk period (Breniquet 2010) and the shiny yellow listed in Table 20.2. Although there are no references to materials used to dye fabric, the shiny yellow cloth produced especially for the king indicates that dyeing may have occurred in exceptional cases (Waetzoldt 2010: 202).

Warping the loom

The warping process prepares the yarn for threading it onto the loom. This process is depicted on a cylinder seal in which a person stands at a warping board (Wright 1996: fig. 3.2; Breniquet 2010: fig. 4.6a). Warping boards are rectangular with pegs on each side around which the warp is wound in order to keep threads in order. The warped yarn can then be moved to the loom without the risk of tangling its threads. The importance of this step is clear from the production of the *guz-za* cloth noted earlier. Imagine loose yarn threads that together are 3.5 meters wide and 3.5 meters long.

Horizontal and vertical looms

Sumerian weavers worked on a horizontal loom and possibly a vertical loom both of which are depicted on cylinder seals. The horizontal loom is shown on the same image as the warping board (Wright 1996: fig. 3.2; Breniquet 2010: figs. 4.6a and 4.9d). The horizontal loom depicted on the seal is similar to the one observed by Ochsenschlager at the village near al-Hiba (1993). It contained a beam at the upper and lower end (referred to as the breast and warp beams, or "weaver's beam and cloth beam" Waetzoldt 2010: n. 60). Posts driven into the ground secure the loom. In the village, cords were stretched along the length of the beams and used to hold the vertical warp threads. Creating a plain or tabby weave, the weavers pass the weft yarn back and forth over and under the warp threads, beating it back after each addition with a comb. When complete, the warp threads are bound with fringes or hems in order to prevent the cloth from becoming unwoven. A recently published text indicates that looms could be "more than 5 meters wide," which is not surprising considering the sizes of cloths listed in Table 20.1. Based on lists of wooden parts of a loom, some may have been more than 5 meters wide (Waetzoldt 2010: 208). The two beams, which constituted the main part of the loom, were up to 6 meters long and were fixed with ropes or woven ribbons (ibid: 208, n.60). This size is comparable to many modern-day mechanized looms.

Although vertical looms are not referred to in the texts during this period, there are images on sealings that Breniquet has identified as vertical looms (2010). The vertical looms are represented in unusual contexts. The seals were engraved in two registers and in one case there is a combat scene in the upper register and the loom and weavers in the lower one (Breniquet 2010: fig. 4.7a). In another, there is a banquet scene in the upper register (fig. 4.7d) and in the lower, men are depicted either working on or standing near what may be looms.

Fulling

Fullers were responsible for the finishing process. This occurs after the cloth is removed from the loom and involves "washing, bleaching, raising nap, trimming the surface" (Barber 1991: 216). The process is similar to felting but of a prepared cloth rather than raw wool or hair and is totally different from weaving. In Sumer fulling took place in separate locations from loom weaving. The work of fullers was labor intensive. In one record in a text from Ur, 5,800 pieces weighing 4,650 kg were brought for finishing. Potts estimates that it took 7.7 work days to treat 1 kg of finished cloth (1997: 95).

THE ORGANIZATION OF PRODUCTION: PALACE, TEMPLE, AND PRIVATE ESTATE

One of our best sources for the late Early Dynastic (ED IIIb) period is from the administrative records of the household of a ruler in Girsu during a twenty-year period (Prentice 2010: 3). This house was referred to as the *'e$_2$–MI$_2$*, translated as the "house of the woman." Later in the period, there were reforms in which such households were renamed for the patron saint of the deity of the city (*'e$_2$–^{d}ba-U$_2$*). In spite of this change, queens were the chief administrators of these houses and controlled substantial resources. Temples, such as the households of gods and goddesses, were powerful institutions and integral parts of the community (Postgate 1992). Prentice considers the "house" in Girsu as a physical entity based on references to specific locations in which projects were carried out (2010). Records from the archive provide us with an early view of the manner in which wool was processed into fabrics and garments, making its way through a complex bureaucracy. Beginning with this archive, we can trace the expansion of a tightly managed textile industry over the several hundred years discussed in this chapter.

From texts in the Early Dynastic period, records document an economy in which essential items were produced, stored, and redistributed (Prentice 2010: 14). A large number of occupations were listed that not only include craft workers but also boatmen, carriers, and food and drink processors (ibid.: 51). Among the textile-related crafts, there were fullers (three teams of 9 to 21 workers), felt makers (two listed), leatherworker (one person) and weavers. Weavers were employed in the production of fabric or garments (unspecified) and include women and children. They also worked as spinners and in food-related activities.

The production of woven textiles expanded during the twenty-year period documented in the archive. This growth is apparent when comparisons are made between the total numbers of individuals recorded (male and female) and the growth in the number of textile producers compared to the reduction of workers in other occupations. During the twenty-year period, the total number of workers increased from 159 to 229. Of these, the number of weavers increased from one-third to two-thirds of the total number of women and children that were employed throughout the year (Prentice 2010). These percentages are based on following the names of individual workers and are slightly different from previous interpretations (Maekawa 1980, 1987).

Weavers were organized in teams of ten to twenty, but the number and the composition of the weaving groups changed. The earliest documents recorded two teams, each of which was led by a male leader. In later documents four teams were listed, three of which were led by men and one by a woman, while the latest documents listed six groups, five of which were led by women and one by a man who had served as a leader when the first two teams were formed. Finally, some of the women were listed as "from former times" while others (about half) were listed as "purchased", that is, *sag sa$_{10}$* (Maekawa 1987: 53; Prentice 2010: 56). Purchased refers to the buying and selling of people, most of whom were local, though smaller numbers came from outside of Girsu. The increased number of women weavers was principally due to the addition of purchased workers.

A second group of women were spinners. Like the weavers their numbers increased over an eight-year period, reaching twenty-one (from an original five), consisting of

women from former times and ten that were purchased. Of the original number of spinners, one became a leader of the purchased women weavers (Prentice 2010).

The allotments provided for the weavers and spinners provide some measure of the value accorded the work of individual workers, their level of skill, and their craft. Compensation was in the form of barley rations in which the highest amounts were given to team leaders while team members received less but in differing amounts depending upon the amount of time an individual had spent in the craft; for example, weavers from former times may have been judged based upon their experience. Women workers in the teams who were purchased women received appreciably less than any others, with the exception of children and women described as assistants, who received the lowest amounts. The leaders of the spinning teams received compensation comparable to their counterparts in the weaving teams. The remaining spinners received the same low amounts as the purchased women weavers.

Finally, some workers were compensated with allotments of wool. Most women were employed on an annual basis and received the lowest amounts of wool rations, while male seasonal workers (who typically worked for three or four months) received the same compensation as the women. A small number of individuals in specific occupations, men and women, received finished garments produced from the lowest amount of wool. There is a general correspondence between the relative amounts of barley allocated by sex, age, and occupation and the amount of wool received.

The differences described among individuals and members of the weaving and spinning teams suggest that the allotment was a form of remuneration in which compensation was based on skill or experience and level of responsibility (Prentice 2010) The movement of a spinner to the weaving team as supervisor is suggestive of a valued skill. A weaver that moved into a supervisory role also received higher compensation. Prentice argues that the lower compensation of women weavers when compared to others that worked in menial, non-weaving tasks such as carriers who received more, was reflective of "performance of a service" (2010: 95), plain and simple. In that view, differences in amounts of compensation reflect the value assigned to the craft or activity, while differences in compensation within a craft appear to be related to skill or administrative capacity within a given profession. Finally, the status, sex, and ages of the workers ought to be considered. Clearly the association of the weaving groups, even given that many of them may have been "free" local citizens, worked side by side with purchased workers, reflecting the overall status of women and children within the workshop.

Unfortunately, it is difficult to follow the textile industry into the succeeding Akkadian period, as there are few references to workshops specific to weaving. One exception is a document from the Northern Palace at Tell Asmar that records rations for a team of 105 male and 585 female workers. Some of them are identified as *tug-ni,* a possible reference to textiles (Foster 2010: 119). Even in the absence of textual sources, we know that political unification of Sumer during this period brought about major changes in the organization of society. Most likely, state-organized workshops would have taken precedence over other institutions, although textiles continued to be produced on a smaller scale in temples and possibly at "private" estates. These changes also brought about visible ones in elite dress and in clothing styles, discussed in the section "Fabrics and their uses". The increased "international contacts, the influx of wealth, and the growth of a new class of notables and administrators directly

subservient to the king" also affected styles of dress that ultimately resulted in shifts in the organization of craft production and distribution (ibid.: 110). Rearranged hierarchies in leadership positions in individual city states based on the appointment of governors, newly acquired lands by the state and their distribution to an "entourage of followers" (ibid.: 116) would have increased the demand for textiles. With the influx of new technologies, it is reasonable to assume that the booty acquired from Akkadian conquests and the increasingly diverse population, new religious offices, and cultic practices would have required woven cloth and garments for political and ritual purposes. Finally, the influx of people with foreign names, many of whom were purchased or prisoners of war, provided a ready workforce for an increase in productive crafts and may have influenced new styles.

The lack of texts with references to textile production in the Akkadian is in stark contrast to its visibility in the following Ur III period, when virtually all aspects of life appear to have been touched by the production and consumption of cloth and garments. Francesco Pomponio estimates that there currently exist an estimated 4,250 texts from Ur alone (2010), where wool was issued to slaves (some of whom were women) and rations enough to provision 40,000 persons (Waetzoldt 1987: 118). The number of texts on other cities and on Sumerian industries includes 30,000 from the provincial capitals of Umma (1,527 of which are from Garshana, named in texts but its whereabouts unknown), 24,000 from Girsu/Lagash, 3,500 from Nippur, and 13,800 from Puzris-Dagan (Drehem) (Pomponio 2010: 186), not to mention unpublished collections in museums or held by private individuals. Although most of the texts lack a specific locus, they do identify their city of origin, making it possible to compare the textile industry in different locations (Verdarme 2008). There was a similar mindset with respect to the composition of weaving and spinning in all locations. With rare exceptions, women and children were employed as the weavers and spinners.

At Nippur, there are records of several weaving establishments. The temple of Inanna during Ur III owned lands, gardens, and orchards as well as potters, reed workers, carpenters, and leather workers. It also owned animal herds of sheep, goats (Zettler 1992), and possibly cattle. Wool from the herds was woven into cloth by women and children working in teams in the weaving workshop using similar standards to those applied elsewhere. They were supplied with barley rations, wool, and oil. Another archive from Nippur was owned by Sat-Sin, the daughter of the king. The number of garments produced in the workshop was smaller than in the Temple of Inanna. Wool brought into the workshop was graded by type, for example, noted as standard, combed, northern black. The items produced were described as "expensive," including a fabric listed as "summer cloth" (Hattori 2002: 211). Weavers and fullers were compensated with amounts comparable to the workers at the Temple of Inanna. Along with the rank-and-file weavers, several women were named as chief administrators, a significant difference from the organization of other known workshops. They performed at a middle level of responsibility (Wright 2008). Umma-tabat held a position as a chief administrator, used her own seal to authenticate records, and carried out duties on a par with her counterpart who was a man (Hattori 2002: 218). An administrator at her level of responsibility may have had scribal training in Sumerian, the language authorized for public records by the king during this period. Another "estate" workshop was at Garshana in Umma province, though its exact location is unknown. It belonged to a princess and appears to have been royally initiated and financed, though solely managed

by the princess and her non-royal consort (Adams 2006). Some women workers appear to have been citizens of the town, while others were slaves.

These workshops can be contrasted with those at Lagash/Girsu and Umma. At Lagash, workers included prisoners of war, slaves, debtors, and other individuals (Studevent-Hickman 2006: 125). The numbers of those employed in weaving and spinning are indicative of an escalation in the productive capacity of the industry at Lagash. There were 6,621 adult weavers employed, including 198 "elderly" and 3,141 children (ibid: 126), totaling 9,762. They were permanently attached to work teams on an annual or seasonal basis and compensation was hierarchically ordered based on age, supervisory capacity, quality of finished work, and sex, as in other workshops discussed. Women supervisors managed teams comprising between twenty and thirty people and received monthly allotments higher than rank-and-file workers (Dahl 2003). Men also led teams of weavers but were in supervisory capacities and did not weave cloth. In Umma, there were between 151 and 153 full-time workers and nine half-time. Thirty-nine of the full-time adult workers and ten children were described as "plunder, booty, captives, prisoners of war" (Dahl 2003: 59ff.), people who were "escorted from the "eastern provinces" (ibid.: 61).

HOUSEHOLD PRODUCTION

In Sumer, weaving was a women's craft as is attested by mythology and poetry. The goddess of weaving was Uttu, and as far as we know, she did not have a male counterpart. Other allusions to women and the craft (Wright 1996, 2008) are from a royal love song in which a king referred to his queen's fertility as the warp on the loom; in another, the author compares the mother of a large family to "the cloth beam with its finished cloth" (Jacobsen 1987: 93). These metaphors support the view that a strong gender ideology linked Sumerian women to weaving (Wright 1996).

The bulk of our evidence for weaving and spinning based on textual sources is from palace, temple, and estate archives. These records were kept in order to monitor the input and output of goods in their industries and were silent when it came to non-institutional production. Whether or not the major institutions held sway over individuals not employed in workshops and controlled all textile production is less well known. We know, for example, that although potters served periods of time in *corvée* service in institutional workshops, they also were able to produce their wares independently and exchanged them for other products (Steinkeller 1996). Focusing on weaving, evidence for the exclusive employment of women in the textile industry throughout the year, in distinction to potting and other crafts, raises questions about conflicting evidence for production discovered outside of the institutional workshops.

This evidence comes in the form of a few texts and archaeological evidence from households in cities and in rural areas. In the texts, there are references to cloth brought to temples as tribute for resident gods (Kang 1973). Conceivably, these textiles were produced outside of palace, temple, or estate workshops. There is more direct evidence from archaeological remains. It includes weaving and spinning implements discovered in household contexts (Pollock 1999: 125 and elsewhere), spindle whorls spatially dispersed throughout residential areas, production debris, and implements from a variety of crafts at Abu Duwari (Stone and Zimansky 2004), and spindle whorls from surveyed sites (Adams and Nissen 1972).

In household production in ethnographic contexts, weaving, spinning, and other craft skills often are acquired through apprenticeships among family members (Wright 1991). In that sense, the organization of the Sumerian textile industry was modeled after the structure of household production and its divisions of labor (Wright 1996). Women weavers and spinners in the workshops had acquired skills over a lifetime. In the Sumerian case, they would have included female members of families and other real or fictive female kin living within households. On analogy with other cultures, females would have developed their technical skills in stages and gradually took on more tasks as they moved from youth to adulthood (Goody 1982; McCafferty and McCafferty 1991). What differed in the Sumerian textile industry was the introduction of a hierarchical reward system based on skill and "seniority" documented in many present-day industries (Lave and Wenger 1991).

Many of the weavers and spinners that came to the workshops were captured in battle and were purchased slaves. Some were indebted or free local women but they all came possessing well-honed weaving skills. Their skills would have included ideas about forms of dress, styles, and techniques brought from their places of origin. Clearly, many changes in styles observable in Sumer were based on elite desires, but there is no reason to discount the possibility that some innovations in the technology and styles of production were based on the knowledge brought to the industry by the weavers. Might not the introduction of new styles during the Akkadian period have been the result of inputs from textiles produced in households by the captured weavers. Furthermore, it seems unlikely that textile "engineers" or bureaucrats recording the input and output of cloth had more than a rudimentary knowledge of weaving (Wright 1996: 94). The categories they used to assess quality were cultural and non-technical, such as sumptuous and ordinary, instead of thread counts by unit of measure with which a weaver would have been familiar.

REDISTRIBUTION, COMMERCIAL EXCHANGE AND RECIPROCITY

Harriet Crawford was one of the first archaeologists to identify the internal and external exchanges of wool and woven products as one of the invisible products that circulated in the Sumerian world (1973, 1974). A significant redistributive system of exchanges was internal to the society and included inter-city trade in fish, raw and processed agricultural and pastoral products, as well as wool, cloth, and garments that moved from "one city to another" (Crawford 1973: 238). Textiles also were important in commercial exchanges based on export items that travelled outside of the southern alluvium along land and sea routes to the east possibly as far distant as Baluchistan and the Indus and to the north and west to Ebla in northwestern Syria. The Sumerians followed overland and maritime routes to procure lapis lazuli, carnelian, wood, stone vessels, copper, tin, and gold (Crawford, this vol.).

Guillermo Algaze (2008) has made a persuasive argument for foreign and local trade as a key factor in the "takeoff" of the Sumerian civilization in the third quarter of the fourth millennium (Uruk period). At the center of this takeoff was the shift from linen to a textile industry dominated by wool which Algaze refers to as "a propulsive industry." He calculates that if textile production during the Uruk period amounted to 10 per cent of later periods when the industry was at its height, labor requirements may

have reached, on average, 135,240 workdays devoted to textile production (Algaze 2008: 91). This massive scale was the basic resource for the exchanges of copper and other precious commodities from abroad. Other evidence for the textile industry during this period are drawn from the images of pig-tailed women weaving on horizontal ground looms that are referred to in the section "Tools of the trade," the emergence of colonies in the Upper Euphrates, and Archaic texts that refer to textile manufacture (Nissen 1986: 330). References to foreign polities at Dilmun and Aratta, though legendary, attest to the desire for elaborately crafted textiles produced in Mesopotamia (Good 2008).

Evidence from a pre-Sargonic archive at Girsu supports Crawford's proposal concerning textiles (Crawford 1973). Records from the archive speak of wool and textiles as an important medium of internal exchange and Prentice writes of references to the distribution of textiles to several individuals, including a chief "merchant," overseers or elders (Prentice 2010: 179). The term *gaes*^{v} or *garas*^{v} for foreign trader is found in pre-Sargonic texts in documents from Lagash and lists of professions even earlier (Postgate 1992: 211).

The pre-Sargonic Girsu texts document the import and export of a range of goods. Among the imports was a type of wool from Elam (present-day Iran) that was not available in Sumer. Curiously, wool was exported to Elam as well (Prentice 2010: 114). Along with their own large herds of sheep, the Sumerians had sufficient quantities of wool and wool products to establish exchange networks beyond the alluvium itself and to provision the textile industry. Although listed in relatively small quantities, wool garments were exported in exchange for copper and tin-bronze (ibid.: 118) that was consumed in Lagash or trans-shipped to other cities. Three woollen garments (*bar-tug*$_2$) were among textiles taken from Girsu to Dilmun (ibid.: 112). Other products destined for Dilmun were quantities of wool, silver, and scented oils.

In addition to the internal and external trade, Prentice documents a form of exchange not previously discussed in great detail. The evidence is principally from personal letters concerning a reciprocal system of exchange based on gifting (ibid.: 153ff.). Following the anthropologist Marcel Mauss (1923/24), Prentice identifies a number of transactions that reflect a form of exchange referred to as reciprocity. These gifts establish relationships between givers and receivers that extend beyond the moment in which a material gift is passed on to another. As Prentice states:

> the exchange of gifts is not an act which may be divorced from its social context, it is embedded within the fabric of the society since the action itself carries meaning beyond the material value of the exchanges.
>
> (2010: 157)

Numerous examples are documented but the few discussed here convey the significance of cloth and garments in the giving and receiving of gifts between the wives of rulers abroad and in city-states, possibly a form of diplomacy conducted by individuals that was practiced in later periods (Feldman 2006). The first is a letter from the "Lady of the land of Dilmun" to the "Lady of Lagash." From Dilmun the lady has sent baskets of dates, pitted dates, three linen garments, one of which is referred to as *bar-dul*$_5$, possibly a coat or cloak of very good quality such as the one produced in 1,080 days (see Table 20.1 above). A note that was included in the letter states that the garment

was of high quality, as the lady cautions the lady in Lagash to note "the quality or nature of the goods being sent and send appropriate goods in return" (Prentice 2010: 165). In another document, the wife of the ruler of Adab sends a gift to the wife of the ruler of Lagash. The women exchanged craft goods and copper, but included in the package were garments for the agent who was carrying them from one city state to another (ibid.: 163). Finally, two linen garments and dates were sent by the chief scribe of the Lady of Dilmun to the wife of the ruler of Lagash. The brother of either the scribe or the wife of the ruler accompanies the textiles, suggesting a family connection (ibid.: 166). We must consider why a Lady in Lagash, seat of a major textile industry where luxurious textiles are being produced, would value a textile from Dilmun. Clearly, this exchange of a culturally distinct cloth provided value-added status to the Lady of Lagash. We can also speculate that the garment did not go unnoticed and led to new styles that enlivened the textile industry.

Other forms of gifting involve the recurring exchanges between the "house" and temples on festival occasions in which gods were honored or in other celebratory events during the agricultural year. These meetings occurred at holy places where sanctuaries were located, when gifts were given to the public and important persons. Orders for specific garments were recorded from seventeen individuals identified as overseers and elders. Additionally, an individual described as a chief merchant provides a large amount of wool in a request for other finished garments. Lesser amounts were provided for other garment requests from individuals at lower levels of authority (Prentice 2010: 180). Other persons (between seven and twelve in various occupations who are temple personnel but not weavers) received "fleeces" without the hide (ibid.) so clearly not destined for a sheepskin garment. The fleeces were given at festivals in the household of the goddess Nanse, while others were given to individuals in another household, that of the husband of the goddess. Whether these fleeces were to be used for garments is unclear. There is no indication that the wool was spun and their weights are not given, which is the normal way wool is recorded. Either the fleeces were given as pure wool in exchange for acquiring other products or the weaving of the wool into cloth took place in non-institutional settings, such as in residential households, among individuals that were not attached to the temple or palace "houses."

Records from the Akkadian period include documents and letters that describe different conditions under which trading occurred. The activities of one private businessman, Quaradum, kept personal accounts of his trade in "copper, silver, livestock, oils, garments and fruits" (Foster 1977: 32). These were business transactions that appear to have been conducted for his own profit, a practice engaged in by some state office holders. Another individual involved in trade was a woman (*Amae-e'*) who financed agents that conducted business for her (ibid.: 33), while a professional merchant, *dam-gar,* did some business for the state and for private individuals who capitalized his ventures.

While silver and grain were the major mediums of exchange, garments and wool also are recorded in shipments abroad to Magan for the trade in copper (Snell 1977: 47). The massive production of textiles in Ur III in Lagash attests to the presence of an industry in wool and cloth that ably served internal and external exchanges. They were high-value products produced on an industrial scale that were light enough for transport (Adams 2006: 156) and Lagash was strategically located to move materials internally and abroad. The extensive canal system and boat and barge travel is

documented to have accommodated 35 to 40 ton shipments between Ur and Lagash (Waetzoldt 1972: 69) through which textiles were redistributed among city-states. In other shipments, 65,930 bundles of reeds were shipped from Umma to Nippur (Sharlach 2004), suggesting that sizable quantities of materials were transported.

CONCLUSIONS

The organization of the Sumerian textile industry raises questions with respect to long-held conceptions about craft specialization. In the post-Neolithic Near East, Childe (1981[1956]) believed that the surpluses derived from cultivated crops and pastoral production would engender a new class of specialist producers and provide opportunities for elites to control their production. In many ways, the textile workshops and status of weavers fulfill Childe's expectations. Missing from this view of the economy, however, is probing beneath the Sumerian's tightly organized bureaucracy to investigate what Robert Adams has referred to as the "full range of networks, institutions, and relationships in which the whole population was implicated" (Adams 2004: 48).

This review of the social, political, economic, and religious significance of textiles partially fills in some of the gaps in the underside of the specifics of the Sumerian's management of production, distribution, and exchange. Using texts, imagery, analogies with modern textile production, and archaeological evidence, this chapter offers a more comprehensive view based on existing evidence for the internal workings of the industry, the impact of its restrictions on the day-to-day lives of its producers, the divisions it reproduced within the society, and its importance in the Sumerian economy.

There is still so much more waiting to be discovered. The texts stand at center stage in representing the voices of the elites and bureaucrats that managed the industry. They come from a limited number of places and as more and more surface, there is the potential to establish regional differences in the organization of production and divisions of labor. The previously homogeneous flow of information about the industry is already beginning to show regional differences at the smaller estates at Nippur (Hattori 2002; Wright 2008) and Garshana (Adams 2010). With respect to archaeological evidence, a brief survey of excavation reports indicates that there are many heddles, needles, weights, and whorls that await study. These common implements not only offer the potential for new understandings of the technical aspects of the craft but also more details regarding the organization of production and skills that workers brought to the industry (Wright 1996: 94).

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CHAPTER TWENTY-ONE

DEATH AND BURIAL

Helga Vogel

The archaeological remains and the written records from the third millennium BC provide us with fascinating insights into the thoughts and practices of the people who lived in what is today Southern Iraq, specifically when they faced the death of a person close to them.[1] Despite a large degree of variation, both archaeological and written sources indicate that in Mesopotamia the deceased were usually buried, either in the house or in a cemetery. In the following, I would like to summarize the most important elements of a burial. These include the preparation of the corpse, the mourning of the dead, and the construction of the grave, followed by the actual interment and the journey of the dead into the netherworld. In addition, I will briefly discuss the central aspects of the cult of the dead as attested in texts from the Early Dynastic period (*c.*2900–2350 BC).

SOURCES

We still lack evidence for burials from the Uruk period (fourth millennium BC). It has been suggested that during the Uruk period funerals were held outside settlements or that mortuary practices were such that they did not leave any traces in the archaeological record (Pollock 1999: 204–205). We have extensive documentation for the Early Dynastic period for both house burials and burials in cemeteries (literature in Pollock 1999: see *Sources* tabs. 8.3, 8.4). The finds and findings from the Royal Cemetery of Ur, excavated by Sir Leonard Woolley in the 1920s (Woolley 1934), shall serve as an example here for one of the best studied and best preserved cemeteries of the Early Dynastic period. The Royal Cemetery contained 660 burials that can be dated with certainty to the Early Dynastic period. In addition, the excavators found sixteen large shaft tombs, the Royal Tombs, which were located in a rubbish mound on the southwestern edge of the temenos of the city; these tombs contained a main interment, several "co-interments," and rich grave goods.

Despite the wealth of information that can be gained from the archaeological remains, we depend on the written record when we study funerary customs and other aspects surrounding death–such as coping with death, events happening outside the grave, or metaphysical concepts relating to the dead and the afterlife. Unfortunately, the archaeological findings and the written sources only correspond to a limited extent. The textual sources that are relevant to the topic discussed here mainly consist of tablets

documenting the consumption of rations, sacrifices or other items that were used in the context of mortuary practices for members of the elites. The texts provide evidence for administrative transactions of "large households," that is, of palaces, temples, and, during the Ur III period, from certain administrative centers. The archives of the wives of the rulers of Lagash (Deimel 1920; Bauer 1969; Jagersma 2007: 303–305; on the archive see Beld 2002: 5–44) present the largest sample of textual evidence from this period. This is surely due to happenstance. Thus, it is questionable whether we can generalize the evidence from these archives. The information includes the number of personnel deployed during a funeral, the kinds and amounts of sacrifices made, the order of events, and the places at which the cult of the dead took place. Because these records are of an administrative nature and only record commodities relating to economic procedures, they do not offer any information on mourning, mortuary rituals, or ideas of the afterlife that may have governed these practices.

In order to fill this gap, scholars often turn to ancient Near Eastern literary texts that describe the journey to the afterlife and the netherworld. However, this approach is problematic because these literary texts date to periods much later than the Early Dynastic period. Sumerian compositions relating to death and the netherworld, such as *The Descent of Inanna to the Netherworld*, *Bilgameš, Enkidu and the Netherworld*, and *The Death of Bilgameš*, are only attested as copies written by students in the Old Babylonian scribal schools, thus placing them in a time about 800–900 years after the Royal Cemetery of Ur (Katz 2005: 87; for an analysis of the texts, see Katz 2003). Akkadian poetic texts relating to death and the netherworld – for example, *The Descent of Ištar to the Netherworld*, *Nergal and Erškigal*, and parts of the *Gilgameš Epic* (tablet VII) – even date to the first millennium BC, almost 2,000 years after the Royal Cemetery. It has been suggested that these texts are based on an oral tradition reaching far back into the third millennium BC. At the same time, studies combining various approaches have demonstrated that the complex notions concerning death in Ancient Mesopotamia were not static, but underwent changes and developments over the course of the millennia (Katz 2005: 87–89; Jonker 1995: 79–81, 187–211; Groneberg 1990). In addition, it remains open whether literary works were really intended to depict daily practices, which included funerals as well (Hausleiter 2003: 20). As a result, it remains difficult to apply the information provided by the ancient Near Eastern literary tradition, itself often inconsistent, directly and uncritically to the archaeological record of the third millennium BC. In the following, I will only discuss the poem *Urnamma A = Urnamma's Death* (Flückiger-Hawker 1999: 93–182), which contains the earliest known description of the netherworld to date (cf. Katz 2005: 80), but is also only attested in manuscripts from the Old Babylonian period.

PREPARATION OF THE CORPSE

Archaeological evidence, more specifically the objects that were excavated together with skeletal remains, suggests that there were certain procedures to prepare the corpse for the funeral. Conventional interpretations of such funerary offerings hold that objects found together with human remains allow us to draw conclusions regarding status, gender, occupation, and even age of a person at the time of his or her death. Based on evidence from Early Dynastic burials, both in cemeteries and in houses, it appears that offerings for the dead were an important part of the mortuary practices

in Mesopotamia. Such grave goods most frequently include beads, pins, other small pieces of jewelry, shells for cosmetics, and, more rarely, seals. These tend to be interpreted as female burials. Burials of male individuals tend to show grave goods such as weapons, albeit only occasionally, and even less frequently tools associated with the dead person's trade. These were always found either next to or on top of the skeletal remains (for an overview see Pollock 1999: 213–214; Eickhoff 1993: tabs. 16, 18). However, whether such grave goods reflect everyday reality is another matter altogether (see a critical discussion in Pollock 1999: 197, 213; also see Crass 2001; Arnold 2006: 150–152). For example, visual representations from the Early Dynastic period show none of the rich jewelry that was found in the burials of high-ranking women or in some of the "co-interments" in the Royal Cemetery. For this reason, we should consider that factors other than markers of gender or status could have played a role in the preparation of the corpse for the funeral, such as religious and metaphysical ideas (see, for example, Barrett 2007; Katz 2005: 55, 65; Katz 2007: 171–172).

The reform texts of Uru'inimgina, the last ruler of the first dynasty of Lagash (*c.*2350 BC), mention a certain *lu'umumma* in the context of regulations for a cemetery burial. His specific function remains unclear (Cooper 1986: La 9.1.), but Hruška (1973: 113) cautiously considered whether *lu'umumma* may have been someone who washed and cleaned the corpses. In many cultures, the cleaning of the corpse and the subsequent anointing initiate the funerary rites. We may therefore tentatively assume such practices for ancient Mesopotamia (cf. Winter 1999: 249; Katz 2007: 170).

After the cleaning, the body was dressed. This is reflected in the archaeological record by the large amount of pins and other objects such as jewelry, seals or weapons, which were found lying on top of the skeletons in the Royal Cemetery as well as in other places. In the Royal Cemetery, Woolley was also able to identify remains of fabric in the graves PG 357 and RT 1237 (Woolley 1934: 427, 117, 121). A document from Adab, which records among other things grave goods for the funeral of a temple administrator and his wife, also mentions a number of fabrics (Gelb, Steinkeller, Whiting 1991: 101 i9–ii1, ii13–iii1). Therefore, the often repeated hypothesis that the dead were buried nude in Mesopotamia–based mainly on several passages from the myth *Inanna's Descent to the Netherworld*–is not supported by evidence from administrative texts and the archaeological record (see also Katz 1995; 2005: 66).

The findings from the Royal Cemetery show that decorating the heads of both male and female corpses was a central part in preparing the corpse for its burial, although some differences according to gender can be observed. The sets of headdresses found in the main female burials of the Royal Tombs, and less frequently in the female burials of the "private cemetery," consisted of golden and silver hairbands, elaborate wreaths made from precious metals and semi-precious stones, hair combs of precious metal decorated with rosettes, golden or silver hair circlets, and golden earrings in half-moon shape (Woolley 1934: 240–243; Vogel 2008: 409–426). Many of the women who were buried in the "co-interments" were equipped with the same pieces of jewelry (Gansell 2007; Pollock 1991a: 372–376, 1983: 157). On a few occasions, the excavators found *brîms* (headbands) consisting of large elongated golden beads and semi-precious stones with the male burials. Very rarely these headbands were found with the male "co-interments" (Woolley 1934: 234–244; Vogel 2008: 434–447). In addition, the male burials yielded tiaras made from precious metals and, in one instance, a golden helmet

(PG 755) (Woolley 1934: 156). In female burials, the upper body was adorned with necklaces made from semi-precious stones and sometimes from gold and silver beads; in addition, golden, silver, and copper pins were used to attach seals and less often amulets or brooches to the garments. The burial of Pû-abī even yielded a beaded cape that reached down to her waist (Pittman 1998). The wrists and, in some cases, arms were adorned with bracelets, but no foot jewelry was found.

The emphasis of body adornments on the head and upper body appears to be a characteristic of the Early Dynastic period since it can also be observed in visual representations as well, but it should be said that Early Dynastic cemeteries outside of Ur rarely show the same kind of lavishness in decorating the upper body (Eickhoff 1993: tab. 18; but see Sallaberger 1995). Statues and figurines of women, and in some cases images on seals, show elaborate and magnificent hairstyles that were sometimes decorated with a headband (Braun-Holzinger 1977: Taf. 17b, Taf. 20g, Taf. 25a,b). This suggests that headbands were the only element in the funerary equipment of female burials and "co-burials" at the Royal Cemetery that were also used by the living. It is almost certain that headbands made of (precious) metals were a prerogative of the elites. The above-mentioned administrative document from Adab lists several items for the funeral of a temple official's wife, among others a headband, albeit one made of cloth (Gelb, Steinkeller, Whiting 1991: 101 iii2).[2] One can therefore assume that the elaborate headdresses that were found with a number of female burials and a certain type of female "co-burial" in the Royal Cemetery were made specifically to be worn by the dead. However, this has to remain an assumption until a use–wear analysis can offer some evidence as to whether the jewelry was actually worn or not.

MOURNING AND GRIEF

While it is possible to gain information regarding the preparation of the corpse by drawing mainly on archaeological sources, we have to rely exclusively on the textual record if we want to understand how people in the Sumerian cultures coped with death. Given the Mesopotamian climate, it is generally assumed that a corpse was buried within twenty-four hours. The ceremonies and rites that were carried out for the relatives of the ruling house could, however, last several days. Definite evidence for conservational measures performed on the corpse is missing.

Grief for a dead person was expressed by beating one's chest (*gaba ra*) and by loudly wailing (*akkil*) (Maul 2007:360). He (ibid. 364) furthermore refers to passages in the Epic of Gilgameš, which vividly describe how Gilgameš, deeply troubled by his friend Enkidu's death, left his hair uncombed, took off his jewelry, and put on a mourning dress (cf. Cohen 2005: 49 for further textual evidence). Whether this was customary behavior in the case of a death remains unclear. Due to the costliness of fine garments and precious jewelry, it is unlikely that ordinary people would have been able to carry out such practices. It should be noted that the rich graves in the Royal Cemetery occasionally yielded pieces of jewelry that may be considered offerings by mourners. Among these are sets of four *brîms*, which were found on the skull of an adult man (RT 1618), near the skull of a small male child (PG 1133), and on the bier of the city "queen" Pû-abī (RT 800). Furthermore, the graves contained pieces of female jewelry laid down in male burials (for example, in PG 755, PG 1312) as well as male objects, such as daggers or grinding stones, which were found in female burials (for example, in the

burial chamber RT 1050). The grave of a small girl (PG 1068) yielded a large number of necklaces for adult women that covered the girl's upper body.

From the Early Dynastic period we have two, possibly three, accounts regarding the funeral of Baranamtara, city "queen" of Lagash (see most recently Jagersma 2007: 293; and Beld 2002: 173, 212; also see Katz 2010: 109 n. 6, who adds another possible text, DP 159). A document dating to the Ur III period lists expenditures for the funeral of $Geme_2$–$^dLama_3$, a high priestess (*NIN-dingir*) of Baba (see most recently Katz 2010: 109; Jagersma 2007: 291–293). While the texts about the funeral of Baranamtara offer primarily information on the mourners, the text from the Ur III period describes the places where mourning occurs. All three cuneiform tablets were accounts listing the amounts and kinds of foods that were consumed during the days of mourning. In both cases, the mourning of the high-ranking woman extended over two days. $Geme_2$–$^dLama_3$ was buried on the third day; the same can be assumed for Baranamtara.

The Early Dynastic documents indicate that ordinary female workers were part of Baranamtara's mourning community on both days of mourning: one text lists 160 female servants (*géme*) on the first day of the ceremony and 166 female servants on the second day. It is possible that these mourners wailed loudly and beat their chests. The women appear to have been sent by the temples of Baba and Ningirsu, the patron deities of Lagash. Additional personnel involved in the funeral were seventy-two lamentation priests (*gala*) on the first day and ninety-two lamentation priests on the second day, including the chief lamentation priest of the city of Girsu (*gala mah gir-suki*). We know that these lamentation priests fulfilled some religious functions during the Early Dynastic period (Cooper 2006: 43; Cohen 2005: 52–53). In Lagash there seem to have been male and female *gala*-priests (Selz 1995a: 252 and n. 1208). Beginning with the Ur III period, *gala*-priests are also known as female and male singers, probably of cultic laments, whose songs were accompanied by a harp or lyre (*balag*) (Michalowski 2006).

Thus, it is highly likely that the *gala*-priests that attended Baranamtara's funeral were also lamentation singers. The performance of the *gala mah gir-suki*, the chief lamentation priest of the city of Girsu, on the second day of the funeral ceremony was probably only intended for members of the ruling house or other privileged persons. Further attendees of the mourning rites included "wives of elders" (*dam ab-ba*) (seventy on the first day and forty-eight on the second day) as well as ten "brothers" (or "brothers by birth" Cohen 2005: 56). The term *dam ab-ba* literally means "wives of family patriarchs, fathers, or elders," but it has also been translated as "old women" (Cooper 2006: 42) or "crying old women" Cohen (2005: 56). It is currently unclear who these people were, that is, whether they were part of the Baranamtara's extended family or persons of a certain social standing; or whether they were simply a group of regular people participating in the funeral. In some documents all these people are summarized with the following entry: "they are persons who shed tears at the mourning place" (Jagersma 2007: 292). At the funeral, these groups of people were served different kinds of bread and beer, presumably in accordance with their status.

The death of $Geme_2$–$^dLama_3$, the above-mentioned high priestess of the goddess Baba, was mourned for two full days as well. However, in this case the text does not list the persons who were part of the mourning community and instead only names places where the mourning took place. After her death, $Geme_2$–$^dLama_3$ continued to receive her two customary daily meals, on the first day in her private rooms and on

the second day in the *ki-a-nağ*, which is usually translated as "place of libation," although it is possible that the term refers to a mortuary chapel during the Ur III period (Jagersma 2007: 292). To what extent the mourning at the *ki-a-nağ* was public is unknown, because so far it has proven impossible to exactly locate the sites of mortuary practices that are mentioned in the texts (Jagersma 2007: 294–298; Selz 1995a: 153–154). A fifth meal was served to $Geme_2$–$^{d}Lama_3$ on her third day in her grave. The meals consisted of ghee, honey, dates, cheese, dried pears(?), dried apples, dried grapes, pomegranates, and figs (Jagersma 2007: 292). These dishes reflect the high social status of $Geme_2$–$^{d}Lama_3$.

We simply do not know whether people of lower social strata followed similar mourning and burial customs; if so, it is likely that the ceremonies were shorter depending on the status of the deceased and on the wealth of his or her family. Following Jagersma (2007: 294), it is important to stress that both of the funerary rites discussed above are in some ways comparable to "state funerals" today, that is, funerals in which representation and public ceremonial plays important roles. The same may not hold true for regular funerals. Moreover, the texts discussed above date to periods that are around 350 years apart. It is highly unlikely that mourning rites remained the same over such a long period of time, and thus we cannot assume that there was any kind of underlying continuity visible in these texts, as the discussion above may have suggested. These administrative documents, terse accounts that were part of the state administration, provide no information on ritual practices in the context of mourning. Due to the lack of sources, there is also little information on the lamentations that surely must have been recited on such occasions. For the same reasons, we are unable to gain any insight into the practices let alone the emotions of the direct relatives of a deceased. Notwithstanding the dramatic nature of the event, the texts demonstrate well how our understanding of past thoughts, desires, and feelings must to a large extent remain abstract.

THE GRAVE

While the body was prepared for the funeral, the grave (*ki-mah*) for the deceased was prepared. As mentioned in the beginning, in the third millennium BC burials were found either under the floors inside occupied or abandoned houses or in cemeteries. Grave pits seem to be the rule for burials in Southern Mesopotamia, both in cemeteries–for example, in the Jemdet Nasr cemetery in Ur, in the "A" cemetery in Kiš, and in the "private cemetery" of the Royal Cemetery–and in houses – for example, in Fara, Tell Abū Ṣalābīkẖ, or Kẖafaje. Occasionally we find brick graves or crypts (Kẖafaje; Y-cemetery in Kiš; Royal Cemetery in Ur) (summarized by Pollock 1999: 207–209 tabs. 8.3, 8.4; Eickhoff 1993: tabs. 9, 10). Burials inside houses were often pot burials for children. The pots used were typically plain ware ("*Gebrauchskeramik*"), whereby the size of the pots would vary depending on the age of the deceased child. The children were interred in a foetal position and only rarely did their graves yield any funeral objects (Kulemann-Ossen and Novák 2000; Kulemann-Ossen and Martin 2008: 234–237). In the Royal Cemetery, however, Woolley identified two child burials, each of which yielded rich equipment (PG 1068; PG 1133; cf. Woolley 1934: 162–164, 167–168). Skeletal remains were almost never found outside of a burial context (Pollock 1999: 206), although the Stele of the Vultures of E'annatum depicts a pile of naked

corpses on the battlefield. It has to remain unclear whether this pile on the Stele of Vultures was meant to indicate dead enemies or fallen men of the army of Lagash. Piles of corpses in the context of war are also documented elsewhere (Richardson 2007: 193–196).

In the following I will take a closer look at the various forms of the burials in the Royal Cemetery of Ur. The 660 grave pits of the "private cemetery" that were laid out at the same time as the Early Dynastic Royal Tombs measured on average 1.5 x 0.7 m; only a few graves, for example PG 755, were larger than this. In rare cases, Woolley found several bodies placed next to each other in a grave pit. Inside the grave, the dead were laid on top of or wrapped into mats. At times, people were buried in coffins made from wood, clay, or wickerwork. The sixteen Royal Tombs had shafts that were approximately 8–10 m deep instead of the pits that were typical of the private graves. The shaft walls were either plastered or lined with mats. Each of the shafts of the Royal Tombs was different in size (between 10 and 120 m^2), but all of the Royal Tombs were substantially larger than the "private graves." There were ramps that led down to the shafts, but they could not always be identified archaeologically. The single- or multiple-chamber constructions, which could be found in each shaft, covered the surface of the shaft either entirely or only partly. The tomb chambers were roofed with corbel or barrel vaults. When the chambers did not fill out the shaft completely, the remaining area was covered with mats. Mats covering the surface were also found in the "*death pits*," which are burials that did not have a proper chamber construction but still had the "mass co-interments" and rich funerary objects that are so typical for the Royal Tombs. The tomb chambers had stonewalls, which measured up to 1 m in diameter. On the inside, the walls were plastered with fine mortar. In the chamber of grave RT 779, the excavators found traces of paint, while the chamber of RT 800 had wall shelves. Very high up in the shafts of three Royal Tombs (RT 1054, RT 1050, and RT 337), Woolley found structures made of mudbrick. Several of these contained burials, "co-interments," or other skeletal remains. It is unclear whether there existed a direct connection between these mudbrick structures and the burials found on the bottom of the shaft.

During the Ur III period, inside the area of the Early Dynastic Royal Cemetery, buildings with altars and libation facilities were constructed above the underground crypts of the deified kings Shulgi (2094–2047) and Amar-Sîn (2046–2038). Woolley found the crypts and the above-the-ground buildings plundered. It can be assumed that the buildings, which we should imagine decorated with paint as well as with precious metals and precious stones, were used for the worship of the deified rulers of this dynasty (Woolley 1974; see also Moorey 1984).

This short overview illustrates that a variety of burial types existed in the third millennium BC in Mesopotamia. While burials can reflect the social standing of the deceased, the specific characteristics of each burial are also indications of individual practices whose meaning we cannot easily decipher today. Textual sources suggest that graves may have been furnished. For example, the aforementioned text from Adab lists objects made from wood (a bed and a chair?) for the grave of the temple administrator and for that of his wife (Gelb, Steinkeller, and Whiting 1991: 101 ii2–3, iii3–4). Texts from the Ur III period also mention beds and chairs that were part of the inventory of graves (Sallaberger 1995: 20). A chest for clothes that was found in the grave of Pû-abī should be mentioned here as well (Woolley 1934: 80).

It must be noted that the number of graves excavated at an archaeological site hardly ever corresponds to the estimated population of the settlement (Pollock 1991b: 175). Some burials may not have left any archaeological traces, a possibility that Pollock (1999: 206) has already discussed. For this reason, the question of whether other types of burials existed in addition to those we already know of must remain unanswered.

BURIAL AND JOURNEY OF THE DEAD INTO THE NETHERWORLD

The reform texts of Uru'inimgina, the last ruler of the first dynasty of Lagash, mention expenditures for transporting the corpse to the grave. Two professional groups are referred to in these texts, the *uḫmuš* and the previously mentioned *lu'umumma,* who were rewarded for their tasks at very different rates (Cooper 1986: La 9.1). In the case of a burial in a cemetery, the corpses of members of the ruling house and other elite personalities seem to have been brought to the cemetery by chariot, which is indicated by the remains of chariots and draft animals in the Y-cemetery in Kish (Moorey 1978: 104–106) as well as in the Royal Cemetery in Ur (Woolley 1934: 48–49, 64–65). The text from Adab that was discussed above also indicates that burials of persons of high social standing took place using a chariot and draft animals, although in this case only the temple administrator, not his wife, received that privilege (Gelb, Steinkeller, Whiting 1991: 101 i7–8). It is, however, unlikely that this was a gendered practice, because the coffin of $Geme_2$–$^{d}Lama_3$ (see above) was brought to the grave in a chariot manufactured solely for this purpose (Jagersma 2007:292). The sledge that was found in the grave of Pû-abī should be mentioned here as well (Woolley 1934: 78–80 and pls. 122–123).

Following the preparation of the corpse and the rituals of mourning, the body was brought to the grave. It is possible to imagine a scenario in which the persons who would later place objects into the grave – provided they did so – met at the house of mourning and then went to the cemetery together in a kind of procession. We do not know anything about the nature of house burials, that is, whether they were private or public. We may assume that in Mesopotamia the funeral party was composed of relatives and maybe also of friends of the deceased. Whether ritual specialists, paid female mourners, or male or female lamentation singers accompanied the funeral party remains unknown. In the case of a burial in a Royal Tomb in Ur, we know, based on the archaeological evidence, that the funerary party consisted of persons who would later be "co-interred." Such "co-interments" varied depending on the layout and equipment of a shaft tomb; in some cases armed men were interred together with the main burial, in other cases the "co-interment" consisted of escorts for the chariots, unarmed men, whose function remains unclear, or women who were adorned in different manners, whose numbers could vary considerably. In RT 789, RT 800, and RT 1237, it is possible to identify groups of female musicians.[3]

Once at the grave, the dressed and adorned corpse was placed on mats, on a bier, or in a coffin, depending on the type of burial. It was common to bury the body lying on its side in a flexed position with knees bent and hands in front of the face, with Pû'abī being the only exception (RT 800). We do not know whether these practices were accompanied by rituals. Winter recently discussed the possible existence of purification rituals for both the deceased and the attendants of the funeral that may

have taken place in the grave. According to Winter (1999: 246, 249–250), the corpse may have been subject to anointment, which is indicated by the occurrence of certain utensils. Vessels were frequently found close to the mouth of the deceased. I would like to suggest that it is possible that such vessels may have been part of death rituals that were designed to enable the deceased to ritually consume foods in the afterlife. Such rituals may have been similar to the *pīt pî* (mouth opening) and *mīs pî* (mouth washing) rituals (Walker and Dick 2001), which made it possible for divine statues to consume the foods and drinks offered to them as part of the daily rituals. Katz offered yet another interpretation, albeit one that is based on later textual documentation. She suggested that performative practices took place, sometimes with the help of a statue or figurine, aimed at detaching the "soul" of the deceased. The "soul" could then travel into the netherworld and remain there (Katz 2010, 2007, 2005: 62–64, 2003: 207–210). One should, however, bear in mind that metaphysical concepts such as "soul" are extremely difficult to distinguish and understand in cultures that are so geographically and chronologically remote from our own.

At some point, the attendants at the funeral placed their offerings for the dead into the grave. In addition to gifts of jewelry, most offerings seem to have consisted of vessels that were possibly filled with foods or other organic materials. In Mesopotamia, such vessels, which were made from different materials and exhibit a great variety of shapes, have been found in all types of graves and burials. The hypothesis that these vessels were funerary offerings is also supported by the fact that some vessels were inscribed with names that were not the names of the deceased (Marchesi 2004: 162, 176). Furthermore, ethnographic studies show that it is common in many societies to bury the dead together with objects that either were important to them during their lifetime or that were linked to certain aspects of someone's identity. In the Royal Cemetery, such objects comprise rare artifacts such as game boards, small harps, model boats, the "Standard of Ur," statues, beautifully decorated containers, bronze mirrors, weapons, individually designed pieces of jewelry, or seals.

The above-mentioned account for the expenditures for the burial of $Geme_2$–$^{d}Lama_3$ also lists a main meal for her grave on the morning of the third day (Jagersma 2007: 293). Woolley found several vessels with food remains in the Royal Cemetery. Larger pots and bowls contained bones of birds, fish, goats, pigs, and sheep, as well as grains, and date pits. In some cases these were found together with the remains of baskets, in which the foods had been transported. Large beakers that were found in the graves probably contained beer. Woolley suggests that these foods were meant as provisions for the dead during their journey into the netherworld (Woolley 1934: 144). Yet textual and archaeological sources indicate that the dead were continuously supplied with food and drinks, which is also reflected in the mortuary practices that began right after the funeral. Based on the finds of food remains and the large numbers of vessels, it has recently been suggested that the funerary party held a death banquet at which they took their last meal together with the deceased (Selz 2004a: 210–211, 2005: 45–46; Cohen 2005: 89–91, esp. 90; Pollock 2007a: 101–105). However, the Royal Tombs that did yield more substantial food remains (for example, RT 1050 and RT 1054), make it difficult to imagine that such a meal was shared by a large group of people as there was not enough room at the tomb itself. More importantly, there is no evidence that meals were shared by the living and the dead in the context of mortuary practices. On the contrary, our evidence suggests that the dead were supplied with food in the context

of rituals or ceremonies. Such a strict separation of the world of the dead from the world of the living is quite characteristic for Mesopotamian religious beliefs.

In the case of the Royal Tombs, Woolley proposed that the personal belongings of the deceased where brought into the burial chamber after the corpse had been prepared. It was probably at this point that the people who were to be buried together with the deceased would have entered the burial chamber where they were either killed or they killed themselves. The entry to the chamber was then blocked. Then the people who were to die inside the shaft or in the entry area to the shaft took their places. Woolley assumed that these people were poisoned (Woolley 1934: 34–42). It is likely that their bodies were arranged after their death (cf. Pollock 2007b) and that the shafts were then cleaned up to a certain degree, as can be seen in the *death pit* 1237. The corpses were covered with mats and the deep shafts were filled with soil (Woolley 1934: 34–42). The ways in which the shafts were filled showed the same degree of variation as the construction of the Royal Tombs, and it would go beyond the framework of this chapter to discuss this in greater detail. Yet the great degree of variability makes it impossible to assume the existence of common or compulsory ritual practices. It is still uncertain whether a mausoleum for libations was located above the Royal Tombs (Pollock 1999: 211), while the possibility of above-ground markers for the "private graves" has not been considered yet.

Textual documentation from the Early Dynastic period is insufficient to allow us to draw conclusions concerning conceptions of the afterlife or of the journey of the dead into the netherworld. The earliest description of a journey to the netherworld can be found in a poem about death of king Urnamma (2112–2095 BC), the founder of the Third Dynasty of Ur (Flückiger-Hawker 1999: 93–182). It should be noted that all the manuscripts for this text date to the following Old Babylonian period (*c.*1800 BC), thus far there is no manuscript from the Ur III period itself. The powerful narrative of this poem offers only one detail about the funeral of Urnamma: we learn from this text that he was buried together with his "donkeys," here interpreted to mean a donkey together with a cart (lines 70–71). Traveling by cart, Urnamma embarks on his long and difficult journey to the netherworld (lines 72–75). Upon arrival he gives presents to the seven gatekeepers of the netherworld. When the king reaches the center of the netherworld, the dead welcome him enthusiastically. Urnamma then slaughters numerous oxen and sheep and holds a banquet for the "famous kings," including *išib* and *lumaḫ* priests and *NIN-dingir* priestesses (lines 76–82). The composition describes this event with the following words: "(For) the food of the netherworld is bitter and drink of the netherworld is salty" (Flückiger-Hawker 1999: 116, line 83). Afterwards, Urnamma offers substantial animal sacrifices to the netherworld and makes offerings to the gods of the netherworld in their "palaces."

These passages have sometimes been used to interpret objects found in the Royal Tombs as sacrifices to the netherworld (for example, Tinney 1998: 28; Meyer 2000), although no one has suggested that this also be applied to interpret "private graves." Thus, even those scholars who have used the composition "*The Death of Urnamma*" to interpret the finds from the Royal Tombs have not suggested that there was a single notion of how the dead behaved in the netherworld. However, the text is still important, because it provides us with information regarding the organization of the netherworld as envisioned during the Ur III period, if we assume that the text was indeed composed then and not later. The text offers us a glimpse at least into certain

notions of the netherworld, that is, that a dead person had to pass through seven gates in order to reach the center of the netherworld and that the different gods of the netherworld maintained "houses" there. The poem offers very little information on the path into the netherworld, providing no geographic or topographic descriptions, but we do know that Urnamma did not have to overcome any obstacles during his journey (see Katz 2003). In addition to the idea that the netherworld had the gates and gatekeepers, there is also the possibility that there existed a notion in the third millennium that a river led to the netherworld and that this river could only be crossed with the help of a paid ferryman (Selz 1995b). Such a notion may be confirmed by model boats that were found in the Royal Cemetery (see Katz 2005: 73 and 75).

THE RITUALS FOR THE DEAD

The idea that the dead needed to be served food and drink can be regarded as central to Mesopotamian mortuary practices. It should be noted here that the textual record only allows an insight into the practices of urban elites and members of the royal family. In the following I will focus on the situation in Early Dynastic Lagash.[4]

The wives of the city rulers of of Lagash (Deimel 1920; Westenholz 1977; Bauer 1969; Beld 2002: 162–182)[5] kept detailed records relating to offerings for the dead. According to this archive, the following goods were taken from the household of the city "queen" and used to provide offerings for the dead: animals for slaughter (sheep and goats), flour, roasted barley, different kinds of bread, oil, dates, bundles of fish, and a certain kind of dish. We know that similar foods were also offered to the gods as part of the daily rituals. Both the amount and the quality of these foods reflect the social rank of the deceased. Other factors that may have influenced the size of a sacrifice were probably the degree of kinship and the amount of time that had passed since the actual funeral, yet no gender differences can be observed as women received the same offerings as men. The wives of the rulers of Lagash maintained the cult of the deceased royal family, but also of an important temple administrator and his family. Additionally, they made offerings to their immediate ancestors, to siblings and other deceased members of the ruling house of Lagash as well as distant relatives. The archive lists all the names of those who received offerings together with the sacrifices that they received.

The archive also mentions the place at which these rituals of the dead occurred: it was designated as the "drinking place" (*ki-a-nağ*), commonly translated as "libation place." In some cases the texts mention "libation places" of a specific city (NINA/Sirara and Lagash). Unfortunately, it is impossible to locate these places with any degree of certainty. The "drinking place" in Lagash is called the *ki-a-nağ lugal lagaški*, the "drinking place of the ruler of Lagash." Offerings to the dead were also made at a certain "place at the riverbanks" (*ki gú*), and one text mentions a "riverbank of Gilgamesh" (*gú dgilgameš*) specifically. In addition, offerings to the dead were sometimes made "to the house," but thus far the meaning of this phrase is unclear (Kobayashi 1985; Selz 1995a: 35, 105–106, 155–156). It is also unclear whether the wives of the rulers of Lagash oversaw daily and/or monthly offerings to the dead, as it is known for the queens from the Ur III period (cf. Jagersma 2007: 303). The annual festivals of the goddess Baba and of the underworld deities ^{d}lugal-iri-bar(-ra) and ^{d}lugal-IRIxKÁR$^{(ki)}$ saw the most substantial offerings for the dead in the city-state of Lagash (Selz 1995a: 163–171; Beld

2002: 162–163, 182–195). During the city "queen's" annual procession from Girsu to Lagash and NINA/Sirara, additional sacrifices were made at the "drinking places." Last but not least, offerings to the dead were also made at the "malt-eating festivals of the goddess Nanshe" in Lagash and the "malt-eating festivals of the god Ningirsu" in Girsu (Beld 2002: 158–161).

This short overview illustrates that we do have some, albeit limited information on the mortuary practices of the royal family of Lagash. We have seen that we know about the types of offerings made, about the recipients of these offerings, and about the places where the offerings were made, even if we cannot always locate them. Unfortunately, we know nothing about the actual rituals that must have taken place when such offerings were made. For example, we have no evidence of prayers that may have been recited on such occasions.

Our information is similarly fragmentary with regard to a practice that has been regarded as central to the cult of the dead at Lagash. Since Deimel's first edition of texts from Lagash in the 1920s, it has been assumed–based on certain passages in the texts–that statues played an important role in Early Dynastic mortuary customs. Thus, it has been suggested that statues that are mentioned together with names of deceased persons, which appear in texts listing garments and jewelry for the Baba festival, could indicate a custom of making statues of deceased people. An obscure passage in the text DP 77 describes offerings to the dead and mentions ancestors, who are leaving, and one ancestor, who is not leaving. Deimel (1920: 46) suggested that this passage refers to acts involving statues (cf. Jagersma 2007: 290–291). We also know that the rulers and the wives of the rulers of Lagash set up statues of themselves in the temples already during their lifetimes, and that they made arrangements for the rituals that these statues required. It is assumed that these statues, which were made of precious metal, were placed together with the well-known "stone statues of worshipers" in front of or next to a deity in the temple where they fulfilled the role of a worshiper praying for the life and health of their donor (Braun-Holzinger 1991: 227–230; Selz 1992; 2004b). We do not know if or how the function of such statues changed after their donor had passed away, or if the statues may have turned into ancestral portraits to be used for mortuary practices (but see Selz 2005: 586, fn. 36). One of the statue inscriptions of Gudea, who ruled in Lagash about 300 years later, describes that Gudea made a statue of himself specifically for his "place of libation" (Edzard 1997: 30–38 Statue B Col. vii 54–55). Based on this evidence, we can suggest that the rulers and the wives of the rulers of Lagash may have followed a similar custom. This hypothesis is supported by texts that show that mortuary practices at the "drinking place" were a prerogative of the ruling house and a few other privileged persons (Selz 1995a: 156; Jagersma 2007: 295).

It has already been mentioned that the textual sources from Lagash always list the name of a deceased person together with the amount of food that was offered to him or her. It is difficult to prove the existence of the notion of a "soul" (or spirit or ghost, Sumerian *gidim*; German "*Totengeist*") already in the third millennium BC. This concept, which becomes very important in literature and incantations from the first millennium BC (see, for example, Cooper 2010; Katz 2010; Scurlock 2006, 1995; Abusch 1999, 1998), is difficult to prove on the basis of the Early Dynastic food lists alone. However, one of the garment lists (VS 14, 163 (Ukg.3)), which records information on fabrics for the deceased, summarizes the entries as follows: *túg gidim-e-ne-kam*, "garments of the ghosts" (Foxvog 2001/2002: 175; for further pre-Sargonic evidence see

Selz 2006: 88, fn. 11). Without a doubt this refers to fabrics that were used for clothing statues. This may be linked to a suggestion offered by Selz, who has analyzed the word *gidim* as composed of two elements, namely *gi*/+/*dim*/, that is "statue of reed" (Selz 2006: 88). Originally *gidim* could have referred to a statue or figurine that gained meaning in the context of mortuary practices (see also the discussion by Krebernik regarding the *udug*/*gidim* sign; Foxvog 2001/2002: 175). Remembering the dead in Sumer would then first and foremost have been a visualized practice ("*Bildpraxis*").

NOTES

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2 For the discussion of this difficult text, see Sallaberger 1995: 17, fn. 16.

3 On the reasons behind the 'co-interments' in the Royal Tombs, see most recently Laneri 2008; Pollock 2007a; Pollock 2007b; Cohen 2005: 89–98, 147–156. Cf. Marchesi 2004 on the identification of the main burials.

4 On mortuary practices during the Ur III period, see Sallaberger 1993; Weiershäuser 2008; Sallaberger 1999: 140, 161–162, 167, 171; Jagersma 2007: 296–303.

5 But see Chiodi 1997.

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CHAPTER TWENTY-TWO

SUMERIAN MYTHOLOGY

Benjamin R. Foster

DEFINITION AND SOURCES

Pioneering studies of Mesopotamian religion organized the evidence around pantheon, cult, and mythology, in which pantheon was the ordering and hierarchy of the gods, cult was religious practice, such as offerings and rituals, and mythology was stories about the gods (survey in Jacobsen 1987b: 466–469; B. Foster 2007). The concept and content of Sumerian mythology were defined by Samuel Noah Kramer's *Sumerian Mythology* (1944, rev. edn 1961), which stands as the foundation for all subsequent work on the subject. Kramer pieced together and presented in narrative form mythological stories previously known in fragments or not at all (comprehensive list of texts in Heimpel 1993–1997). He and his students took the lead for the next forty years in carrying forward the reconstruction and understanding of these stories, culminating with a revision and expansion of *Sumerian Mythology* in French (Bottéro and Kramer 1989). Kramer's gift for popularization, backed up by his unflagging dedication to the task, created a new discipline in the study of mythology, and Kramer further undertook to put Sumerian myths in a larger context of other mythologies of the ancient Near East (Kramer 1961).

The most important sources for Kramer's work were tablets written out in the Sumerian language by Babylonian scholars of the first half of the second millennium BC (Black 2007). At that time, Sumerian was a productive cultural accomplishment, like Latin in medieval and Renaissance Europe. It seems unlikely that the scholars who copied them spoke Sumerian as their mother tongue. The compositions, as opposed to the manuscripts, might be earlier, in some cases from the outgoing third millennium (Alster 1976). Earlier Sumerian mythological stories have been discovered, such as the Barton Cylinder (Alster and Westenholz 1994), presumably written when Sumerian was still spoken as a living language, but these have proved very difficult to understand, nor do they preserve earlier versions of the mythological stories reconstructed by Kramer. Thus there is a puzzling lack of connection between the early Sumerian compositions and the corpus of later documents normally used to reconstruct Sumerian mythology.

Not all scholars are convinced, therefore, that the Sumerian mythological stories copied by Babylonian scribes represent a coherent body of tradition from a period when the Sumerians existed as a people, rather than a variety of compositions in the

Sumerian language written by and for people who learned it at school (Veldhuis 2004: 67). In the eighteenth century BC, Sumerian and Akkadian were two languages of the same literate cultural tradition. "Sumerian mythology" may therefore overemphasize language, too readily identifying works in the Sumerian language with a hypothetical Sumerian society, rather than situating them in a bilingual, even invented artificial Sumero-Akkadian culture mastered by a small elite privileged to receive a formal education. Nonetheless, most writers on Sumerian myths, following Kramer, take for granted that they are authentic remains of an independent Sumerian culture.

MYTH AND THOUGHT

In the rich body of modern writing on Mesopotamian myth, numerous typologies and definitions can be found (Bottéro and Kramer 1989: 95–104; Heimpel 1993–1997: 538–540). In Mesopotamian studies of the mid-twentieth century, myth was sometimes treated as indicative of an unscientific way of thinking, characteristic of contemporaneous primitive peoples, and any ancient people who lived before the middle of the first millennium BC anywhere outside of the Greek-speaking world (Cassirer 1944; Frankfort et al. 1946). According to this view, the mythopoeic way of thinking makes up stories to explain things rather than seeking abstract causes. Sumerian myths would therefore be typical of primitive thought because they did not distinguish "man" from "nature" and they explained natural phenomena, the creation and organization of the universe, as well as developments in human subsistence and society, in story form, proceeding from a known outcome to a posited beginning.

Regardless of how Sumerian myth is analyzed by modern thinkers, its main feature is that story form. The stories often depict a long-ago situation, introduce a conflict, and then give a resolution of it as thereafter valid. Myth is therefore imaginative and reflective, rather than analytic or scientific. It makes recourse to a literary structure built around a specific theme or motif, such as a heroic combat, but often with elements added that are secondary to the main theme, such as intervention of the hero's mother. Mesopotamian myth is usually associated with religious beliefs and practice, tends to be cast in a solemn and elevated style, and can be combined with praise and exaltation of the divine. Yet it remains grounded in the concrete, relying on imagery derived from human life, motivation, and experience transferred to the divine sphere (Bottéro and Kramer 1989: 95–104).

On a more mundane level, some Sumerian myths have been understood as historical allegories for actual political events of the late third millennium (Cooper 2001). Reading myths in this way runs counter to an established academic agenda that searches for mythic universals across many cultures (Diakonoff 1995) and another that reads myth as allegory for aspects of nature as experienced in Mesopotamia (Jacobsen 1987b). The alleged Sumerian mythologizing of political events is sometimes read in more detail as an ethnically Sumerian reaction to the formation of the Akkadian state (Cooper 2001). This, by its own accounts, brutally repressed and exploited the cities of Sumer. Yet Sumerian praises of that state were composed by the daughter of its very founder (Zgoll 1997). Because the Sumerian deities who appear in myths had their major sanctuaries in different Sumerian cities, some stories about them could reflect inter-city rivalries within Sumer, thus a more generalized historical allegory than Sumerian reaction to the Akkadian Empire. Hence, in this sub-group of compositions,

if the allegorical reading is accepted, their mythological content is more of a narrative strategy than exemplary of mythopoeic thought.

In a negative response to the perennial question of mythologists, did the Sumerians or Babylonians believe in their own myths, Sumerian mythological narratives can also be read as a sub-category of Sumerian literature, set in a primeval world of gods for artistic rather than mythopoeic reasons (survey of Sumerian literature in Rubio 2009). Although they lack the light elegance of Sumerian epic and the witty brilliance of Sumerian contest literature, the mythological stories share an intense preoccupation with Sumerian culture and history; they are set in the Sumerian alluvium and acted out on a landscape in which Sumerian cities and their linking watercourses were center stage.

TYPOLOGY AND SUMMARY

Inanna and Enki

One group of Sumerian mythological narratives focuses on Inanna, goddess of love and procreation, and Enki, god of wisdom, intelligence, and magic. In *Inanna and Enki,* which, at about 800 lines, was one of the longest of the Sumerian myths, Inanna leaves her city, Uruk, to visit Enki at his city, Eridu (Bottéro and Kramer 1989: 230–256; Farber in Hallo 1997: 522–526). In the course of a banquet to entertain Inanna, Enki becomes intoxicated and gives her the cosmic powers that control over 100 Sumerian cultural attributes, including the scribal arts, prostitution, family strife, music, kissing, architecture, intelligence, and lighting and extinguishing fire. She makes off with them all to Uruk, despite Enki's repeated attempts to recover them. Although the list of cultural attributes is of considerable interest as an early articulation of human culture, its sheer bulk and repetition foregrounds the list itself as the core of the composition, as if a romance had been constructed to showcase a speculative list of concepts. In a historical reading, the story might express a transfer of cultural prestige from Eridu to Uruk.

Enki and Inanna are at odds in another story, *Inanna and Shukaletuda* (Bottéro and Kramer 1989: 257–276; Volk 1995; Black et al. 2004: 197–205) in which the goddess plants a date palm and a gardener, Shukaletuda, incorporates it in a garden he lays out. When the goddess visits the garden, he rapes her. Inanna tries to punish him for his offense, first by turning his water supply to blood, then by sending a tempest, and finally by blocking access to his garden. Each time, Shukaletuda asks Enki's advice as to how to escape punishment, and Enki advises him to live in a city rather than his garden. Finally Inanna demands that Enki himself hand over the offender, whom she then interrogates and "strikes," perhaps to kill or transform him, but promises in compensation that he will never be forgotten.

In *The Descent of Inanna* (Bottéro and Kramer 1989: 276–295; Jacobsen 1987a: 205–232; Black et al. 2004: 77–84), Inanna descends to visit her sister, Ereshkigal, queen of the netherworld, who, in a jealous fury, kills Inanna. Procreation thereby disappears from the world. To bring her back to life, Enki sends a singer and a female impersonator to soothe Ereshkigal, instructing them to refuse all gifts but the corpse of Inanna. When Ereshkigal, realizing that she has been tricked, surrenders the corpse, she requires that Inanna provide a substitute. On her journey back, Inanna meets her courier and her attendant who used to sing to her and dress her hair. These she is loath

to send in her stead because they obviously have been mourning her death. When, however, she meets her lover, Dumuzi, he shows no signs of grieving, so she gives him to the demons of the netherworld. Dumuzi's sister, Geshtinanna, tries to save her brother by hiding him, but the demons find him with the help of a tattling fly. Geshtinanna sacrifices herself by consenting to spend half the year in the kingdom of the dead so Dumuzi can come up to earth.

The theme of the pitiless demons searching for the young Dumuzi is taken up at length in *Dumuzi's Dream* (Alster 1972a; Jacobsen 1987a: 28–46; Bottéro and Kramer 1989: 300–312), in which Dumuzi, terrified by a dream of being carried off to the netherworld by demons of death, asks his sister to hide him from them, but is betrayed by friends. After several escapes and recaptures, he is carried off to the netherworld. Inanna has no overt role in this particular tale, but, in *Inanna and Bilulu* (Jacobsen and Kramer 1953, with quite different understanding of plot; Bottéro and Kramer 1989: 330–337), she seeks Dumuzi's body so she can lament over it. She meets Bilulu, a god in the form of a tavern keeper, and three people from the steppe are turned into spirits to cry out for funerary offerings for Dumuzi. A bird calls upon his sister, Geshtinanna, to join Inanna for the lament. Sumerian and Akkadian literature preserve various laments for Dumuzi; furthermore, the youthful love and courtship of Inanna and Dumuzi were a favored subject of Sumerian love poetry and epithalamia (Jacobsen 1987a: 1–84; Sefati 1998).

These are stories in which the complicated, self-centered, and passionate temperament of Inanna provides the dynamic element. Akkadian literature contains a version of the *Descent of Inanna* (called by her Semitic name, Ishtar, B. Foster 2005: 498–505), and preserves another story about Ishtar and Enki written with Sumerian performance rubrics, called *Ea and Saltu* (ibid.: 96–106). In the latter, Ishtar's fondness for violence so annoys Enki that he creates a counterpart for her named "Discord." When Ishtar is disgusted by Discord, she sets aside her violent ways and Enki ordains that people will perform a kind of ritual battle dance in her honor. This shows that the tension between Ishtar and Enki and Ishtar and her sister, Ereshkigal, queen of the netherworld, were themes explored in both Sumerian and Akkadian writings, with stories in common and with stories unique to each.

Ninurta

A similar fund of themes common to Sumerian and Akkadian, alongside stories unique to each literature, is found with Ninurta, a hero-god who is the subject of four major Sumerian mythological narratives and one Akkadian one. In the poem *Lugale* (Jacobsen 1987a: 233–272; Bottéro and Kramer 1989: 339–377; K. Foster 2000; Black et al. 2004: 163–180), Ninurta defeats a volcanic monster and his army of stone allies, and then decrees a destiny for each stone. Blessed stones were to be prized for their own sake by the human race, whereas cursed stones were useful only when broken, chipped, or ground to powder. This work enjoyed unique popularity in Mesopotamian tradition. It was provided with an Akkadian translation during the second millennium and was studied as a "Classic" well into the first. Its comprehensive aetiology of the use of stones in early Mesopotamian culture, original and brilliantly done, touched on a subject of importance in Mesopotamian thought, which took a great interest in the appearance, properties, and magical potential of stones (Schuster-Brandis 2008). The

enumeration of stones can be compared to the enumeration of culture traits in *Inanna and Enki*, in *Enki and the World Order* (discussed below), as well as to the list of birds in *Nanshe and the Birds*, in which each kind of bird is assigned a place in the world (Veldhuis 2004).

In the other compositions, the central theme is Ninurta's desire for the powers held by other gods, which he believes he is entitled to because of his heroism. In *Angim* (Cooper 1978; Bottéro and Kramer 1989: 377–388; Black et al. 2004: 181–186), Ninurta is victorious over the mountain, but the poem is focused on the aftermath, when he brings his chariot and trophies to his father's house in Nippur and seems impatient to usurp his father's powers in his moment of triumph. The gods sing his praises and Ninurta joins them, but, after asking for additional authority, he returns to his own house.

In the Akkadian poem *Anzu* (B. Foster 2005: 555–578), Ninurta hunts down and slays a monstrous bird that stole the powers of his father Enlil. Upon his triumphant return, it appears that he is not eager to relinquish the powers to his father, but eventually does so and is praised by the gods. Although no Sumerian version of this story is known, in the Sumerian *Ninurta and the Turtle* (Alster 1972b; Bottéro and Kramer 1989: 418–424), Ninurta has defeated Anzu and wants to keep the captured powers for himself. Enki intervenes by arranging for a monstrous turtle to seize Ninurta and hold him while Enki admonishes him on his behavior. Ninurta's mother, who volunteered her son's services in the Akkadian A*nzu* poem, is displeased with Enki's intervention; perhaps she wanted her favorite son to take Enlil's powers. In *Ninurta's Journey to Eridu* (Reisman 1971; Bottéro and Kramer 1989: 424–429), Ninurta goes to Enki's house. Like Inanna, when he sees the cosmic powers there, he covets them for himself.

The story of Ninurta as an ambitious hero was adroitly reworked by the author of the *Babylonian Epic of Creation*, in which a champion is needed to save the gods from attack by the mother of them all, Tiamat (B. Foster 2005: 436–486; Lambert 2008). Ea, the Akkadian name for Enki, instructs his son, Marduk, to volunteer to champion the gods, but, unlike Ninurta, Marduk is to demand supreme power over them, in advance, as the price for his valor. In this twist to the story, the gods freely grant Marduk their powers and, after his victory, he reorganizes the universe, in which Babylon becomes its earthly center. Babylon thereby, in the Akkadian story, replaced both Eridu and Nippur as the seat of cosmic powers. Inanna had no role in the Ninurta story and likewise had none in the *Babylonian Creation Epic*. In this instance, a Sumerian story, focused on a son's desire to take his father's powers when he has surpassed him in bravery, has been converted in an Akkadian retelling into a clever plan by the god of wisdom to make his own son pre-eminent in the universe. The father–son rivalry has been removed from the plot; now the father has a master plan to promote his son over all the gods.

Enlil

Chief god on earth, and sometimes considered to be the god of the atmosphere, Enlil is the subject of two Sumerian mythological stories about how he acquires a wife. In one, *Enlil and Ninlil* (Jacobsen 1987a: 167–180; Bottéro and Kramer 1989: 105–115; Black et al. 2004: 102–106), Ninlil is a nubile girl who arouses Enlil's desire. With the

help of his courier he approaches her when she is bathing and rapes her, leaving her pregnant with Sin, the moon-god. Banished from the community for this crime by the other gods, Enlil disguises himself as one of his own servants and arranges to meet Ninlil three more times while she follows him into exile, impregnating her each time with yet another deity. Sin becomes a god in heaven; the other three become netherworld deities. Young Ninlil's devotion to her abuser is a haunting psychological insight in this disturbing tale, for which no Akkadian parallel exists.

In *Enlil and Sud* (Civil 1983; Bottéro and Kramer 1989: 115–128; Black et al. 2004: 106–111), Sud is an attractive young woman whom Enlil mistakes for or hopes to treat as a prostitute. When she refuses his advances, he sends his courier to her mother, proposing marriage. Her mother accepts, and Enlil showers his prospective bride with presents. The wedding is celebrated with great splendor. In Sud, Enlil finds the ideal royal mate: she is a mistress of love, birth, and womanly arts, abundant harvests, accounting and household management, and, finally, his queen, Ninlil.

These two stories offer mirror images of how Enlil, a king, acquires his queen. In each case, the plot turns on Enlil's uncontrollable desire for a young woman, one of whom he rapes and the other of whom he cannot possess until he marries her. In the major Akkadian composition in which royal lust is a factor, the *Epic of Gilgamesh* (George 2000; B. Foster 2001), Gilgamesh, the king, does not find a queen, and, in fact, royal lust drops from the story. In the Akkadian *Nergal and Ereshkigal* (B. Foster 2005: 506–524), it is the queen who wants a mate, whom Ea finds a way to provide. These stories explore in different ways intersections of power and desire, exampled in more modern societies through the amply chronicled amours of royalty and their political consequences. One cannot know if their tenor was weakness or strength of the flesh writ large, as some critics today might read them, or if they had a wholly different intent that lies beyond our ken.

Nanna-Suen's Journey to Nippur (Bottéro and Kramer 1989: 128–142; Black et al. 2004: 147–154) tells how the moon-god decides to visit his father, Enlil, in order to enhance their bonds of mutual loyalty. He builds a wonderful boat, loads it down with gifts, and sets forth on his voyage. At five points along the journey gods try to take the cargo for themselves, among them Inanna at Uruk and Ninlil herself, near Nippur. These efforts are unsuccessful and the moon-god arrives with his gifts, including fish, precious oils, and livestock. Enlil gives a banquet in his son's honor, in which his dutiful guest asks his father's blessing on his city, Ur, and long life for himself. Some modern readers would see in this story a theological allegory for the interdependence of Nippur and Ur under the Third Dynasty of Ur, when Ur was the political capital and Nippur enjoyed special status as a kind of religious capital and center of learning, but others might read it differently, perhaps as a celebration of a ritual.

Enki

Enki is perhaps the most important deity in the Sumerian mythological poems. Insofar as they involve conflict, he is most often the one who invents a resolution for it. His wisdom is not proof against alcohol or desire, but in terms of sheer intelligence and knowledge he has no rival among the gods.

In *Enki's Journey to Nippur* (Bottéro and Kramer 1989: 142–150; Black et al. 2004: 330–333), Enki builds himself a splendid palace at his own city, Eridu, which is praised

at considerable length. When it is done, he embarks on a journey to Nippur, where he is feted upon his arrival. Enki then gives a banquet in honor of Enlil, at the conclusion of which Enlil makes a speech, expressing his joy at the construction of the new palace.

Enki and Ninhursag (Jacobsen 1987a: 181–204; Bottéro and Kramer 1989: 151–164) is set on the island of Bahrain, which the Sumerians called Dilmun. According to the story, Dilmun was then a place where nothing unpleasant had ever happened, but it did not have an adequate supply of fresh water. At the behest of the goddess Ninhursag, Enki arranges for plentiful water, begetting grain, green plants, vegetables, and reeds in abundance. With the coming of plants, the goddess of weaving, Uttu, is born. Enki desires her and visits her house with fresh fruit as a present. When she welcomes him, he rapes her, but Ninhursag somehow turns aside his sperm and uses it to make seven plants. These plants having as yet no use in the world, Enki proposes to give each its destiny, but insists on tasting each one first. Ninhursag, furious, wishes him dead, but the gods are thrown into consternation at this, as they need Enki, so she makes him sick instead. A mysterious figure appears, perhaps a fox, who offers to rescue Enki. Ninhursag, somehow mollified, creates eight deities to cure each of Enki's afflictions, from head to foot, and these find their place in the cosmos.

The longest poem about Enki, *Enki and the World Order* (Bottéro and Kramer 1989: 165–188; Black et al. 2004: 215–225), praises him as provider for the gods and the human race, measuring out the places for the stars in heaven and furnishing the world with fields and flocks. He builds his palace and a wonderful boat, which he uses to take a journey through all the lands the Sumerians knew. In Sumer itself, Enki blesses it for diffusing civilization to all of them. From there he goes on to Meluhha (the Indus Valley), Dilmun (Bahrain), Elam and Marhashi (south and south-central Iran), and Martu (the Mid- to Upper Euphrates). He organizes the marshes, the sea, and the clouds; human tasks such as agriculture, husbandry and the construction of shelter, weaving, metal work, hunting and fishing, writing, midwifery, and prostitution. When Inanna protests that nothing has been given her, Enki ordains her mistress of conflict and contradiction. She will bring sorrow where there is happiness, both misery and bliss.

Tales of origins

Mesopotamian mythology generally held that the human race had been created to serve the gods and to relieve them of the necessity of working to sustain themselves (survey in Lambert 2008). The inspiration for this came from Enki, while a mother or birth goddess, under various names, such as Ninmah, fashioned the first human being. In *Enki and Ninmah* (Bottéro and Kramer 1989: 188–198; Klein in Hallo 1997: 1, 516–518), when humans have been created and the gods celebrate their new leisure, Enki and Ninmah have a drunken contest, in which Ninmah creates various defective human creatures but Enki finds a use for each one. Finally, Enki instructs Ninmah to produce the most helpless creature of all, with the participation of a man and a woman (Kilmer 1976). This monstrosity cannot walk, talk, or feed itself – it is the human baby! Enki challenges Ninmah to find a use for such a thing, but she is unable to do so. One could scarcely pen a crueler caricature of the human race than this.

Other creation stories existed in both Sumerian and Akkadian. The interaction of Enki and the birth goddess is the key element in the longest of them, the Akkadian

story of *Atrahasis* (B. Foster 2005: 227–280). In this, the newly created human race is so productive that the gods send a great flood to wipe it out. Frightened by what they have done, and hungry for lack of human servants, the gods repent and vow never to send another flood, but rather to keep human population in check by infertility, social taboos on child-bearing, and regular mortality. A flood story is known in Sumerian, but it is probably later in date than *Atrahasis* so composed by an Akkadian speaker in scholastic Sumerian (Civil 1969; Black et al. 2004: 212–215).

SUMERIAN MYTHOLOGY AND GREATER MESOPOTAMIA

Sumerian writings contain little direct evidence for the influence of non-Sumerian peoples upon Sumerian culture. When the mythological texts were set down, Sumerian written culture was already centuries old, enjoyed high prestige, required a long apprenticeship to master, and was more a body of knowledge for the educated than a widely shared cultural property. Because of its clear tendency to glorify Sumerian culture as superior to all others, Sumerian literature gives an impression of being impervious to non-Sumerian influences and little interested in strange lands and peoples. Although in an assessment of Sumerian culture as a whole, such an impression would be seriously misleading, in Sumerian formal writing, the choice of themes, settings, and characters prefers Sumerian cultural patterns, Sumerian settings, and major Sumerian deities.

Interpretation of the rich legacy of Sumerian mythology in modern thought has therefore taken many rewarding paths, but its placement and understanding within the larger framework of Sumerian culture and history eludes us still.

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PART V

THE NEIGHBOURS

CHAPTER TWENTY-THREE

TRADE IN THE SUMERIAN WORLD

Harriet Crawford

The importance of trade as a 'prime mover' in the development of human society has been acknowledged by archaeologists for many years (see, for example, Ucko et al. 1972). In the 1960s and 1970s, it was seen as one of the major forces driving society towards urbanism, and more recently, Wallerstein's World Systems theory enjoyed a vogue as an explanatory model for understanding the rise of so-called secondary states (Renfrew 1969; Trigger 1972; Algaze 1986). This latter view has now been heavily modified (Stein 1999). On the other hand, it is generally agreed that the presence of complex trading networks has important implications for the organisation of society, encouraging the development of craft specialisation, mass production, new modes of transport, (Algaze 2004) and the emergence of what might loosely be called information technologies, such as the writing and sealing practices used to track the flow of goods.

It is therefore surprising that it is not always easy to identify the presence of trade in the archaeological record. In the absence of written evidence the presence of non-local goods or raw materials in the material culture of any group could be thought to indicate trade with the areas of origin of such goods, but it must not be forgotten that there are many mechanisms other than trade, in the strict sense, by which objects can be moved over long distances and these are frequently ignored.

Context, quantity and the type of goods concerned are important in attempting to decide which of the many potential mechanisms was employed. Foraging for widely available raw materials such as timber, or building stone, was a timeless method of acquisition which became less useful as populations expanded, forests shrank and people became more possessive of their local resources. At the other end of the spectrum, high-value prestige items such as ornaments and precious stones have always been exchanged as gifts by the elite, by travellers, by nomads seeking safe passage or carried by women as dowries. Such items may have passed through many hands before they arrive in the archaeological context in which they are found. Equally, both goods and women can arrive as the result of pillage or the taking of booty (Lafont 2008: 27), another timeless and effective method of moving goods around the world.

The picture is further complicated by the well-established practice of craftsmen moving from town to town whether voluntarily or at the behest of their masters. For example, in the mid-third millennium nine sculptors from Mari worked at Ebla, while blacksmiths from Ebla went to Kish (Quenet 2008: 203/4, 226); itinerant groups of potters or metal workers may travel over long distances and the emulation of an

attractive or superior product by local craftsmen is also well attested in pottery manufacture. These factors make the attribution of a place of origin to a manufactured item on stylistic grounds alone unreliable.

Between the two poles of foraging and gift-giving is what might be called standard trade – trade that is the commercial exchange of goods which takes place on a regular basis and where each party sees themselves as satisfied with the outcome. It is on that mechanism that this chapter will concentrate.

Mesopotamia provides an excellent example to illustrate Finlay's dictum that "Imports alone motivated trade, never exports" (Finlay 1954: 65). In south Mesopotamia, true trade was focused on the importation of the raw materials which the region lacked, notably metals, high-quality timber and both building and semi-precious stones. Metals were probably carried in semi-processed form, partly to reduce weight, and partly no doubt because of the lack of high-quality fuel necessary for smelting in Mesopotamia; semi-precious stones also travelled in the same way. A few finished luxury goods such as etched carnelian beads or chlorite and calcite vessels were also traded, though many other high-value items were made of imported exotic materials in workshops in Sumer itself to suit local tastes.

Such materials were acquired in exchange for manufactured goods, mainly textiles, foodstuffs and oils. Cereals do not seem to have played a major role, probably because of the difficulty of transporting such bulky items by land over long distances (Potts 1997: chapter V for the carrying capacity of early boats in Mesopotamia). Where possible, transport by boat was preferred as land transport was slow and cumbersome. The waterways of Mesopotamia are well known and, in addition, the head of the Gulf was considerably further inland during the Sumerian period. The Karun River, which today runs into the Shatt al-Arab, may have been navigable making transport to and from Elam possible by boat, while in north Mesopotamia the Balikh, the Habur and the Jaghjagh were probably navigable for much of the year (Quenet 2008: 17). The Euphrates was the major north–south artery of communication as the current powered downstream movement while, at least by the Ur III period, conscripts could be used to haul boats upstream (Lafont 2008: 32–33). The domestication of the donkey by the later Uruk period at latest made bulk transport by land somewhat easier (Payne 1988: 100), but much of the terrain was difficult and sleds and carts with solid wheels made progress slow. Valuable goods were no doubt still carried by men in packs on their backs.

As well as material goods, technologies and ideas also crossed borders. The most significant of these was arguably the cuneiform script and the associated scribal methods of record keeping. Together they paved the way for the easier storage and transmission of knowledge, as well as goods, across time and space thus linking people regardless of distance. By the middle of the third millennium, the cuneiform script was to be found over a swathe of territory which included Turkey and Iran.

Sometimes it is only from the presence of textual evidence that we can identify with certainty the methods used to acquire goods, though the texts are not infallible either. Rulers may record trade goods as tribute, or disguise them as royal gifts from neighbouring kings, when trade would be a more accurate description. The nature and quantity of goods may also provide an insight. A sprinkling of exotic stones in high-status graves may not have arrived by the same mechanism as large quantities of lead or copper for utilitarian tools. It is also recognised that several mechanisms were

probably in use at any one time and that their relative importance changed as society developed and goods that had been luxuries, like copper and bronze, became essentials.

Change can be seen in the goods imported, the routes by which they travelled, and the status of the people carrying the goods. For example, merchants became increasingly professional as the goods they carried became utterly essential to the social and economic systems of Mesopotamia and the volume of goods increased exponentially. The Sumerian word for merchant, *damgar*, is found on some of the earliest tablets when it already seems to have been an established profession. It has been suggested that *damgar* is rather more all-encompassing than the translation 'merchant' would suggest. Foster has proposed that it should more accurately be translated as 'man of business' or 'business agent' (Foster 1977: 35) as they also seem to have lent money and carried out commissions for the state institutions and for individuals. Their status in relation to the state institutions is often difficult to determine, but by the Agade period there seem to have been 'private sector' merchants who were organised into groups, often of family members, and who were led by an 'overseer'. It is also important to remember that the bulk of the merchants' business was conducted within southern Mesopotamia and was not concerned with international trade (see below). This chapter will attempt to track changes in all these areas through the late fourth millennium and the succeeding Early Dynastic, Agade, and Ur III periods.

Foreign trade is not of course the whole story. It is also recognised that intraregional exchange within south Mesopotamia was important and made up the bulk of a merchant's business. Different cities on the southern plain developed manufacturing specialities, or acted as *entrepots* for the forwarding on of foreign goods (Foster 1977: 36). It seems that Isin was well known for its leather goods, while Adab may have been a forwarding agent for decorated steatite/chlorite vessels from Iran and the Gulf which were in vogue in the middle of the third millennium (Kohl 1975). Under the Third Ur dynasty very large amounts of bitumen were forwarded by Girsu to Ur, five shiploads are mentioned in one text (Forbes 1964: 18). This transaction also illustrates well the difficulty of interpreting the texts as it is not clear whether this is really trade, or was tribute or taxes to the centre. An emphasis on foreign goods and raw materials alone certainly underestimates the total volume of goods exchanged as too does the fact that many of the items concerned in a whole range of transactions are now generally accepted to have been perishable or invisible (Crawford 1973). Textiles and food stuffs, both major exports, leave little trace in the archaeological record, while knowledge and technical skills leave only indirect evidence.

South Mesopotamia has never been a self-contained unit. Almost from the time of the first permanent settlements in the Ubaid period there is evidence for contacts with the outside world. Some of the earliest of these demonstrate contacts southwards down the Gulf, where Ubaid 2/3 pottery occurs, thus predating Ubaid dealings with north Mesopotamia which belong to the later Ubaid 3/4 period (Carter 2010). Ubaid 3/4 pottery has been found over much of north Mesopotamia and southeast Anatolia, while at Değirmentepe there appears to be an Ubaid village (Yener 2000: 30). There are also stylistic similarities with the pottery of southwest Iran. The nature of the relationship between the southern plain and these adjacent areas is far from clear. It certainly differed from region to region and the desire for foreign goods may not have been the sole motivation. Indeed, there is little evidence from southern Ubaid sites such as Ouelli for the use of imported materials. Some of the contacts may reflect the search

for knowledge or resources, some the emigration of people from the south, and some emulation by local people of a desirable commodity, rather than close encounters with the originators of the goods.

By the middle of the Uruk period, it is possible to identify a radical change in these varied relationships with the founding of the first so-called colony site at Sheikh Hassan on the Middle Euphrates (Boese 1995). Much has been written about the elaborate system of so-called colonies which was in place by the late Uruk period (Algaze 1986: passim), of which Habuba Kabira and Jebel Aruda are perhaps the best known examples. These sites were apparently intended to ensure a constant flow of goods, especially metals and timber, southwards from the highlands of Anatolia into the southern plain. Here, in the colonies, the material culture is identical with that on the southern plain and seems to owe little to the area in which the settlements were planted. In addition to the colony sites, there were also smaller way stations where presumably caravans could rest and recuperate. Such sites have all the conveniences of home, but show more evidence for local interaction. At Hassek Huyuk these facilities include a small public building decorated with splendid mosaics. In the pottery corpus there is also a 'substantial component of indigenous late Chalcolithic chaff-tempered forms', suggesting a closer relationship with local people than at the colonies (Algaze 1993: 86). Furthest from home there were small groups of people from the plain living in enclaves in local settlements, presumably to facilitate the flow of goods to their homeland. The best known of these enclaves is found at Hacinebi, while another almost certainly existed at Brak in North-East Syria (Stein 2002: 149–172).

Further north, where there is no evidence for enclaves, stylistic contacts with the south can be recognised, sometimes in the glyptic and sometimes in the pottery. The magnificent urban site of Arslantepe in eastern Turkey with its public buildings, wall-paintings, sophisticated metalwork and elaborate accounting system has also produced a limited amount of late Uruk pottery (e.g., Frangipane 2004: fig. 37), and Uruk style seals, suggesting a limited contact with the south, but the architecture and the metalwork owe nothing to their southern counterparts and are equally sophisticated. Even further north on the coast of the Caspian sea, recent studies have detected traces of Uruk influence on the pottery (Munchaev and Amirov forthcoming).

Looking eastwards, there were also close ties between Susa and the south in the Uruk period. By the late Uruk much of the material culture, perhaps most striking in the iconography of the seals, is almost identical, but the exact nature of the relationship is unclear and much debated. Differences in the shape of the proto-cuneiform tablets from Susa and in the way signs are arranged both argue against the presence of Sumerian bureaucrats (Potts D. 1999: 52ff.) and so of the actual conquest of southwest Iran by south Mesopotamia. On the other hand, the pottery is Uruk in style. It also seems unlikely that Uruk could maintain a full-blown military occupation of another polity at this early time, but relations were undoubtedly close. The end of the Uruk period, which coincides with the end of Susa II, saw a complete change in the material culture of that city, marking an abrupt change in the relationship.

By contrast, relations with the Gulf seem to have declined later in the Ubaid period and this region does not seem to have had a significant relationship with Uruk Mesopotamia. A few pieces of Uruk-related pottery have been found in the Eastern province of Arabia (Potts D. 1986). There are also scattered references in the texts to Dilmun, which also appears as an element in a few personal names (Potts D. 1990:

85–87). It seems that whatever the motive for the Ubaid travellers had been, the thrust of the contacts turned north and southeast in the Uruk period. Regular contact with the Gulf is only resumed after the collapse of the Euphrates route northwards.

There has been speculation about the reasons for the collapse of this wide-ranging Uruk network and it is still unclear what factors brought it about. Some of the colonies such as Habuba seem to have been deserted, while Hassek Huyuk was destroyed (Algaze 1993: 107). We can suggest that many of the traders who had manned the colonies and outposts of the Uruk system were forced to relocate.

Dramatic changes at much the same time are visible in the north at Arslantepe and as we have just noted at Susa, and at Godin Tepe in the Zagros. At both Arslantepe and at Godin, the post-Uruk levels are marked by a new type of pottery, Kura-Araxes ware, which originated north of the Causcasus (Frangipane 2002; Badler 2002: 83). The appearance of this pottery appears to be related to movements of new people southwards into Anatolia and northwestern Iran (Kohl 2007). Can we suggest that part of the reason for the end of the colony system was that the production of ore was disrupted at the Anatolian mines as a result of these incursions? The disruption of supplies would have made the late Uruk colonies unnecessary and must have had a major economic impact on the cities of the plain. It is noticeable that there was a sharp contraction in the urban population at this time and at Uruk there is a break in the Eanna sequence at the same moment, which we can perhaps attribute to a period of recession. There is no evidence of an attack or an invasion at Uruk itself and the recession, if such it was, was followed by another flowering in the third millennium when the old public buildings were carefully cleared out and a massive terrace built over them. The so-called Sammelfund, a cache of precious objects probably buried at the end of the Uruk period, has been used to suggest an attack, but we know that later, in the mid-third millennium, superfluous items of religious significance were disposed of by carefully burying them[1] so we can suggest that this, rather than imminent danger, may be the explanation for the Sammelfund.

In north Mesopotamia, the collapse of the Uruk network had even greater repercussions with urban centres disappearing from the archaeological record for several centuries. This did not mean that trade ceased completely. In both north and south there is evidence for some foreign goods, but the scale is hugely reduced and in some cases the routes too seem to have changed (Quenet 2008: 36, 97ff.). In the north the distribution of one particular type of seal, the Piedmont, suggests the use of a route from Elam to Western Syria (Collon 1987) that hugged the flanks of the Zagros and Taurus mountains. The Piedmont seal is typically made of glazed softstone, it is long and thin, and is decorated with simple geometric motifs and crude animal files. These seals are relatively rare on the southern plain which does not seem to have been a major player in this network. The route mapped by these seals is also marked by a string of circular fortified sites in the Hamrin valley, east of the middle Tigris, which seem to have acted as staging posts on the route. Some continued in use into the succeeding Early Dynastic I period but after this the valley is more or less deserted, pointing to another shift in the direction of the trade.

In spite of the very limited evidence, it seems clear that the supply of foreign goods in the southern plain was drastically curtailed after the collapse of the Uruk colonies. For example, the amount of metal brought into the south was apparently sharply reduced, although as few sites of the period have been excavated, it is difficult to make

an accurate comparison. There is not a total famine, as lead bowls appear in some of the Jemdat Nasr or ED 1 graves at Ur, and a few simple copper tools are known from Jemdat Nasr itself (Matthews 1999: 43). The limited evidence from the Jemdat Nasr period may point to foreign, Arabian merchants as the carriers of what little copper there was (see below). It is only in the later Early Dynastic period that we can again be certain that professional merchants were operating out of Sumer.

The evidence from the Arabian peninsula suggests that, post-Uruk, the search for metals was now concentrated here rather than up the Euphrates or eastwards onto the Iranian plateau. Susa no longer had such close ties with the south either. The mountains of the United Arab Emirates and Oman are rich in copper and also produce carnelian and decorative hard stones such as black diorite. Finds of typical painted Jemdat Nasr pottery, a type of pot found on the southern plain after the Uruk collapse (cf. Crawford 1998: 35 for refs.), mark the route travelled by these goods from the Arabian mines to the coast, where they could be trans-shipped to Mesopotamia. We do not know who the merchants were. The fact that much of this pottery is associated with small free-standing conical graves built of rough stone in a local style may suggest that many of those who carried the goods were natives of Arabia who had acquired the attractive vessels and their contents from Sumer in exchange for their metals. On the other hand, it is possible that the exchanges took place on the coast of the Arabian peninsula.

New evidence from the beginning of the third millennium provides clear evidence from the southern plain for the movement of goods within the Sumerian plain. No doubt this had taken place earlier, but is not recorded. The exact nature of this movement is unclear, but it appears that a number of cities may have joined together to supply the central religious site of Nippur with small amounts of foodstuffs and textiles (Matthews 1999: 51). Their activities are documented on thirteen tablets from the southern site of Jemdat Nasr and by a very specific type of cylinder seal impression found on them which is decorated with pictograms representing the names of the cities involved. Similar impressions are also found at Uruk and in the Seal Impression Strata at Ur, which is probably a little later in date (Matthews 1993: 40). The group's activities do not seem to have been restricted to the plain as a number of possible examples of city sealings are known from Susa (Matthews 1993) and one such impression has recently been found on a door sealing at Konor Sandal in the region of Jiroft in the Halil basin of Iran (Pittman in Madjidzadeh with Pittman 2008: 100). This suggests that external ventures could also be organised on a co-ordinated basis and that merchants from Sumer were present here. It is perhaps relevant in this context to note that plain steatite/chlorite vessels, many of which appear to have originated in this part of Iran, are found in graves at Ur from the Jemdat Nasr period onwards (Kolbus 1983).

The Early Dynastic period, conventionally dated from *c.*2,800 to 2,350 and subdivided into four parts,[2] saw sharply rising levels of prosperity and a huge increase in demand for imported goods. Over this time, we see a growing market in the raw materials for luxuries such as jewellery and precious metal to meet the requirements of a newly affluent sector of society. There is also a marked expansion in the use of base metals for tools and weapons and an increasing demand for high-quality building timbers to roof the new public buildings. The imported goods came from different areas and a number of routes seem to have been in use simultaneously. As the evidence is greater than for previous periods, we will deal with it by geographical location as well as chronologically to try to clarify the position.

THE EUPHRATES ROUTE

The 'Uruk' route up the Euphrates is reopened in ED I/II and the newly founded city of Mari has provided many examples of the ties between this region and the Sumerian plain, especially in the stylistic characteristics of statuary and seals and, above all, in its use of the cuneiform script. We may guess that by ED III relations between the states were generally friendly, Mes-anne-padda of Ur even dedicated a fine lapis bead inscribed with his name which was found in the courtyard of the Mari palace temple (Frayne 2008: E1.13.5, 391). Mari's geographical situation allowed it to play a major role as a forwarding agent for goods and materials originating in Anatolia and the Levant. These included copper and high-quality building timber and enabled Mari to establish a close relationship with the Sumerian plain. It was not alone in this as other sites in north Mesopotamia such as Ebla and Chuera also demonstrate similar influences, although the links do not seem to have been so close (Quenet 2008: 214).

THE SOUTHEAST AND IRAN

At about the same time, in ED I/II, direct contact seems to have been re-established with Susa, although contacts with highland Iran were much more tenuous, in spite of the famous literary composition (the story of Enmerkar and the Lord of Aratta) which tells of the Sumerian ruler's search for lapis and carnelian to decorate his temple for Inanna (Potts T. 1994: 281). Susa shows a similar range of Sumerian influences as those seen at Mari, but sadly the evidence for this period of time is poor owing to later building activity on the site (Potts D.T. 1999: 93). Susa may have been the transit point for material from further north and east such as the lapis lazuli, which is found in large quantities in the royal graves at Ur, precious metals, the 'chlorite'[3] containers referred to above, and finished calcite vessels.

The trade in one type of chlorite vessels, decorated in what is known as the Intercultural style, illustrates, clearly the complexity of the trading networks in the third millennium and the variety of ways in which the same prestige materials could arrive in Sumer. It is possible to group the material broadly known as chlorite by geophysical analysis, at least in general terms, and it is clear that vessels from at least three different sources were brought in. Two of these sources were in southwest Iran and at least one in the Arabian peninsula (Kohl 1975). There are also several known manufacturing centres in Iran: one at Tepe Yahya, one recently discovered at Jiroft, and one at Tarut in the Eastern province of Arabia. These centres are not necessarily exactly contemporary. It is remarkable that the iconography is similar on products of all the known centres and that its roots seem to lie in Iran rather than Mesopotamia. (There are other groups of chlorite vessels which apparently originate in Eastern Iran and central Asia. These include square boxes, other compartmented vessels and flasks.) The highly decorated Intercultural style vessels show magnificent scenes of writhing snakes, mythical animals, kilted humans and architectural decoration. Some figures are enhanced with inlays of brightly coloured semi-precious stones. They were apparently specially prized in Sumer as dedicatory offerings and are frequently found in temples (Potts T. 1994: 250ff.).

How they were acquired is not precisely known, they seem to have arrived by at least two different routes: up the Gulf and from Susa. The recent findings of Early Dynastic

sealings at Jiroft, as well as the single City seal impression mentioned above, suggest that merchants from the south may have journeyed there themselves to source these desirable goods (Pittman 2008: 99 and fig. 32). Adab may have been a centre for their reception in Mesopotamia as vessels of several different origins were found here and it may also have been part of the route by which such vessels were forwarded on to Mari (Kohl 1975: 30, 2001: 228ff.). Not all the examples from Sumer were necessarily trade goods, some, which were found in temples, may have originated as gifts from rulers or merchants, or as royal booty, but if they were booty, the Sumerian rulers, who are not known for their modesty, would surely have inscribed such prestige offerings as they did less valuable vessels and as their successors did in the Agade period.

Susa does not appear to have been a major purveyor of copper and tin, although copper was certainly entering the south from Iran – for example, from the Anarak mines – but it probably arrived from the northeast, where Tepe Gawra seems to have re-established itself as a market town, or down the Diyala, which might explain the prosperity of this valley in the Early Dynastic period (Potts T. 1994: 147, 152–153). There are also recent reports of an important tin/copper mine at Deh Hosein, approximately 45 km southwest of Arak on the borders of Luristan. The new mine is polymetallic and was apparently in use from the third to the first millennium BC. Lead isotope analyses of the metal match those of third millennium bronzes from Luristan, the Gulf and Mesopotamia and raise the possibility that the area may have been a major supplier of tin and copper from the third millennium onwards (Weeks 2008: 336). It has long been thought that tin may also have arrived from Afghanistan, possibly overland or else through the Indus valley and up the Gulf (see below and Moorey 1994: 298).

THE GULF ROUTE AND THE INDUS

Another major source of metals was the trade up the Gulf which also increased in importance during the third millennium. Tablets document the trade between pre-Sargonic Lagash, Fara, Umma and Dilmun to purchase copper and tin in return for wool (Foster 1997; Prentice 2010)[4]. It should be noted that Dilmun at this period almost certainly refers to the east coast of the Arabian peninsula and not specifically to Bahrain as it did by the end of the millennium.[5] The merchants probably travelled to sites such as Tell Abraq on the coast of Umm al Gawain Emirate, a site which has an amazing range of overseas contacts reaching as far as Central Asia. Recent work on the metal remains from this site strongly suggest that copper arrived here from a variety of sources which included both local ones and others from much further afield which were apparently channelled through the Indus alley. The tin was probably from Afghanistan and arrived by the same route (Weeks 1999). Other goods forwarded on to Mesopotamia included carnelian both in its unworked state and as beads, lapis lazuli, shells from the Indian Ocean, more decorated chlorite vessels, and perhaps exotic animals and birds (Ratnagar 2004). A similar but smaller and poorer transhipment site lay slightly nearer Mesopotamia on Umm-an-Nar island (Frifelt 1991, 1995). Somewhat unexpectedly Ur-Nanshe claims to have brought timber by ship from Dilmun to build various temples (Frayne 2008: E1.9.1.2, 84). This too must have originated further afield as no suitable timber is found in Eastern Arabia.

THE AGADE PERIOD: THE EUPHRATES ROUTE

Looking now to the traditional route northwards up the Euphrates, Sargon claimed to have washed his weapons in the Upper Sea and to have conquered Mari and Ebla (Frayne: E1.9.1.2, 84) which suggests at least fleeting control of the Euphrates route thus making the acquisition of copper and timber from Anatolia and the Levant easier and more reliable. It also marks a change from the apparently peaceful contacts of the Early Dynastic period with these cities. The destruction of Palace G at Ebla has been attributed to Sargon, or to Naram-Sin, as has a destruction level at the Mari palace P1. He does not seem to have been active in the northeast, which seems to have become one of the main points of entry for lapis lazuli which was trans-shipped perhaps via Ebla and the Levantine ports as far as Egypt (Quenet 2008: 268).

SUSA AND IRAN

Sargon also campaigned in the southeast and in the same inscription claims to have conquered Elam and Parahšum. Susa seems to have become an Akkadian colony governed by southern bureaucrats. Some of the other so-called conquests may have been more in the nature of successful raids as his successors seem to have had to rely on more and repeated military expeditions to maintain control and to keep the trade routes open. Although Highland Iran may have suffered occasional incursions, it seems to have remained largely independent (Potts D.T 1999: 128–129). T. Potts has suggested that booty rather than tribute or taxes became an important source of goods from Highland Iran during the Agade period. Occasionally, 'chlorite' bowls belonging to both the *série ancienne,* with elaborate decoration, and the *série récente,* with a simple dot and circle design, and vessels of banded calcite, all probably of eastern origin, bear dedicatory inscriptions of Rimush and Naram-Sin some of which specifically identify the vessels as from the booty of Elam or Parahšum. Rimush also claims to have brought back 30 *minas* of gold, 3,600 *minas* of copper and a number of slaves from Elam (Potts T. 1989: 285).

Unlike Sargon, Naram-Sin campaigned actively in the northeast as the rock reliefs, such as that at Pir Hosseini bear witness. It can be suggested that these campaigns were aimed at keeping the metal trade routes to the Iranian plateau open, in the face of threats from tribesman such as the Lullubi who were eventually to help bring down the dynasty. There are indications of shortages of some metals in Mesopotamia. The few examples of Agade metalwork which have survived, such as the Bassetki statue, are of superb quality, all the more so as they seem to be made of pure copper rather than bronze, which is of course easier to cast. It is also interesting that, by contrast, Agade weapons and tools from Ur, one of the largest collections we have, seem to be of poorer quality than those of the Early Dynastic period, often made of copper rather than bronze and with hammered tangs rather than cast sockets. Do these facts perhaps reflect a shortage of raw materials and especially of tin? (Alternatively the weapons from Ur, all from graves, may be inferior examples manufactured specifically as burial goods which would not have to be used.)

On the other hand, Tepe Gawra, close to one such route onto the plateau, sees a period of prosperity in level VI which, at least in part, dates to the Agade period. This level has yielded evidence for copper working, weights and seals, both suggesting

commercial activity, and a range of exotic goods from further east. These include lapis, turquoise and a piece of stepped inlay of possible Central Asian origin. There is also a model of a covered wagon similar to those used by the Transcauscasian people who moved into Northern Iran early in the third millennium (Speiser 1935). Looking southwards there is a dice said to be identical with those from the Indus. There is at least one tantalising glimpse of possible (indirect?) contacts between Central Asia and the Agade kingdom, which might well have been mediated by sites such as Gawra. A typical Agade combat scene was found at Gonur Depe in southeastern Turkmenistan inscribed with the name of 'Lucaks, the cupbearer and a servant. . .'. The name of his boss is unfortunately missing. There are a number of other cylinder seal impressions and bullae from this site and from Togolok, but from the murky photographs it is difficult to say if they are Elamite or Mesopotamian (Sarianidi 2002: esp. 326 and 334–335).

The great store at Brak, known as the Naram-Sin palace, demonstrates the importance of the northeast as a source of grain and perhaps raw materials, until its destruction late in the Agade period, but we cannot tell if these commodities were acquired as tribute, booty, trade or a combination of the three. It is not clear if the Agade kings controlled Brak before this building was erected, but the city was strategically placed, commanding the gap in the hills leading to the south, and was known as a breeder of a sought after equid cross called a *kungu*, both of which made it a desirable acquisition (Oates et al. 2001: esp. ch. 16).

THE SOUTHERN GULF ROUTE AND THE INDUS

The famous inscription of Sargon of Agade stating that ships of Dilmun, Magan and Meluhha moored at the quays of Agade indicates that the Gulf route remained extremely active during his reign at the beginning of the Agade period (Frayne 1993: E2.1.1.11, 28–29). Contacts were also maintained with the Indus valley, weights, seals and etched carnelian beads continue to be found in small numbers and may have arrived via the Gulf, as too did lapis, copper and perhaps gold and tin, forwarded on from Afghanistan or Central Asia (Ratnagar 2004). A well-known seal of the period shows a Meluhhan interpreter sitting on the knee of an Agade ruler (Lamberg-Karlovsky 1981), which may suggest that there were people from Meluhha resident in Sumer itself (Parpola et al. 1977). It is also from this period that we begin to see the Indian *zebu* or humped cattle depicted on cylinder seals (Collon 1987). Relations with the Gulf were not purely commercial and Manishtsu claimed to have actually crossed the Lower sea and defeated thirty-two towns before quarrying black stone there for a statue (Frayne 1993: E2.1.3.1, 76). Naram-Sin was more specific and records that he conquered Magan, captured its ruler, quarried diorite and dedicated several items of booty from this campaign to his gods (Frayne 1993: E2.1.4.13, 117).

UR III: THE EUPHRATES ROUTE

There is surprisingly little direct evidence for trade up and down the Euphrates under the Ur III kings. The great site of Mari has not provided much evidence for the period either, though both the Zimri-Lim palace and the palace of the shakkanakus were probably founded at this time. It seems that a son of Ur-nammu of Ur was married to

a princess of Mari, which underlines the continuing importance of the ties between the two areas (Hallo and Simpson 1998: 74) and we may suppose that some copper and timber continued to flow into the south by this route. Both Gudea and Shu-Sin state that they obtained high-quality wood from Ebla, which in addition, sent messengers or ambassadors to the Ur III court (Dolce 2001: 24–25). This would indicate that Ebla was rebuilt fairly quickly after the destruction by Naram-Sin. Elsewhere, It seems that there was once again, a period of de-urbanisation in north Mesopotamia with disruption to some trade routes, although major sites such as Brak continue on a somewhat reduced scale.

SUSA AND IRAN

It is interesting to speculate how far the need to ensure reliable sources of raw materials informed the foreign policy of south Mesopotamia. There was apparently no shortage of metals, although the use of traditional luxuries such as semi-precious stones declined, so we can assume that some of the trade routes remained open. The Ur III kings seem to have focused their military expeditions to the north and northeast, controlling a swathe of territory as far as a line which ran roughly from the bend in the Euphrates to the Diyala (Steinkeller 1991: esp. fig. 6). Beyond this and east of the Tigris were the satellite kingdoms which they sometimes struggled to control and who in turn controlled the routes through the Zagros on to the Iranian plateau. These routes probably continued to supply raw materials to the south as in Agade times. On the Tigris, there is evidence for direct southern control at Aššur where a southern governor was in place and Susa, too, was under southern rule until the reign of Ibbi-Sin. In addition, we have evidence for settlements of Elamites in south Mesopotamia itself, as well as for southerners resident in Susa (Potts T. 1994: 36). Many of the resources of the Iranian plateau could be channelled into Sumer down the Zagros passes or via Susa and the Karun.

THE GULF ROUTE

Although we have suggested that essential raw materials were still coming into south Mesopotamia down the Euphrates and also perhaps through the passes in the Zagros mountains, this period sees an increase in the importance of the Gulf route. Contacts with both Dilmun and Magan are mentioned regularly in the texts, but direct contact with Meluhha seems to have ceased, even though there is again evidence for a Meluhhan village, as well as a Magan one, both in the Lagash/Girsu region. As the inhabitants of the Meluhhan village had good Sumerian names, it is suggested that they had been thoroughly assimilated into Mesopotamian society (Potts T. 1994: 36).

We may speculate that the power of Mari increased under the *shakkanaku* rulers, and with the developing might of the Amorites, may have threatened trade on the Euphrates. The hill people were also a constant threat in the mountains to the east making a third supply route desirable. Ur-Nammu boasts in the law code formerly attributed to him, (and in various dedicatory inscriptions) that he returned the Magan ship to Nannar and a little further on that he had established freedom 'from the chief sea captain' for those conducting trading ventures, presumably in the Gulf (Frayne 1997: 47–48) – an early reference to piracy perhaps? Inscriptions of other kings of the

dynasty refer to goods sent to Magan in exchange for copper, and for rations issued to Magan shipbuilders. We also have part of the archive of a merchant called Lu-Enlilla based in Ur which details the goods given to him to purchase copper and other items from Magan. The evidence suggests that goods originating in Meluhha such as ivory were still coming to Mesopotamia via Magan even if direct contact had ceased (Ratnagar 2004). The evidence of the texts suggests that Lu-Enlilla operated on behalf of both temple and private investors (Potts D.T. 1990: 143–148). This commerce seems to have ceased in the middle of the reign of Ibbi-Sin when the dynasty began to unravel. When there is again evidence for Gulf trade, it is focused on Dilmun rather than Magan.

SUMMARY

It is possible to chart some important changes over the course of the late fourth and third millennia in trade routes and the way in which trade was conducted. We have already noted that water transport was preferred to land, especially for the transport of heavy goods, and this is reinforced by the use of the Euphrates route from Anatolia southwards over long periods of time. Broadly speaking, the Gulf only became the major route when the Euphrates was unreliable as a source of supply, for reasons of unrest in north Mesopotamia or aggrandisement by local kings there wishing to control the flow of goods on the river. We can see this shift clearly at the end of the Uruk period, a 'Dark Age' in the north, when the network of 'colonies' goes out of use. Jemdat Nasr pottery then occurs in graves on the routes to the copper of Oman, the first time since the middle of the Ubaid period that Mesopotamian pottery is found in some quantity in Arabia pointing to a renewed importance for the Gulf route. At other times, in the second half of the third millennium for instance, both routes were in use together and their relative importance fluctuated depending, among other things no doubt, on the strength of cities like Mari which controlled the middle Euphrates, and the incursions of the Amorites, who, potentially, had the power to disrupt routes across north Mesopotamia.

Relations with Susa varied too as it moved several times from being an independent state to a colony of the south. Susa was important not so much for its own resources but as a 'port of trade' for goods from the interior of Iran. Of less significance were other routes to the Iranian plateau through the Zagros. These channelled resources such as copper, and perhaps tin from Iran, and luxuries like lapis lazuli from further east. (Some of these goods were also received via the Gulf.) We can speculate that Agade campaigning in the northeast may have been aimed at keeping these routes open in the face of the hostile hill tribes whose advances into Mesopotamia also had to be stopped.

The main imported goods remain unchanged throughout the Sumerian period, but their quantity increased as former luxuries such as base metals for tools and weapons became essentials. Copper and lead predominate in the earlier part of the third millennium, later augmented by tin and perhaps ready-made ingots of bronze. Quality timbers for the massive building programmes undertaken by any successful ruler were also in constant demand and arrived from both north and south. The nature of the luxuries imported is more varied and changes over time. Precious metals and semi-precious stones are a constant. By the later third millennium, silver must have been readily available from Anatolia as we begin to see it used regularly as a medium of

exchange. Semi-precious stones were usually imported unworked, but sometimes exotica like the magnificent long carnelian beads of the later third millennium, or the etched carnelian ones, both typical of the Indus valley, were brought in. Vessels of calcite and of steatite were also imported ready made by a number of different routes, especially in the second half of the third millennium. Other imports could include ivory, shells, spices, and more mundane goods such as bamboo and red ochre, a favourite pigment.

These goods were carried by victorious armies, by nomads and increasingly by professional merchants. These were both southern Mesopotamian and foreign. The first tentative evidence for foreign merchants comes from the people who carried the copper from the mines of Oman in the early third millennium. By the middle of the millennium there is circumstantial evidence for people from Magan, Meluhha and Elam living within Mesopotamia and by the Ur III period that evidence is undeniable. The indigenous merchants apparently worked for both the state institutions and in the private sector. They were family firms organised by a senior member known as an overseer and the bulk of their business was within the plain itself (Snell 1977). The seal and the tablet were the most important tools of their trade and merchants began to keep their own business archives by the Ur III period. They also increasingly used silver as a medium of exchange, 'pricing' other goods against it. In the Ur III period, one shekel of gold cost ten of silver (Garfinkle 2008: 68). Silver had the advantage that it was imperishable, easier to store than barley and less cumbersome than copper.

No doubt the professional merchants also took gifts to their partners overseas and brought home trinkets and souvenirs, while nomadic herders offered small luxuries to the farmers in the settled villages on their cycle of movement. The importance of booty and tribute has also been recognised. These methods of moving goods across long and short distances are not mutually exclusive and many of them no doubt co-existed. The importance of trade proper to south Mesopotamia is hard to overestimate. It provided essential raw materials and the luxuries demanded by an increasingly stratified and prosperous society. It was also a powerful engine of social and economic change, shaping many aspects of Sumerian society, notably methods of production and the development of a diverse and sophisticated world.

NOTES

1 The cache of statues in the Square temple at Tell Asmar for example.
2 Early Dynastic (ED) I, II, IIIa and IIIb.
3 The term is used here to cover a group of geologically related stones which includes chlorite, steatite and softstone.
4 I am grateful to Rita Wright for this reference.
5 There is no substantial settlement on Bahrain until the late Agade period.

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CHAPTER TWENTY-FOUR

NORTH MESOPOTAMIA IN THE THIRD MILLENNIUM BC

Augusta McMahon

INTRODUCTION

What lies to the north of the Sumerian World? How and why did the north and Sumer interact?

Sumer's northern neighbour in the third millennium BC remains enigmatic and under-discussed; this chapter aims to shed light on this region and on the nature of the north–south relationship. Was northern Mesopotamia a periphery to Sumer's core, merely replicating its cultural and economic developments? Was it a less-complex but resource-rich area targeted by more powerful and resource-hungry political units of the south? Or did its varied environment and mixed population generate strong and dynamic independent systems, processes and ideologies?

NORTH OF SUMER

In general and even in specialist literature, 'Mesopotamia' is often used to discuss Sumer/Babylonia, the alluvial plains of southern Iraq with their irrigation agriculture and long-lived city-states. Northern Mesopotamia, or northern Iraq and northeast Syria, is a vague adjunct or entirely omitted. Despite recent decades in which archaeological work in the north has outstripped that in Sumer, the culture–history of the region rarely appears in modern texts, and north-based research projects are not widely visible. Northern Mesopotamia is awkward, with idiosyncratic sites and material culture, particularly in the third millennium BC. It includes Tigris- and Euphrates-based settlements and cultures; it comprises foothills, rain-fed agricultural plains, river valleys and steppe. How can we bring together western Kranzhügeln, Middle Khabur grain distribution sites, Upper Khabur hollow ways and much-debated Ninevite 5 ceramics into a coherent narrative of the region? We even lack a comfortable label designation: terms such as 'une civilisation "syro-mésopotamienne" (Rouault and Wäfler 2000: 1) have not been comprehensively embraced, while the commonly used 'Upper Mesopotamia/Haute Mésopotamie' (e.g., Kuzucuoglu and Marro 2007; Lebeau 2000) implies a 'Lower Mesopotamia', which, however, appears rarely.

Northern Mesopotamia saw very early explorations in Neo-Assyrian and Neo-Hittite capital cities (Nimrud, Khorsabad, Nineveh, Carchemish and Tell Halaf). And once archaeology replaced exploration, prehistoric investigations also treated northern

Mesopotamia as a crucial, well-defined locus of research; for example, early farming at Tell Hassuna, the cultural sequence at Nineveh. But it was not until the 1970s, with excavations at Tell Leilan and Tell Brak, that the third millennium BC occupation came into sharper focus. Even then, that focus remained on the large mounds of the Upper Khabur. By then, the history of Mesopotamia had been written, with a southern and textual emphasis. The independent fourth millennium BC urbanism of northern Mesopotamia is beginning to emerge from the long shadow thrown by Uruk, but its third millennium BC descendant remains underappreciated.

The best-known ancient Mesopotamian term for the north, Subartu (Sumerian Shubir), was first recorded in the mid-third millennium BC in a literary text from Ebla and a historical inscription of Eanatum of Lagash (Michalowski 1999; Sallaberger 2007). And the boundaries of Subartu were diffuse and changeable. Subartu may begin as the geographic equivalent of later Assyria or the Upper Tigris and expanded to encompass the Upper Khabur only under the Akkadian kings (Steinkeller 1998). Its southern frontier presumably lay somewhere between Babylon and Ashur. But was this frontier a thin line or a wide band, was it porous and flexible or impermeable and fixed? Traditionally Subartu's western edge is the Euphrates, but ceramic and other cultural assemblages imply it should perhaps lie on the Balikh.

CHRONOLOGY AND CULTURAL LABELS

The history-derived labels of Sumer are inappropriate for northern Mesopotamia, but there is not yet consensus on an alternate system. Early excavators developed a hybrid that used some northern developments but borrowed from the south at points of influence. Since the 1990s, the 'Early Jezirah' sequence, based in ceramic assemblages from key sites, has undergone several iterations and amendments. As with most chronological sequences, transitions are problematic and correlation of levels at specific sites is debated. (See Table 24.1 and Kolinski 2007; Lebeau 2000; Pfälzner 1998; and Pruβ 2004 for versions of this scheme.)

Table 24.1 Current approximate chronological label equivalencies, Sumer and North

South Mesopotamian labels	*Traditional Dates BC*	*N Mesopotamian traditional labels*	*N Mesopotamian new labels*	*Traditional Dates BC*
Jemdet Nasr	3000–2900	Ninevite 5	Early Jezirah 0	3000–2900
Early Dynastic I	2900–2600	Ninevite 5	Early Jezirah I	2900–2600
Early Dynastic II	2600–2500	Ninevite 5	Early Jezirah II	2600–2500
Early Dynastic III (including A and B)	2500–2334	Ninevite 5/late Early Dynastic	Early Jezirah IIIa Early Jezirah IIIb	2500–2300
Akkadian	2334–2154	Northern Akkadian	Early Jezirah IV	2300–2150
Gutian	2192–2101	Post-Akkadian	Early Jezirah IV–V	
Ur III	2112–2004	Post-Akkadian/ Ur III	Early Jezirah V	2150–2000
Isin-Larsa	2017–1763	Post-Akkadian/ Old Assyrian	Old Jezirah I	2000–1850

SURVEYS AND SETTLEMENT

Survey coverage in parts of northern Mesopotamia is now more comprehensive and detailed than that in Sumer (Wilkinson 2000b). Early selective tell-focused surveys of Lloyd (1938; N Iraq) and Mallowan (1936, 1937; NE Syria) have been supplanted by other methods: extensive cross-regional surveys of Lyonnet (2000) and Meijer (1986) in Syria, and Wilkinson and Tucker (1995) in Iraq; *wadi*- or river-based surveys of Eidem and Warburton (1996) and Montchambert (1984) in Syria; intensive site-centred surveys around Beydar, Brak, Hamoukar and Leilan (Wilkinson 2000a; Ur 2002; Ristvet and Weiss 2005; Stein and Wattenmaker 2003; Weiss 1986). As in Sumer, remote sensing data (LANDSAT, SPOT, SRTM, CORONA) have been used to good effect (Menze et al. 2007). The combination of methods gives a picture of settlement pattern dynamics and has been crucial for elaborating third millennium BC re-urbanisation.

Problems that hamper surveys in Sumer appear in northern Mesopotamia also. Small, single-period sites are under-represented, less often due to the alluviation of Sumer (although this can occur) but due to landscape deflation or site destruction by modern agricultural practices. Transition definitions and the continuity of artifactual types across the Early Jezirah sub-divisions are also problematic (Ur 2010). For instance, the Sumerian problems of separating Early Dynastic from Akkadian and Akkadian from Ur III also exist in northern Mesopotamia. Surveys in the Upper Khabur struggled to subdivide the later third millennium BC (Lyonnet 2000; Meijer 1986). To the east, the Northern Jazirah survey subsumed the complexity of Ninevite 5/late Early Dynastic into a single category (Wilkinson and Tucker 1995).

Nonetheless, northern Mesopotamian third millennium BC settlement can be summarised. Generally, the number of known small sites is low, while the number of urban sites reached its maximum by *c.*2500 BC. Particularly in the Upper Khabur, tells with extended lower towns were common, implying continuity of occupation from late prehistory, accompanied by immigration and–conscious or natural–expansion of settled space. The majority of sites of all sizes in the third millennium BC were multi-period tells; it was rare that a third millennium BC settlement was founded on virgin soil. The maximum size is approximately 100 hectares, a limit set by the agro-pastoral economy and transportation parameters (Wilkinson 1994).

This general picture should be broken down into smaller trends. After an urban beginning in the fourth millennium BC which rivals that of southern Mesopotamia, the early third millennium saw a reduction in urbanism, contemporary with Sumer's ED I–II. Sites that had reached over 100 hectares in the Late Chalcolithic fourth millennium BC (e.g. Tell Brak) were reduced to 15–20 hectares. Cities grew again in the second half of the third millennium: Tell Leilan regained its maximum size of 90 hectares, Hamoukar re-grew to 105 hectares (Ur 2002), while Beydar (25 hectares) and Brak (60 hectares) also re-expand. This urbanisation has long been attributed to influence from the complex urban Early Dynastic south. But there is potential for debate over this influence. The general picture of Sumer's third millennium BC thriving city-states is based almost solely on ED III evidence. ED I–II cities of Sumer are not well known, and in fact both south and north experienced related undulating trends, with limited urbanism in the early third and coincident resurgence in the mid-third millennium BC.

Northern urbanisation then saw a discontinuity towards the end of the third millennium (EJ IV–V); site size was reduced and site numbers decreased. This disruption began in the early Akkadian period but was at least partially contemporary with significant climate change (see below) in the Late Akkadian and Post-Akkadian periods. However, the severity of that change and human reaction to it are debated, and the north was not entirely abandoned in the Post-Akkadian period. Although settlement size was reduced, occupation persisted at Brak, Mozan, Hamoukar, Tell al-Hawa and Tell Taya, while construction of single large buildings atop relatively small sites (Chagar Bazar, Arbid) implies the presence of a local political authority.

One of the most important aspects of northern Mesopotamian surveys has been identification of 'hollow ways', linear features that are the remains of past paths of traffic and goods transport. They connect settlements to agricultural hinterlands or to other settlements (Ur 2003; Wilkinson 1993, 2000a, 2003); they originate in the third millennium BC urban uplift. Hollow ways may appear as dark lines on satellite imagery and, more rarely and seasonally dependent, as visible depressions with standing water and/or denser vegetation from ground level. The identification of hollow ways has led to development of a more nuanced treatment of Mesopotamian landscapes, shifting from a model of a tell-dotted agricultural base to one brimming with lived experience of resource clusters, quarries for flint or clay, work spaces and prominent natural or man-made places. Studies of field manuring and other 'off-site' sites provide vital balance to tell-focused reconstructions of space use; and these land-use aspects are almost absent from our knowledge of Sumer's landscape.

SITE-SIZE HIERARCHY AND CITY-STATES

Third millennium BC occupation in the north exhibits a classic tiered pattern similar to that of Sumer. It is centred on urban settlements of 50 to 155 hectares; for example, Beydar, Brak, Chuera, Hamoukar, al-Hawa, Khoshi, Leilan, Mozan and Taya. There is also an important story of mid-range settlements (10–40 ha) told by sites such as Chagar Bazar, Tell Arbid, Tell Barri and Tell Billa. Smaller settlements (5 to less than 1 hectare), including Mohammed Arab, Tell Atij, Tell Bderi, Tell Raqa'i, Telul eth-Thalathat V and Ziyadeh, add depth and detail to that story. However, there remain sites that are difficult to classify; Ashur, for instance, has a major temple to an important deity, but its third millennium BC size and political importance are unclear.

The scarcity of texts in the north means that our reconstruction of these sites' interaction is in some ways less detailed than our history of Sumer. We lack, for instance, Sumer's richly illustrated chapters on warfare and local dynasties. However, from archaeology and settlement patterns alone, the political systems were similar: a network of independent city-states comprising a central city and linked hierarchy of smaller sites (Sallaberger and Ur 2004). Agricultural land was the primary local resource, but the nomadic population was also a significant factor. Names of some city-states are known from the few local and contemporary southern texts: Brak = Nagar, Beydar = Nabada, Leilan = Shehna, Mozan = Urkesh.

SITE MORPHOLOGY AND ARCHITECTURE

Three main site types provide a cross-section of third millennium BC northern Mesopotamian settlements: small tells, large complex tells, and tells comprising a distinct Upper Town and Lower Town.

Small tells are the most variable and unpredictable in function and yet the most useful for reconstruction of economic dynamics. Tell Raqa'i on the Middle Khabur, for instance, was not a simple village despite its size of less than 1 hectare; it had grain storage facilities, a shrine and a tight group of houses (Curvers and Schwartz 1990; Schwartz 2000; Schwartz and Curvers 1992). The associated cluster of similar sites of EJ I–II date (Tell Atij, Tell Gudeda, Kerma, Kneidig, Ziyadeh) presents a model of directed agricultural production, surplus management and processing. Questions remain about the grain's source (small-scale irrigated fields along the Middle Khabur or larger fields further north), its intended destination (north to Brak, south to Mari, or storage by and for a local nomadic population), and its mode of management, whether corporate or elite (Hole 1999; Riehl 2006). In the better-watered upper Tigris, excavation at Telul eth-Thalathat V also revealed a contemporary grain storage facility (Fukai et al. 1974), perhaps connected to Tell al-Hawa or another urban centre nearby. This northern agricultural management picture is almost completely missing from the archaeological record of contemporary Sumer, where administration is assumed from texts but is inadequately represented in architecture.

Tell Brak provides a stark contrast to Raqa'i: it is a multi-period massive mound with complex morphology that has close Sumerian cousins, such as Nippur. Mozan, Tell al-Hawa and Nineveh's Kuyunjik are parallels in the north. In EJ I–II, with Brak only approximately 15–20 hectares, known public buildings are limited to a small single-room shrine (Area HS; Matthews 2003) with thick walls, benches and a niche. Its small scale and relatively easy accessibility match shrines at Raqa'i, Arbid and Kashkashok and argue against full-time specialised priests or significant power over people or resources. The one- to two-room rectangular plans of these shrines are at odds with the large temple complexes of Sumer. Other EJ I–II architecture at Brak is irregular and incompletely excavated (a similar situation pertains at many sites; Roaf 2003). By EJ IIIB, the centre of the then 50–60 hectare site housed a massive institutional building (Area TC; Emberling et al. 1999; Emberling and McDonald 2001, 2003). The excavated portion of this structure may be a provisioning area, with ovens, storage and facilities for grinding grain and possibly brewing beer (Emberling and McDonald 2001). The building's main function may be secular or religious; the core rooms have not been revealed. Nagar is known to be the primary Upper Khabur kingdom in the mid-third millennium BC, with power over Nabada/Beydar (see below); this seems to be secular and economic control, rather than religious.

In EJ IV, Brak was taken over by Akkadian kings, who built two extensive religious–administrative complexes at the south and north city edges (Areas SS and FS; Oates et al. 2001) and a 'palace', also at the south (Mallowan 1947). Mud-bricks stamped with Naram-Sin's name in the latter leave no doubt it was a southern-imposed and commissioned construction. Its large courtyards and narrow rooms suggest a storehouse or barracks rather than a palace. Contemporary houses and a scribal school were exposed to its east (Area ER; Oates et al. 2001). The highly visible placement of these public buildings made a power statement both within the urban landscape and

to the surrounding area. A similar Akkadian administrative centre at Tell Leilan, including palace and scribal school, dominated the central acropolis and replaced EJ III public buildings (de Lillis Forrest et al. 2007; Weiss et al. 2002). The often-simplistic equation of large sites with institutions and power does seem valid in these instances.

In contrast to these organic tell sites, an alternative site morphology developed in the western Upper Khabur-Balikh region from EJ I: a central mound surrounded by a regular ring of fortifications, the *Kranzhügel* (Meyer 2006). Beydar and Chuera are classic examples of this form. At both, institutional buildings clustered in the centre: separate palace and massive one- to two-room temples at Chuera and integrated palace–temple complex at Beydar. The Beydar palace is a multi-room structure more than 20 x 30 m, arranged over two storeys. It may precede Palace A at Kish–usually identified as the earliest known Mesopotamian palace – since its initial construction is dated to *c.*2500 BC. Beydar's palace has a set of adjacent temples with storage and kitchens (Lebeau 2006; Lebeau and Suleiman 2003, 2007); the entire complex was terraced into an acropolis that surely made a power statement within the urban landscape, as well as from the site's exterior. Despite the scale of this palace, Beydar is a mid-range site, holding economic power over its own region but falling under the control of Nagar/Brak (Archi 1998). Gateways at the inner and outer walls continue the material statement of power, and regular streets connect Outer Town to centre; houses in the Outer Town are tightly packed and grouped in blocks delineated and linked by these streets. A granary and 'sheepfold' reflect urban management of the economy. Tell Taya and Tell Leilan are close cousins to Kranzhügels, although they are less regularly concentric. Each has an imposing Upper Town with institutional buildings and a Lower Town of houses, spacious, well-built and served by streets. There is no parallel for this settlement form in third millennium Sumer; although some sites were expanded in politically inspired programmes (e.g. Ur III Nippur), they are less regular and artificial.

It has been argued that the agricultural base and network of linked smaller sites were insufficient to support the probable populations of Beydar and other large sites and that intensive exchange with a pastoral population was a necessary supplement (Kouchoukos 1998; Sallaberger 2007). Hollow ways would have enabled cross-regional movement of staple goods (Wilkinson 2000c). And the artificial development of Beydar's urban skyline may have been intended to create a visible power statement in a pastoralised landscape. This statement persists, in a different form, in EJ IV–V, when only one temple was in use at Beydar, at the highest point within a settlement that had shrunk to less than one hectare. This conscious use of high-visibility points for public buildings during the decentralised Post-Akkadian period is also seen at Chagar Bazar and Tell Khoshi (Lloyd 1940).

MATERIAL CULTURE

The mostly undecorated, mass-produced pottery of ED I–III Sumer contrasts to contemporary ceramics of the north: Ninevite 5 ware (Thompson and Mallowan 1933). The densely painted, incised and excised variants of this ware give the impression of focused effort on each piece and thus of high value and aesthetic standards. Changes over time include reduction in painted motifs in favour of incised and excised designs

(Rova 2003; Schwartz 1985). Differences between assemblages in the Upper Tigris and Upper Khabur have also been noted (Akkermans and Schwartz 2003: 214; Rova 2000); painted decoration is more common in the Upper Tigris and eastern Khabur than in the central and western Khabur. Painted examples are chaff-tempered, while incised and excised versions have fine grit or no visible temper, rarely chaff. The meaning of these variations remains unclear: fashion trends, technological innovation, or response to shifts in political affiliation.

Metallic Ware from the western Upper Khabur-Balikh and Stoneware, a central Khabur product, overlap in complex temporal and geographic ways with late Ninevite 5 ceramics. 'True' Metallic Ware has non-calcareous clay, but calcareous 'imitations' appear in significant numbers (Broekmans et al. 2006). Both reflect directed clay acquisition and a high degree of craft specialisation and technological knowledge, particularly high firing. Forms are distinctively angular, and the surface of Metallic Ware vessels is usually dark red, implying that they may have been copper skeuomorphs (Pruβ 2000).

During EJ IV, northern ceramic assemblages include decorated fine-wares and standardised angular jars and bowls (Oates et al. 2001). Occasional southern Akkadian forms appear, but they are unusual pieces within a strongly northern idiom. EJ V ceramic assemblages remain elusive and debated but include features also seen in the Ur III south–comb-incised decoration and complex articulation of vessel rims–while remaining distinct.

Seals and sealings of EJ I–II, contemporary with Ninevite 5 ceramics, were either geometric or figurative (Marchetti 1998; Matthews 1997; Parayre 2003). The geometric examples are 'Piedmont Style', 'glazed steatite' seals, tall narrow cylinders with cross-hatching, herringbones, ladders, circles and undulating lines. These seals (and sealings) skirt the edge of Sumer, from Susa along the Zagros foothills, including the effectively Sumerian Diyala sites (Frankfort 1955), and across northern Mesopotamia. This wide geographic spread has been identified as evidence for trade (Collon 2003; Parayre 2003) or cultural connectivity. Figurative seal designs overlap in time with the geometric and persist into the second half of the third millennium BC. This style is more strongly connected to ED II–III glyptic of Sumer: the most common scenes match those in the south, animal–hero combats or banquets. However, the northern examples' abbreviated engraving, composition and filling elements betray their local manufacture. Sealings from Beydar are particularly distinctive, with local wagons, chariots and equids within southern-inspired banquets and combats. The north may have borrowed the scenes, but the style is descended from the rich, expressive northern stamp seals of the fifth to fourth millennium BC (e.g., from Brak and Gawra).

Sealings are better represented from the north than are seals, the inverse of the situation in Sumer. The Beydar and Mozan glyptic assemblages include many door locks, while Brak's and Nineveh's are mostly from containers (Charvat 2005; Emberling and McDonald 2001; Matthews 2003). Both sides of the redistribution system are thus represented: container sealings reflecting incoming goods, broken door locks reflecting controlled outflow of goods (Charvat 2005).

Everything changes with the arrival of the Akkadian imperial project. Seals and sealings, as official objects, respond more quickly to political change than does quotidian material culture. Seals and sealings from administrative complexes at Leilan and Brak are dominated by heraldic combats in distinctive Late Akkadian style (Oates

et al. 2001; Matthews 1997). However, a local variant of seal style and praxis persists in strung clay bullae from Brak's Area SS, impressed with seals bearing rows of frontal bull and lion heads (Oates et al. 2001); other motifs, such as equid chariots, are 'Brak' style rather than southern and may be the heirs of the equid sealings of EJ III Beydar. And beyond the reach of the Akkadian imperial arm, at Mozan, local style persists, with unusual figures in adapted southern introduction scenes.

While the pottery of northern Mesopotamia reflects local idiom and seals betray a complex north–south relationship, other elite material culture is more clearly influenced by the south. Shell inlay in southern style was recovered from Tell Atij (Fortin 2000). Votive statues in Sumerian style appear at Ashur's Ishtar Temple and Tell Chuera's shrines. But are these instances of borrowing or acculturation?

TABLETS AND ADMINISTRATION

Early third millennium northern Mesopotamia is sometimes referred to as 'prehistoric', although 'atextual' might be preferred. A few numerical tablets were found at the EJ I–II Middle Khabur grain redistribution sites (Raqa'i, Atij; Curvers and Schwartz 1990; Fortin 1990a, 2000) and an ED IIIB tablet at Tell Bderi (Maul 1992). Ebla's and Mari's EJ III archives are supplemented by significant tablet numbers from Beydar (*c.*230) and a few finds from Brak. The writing is cuneiform taken from Sumer, although the language is a local dialect of Akkadian, with a sprinkling of Sumerian logograms; it is distinct from but related to Eblaite and closest to the language used at Mari (Ismail et al. 1996). Tablet language and contents point to a northern Mesopotamian tradition distinct from that of Sumer but still tightly linked. For instance, a literary text in Sumerian comes from Beydar and texts from Brak include a version of the southern Standard Professions List (Sallaberger 2004).

The EJ III Beydar archives record palace administration, mainly economic. Texts include ration lists for agricultural workers and artisans and records of animal exploitation (sheep for plucking, oxen for ploughing); together with sealings, these texts reflect sophisticated control over the movement of and access to goods and raw materials within a linked hinterland. In scope and details, the Beydar texts closely match their southern contemporaries from, for example, Lagash. But the administration and control of goods is hardly a southern borrowing; the system is a more complex and well-articulated version of arrangements present in the north from the late fifth millennium BC (evidenced by sealings from Brak and Gawra).

Beydar and Ebla texts indicate that late EJ III Nagar (Brak) had expanded beyond the scale of city-state to a provincial state, with other cities, such as Beydar, as subcapitals (Sallaberger 1999) and linked smaller sites of lesser importance. Nagar was engaged in international trade and diplomatic relations with Ebla and Kish (Archi 1998; Archi and Biga 2003; Emberling and McDonald 2001; Sallaberger 1999). The scale of this state and attempt at regional hegemony are similar to the expanding powers of Uruk and Kish in terminal Early Dynastic III. It is out of this context in both south and north that the Akkadian kings' territorial state was born.

And what was the textual or administrative legacy of the Akkadian adventure in the north? Sargon's conquest is not represented by local texts (nor archaeology). Inscribed bowls of Rimush from Brak may have migrated there after his reign. Manishtushu's building at Nineveh is only reported in a text of the early second millennium BC

(Grayson 1987: 53). It is not until Naram-Sin's reign that southern presence is reflected in texts from Brak and Leilan. And in the Post-Akkadian period, Subartu returns to atextual status.

AGRO-PASTORAL ECONOMY

The clearest economic difference between the rolling landscapes of northern Mesopotamia and the alluvial plains of Sumer is the viability of rainfall agriculture in the north. This is a high-risk strategy with lower yields than irrigation but fewer restrictions and investment. Studies of hollow ways and sherd scatters have led to a model of intensive use of fields in concentric rings extending 3–5 km from most mid-third millennium sites. But the growth of large sites that could not be sustained by agriculture in their immediate surroundings may have compelled or enabled the development of an integrated agro-pastoral economy (Zeder 1995), further upheld by trade (Wilkinson 2000c).

Plants farmed were dominated by barley and wheat, but their relative importance varied temporally and sub-regionally. Botanic remains from EJ III Tell Brak indicate a concentration on (drought- and salinity-resistant) two-row barley over emmer and einkorn wheat and pulses such as lentil and pea (Emberling and McDonald 2001; Matthews 2003). Similar crop ratios are seen at EJ I–II sites on the Middle Khabur (Bderi, Raqa'i; van Zeist 1999/2000) and from EJ III–IV Tell Mozan (Deckers and Riehl 2007). Some animals, particularly those destined for meat rather than dairy, may have been fed on barley, thus figuring into its frequency (McCorriston 2002; Riehl 2006). However, botanical remains from EJ I–II contexts at Leilan show a reliance on wheat over barley (Wetterstrom 2003). Only in EJ III contexts was there a shift to barley, together with an increase in weeds associated with drier poorer soils. This may imply a shift in practices and/or an expansion of agricultural lands, as the site grew in size. The climate change in EJ IV–V creates an unsurprising increase in the relative percentage of barley, but the effect at Subartu's northern edge is curious: Tell Mozan's reliance on barley in EJ III–IV shifted to free-threshing wheat in EJ V (Deckers and Riehl 2007).

Context is crucial in understanding this variability: EJ III institutional contexts at Brak are overwhelmingly supplied with barley, but contemporary domestic contexts are more variable (Emberling and McDonald 2001). There may have been a dual economy: mixed household versus specialised institutional. This variability makes the north's agricultural economy appear more flexible and less regulated than Sumer's. However, we have unequal data: botanical remains are poorly preserved in Sumer due to salinisation, and there we rely heavily on texts, with their strong administrative focus, for reconstruction of the agricultural system. Sumer may have had equal flexibility, risk-spreading and crop choice below the administrative radar.

Despite the region's potential for farming and the visible intensity of land use adjacent to settlements, surveys indicate that in some periods large areas were 'empty' of permanent settlement, although probably occupied by semi-nomadic people and flocks (Wilkinson 2000a).

There is a trend towards higher proportions of domesticates and fewer wild animals from the fourth through third millennia (Emberling et al. 1999; Zeder 1995). Wild fauna (onager and gazelle) were present in most assemblages, but in small numbers,

while sheep/goat, cattle and pigs were the main species consumed. A few 'hold-out' sites such as Tell Bderi (Becker 1988) and Tell Beydar (Pruβ and Sallaberger 2003/04) maintained a higher degree of hunting in EJ I through III that may be related to their locations near basalt desert or migration routes. Within domesticates, there was also a shift from a wide range of species to greater specialisation on sheep and goats across the third millennium BC. But there was, as in botanical material, sub-regional variation. Pigs made up a fifth to a quarter of the faunal assemblage at EJ III–IV Brak and Leilan but 1 per cent or less at contemporary Beydar and Chuera (Emberling et al. 1999; Pruβ and Sallaberger 2003/04; Zeder 1998). At Raqa'i and Atij, pigs were 20–25% of the assemblage in the earlier third but declined to 1–2% by the mid-third millennium (Zeder 1998). Other animals varied accordingly: Brak had a relatively high percentage of equids, Beydar had more frequent cattle, Chuera had more sheep/goats (Pruβ and Sallaberger 2003/04). These variations and temporal shifts may be related to different contexts (pigs are particularly suited to households) or adaptation to micro-environments. Texts from Ebla indicate that specially bred equids from the Upper Khabur were a valuable commodity (Sallaberger 1999). The frequency of equid bones at Brak may reflect breeding there, while the Beydar glyptic's images of equids and carts offers oblique support, as does the more concrete evidence from administrative texts, which record fodder for donkeys and rations for cart makers.

CLIMATE CHANGE

Past Mesopotamian climate changes are currently a topic of intense debate. Some climatic and geomorphological data indicate an aridity increase in the terminal third millennium BC (Courty and Weiss 1997; Cullen et al. 2000; De Menocal 2001; Weiss 1997, 2000a, 2000b), but the data are not straightforward (Bottema 1997). The dating of this aridity increase and its chronological relationship to archaeological levels and political history remain blurred. The lake or deep water cores, ice cores and cave speleothems in which this climate change registered come from a distance; climatic data currently known from within northern Mesopotamia are minimal.

Human reaction to climate change is also debated, and particularly the degree of political collapse and settlement pattern reorganisation in Subartu in EJ V is not clear. Some sites' occupation persisted while other sites shrank and some were abandoned; strategies such as nomadism are not collapse but instead are successful adaptations; the concept of collapse itself and its political, economic and social implications can be deconstructed (see papers in Kuzucuoglu and Marro 2007). Indeed, close analyses of data reveal that there were earlier strong fluctuations of aridity and temperature within the third millennium, that is, 2600–2400 BC (Kuzucuoglu 2007), and that the Upper Khabur in the third millennium BC was already drier than in the fourth and undergoing changes in vegetation and river regimes (Courty 1994). The Upper Khabur's original 'oak park woodland' was already thinning and receding at the beginning of the third millennium, perhaps linked to herd animal grazing and human over-exploitation of timber for construction and fuel. Settlement patterns around Beydar and Tell al-Hawa were disrupted in the early Akkadian period (EJ IV; Ball and Wilkinson 2003; Wilkinson 2000a), rather than the post-Akkadian EJ V. The impacts of human occupation, agriculture, ever-expanding animal herds and urbanism are difficult to disentangle from larger-scale climate change.

SUBARTU–SUMER RELATIONSHIP

After intensive interaction in the Late Uruk period, the Sumer–Subartu relationship cooled in the early third millennium (EJ I–II). No cultural flow is visible between the two regions until EJ III, when southern influence is evidenced by Sumerian style in statuary from Ashur and Chuera and in hoard objects from Tell Brak (Area HS5; Matthews 2003). Contemporary seals and writing betray mixed south and north styles. But monumental and private architecture, ceramic assemblages and economic arrangements remained unaffected. Southern influence is thus seen purely in prestige goods and is generally proposed as a symptom of elite–elite interaction. In support, the Ebla archive reveals a network of diplomatic and economic connections among Ebla, Mari, Brak/Nagar and Kish. Were Sumerian items in Subartu part of a two-way flow of goods and information or the one-way emulation of an exotic vocabulary by an underdeveloped power? Despite the absence of Subartian objects and influence in Sumer that might imply the latter, comparison of Beydar's palace with Kish's royal palace indicates the north was hardly a backwater.

The question is complicated by the strong cultural similarity across all of Mesopotamia. Funerary practices are illustrative. Burial locations (cemeteries, open areas or below house floors) were similar in both sub-regions. Single intact burials in simple pits were the norm in both; pottery vessels and jewelry usually accompanied the dead. Any graves with elaborate structures, such as mud-brick vaults, contained larger sets of ceramics and tools, weapons and richer ornaments. The social messaging potential of burial, and the messages' meaning for status, wealth and power, is well-matched in the two regions, as were the practices. So when 'Sumerian' statues appeared at Ashur, were they 'Mesopotamian' rather than 'Sumerian'? Both emulation and acculturation assume greater social distance between cultures.

The Akkadian period saw unification of Sumer and military expansion that included northern Mesopotamia. Sargon is said to have controlled from the Upper to Lower Sea, but it is only under Naram-Sin that we see direct intervention. Destructions at Ebla, Brak and Mari may be attributed to Sargon or to Naram-Sin; our temporal accuracy is not fine-grained enough to separate their claims. In fact, it is possible that Ebla, and even Brak, were destroyed by Mari (Archi and Biga 2003; Sallaberger 2007) in an earlier local conflict.

The buildings, sealings and texts at Brak and Leilan prove that these were Akkadian outposts during the reign of Naram-Sin. The Leilan project argues for impact beyond the urban settlements, an intensive exploitation of the region's agricultural system, with reorganisation of settlement. In support, at least one state-organised grain shipment went from Subartu via Brak to Sippar (Ristvet et al. 2004). Yet evidence for Akkadian presence is limited to large sites, and a vast gap exists between these, particularly on the east between Leilan and the ambiguous and minimal Akkadian materials from the upper Tigris (Nineveh, Bassetki). There is no evidence for Akkadian presence in the western Upper Khabur. In addition, at the northern Hurrian edge of the Khabur, Akkadian control was minimal, as represented by the equal marriage of Naram-Sin's daughter Taram-Agade to the leader of an independent Urkesh/Mozan (Buccellati and Kelly-Buccellati 2002). Our knowledge of the Akkadian relationship with nomadic tribes within its territory is also unknown, and these tribes' autonomy may have been significant. And if the political impact of the Akkadian 'empire' outside of major cities was minimal, its cultural impact was even less.

Further contact between Sumer and Subartu was cut off sharply in the reign of Shar-lkali-sharri (Sallaberger 2007), and the EJ V occupation and material culture of Subartu describes an independent trajectory. Diplomatic marriages and exchange between the regions, and occasional military conflicts, in Ur III period texts have left no traces in the archaeological record.

In conclusion, the traditional reconstruction of an asymmetrical relationship between Subartu and Sumer is an exaggeration. Borrowed Sumerian material culture was selective and often mixed with local material and adapted to local uses. True acculturation did not occur; Subartu did not become more like Sumer. The strong economy bolstered political independence, probably aided by further connections to the northern Levant and Anatolia. Even the Akkadian episode of colonisation did not have a strong or lasting material effect.

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CHAPTER TWENTY-FIVE

CULTURAL DEVELOPMENTS IN WESTERN SYRIA AND THE MIDDLE EUPHRATES VALLEY DURING THE THIRD MILLENNIUM BC

Lisa Cooper

INTRODUCTION

There is little doubt that the Sumerians of southern Mesopotamia were in contact with the people who inhabited the areas of western Syria and the middle Euphrates River Valley during much of the third millennium BC. This contact, which involved cultural and economic exchanges, is documented in Syria by extant textual records as well as archaeological remains which bear the unmistakable imprint of Sumerian civilisation. It would be erroneous, however, to attribute all important cultural developments in Syria to its Sumerian neighbours. The evidence indicates that the regions of western Syria and the middle Euphrates River Valley underwent important transformations in social–cultural complexity and advances towards urbanism in ways that uniquely diverged from other parts of the Near East, including southern Mesopotamia. This chapter describes what is known about western Syria and the middle Euphrates River Valley during the third millennium BC, emphasising the regions' unique geographical features, and highlighting the local ideological, social and political traditions that seem to account for much of the areas' distinctive cultural character and developments during this time period.

GEOGRAPHY AND SUBSISTENCE

The regions of focus here comprise several areas of varying size, environment and topography (Figure 25.1). The term 'western Syria' is used here to describe the Mediterranean coastal plain, the fertile valley of the Orontes River to the east separated from the coastal plain for a considerable length by the Jebel Ansariyeh Mountains; the northern reaches of the Orontes River as it turns west to flow through the Amuq Plain, eventually emptying into the Mediterranean Sea; the relatively fertile Idlib Plain to the north of the Orontes; the areas around and above Aleppo further to the north, and the Jabbul Plain to the east. We also include in our definition of western Syria the Syrian steppe, a semi-arid, sparsely inhabited region which stretches to the east beyond the modern cities of Homs and Hama. The other term, the 'middle Euphrates River Valley' is used here to describe the lands on either side of the river between the

Syrian–Turkish border at Carchemish down to the confluence of the Balikh and the Euphrates just below the site of Tell Bi'a (ancient Tuttul). The remaining section of the middle Euphrates, which continues to flow in a southeasterly direction towards the Syrian/Iraqi border, includes much of the territory belonging to the kingdom of Mari and will be treated in a separate chapter of this book (Margueron, this volume). The middle Euphrates includes the deeply cut trough of the river itself and a narrow valley of the flood plain and terraces on either side. Beyond the river valley, limestone bluffs rising over 100 metres give way to the upland steppe that stretches for many kilometres in either direction. The Syrian steppe lies to the west, while to the east, the uplands comprise the *Jezireh*, a vast undulating plain receiving adequate levels of precipitation and bisected by the Balikh and Khabur Rivers, two of the Euphrates' tributaries.

All of the regions of western Syria and the middle Euphrates Valley differ considerably from the environment of the Sumerian heartland of southern Mesopotamia, where the flat alluvial plains of the Tigris and Euphrates rivers and successful irrigation

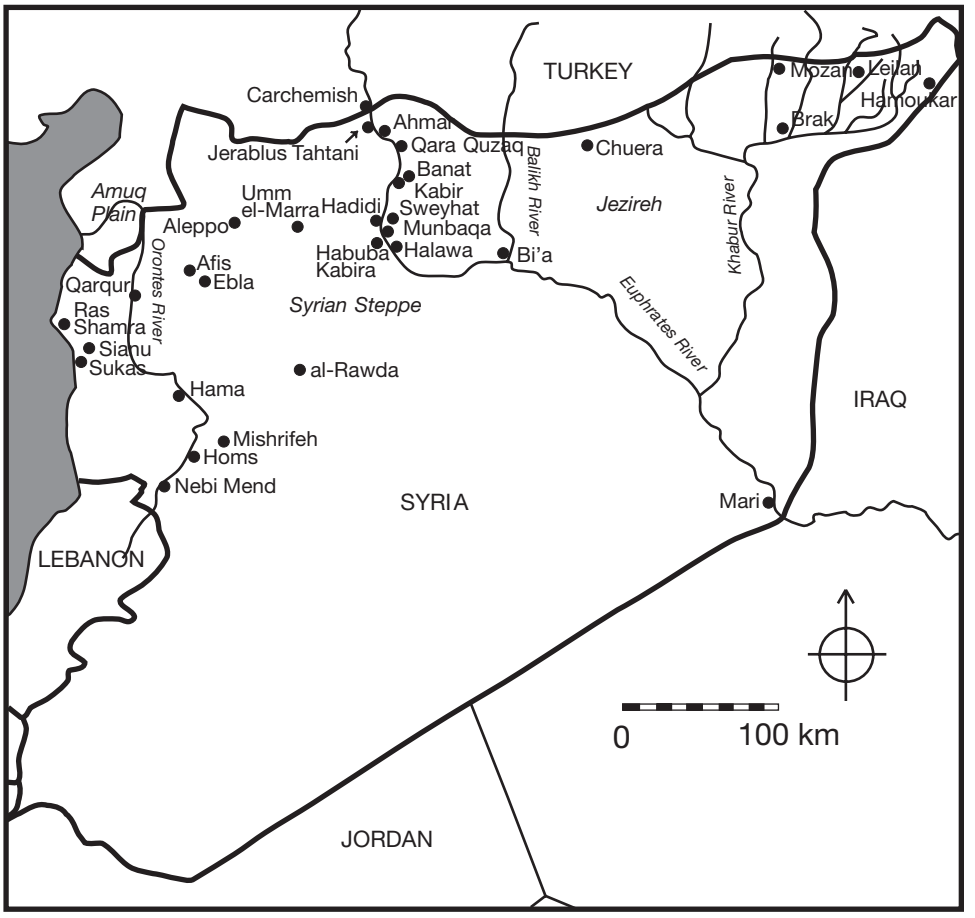

Figure 25.1 Map of Syria, showing the location of sites discussed in the chapter, most of which were occupied in the third millennium BC

regimes elevated agro-pastoral productivity to an unprecedented scale in antiquity. In contrast, all areas of western Syria depended principally on rain-fed agriculture, and several regions, particularly the Syrian steppe lands and the southern section of the middle Euphrates River Valley, received less than adequate precipitation, frequently making dry farming precarious (Wilkinson 1994: 499–500, 2004: 41; Stein 2004: 62–63). It might be this factor, along with the fact that several regions were constrained by topographical features that prevented the cultivation of wide tracts of land, that accounts in part for the smaller growth of Syrian urban settlements when compared to the cities of Sumer. At the same time, Syria's variety of subsistence pursuits, which combined agricultural activities with pastoralism, not to mention the continuation of small-scale hunting in some areas, gave the regions some economic flexibility, and ensured a reliable flow of sustenance in the face of environmental uncertainties (Cooper 2006: 44–45, 270–271). The activity of trade in various raw materials, especially textiles, metals and timber, conveyed up and down the Euphrates River, as well as along east–west overland routes that connected the Euphrates with trading partners to the west in the direction of Aleppo, the Idlib Plain, the Orontes Valley and the profitable ports on the Mediterranean Sea, further ensured ongoing economic success for some communities and was probably a factor that contributed to their moderate urban development during the third millennium BC.

CHRONOLOGY

Most of the discussion here focuses on developments during the third millennium BC, when many parts of western Syria and the middle Euphrates experienced urban growth and contacts with the Sumerian city-states of southern Mesopotamia (Figure 25.2). This period is the Early Bronze Age, which has been divided up into several sub-periods: EB I, II, III and IV. Absolute dates for these sub-periods, obtained from radio-carbon determinations, correlations between well-formulated pottery sequences and their correspondences to reliably dated artefacts, still require considerable refinement. Moreover, the sequences of western Syria and the middle Euphrates Valley require additional work to be properly synchronised with one another. For the present, rough dates for each phase or phases are presented here. EB I is generally thought to begin *c.*3200–3100 BC, but its end-date is uncertain and has consequently been lumped together with EB II. The end of EB II is fixed *c.*2600 BC for the middle Euphrates and *c.* 2700 BC for Western Syria (roughly speaking Early Dynastic IIIa in Sumer). The dating has been largely influenced by the appearance of the unique Red-Black Burnished Ware (RBBW, known also as Early Transcaucasian Ware and Khirbet Kerak Ware) since it was a major diagnostic trait among the ceramic assemblages of western Syria. Although traditional arguments have tended to place the appearance of RBBW at the beginning of the Southern Levant's EB III, around *c.*2700 BC, more recent studies have suggested that it may have appeared as early as the end of the fourth millennium and become widespread in the Amuq plains by 2800 BC (Philip and Millard 2000: 280; Mazzoni 2002: 71). We hesitate to push western Syria's EB III back to an early date on the basis of this type of artefact alone, and so for the moment, we continue to assign western Syria's EB III to around 2700 BC, until a greater understanding of chronological developments for this elusive period has been achieved.

EB IV, the last phase of the Early Bronze Age is generally thought to begin around 2500 BC in Western Syria and *c.*2450–2400 BC in the middle Euphrates, although its end-date is still contested. Pottery assemblages with traits diagnostic of the Early Bronze Age continue to appear at a few surviving middle Euphrates settlements after 2100 BC (Cooper 1998), and from this one can postulate that one or two centuries passed before the region experienced the full urban regeneration of the Middle Bronze Age (*c.*2000–1900 BC). The EB IV in western Syria seems to have persisted over the same length of time, with little evidence of settlement diminishment, and eventually giving way to the MB, whose beginning heralded significant changes in pottery styles, architectural planning, settlement sizes and layout (Morandi-Bonacossi 2009: 63–64; Pinnock 2009: 72–73).

THE LATE URUK AND EB I–II PERIODS

The end of the Late Uruk period and the beginnings of the Early Dynastic Period of Sumer in southern Mesopotamia coincide roughly with the earliest phases of the Early Bronze Age in western Syria and the middle Euphrates Valley (*c.*3100–2600 BC). The Syrian regions were affected by the 'Uruk expansion' of the late fourth millennium, which saw the appearance of many southern Mesopotamian material cultural attributes at a number of sites (Akkermans and Schwartz 2003: 181). Particularly prominent sites with classic Uruk assemblages include Habuba Kabira South and Jebel Aruda in the Tabqa Dam salvage zone of the middle Euphrates Valley. These sites' evidence of central planning, southern Mesopotamian architectural materials and plans, pottery, and administrative apparatus in the form of numerical tablets, cylinder seals and clay bullae, have such a strong southern Mesopotamian orientation that scholars have

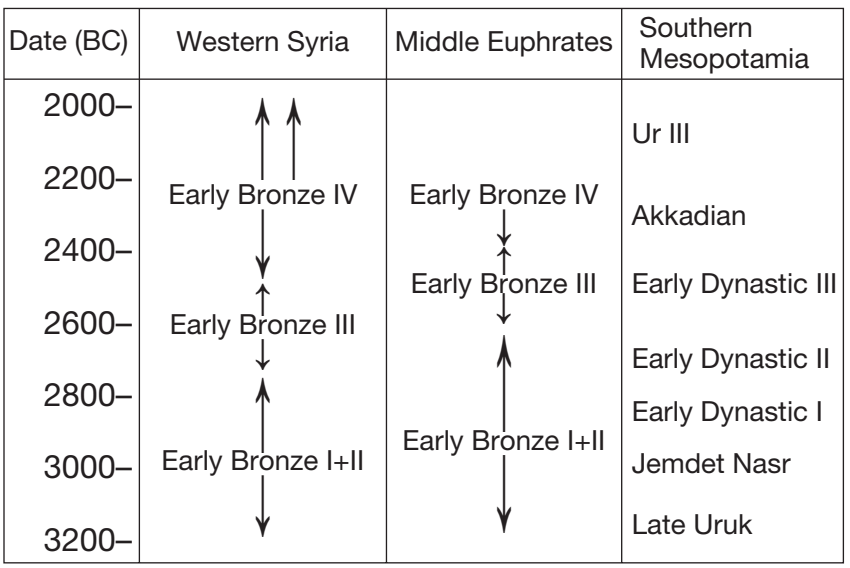

Figure 25.2 Chronology of western Syria and the middle Euphrates region, and their relation to the southern Mesopotamian cultural sequence

postulated these were actually colonial enclaves, settled by peoples from southern Mesopotamia (Akkermans and Schwartz 2003: 190–196). Several other sites with evidence of the Uruk 'intrusion' exist in the middle Euphrates River Valley, among them Jerablus Tahtani and Tell Hadidi (Dornemann 1988: 16; Wilkinson et al. 2007: 227–229). They are marked in particular by the presence of the southern, intrusive, bevel-rimmed bowls and varying quantities of other Uruk elements. Not all of these Euphrates sites may have been Uruk colonial enclaves, but nonetheless were still strongly affected by the Uruk expansion, either through the profitable trade routes to raw materials in existence or the efficient systems of administrative control and symbols of prestige which local elite groups adopted and emulated (Frangipane 2009: 22). Further to the west, evidence for the Uruk expansion can also be detected at sites such as Hama, Qarqur and the Amuq, principally in the form of bevel-rimmed bowls (Braidwood and Braidwood 1960: 234–235; Thuesen 1988: 187; Dornemann 2003: 113). Such Uruk material, however, is totally absent at many other sites in the region. It is difficult to know for certain the impact of the Uruk expansion in the more westerly regions of Syria, but it seems unlikely that any settlements experienced full Uruk colonisation like that which took place in the middle Euphrates.

At *c.*3100–3000 BC, Uruk settlements and Uruk material culture in the middle Euphrates vanished, along with most traces of interaction with southern Mesopotamia (Ur 2010a: 401). What follows is a period of slow socio-economic growth, driven principally by indigenous cultural developments (Schwartz 1994: 154). This slow progression towards urbanism, which did not make any significant strides until *c.*2600 BC, stands in marked contrast to the situation in Sumer, where the process of urbanism, which had first gained momentum in the earlier fourth millennium, continued unabated into the third millennium and resulted in the formation of Sumer's prosperous city-states. Nevertheless, there are signs of socio-economic complexity in Syria, and one can speak of the modest growth of small centres even in the early phases of the Early Bronze Age (Akkermans and Schwartz 2003: 211). Moreover, the structures put in place in these early periods provided the bases and the catalysts for the growth of the larger-scale urban societies which emerge in the later third millennium.

Although EB I–II settlements in the middle Euphrates Valley were quite small, averaging no more than a few hectares in size, they were often well defended. Solid lines of defence have been found circuiting the settlements of Tell Habuba Kabira and Tell Halawa B, for example, and the presence of a high mud-brick and stone-boulder citadel on the central mound at Tell es-Sweyhat underlines its defensive capabilities (Heusch 1980: 161; Orthmann 1989: 87–88; Danti and Zettler 2002: 40–41). Considerable planning, resources and labour must have been required for the successful completion and maintenance of these constructions (Cooper 2006: 73).

Evidence for well-established religions traditions come from the site of Qara Quzaq, where a religious complex within its own temenos wall was exposed on a high terrace in the central part of the tell (Olávarri and Valdés Pereiro 2001: 18–26). The complex also included a peculiar above-ground funerary structure containing human remains and a rich assortment of offerings in the form of vessels, metal pins, weapons and jewellery (Olávarri 1995: 16–17). Even more impressive is the mud-brick temple from Tell Halawa B. Set atop an elevated platform in the central part of the site, its exterior facades were adorned with niches and buttresses. The entire complex was set within a temenos enclosure and accessed via a special gatehouse (Orthmann 1989: 89–101). In

its elevated position and monumentality, the temple at Tell Halawa B would no doubt have played a significant role in the religious activities of the inhabitants that it was built to serve (Cooper 2006: 147).

Metal implements, used for agricultural activities, warfare, protection, personal adornment and the production of other crafts, have been found in several early EB middle and upper Euphrates contexts (Cooper 2006: 167–168). Since copper was being mined in Anatolia at this time, the abundance of copper and bronze objects in the Euphrates can be explained by that region's relative proximity to metal sources. In addition, the discovery also of true tin–bronze alloys as opposed to the more accessible and easily obtainable arsenical copper indicates participation in exchanges over long distances, especially when one considers that tin may have come from as far away as Afghanistan (Montero Fenollós 1999: 456).

Excavations in western Syria have not penetrated extensively into levels of the EBI and II periods, with the exception of a few sites such as Hama, so our understanding of the size and complexity of settlements during this time is far from complete (Mazzoni 2002: 71). It is suspected, however, that most settlements consisted of small, non-literate farming or pastoral communities with only a low degree of economic differentiation and social stratification (Akkermans and Schwartz 2003: 226). One interesting development, as mentioned above, is the appearance in the early EB of a distinctive pottery known as Red-Black Burnished Ware. The pottery is hand-made, highly burnished and has a distinctive red/black colour that stands quite apart from the remainder of the western Syrian ceramic assemblages in terms of its production technology, surface treatment and vessel form. It first appears in small numbers at the site of Tell Judaideh in Phase G of the Amuq Plains and then increases dramatically in frequency in the subsequent Phase H (beginning as early as 2800 BC) (Braidwood and Braidwood 1960: 294, 352). It also appears at several other Syrian sites further south, such as Tell Afis and Qarqur in the early part of the third millennium or even earlier (Mazzoni 2000: 100; Dornemann 2003: 105). Because of its similarities to pottery found to the northeast in Anatolia, and even as far away as the Transcaucasian regions of Georgia, Armenia and Eastern Turkey, RBBW is seen as an exotic element in the local repertoire, and may indicate the presence of a foreign group whose origins may be traced back to these regions to the northeast. Much continues to be written about this distinctive pottery, which has now been found across a broad swathe of the Near East, extending from Iran to the southern Levant, and it remains to be determined if and why migrant populations settled in these regions. Moreover, one still needs to account for the incredible longevity of the ware, which persisted for at least 300 years and continued to be manufactured according to very specific techniques and styles that made it a visible and separate ceramic group from the other local assemblages alongside which it was found (Philip 1999; Philip and Millard 2000; Batiuk 2005; Greenberg and Goren 2009).

EB III–IV PERIODS

Around 2700–2600 BC, the regions of the middle Euphrates and western Syrian experienced increased socio-economic complexity and signs of urban growth. The process of urbanisation, however, was less dramatic than that witnessed in the Khabur Plains of northeastern Syria, where settlements such as Tell Brak, Tell Leilan, Tell

Mozan and Hamoukar grew up to 120 ha and featured urban characteristics such as large-scale secular elite complexes, monumental temples, standardised and specialised craft production and centralised redistributive economies (Weiss and Courty 1993: 133–139; Akkermans and Schwartz 2003: 259–262; Stein 2004: 67; Ur 2010a: 408–409; 2010b: 150–151). In the middle Euphrates Valley, in contrast, some sites appear to have grown up to 40–56 ha only (McClellan 1999: 413), and there is no clear evidence of true settlement hierarchies akin to those observed to the east, with larger centres being served by smaller subsidiaries or tributaries.

On the other hand, other signs of social and economic complexity in the middle Euphrates are evident after 2600 BC. Excavations at Tell Banat, for example, have brought to light a large-scale building (Building 7 and its subsequent, grander manifestation, Building 6) which may have served in some association to the funerary traditions observed at the site given its location within metres of an impressively constructed and richly equipped tomb (Tomb 7) (Porter 2002a: 16). The building was a multi-chambered columned edifice, comprising interconnecting hallways and courtyards spread out over at least three terraces, some of which were paved with baked clay tiles set in bitumen mortar (Porter and McClellan 1998: 25–26; McClellan 1999: 419). Whoever occupied or operated within this structure had access to considerable resources and manpower within a society that appears to have become increasingly segmented. Tomb 7, located only a few metres to the east, was overlaid with massive roofing slabs, below which were several underground chambers accessed by connecting passageways. It was constructed with carefully dressed limestone blocks, all mortared together with bitumen in the same generous quantities observed in Buildings 7 and 6. Within the tomb were several rich burial goods, including precious objects of gold, mother-of-pearl, lapis lazuli and bronze (McClellan and Porter 1999: 109–110).

Tell Banat's other extraordinary mortuary feature was a 20 metre high, conical-shaped, white-plastered and corrugated earth tumulus known as the White Monument (or Mortuary Monument 1), located about 200 m northeast of the Tell Banat settlement (McClellan 1998: 244–245). While no burial chambers were discovered inside of the tumulus, the funerary character of the White Monument is suggested by the deposits of human and animal remains dug into the sloping sides of it, and the fact that it stands in the centre of fields peppered with other Early Bronze burials of the same period (McClellan 1998: 246; Porter 2002b: 160–161). It has been suggested that such a monument is fitting within a pastoral tribal society, such as that which existed in the region of the middle Euphrates. Providing a central focus for the pastoral groups when they brought their flocks to the well-watered river valley during their seasonal cycle of grazing, the monument countered the centrifugal tendencies of these tribal societies, and may have helped to establish and define group identity (Porter 2002a: 26; Peltenburg 2007–2008: 221, 224).

The mortuary character of other Euphrates sites is evident at several other sites along the middle Euphrates of Syria, including Tell Ahmar, where a massive shaft and stone chamber grave (the 'Hypogeum') contained a rich assemblage of pottery and metalwork (Thureau-Dangin and Dunand 1936: 96 and pl. XX); Tell Hadidi, where several similar massively built stone shaft and chamber tombs have been recovered (Dornemann 1979: 118, 1980: 227); and Jerablus Tahtani with its Tomb 302, built of massive limestone blocks and enclosed by what appears to have been a large mound that would have been visible above ground, no doubt accentuating the tomb's pre-

eminence at the site and the importance of the individuals buried within it (Peltenburg et al. 1995: 7–10; Peltenburg 1999: 430–431). Further down the river, at the Euphrates' confluence with the Balikh, the site of Tell Bi'a has yielded two rows of large, richly provisioned mud-brick tombs entirely above ground (Strommenger and Kohlmeyer 1998). To the west in the Jabbul Plain, the site of Umm al-Marra has now yielded nine Early Bronze Age tombs and related funerary installations, used in a sequence over a period of some three centuries, from *c.*2500 to 2200 BC (Schwartz in press). Like several of the Euphrates' monumental graves, it is conjectured that these tombs may also have been partly or completely visible above ground, and in their prominent location on a high point in the centre of the site's acropolis, would have emphasised the pre-eminence of the buried deceased, who may have comprised members of the local ruling families (Schwartz 2007a: 40, 43). All these impressive burial complexes were probably the places where elaborate rituals relating to the veneration of the ancestors were carried out. The visibility and centrality of the tombs would have promoted the remembrance of the ancestors. At the same time, the presence of these prominent tombs, and the repeated funerary offerings and attendant rituals that continued to be performed in and around them, would have perpetuated and reinforced the elevated status of the living elites who claimed descent from the ancestors and were no doubt the main participants in the ongoing mortuary rites at these funerary complexes (Peltenburg 1999: 428; 2007–2008: 228; Schwartz 2007a: 45, 47).

Such well-made and richly furnished tombs indicate that by at least the middle of the third millennium BC, parts of the Euphrates River Valley and western Syria had experienced the growth of social stratification, such that some elite members of society had the wealth and resources to build and furnish for themselves rich funerary markers in the settlements over which they now had considerable influence and authority. At the same time, much of the Syrian middle Euphrates remained a pastoralist-based society, usually typified by inclusive or corporate ideals, where power was shared across different groups and sectors of society (Porter 2002b: 167–168; Peltenburg 2007–2008: 219). The continued reverence of the ancestors, a common practice among pastoral tribes with their emphasis on kin-based descent groups, may have been part of the strategy on the part of newly ascendant elites to perpetuate a tribal-based corporate ideology – effectively linking themselves to the past and the tribal ancestor traditions that defined that past – even when in reality they were exercising more exclusionary forms of behaviour (Porter 2002b: 168–170).

However we choose to interpret the symbolic meaning and import of the monumental tombs of the Euphrates Valley and Umm al-Marra, their richness cannot be denied, particularly in the form of the grave offerings found within them, which consisted of precious stones and metals in the form of gold, silver and bronze. Such imported materials reflect the far-reaching contacts that some individuals of the Euphrates region were capable of carrying out by the mid-third millennium BC. The acquisition and display of such well crafted and costly objects was a means for local elites to highlight their status and prestige within their own communities, Moreover, ownership of such luxury goods would have accentuated their status among their elite peers from other contemporary principalities, affording them membership within the larger club of elite groups, and paving the way for greater economic and social, and possibly political relationships with these outside groups (Cooper 2006: 236; Peltenburg 2007–2008: 235).

Fortifications appear with increasing frequency and size within several settlements of the Euphrates Valley after *c.*2500 BC, and take on a variety of forms, including defensive walls (some with casemate systems), sloping ramparts, towers, and fortified city-gates (Cooper 2006: 71–86). One also finds large, spatially segregated places of worship, often revealing architectural monumentality and reflecting the presence of well-established religious traditions. Especially noteworthy is the appearance, beginning *c.*2500 BC, of a simple, standardised temple commonly referred to as a long-roomed temple or a temple *in antis*, due to its long thick walls or *antae* that project outward and form a shallow porch at the front. Such temples are particularly well known from the site of Tell Chuera to the east of the Euphrates Valley, where at least four temples have been well documented (Castel 2010: 125–126). Within the Euphrates Valley itself, temples *in antis* have been documented at the sites of Halawa Tell A, Tell Kabir, and Qara Quzaq. The temple *in antis* at Halawa Tell A is particularly monumental in proportions (20 x 13 m), and is well preserved, comprising not only its full ground plan and associated cultic installations and equipment within, but also the religious precinct around it, which included an encircling temenos wall, subsidiary rooms for storage, a gate-house and a possible smaller subsidiary shrine (Orthmann 1989: 63–66; Cooper 2006: 154). Much less is known about the surroundings and original contents of the temple *in antis* at Tell Kabir, although its preserved ground plan reveals it to have been even larger in area than the one at Halawa, measuring 22 x 13 m (286 m^2) (Porter 1995: 129–130). The two temples at Qara Quzaq are significantly smaller in area (35 m^2 and 112 m^2 respectively) (Del Olmo Lete and Montero Fenollós 1998; Olavarri and Valdés Pereiro 2001: 27–30; Castel 2010: 129). Given our somewhat fragmentary evidence for these Early Bronze Age temples, it is difficult at this point to reconstruct precisely the nature of the religious ideologies and cult practices conducted within these sacred complexes. Nonetheless, it is interesting to document the widespread appearance of the temple *in antis*, which not only occurs in the Euphrates region and to the east at Tell Chuera, but which has now been documented at Ebla and Tell al-Rawda to the west (Castel 2010: 124–126). We link this development to the growth of communication and exchange networks among the settlements of these regions, and the desire, especially on the part of the settlements' religious and secular elites, to secure their inclusion within a profitable network of exchange through the emulation of neighbouring cities' material cultural and ideological accoutrements (Cooper 2006: 161).

Turning to western Syria, increasing socio-economic complexity does seem to be indicated between 2700 and 2500 BC during the EB III, especially if we take into account the evidence from Ebla, which hints at the emergence of a city elite stratum with considerable control over the city and its production and consumption (Mazzoni 2003: 180). Elsewhere, EB III occupation has been documented at Syrian sites on the coast (Ras Shamra, Tell Sukas and Tell Sianu) and further inland in the Orontes Valley (Qarqur, Hama, Mishrifeh/Qatna and Tell Nebi Mend), although the limited architectural data do not allow one to ascertain the true size and complexity of these sites. Regarding pottery, one sees the continuing prevalence of Red-Black Burnished Ware along with another distinctive pottery ware, known variously as Pattern-Combed Ware or Cross-Combed Ware. This hand-made, well-fired pottery, which usually takes the form of restricted necked jars with light combing decoration, are thought to be related to the production, transport and consumption of olive oil since they have been found in their greatest abundance in areas where olive trees were grown prolifically in antiq-

uity (Bounni and al-Maqdissi 1994: 29; Mazzoni 2002: 75). Whatever their function, petrographic analysis of the wares implies that the jars often travelled well beyond their places of production, thus reflecting the presence of a regional trade network system within what was probably an increasingly favourable economic market.

From *c.*2500 BC onward, western Syria reached its greatest level of urbanism and socio-economic complexity, characterised most clearly by the city of Ebla, which during this period expanded significantly, and came to be characterised by a prominent centrally located acropolis. The acropolis supported the sprawling Palace G, home of Ebla's royal family. There is no question of Ebla's power and influence during this period, reflected by finds that underline its tremendous wealth, and cuneiform textual records which attest to its far-ranging connections across the Near East, including Sumer. Further details about Ebla are described in another chapter of this book and so we will not repeat them here (Pinnock: this volume). Evidence obtained from excavations at other tell-sites occupied during the EB IV (e.g. Hama, Mishrifeh/Qatna, Afis, Qarqur, Nebi Mend), and the recently growing collection of surveys of areas of the Orontes River Valley, the Homs plateau to the south, and the desert margins to the east, indicate a flourishing, urban environment of cities and intensively exploited agro-pastoral hinterlands, with profitable relationships with other regions and cities facilitated through trade, political alliances and various social exchanges (Bartl and al-Maqdissi 2007: 248; Cooper 2007; Philip 2007: 239). Moreover, the appearance of many new sites with EB IV occupation, along with the physical expansion of older sites, indicates a dramatic increase in population during this period. It is possible that the growth and prosperity experienced in western Syria during the EB IV was the result of tapping into the full potential of the fertility of the land as well as exploiting to the fullest various settlements' strategic locations along profitable east–west or north–south routes of trade and communications (Cooper 2007: 49).

The proliferation of EB IV settlements in the western 'arid' margins of the central Syrian steppe to the north and east of Hama and Homs indicate successful attempts to harness the agricultural potential of the various micro-environments of this region, and to maintain large flocks of sheep and goats. Particularly noteworthy is the site of al-Rawda, located about 70 km to the northeast of Mishrifeh/Qatna. The 18–20 ha settlement may have been founded as early as 2500 BC and appears to have persisted for at least three centuries (Castel et al. 2008: 34; Castel: pers. comm.). Geomagnetic investigations have revealed that al-Rawda was composed of a dense array of structures linked to one another by radial and concentric streets, and surrounded by a fortified enclosure (Castel and Peltenburg 2007: 604). This urban entity, which appears to have been constructed according to a pre-conceived design, is not unlike other circular cities in Syria to the north and east such as Mari and Tell Chuera (Castel and Peltenburg 2007: 612). Moreover, many of al-Rawda's features show associations with other parts of Syria, including one of its temples, which bears a typical 'temple *in-antis*' plan (Castel 2010: 124–125).

The advent of the Akkadian imperial power beginning *c.*2350 BC affected several parts of Syria. In the Khabur Plains, site abandonments, the decline of agricultural productivity and population decreases took place shortly after the Akkadian conquest of that area and its efforts to re-structure the region's political governance (Akkermans and Schwartz 2003: 282–283; Weiss and Courty 1993: 139–141). We know from cuneiform inscriptions that Akkadian forces under kings such as Sargon and Naram-

Sin also marched up the Euphrates River, destroying cities such as Mari and Tuttul (Tell Bi'a) on their way to further conquests to the northwest. Physical proof of these military activities may be reflected by the considerable augmentation to fortifications seen in the latest EB levels of most settlements in the middle Euphrates region (Cooper 2006: 73), and by the destruction of the Jebel Bazi citadel on the Euphrates at Tell Banat, which is argued to have been the result of a military encounter between the inhabitants of the settlement, which was possibly the city of Armanum, and the Akkadian forces under Naram-Sin (Otto 2006). Further to the west, many attribute the destruction by fire of the great Palace G at Ebla in the late twenty-fourth century BC to the Akkadian king Sargon, this event effectively bringing an end to Ebla's supremacy in the west, although still others argue that Ebla's demise may have been at the hands of Mari, the other major political power vying for control over the Euphrates and parts of western Syria during this period (Archi and Biga 2003: 35). Whatever military encounters occurred, and whoever they were orchestrated by, neither western Syria nor the Euphrates River Valley was brought to the brink of collapse. On the contrary, while there are signs of disturbances and the demise of some settlements, still other settlements continued to exist and flourish up to the end of the third millennium BC. In the middle Euphrates River Valley, one sees the abandonment of the large polity of Tell Banat/Bazi, and of smaller sites such as Jerablus Tahtani, but other urban centres such as Tell es-Sweyhat continued to thrive until at least 2100 BC (Cooper 2006: 264–265). A recent re-assessment of occupation within and around Carchemish to the north suggests that the city flourished late in the Early Bronze Age and continued to be settled, without a break, into the second millennium BC (Peltenburg 2010). In western Syria, while Ebla's famed palace may have been brought to a fiery end, this event did not signal the demise of Ebla as a city. We know that another EB palace was re-established in the northern part of the city's lower town, and that EB settlement continued at this site for several more centuries (Pinnock 2009: 69–71). Still other settlements in western Syria have ample evidence for continued occupation into the last centuries of the third millennium (Schwartz 2007b: 49–52).

It is difficult to account for the success of settlement in western Syria and parts of the Euphrates Valley, especially when other regions such as the Khabur Plains to the east or the southern Levant underwent several centuries of impoverishment and ruralisation in the latter part of the third millennium. We may surmise that a number of factors were involved, one at least of which was the regions' distance from major power-centres of the Near East from which some of the most significant destabilising effects emanated, namely southern Mesopotamia and Egypt. Neither western Syria nor the middle Euphrates Valley was ever directly controlled by rulers from these lands, nor were the regions' economies utterly dependent on their ties to these lands for their continued success and survival. Thus when Egypt experienced decline at the end of the Old Kingdom, and Mesopotamia underwent a series of regime changes at the end of the third millennium, these events and their consequences do not seem to have dramatically affected the essential livelihood of the Syrian principalities. On the contrary, the relatively peaceful centuries of EB IV in western Syria paved the way for the rapid urban renewal that took place in the succeeding Middle Bronze Age, and allowed for the continuation of occupation at most of the major western Syrian sites such as Ebla, Hama and Mishrifeh/Qatna, and Carchemish on the Euphrates (Morandi-Bonacossi 2009: 65 and 66 n. 19; Peltenburg 2010).

WESTERN SYRIAN/MIDDLE EUPHRATES–SUMERIAN INTERCONNECTIONS

This overview of developments in the third millennium BC in the Euphrates River Valley and western Syria has tried to show how much of the progression towards increasing socio-economic complexity and urbanism were internally driven: that these phenomenon were the natural outgrowth of structures already in place at the start of the third millennium BC, and fuelled by the growth of local elite powers, possibly through their interactions with one another, the production and trade of various raw materials and crafted products, and the intensification of agricultural production. At the same time, it is also important to consider the strength of the effects from the outside during this period, particularly from Sumer in southern Mesopotamia.

Textual information attesting to connections between western Syria and Sumer from the early centuries of the third millennium BC is scant, although we might suggest that some form of communication and contact was made during this period, albeit in a far less systematic and intensive manner than was witnessed in the previous Late Uruk period. The second half of the third millennium, in contrast, appears to have been a period of considerable interconnections. At the end of the Early Dynastic period, the Sumerian ruler Lugalzagesi, for example, claims to have subjugated all of the lands as far as the 'Upper Sea', the designation for the Mediterranean Sea (Frayne 2008: 436). While his claim of dominion over such a vast area is no doubt highly exaggerated, it does show his awareness of the lands to the west, probably because of their rich resources in materials such as timber and their locations on trade routes to metal sources. The campaigns of Akkadian kings were undoubtedly motivated by southern Mesopotamia's continuing interest in exploiting the resource-rich areas of western Syria and the areas accessible beyond it. Gudea, the Sumerian ruler at Lagash in the twenty-second century BC, claims to have received timber from the Amanus Moutains and textiles from Ebla (Klengel 1992: 35; Edzard 1997: 33). The Ur III dynasty at the end of the third millennium was in close economic contact with Syrian centres such as Tuttul (Tell Bi'a), Ebla and Urshu to the north, and it is possible that a Neo-Sumerian king, Shu-Sin, launched an expedition which took him up into Syria, reaching Ebla, among other cities, and 'the land where the cedars are cut down' (Klengel 1992: 36; Frayne 1997: 301).

The archaeological record from Syria provides further proof of interconnections with Sumer. Cylinder seals found in the Euphrates Valley and western Syria utilise motifs and imagery prevalent in Early Dynastic southern Mesopotamia, although it must be noted that such seals also bear local characteristics and are never slavish copies of Sumerian prototypes (Schwartz 1994: 164, 167 n. 11). Stone sculpture from the site of Tell Chuera to the east of the Euphrates, taking the form of alabaster worshipper statues, compares favourably with similarly sculpted votive figures from the Diyala region of southern Mesopotamia (Aruz 2003: 63). The evidence from Ebla, dated to the end of the Sumerian Early Dynastic period, provides some of the richest evidence for contact with Sumer. Inscribed tablets from that site, although rendered in the Northwest Semitic Eblaite language, employed the system of syllabic cuneiform writing that was directly borrowed from pre-Sargonic Mesopotamia. Moreover, the contents of several literary compositions and lexical texts from Ebla allow comparisons to be drawn with the tablets excavated at Abu Salabikh and Fara in southern Iraq

(Klengel 1992: 22; Akkermans and Schwartz 2003: 239). Finely crafted art objects discovered in Ebla's Palace G comprise many Sumerian motifs and styles (Matthiae 1981: 79–81). Most significantly, the discovery of large amounts of unworked lapis lazuli in Palace G, a valuable semi-precious stone that had been obtained from as far away as eastern Afghanistan, confirms that long-distance trade was being actively carried out. The stone was probably being conveyed to Ebla via Sumer and the Euphrates' city of Mari, the principal gateway between southern Mesopotamia and the lands of Syria (Pinnock 1988: 110)

Such connections between Sumer and western Syria and the middle Euphrates over the many centuries of the third millennium BC almost certainly had an impact on Syria's development, affecting its culture and society in a number of ways. Commercial exchanges with Sumer stimulated economic growth, and introduced exotic and rare materials that were used by various Syrian elite groups to set themselves apart in their own communities and enhance their prestige and high status (Schwartz 1994: 165). Also appropriated were aspects of Sumerian elite social behaviour. Noteworthy in this regard are elite drinking practices which find reflection in the growing preponderance of drinking cups that have been found in late third millennium Syrian contexts, particularly in parts of western Syria. Such goblets are tall and cylindrical, and often corrugated or decorated with horizontal and wavy bands of paint. They have been found in large quantities at Palace G at Ebla, suggesting they were part of the Ebla royal establishment's dining ware, likely serving as drinking cups for the consumption of some liquid – possibly wine – at special banquets or ceremonies (Cooper 2007: 44). The propensity for drinking and postulated drinking celebrations are probably attempts to emulate Sumerian drinking practices, these having frequently accompanied successful harvests, the completion of temple construction projects to honour the gods, or successful military ventures (Cooper 2007: 44). Such activities are frequently represented as 'banquet' scenes on a number of Sumerian objects which include cylinder seals, wall plaques and the famous Royal Standard of Ur (Pollock 2003: 22). By emulating this Sumerian behaviour, western Syrian individuals, mostly elites, were endeavouring to link themselves to the cosmopolitan urban centres of southern Mesopotamia, showing themselves to be part of that civilised community, and at the same time, distinguishing themselves from the common people of their cities by engaging in these types of exclusive parties (Bunimovitz and Greenberg 2004: 27).

WESTERN SYRIA/MIDDLE EUPHRATES' DISTINCTIVE CULTURAL TRADITIONS AND BELIEFS

As presented above, much of the contact between Sumer and western Syria and the middle Euphrates seems to have been at the level of trade and communications with local Syrian elites who were eager to legitimate and intensify their prestige and wealth (Akkermans and Schwartz 2003: 277). It is also likely that along with these elite exchanges, general notions about what constitutes a city, with its various physical features and urban modes of behaviour, were also transmitted, along with administrative technologies such as cylinder seals (Stein 2004: 72). At the same time, it is difficult to argue that Sumerian culture and the Sumerian 'way of doing things' penetrated fully into Syrian society, affecting at a deeper level modes of social organisation, political structures and ideological beliefs and practices. Indeed, despite contact with

Sumer, the peoples of western Syria and middle Euphrates Valley continued to follow their own distinctive modes of cultural behaviour, these deriving from older, deeply seated traditions and ways of thinking. Some of the regions' distinctive cultural traditions have already been described in the discussion above, but it may be of value to review here in detail the specific areas where western Syria/middle Euphrates culture differed from that of Sumer. Our discussion parallels some of Gil Stein's (2004) suggested areas of divergence between northern and southern Mesopotamia, but further elaborations and evidence specific to the regions of western Syria are also presented here.

a) *Syrian temples*. The institution of the temple in Syria had a different place in society, when contrasted with the temples of Sumer. While temples are present in the Syrian Euphrates Valley and western Syria, they lack the same over-arching importance within the cities as in Sumer. Sumerian temples were perceived of as the dwelling places of the city-gods, and in most cases, Sumerian cities had grown up around earlier temple-centred towns extending back as early as the Ubaid period (Stein 2004: 74). Moreover, some of the earliest powerhouses, not only of religious authority, but also of socio-economic and political authority, emanated from the Sumerian house of the god, and the earliest individuals who assumed ruling status over the communities did so through their close connection to the temples and their claim to have been sanctioned by the gods. In the case of Syria, temples have been documented in many urban communities, but they rarely appear to be central to the operation of the city, and there does not appear to be any tangible link between these places of worship and local forms of political or economic authority (Stein 2004: 75). Temple complexes can have monumental features, as evidenced by some of the examples of large temples *in antis* at Halawa Tell A and Tall Kabir, as reviewed above, but monumentality is not the rule; indeed, many temples have modest features and dimensions. It is also common to find more than one temple *in antis* complex within a single settlement, as at Qara Quzaq and Tell Chuera, suggesting that these should be regarded more as neighbourhood places of worship, or serving small numbers of a local group, than constituting the principal ritual focus of an entire community (Stein 2004: 76).

b) *Religious ideologies*. Although the precise nature of religious beliefs and the cult in western Syria and the middle Euphrates Valley is still somewhat obscure, it is clear that they diverge from what existed in Sumer. From Syrian textual sources, we know the names of some of the deities worshipped in these regions: Dagan, Malik, Kura, Nidabal, Adda and Rashap. These deities are clearly separate from well-known Sumerian pantheon of gods (i.e. Enlil, Inanna). The god Dagan appears to have been particularly associated with the Euphrates region of Syria, with cult centres at Tuttul (Tell Bi'a) and possibly another site close to the Euphrates' polity of Gasur, north of Emar (Feliu 2003: 23, 303). Unfortunately, the texts fail to provide any particulars concerning the ways these gods were venerated. Images from wall paintings from Halawa Tell B and Tell Munbaqa of possible divine beings, some holding tree branches, some featuring large circular eyes between tapering stalks atop tree-trunk images or human-like bodies, may hint at the ways in which the Syrian Euphrates gods were perceived, distinguishing them from their Sumerian neighbours who customarily portrayed their deities anthropomorphically or with a different suite of symbols (Orthmann 1981: 42; Cooper 2006: 92–94). On the other hand, the people of the middle Euphrates Valley were not entirely removed from the religious imagery of

southern Mesopotamia, as evidenced by the fragments of a carved stele from the temple *in antis* at Halawa Tell A, whose layout in registers and images of animal motifs and human worshippers compares favourably with the established canon of sculptural representation from Early Dynastic Sumer (Orthmann 1985: 471). Nevertheless, subtle differences in the Syrian compositions – for example, the Halawa stele presents a female animal bearer, not a male, the standard representation in southern Mesopotamia – may indicate somewhat different beliefs about the roles and responsibilities of gods, men and women in the sphere of religion and sacred ritual (Orthmann 1985: 470–471; Cooper 2006: 154).

c) *Funerary traditions and social structures*. The distinctive funerary practices of the Euphrates River Valley during the Early Bronze Age reflect a somewhat divergent system of beliefs about death and the afterlife. They also refer to different modes of social organisation among the living compared to that which existed among the Sumerians of southern Mesopotamia. The striking presence of monumental shaft and chamber tombs in the Syrian Euphrates Valley and at Umm al-Marra is another notable feature not seen in Sumer, these often located in prominent intramural locations in settlements, and partially or wholly visible, drawing attention to their importance even among the living members of the community (Peltenburg 1999: 427–428). As already discussed, such funerary monuments probably served as the focal points for the veneration of ancestors, another phenomenon that has been traditionally linked to tribally organised pastoral societies, with their emphasis on kin-based descent groups (Stein 2004: 72). It is clear that such funerary traditions, which appear to reflect the persistence of more corporate, lineage-based forms of social organisation in the Euphrates Valley, stand in marked contrast to Sumerian society, which, during the Early Dynastic period, saw many individuals in society increasingly removed from their traditional family or kinship ties as they joined the workforces of the larger socio-economic households – namely the palaces and temples – of their city-states (Pollock 1999: 117–118).

d) *Kingship*. The evidence for corporate forms of social organisation in western Syria and the middle Euphrates, and the dissemination of authority and decision-making across a number of groups or individuals in a community rather than being concentrated in the hands of one individual or a single authoritative group or class, leads naturally to questions about the presence and nature of kingship. The Ebla texts of the twenty-fourth century BC provide good support for the presence of city rulers and their royal lineage at that city, not to mention the physical presence of a royal complex, grandiose Palace G, which served as the dwelling place of the Ebla king and his royal household. The Ebla texts' mention of still other cities and states in western Syria and the middle Euphrates Valley which had kings does seem to indicate that powerful individuals with some form of political authority over their territories existed, at least during part of the third millennium BC. At the same time, we must be cautious not to place too much confidence in the words of Ebla officials and scribes, who may have had a different understanding of the political and social organisation of groups distant from their own city-state (Cooper 2006: 65).

Archaeologically, the discovery of elite contexts, especially monumental, richly furnished tombs, suggests that certain individuals or families were able to amass considerable wealth and resources for themselves within their communities and that such affluence may have translated into political authority as well. On the other hand,

indications of ruling families outside of the evidence for rich tombs are not always easy to find. In western Syria, evidence for the storage and redistribution of large quantities of materials has been recovered from a large complex of structures on the acropolis mound during the second half of the third millennium BC at the site Mishrifeh/Qatna (Morandi Bonacossi 2007: 69). It may prove to be something on the order of a palatial structure, but elsewhere in western Syria beyond Ebla, similar palaces have not been discovered. In the middle Euphrates Valley, the absence of artefacts pointing to large-scale economic or large-scale administrative activities within the few large-scale secular buildings which have been discovered cannot justify the existence of a centralised and bureaucratised royal establishment with extensive control over the rest of the settlements. Moreover, the diversity of house structures, the variability of outer city defences, and the presence of independently operated production facilities at these Euphrates sites suggest that many aspects of the cities' operations fell outside the controlling forces of these elite complexes (Cooper 2006: 141).

The organisation of authority or kingship in western Syria and the middle Euphrates is clearly very complex, and given the varied expressions of elite status manifested in this region, it is probable that the nature of power fluctuated greatly as did the degree to which it was attained and exercised in each community. Perhaps we can envision that while some elite groups played a prominent role in socio-economic and political activities at some sites, and there may even have been local rulers with a degree of wealth or control over some facets of urban society, still other sites had a tradition in which an exclusionary or centralising authority was far more limited. This latter model would certainly fit well with what we know from contemporary or later textual sources from Syria, which speak of councils of elders in some communities, these groups either serving as an official body that decided town affairs in the absence of a local individual chief or king, or existing alongside them, serving as an independent body of decision-making for the community and off-setting the attainment of exclusionary power among any one elite group or individual (Schwartz 1994: 166; Stein 2004: 74; Fleming 2004: 190–200). Whatever the case, it seems clear from the evidence just described that the nature of kingship in western Syria differed from the well-known examples of city rulers that existed in Sumer from the same time period.

CONCLUSIONS

As the summary above has tried to emphasise, connections between Sumer and parts of western Syria were clearly present and resulted in a number of significant developments, including the intensification of long-distance trade and commercial exchanges as well as the appropriation of symbols of power, which were particularly of benefit to elite members in Syrian society desirous to showcase their wealth and prestige within their communities and among their peers from neighbouring polities. But differences between the regions, rooted in deep-seated religious traditions, social structures and concepts of decision-making and leadership, meant that western Syria and the middle Euphrates Valley followed different developmental trajectories, especially during the third millennium BC. Even though all the areas shared strides towards increasingly complex societies and urban environments, the particular nature of those phenomena, and the way they manifested themselves materially, continued to differ for the duration of the millennium. The areas' different environmental zones were responsible for some

of these differences. The unique tribal pastoral character, particularly in the middle Euphrates, may account for distinctive socio-political developments, namely the prevention or constraint of the growth of absolute kingships and highly centralised governments. As for parts of western Syria, its fertility and potential for both agricultural and pastoral productivity, coupled with the region's location at a crossroads of trade and communication, not only with the lands of Mesopotamia but also Egypt and other polities reached via the Mediterranean Sea, gave it plenty of opportunities for economic growth and varying cultural stimuli. At the same time, distance from the principal Near Eastern centres of power, namely Sumer and Egypt, meant that the people of western Syria would never be subject to those civilisations' rises and falls. While they never experienced the heights of success and prosperity of these neighbouring polities, they also did not have to suffer from their tumultuous demises. They continued to sustain themselves and maintain their own cultural traditions, relatively free from outside interference, right up to the end of the third millennium BC.

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CHAPTER TWENTY-SIX

SUMER, AKKAD, EBLA AND ANATOLIA

Christoph Bachhuber

INTRODUCTION

No other topic has attracted as much interest in the archaeology of the third millennium in Anatolia as long-distance trade. This interest can be considered on several levels. Trade networks across Anatolia fulfill specific expectations related to Anatolia's perceived role as a "bridge" between the (Classical) Aegean and the (Mesopotamian) Near East (see Greaves 2007). Anatolia exists at a margin between these two regions that have attracted greater academic interest in ancient world research. During the third and early second millennia, the Anatolian bridge was crossed by long-distance trade, while in later periods it was crossed by migrations (Phrygian, Ionian) and empires (Hittite, Achaemenid, Romano-Byzantine, Ottoman).

The recent focus on trade in Anatolia also highlights a renewed determination to synthesize large volumes of data into a coherent outline of social change during the third millennium (see, for example, Şahoğlu 2005; Rahmstorf 2006; Efe 2007; Bobokhyan 2008; see Figure 26.2 for a chronology chart). Similarly, it reveals the separation of Bronze Age Anatolian archaeology from the mainstream approaches of Anglo-American archaeology. For decades, Anglo-American archaeologists have either prioritized local neo-evolutionary outlines of social change (by downplaying the role of trade as a cause or catalyst), or have generally lost interest in questions related to social change.

The philology of the Middle Bronze Age (MBA) text corpus of Assyrian language archives from Kültepe-Kaniš, Alişar-Amkuwa, and Boğazköy-Hattuš on the Anatolian Plateau (Figure 26.1) have also exerted a profound influence on Early Bronze Age (EBA) research in Anatolia. The contents of these archives, particularly at Kültepe-Kaniš, provide precise details of Assyrian merchant enterprise on the Anatolian plateau. Thus reconstructions of long-distance exchange networks during the EBA (*c.*3000–2200 BC) offer both a parallel and a precursor to these later well-documented networks. In this chapter, I ask to what extent the Assyrian archives and other textual traditions reveal or obscure the nature and meaning of long-distance communication between the regions of Iraq, Syria, and Anatolia during the third millennium.

Particular categories of material culture, like depas cups (Figure 26.3), Syrian-inspired bottles (Figure 26.4), or pan balance *weights* used to weigh metal, are also regularly drawn on to reconstruct dynamics of long-distance trade. I address the most frequently discussed archaeology in turn, again with the concern that archaeologists

too quickly derive their interpretations of material culture from analogies with the MBA, or from pseudo-historical outlines of the third millennium based on other ambiguous textual evidence. Material culture and textual evidence need to be considered and combined in new ways to develop more nuanced interpretations of long-distance interaction during the EBA.

THE HISTORICITY OF CONTACT

That some manner of long distance communication existed between these regions during the third millennium is not in doubt; it is also clear that this communication was directly related to the vigorous economies, societies and polities of a "Second Urban Revolution" in northern Syria (beginning *c.*2600 BC), and a comparable and contemporary, if not quite "urban," development in Anatolia (for critique of urbanization in EBA Anatolia, see Çevik 2007). During the first centuries of the third millennium, settlements across Anatolia can be best characterized as insular villages where evidence for social hierarchies is elusive. The two best published sites from this period include Demircihöyük in the ancient "Phrygian Highlands" of northwest Central Anatolia (Korfmann 1983) and Karataş in ancient Lycia in southwest Anatolia (Warner 1994; see Bachhuber, forthcoming, for reassessments of both settlements and their associated cemeteries).

Dramatic changes in settlement patterns, an increased scale of architecture and monumentality, and a new and extravagant consumption of wealth in mortuary and other kinds of depositional contexts, announce a major transition across Anatolia, beginning around 2600 BC (see Bachhuber, in press). Long-distance communication was clearly part and parcel of this development in EBA Anatolia; it is less clear how this happened, and why. Many scholars have turned to the well-documented Assyrian

Figure 26.1 Map showing key sites mentioned in text

trading enclaves of the early second millennium for clues to the nature and meaning of these earlier networks. The paramount interest of the Assyrian merchants was silver and gold mined in Anatolia. Donkey caravans made the six-week return trip from Aššur laden with high-quality Assyrian and Babylonian textiles and tin for consumers in Anatolia. The archives of the Assyrian trading enterprise have suggested to many that an extensive if not comparable exchange network was already in place in the EBA, into which the Assyrian network naturally coursed. For example, T. Özgüç has proposed on the basis of the identification of eastern-inspired Syrian bottles and western-inspired *depas* cups (see below, and Figures 26.3 and 26.4) that the EBA settlement of Kültepe had already begun to assume an important role in interregional trade (Özgüç 1963: 2, 1964: 48), for it is well known in the MBA. Efe (2007) has described a "Great Caravan Route" across EBA Anatolia based on similar evidence, with direct reference to the donkey and wagon caravans that were used to transport metal and textiles in the early second millennium network.

But how similar were the two periods, especially in terms of trade infrastructure (for Assyrian trade, see Barjamovic 2011: 15–26)? Did the "Great Caravan Route" across EBA Anatolia include the well-maintained roads and bridges that are attested in the MBA Assyrian archives? Did these roads transport well-organized caravans of donkeys and wagons? Did these caravans pay tariffs to local kingdoms, like they did during the MBA? Could their safety be ensured, like they were during the MBA? Were these caravans owned and operated by foreign merchants? Or were they local, or both? These are not flippant questions although the archaeology of EBA Anatolia clearly cannot address most of them in any direct way. Such questions demand more careful consideration of the level of foreign investment in trade across EBA Anatolia, on one hand, and the level of administrative sophistication of EBA Anatolian polities, on the other, before drawing direct analogies with the Assyrian merchants of the MBA.

Ebla Palace G archives

There is no question that the emergence of large urban centers like Ebla and Mari in northern Syro-Mesopotamia affected developments in Anatolia beginning near the middle of the third millennium. The Ebla Palace G archives reveal a robust and enterprising economy based on agriculture, viticulture, animal husbandry, and textile and metallurgical industries. Gold and silver are recorded in the Palace G archives in impressive quantities. One entry reads "1740 *minas* of gold present" (approx. 870 kg; Pettinato 1981: 166); another records an annual outlay of silver of 3796 *minas*, 10 shekels (approx. 2000 kg; Pettinato 1981: 167). The Eblaites were both manufacturing precious metal objects, and using silver and gold as media for priced exchange. None of this metal was mined locally. It is reasonable to infer that this dynamic urban center pursued economic interests that were linked, if not directly, to societies in EBA Anatolia.

The kingdom of Ebla maintained contact with other kingdoms located near the modern border between Turkey and Syria (Figure 26.1). The royal archives at Ebla recognize royal individuals and agents from the kingdom of Harran. Harran is also listed as a source of sheep destined for Ebla and other kingdoms (Pettinato 1976: 147–148). Carchemish is recorded as both a source of and a destination for textiles (Pettinato 1976: 12, 1981: 209, VII.2–4). Additionally, in a treaty between Ebla and

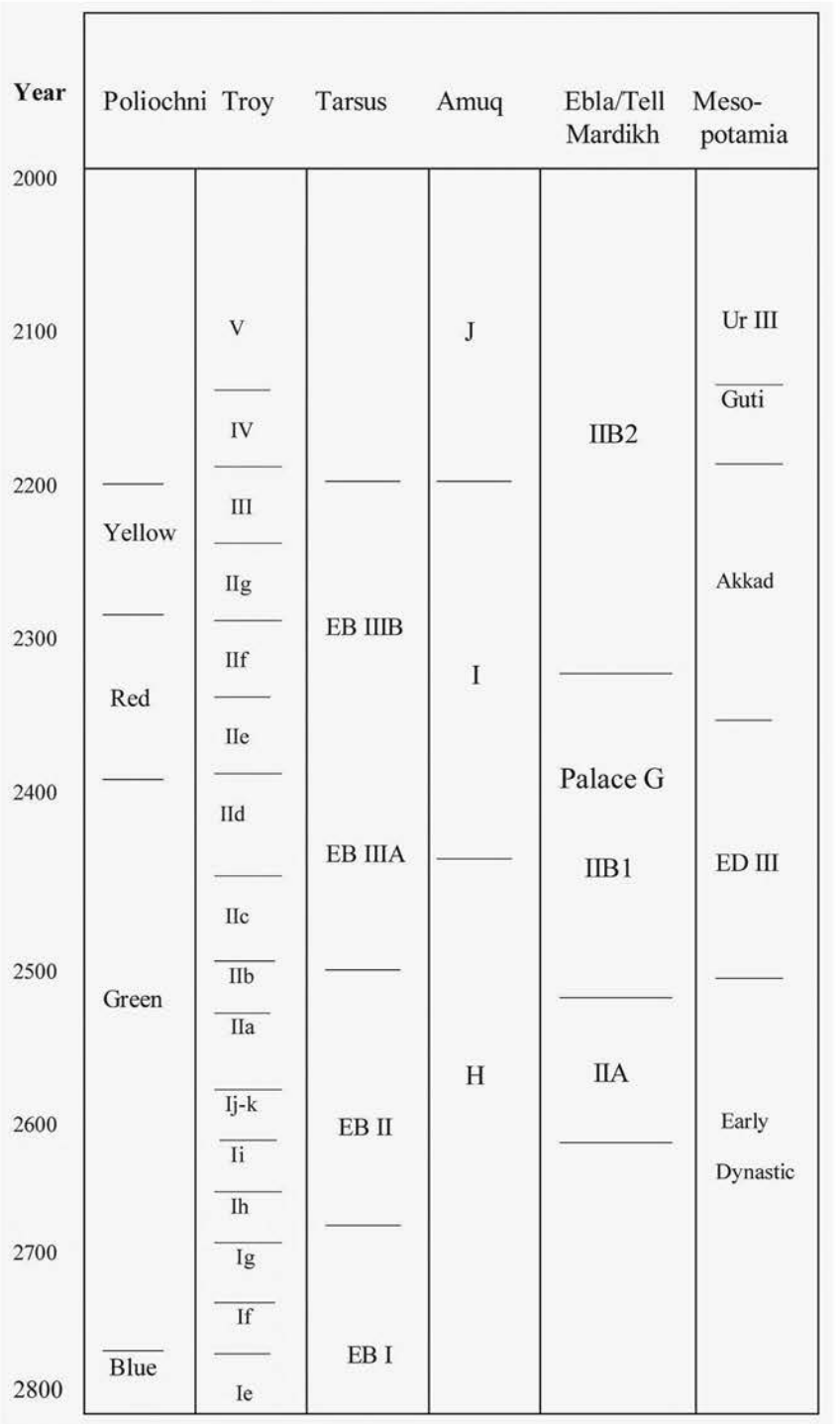

Figure 26.2 Chronological chart for the third millennium

Aššur, Carchemish is described as being "in the hands of the king of Ebla" (Pettinato 1981: 103).

The extent of Eblaite enterprise deeper into EBA Anatolia is more difficult to assess. Pettinato (1981: 106–107, 1991: 160) makes regular references to a kingdom called *kà-ni-šu*, which is recorded as belonging to a larger network of fifty-two townships dependent on the Eblaite trade center of Lu'atum located to the north. It is also listed among seventeen kingdoms that are "in the hands of Ebla." Pettinato (1981: 106, 1991: 160) equates *kà-ni-šu* with the later Assyrian trading enclave of kaniš (modern Kültepe in Cappadocia, Figure 26.1), suggesting that *kà-ni-šu* demonstrates the imperial reach of Ebla into Anatolia. Further, the fifty-two outposts of the Lu'atum network, if extending into Anatolia, suggest an extensive trading enterprise deep into the peninsula (Pettinato 1991: 160), not unlike the MBA Assyrian trading networks.

However, as Diakanoff (1990: 5, n. 3) observes, none of the numerous other place names listed in the Lu'atum network can be identified with an Anatolian toponym. Similarly, attempts to identify a township named kà-kà-ni-šum in an Old Akkadian text with Kültepe-Kaniš (Westenholz 1998: 11) have met with deep scepticism (see Van De Mieroop 2000: 142–143, n. 40). Until the toponyms of ka-ni-šu and kà-kà-ni-šum can be convincingly located in a region approximating Cappadocia in a third millennium text, Syrian or Mesopotamian interest in the EBA citadel of Kültepe remains speculative, but not improbable.

Historical–literary traditions of Akkadian kings

The destruction at Ebla that preserved the Palace G archives is widely attributed to Akkadian expansion and aggression. A royal inscription of Sargon is often (if uncritically used to delineate the northern extent of the territory ruled by Akkadian kings. The end of the inscription reads:[1]

> He (the god Dagān)
> gave to him (Sargon) the Upper
> Land: Mari, Irmuti, and Ebla
> as far as the Cedar Forest
> and the Silver Mountains.
> (20–28)

There is general agreement that the "Silver Mountains" are to be placed somewhere within the eastern Taurus or Anti-Taurus mountain range (see Yener 1980: 52, located north of Carchemish on Figure 26.1), and the "Cedar Forests" in the Amanus Mountains (see Steinkeller 1998: 90, located at Zincirli on Figure 26.1).

The most frequently cited and evocative textual evidence for communication between the two regions is a pair of literary traditions that narrate the heroism of the Akkadian kings Sargon and Naram-Sin, respectively. One recounts an Anatolian campaign of Sargon, the other a rebellion including Anatolian kingdoms against his grandson Naram-Sin. The "King of Battle" narrative is attested in both Akkadian and Hittite; the Akkadian versions are recorded on Old Babylonian tablets from Aššur and Nineveh, and on tablets recovered from the site of el-Amarna, in Egypt (1353–1335 BC). The Hittite narrative more or less follows the Akkadian, accounting for considerable variation in phraseology (Westenholz 1997: 102).

The "King of Battle" begins with Sargon rallying his reluctant troops to campaign against the distant kingdom of Purušanda (Purušhaddum from the MBA Assyrian archives). This prominent center in the Assyrian network is often associated with the MBA palace complex of Acemhöyük in the southeastern vicinity of the Salt Lake (Tuz Gölü), though Barjamovic (2011: 357–378) has persuasively argued against this location, citing possible locations further south and west in the Kayseri region. In the "King of Battle" narrative, Sargon is responding to grievances from Akkadian merchants trapped in the kingdom of Purušanda, who are suffering abuse at the hands of its tyrant king, Nur-Daggal. He is successful in rallying his troops and sets off with an army across a fantastical landscape. They cross mountain passes strewn with boulders of lapis lazuli and impassable thickets. Sargon eventually reaches Purušanda and breaches its walls. Nur-Daggal immediately surrenders, redresses his wrongs, and Sargon and his army rule Purušanda for three years (for text, translation and discussion see Westenholz 1997: 102–131).

The second narrative concerns a widespread rebellion against Sargon's grandson, Naram-Sin. Unlike, the "King of Battle" texts, which is a literary narrative with no known parallel in Old Akkadian (i.e. there is as yet no evidence that it was composed during the reigns of Sargon and Naram-Sin), part of the "Great Revolt" appears on a scribal exercise tablet written in Old Akkadian, as well as in Old Babylonian inscriptions copied from monuments erected by Naram-Sin (see reference below). The Great Revolt relates a sequence of upheavals against the Akkadian king. The first involves an alliance of Mesopotamian kingdoms united under the king of Kiši, Iphur-Kiši. A second uprising includes seventeen kingdoms on the fringes of Akkadian rule, and is led by Gula-AN, king of Gutium. The list of kings and kingdoms joining in this second rebellion is of particular relevance, and has been the focus of an ongoing discussion concerning the extent of Akkadian imperial enterprise, and the historicity of these narratives in general.

Only fragments of the original Old Akkadian sources have been recovered, and these relate events exclusively from the first intra-Mesopotamian rebellion led by Iphur-Kiši (Westenholz 1997: 224–229). An Old Babylonian copy of a royal inscription of Naram-Sin constitutes additional "historical–literary" evidence for the Great Revolt (Michalowski 1980; Westenholz 1997: 238), though here again the text is very fragmentary and does not include events related to the second rebellion (with its Anatolian rebels).

The earliest record of the second rebellion led by Gula-AN is narrated on an Old Babylonian (post-Akkadian, post-EBA) recension tablet. Zipani, the king of kaniš, joins the rebel alliance against Naram-Sin (Westenholz 1997: 251). In later Hittite versions, further Anatolian elements are included. Pamba, the king of Hatti, is listed with Zipani among the rebels; the kingdom of Purušanda (the setting for the "King of Battle") is destroyed by the rebel alliance (Van De Mieroop 2000: 140).

Views of the historicity of the "King of Battle" and "Great Revolt" traditions range from legitimate accounts of Akkadian enterprise into Central Anatolia, to anachronistic fabrications reflecting contemporary (i.e. Old Babylonian/Old Assyrian) geopolitical realities. A literal reading of these narratives suggests to some that the Anatolian kingdoms were in vassalage to the Akkadian kings (see e.g. Orlin 1971: 228–331; Bryce 1983: 11). Some have also suggested that Akkadian campaigns were actually undertaken into Anatolia (Westenholz 1998).

These interpretations of the King of Battle and Great Revolt narratives have been challenged, most vocally from authors like Liverani who warn that any ancient text that recalls events from the past is masking observations on the world of the present:

> Consequently, a lot of assumed information on the Akkad dynasty fades away . . . On the other side, we get information on quite different matters, i.e. on the political problems at the time of the texts' composition, and on the use of Akkad as a model dynasty for the succeeding periods.
>
> (Liverani 1993: 47)

Thus, the narratives are Old Babylonian/Old Assyrian compositions that took inspiration from the ancient monuments erected by Akkadian kings. If Sargon or Naram-Sin had actually undertaken these campaigns into the Anatolian Plateau, they would likely have commissioned monuments commemorating these events, which would have likely been copied by Old Babylonian/Old Assyrian scribes (Liverani 1993: 50). Such copies have not been identified.

Potts acknowledges Liverani's critique of the literal readings of these texts to reconstruct the history of the Akkadian empire, but is careful not to dismiss every narrative as pure fabrication, propagandistic or otherwise (Potts 2001: 405–407). Citing the Great Revolt against Naram-Sin, he proposes that scholarship is in need of more evidence, textual and archaeological, to weigh against the reading of these texts. Further evidence may open a "window into the historical dimension of the text" (Potts 2001: 407), a window which has been shut in Liverani's analysis.

THE MATERIAL CULTURE OF COMMUNICATION

Iconography and glyptic

How might archaeology inform these debates? Mellink has drawn attention to an alabaster stela recovered (unprovenanced) in the Al-Hai district of southern Iraq (Mellink 1963). Two preserved fragments show a row of nude captives moving from right to left above a row of robed and helmeted soldiers carrying daggers aloft. One of the soldiers also carries a distinctive two handled goblet (Basmachi 1954: pl. 1; Mellink 1963: pls. 28–29). The composition is unmistakably Akkadian and has good parallels with the Lullubi victory stela of Naram-Sin (Mellink 1963: 102 n. 4 for references). The daggers and goblet appear to be the booty of a victorious Akkadian army, which had just defeated an enemy represented by the nude captives (Mellink 1963: 101–102).

The most evocative feature of the stela for this discussion is the double-handled goblet (Mellink 1963: pl. 30). No remotely comparable form exists in the local ceramic repertoire of Syria, Iraq, or Iran (Mellink 1963: 106 after Basmachi 1954: 106), but the double-handled goblets, including so-called "*depas* cups" (Figure 26.3), are emblematic in a repertoire of Anatolian pottery that has been identified as imports in a region that was likely under some manner of Akkadian control (i.e. in the conquered region of Subartu, Figure 26.1). If nothing else, it appears an Akkadian craftsman may have been at least familiar with the double-handled Anatolian goblet form, and wanted to convey the exoticness (and geographical distance) of these people conquered by Naram-Sin

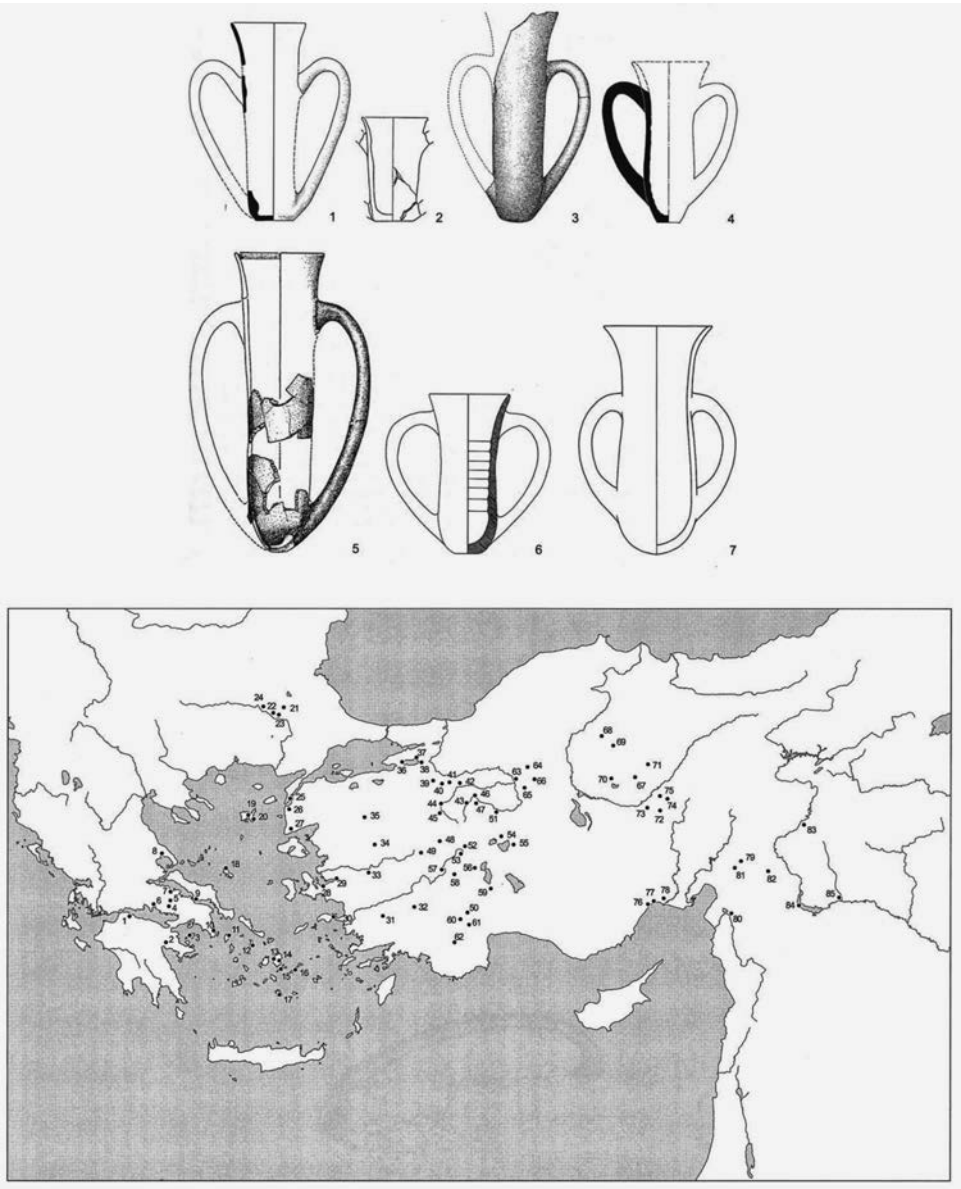

Figure 26.3 *Depas* cups and their distribution (from Rahmstorf 2006: figs. 2 and 3, with permission from L. Rahmstorf)

through a metal vessel that was being hauled away as booty from the distant and defeated kingdom.

The most decidedly Akkadian archaeological evidence recovered from EBA Anatolia was recently discovered in an intentional (dedicatory) deposit on the citadel of Seyitömer in the Eskişehir region. The context and its finds await publication, though no less than ten cylinder seals of Akkadian inspiration were identified together with

gold jewelry, including garment pins. The director of the excavation, N. Bilgen, has been quoted widely in Turkish news media, suggesting that these seals provide evidence for Akkadian merchant activity on the Seyitömer citadel. Such a scenario would also substantiate the historicity of the "King of Battle" narrative that describes Sargon's military adventure deep into Central Anatolia to rescue Akkadian merchants imprisoned in the kingdom of Purušanda.

Cylinder seals on a citadel raise the possibility of some sort of administrative activity, though there is only one site in EBA Anatolia where there is any evidence for cylinder seal impressions: EB III Tarsus (Goldman 1956: 240–241, fig. 397.12). Although cylinder seals or cylinder seal-like objects have been identified at Troy and Alişar (both of Ninevite 5 inspiration, Collon 2005: 23), Poliochni (a local imitation of a cylinder seal, with stamp seal hybrid; Kenna 1969–1970), and Seyitömer (of Akkadian inspiration), there is no evidence that they were being used administratively. Thus the significance of the Akkadian-inspired cylinder seals at Seyitömer should be assessed with other possible functions and meanings in mind. Cylinder seals could have circulated as desirable prestigious and amuletic objects in their own right. For example, objects like seals and scarabs are often found in contexts that post-date their manufacture (and original use) by hundreds if not thousands of years. The Seyitömer seals were found in a dedicatory context – intentionally deposited with gold jewelry. The seals clearly circulated in a network of exchange, and may have even been dedicated as an appeal to potential exchange relationships; but they cannot yet be used to identify specific administrative practices related to sealing or the existence of foreign merchants on EBA citadels in Anatolia.

The "Syrian Bottle"

The Syrian Bottle is shorthand for closed vessel forms with origins in northern Syria and southeastern Turkey. Their manufacture appears to be contemporary with, and therefore characteristic of, the expanding and energizing social-economies in this region beginning *c.*2600 BC. Syrian Bottles are ring-burnished, wheel-made, well-fired and thin-walled vessels that are normally but not exclusively found in mortuary contexts in the region (Sconzo 2007: 261). Syrian Bottles were generally manufactured in two forms: a long alabastron shape and a shorter, more rounded, egg shape (Figure 26.4).The forms and surface treatments of Syrian Bottles are skeuomorphic; like many fine ware repertoires in Western Asia in the EBA, they evoke the visual effect of a metal vessel. For this reason the Syrian Bottle has long been associated with an ill-defined category of "Syrian Metallic Wares" (see e.g. Kühne 1976).

It has been plausibly suggested that the Syrian Bottle was designed to contain perfumed oils (Mellink 1989: 323; Zimmermann 2005) or unguents, which in mortuary contexts might have been used to anoint the dead. The concept of the Syrian Bottle traveled far beyond its probable origins in the mortuary practices of this region (Figure 26.4), raising the possibility that these forms were also used to transport and advertise their contents over long distances. Zimmermann (2005, 2006) has shown in a series of studies that at least some Syrian Bottle forms in Anatolia were locally imitated. According to Zimmermann, the Syrian Bottle in Anatolia offers evidence for the communication of an idea, or a "transfer of fashion" (after Zimmermann 2005: 165), rather than the transport of an object and its contents.

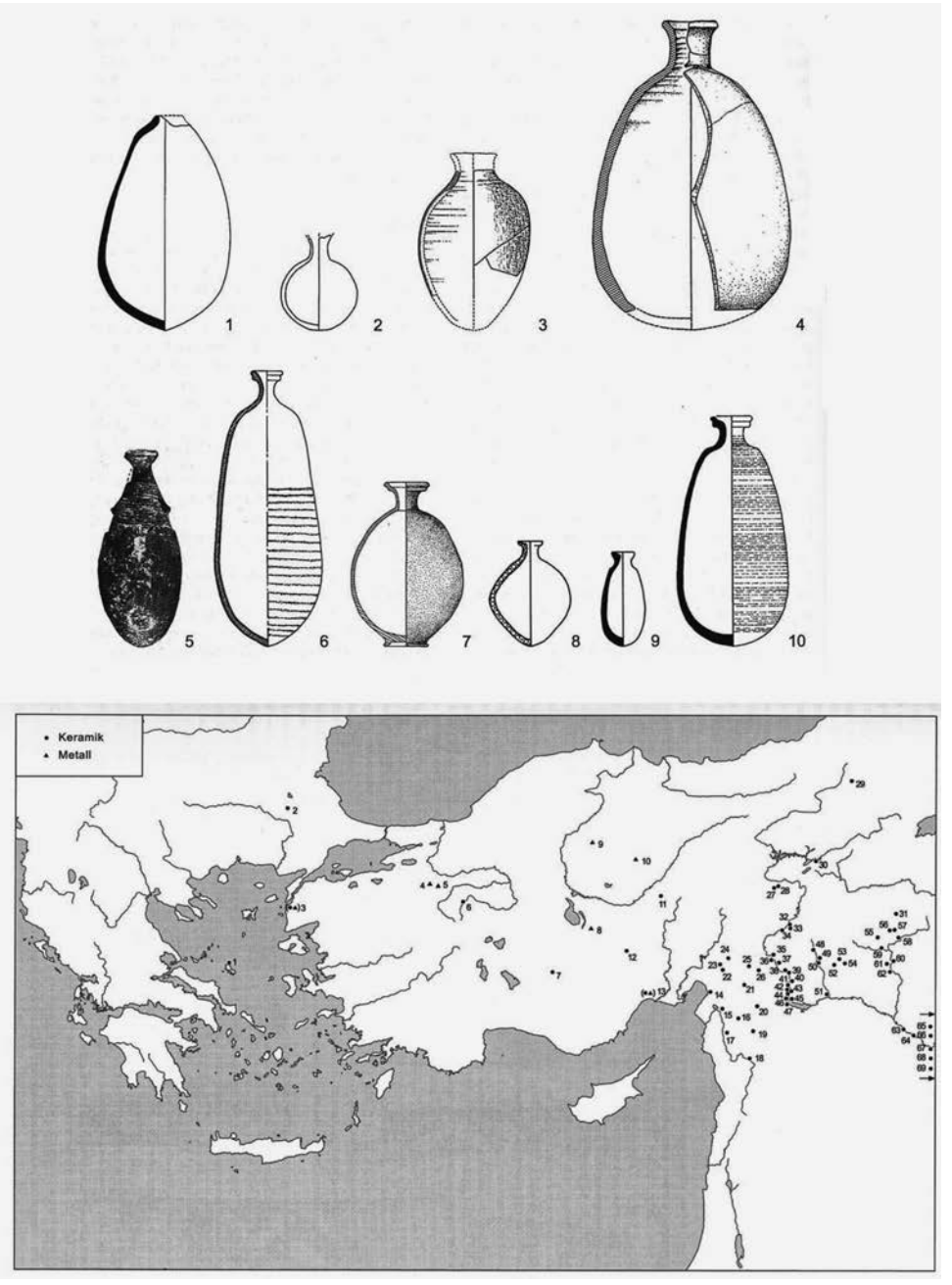

Figure 26.4 Syrian Bottles and their distribution (from Rahmstorf 2006: figs. 4 and 5, with permission from L. Rahmstorf)

On the other hand, petrographic analyses on Syrian-inspired forms from Troy have revealed a fabric that is not local to the Troad, though the study could not conclude whether the fabric is of Syrian origin (Knacke-Loy et al. 1995: 170). A more extensive program of ED-XRF or SEM-EDS petrographic analysis is needed on Syrian Bottles from across Anatolia and northern Syria, to begin to determine if and how far these forms traveled.

Oil did circulate in EBA networks of long distance exchange. The Ebla archives record the export of olive oil regionally, as far as Emar on the Middle Euphrates (Pettinato 1981: 162; see Figure 26.1). The long distance exchange of oil might be considered in the light of specific habitats for oil-bearing plants. Olive trees for example cannot thrive far from the sea, and date palms flourish in alluvial environments in deserts. Neither can be harvested in the interior regions of the Anatolian peninsula. Perhaps communities in these interior regions acquired a taste for exotic oils during the EBA; and perhaps these oils circulated to and across Anatolia in Syrian Bottle forms.

The transport of Syrian Bottles is evoked in the most extraordinary examples of their kind, all identified in Anatolia. Zimmermann has highlighted an egg-shaped form from Level 13 at Kültepe and an alabaster shaped form from Level 12. Both were manufactured with relief surface treatment that is highly suggestive of netting. Zimmermann (2005: 164, 2006) convincingly proposes that this surface treatment evokes the cradling or suspension of Syrian Bottles in a net, which may reveal one way that Syrian Bottles were transported overland. Thus the net pattern may have been another way to convey the distances that Syrian Bottle forms traveled.

A gold Syrian Bottle from Treasure A at Troy shows the same incised net pattern (Zimmermann 2006; see Antonova et. al. 1996: fig. 32). Metal Syrian Bottles have been identified in additional contexts in EBA Anatolia, including a silver alabastron form from the "EB III Burnt House" hoard at Eskiyapar (Özgüç and Temizer 1993), and numerous lead examples from the neighboring cemeteries of Demircihöyük-Sariket and Küçükhöyük-Bozhöyük, (Baykal-Seeher and Seeher 1998: figs. 1–9). Metal versions of Syrian Bottles may have traveled over longer distances than their ceramic counterparts, not least because the metal container itself would have been a more desirable and negotiable commodity, just as it would have better endured the hardships of long distance, overland exchange (cf. Sherratt and Taylor 1997).

The vast distribution of Syrian Bottle forms should be considered in light of two related trends: 1) the transport of desirable liquid commodities, which probably included regionally distinctive oils that were valued for their exoticness; 2) an ethos of self-presentation that included an appropriate, cosmetic use for these liquids, with potential also for exotic associations. Thus potential for emulation first and exchange of commodities second best explains the east to west transmission of the Syrian Bottle form. Similarly, the ceramic trend of the Syrian Bottle was likely influenced by metal variants of these forms that would have traveled greater distances than their ceramic counterparts.

Metal and the standardization of value

Metal is a promising but difficult material with which to reconstruct dynamics of exchange in EBA Anatolia. Metal and metal forms have been highlighted in EBA

Anatolian archaeology because so much of it has indeed been discovered in mortuary and other kinds of depositional contexts like the so-called "treasure deposits" of Troy or the "royal tombs" of Alacahöyük, and because many of these objects share comparanda with forms that were first identified in Mesopotamia, in particular from the ED III royal cemetery of Ur. Forms like the spiral and basket earrings/pendants identified in Anatolian contexts seemed to have obvious prototypes in Mesopotamian examples (Bass 1966); nevertheless, these and other forms that clearly belong to a metallurgical *koine* across Western Asia and the eastern Mediterranean, and subsequent excavations in Anatolia with fewer new finds from Syro Mesopotamia (Özgüç and Temizer 1993: 623), eroding the assumption that advances in (metallurgical) technology must radiate from Mesopotamia. The consensus currently is that metallurgical innovations occurred in the highlands of Anatolia and Iran and proceeded to define metallurgical trends across the greater region (see for discussion and references Bachhuber 2011: 158–160).

Archaeologists can be reasonably confident that metal circulated over long distances during the EBA; at least some of this circulation was related to the mineral-deficient landscapes of Syro-Mesopotamia and resulting demands for metal mined in the highland regions of Anatolia, Iran, and the Caucasus. Networks of metal exchange across Anatolia might be traceable in the distribution of object types like Syrian Bottles or depas cups (Figures 26.3 and 26.4), but these are indirect and imprecise indicators of metal flow. Additionally, our grasp of regional metallurgical workshops is tenuous during the third millennium; the applicability of lead isotope analysis for determining the provenance of metal ores remains controversial,[2] and largely untested on the Anatolian, Syrian, and Iraqi corpora from the third millennium. Neither the form nor the content of metal objects from the third millennium are reliable indicators of the distant origins of a metal object.

The most useful approach for assessing the exchange of metal over long distances is with an analysis of objects that were used in the process of exchange: pan balance weights and ingots. The former were used to weigh metal in order to determine/measure value; the latter were used to transport metal over long distances. The distribution of pan balance weights across western Asia during the mid- to late third millennium is closely related to the earliest textual attestation of weight metrology in the texts of ED III and Ur III Mesopotamia. Sumerian archives reveal that the weight of metal (in particular silver) was chosen by temple administrations as the primary standard to measure the value of materials, land, and labour, no later than the middle third millennium BC. Sumerian temples established value equivalencies based on the weight of metal, so, for example, in Ur III texts 1 shekel of silver = 1 *gur* of barley. Either the weight of silver or volume of barley could have been used to measure the value of any commodity, though prices in the weight of silver were the far more frequent (Steinkeller 1989: 134–135).

The standardization of value requires instruments to measure value; these instruments are archaeologically visible in the third millennium and have been the focus of considerable recent scholarship. The most archaeologically pervasive is a small hard, polished stone (often hematite) often with one or more flat surfaces, and which is sometimes notched, incised or inscribed. When weights, or more specifically pan balance weights, began to be used to measure value is debated (Rahmstorf 2007). Certainly the geographical range and quantity of objects convincingly interpreted as

weights in the archaeological record of Syro-Mesopotamia and adjacent regions suggests that this technology was widely adopted during the ED III and Akkadian periods. This is roughly contemporary with the economic innovations noted above.

Objects identified as pan balance weights have been recorded with some frequency across EBA Anatolia into the Aegean, and have become visible in archaeological literature due largely to the careful compilations and analyses of Rahmstorf (2006, 2007) and Bobokhyan (2007, 2009). These authors have applied sophisticated statistical studies to large assemblages of weights from third millennium contexts across Western Asia and the eastern Mediterranean to arrive at a delineation of regional weight standards. For example, both authors have suggested that multiple standards were in operation in EBA Anatolia, including standards based on northern Syrian units of 9.4 g and 11.4–11.7 g (Bobokhyan 2009: 40) and local standards based on units of 5–5.5 g (Bobokhyan 2009: 39). Rahmstorf (2007: 23–24) also observes a Mesopotamian standard based on 8.33 g units and a Syrian one based on 9.35 g units in EBA Anatolia.

To what extent the statistically thin corpus from EBA Anatolia (probably no more than sixty examples) can demonstrate the existence and interaction of different regional weight standards may be questioned. A more extreme skeptic might wonder if these weights circulated as desirable, shiny, exotic and amuletic things with little or no administrative function, much like cylinder seals appear to have done during the EBA in Anatolia (see above). I doubt that such skepticism is warranted in this case however. Rahmstorf (2006: 72–73) has highlighted a number of beam-shaped, bone objects from roughly contemporary contexts in northwestern Anatolia and the northeastern Aegean, at Late Troy I–II, Bozüyük, Poliochni, and Küllüoba. These all have three piercings, one on either end of the beam and one in the middle. A balance arm for a scale is the most plausible interpretation of this object type (Rahmstorf 2006: 72).

Weight metrology signals a new use and perception of materials in EBA Anatolia related to the commodification of metal. In Mesopotamia, the weight of metal (in particular silver) was chosen as the primary standard of valuation. The primacy of metal required that its value was uniform, stable, and agreed upon, at least in transactions where it was used to measure value. In principle any commodity might have been used to make a payment during the third millennium (within a price grid), but the most practical and desirable medium of exchange was metal, by virtue of its portability (high value, low volume) and liquidity (as a physical property).

All metal objects in any form were potential reserves of wealth that could be mobilized or liquidated in exchange transactions (Sherratt and Sherratt 1991: 360). Likewise, any metal object could be weighed on a scale to arrive at a commodity value. But the value of a metal object can be derived from more than just its weight. Value can also derive from the complexity or exquisiteness of the craftsmanship of a metal object, or its biography (i.e. who owned this object last?; where did it come from?). Variables of craftsmanship and biography have the potential to complicate assessments of the "pure" commodity value, measured with the weight of metal. These variables were reduced through the use of ingots, which were also an innovation of the third millennium, and closely related to the innovations in metrology.

Bar and plano-convex forms of metal objects have been convincingly identified as ingots in wide-ranging contexts in EBA Anatolia. Notched gold and electrum bar forms were found in Treasure deposit F (Antonova et al. 1996: cat. nos. 128–132) and

Treasure deposit C from late Troy II–III (Schliemann 1880: no. 821). Several silver "*Zungenbarren*" forms were also recovered from Treasure A (Schliemann 1880: nos. 787–792). The regular notching on five electrum bar ingots from Treasure F has been convincingly interpreted as a kind of mensuration based on units of 5–5.5 g (Bobokhyan 2007: 87–90, table 5). From Polioichni, similar forms of ingots were identified in contexts contemporary with late Troy II–III (Poliochni Giallo; Bernabò-Brea 1976: pl. CCLIIIj–l; see Figure 26.2). Silver plano-convex forms were deposited in a roughly contemporary hoard at Mahmatlar (Koşay and Akok 1950) in north-central Anatolia, and a lead "ingot" was reported in another roughly contemporary context at Göltepe (Phase II) in the Central Taurus mountains north of Cilicia (Yener 1994: 34; no photograph or description). Molds for all these forms have been identified in several contemporary EBA contexts across Anatolia (Müller-Karpe 1994: 141).

Evidence for weight metrology and ingots in EBA Anatolia clearly reveals the commodification of metal in this region and time period. The commodification of metal achieved the singular, overarching end of facilitating the flow of metal; not a little of the metal that was mined in EBA Anatolia flowed through networks traceable in the archaeological evidence for the use of metrology towards the coffers of palaces and temples in Syro-Mesopotamia. There nevertheless remains a crucial, if nagging, problem related to these abstract networks that joined the regions of Anatolia and Syro-Mesopotamia during the EBA. Metrology can inform how metal was valued, and the identification of ingots can inform how it was transported, but these objects do not inform how metal was exchanged.

A SOCIAL CONTEXT FOR THE CIRCULATION OF METAL AND OTHER COMMODITIES

The majority of the literature on exchange in EBA Anatolia draws explicit or implicit analogies with MBA networks documented in the Kültepe-Kaniš Assyrian archives. I have already questioned here whether this is appropriate. I have emphasized that there is no textual or archaeological evidence that conclusively demonstrates the presence of Eblaite, Akkadian or otherwise Syro-Mesopotamian merchants in EBA Anatolia. For similar reasons archaeologists should be cautious when confidently reconstructing direct associations with the manufacturers of imported objects and materials. The appeal and potency of exotic objects like the Akkadian cylinder seals from an EBA context at Seyitömer probably derived from what Helms (1988: 15) has called a "symbolically charged geographical distance." However, these interpretations risk imposing archaeological knowledge of the origins of exotic objects and materials onto the knowledge of the ancient consumers of exotic objects and materials. Associations with distant urban elites may have been diluted by a more complex network ostensibly resembling Renfrew's well-known formulation of a "down the line" prestige chain (1972: 465–468; see also Bachhuber 2011: 166).

This prestige chain was likely mediated by relationships and interactions based on gift exchange. The royal archives from Ebla are very clear that desirable materials and commodities were delivered in politically motivated contexts over long distances (see Viganò 1996: 57–60). The archives are most detailed in connection with two kinds of long distance commodity transfer: tribute demanded from vassals and consigned to the treasuries and storehouses of palaces and temples (Sumerian *mu-DU*); and gifts

consigned to individuals or gods (Sumerian *níg-ba*). Of the two, gift exchanges are more relevant to the problem of trade in EBA Anatolia.

Gold and silver jewellry and inlaid weaponry, gold and silver vessels, volumes of silver, garments, textiles, oil and livestock were given and received as gifts in several guises across the region. The Ebla royal archives record the following gift-giving activities: dowries and other consignments to commemorate a royal wedding (e.g. given from the king of Kiš to the Eblaite royal family: see Viganò 1996: 57–58); funerary gifts (e.g. given from the Eblaite court for the funeral of a king from Mari: Archi and Biga 2003: 2–3); consignments to commemorate the birth of a royal son or daughter (e.g. given from the kingdoms of Kakmium, Ibubu, and Garmu to the Eblaite "queen who gave birth": Viganò 1996: 60). But the most frequent occasion to deliver and receive gifts between cities was probably in diplomatic correspondence. Messengers between courts of equal status continually criss-crossed the region, delivering news, entreaties, demands, and personal messages. Every diplomatic visit included the exchange of a gift; the more important the visit the larger the gift. The delivery of news regularly warranted a gift of 1 *mina* of silver to the messenger (Archi and Biga 2003: 11, 32). A peace delegation from Mari received 11 *minas* of silver from the Eblaite court (Archi and Biga 2003: 10–11).

The contents of the gifts that were exchanged varied according to the context of the communication and the intended recipient. Normally in diplomatic correspondence precious metal (silver) was the only commodity that was exchanged, and the accounts of these exchanges cared little for the kinds of objects that were exchanged. So for example: "1 *mina* of silver: [gift] (for) Warutum of Mari (who) brought the news (that) Kiš was completely (?) defeated" (from Archi and Biga 2003: 11). On the other hand, the record of more commemorative gift-giving included a greater diversity of materials (metal, garments, textiles, oil, livestock), and detailed record-keeping of the kinds of objects. Both the type of the metal object and its weight warranted an entry. A gift from the Eblaite king to his minister included: "4 garments; 1 plate (of gold) of 2 *minas*; 1 belt (with) sheath (and) dagger of 90 minas of gold; 1 Amorite (?) dagger of gold; 4 reins (with decoration in form of) eagle of gold; 1 chariot, the 2 wheels (decorated with) gold which the king has acquired (for) Ibbi-zikir, which is (for the ceremony of) the oil offering of Mari" (from Archi and Biga 2003: 20).

Thus metal and other valued commodities like textiles were most frequently exchanged between citadels and kingdoms in personal and political correspondence, as gift consignments to commemorate events like weddings, deaths, births, as well as consignments gifted in any diplomatic communiqué. If a little over simplified, the dynamic of gift exchange and the social/moral/political obligation to reciprocate the gesture kept the metal flowing in EBA Syria (together with tribute and plunder), and probably also in adjacent regions like Anatolia where similar kinds of metal objects were ritually deposited on citadels as "gifts to the gods" (see for Troy and other treasure deposits in EBA Anatolia, Bachhuber 2009); although gift exchanges as such can only be inferred from the textual evidence of contemporary Ebla. Certainly these gifts circulated as commodities, whose value could be measured with a metrological system. Every gift of metal in the Ebla archives was recorded with a weight; similarly both weights and ingots were offered in the votive deposits of contemporary Troy (for weights, see Bobokyan 2007). These seem also to evoke a commodity value in a context of gift giving (to the gods) on the Trojan citadel.

CONCLUDING THOUGHTS

For the moment, it appears that nothing so linear as the MBA Assyrian trading network existed during the third millennium. Evidence for direct Syrian or Mesopotamian investment in trade (or tribute or warfare) with Anatolia is elusive at best, probably because communication between the two regions was mediated by economies and polities located at the interface between the low-elevation Arabian Plateau to the south, and the high-elevation Anatolian Plateau to the north and west. This region, roughly equated with the northern and western fringes of Subartu (Figure 26.1), remains relatively uninvestigated for the third millennium.

The next decade of archaeological research in southeastern Turkey holds considerable potential. Current excavations at Tell Tayinat in the Amuq (University of Toronto: Welton et al. 2011) and Zincirli in the İslahiye Valley (University of Chicago; see Figure 26.1) have begun to focus on the EBA phases of these two well-known Iron Age sites. My own work that has just begun on the EBA at Zincirli is guided by the belief that this site flourished for a time in the latter half of the third millennium. This was likely related to the pivotal or nodal position of Zincirli, which controlled one of the few passes between the Arabian Plateau and the Anatolian Peninsula. The Hasanbeyli Pass through the Amanus Mountains connects Cilicia and the Mediterranean with the İslahiye Valley, and drops right down on top of Zincirli. From Zincirli, one can travel unobstructed south toward the Amuq Valley (in the direction of Ebla) and east toward the Euphrates River (in the direction of Mari). Future archaeological and philological research may begin to reveal how the societies in this region mediated the flow of metal and information between the Arabian Plateau and the Anatolian Peninsula during the third millennium.

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NOTES

1 Translation from Frayne 1993: 28–29.

2 See the 1995 issue of the *Journal of Mediterranean Archaeology*, which is dedicated to debates on lead isotope analysis in the Bronze Age Mediterranean.

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CHAPTER TWENTY-SEVEN

THE KINGDOM OF MARI

Jean-Claude Margueron (translated by Harriet Crawford)

Mari is shown as a dot on a map; however, as well as the city itself, the name refers to a section of the Euphrates valley which runs from Baghouz to Dura Europos, a distance of some 40 km, with Mari at its centre (Figure 27.1). Because of the nature of the landscape we are able to define its territory with some certainty. Thus:

1. Mari was established to control the crossing of two vital trade routes linking Syria with Babylonia. These are the Euphrates from northwestern Syria and the Khabur River from the east.
2. At the time of the founding of Mari, river transport dominated and it was the waterways which determined the siting of any centre, whether it was regional or interregional.

The actions of the founders of Mari and the site they chose for the new city showed them to be very aware of the type of terrain which is necessary for the creation of an urban centre at the heart of a state.

Bearing this in mind, we see that Mari's territory covered a section of the Euphrates which is more than 200 km long, from the narrows at Halabiya/Zalabiya in the north to Baghouz to the south. The confluence of the Khabur and the Euphrates gives this section of the river its unique character because it forms an essential outlet not only for the plains around the Khabur river, but also, above all, for the mountains to the north which provided essential raw materials such as wood, stone and minerals which are absent on the plains of South Mesopotamia. Without this background, Mari would never have been founded and this section of the Euphrates would not have played the vital role it did for twelve centuries, from *c.*3000 BC to *c.*1800 BC.

Mari at the heart of this region had an eventful history and excavations show that there were three successive towns, built one on top of the other (Figure 27.2)

THE FIRST TOWN OF MARI: THE FOUNDATION OF MARI

Mari did not develop from a village which grew bigger and bigger until it became a town; all the sondages dug so far indicate that there were no remains below Mari I because the course of the river at that time meant it did not supply water to the site.

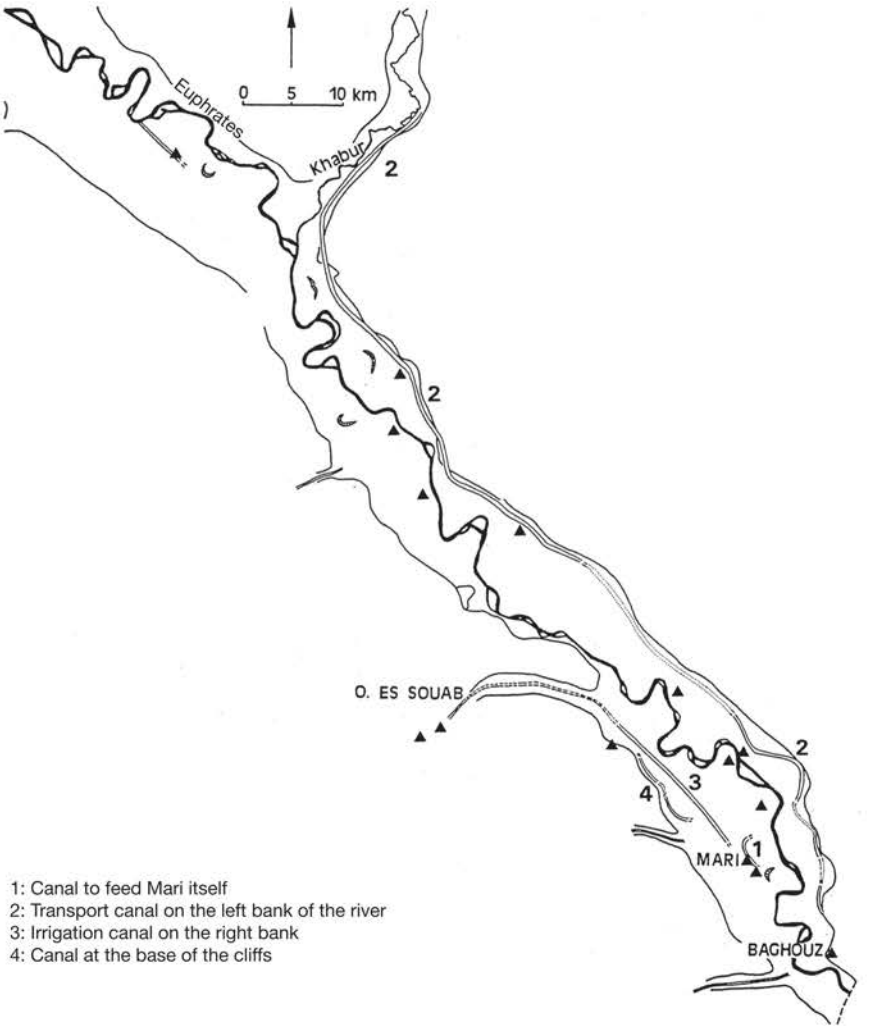

Figure 27.1 Plan of the Euphrates valley around Mari showing the four canals (© Mission Archéologique de Mari)

The foundation of Mari was a political act. Even though it is not the oldest known urban centre here, Habuba Kabira preceded it at the end of the Uruk period as a newly founded city, it remains the oldest example of a town founded *ex nihilo* as the result of the increasing importance of a region, and not as the result of colonisation.

The new town was designed with a circular plan (diameter 1.9 km) (Figure 27.3), not for any symbolic or esoteric reasons, but to defend it from a variety of dangers:

- violent rains can rapidly erode mud-brick architecture if it is not protected and making the town round and slightly domical is one way of making sure the rain runs off to the edge of the mound

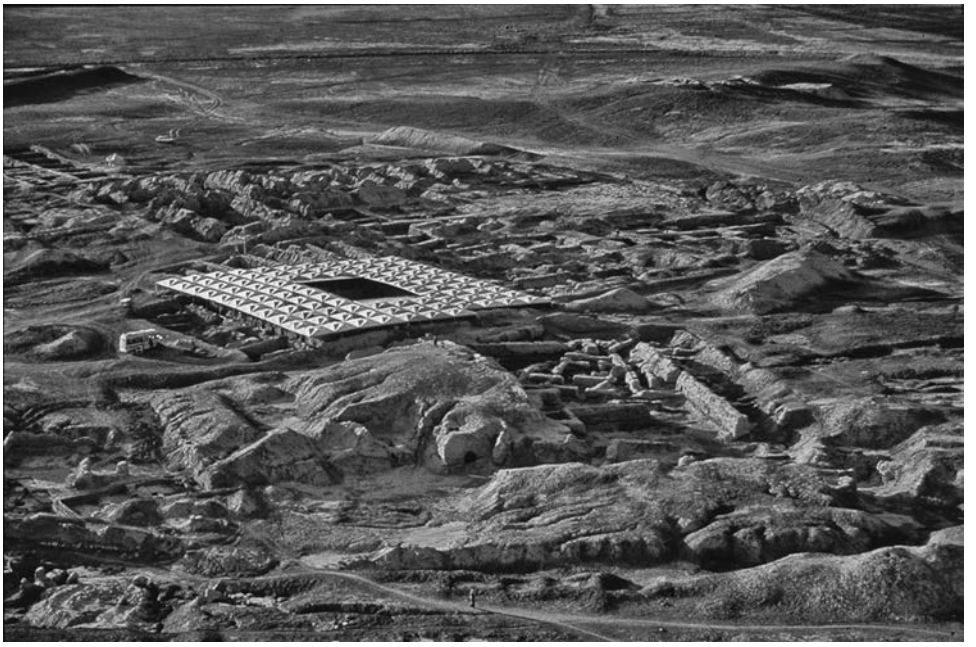

Figure 27.2 Monuments in the centre of Mari: the Massif Rouge, the Temple of the Lions, the High Terrace of city III, and the quarter of the High Priest. Behind is the Palace with the Enceinte Sacré of City II under the roof and behind that the ruins of the Palace of City III (© Mission Archéologique de Mari)

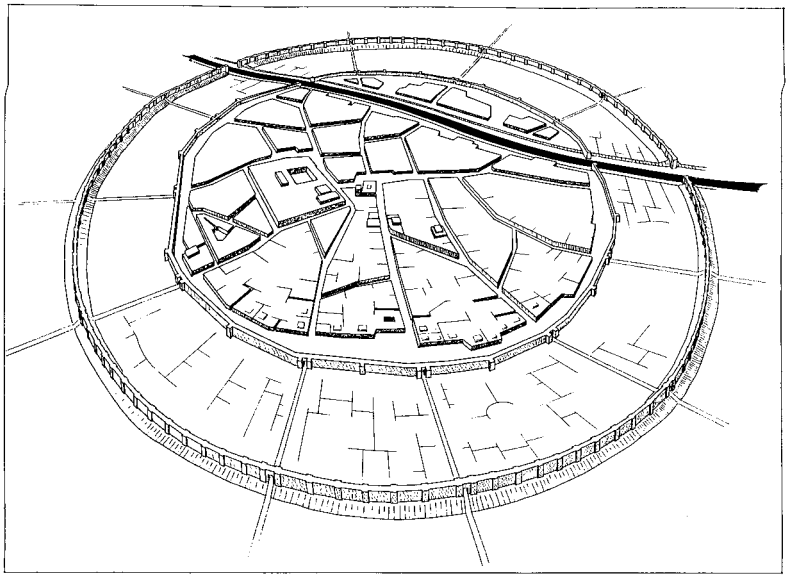

Figure 27.3 Schematic plan of Mari showing the main artery of communication running through it (© Mission Archéologique de Mari)

- devastating spring floods led to the building of a dyke of mud to protect the city, with a stone core at its centre to reinforce it.

This wall surrounded a second almost circular enclosure, which in fact was slightly polygonal, with a diameter of 1.3 km. An area of about 300 m separated the two walls and was filled with gardens and craftsmen's quarters. The interior wall which was only partly excavated, together with one of its gates, was built on a foundation of gypsum blocks; it had a thickness of more than 6 m, a height estimated at between 8 and 10 metres, and was strengthened by towers which projected 2 m beyond the line of the wall.

As yet we know little of the internal organisation of the city; only two sectors have been defined, but they do not include either the administrative centre or that of the temple(s).

There is a final crucial feature. Mari is built on the Holocene terrace and is a long way from the only source of drinkable water, nor could it control the boats using the river from this distance. A canal was dug through the terrace down to the level of the river to link the city to the Euphrates. We do not know where the canal entered the city or at which point it reached the river as it may have been linked to one of the old meanders which are difficult to identify today. It seems likely from the various traces visible that it would have been between 7 and 10 km long.

One can sum up the characteristics of the earliest city of Mari by saying that it was built *ex nihilo* on the Holocene terrace in order to protect it from the annual flooding of the river to which it was linked by a canal; it was protected by two enclosure walls, one to defend it from exceptionally high floods and the second to defend it from people.

Both C14 dating and thermoluminescense suggest a date for the foundation of the city *c.*2900 BC.

The hinterland

A huge project to improve the surrounding area was undertaken at the same time as the foundation of the city; the aim was not just to create a new town, but to develop a command centre to control the heavy river traffic which united north and northwest Syria with South Mesopotamia. In order to do this, it had to provide two essentials:

1. Subsistence for a large population when Mari lay in a desert region with an average of 140 mm of rain a year. This is too little for rain-fed agriculture, irrigation is essential to cultivate the Holocene terrace and produce the necessary cereal crops; however, food production can be practised at river level by means of simple *shadoufs* or lifting devices. Traces of a large irrigation canal found on the Holocene terrace show the choice made by the founders of the city. This canal was fed either by diversion of water from upstream, where the wadi es Souab met the river, or by a dam which held back the spring floods in the same wadi; some traces of the canal were recovered, but they are almost impossible to date.
2. A system of controls so that the city could fulfil its regulatory role over shipping and, eventually, provision itself with goods brought in from afar.

The solution to this problem was not easy; at the beginning of the third millennium water transport by river or canal was by far the easiest, quickest and safest method when

travelling downstream. Transport on land by donkey or oxen only became possible after the domestication of the donkey in the fourth millennium and the invention of the wheel at the beginning of the third. The first centuries of the third millennium mark an essential stage in the development of land transport; Mari I is clearly the product of a system of river transport, while the towns of Early Dynastic III, Mari II especially, which represent the second generation of urban settlement, often suggest a much greater reliance on land transport.

River transport has one serious handicap; it uses little energy when travelling downstream, but a great deal hauling the boats upstream against the current which is the only way of going north. The numerous meanders along the river make the route even longer and necessitate frequent changes from one bank to the other, something which is difficult and time-consuming. When traffic is not very heavy such a method is satisfactory. The foundation of Mari, which can only be explained by an expansion of trade, meant this was no longer the case.

Survey along the valley of the Euphrates and that of the Khabur have revealed traces of another canal 120 km long from es-Sijr on the Khabur to the narrows of Baghouz (Figure 27.2); this canal which is dug down as much as 28 m, shortens the journey by about 40 km, ensuring an easier path for haulage and can be navigated throughout the greater part of the year. It is not possible to date this canal by associated objects as it was probably in use for a long time. It is difficult not to attribute it to the founders of Mari, because the canal is the only justification for the position of the city, without it Mari had no *raison d'être*. It is difficult to see any other justification for the building of an irrigation system here in a particularly inhospitable region if engineers had not been motivated by the need for a large-scale enterprise which assured the growth of the city.

Economic life

Excavation of the various levels of City I illustrates the importance of manufacturing industries in this new city. There is evidence for a wide range of crafts, but it is sometimes difficult to say exactly what they were as the tools and the installations are frequently rather non-specific. One puzzling installation, certainly used for some sort of manufacturing, was originally identified, wrongly, as a type of 'sit-down' lavatory: it consisted of a platform of baked bricks with a vertical vent, which divided the platform into two equal parts. All we can say is that it must have been used in some process where the elimination of water was important.

Another small installation looks as though it was designed to collect some liquid after it had been used: it is made up of a low platform surrounded by a raised edge, the whole covered with a layer of bitumen. There is a jar sunk in the centre of the platform, buried up to its neck. Could this be the remains of a dyeing works where surplus dye from the dyeing of cloth was retrieved for future use? This is only a hypothesis.

A workshop for making wheels is a unique find at Mari; the imprint of a wheel, the earliest from Syria, is preserved in the bitumen with which it was covered and even shows how the planks and the hub were put together. In addition, a number of bronze tools were found including a gouge usually associated with the making of this type of object.

Another very important craft was that of the potter; large numbers of kilns were found in every sector of City I associated with various craft activities and may suggest that potting had a special standing in the range of manufacturing industries in City I.

The most important industry, from the origins of the city onwards, and possibly another major reason for its foundation, was copper metallurgy. The evidence for this comes from materials associated with the manufacturing process, including different types of hearths, fragments of crucibles, and of nozzles from the bellows used. These were found within the city and were sometimes associated with other crafts nearby. For example, a copper workshop was found next to the house of the wheelwright.

Thus Mari found itself on the route which supplied South Mesopotamia with goods originating in the mountains; there can be little doubt that the founders of the city used this situation to bring in substantial revenues. One can conclude that the existence of this first city was closely linked to the manufacturing activities.

The importance of trade is demonstrated by the presence of magnificent lapis lazuli and carnelian beads, a small double chain of gold, *Conus* shells known to come from the Indian Ocean, large amounts of copper and other minerals which fed the metal industry, and the charcoal for smelting which the river valley did not produce itself.

Stratigraphy

Two areas of excavation (Pec and L) and some sondages provide evidence for the sequence of events in City I. The foundation of the city took place *c.*3000 BC. A level of earth mixed with ash, about 50–75 cm thick, was brought in and laid down over the whole area. Work with metals began from this first level. The only evidence for the first buildings comes from the Building with Stone Foundations which lay below the Ishtar temple, and from next door to this in Area L, where a homogenous architectural sequence with floors that had been raised twice was found. A serious upheaval, perhaps due to an earthquake, had turned the latest floor upside down preserving a quantity of bones in two different rooms belonging to the same house. These included the remains of two donkeys and of a young individual. The most significant information was the evidence for a break in the stratigraphic sequence. We cannot tell how long it lasted, but long enough for the road to the north to be significantly rerouted.

However, it seems that the most recent level recognised in this area of City I was not the last in this phase; it only marked a level of clearance before a later rebuilding which destroyed all the upper levels in order to establish foundations which were below the final level (of City I). The object of this was to stop the building levels rising too high above the level of the canal. It is not possible to say how thick the levels which have disappeared were, or how long they may have lasted. The level of the new foundations lay at 174.50–175 m.

Architecture

The large Building with Stone Foundations, which lay in the oldest level in the sector later occupied by the Ishtar temple is striking because of its dimensions (more than 32 m x 25 m), and its technical expertise with its foundation of stone blocks more than a metre thick and the size of the rooms, up to 6m wide and 12m long. It must have been an imposing building which shows the skill the earliest builders had in the creation of

large-scale architecture. One can easily see this as an administrative building, without being able to say if it belonged to the palace or the temple sectors. The edge of another monument was also recognised in the heart of the city, but it is not possible to say, without enlarging the area excavated, if it was a platform decorated with niches or a wall more that 3 m thick, decorated in the same way.

Domestic architecture of some originality was also studied in the workmen's quarters; a main rectangular room of 3 x 8 m, stores, and a place for baking bread all stood round a courtyard, apparently without upper floors. This plan which is not specifically urban was repeated half a dozen times, and was also known elsewhere; for example, at Tell Mohamed Arab in the Jazirah.

Conclusion

From its foundation, Mari and the regional improvements associated with it, seems to be an essential pivot between northern Syria, from Assyria to the Mediterranean, and the Sumero-Babylonian region.

CITY II

We do not know how City I ended because in remaking the foundations, the City II builders destroyed the evidence. In the twenty-sixth century (ED III in Mesopotamia) it seems that a new authority at Mari decided on a complete remodelling of the city. Urbanism had developed on the plains of the Khabur and in western Syria (at Ebla for example), and as, since the beginning of the third millennium, transport by donkey caravan or carts was more common, the new settlements were no longer so dependent on the waterways.

The kingdom of Mari, as we have seen, lay at the junction of the Euphrates and the Khabur and ultimately of the Iranian world, the Sumerian world and the Arabo-Persian Gulf to the south. The internal organisation of the kingdom does not seem to have changed, there is no other new city (Figure 27.2). Only Mari shows us its greatness.

The refounding of Mari and the new urban characteristics

The builders of City II decided to reconstruct the city on the same lines as its predecessor, City I (Figures 27.3 and 27.4), with the same overall plan and they also brought back into use the same water system. No changes were made in either the canal for transport or that for irrigation, they were simply cleaned out; the rebuilding of the city was of necessity accompanied by the refurbishment of the infrastructure throughout the region so that it was once more in working order.

The city kept many of the same characteristics, the same circular external wall measuring 1.9 km in diameter, the same interior one with the rebuilding of the gate into the town, a gate which had already been unearthed in City I, the same layout of roads leading from the centre to the periphery in order to drain off surplus water (Figure 27.3). The external dyke saw the erection on top of its bank of a wall only about 2 m thick whose function remains uncertain. It is too thin to have been defensive and may, perhaps, have been a shield for archers to stand behind as they fired at the enemy

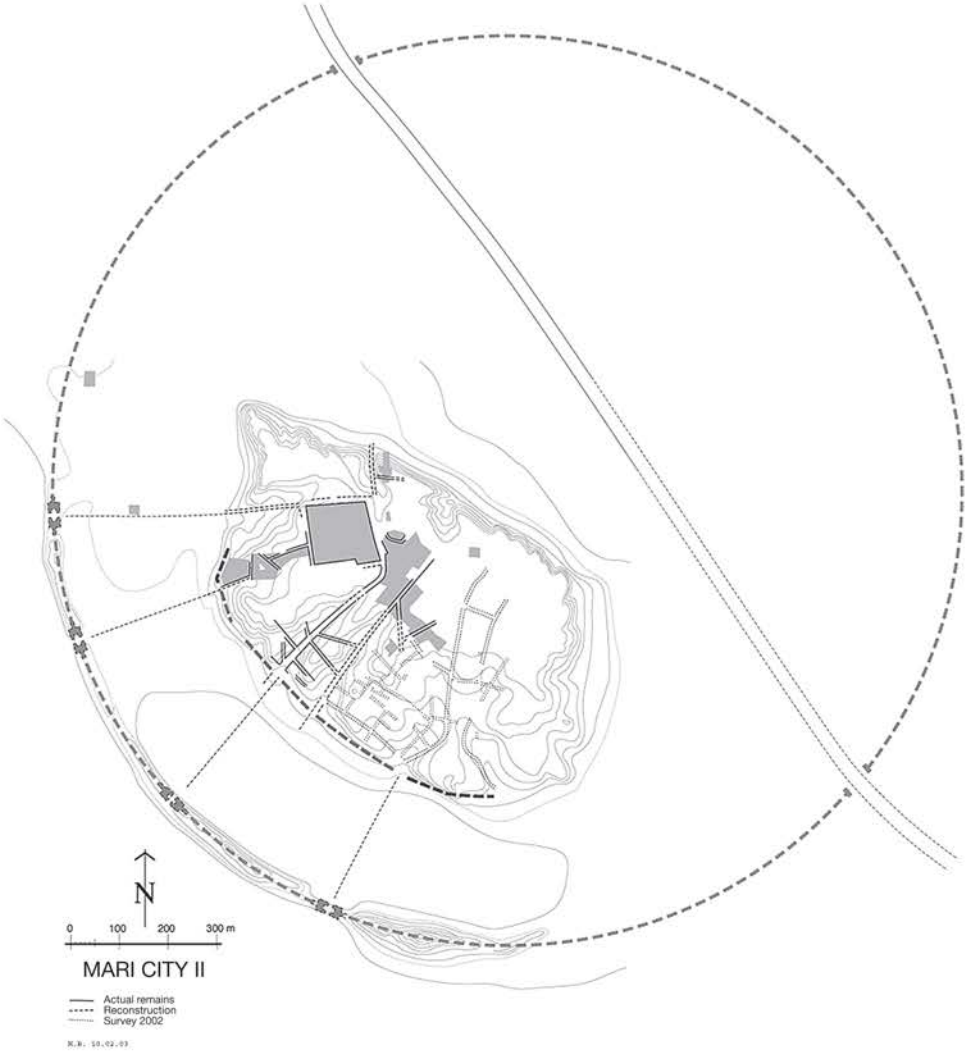

Figure 27.4 Plan of City II (© Mission Archéologique de Mari)

in case of an attack. All the evidence points to an identical defensive system round the town, perhaps with slight deviations.

If the general plan of City II had not changed, the internal structure was completely different from that of City I (Figure 27.3). City II is built on the remains of City I which were smoothed over and levelled to the height of 174.50–175 m. Analysis of the site plan shows that the road system was laid out, with various landmarks in place on street corners, and an absorbant surface on the roadways before the different quarters and major monuments were built. It is clear that the new city was not built in a haphazard way, but that it was the result of central planning, systematically carried out.

If, as we have seen, the general structure of the city was preserved, the internal organisation was completely changed. The religious buildings remained at the heart

of the site while the palace appears as a new feature instead of the metal workshops and domestic housing. Whereas previously the workshops had been dispersed throughout City I, they are now concentrated in certain quarters as is demonstrated in the souk area, and in the space between the two walls. Some temples, such as that of Ishtar, are built outside the sacred precinct in the centre of the city itself.

The drainage system which collected rainwater was quite complex serving all the quarters and implies the presence of a civic authority, perhaps one in each quarter. The reservoirs of this period have not yet been discovered.

A strip of buildings about 700 m long was excavated from the western ramparts, to the eastern sector of houses, past the Ishtar temple, the souk, the palace and the religious sector, making Mari without doubt the best-known city of the third millennium.

Stratigraphy

City II survived for a relatively short time, about two hundred years, and the rebuilding of the infrastructure at a later date has not been conducive to the preservation of a stratigraphic sequence. Overall, there is only one identifiable architectural level. The palace which survived for the whole of this short period is a single building with evidence for three phases of occupation, called P3, the oldest, then P2 and P1 which ended in a huge fire. A partial reconstruction (P0) marks the transition to City III. Nor is there stratigraphic evidence in the temples of Ishtar, Ninni-Zaza, Ishtarat and Ninhursag each of which has only one or two floors. The houses only have one level of occupation, while the souk has two.

The palace

Incompletely excavated, the palace of City II is an exceptional building (Figure 27.5) because of its size (it is the biggest of all the known Early Dynastic palaces), its state of preservation with walls standing 5 or 6 m high, the variety of the different sectors, the presence of a temple within it (another unique find) and the ingenuity and novelty of the solutions used to solve the problems of construction. Three phases have been identified, some better understood than others:

1. Phase P3 has been recognised in the middle of the Enceinte Sacrée, the temple, in Area 4 and in the gateway to the palace.
2. P2 has yielded the complete plan of the Enceinte Sacrée which is the biggest temple in City II: it has a central space 16 m long surrounded by rooms; in the north, the entry to Area 4 was found and to the south a fine room 8 m long which, with an annex to the east in which there is a low podium, forms one side of the central space. A passage running all around it is highly distinctive for the religious sector and provided a suitably diffused light to the central covered spaces which only received direct light when the sun was at its zenith. The rest of Palace 2 is still to be uncovered. Only the religious part of the building has been identified.
3. With P1 the eastern part of the the palace is more or less complete so we can see that it had non-religious functions as well, although the importance of the sacred sector continues. One can identify domestic quarters and workshop areas. However,

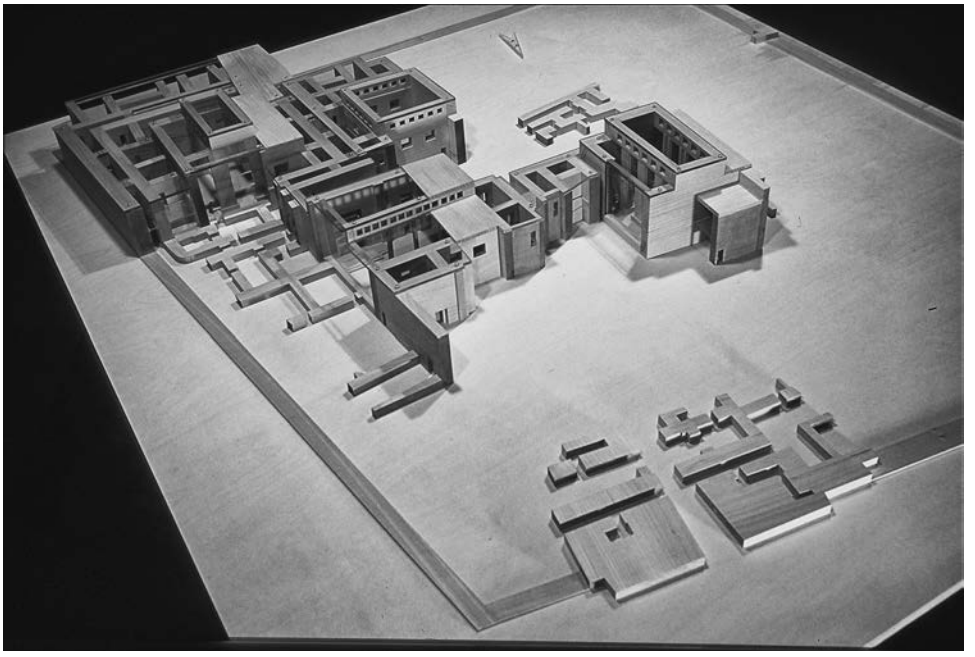

Figure 27.5 Reconstruction of Mari (Courtesy of the Louvre)

its royal functions cannot be identified with complete certainty, for, at this period, they do not show themselves in specific and clearly identifiable architectural features. One of the texts found talks of the Great House, that is, the palace, which suggests that the characteristics of a palace will probably be found in the rooms of the western sector which has not yet been excavated.

This level ended in a violent fire. In excavations recently carried out to the west of the entrance, a number of seal impressions of king Ishqui-Mari (formerly known as Lamgi-Mari) were found among the ashes. His name has been known since the earliest excavations, but his place in the chronology of the site was unclear. This discovery fixes the time of the destruction and the name of the king who submitted, but it does not tell us the name of the conqueror. Phase 0 came immediately after the destruction of palace 1; there was a levelling of the burnt rubble and this and the burnt walls were covered with a layer of earth. The Enceinte Sacrée and Area 4 were refurbished and additional jambs were inserted into the doorways to make the doors smaller and to lighten the load on them. A monumental room which might have acted as a Throne Room was built with a double row of square pillars of unbaked mud brick decorated with fluting.

Level P0 was not occupied for long and another new palace was soon built.

Few objects were found in the ruins of the palace, except for large numbers of seal impressions in Palace 1, which are important for the study of history and iconography. The Treasure Jar, which was a foundation deposit below P0, contained a superb pendant in the form of a lion-headed eagle, a fine collection of cylinder seals and a lapis-lazuli bead inscribed with the name of Mesannipadda king of Ur.

The temples

Seven temples are known dedicated respectively to Ishtar, Ninni-zaza, Ishtarat, Ninhursag and Shamash, or to unknown deities (the Enceinte Sacrée and the temple of the Massif Rouge) (Figures 27.2 and 27.4), all except the first were located in the heart of the city. The temple tower of the Massif Rouge had an almost square plan with an internal staircase giving access to a terrace, the emphasis being on a vertical progression, something characteristic of the Syrian world. The other temples belong to a group typical of Mari with a simple plan of which the Enceinte Sacrée seems to be the archetype. The plan consists of a central space more or less square, which gives access on one or other of its sides to a large room. This extends the full length of one side and has a low podium at one end which must have supported either a divine statue or the symbols of the god. The central space is surrounded with other rooms and this basic plan can be added to in any direction. Access from the exterior was to the central space which then led the faithful to the large shrine.

Amongst the sacred buildings we should again mention the Massif Rouge with its high terrace, which undoubtedly played an important role as a place of sacrifice for all the temples of Mari.

Between the Enceinte Sacrée and the Massif Rouge there was a sector with buildings of different degrees of importance, to judge from the network of streets; this has proved to be the administrative centre of the High Priest (Figure 27.2) which is similar to the contemporary Walled Quarter at Khafaje.

It is in these temples that the exceptional series of statues were found – Ebih-Il, Ur-Nanshe, Idi-Narum, Iku-Shamagan, l'Homme de Mari (Figure 27.6) – as well as many fragments of shell mosaics, a speciality of Mari's.

Figure 27.6
The Man of Mari (© Mission Archéologique de Mari)

The houses

The houses were planned to accommodate the needs of an urban family. On the ground floor was a central covered area with rooms opening off it for cooking, washing, and a stable for a donkey; the reception room and living quarters were on the first floor and also opened off the central space which provided air and light.

The history of City II and its end

City II lasted about two hundred years. Some echoes of its history are found in the Ebla texts which give us the names of kings and illustrate some of their problems.

A fire brought City II to an end apparently after the victory of Naram-Sin over Ishqi-Mari, the last king whose seal impressions were found in the burnt level of P1.

MARI CITY III

The rebirth of Mari

The destruction of City II was almost total, but the decision to rebuild it was quickly taken. In reconstructing the palace (Figure 27.7), Naram-Sin killed two birds with one stone: he restored political power as well as putting the great sanctuary in the palace back in working order. Thus the citadel took up its former role and the king could again exercise his authority, even if it was by proxy. This is why Naram-Sin appointed a governor or *Shakkanaku* called Ididish to represent him.

The rapid dissolution of the Agade empire changed the original situation. The weakness of the centre allowed the governor of Mari to assert his authority and to give the city back its role as the pivot between Syria and Babylonia. The title of *Shakkanaku* now referred to the supreme authority in Mari which re-established its position as the capital of northern Mesopotamia. The *status quo* was established for several centuries with a polarisation of the Syro-Mesopotamian world which reflected its true nature.

Mari shone brightly for a period of three or four centuries. The rarity of texts covering this period makes it difficult to write its history and hides the brilliance indicated by the archaeological evidence.

The stratigraphic problem: the difficulty of distinguishing between the Amorite city and that of the *Shakkanaku*

We have seen that the people who rebuilt City II began by lowering the levels across the site to an average of 4 m above the plain, above which the compartmented foundations were built. This time the reconstruction took place on top of the destruction level at an absolute height of 179 m; in some areas, the destruction level was smoothed over, but without touching the burnt debris. Because of this there was not a uniform base for rebuilding across the site, but the drainage system was respected.

In some places one can see at least two or three thick levels in the stratigraphy (chantier F), but in others we see only one architectural level with foundations more than a metre deep. In chantier K, at the base of the foundations an Agade tomb was found, while below the floor of the house 1 meter above it were bricks with the name

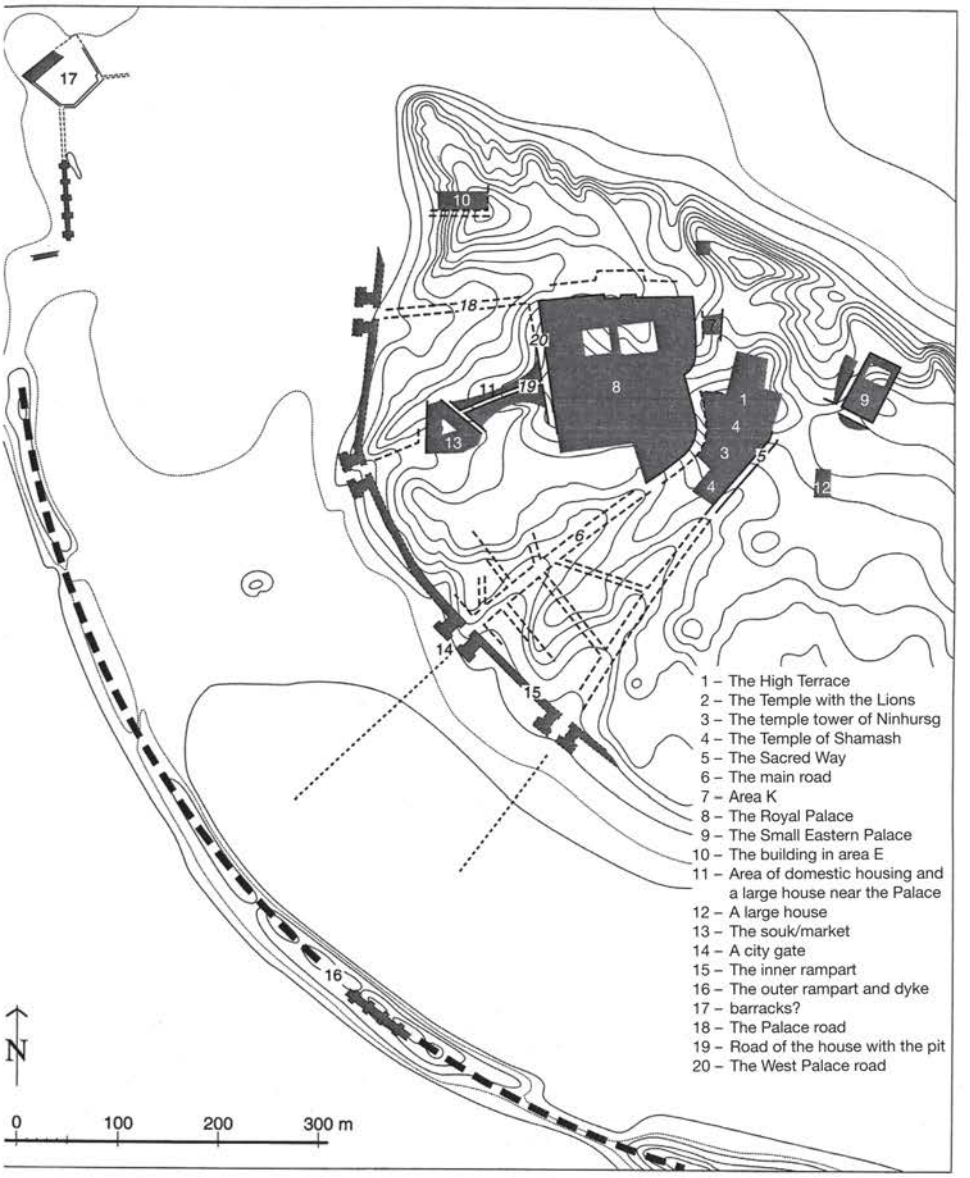

Figure 27.7 Plan of City III (© Mission Archéologique de Mari)

of Zimri-Lim on them; a single stratigraphic level which covered four centuries. The city officials wished to maintain the level of the city at the same altitude to prevent rapid erosion and no stratigraphy could survive such a process. It is not surprising then if archaeology cannot define the levels of the *Shakkanaku* and differentiate them from those of the Amorites (Figure 27.5).

THE TIME OF THE *SHAKKANAKKU*

The reconstruction

Phase P0 of the palace of City II, restored immediately after the destruction of P1, was quickly abandoned and a new palace was erected in its place. However, only a few fragmentary remains of this period survive and it is not possible to reconstruct the palace of the early *Shakkanakku*.

In the sacred area we can follow the evolution of the buildings thanks to the foundation deposits below the various monuments. The *sahuru*, or foundation inscriptions, and the temple of Ninhursag were the work of Nûr-Mêr, but it was Ishtup-Ilum who, when he built the Temple of the Lions, also carried out work on the grand scale on the High Terrace, which was closely associated with the temple, isolating these new constructions by layers of pebbles.

The ramparts, essential for the security of the city, were rebuilt and strengthened. The outer dyke, once transformed into a defensive wall, was progressively enlarged to about 10 m in width. This structure, which previously had been intended merely to slow down an enemy, now became a particularly strong line of defence. The inner rampart was also completely rebuilt with a deep foundation trench in which was built a wall some 10 m thick. The city was thus provided with a double line of defences and if one wants to assess the power of the city under the *Shakkanakku*, this alone is enough to demonstrate it.

It is remarkable that each of the two restorations followed the original lines of both the inner and the outer wall. Even if the interior of the city changed, its outline remained the same; the topographic and climatic factors which determined the original position of the city certainly remained the same, but reason suggests that the original area, once defined and dedicated to a god, could not be altered.

The transformation of the religious sector

Some major changes took place in the religious sector. It is not very clear what became of the Massif Rouge. It was still in use at the beginning of the period with a sort of rebuilding and possibly an additional terrace, but we do not know if it was still in use in the Amorite period or whether by then another temple stood above it. Nothing is very clear. The eastern limit of the sacred area remains uncertain for at least part of City III.

Towards the south, the Sacred Way now forms the boundary of the temple area after the temples of Ninni-zaza and Ishtarat have disappeared, and above the Ninhursag temple of the second city there rose a newcomer, the temple tower of Ninhursag, with a Levantine plan, here at the eastern edge of its distribution. It has been identified thanks to the foundation deposits of its builder, Nûr-Mêr; its distinctive plan, similar to that of the temple tower of the Massif Rouge, indicates a very different cult because it is oriented towards the infinite heavens and not towards a face-to-face meeting with the divinity.

The major project, probably undertaken by Ishtup-Ilum, was the building of a new High Terrace (Figures 27.2 and 27.7), an essential monument because it was here that sacrifices took place. Originally it was rectangular, about 40 m by 20 m in area, its long

axis oriented west/east with, on its north face a long ramp which stretched for 30 m and was reinforced by three long walls which diverged slightly. This huge ramp allowed the sacrificial animals to reach the top of the terrace without too much difficulty.

The unique feature of this High Place for sacrifice is that it is closely associated with the big Temple of the Lions (Figures 27.2 and 27.7), rebuilt by the king Ishtup-Ilum, as is shown by the foundation deposits placed all along its south face. It is the biggest of the City III temples (about 36 m x 20 m), erected on a terrace almost 2 m high, something which gave it excellent stability, with walls 5 m thick; it belongs to a series of long rectangular temples also called temples *in antis*. A terrace enclosed by a boundary wall gave access to the east door, a very simple plan: the door, decorated with palm trunks, gave onto a large rectangular room with a long bench on its north wall and a podium attached to the shorter west wall. This big room seems to have been a Sacred place – it not impossible that a mobile altar served as a place for offerings – while the altar against the west wall was the Holy of Holies. Two doors, one on either side of the main altar, gave access to two small rooms, an unusual plan. Immediately on the left after the entrance, two bronze lion protomes, standing on two platforms of different heights, sprang from the wall.

This temple stood in an imposing manner in the heart of the city, but we have to imagine its whole mass to understand its impact. The thickness of the socle built for it implies that there were heavy pressures on it. Bearing this and the thickness of the temple walls (around 5 m) in mind, we have to reconstruct it as having a height of not less than 10 m, which would also bring it into line with the High Terrace with which it was closely associated. That is to say, that the temple must have had at least two levels and one of the two small rooms found at its base probably held the staircase which joined the two levels and gave access to the High Terrace.

The close relationship between the terrace and the temple shows their real significance; in City III they form a single unit which was the religious centre of the city, one which was apparently under the rule of the high priest of the Lion Temple, who distributed sacrifices to all the other temples thus maintaining the hierarchy of the gods. This exceptional sanctuary was dedicated, according to the foundation deposits to the King of the Land.

The palaces

The palace built at the beginning of the period of the *Shakkanakku* had disappeared leaving hardly any trace. It was succeeded *c.*2000 BC by the Royal Palace excavated by André Parrot, which, thanks to some 15,000 tablets, has given us incomparable evidence for the period of the Amorite dynasties. However, it was constructed much earlier than this and its history covers about two and half centuries, going back to the period of the *Shakkanakku* and not just to that of Zimri-Lim, the last king.

The beginnings of the palace date back to the time of the *Shakkanakku*/Ur III and we have to understand the changes which took place if we are to be able to determine which characteristics belonged to each period and how the building evolved. These changes often indicate a change in thought and in ritual pracrice. If the chapel of Ishtar and the chapel with the paintings (Room 132) survive unchanged throughout the life of the palace, other parts were constructed more recently like the king's appartments built at a time when Shamsi-Adad was in charge.

It is not always easy to identify the remains of the earliest palace. We cannot show the overall plan or how it functioned, but we know that the new building of Hanun-Dagan – a *Shakkanakku* prince known from a list of *shakkanakku* and from the foundation inscriptions of the palace – covered the same area as the palace of City II. This sole fact allows us to demonstrate the scale of the plan. Finally, we have to ask why the Great Royal Palace replaced the palace of the *Shakkanakku* so quickly; was it wear and tear, a violent destruction or a different concept of what a palace should be? We do not know. The floors of the new palace were found below the level of those of the old one so that, once again, the occupation levels have been dug out.

Indications of the wealth and power of the city at the time of the *Shakkanakku*

From the archaeological evidence, the scale and size of the buildings we have discussed demonstrate the power of the city, supported by its economic life. To these buildings we have to add the Small Eastern Palace, domestic housing and the constant reinforcing of the defensive system.

The tombs found below some of these houses provide excellent evidence for the lives of the people. The funerary goods are very rich at this period; jewellery is frequent and varied and the large quantities of bronze items which accompanied the dead are exceptional. We find weapons, tools and objects from everyday life.

MARI IN THE AMORITE PERIOD

There is no kinglist from the time of City III to show us the order in which the *Shakkanakku* reigned and this remains unclear especially for the nineteenth century. Things are clearer for the Amorite dynasty which covers about fifty years from *c.*1810 to 1760.

The kings and their history

The relationship of the *Shakkanakku* to the Amorite kings is still unknown. The dynastic sequence begins at the end of the nineteenth century with Yaggid-Lim, followed by Jahdun-Lim who is the first known king of the dynasty and who, in turn, was succeeded by Sumu-Yamam; then about 1800 BC Shamsi-Adad, king of upper Mesopotamia, siezed Mari and installed his son Yasmah-addu as viceroy. He was unable to hold it after the death of his father. Zimri-Lim then succeeded (*c.*1775) in snatching back the throne until Hammurabi of Babylon destroyed the kingdom of Mari in 1760/1759.

Thanks to the palace archives the reign of Zimri-Lim is quite well documented, much better than the reigns of Iasmah-Addu and Iahdun-Lim. The reigns of the latter and of Zimri-Lim were marked by attempts to control the region of the Khabur. On the administrative side there seems, from time to time, to have been a desire to imitate Babylon. The period was not one of major building, but of meticulous refurbishment.

The glacis and the outer wall

The *Shakkanakku* had, by stages, greatly reinforced the outer defences by means of a wall about 10 m thick; another innovation allows us to say that these changes were

certainly a response to new methods of siege. They laid down an embankment of earth and stones along the inside of the wall, using a total of 308,000 cubic metres of material, a huge task. A rough calculation suggests that three million donkey journeys carrying 100 kg each, would have been necessary between the quarry and the rampart which are about 10–15 km apart. If 1,000 donkeys worked every day, it would have needed 3,000 working days (more than eight years) to complete this glacis.

Iahdun-Lim may have built it, but it is impossible to be certain. The gravel is the secret weapon, it is easy to dig a tunnel through a masonry wall and so overcome the obstacle, but it is not possible to use the same technique in gravel which will just collapse as fast as it is dug, making the work of sappers impossible. This new defence allows us to deduce what siege warfare could achieve and was in response to the appearance of siege engines.

The palace

The destruction of the palace by Hammurabi has given us, by virtue of the archaeological and the epigraphic evidence, a snapshot of a monument which is typical of a palace-dominated civilization at the end of its life, of all the administrative and economic activities which took place within it, of the way of life of its inhabitants, the rituals of kingship, and of the palace's position at the heart of the economic system: it is unique evidence from a building which was the keystone of the palatial system (Figure 27.8).

With an area of 2.5 ha, the palace is part of a group of large monuments, without however being exceptional; because of erosion its southwestern corner has disappeared. The original plan was extended twice, once on its eastern edge to which the stables provided an entrance from the north, the other on the south where many storerooms were set up, also linked to the stables.

Two major courtyards formed the main foci of the building. In the east was the court with the Painted Chapel (Room 131 or sector B) and, in the west, the Court of the Palms (room 106 or sector M), linked to court 131 in its northwest corner. The palace is thus formed of two distinct areas. The first, the eastern half, stretches from the main entrance, which was under the supervision and control of an Intendant whose quarters lay in the northeast corner (sector C) of the palace. His rooms opened onto the court of the Painted Chapel (131), this was the biggest of all the palace courts and had a central cistern to provide water for the inhabitants; it was also the pivot for the major routes through the palace, to the chapels and to the stores to the south. The Painted Chapel, containing the oldest paintings, was dedicated to Ishtar and opened onto the court.

The northeast angle of the court gave access to the rest of the palace.

The second part of the palace was more secluded and was protected by the first. It was made up of three big sectors: in the centre the official area (M) (consisting of the Court of the Palms), the *papuhum* or entrance hall and the Throne Room (rooms 106, 64 and 65). This tripartite arrangement was designed in accordance with the ideology of the time to enhance the status of the king. The suite was superbly decorated; the court was covered with white plaster ornamented with red and blue bands while the west wall of the court, which gave access to the Throne Room was painted with a mural depicting the Investiture of the King and sacrificial processions. Facing the door of the

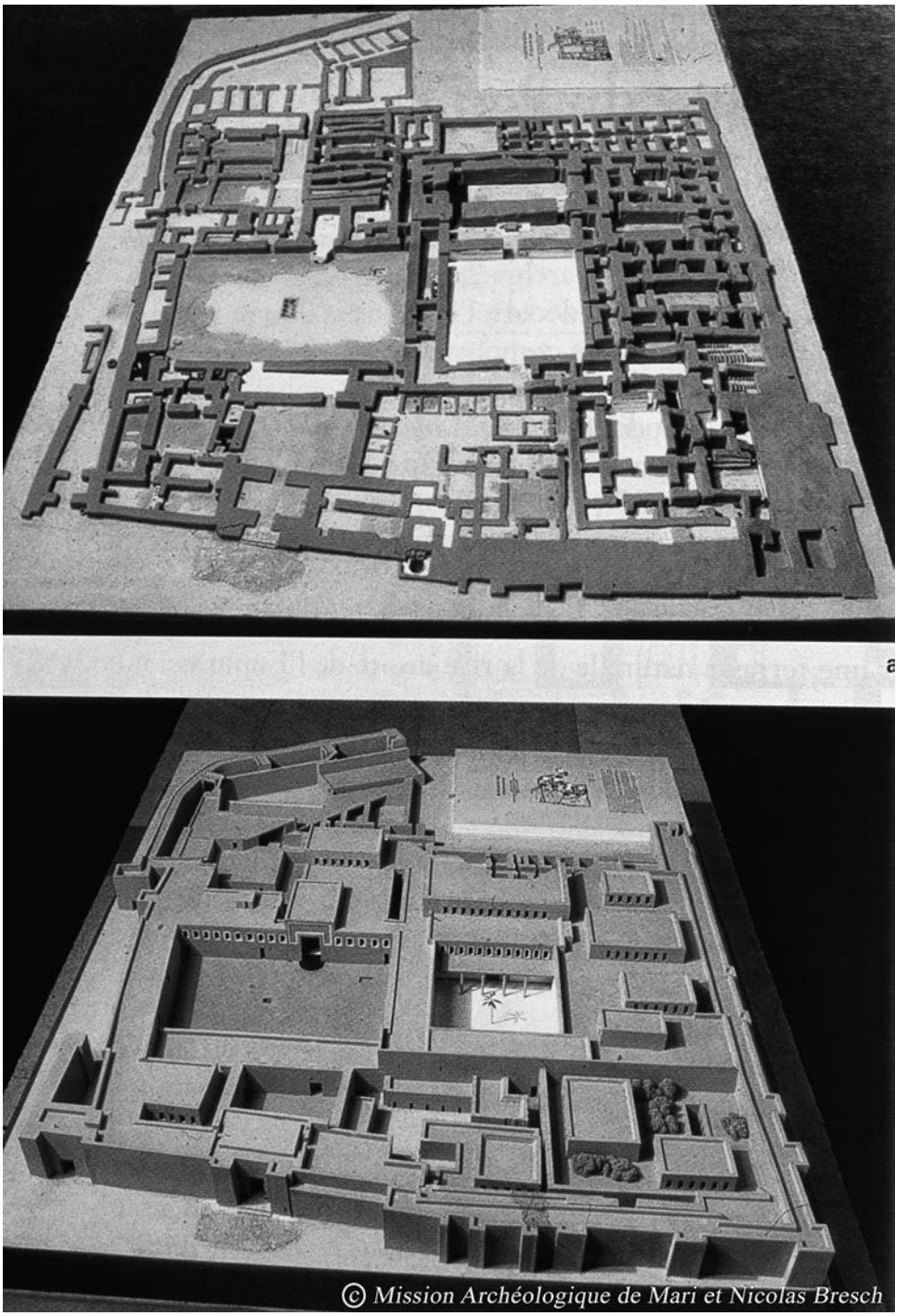

Figure 27.8 Reconstruction and plan of the palace of Zimri-Lim (© Mission Archéologique de Mari and Nicolas Bresch)

papuhum stood the statue of the Goddess with the Flowing Waters (Figure 27.9). Then came the majestic Throne Room (12 x 25 m and 12 m high) with a throne dais at one end and at the other a raised platform on which stood statues of some of the royal ancestors. The one of Ishtup-Ilum was found at the foot of the flight of steps leading up to it.

The king's own quarters lay round the Throne Room as if to demonstrate all the aspects of royal power: his living quarters were on the first floor richly decorated with wall painting; there was accommodation for slaves (G), the kitchen area (O), then the administrative hall (P) with offices and archives on the first floor. Finally, the Women's quarters lay in the northwest corner, closely linked to the official quarter.

Thus we have a unified group of rooms all glorifying the functions of the king. Together with the living quarters of the king and of the women, each sector of the palace had a functional purpose, a religious quarter, rooms devoted to the storage of

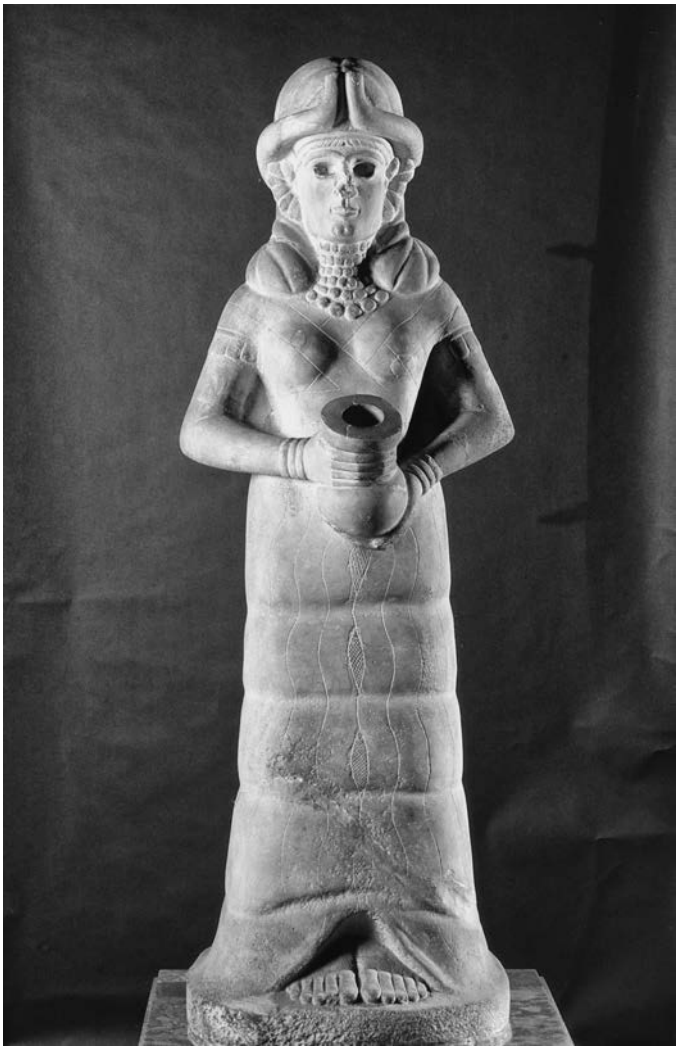

Figure 27.9
The goddess with the flowing vase (Aleppo Museum, Syria)

goods, and a command post at the entrance. The palace was like a highly complex organism at the heart of the kingdom. It sheltered the king, his servants and his women; here he administered his kingdom and exercised his power; he dealt with affairs of state, economic matters, manufacturing, storage, the taking of decisions; workshops lay out of the palace, outside in the town and elsewhere in the kingdom. The importance of the storage depots lay in the fact that they provisioned the palace itself while goods such as food, oil and clothing were redistributed as payment to the servants. Here the king received the homage of his servants and met with visiting dignitaries, sometimes from far away; here he gave banquets, even if there are other places where this could have happened. Here ritual ceremonies closely tied to the exercise of power took place, power which was founded on the Kispum ritual in honour of dead kings from whom the legitimacy of the dynasty came.

The temples

Under the Amorite dynasty the temple of the Lions and the temple of Ninhursag were only slightly modified, while the temple of Shamash was transformed. King Iahdun-Lim decided to rebuild the temple of Shamash and his rebuilding ensured that the very old plan survived till the fall of Mari, something which is shown by the foundation nails of City II which he carefully replaced in the new sanctuary beside his own. These took the form of nine baked bricks inscribed with a long text of self-glorification.

Alongside this apparent archaism is an important innovation: a high terrace for the cult was built against the northwest edge of the temple in the form of a terrace 15.30 m x 14.30 m in size, standing 1.70 m high when it was uncovered. Three faces were decorated with niches and the fourth was occupied by a staircase. This terrace, known as the Massif à Redans, was integrated with the temple by a system of interconnections at ground floor level and probably by another at the higher level. Perhaps it was an observatory for studying the sky and the stars, or perhaps for bird watching. There is a new aspect to this terrace, it was not used by all the temples but only by one. This was new at Mari, but there are examples in other places at the same time, at Tell Rimah in Assyria for example and at Alalakh in Syria.

THE END OF MARI

Mari vanished in 1760 according to the middle chronology, or perhaps about a century later according to H. Gasche (Gasche et al. 1998). Hammurabi of Babylon conquered successively Elam, Eshnunna and Larsa before turning back to vanquish Mari in turn. Babylonian troops were installed at Mari and Hammurabi's servants took the time to sort the archives and then carried off as booty everything in the way of riches or art objects in the city. Finally, they set fire to all the monuments, the palace and the temples, before knocking down the walls. Although there is no direct evidence, we can assume that most of the population were led away into exile.

Mari ceased to exist, not only because of a military disaster, she had been reborn after several such events, but also because the parameters of economic life had changed (movement of the centres of decision-making in the north and at the foot of the mountains). Changes too in the means of transport (overland transport, caravans and

chariots at the expense of water transport) meant that the valley of the Euphrates was no longer a crucial axis in the Middle Eastern world.

Bearing in mind the ideas which accompanied the rediscovery of the Sumer over the last 150 years, we have to ask if Mari belonged to the Sumerian world or not. This world saw the beginning of the urban era in the south of Mesopotamia from about the middle of the fourth millennium. It was thought, naturally enough, that the urban centres like Uruk, which emerged in the delta of the Tigris and Euphrates, then spread along the rivers. Sixty years ago it was possible to write that Mari was a beacon of Sumerian civilisation in western lands without realising that Mari could not have existed without its own network of resources and certainly could not be regarded as the result of colonisation. During the third millennium, the short-lived supremacy of first Agade and then of Ur, left Mari on the margins of their world. The expansion of Hammurabi's power in the eighteenth century appeared to follow the same pattern. This does not take into account the geography of the Mesopotamian basin, split in to a northern and a southern region separated by Babylonia; these regions are linked together by two major routes – one towards the Gulf and southeast Asia and the second towards the Mediterranean and Anatolia. The northern regions, which above all furnished essential raw materials to both the centre and the south, could not have been simply an offshoot of the south. Even if some traits (the round plan and the canals for example) link the city of Mari to Sumer, its position, the originality of its architecture and its art show Mari to have been the dominant creative centre in north Mesopotamia.

Finally, Mari is a wonderful example of the birth of a city in a very specific geographic, economic and human situation. Because men saw the advantages of a geographic position which allowed it to control an extremely profitable exchange network, they engaged in a bold development in a harsh geographic setting. As long as the conditions remained the same, Mari flourished; when conditions changed, she disappeared – an astonishing historical lesson.

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CHAPTER TWENTY-EIGHT

EBLA

Frances Pinnock

INTRODUCTION

The excavations at Tell Mardikh/Ebla started in 1964 and are still going on under the direction of P. Matthiae. After forty-seven years of systematic exploration, it is possible to delineate the urban plan of the Old Syrian town of Middle Bronze I–II (*c.*1900–1600 BC) clearly. The city covers approximately 56 hectares in area. This area includes the royal residence and Ishtar's dynastic temple on the Acropolis; the belt of public, cult and palatial buildings at the feet of the citadel; the quarters of private houses, and the imposing earthen ramparts of the fortifications. These have a system of postern gates and of forts and fortresses built on top (Matthiae 2010a: 226–278). The extended excavations made at the beginning of the second millennium BC, on the other hand, almost completely removed the levels of the previous late Early Syrian period (= Early Bronze IVB, *c.*2200–2000 BC), and badly damaged the oldest layers of the mature Early Syrian period (= Early Bronze IVA) (Matthiae 2010a: 195).

We have thus to consider the whole late Early Syrian town completely lost, with the exception of one section of the city wall, included in the Old Syrian rampart in the northeast region, close to the Aleppo Gate (Pinnock 2009: 69). On the other hand, notwithstanding important gaps, the Early Bronze IVA town is preserved in limited parts of the Lower Town, but most of all in a peripheral, yet quite large and functionally meaningful sector of the Royal Palace, probably called $SA.ZA_x^{ki}$ in the texts of the State Archives found inside the building (Matthiae 2008a: 42). Two other important areas, located respectively on the Acropolis and in the Lower Town, preserved most of two cult buildings, which probably were the two main sanctuaries of the Early Syrian town.

The town, which is one of the main examples of secondary urban development in north inner Syria, developed, apparently without important antecedents, from *c.*2600 BC (Matthiae 2003, 2010a: 41), with a very important phase between 2400 and 2300 BC in Early Bronze IVA, a phase we may now call Age of the State Archives, because of the presence of an astounding number of cuneiform documents of the palace central administration. These are throwing an unexpected light on the social, economic, and political life of the town. Ebla was destroyed, at the end of this period, either by Sargon of Akkad, who boasts of the conquer of Mari, Yarmuti, and Ebla, in a votive inscriptions of his, dedicated in the Ekur temple at Nippur (Matthiae 2008a: 24), or as a consequence of the political instability created in the region by the Mesopotamian king's

campaigns towards the Upper Sea, as they called the Mediterranean (Matthiae 1989a, 2008a: 108).

The quality and quantity of data offered by the texts of the State Archives, concerning the last fifty years of the town, and the remains of architecture, artistic and material culture, allow us to fill more than one gap in the reconstruction of the history of north inner Syria. They also allow us to draw a more precise picture of the history of Syria, and in particular to focus on the relations of reciprocal contact and influence between Syria and southern Mesopotamia. As a consequence, it is also possible to define how and when the development of the cultures of northern Syria and northern Mesopotamia took place. They had to interact with two regions, north inner Syria and southern Mesopotamia and these two areas look increasingly like the joint poles for the elaboration of the ideology of kingship, for the construction of economic and political power and for the creation of architectural and artistic models.

URBAN PATTERN

If the short section of mud-brick wall, 6.00 m thick (Figure 28.1), in which a few sherds of pottery dating from the Early Bronze IVB period were found, reproduces, as seems quite likely, the line of the previous Early Bronze IVA wall, we could be led to believe that, in the mature Early Syrian period, the town covered an area quite similar to that of the Old Syrian period. This is also suggested by the distribution of several architectural remains and ceramic fragments corresponding with almost every building of Middle Bronze I–II thus far brought to light. The Acropolis was the seat of central

Figure 28.1 The northeast rampart of Old Syrian Ebla, including a section of the Early Bronze IVB mud-brick wall (© Missione Archeologica Italiana in Siria)

power, with the Royal Palace, a classic multi-function building built up of juxtaposed units with different functions. In the final phase of the period, an important temple was built on the Acropolis, while a second temple was located in the Lower Town, close to the town wall.

From the textual evidence it seems quite likely that the town was divided into four quarters, so it is also possible that the four gates opening in the Old Syrian rampart reproduce the location of gates to the town of the Early Syrian period, of which, however, nothing is preserved under the later ruins.

CULT ARCHITECTURE

In the most recent years of the archaeological exploration of Ebla, two cult areas were brought to light: one in the southeast of the Lower Town, and one on the northwest edge of the Acropolis. Both were used as cult areas for a long time, between Early Bronze IVA and Middle Bronze II. As concerns the State Archives Age, the temple in the southeast of the Lower Town is probably the older one. It is called Temple of the Rock because the rock layer, on which the temple was built, was left bare inside the cella (Figure 28.2): here a large semi-circular cavity was served by three wells, probably leading to sources of underground water (Matthiae 2007, 2008b, 2009a; Pinnock forthcoming).

On the other hand, the second temple, called the Red Temple because of the very strong colour of its bricks (Figure 28.3), was probably built by the end of the State Archives Age, on the northwest edge of the Acropolis, over the remains of sectors of the Royal Palace G: these had been abandoned and razed in order to create a space for the

Figure 28.2 The Temple of the Rock in Area HH, Early Bronze IVA
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building, and for a small square between the temple and the palace (Matthiae 2010a: 112–116).

As concerns their plans, the two temples belong to the typology which becomes the classical Syrian temple *in antis*. The Temple of the Rock has a cella which is wider than

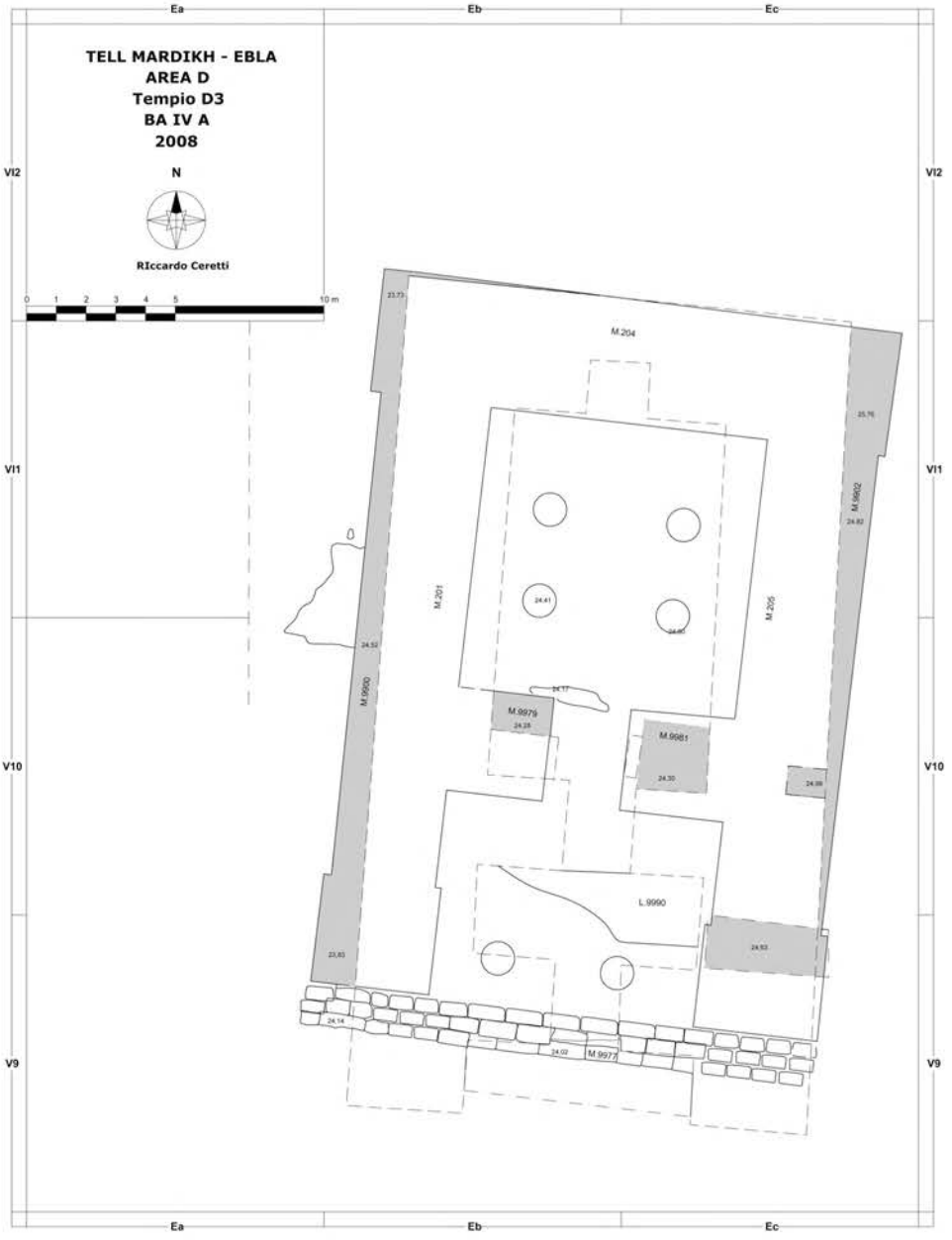

Figure 28.3 Plan of the Red Temple in Area D on the Acropolis, Early Bronze IVA (© Missione Archeologica Italiana in Siria)

long – 8.30 m long and 10.00 m wide – and has a vestibule of the same size, reaching an overall size of 28.30 x 22.50 m. The walls are up to 6.10 m thick, and thus the building was probably quite high, while the entrance to the cella was very narrow, only 1.40 m (Figure 28.4).

On the other hand, the Red Temple has a cella 11.20 m long and 9.60 m wide, while the vestibule was definitely shorter – approximately 6.00 m long – and the overall size reaches 24.20 m in length and 17.00 m in width, while the walls are 3.60 m thick, with buttresses at the four corners. There is some uncertainty concerning the length of the temple, because its remains are covered by the monumental ruins of Ishtar's Temple of Middle Bronze I–II; so, while it is larger than the later buildings, and it was possible to identify its outer limits, the back wall is completely covered by the later walls, and its northern limit is unknown.

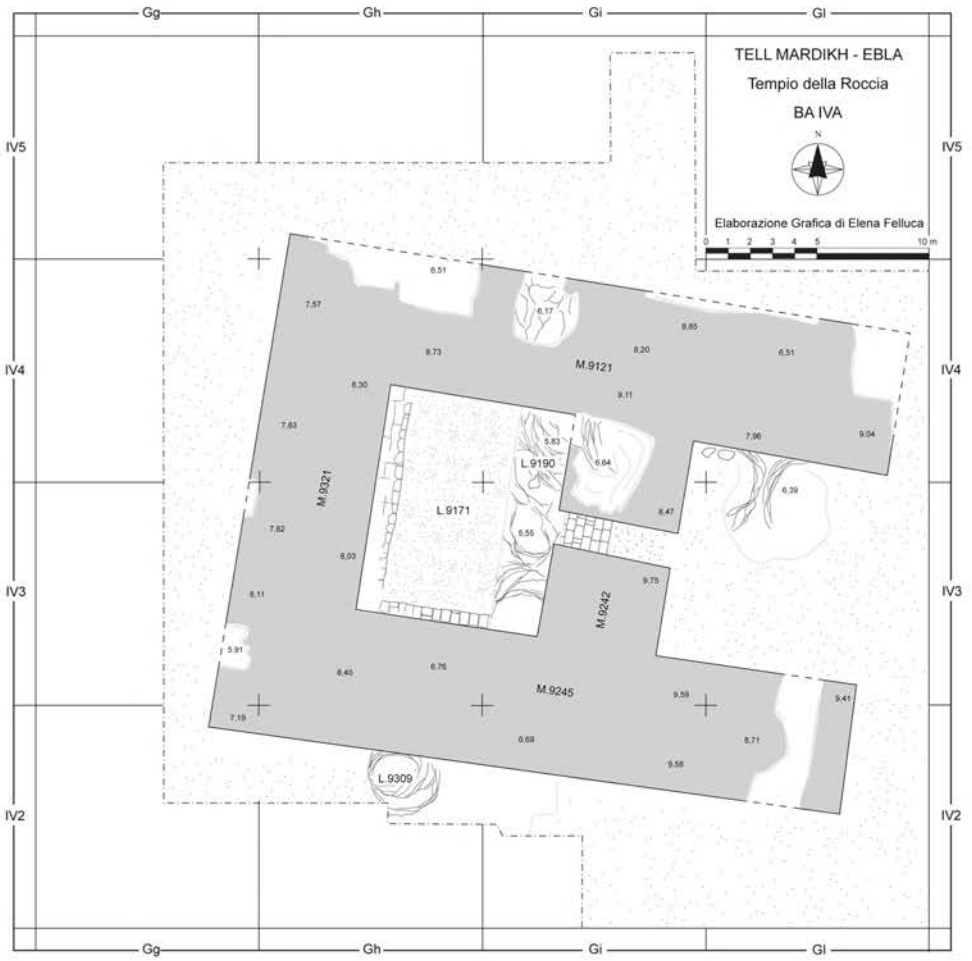

Figure 28.4 Plan of the Temple of the Rock in Area HH, Early Bronze IVA
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As the relative chronology of the two main Eblaic temples of the State Archives Age is clear, it is possible to maintain that the change from the *in antis* temple with a wide cella to the temple with a long cella took place during the same mature Early Syrian period, Early Bronze IVA. In the late Early Syrian period, Early Bronze IVB, two new cult buildings were erected over the remains of the more monumental temples of the State Archives Age: over the Temple of the Rock, Temple HH4 features the final appearance of the plan with a long cella – here 8.10 m long and 6.10 m large – but the vestibule is deeper than usually happens in the classical Syrian temple *in antis*. In Area D on the Acropolis, on the contrary, a building, quite likely of Early Bronze IVB, is squashed between the Red Temple of Early Bronze IVA and Ishtar's Temple of Middle Bronze I–II; the plan is therefore incomplete, and could be the first example of a tripartite temple, in a specimen which certainly was not very monumental. The tripartite temple *in antis* was to become the classic plan for sanctuaries closely related to palaces, or connected with royal ideology.

The Temple of the Rock and the Red Temple, therefore, are two buildings of similar monumental aspect. The first one was probably related to the presence of underground water, and thus, perhaps with a foundation myth of the town; it was built very close to the town walls, and quite likely, also to a city gate. The second temple was closely connected to the Royal Palace, and, in fact, as already maintained, the space left between temple and palace was very narrow, and the Palace did not have a true perimeter wall in that area. These elements, with the careful analysis of written documents like the Ritual of Kingship (Fronzaroli 1993), led P. Matthiae to identify in the two sanctuaries two temples dedicated to the main deity of the Early Syrian Eblaic pantheon, namely Kura, a god who can be considered similar to Enki in the Mesopotamian world. In fact, in the Ritual text, they mention Kura's Temple in the Lower Town, which the queen enters, after spending one night outside the town: here the queen wears the ceremonial dress, before starting the ritual for the renewal of kingship. The complex ceremony, which lasted several days, ends in Kura's Temple in the $SA.ZA_x^{ki}$, a term, as already suggested, probably indicating the Royal Palace itself. At the end of the ritual, the royal couple – representation on earth of the divine couple of Kura and Barama – regained possession of their prerogatives, as is indicated by the sentence 'the king and queen provide, they do provide', as opposed to the sentence 'the king and queen provide, they do not provide' previously employed during the development of their complex journey, touching divine temples and royal mausolea in the territory of Ebla, outside the town.

The Ebla temples belong to an architectural tradition which probably started in Upper Mesopotamia at the beginning of the Early Syrian period, with the specimens in particular of Halawa (Building I), and Tell Khuera (*Aussenbau, Steinbau*, and *Nordtempel*), featuring a clear break from the tradition of the Uruk colonies of south Mesopotamia (Pinnock forthcoming). In these buildings, the plan with long cella prevails. In inner Syria, the Syrian temple *in antis* is represented by the two Eblaic specimens, and also by the temple of er-Rawda, and by the Aleppo temple, where, on the contrary, the cella is mainly of the wide type. This typology will be gradually abandoned during Early Bronze IVB, and the typology with long cella will become the rule in Middle Bronze I–II. A similar development may also be singled out at Byblos, where the *Chapelle Orientale* has a wide cella, while the antecedent of the Obelisk Temple in Early Bronze IVB features a long cella (Pinnock 2007).

PALACE ARCHITECTURE

Palace architecture is represented in the topmost level by the Royal Palace G, whose oldest core was probably founded in 2500 BC, and known to us, though incompletely, in the shape it had between 2400 and 2300 BC, when it was destroyed by Sargon of Akkad (Matthiae 2010a: 71–72).

The building, with its annexes probably occupied the whole area of the Acropolis of Tell Mardikh, approximately 20,000/30,000 square metres in area, and this was probably the complex called SA.ZA$_x^{ki}$ in the texts of the State Archives. Of this wide area, only a part was recovered in the archaeological exploration, mostly in the parts where the building was protected by collapses along the west border of the central hillock of the site, for an overall surface of 4,700 square metres, corresponding to 17 to 23 per cent of the total extent of the building.

The Palace included several juxtaposed units (Figure 28.5), and among those already brought to light, the Court of Audience stands out: this was a large open space, outside the building proper, where the king gave audience, or rather took part in public ceremonies. Probably half of the original space of the Court is preserved, which was probably originally a rectangular square, with porches along three sides at least, and the dais for the royal throne built against the short north wall of the court. Soundings made west of the preserved part of the court revealed that the Court of Audience was not flanked there by other units of the Royal Palace, so the Court was a peculiar space, in part belonging to the Palace, and in part outside it, a kind of hinge between palace and town, and, at the same time, a monumental setting for royal ceremonies (Matthiae 1976a, 1976b, 1978).

Three main entrances and a smaller one opened through the Court façades. The three main entrances all opened onto the east façade. From south to north there is the door to the Administrative Quarter, the Monumental Stairway leading to the central core of the Palace, and the Ceremonial Staircase, in the northeast tower, leading to the private residence, probably located at a different level, or on a different floor. A smaller door opened beside the royal dais, and led to a sector probably reserved for the queen.

The Administrative Quarter certainly was the core sector of the Palace life, and therefore of the whole town. It was called this because of the presence of the main room of the State Archives, and because it contained, particularly in the Trapezoidal Store, valuable artefacts, and precious imported stones (Figure 28.6), among which lapis lazuli and rock crystal are particularly noteworthy (Pinnock 1992, 1986). Moreover, the enlargement of the excavations showed that the Quarter, which lay east of the Court of Audience, stretched around a small court with a porch on all four sides and a large hall that opened to the south. The hall was divided in aisles by a line of columns, and two small storerooms opened behind it, which still contained the remains of objects of high-quality palace manufacture (Figure 28.7) and several heaps of raw lapis lazuli, originally kept inside cloth bags, whose impression was still visible in the soil (Pinnock 2006b). The hall with columns is certainly a Throne Room, where the king held private audiences, probably closely related with the acquisition of raw materials, with special regard for precious imported goods, which were afterwards kept in the storerooms, accessible only through the Throne Room.

The so-called Central Complex was the main core of the Palace on the Acropolis: some storerooms for pottery vases and food supplies were identified on the south slope

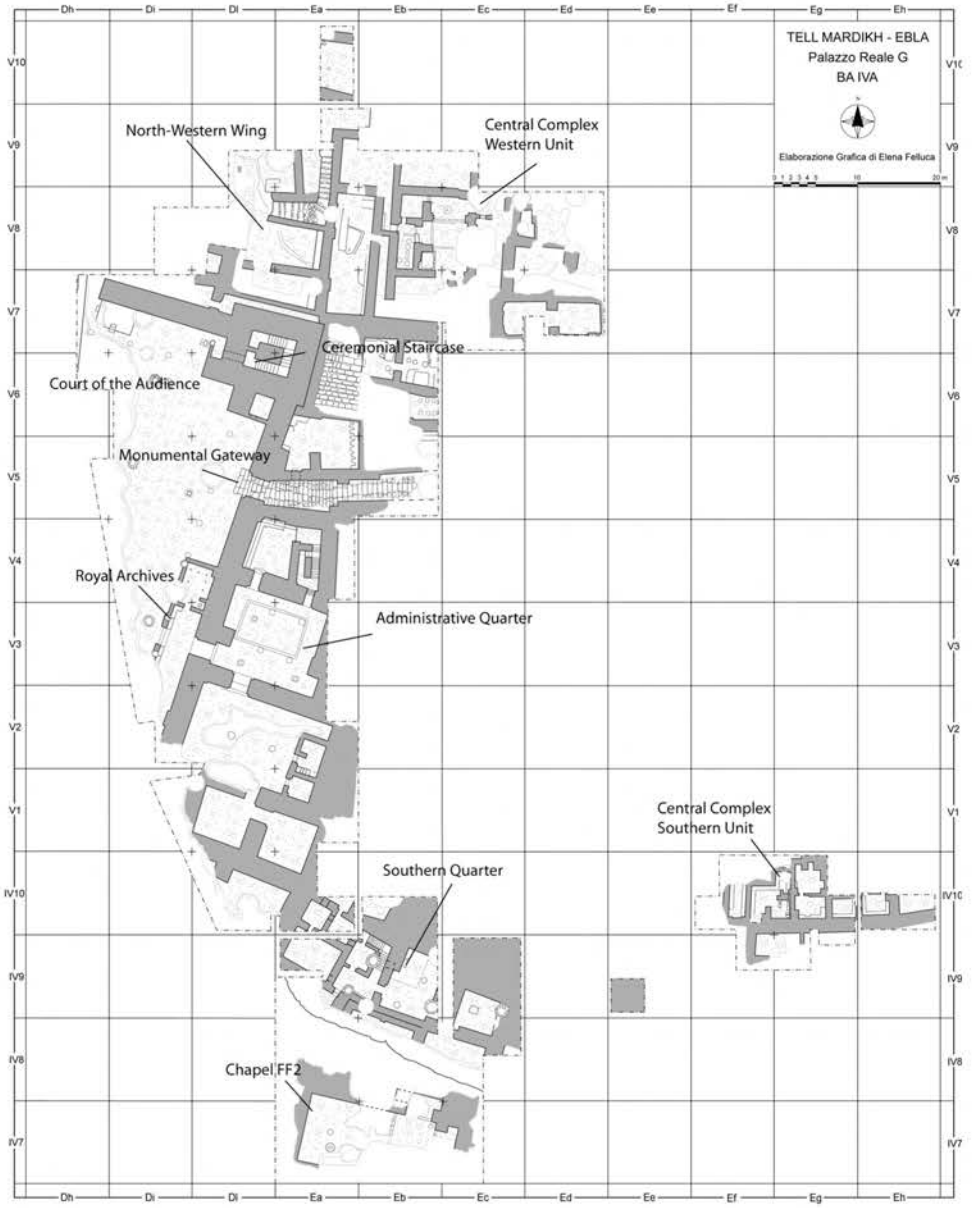

Figure 28.5 General plan of the Royal Palace G, Early Bronze IVA
(© Missione Archeologica Italiana in Siria)

of the citadel. The Western Unit, on the west edge of the Acropolis, also belongs to the complex: it includes a services wing, primarily devoted to the preparation of flour, probably not only for internal consumption in the Palace, because the working places are quite numerous, but also for the preparation of rations used to pay officials and Palace personnel.

Figure 28.6 Blocks of raw lapis lazuli from the Administrative Quarter in the Royal Palace G, Early Bronze IVA (© Missione Archeologica Italiana in Siria)

Figure 28.7
Steatite and lapis lazuli hair-dresses from the storeroom L.2982, behind the Throne Room of the Royal Palace G, Early Bronze IVA (© Missione Archeologica Italiana in Siria)

A residential sector stretched into the Lower Town south of the Royal Palace: it was located outside the perimeter wall of the building, but communicated with it by means of a narrow door. This element, as well as the presence of some administrative document inside it, lead us to believe that this was the residence of a high official of the administration, possibly charged with the control over timber trade. In fact, the few texts found there deal only with this aspect of the economy, and they probably belong to another small archive.

Lastly, the North-West Wing is located immediately north of the Court of Audience, and at the same level; a short staircase connected it with the upper level of services of the North-West Wing. This sector is not well preserved, and only two rooms have thus far been identified, but several very precious objects were found in it, among which the seal of one Ushra-samu (Matthiae 2010b), an official known also from the Archives texts, and the fragments of an object identified as a ceremonial standard (Figure 28.8). The standard, quite likely belonging to Tabur-Damu, last queen of Ebla, represents the living queen standing in meditation in front of the sitting statue of her dead predecessor Dusigu: the standing statue is made of steatite and silver, originally over a wooden core, the seated statue is of gold, steatite and limestone, also over an original wooden core, while between the two figures there was a bronze incense stand (Matthiae 2009b). The presence of these objects suggests this quarter hosted important functions in the life of the Palace, quite likely related to the female members of the court.

The whole palatial building developed on different levels, with terraces going up towards the top of the Acropolis: the presence of the storerooms of the Central Complex on the south slope of the citadel may be a proof of the fact that the units of the Palace occupied a large part of the Acropolis, or even its whole surface. At the time of the discovery, in 1974–1975, when only the Court of Audience was brought to light, the articulation of the façades of the open space, and the location of the Monumental Stairway, which is not in a central position in the east façade, led us to propose a

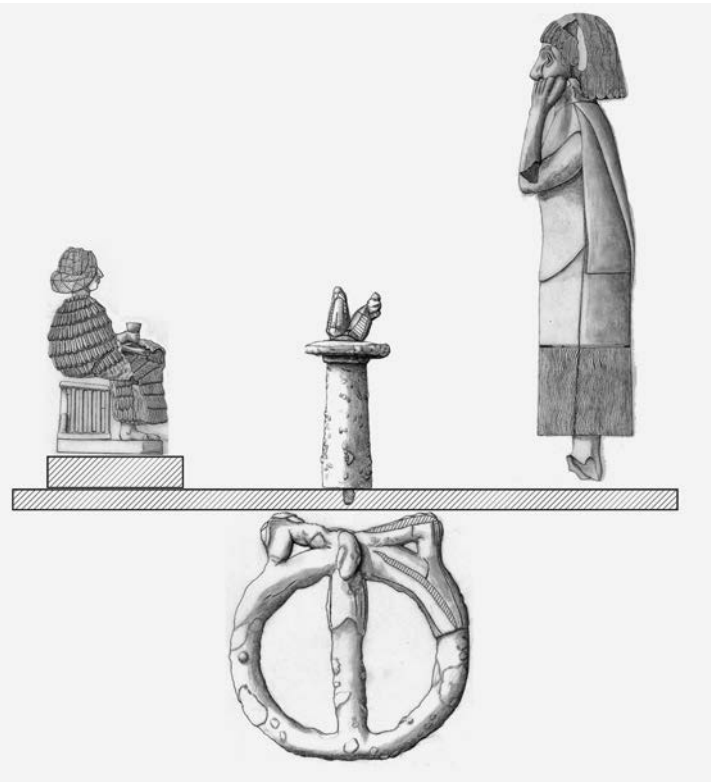

Figure 28.8
Reconstruction of the *maliktum*'s standard, from the Royal Palace G, Early Bronze IVA (© Missione Archeologica Italiana in Siria)

comparison with Palace 'A' at Kish. The plan of this building is not known in its entirety, and its functions are not fully understood: if the unit stretching behind the west side of the open space really had a ceremonial function, there would be a further similarity in the position, but not in the shape, of the main reception unit. These similarities, of course, do not concern the basic concept of the two palaces, which are completely different, but only some element of the general layout (Matthiae 1982: 113). Nowadays, more exact comparisons were recently proposed by P. Matthiae with the palaces of Tell Khuera and of Tell Bi'a/Tuttul (Strommenger and Kohlmeyer 2000: Beilage I; Matthiae 2010a: 77–78, 2010c), the wide open courts are missing, but small inner courts were identified. Probable ceremonial suites open onto these courts, and they look quite similar to the Eblaic sector pivoting on the inner court of the Administrative Quarter. There are also parallels for the presence of small rooms communicating with the presumed throne rooms. Moreover, the court of the Tuttul palace, of which only a small stretch is preserved, also features the shallow furrow in the floor, which in the Eblaic palace marks the outer edge of the porch, and probably hosted a light balustrade.

THE REMAINS OF THE EARLY SYRIAN TOWN

In the Northern Lower Town was found a large part of a building devoted to handicraft production and food processing, contemporary with Palace G, and possibly related to

a presumed cult area located nearby, and not yet identified. The building contained not only jars and grinding stones, but also an important group of shell inlays (Figure 28.9) – parts of skirts, one head, feet – quite different from those found in the Palace, as concerns their material – shell is quite rare in Palace G – and also the shape and size of the individual pieces, which are usually smaller than those employed for the inlaid panels in the palatial context (Marchetti and Nigro 1995–96).

South of the Royal Palace G and of the southern residential quarter lay an enigmatic structure, quite likely devoted to cult ceremonies, whose plan shows no similarity with other contemporary cult buildings thus far brought to light at Ebla, or elsewhere (Matthiae 2010a: 90–91). In the small sanctuary, called Hall of the Painted Plaster, a hoard of fragments of painted plaster was found: rosettes and geometric motifs were reconstructed with some certainty, and it was also possible to have a general idea of the original overall pattern of the decoration. There is a strong probability that the building featured on its west wall a large recessed niche, with a decoration of small knobs in relief at the top (Figure 28.10), where rosettes alternated with lozenges and chevrons in black and red on a white background: the presence of the rosettes led to the Hall of the Painted Plaster being identified as a chapel, or a cult place, devoted to ceremonies, probably for a female deity similar to Ishtar.

As already mentioned, not much is preserved of the urban pattern of Early Bronze IVA and B: the Lower Town north of the so-called Archaic Palace was perhaps the seat of central power in Early Bronze IVB, but it is known only in a peripheral sector, as at the beginning of Middle Bronze I the so-called Intermediate Palace was built on its southern part, and the Northern Palace of Middle Bronze I–II definitely sealed the older levels. The Archaic Palace was also used at the very beginning of Middle Bronze I, and therefore its attribution to Early Bronze IVB is mainly due to the presence of pottery fragments located on the original floors in two rooms, and to technical considerations (Matthiae 2006: 92).

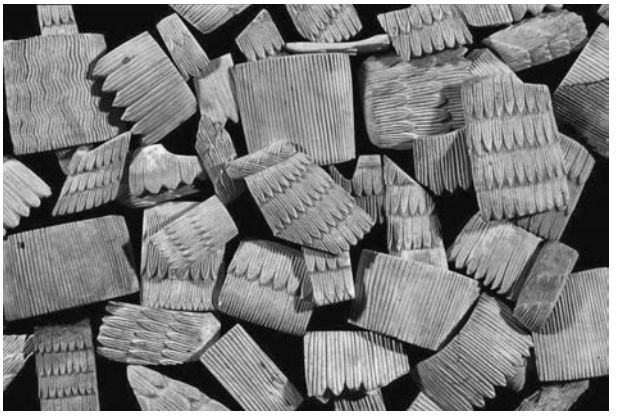

Figure 28.9 Fragments of shell inlays from Building P4 in the Lower Town north, Early Bronze IVA (© Missione Archeologica Italiana in Siria)

Figure 28.10 Fragment of painted plaster decoration from the Hall of Painted Plasters (Chapel FF2), Early Bronze IVA (© Missione Archeologica Italiana in Siria)

ART AND HANDICRAFT PRODUCTION

The furniture of the Royal Palace G survives only in fragments, because the town suffered heavy pillaging at the time of the conquest by Sargon of Akkad's army, yet it is still possible to reconstruct some of the precious objects it contained, and, most of all, to appreciate the originality of the Eblaic culture, and its position within the frame of contemporary Syrian and Mesopotamian cultures.

The art of the mature Early Syrian Ebla is characterised, as concerns techniques, by the use of different materials for the same object, and by the use of wood, as base for composite works, from statues in the round, of panels in relief. In fact, the region controlled by Ebla was quite rich in wood, which was not only a basic resource for trade, but it also became the base for local craftsmanship, highly refined and appreciated even in southern Mesopotamia.

As concerns typologies, all the main categories already well attested in the Mesopotamian world are represented: statues in the round, relief panels, wall plaques. On the other hand, no fragments of stelae were found for this period, while a peculiarity of the Eblaic culture is certainly represented by the carved and inlaid pieces of furniture. This kind of furniture was so typical of Ebla, and so appreciated outside Syria, that as soon as the town flourished again, after Sargon's destruction, it was again traded to southern Mesopotamia: several Ur III texts mention men from Ebla reaching Ur carrying this type of wooden furniture (Owen 1990; Matthiae 1989b; Pinnock 2000).

Yet, even in the more usual categories of Early Dynastic art, Ebla shows a strong originality, particularly in the representation of the town *élites*. In the Land of Sumer, the king's image was not yet fully defined: statues in the round were usually of small size, and they represented kings and high officials, and only the inscriptions allow us to identify the roles of the characters represented. A smaller number of female statues is also present, and all these images were placed inside temple areas, sometimes on small mud-brick benches in the cellas. These statues were not true portraits, but rather indicated that he/she had been accepted by the deity, and was therefore entitled to hold the high office to which he/she had been appointed. Inlaid panels, usually found in temples, celebrated military victories, or represented cult ceremonies.

At Ebla, the sovereign stands out clearly: in inlaid panels and cylinder seals he is usually front facing, and wears a peculiar turban, with a tuft falling down on one side. Inlaid panels usually represented processions of officials, marching towards the king, and decorated the walls of the Royal Palace, in particular inside the Administrative Quarter. In cylinder seals, the king's figure is frequently accompanied by a female character, who must be a queen, characterised by long, loose hair, performing the same acts as the king, like the protection of bulls from lions (Figure 28.11). Moreover, it is possible to reconstruct the presence of two couples of royal statues in the round, made of different materials, and quite close to life size, where again the male figure was accompanied by the female one. A further element strongly characterising the Ebla culture as compared with southern Mesopotamia is the fact that all these images of power were located in the Royal Palace: besides the carved and inlaid panels, in fact, concentrated in the Administrative Quarter, the four life size royal figures were placed two at the side of the Monumental Gateway and two at the sides of the entrance to the Throne Room inside the Administrative Quarter. Thus their visibility was very high, and their meaning quite different: royal statues were not used to confirm and stress the good relation with deities, but rather to celebrate in public the role of the king

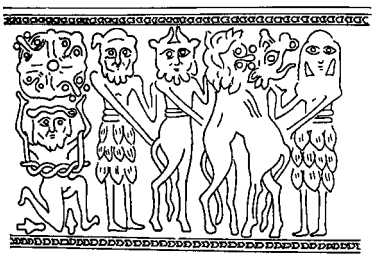

Figure 28.11 Reconstruction of a cylinder seal impression on clay bullae, from the Royal Palace G, Early Bronze IVA (© Missione Archeologica Italiana in Siria)

and queen (Pinnock 2008c). These elements, with the data coming from the cuneiform documents, lead us to believe that, unlike what happened in southern Mesopotamia, the Eblaic kingship had already developed, in the Early Dynastic period, a complex public ceremonial, pivoting on the royal couple, the *malik* and the *maliktum*, who represented on earth the divine couple of Kura and Barama, as explicitly maintained in the Ritual of Kingship.

The main place for the manifestation of the glory of kingship was the Royal Palace, where the king and queen could perform their ceremonies or in the Court of Audience, in the presence of a large number of persons, or in the Throne Room, with a more limited public participation. On the other hand, in the two cult areas thus far identified and brought to light, there was no trace of similar fittings, and the cleaning of the cella, at least in the Temple of the Rock, cannot be the only explanation, because no similar operation was performed in the Red Temple, which is equally lacking any kind of decoration. This element, with the strong presence of female figures inferred from the written documents, seen in visual representations, and by the role and place women occupy in the town *élite,* are certainly a strong Eblaic peculiarity (Pinnock 2008a).

Moreover, taking again into consideration, in the light of the Ebla discoveries, evidence from other sites of northern Syria and northern Mesopotamia, from Tell Brak/Nagar to Tell Khuera, from Tell Mozan/Urkish to Mari (Pinnock 2006b), it is possible to recognise traces of the same or of quite similar ideologies in the visual representation of power, or of similar modes in the representation, which do not make up an organic picture, but which seem rather to answer to local needs, also determined by the complex political, economic, and commercial relations linking the different centres of Syria: the king's figure, in this context, is more strongly derived from strictly local, Syrian fashion, particularly at Tell Khuera while at Mari the styles are more typical of southern Mesopotamia. On the other hand, female figures seem to be more constant and standardised, and some fixed types may be identified: court ladies usually feature attire with many layers of superimposed cloth (Figure 28.12), and fringed shawls, and have elaborately dressed hair, with long loose hair, or locks, or plaits; other ladies wear what we may identify as a priestly attire, with simpler dresses and a veil covering the head (Figure 28.13), well known for a long time in the Mari examples, and characterised by the further presence of the typical ovoid headdresses, eventually covered by the veil.

Figure 28.12 Fragment of a wooden piece of furniture, from the Royal Palace G, Early Bronze IVA (© Missione Archeologica Italiana in Siria)

Figure 28.13 Fragment of a carved limestone plaque, from the Royal Palace G, Early Bronze IVA (© Missione Archeologica Italiana in Siria)

CONCLUSIONS

The Early Syrian culture of Ebla certainly drew inspiration from models of southern Mesopotamian origin, particularly those of the Uruk period, as regards the image of power. These models reached Syria in a direct way, by means of the Uruk colonies located along the Euphrates. Later on, commercial contacts, quite strong and long lasting, with towns in the lands of Sumer and Akkad, are documented by archaeology, and by written evidence. These contacts contributed to spreading, and developing knowledge and technical skills from south to north and vice versa. For instance, the presence of locks of beards made of lapis lazuli, and of elements of lions' manes of bitumen and lapis lazuli, must be considered proof for the presence at Ebla of pieces of furniture, and of fittings quite similar to those on the musical instruments, and perhaps to Puabi's sledge from the Royal Cemetery at Ur (Pinnock 1984, 1985a, 1985b, 1986, 1988). On the other hand, the cuneiform documents reveal the presence of cultural exchanges with Kish, the town which was also allied with Ebla in military campaigns. However, in the Early Syrian period, northern Syria as a whole was remarkable for a strong originality in the creation of autonomous models for cult architecture, and in the elaboration of a non-Mesopotamian palace architecture. In

these two areas, it is now possible to start to identify, not models, but rather some common traits, characteristically related to royal ceremonies.

As regards artistic achievements, it is probably easier to identify, in the marked originality of the Early Syrian artistic productions, a stronger properly Eblaic character. In fact, it is almost certain that at Ebla they created refined palace fittings, like the precious wooden furniture (Figure 28.14), used in the Royal Palace, which was appreciated for a long time in far-away regions (Pinnock 2006a). It is also quite likely that Ebla was the centre for the elaboration of a royal ideology quite different from the Mesopotamian one, and which manifested itself also in images, by means of a well-defined identification of the king's figure, and of the constant presence of court ladies, some of whom certainly belonged to the priesthood, albeit taking part directly in the palace life, ceremonies, and administration. Also the relationship between kingship and the gods was definitely different from the southern Mesopotamian one, and was certainly influenced by the fact that already in the Early Syrian period the Ebla kings were deified after death. This may be inferred from the written evidence, and in particular from the texts concerning the ritual for the renewal of kingship: royal mausolea were the destination of the king and queen during the ceremony (Fronzaroli 1993: 6, 12, 14–15) and in particular the mausoleum in Nenaš – probably the most important one – was usually called *é ma-da-am$_6$/ma-dím/ma-tim*, interpreted as "house of the dead" (Fronzaroli 1993: 39). In the same text, offerings are presented 'to the deity of' three dead kings of Ebla (Fronzaroli 1993: 13, 40). A vaulted hypogeum, located below the floors of the Western Unit of the Royal Palace G has been interpreted as a royal tomb, though it was either never employed, or completely pillaged, and was therefore completely empty.

The town dominated a large territory stretching from the Hama region to the south, to the banks of the Euphrates to the north, to the coastal mountains running parallel to the Mediterranean sea coast to the west, and also quite largely to the east, in the steppe region, which was mostly occupied by transhumant shepherds, who, unlike what happened in Mesopotamia, were not in contrast with, but rather a complement

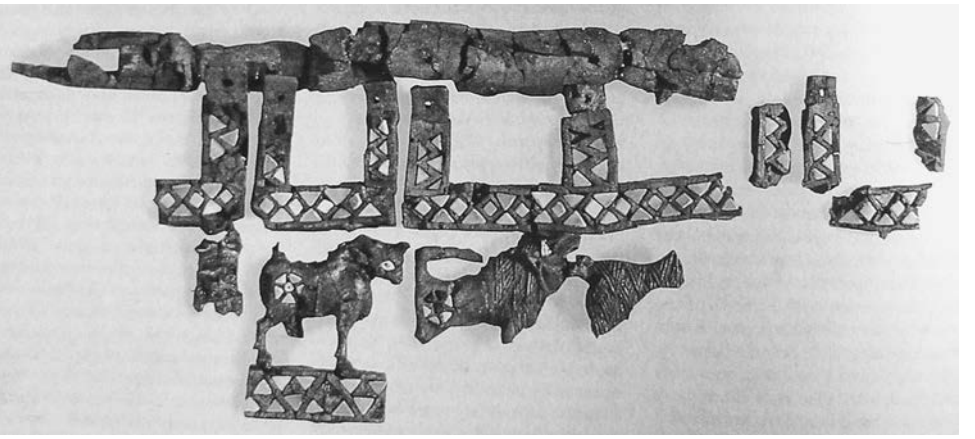

Figure 28.14 Fragment of a carved inlaid wooden chair from the Royal Palace G, Early Bronze IVA (© Missione Archeologica Italiana in Siria)

to the town economy (Matthiae 1988). This territory is clearly identifiable on the base of the distribution of the unified, and easily recognisable ceramic repertories, once called 'calciform' culture, because of the presence of the typical goblets. Outside the territory directly controlled by the town, a network of lesser settlements and villages, perhaps of the kind of er-Rawda, was related with Ebla, and guaranteed the control of the regions devoted to pastoralism and agriculture, but also of sectors of the long distance, commercial routes particularly of those reaching the region coming from the Euphrates, possibly from the region of Mari. Complex international treaties ruled relations with other important centres, some of which not yet identified, such as Abarsal, on the Euphrates course. On the other hand, royal letters reveal the existence of 'fraternal' relations even with far away centres, such as Khamazi, on the Tigris. The administrative texts, under the veil of bureaucratic language, are also bringing to light the complex relations with some major centres, such as Mari: military tensions alternated with bilateral trade interconnections, where the exchange of raw wool and finished textiles were the main commodities. The amounts of raw lapis lazuli sent by Mari to the Eblaic court are astounding, and confirm the role of the two towns in this important sector of the trade for luxury goods.

The picture we are drawing, more and more clearly, is that of the existence of two main centres in the ancient Near East in the late Early Dynastic period, southern Mesopotamia and northern inner Syria, whose capital was Ebla. Both poles feature a central organisation for the control and management of power which has already reached a phase of full maturity, a strong organisation of the production processes, of the mechanisms of centralisation and redistribution, and of the political and commercial interconnections among city-states, which clearly appear in the written evidence. The discovery of the important hoard of cuneiform texts at Ebla, with more than 17,000 inventory numbers, including complete texts and fragments, revealed the existence of a fully developed scribal school, and is now allowing us to go deeper into the analysis of the internal hierarchies in the palace power, and of the Eblaic society, which certainly had structures and languages quite unlike southern Mesopotamian ones. This resulted from the exploitation of an economic system based on rain-fed agriculture, pastoralism, cattle breeding, and the cultivation of fruit trees over an extended territory, rather than on the constraints of irrigation agriculture over a more restricted territory.

The mature Early Syrian Ebla, the town destroyed by Sargon of Akkad, probably in order to break its control over the main trade routes, was one of the main political, cultural, and economic centres of the northern inner Syrian region, a Central Market Place quite likely controlling the supplies of timber from the coastal mountain chains of the Mediterranean, and of silver from Anatolia towards Mesopotamia, a capital which elaborated an ideology of kingship, and a way to represent it of absolute originality, and of great evocative strength. Thus, many creations of this period, probably starting with the royal title *malik*, in the version *meki*, probably due to the local way of pronouncing the consonant "l", and including the strong presence of female figures, became a part of the cultural heritage of the region in the following periods (Pinnock 2004). Probably for this reason Ebla, in the bilingual Hurrian/Hittite text from Boghazköy, called "Chant of Manumission" is called "Town of the Throne".

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PART VI

THE ENDS OF THE SUMERIAN WORLD

CHAPTER TWENTY-NINE

IRAN AND ITS NEIGHBORS

C.C. Lamberg-Karlovsky

The emergence of Mesopotamian civilization, contrary to the manner in which it is typically portrayed, was not a solo performance. It did not appear *sui generis*, fulfilling its own destiny in the absence of "the other." From at least the middle of the fourth millennium, Mesopotamia experienced continuous contact with the indigenous cultures of its southern neighbor, the Arabian Peninsula, the northern reaches of Anatolia and the Caucasus, and to the east with the numerous and distinctive cultures of the Iranian Plateau, the Indus Valley, and Central Asia. The nature, chronology, and extent of these cultural contacts form the substance of an extensive literature and debate. This chapter shall emphasize the substance as well as the theory that characterized these contacts during the third millennium.

PROLOGUE

Stretching across the seventh millennium landscape, from the Euphrates River to Central Asia and the Indus River, are distinctive archaeological cultures. Contact and interaction between these largely self-sufficient communities remained a local affair. There is little evidence to support the presence of substantial interaction tying the communities into networks of trade and exchange. That there was communication, however, is supported by the fact that virtually all settlements shared a common technique for the production of pottery (Vandiver 1987) and the manufacture of metal artifacts (Thornton 2009). If important technologies were shared so too was their dependence upon a common subsistence economy: domesticated sheep, goat, cattle, and cereal production.

By the middle of the fifth millennium substantial changes were underway. On the one hand, Mesopotamia was blessed with rich agricultural potential able to support a burgeoning population. On the other hand, it was virtually devoid of natural resources, save for clay, reeds, and some stones. Mesopotamia's emerging demand for copper, timber, a variety of desirable stones, that is, lapis lazuli, carnelian, turquoise and agate, as well as silver and gold, guaranteed Mesopotamia as an important center of economic demand and the Iranian Plateau as a significant source of supply. By the end of the fifth millennium, the domestication of the donkey facilitated the transport of goods while specialized routes of communication, across the Zagros Mountains, brought Mesopotamia into increasing contact with the east (D. Potts 1999: 10–42; T. Potts 1994: 36–49).

In Mesopotamia, the Ubaid Culture of the mid-fifth to late fourth millennium experiences a substantial cultural expansion extending from the Arabian Peninsula and the Iranian shores of the Persian Gulf (Masry 1997; Carter and Crawford 2010) to northern Mesopotamia and western Iran. The nature of the Ubaid Expansion, whether resulting from colonization, migration and/or acculturation, are subjects of considerable debate, as is the directionality and timing of its expansion (for a full discussion see the articles in Carter and Philip 2010). The Ubaid Culture is treated in the literature as a foundational stage in the emergence of Mesopotamian cultural complexity, seen as a complex chiefdom or an early state formation.

There is little doubt that Ubaid influences were felt in Iran. In western Iran, the major site of Susa and its Khuzistan neighborhood (Jowi 1 and Bendebal 1) show strong parallels with Ubaid pottery, as do several sites within the Zagros Mountains. Regional differences in settlement organization, architecture, and environment suggest that community organization differed through time and space. Throughout the Ubaid horizon, southern Mesopotamia and southwestern Iran had a two-tiered settlement regime suggesting a pattern of small centers controlling three or four neighboring villages (Wright and Johnson 1975).

The extensive distribution of the Ubaid Culture must be seen within the context of its material presence within local indigenous cultures. Its impact on the political economy within different regions varied from negligible to significant. In Iran it tended to the former rather than the later. It is of importance to point out that the distinctive cultures of the Zagros Mountains and the Khuzistan steppes were, from the earliest periods, profoundly different from that of southern Mesopotamia. Their relationships, as we shall see, were characterized by enmity and outright warfare. In a single instance, and that in the Susa Necropole of southwestern Iran, Ubaid ceramics may be argued as having prestige, even ritual significance (Berman 1994). At Susa toward the end of the fifth millennium, a truly massive platform of two stages was constructed. Adjacent to the platform, a cemetery was excavated containing approximately 2,000 burials and 4,000 Ubaid-like ceramics, fifty-five copper axes and an assortment of other metal objects. A number of seals and sealings with figurative designs were recovered from the burials. From the seventh millennium, seals and sealings were used to secure goods within the household. Commodities were placed in jars or in storerooms, their openings fastened by string and clay which was then impressed by a seal that could be broken only by one having authorized access. Frank Hole (2010: 232) who has studied the monumental architecture and its associated cemetery asks "What does this mean?":

> The evidence suggests that the people at Susa engaged in a massive building campaign that resulted in the great platform which one can plausibly connect to rituals that had become more elaborate and important. These developments occurred during a period of increasing duress, as evidenced by a region-wide decline in settlements, abandonment of regions of Iran and the successive burnings of the buildings atop the great platform.

To Frank Hole (2010: 238) the Susa A platform, "the largest construction of its time in the ancient world," represents the institutionalization of ritual, the emergence of priestly authority, and their eventual failure in guiding human events. This, in turn, he believes resulted in the destruction of the buildings atop the platform and the

contemporaneous burial of 2,000 individuals. It is equally plausible that this destructive evidence was brought upon the Susa A community by its Mesopotamian neighbors. This, as we shall see, would be in keeping with third millennium evidence for hostility and conflict, interrupted by periods of rare alliance, that tied Elam, the cultures of the Iranian Plateau, to their neighboring Sumerian city-states throughout the third millennium.

Not all regions of the greater Ubaid horizon experienced the collapse and abandonment experienced in southwestern Iran. Settlements in northern Mesopotamia seem to transition in a seamless manner to a post-Ubaid world while those along the shores of the Persian Gulf, whether in Arabia or Iran, are abandoned. Ubaid and Ubaid-style ceramics are widely distributed but the processes involved in their distribution, the nature of interregional interaction, the varieties of political organization and their socio-economic complexity remain topics for future research. The cessation of archaeological research in southern Mesopotamia and the fluorescence of excavation on large sites in northern Mesopotamia (Tell Brak and Hamoukar) has led some to suggest that centralized states arose, if not earlier, then at least contemporaneously to those of southern Mesopotamia (Gibson and Maktash 2000; Oates 2002).

URUK AND ITS EXPANSION

Following the Ubaid Culture, the Uruk lends its name to both a chronological period, *c.*4000–3200 BC, and to the largest city in southern Mesopotamia. It was a period of momentous social change. Monumental temples were constructed forming engines of innovation and social change. The temples coincided with the invention of a technology of social control that included writing, standard units of weights and measurements, and the use of seals and sealings for establishing the authenticity of contracts. Temples, under the direction of priests, were supervised by one called an *En*. Temple institutions directed an administrative bureaucracy of scribes devoted to the recording and control of production, consumption as well as labor, and the redistribution of agricultural produce.

At *c.*3600/3500 BC a remarkable process was initiated. Uruk settlements were established in distant and foreign lands. Uruk settlements and material remains are found on numerous archaeological sites far distant from Mesopotamia. These Uruk settlements are of considerable size, as at Susa in Iran, some are more modest as Hassek hüyük on the Euphrates River in Turkey, while others are Uruk populations situated within a community of indigenous residents, as at Godin, also in Iran (for a general discussion, chronology, and Uruk expansion sites see Rothman 2001).

What impelled the peoples of southern Mesopotamia to build new towns in foreign lands or settle within foreign communities? The subject has been addressed in several books (Algaze 2005; Stein 1999; Collins 2000) and countless articles. Guillermo Algaze (2005) has been a major architect constructing both hypotheses and explanations of the "Uruk Expansion." He advances four "causes" that favored the Mesopotamian (Sumerian) "take-off" meant to explain why Mesopotamian civilization holds pride of place.

1. Trade, organized for the "control of coveted resources" (p. 8) involved the import of elite goods, preciosities: metals, precious stones, timber, etc. derived from distant

peripheries. "Where trade flows, its ramifications in the form of increasing social complexity and urbanism follow" (p. 100).
2. The rich natural landscape, with a variety of complementary ecosystems was the "trigger" (p. 40) that offered environmental and geographic advantages that, in turn, allowed for a "created landscape," riverine and canal systems that allowed for water transport (being up to four times more efficient than land transport) and communication.
3. New forms of organized labor. Corvée labor attached to central institutions, that is temples, for the construction of monumental buildings, irrigation systems, agricultural projects, warfare, etc.
4. New forms of record keeping with administrative bureaucracies: writing, seals, sealings standard measurements – weights, volume, distance.

Algaze's "Sumerian take-off" is essentially an economic one. Emphasis is upon cores and peripheries (neighbors). Mesopotamia is portrayed as a dominant core that is extractive, controlling, colonizing, and exploitative of its underdeveloped, subservient, and manipulated neighbors. The establishment of Uruk colonies in northern Mesopotamia, Anatolia and Iran "may be conceptualized as unwittingly creating the world's earliest world system" (p. xv). World Systems Theory (hereafter WST) takes its lead from Immanuel Wallerstein's (1974) study of the emergence of capitalism in the fifteenth to sixteenth centuries. It has had a major influence upon archaeologists working in different parts of the world (Kardulias 1999). WST insists upon three assumptions, *none* of which are applicable to the Bronze Age of the Near East:

1. The core dominates the periphery [read neighbors], be it by organizational efficiency, military means, or ideological agency.
2. The core exploits the periphery by asymmetric trade; the extraction of valuable resources from the periphery by exporting cheap goods from the core.
3. The politics of the periphery are structured by the cores' organization of trade and exchange.

Algaze's faith in WST is firmly alleged but when considering the evidence weakly demonstrated. As Marshall Sahlins (1994: 412–413) has observed, in denying agency to its neighbors "world systems theory becomes the superstructural expression of the very imperialism it despises." For Algaze the periphery, be it Anatolia, Iran, or the Arabian Peninsula, is a benign entity, neither described nor explored, an ill-defined entity whose presence is to serve southern Mesopotamia's colonization and quest for resources. In discussing core–periphery relations, Mario Liverani (2006: 69–70) is more to the point:

> The [Mesopotamian] population supports itself with agro-pastoral resources, on which inter-regional exchange has no influence . . . It is certain that, in the period of concern here [the Uruk] the economic exploitation pertained to resources that were of secondary character only [elite goods] . . . it contributed to an increase in the local socio-economic stratification and it strengthened the elite's hold over the general population.

Far more preferable, and consistent with the evidence, are the views of Nick Kardulias (2007) and Gil Stein (1999). Kardulias writes of a "negotiated periphery" in which the periphery negotiates its own rules for inclusion or exclusion from a core. Stein views the Uruk Expansion as having nothing to do with colonization, domination, and asymmetric relations but as independent enclaves in which the "foreigners were an autonomous diaspora rather than a dominant colonial elite . . . The Mesopotamian and Anatolian [and, one might add, Iranian] communities produced, exchanged, and consumed goods with their own encapsulated social domain" (Stein 2002: 58). What matters most in these distinctive and distant Mesopotamian foreign enclaves is not the dominance and exploitation by a Mesopotamian core over a distant neighbor but the existence of a political, economic and social *connectivity*; that is, the recognition of the existence of numerous independent and interdependent cultures in which Mesopotamia, beginning in the Ubaid period, is but one actor among many that were in contact with "the other."

Such contacts had their own rhythm. After 3100 BC, Uruk cultural remains all but disappear from foreign lands. Was this the result of assimilation? Voluntary abandonment? Or conflict? Each has its advocate but none are persuasive. The demise of the Uruk Expansion goes unexplained. In northern Mesopotamia, the indigenous communities, introduced to the technology of writing by Uruk immigrants, do not adopt its technology for another 500 years.

There is another significant migration of foreign peoples into Anatolia, northern Mesopotamia, and Iran. They may, in fact, be implicated in the withdrawal of the Uruk peoples from the north. The Kura–Araxes Culture from the Caucasus takes its name from the Kura and Araxes Rivers in Georgia (Palumbi 2008). This pastoral nomadic culture, with its highly diagnostic burnished red-and-black ceramics, domestic architecture, characteristic hearths, and superb metallurgical inventory, is contemporary with the Uruk Culture. The Kura–Araxes Culture can be identified on numerous sites in northwestern Iran where the settlements of Godin IV, Yanik Tepe, and Geoy Tepe (see the articles in Lyonnet 2007) and the burial tumuli of Se Gardan (Muscarella 1973) have been excavated. Its most southern extension reaches northern Palestine where the pottery is known as Khirbet Kerak (Amiran 1968). The nature and impact of the Kura–Araxes cultures in these regions are the topic of considerable recent research. In Anatolia, the arrival of the Kura–Araxes at the site of Arslan Tepe coincides with both its destruction and the disappearance of the Uruk Culture (Sagona and Zemansky 2009; Kohl 2005: 86–102). Similarly, the abandonment of the Uruk community at Godin Tepe coincides with the arrival of these Transcaucasian settlers. Can the pastoral nomadic peoples of the Caucasus be implicated in the disturbances that led to the abandonment of Uruk influence in the north? Ongoing research in Anatolia and northern Syria may answer this question.

Finally, with regard to the Uruk Expansion only within one community, and that an extremely significant one, Susa, in southwestern Iran, can one argue for an Uruk settlement that profoundly influenced its indigenous inhabitants. The Uruk settlement in Susa was directly followed by the Proto-Elamite culture. The Proto-Elamites adopt many of the material attributes of the Uruk Culture and transform them to their own purpose and style, namely, writing, mathematical constructs, seals, specific ceramic types, and units of measurement.

THE PROTO-ELAMITES AND THEIR EXPANSION

In the early years of the twentieth century more than 1,600 tablets with distinctive signs were recovered from Susa. These Proto-Elamite texts were initially thought to be related to the later Elamite language. Today their linguistic affiliation remains uncertain although its derivation from the earlier cuneiform of the Uruk period is well established (Damerow and Englund 1989). The Proto-Elamite texts, like their Mesopotamian counterparts, record administrative transactions mirroring the book-keeping techniques and numerical systems of their Uruk neighbors. Jacob Dahl (2009: 28) writes "It is at present only possible to distinguish very basic semantic categories in the signary, such as numerical signs, owner signs, object signs, and signs used in a complex way to describe owners." Presumably, as in Mesopotamia, the "owners" are those individuals or institutions involved in recording the production, consumption or redistribution of the goods, land, or labor being recorded.

The Proto-Elamite tablets, dated between 3400 and 2900 BC are but one, yet, the most characteristic signifier, of this culture. Specific pottery types, cylinder seals, and sealings identify their presence while the size of bricks are a common feature of Proto-Elamite administrative structures. It is assumed that the Proto-Elamite Culture (hereafter P-E) emerges in southwestern Iran where its presence is recorded on two of the regions' largest sites: Susa and Choga Mish. At Susa levels 18–22 were settlements (colonies?) of the Uruk Culture and were succeeded directly by the P-E levels 17–14 (LeBrun 1978; Canal 1978).

One of the most characteristic, and shared, pottery types of the Uruk and P-E periods are referred to as "bevel-rim bowls" (hereafter BRB). This unattractive, yet functional, pottery is handmade and/or mold made, chaff tempered, characterized by a highly porous fabric, and fired at low temperatures. In discussions concerning the function of the BRBs, two hypotheses dominate. Hans Nissen was first to advance the hypothesis that the BRBs were used as a standard measure for distributing rations (grain) to workers. Alternatively, their similarity to Egyptian bread molds suggest a similar function for the BRB (for an excellent review on all matters and references pertaining to the BRB see Potts 2000). The BRB has been recorded on over 100 different sites on the Iranian Plateau. The expansive distribution and the presence of P-E tablets, seals, and sealings on numerous sites throughout Iran brings us to a consideration of the P-E Expansion.

While many trees have been lost to the production of paper for writing on the Uruk Expansion, the slightly later and even greater geographical expanse of the P-E Expansion is all but ignored. This is in keeping with the Mesopotamocentric perspective of Near Eastern archaeology wherein Mesopotamian concerns dominate the literature. Assuming that archaeologists are correct in their belief that southwestern Iran (Khuzistan: Susa and Choga Mish) was the origin of the P-E, its characteristic material culture is subsequently found on sites distributed across the Iranian Plateau (Tepe Sialk, Malyan, Tal-i Ghazir, Tepe Yahya, Tepe Sofali, Tepe Hissar, Shahr-i Sokhta, Tepe Godin) with BRBs extending to distant Pakistan Baluchistan (Benseval 1997; Lamberg-Karlovsky 1978). The recent excavations at Tepe Sofali on the Tehran plain contains an Uruk settlement "followed by settlement continuity in the Proto-Elamite period and then deserted" (Yousefi and Hessari 2008: n.p.). To date, over 100 Proto-Elamite tablets have been recovered from Tepe Sofali. The authors write "Certain it is that at Tepe

Sofalin there is continuity in the use of texts, beveled-rim bowls, standardized units, sealings, and cylinder seals from Late Uruk to the Proto-Elamite Period." Also, the recent excavations at Tepe Sialk uncovered a Late Uruk (3750–3350 BC – Sialk III) settlement indicating Mesopotamian contact with the central plateau. The excavation of Late Uruk metallurgical installations, involving the production of silver, gold, lead, and copper, suggest the initiative for Uruk contact. Although no administrative building was uncovered, the presence of cylinder seals and sealings suggest an administrative centralization within a "proto-urban social structure" (Nokandeh 2010).

The "cause(s)" of the P-E expansion, even if seldom addressed, mirror those for the Uruk Expansion: trade and the exploitation of distant resources. The exploitation of metal resources at Tepe Sialk, the transshipment of lapis lazuli from Shar-i Sokhta, the presence of elaborate carnelian beads of Indus manufacture, or the production of carved chlorite vessels in southeastern Iran, all representative of artifacts recovered from tombs and temples in Mesopotamia, are frequently cited as evidence for Mesopotamia's reliance on Iran for its acquisition of precious goods. The majority of P-E sites, however, lack evidence for the production of commodities and are not adjacent to significant resources. There is, in fact, little, if any, evidence to support the notion that the Proto-Elamite world was directed by a centralized authority or represented a solitary state. Harriet Crawford (1973) has drawn our attention to "invisible exports," commodities that do not survive the archaeological record. Their existence is undeniable and of significance, but one wonders what they might have been to fuel so extensive a migration, colonization, and distribution of either the Uruk or the P-E culture communities.

It is instructive to review the nature of the P-E tablets at Tepe Yahya so productively examined by Peter Damerow and Robert Englund (1989). The large bulk of the tablets (twenty-one of twenty-seven) are concerned with the measurement of quantities of grain. Damerow and Englund's summary (1989: 62–63) remains the best to date on the nature and function of P-E tablets, and may, with little variation, apply to other P-E settlements on the Iranian Plateau.

1. "The similarity of the proto-elamite texts from these outlying sites to those from Susa seems, in fact, less suggestive of political or economic control of these settlements by interests centered in or around Susa – or for that matter any other external center – than of the mundane functioning of more or less independent economic units."
2. "The texts, so far as we have been able to classify them, record however the dispensation of product from agricultural activity, in particular the rationing of quantities of grain to presumable workers under the direction of household administrators, and possibly the disbursement of grain for the purpose of sowing, as we think, rather unimposing fields. The level of these administrative notations, the size of the recorded numbers of animals and humans and the measures of grain, are without exception entirely within the range of expected *local* activity."
3. "There was no archaeological evidence in Yahya suggesting that this apparent foreign element had assumed administrative control of the settlement by force might be indicative of a peaceful coexistence between an indigenous population and administrators of foreign origin."
4. "The complete absence of references in these texts to the exploited resources of the regions, in particular of metals or stone, suggested that such exploitation, if at all

recorded, will have been secondary to primary agricultural activities in the respective settlements."

5. "Material remains and to a substantially lesser extent early texts inform us that such societies, which may themselves be termed 'archaic', operated at a stage well removed from that of so-called primitive cultures. The mere fact of a centralized administration, be it local or regional, as well as the quantity of goods and workers registered in archaic texts document, in our opinion, an at least inchoate form of class division into a functioning administrative elite and laborers, probably with a concomitant shift of ownership of in particular productive land to a small group in the community. This more advanced organization replaced tribal or simply familial organization in village settings."

We are left to wonder whether there ever was an Uruk or Proto-Elamite Expansion or whether there was a wholesale adoption, emulation and assimilation of a social technology, one that used tablets, incorporated an administrative bureaucracy, with distinctive styles of cylinder seals, BRBs, and numerical systems. To what extent could the invention of this social technology, devoted largely to serve the needs of an elite, be the movement and adoption of concepts and their underlying social structures rather than the large scale migration of people?

The settlements of the P-E, like those of the Uruk Expansion, did not endure. Their chronologies differed dramatically. While the Uruk Expansion appears to be a process that unfolded over the course of millennium, the Proto-Elamite Expansion endured from 3300 to 2900. The social experiment, cast over the Iranian Plateau, collapsed. As the Iranian Plateau reverted to its distinctive regional cultures literacy disappeared not to re-emerge for a millennia. The distinguished art historian Pierre Amiet (1993: 26) is concise: "The proto-Elamite civilization collapsed as from a single blow, without any previous sign of decadence . . . the proto-Elamite highlands went over completely to a nomadism that is imperceptible in the archaeological record, Susa fell back again for many centuries into the Mesopotamian orbit." In the next section, we will have more to say about the role of pastoral nomadism.

CULTURE, ETHNICITY, AND NATION

The history of relations between the peoples of Mesopotamia, the Sumerians, and the Iranian Plateau, the Elamites, is best derived from the written texts of the third millennium. Referring to place and people with a single term both simplifies and falsifies. Assyriologists remain uncertain as to the language(s) of the earliest texts. There is a greater consensus that the earliest texts of southern Mesopotamia are in Sumerian rather than that the Proto-Elamite texts are Elamite. Sumerian and Elamite are extinct linguistic families without any modern descendants. We must appreciate that in both regions there was a mosaic of linguistic representation. In Mesopotamia there was Sumerian, Semitic, and even Indo-European languages spoken in the north, while the nature of languages spoken in the Arabian peninsula and on the Iranian Plateau remain unknown. By the end of the third millennium there is even an inscribed cylinder seal depicting a translator from the Indus Civilization, with entourage, sitting on the lap of a Mesopotamian King (Possehl 2002, for illustration see Lamberg-Karlovsky 1981: 390). Geographic and cultural diversity complemented this linguistic mosaic. Although

Mesopotamia is referred to as the 'lowlands" in contrast to the "highlands" of the Iranian Plateau, both have a considerable diversity of climate and environment.

In the first half of the third millennium, Mesopotamia consisted of independent city-states each dominating a hinterland of towns and villages. Internal competition between independent city-states often resulted in warfare while foreign campaigns against the Elamites offered the promise of wealth and prestige within their homeland. Initially "Sumer" and "Elam" were neither "nations" nor "states." Elam consisted of a loosely, and poorly understood, confederation of distinctive cultures and tribes inhabiting the Zagros Mountains and beyond. Whether it be Sumer or Elam, integration never fully replaced fragmentation. Elam designated the Iranian highlands and never referred specifically to a city, that is, Susa or a region Khuzistan (Susiana). Dynastic transformations negated issues of decline and fall. Piotr Michalowski (2008: 112–113) is a good guide to Elam's definition:

> In the language of third- and second-millennium Mesopotamian inscriptions and literary texts, Elam seems to refer to the southeastern half of the highlands (Zagros Mountains) bordering on Mesopotamia, while Subir covers the northeastern part. This is a very general notion and cannot be pinpointed on the map . . . In all these instances, Elam is a general geographical term and does not refer to a political entity . . . It may be that most people in the general area that Mesopotamians referred to as Elam spoke versions of the language we call Elamite, but at the same time it is likely that the general area of Subir was home to a variety of tongues, including Gutian and Lulubean, not to mention Semitic . . . by Old Babylonian times (mid second millennium) the semantic scope of Elam had changed: it was now a political as well as geographical term and it included Susiana.

Throughout the third millennium, hostility and warfare was the *leitmotif* that characterized the relations between Sumer and Elam. This would have had a debilitating impact on overland trade crossing the Iranian Plateau. Hostile relations may explain why there is more evidence for maritime trade uniting the Indus Civilization, Mesopotamia, and the Arabian Peninsula than the more restricted overland trade between these regions and the Iranian Plateau (Lamberg-Karlovsky 1996: 73–108; Possehl 2002: 215–236). The evidence, or "cause" for the hostility between Sumer and Elam must be sought in the *cultural* divide that separated the two. Their political organization (city-state vs. tribe), their subsistence pattern (agricultural villages vs. pastoral nomadism), and their environment (alluvial floodplain vs. mountain highlands) offered distinctions with real difference. The cultural boundary that separated the two can be traced back to the sixth millennium (Oates and Oates 1976; Mortensen 1974). Pastoral nomadism was a dominant subsistence pattern in western Iran already in the sixth millennium. The presence of pastoral nomads in the sixth millennium is demonstrated archaeologically at Tepe Tula'i in northern Khuzistan and at Hakalan and Parchineh in Luristan (Hole 2004; van den Berghe 1987).

By the late third millennium, archaeological cultures are complemented by historical texts that refer to the Guti, Lulubi, Simurrum, Shimashki, Harashi, Tukrish, Marhasi, Anshan, Hurti, Kimash, and Aratta as inhabiting the Zagros and beyond. The geographical positioning of these groups and their relations to Mesopotamia is a constant theme within the archaeological and textual literature (for a comprehensive

treatment of Elam see D. Potts 1999). Recently, Abbas Alizadeh (2006, 2010) has offered an insightful model for the emergence of the Elamite world. To inform the archaeological record, Alizadeh avails himself of modern ethnographic as well as ethnoarchaeological data. The role of pastoral nomadism and their antagonistic relations with centralized states is his central theme. It is an old one. The resistance to central authority by the tribes of the Zagros is also a persistent theme in early travel literature, that is, Henry Layard's (1887) travels through the Zagros in 1840–1842.

Alizadeh's model, based upon the archaeological and textual record:

> revolves around the idea that social hierarchy could develop in the Zagros valleys with arable land and enough precipitation for dry farming and that circumscribed conditions of these valleys would encourage the expansion of the political and economic base of the tribal khans to include the demographic and economic resources of the lowlands [southwestern Iran: Susiana]. Successful unification of the highland and lowland resources as well as easily defensible heartlands in the mountains, control of major trade routes, and the preservation of a tribal structure with strong bonds between rulers and the ruled created a series of durable and strong states that eventually gave rise to the historical "federative" state of Elam . . . highland pastoralists were in a position to dominate the lowlands [Susiana] and create a diversified political economy that included farming, herding and trade . . . the gradual development of state organizations in the early fifth millennium, such as an increase in regional population, improvement of agricultural techniques, the development of local elites, increased demand for goods not locally available, increase in overlapping territories and hostile contact, ambitious khans vying for more power and expansion . . . culminated with the integration of the lowlands and the highlands enabling the highlanders to establish a durable and powerful state that under different dynasties lasted for more than 2000 years.
>
> (2010: 360, 375)

Almost fifty years ago Robert Adams (1962: 115), with far less information at hand than available to Alizadeh already observed that:

> Elamite military prowess did not derive from a large, densely settled peasantry occupying irrigated lowlands in what is loosely considered the heart of Elam. Instead, the enclave around Susa must have been merely one component in a more heterogeneous and loosely structured grouping of forces.

The first half of the third millennium experienced endemic competition for an elusive hegemony among the Mesopotamian city-states as well as periodic confrontations with Elam. Half a millennium of periodic conflict resulted in the supremacy of Sargon's unification of Mesopotamia (2350 BC). It was not to last. Sargon's empire was to endure for only six generations before succumbing to defeat by the highlanders from the Zagros. For the next 1,500 years Mesopotamia and Elam experienced an oscillation between unification and fragmentation. The single constant was conflict and warfare. Textual evidence now dominates our understanding of the relations between Sumer and Elam.

SUMER AND ELAM IN THE TEXTS

Textual knowledge is assymetrical; meaning that the texts of the third millennium come exclusively from Mesopotamia, their neighbors remain illiterate. The texts are referred to as being "historical–literary" in which mythology and propaganda are mixed with historical "facts," which themselves require careful scrutiny (Michalowski 1992, 1995; Liverani 2006, 2004).

One of the most famous such texts is "Enmerkar and the Lord of Aratta" (Vanstiphout 2003; Cohen 2000). Enmerkar, the ruler of Uruk, is engaged in negotiations with the ruler of Aratta who lives far to the east. Enmerkar wishes to obtain precious stones, lapis lazuli, carnelian, and other preciosities, to embellish his temple of Inanna. Messengers go back and forth. Favorable negotiations bring a consignment of precious goods to Enmerkar in return for a donkey caravan of grain. The negotiations include a battle of wits between Enmerkar and the Lord of Aratta, a timeless motif between contending kings. The epic contains fantasy, riddles, legend, and myth wrapped around elusive kernels of history from which many extract interpretation and models of economic relationship (Kohl 1973). The epic poem is taken to illustrate: Sumerian supremacy over foreign countries; the importance of its principal exports: wheat, manufactured goods, and textiles; the invention of long distance trade, and, most significantly, writing. In fact, third millennium Mesopotamian texts involving long distance trade are exceedingly scarce. Mesopotamian trade was largely restricted to exchange between city-states involving textiles, fleece, grain, perfumes, fats, and dried fish. Trade in luxury commodities as gold, silver, lapis, carnelian, in general all luxury goods, were under the control, and for the consumption of the elites.

The texts afford us glimpses of the political relatons that characterized Mesopotamian–Elamite relations. Below we list Sumerian Kings, dates, and their relationship with their Elamite counterparts (adopted with alterations from Giovanni Pettinato 1972).

Enmebaragesi	2680(?)	Mentioned in the Sumerian King Lists as the King of Kish, during its First Dynasty, who reined for 900 years and as "the one [who] broke the weapons of Elam."
Elamite Dynasty of Awan	2600–2500(?)	The city of Ur was defeated. The Sumerian King list states it "kingship taken to Awan'" (Jacobsen 1939: 95, iv, 117).
Second Dynasty of Kish	2550	Awan was defeated its kingship taken to Kish.
Elamite Dynasty of Hamazi	(?)	Power shifts to Elamites.
Lugalannemundu of Adab	(?)	Warred with Dynasty of Marhashi and Gutium and received tribute from a governor of Elam.

Eannatum	2470	Conquered Elam: "Elam in her mountain was thrown down."
Enetarzi	2400/2370	Elamites plunder the city of Lagash and are defeated.
Sargon of Akkad	2340–2284	Unifies Mesopotamia. Conquered Elam and its allies Marhashi, Anshan, and Tukrish.
Rimush	2283–2275	Revolt suppressed in Mesopotamia. Conquered Barahshum, Zahara and Elam. "Rimush, king of the totality, rules now Elam."
Manishtusu	2274–2260	Campaigns against Elam.
Naram-Sin	2259–2223	Major buildings constructed at Susa; Elam reduced to a vassal state.
Sharkalisharri	2222–2198	Fights defensive battles against Elamites led by Puzur-Inshushinak, King of Awan, and the Elamite confederation.
Gudea of Lagash	2144–2124	Defeats Anshan and brings Elamite craftsmen to Lagash.
Utu-Hegal	2116–2110	Guti defeated. Elam declares independence.
Shulgi	2093–2046	Diplomatic alliances: in eighteenth year of reign married his daughter to King of Marhasi, thirty-second year marries daughter to King of Anshan. After ten campaigns in year forty-five of his reign he conquers Shimurrum and Lullubum. His three-year campaign against Kimash and Hurti secured for him the Great Khorasan Road and an access route to Babylonia.
Shu-Sin	2036–2928	Marries his daughter to Prince of Anshan. Campaigned against the Elamites in northern Zagros.
Ibbi-Sin	2027–2003	Last of the kings of the Ur III dynasty. Elam and Shimashki unite to plunder Ur: "Hills of ruin and places of desolation." Ibbi-Sin carried off in chains to Anshan. Almost certainly it was King Kindattu of Elam who was responsible for the destruction of Ur and the end of Ur III empire.

The Ur III empire was founded by Ur-Namma whose contemporary and protagonist was Puzur-Inshushinak the governor of Susa and "General of the land of Elam." Although the Elamites contested the Akkadian Dynasty prior to the founding of the

Ur III period, it was Puzur-Inshushinak whose conquests within the Iranian highlands consolidated an Elamite confederation and allowed for his conquest of northern Babylonia and the city of Akkade, capital of the Akkadian Empire. Following Puzur-Inshushinak's capture of Akkade he bestowed upon himself the title "powerful one" and "ruler over the four quarters of the world." The Akkadian king Naram Suen was the first Near Eastern monarch to adopt this title. Puzur-Inshushinak's assumption of this title clearly suggest the transfer of power to the hands of the Elamites. To those titles he added the ancient and prestigious title "King of Awan," the highest distinction an Elamite could aspire to. Awan's location remains unknown.

Of the numerous constituencies that formed the Elamite confederation we conclude with a discussion of two: Marhasi and Simashki. The location of these two polities is subject to contending views while both regions are targets of recent archaeological campaigns.

MARHASI/PARAHSHUM

The name Marhasi in Sumerian, Parahshum in Akkadian, appears in the Mesopotamian texts from Akkadian to Old Babylonian times, *c.*2300–1700 BC. They inform us that the Akkadian kings Sargon and Rimush conquered Marhasi, that messengers from Marhasi were dispatched to Ur, and that Sarkalisharri, when crown prince, traveled to Marhasi. Significantly, Shulgi, pre-eminent King of the Ur III empire, gave his daughter in marriage to the Marhasian ruler, thus, cementing an important and enduring political alliance. Marhasi was the source of plants and animals (dog, sheep, bear, monkeys, elephant, and zebu) and certain stones sent to Mesopotamia (Steinkeller 1982; D. Potts 2002). Although many Marhasian names are Elamite, the texts indicate that it lay beyond the lands of Elam. Its location is contested. Given the identity and distribution of the animals, Françoise Vallat (1985) places Marhasi in Baluchistan, while Steinkeller (1982, 2006) positions it in southeastern Iran, and Francfort and Tremblay (2010) place it in Central Asia. Both southeastern Iran and Central Asia are theaters of recent, and highly significant, excavations. In southeastern Iran, two excavation programs are of importance. Massimo Vidale (personal communication) has been excavating Mathoutabad, a site with long fourth and third millennium occupational sequences with numerous bevil-rim bowls that indicate a Proto-Elamite presence. Yosef Majidzadeh has been excavating the nearby site of Konar Sandal. Both sites are situated in the Jiroft Valley in the proximity of the Halil Rud River where preliminary surveys indicate the presence of at least 300 prehistoric settlements. Beginning in 2000, the Jiroft was the scene of illicit digging involved in the looting of a large cemetery. Hundreds of beautifully carved and inlaid chlorite bowls were recovered (Madjidzadeh 2001). Identical decorated bowls, many in the process of manufacture, were recovered in the excavations of nearby Tepe Yahya (Lamberg-Karlovsky 1988). These chlorite bowls are referred to as having an 'Intercultural Style" for they have been recovered on numerous sites in Mesopotamia, islands of the Persian Gulf, and in the Indus Valley. Certain it is that they are an indigenous product of southeastern Iran. Recently, Steinkeller (2007, n.d.) suggests that the word *duh-shi-a* mentioned in the texts as a stone coming from Marhasi, refers to chlorite. As the carved bowls of the "intercultural style" were manufactured of chlorite, the identity of *duh-shi-a* as chlorite takes on added significance. Excavations

at Konar Sandal recovered dozens of illicitly excavated decorated chlorite bowls, monumental architecture, including evidence for the origin of the "ziggurat" (Vallat 2003), seals and sealings, some with Mesopotamian motifs, an important sequence of pottery, and controversial tablets (Madjidzadeh and Pittman 2008). Of special interest, and of questionable nature and context, is the recovery of four "documents" from Konar Sandal. These "texts" cannot be readily paralleled with either the Proto-Elamite signary or the millennia later Linear Elamite texts. A preliminary analysis has been undertaken by Françoise Desset. It is argued that the "texts" represent a wholly new type (language?) called "eastern script" by Steinkeller, "kermanite" by Vallat, and "geometriform" by Desset (françoise.desset@wanadoo.fr).

Certainly the importance of the kingdom of Marhasi, as indicated in the texts, is complemented by the distinctive and complex culture(s) recovered by archaeologists working in southeastern Iran. Yet, as indicated above, the geographical location of Marhasi remains contested. Textually, Marhasi is the single most documented foreign country in contact with Mesopotamia. In the Akkadian period, King Rimush claims that his military defeat of Marhasi removed its "roots ' from Elam, implying that Marhasi and Elam were separate entities. Another text refers to Marhasi as a neighbor of Meluhha (the Indus Civilization).

SHIMASHKI

Piotr Steinkeller (1982) has convincingly demonstrated that the ethnicon "Su-People" is an alternative writing for the geographical term "Shimashki," referred to in the texts of the Akkadian to Old Babylonian periods. Steinkeller (2007), in an important review of Shimashki's rulers, places the kingdom in the highlands of the north-central Zagros. In an earlier study, Henrickson (1984), utilizing evidence of archaeological survey and excavation, reached the same conclusion. Daniel Potts (2008), taking both the archaeological and textual record into consideration, places Shimashki in Central Asia, specifically identifying it as the Oxus Civilization, *c.*2200–1700 BC (a.k.a. the Bactrian Margiana Archaeological Complex [BMAC]). On the other hand, Steinkeller (forthcoming) identifies the Oxus Civilization as Tukrish, yet another eastern, resource-rich land, famed for its presence of lapis lazuli and gold.

The Oxus Civilization was discovered and prolifically described by Victor Sarianidi (1997, 2003, 2004, 2007, 2010). Its distinctive material culture is found on numerous sites throughout the Iranian Plateau (Amiet 1986) and the Indus Civilization (Possehl 2002). Its large fortified structures, distinctive seals and sealings, rich metallurgical tradition, distinctive pottery, and extensive contacts with an outside world, as well as its unique oases settlements, all attest to its cultural complexity. Indeed, its technological achievements and aesthetic products compare favorably with Mesopotamia. It lacks but one attribute: writing. Steinkeller (forthcoming) identifies the Oxus Civilization with Tukrish, an easternmost land, and one noted for its lapis lazuli and gold. This identification is troubled by the fact that the texts mentioning Tukrish date to between 1900 and 1400 BC, a time in which the Oxus Civilization has all but disappeared.

In the Ur III period, texts speak of twenty separate Shimashkian lands stretching from the Persian Gulf to the Caspian and Zagros ranges. Shimashki, as portrayed in the texts, does not seem to offer an accurate picture of our understanding of the archaeology of the Oxus Civilization (Michalowski 1986: 132):

> The Shimashkians who do not consecrate *nugig* and *lukur* priestesses in the place of the gods. Whose population is as numerous as grass, whose seed is widespread, who live in a tent, and knows not the place of gods, who mates just like an animal, and knows not how to make offerings of flour, [Even] the evil *namtar* demon and the dangerous asag demon do not [dare to] approach him, One who, profaning the name of god, violates taboos.

Certainly, this description casts doubt on Potts' identification of Shimashki with the Oxus Civilization. Settlements of the Oxus cannot be characterized as tent-dwellers while seals, architectural attributes, and rich burials attest to the presence of divinities and offerings. The final verdict on the geographical locale for both Marhasi and Shimashki remains contested.

The recent and extensive archaeological excavations on numerous sites in Iran and Central Asia have led to specific identifications of geographical regions with named political identities. Whether Central Asia is to be identified as Shimashki as D. Potts would have us believe, or Marhasi as Francfort and Tremblay prefer, or Tukrish as Steinkeller indicates, suggest that either archaeology and texts offer contradictory testimony or the evidence from both is insufficient for precise identification.

Political entities need not be coincident with cultural identity. Steinkeller's attempt to identify Marhasi as inclusive of such sites as Tepe Yahya, Shahr-i Sokhta, Hissar, Bampur, and even extending to the Oxus Civilization, is simply not supported by the archaeological evidence for cultural diversity. This vast region is represented by a plethora of *distinctive* archaeological cultures. Playing the "name game," as seen from the distorted political perspective of Mesopotamian texts, simplifies the complexity of the third millennium cultural mosaic that typifies the Iranian Plateau. On analogy, the European Union (as with Elam) is an ambiguously centralized political entity consisting of numerous distinctive cultures, languages, and religions. So it was on the Iranian Plateau. To identify political entities within specific geographical locales casts a political centrality over a far more complex and autonomous cultural complexity. Additionally, identifying the name of any of the above places has, to date, offered virtually no understanding of the indigenous social, religious, economic, and *political* structure(s) of the named region. Wherever Shimashki is located we know that its king, Kindattu, conquered Ur and after a twenty-year occupation was expelled from Babylonia.

The interaction that characterized each region was, no doubt, different with respect to its nature, structure and specific date. Nevertheless, each region was in contact with others between 2400 and 1800 BC. This period represented an unparalleled degree of cultural exchange and contact. Figure 29.1 does not include Mesopotamia's interaction with the Eastern Mediterranean, the Levant and Egypt. The figure does, however suggest a series of asymmetric relations. Thus, the Indus Civilization, and the contemporary communities of the Iranian Plateau, are in contact with *all* of the other regions. Mesopotamian materials are all but absent in the Indus while present in all other regions. The Oxus maintains contact with regions save for Mesopotamia.

Figure 29.1 summarizes the extensive interaction that characterized the late third millennium. Never before, and not again until the rise of the major empires (the Egyptian, Hittite, and Assyrian of the mid-second millennium) was the greater Near East to experience such extensive cultural interaction. The specific "causes" that

Figure 29.1 Late third millennium interaction spheres
(courtesy of Hélène David, CNRS. Adopted with permission and alterations)

brought about this late third millennium interaction remain elusive. However, the texts, supported by the archaeological record indicate that powerful centers of cultural cohesion from Mesopotamia to the Indus and from Central Asia to the Arabian Peninsula were characterized by economic and political alliances, gift exchange, and even market economies. The collapse of this pioneering interregional interaction brought prosperity, and what can be called the first classical age, to an end.

In discussing the enduring merits of "classicism," Glen Bowersock (2010: 135) observes, "if Plato and Cicero must stand alongside Confucius, Ammonites and Ibn Khaldun that has to be judged an enhancement of us all." As with individuals, so with cultures and nations. When Mesopotamia, so used to its exceptional treatment, is positioned alongside its interacting neighbors–Anatolia, the Caucasus, the Arabian Peninsula, the Iranian Plateau, Central Asia and the Indus Civilization–it too offers an enhancement to our understanding of the significance of remote antiquity.

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CHAPTER THIRTY

THE SUMERIANS AND THE GULF

Robert Carter

INTRODUCTION

Relations between the peoples of Mesopotamia and the Gulf go back at least to the late sixth millennium (Carter 2006, 2010), but contacts were ruptured after the mid-fifth millennium BC, probably because of the near-total depopulation of eastern Arabia at that time (Uerpmann 2003). Links were re-established during the fourth millennium, beginning in the Early or Middle Uruk but intensifying towards the end of the millennium when there was renewed settlement in eastern Arabia, stimulated by wetter conditions beginning around 3200 BC and the development of oasis-farming practices in the region. Until very recently, it was thought that these renewed connections did not become significant until the Jamdat Nasr period, with the export of copper produced in the Oman Peninsula to Mesopotamia via the central Gulf. New evidence indicates that this exchange relationship began even earlier, in the Middle Uruk period or before, making it contemporary with the much-discussed Uruk Expansion, when Uruk colonies flourished in the upper Euphrates region and western Iran during the Middle and Late Uruk periods (Algaze 1993, 1989; Stein 1999: 91; Wright and Rupley 2001). Thus, remarkably, for a brief period of time the trading network of the Uruk world stretched from Anatolia to eastern Oman.

Priority will be given in this chapter to evidence for fourth and early to mid-third millennium interactions between the peoples of Mesopotamia and the Gulf (Middle Uruk to ED III). A prolonged period of intensive exchange subsequently occurred, lasting into the first quarter of the second millennium BC, involving bulk trade in commodities by sea, a degree of cultural exchange and perhaps the sporadic extension of Mesopotamian hegemony over the region. These later phases of the relationship are well known and have been exhaustively published (Oppenheim 1954; Leemans 1960; Laursen 2011; Potts 1990, 1992; Edens 1992; Carter 2003). They therefore will be discussed only briefly.

EARLY CONTACTS (URUK TO ED II PERIOD)

The early copper trade and Oman

According to textual, archaeological and archaeometrical data the Oman Peninsula (Figure 30.1) was a major source of copper for Mesopotamia during the early Bronze

Age. It is usually stated that this trade began during the Jamdat Nasr period, on account of the presence of distinctive Jamdat Nasr-style pottery in tombs of the Hafit period (conventionally *c.*3100–2700 BC), coupled with copper objects found in tombs and settlements of that date (Potts 1986b: 133, 1990: 90; Cleuziou and Méry 2002b: 282–283). So far there is no archaeometrical evidence that Jamdat Nasr/ED I–II pottery was copied locally in the Oman Peninsula (Cleuziou and Méry 2002b: 283). Potts has pointed out that many of the vessels may in fact be as late as the ED II or even the ED III period, potentially extending the Hafit horizon well into the second quarter of the

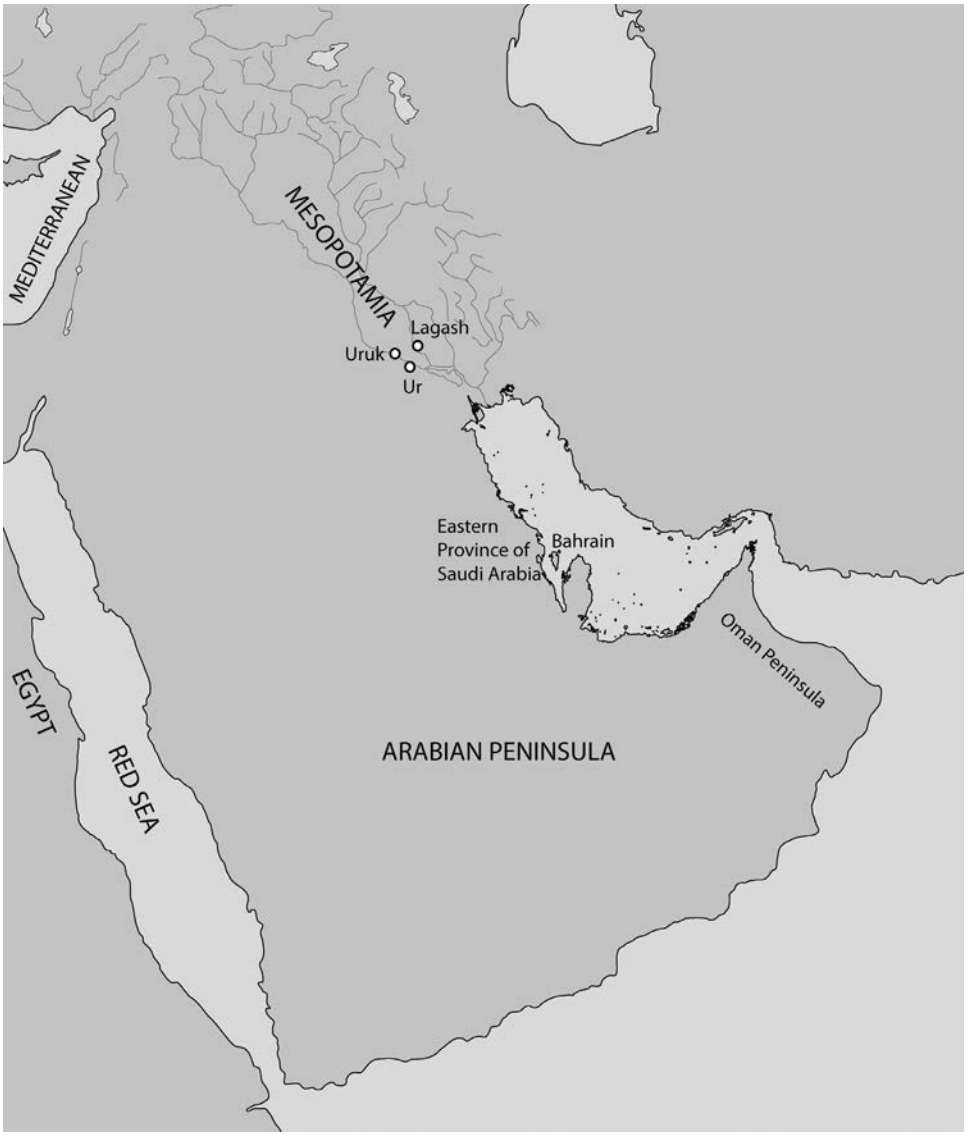

Figure 30.1 Map showing geographical areas discussed in the text

third millennium, but considers that the relationship with Mesopotamia began in the Jamdat Nasr period (D. Potts 1986b: 132).

Recent evidence suggests the export of Omani copper began at an earlier date, with around a quarter or more of the copper reaching Mesopotamia in the Uruk period originating from the Oman Peninsula. Using both compositional and lead isotope analyses of ores and artefacts, researchers have identified a signature for Omani copper, and analysed 179 objects from Mesopotamia from the Uruk to the Akkadian period. Of the twenty-three Uruk period objects, six were made of Omani copper (27%) (Begemann et al. 2010: 159, tab. 5). Three of the six objects of Omani origin were from the site of Uruk (cat. nos. 2174, 2190, 2193 in Begemann and Schmitt-Strecker 2009: 35–36, tab. A1); no chronological designation is given for these other than Uruk period. The others were from northern Iraq, including two from Gawra (cat. nos. 225, 227) and one from Shaikh Hassan (cat. 2615). The latter is dated to the Middle Uruk, while Gawra was deserted by the Late Uruk, so these must be Middle or Early Uruk.

Two recent discoveries support the hypothesis that there was contact between the Oman Peninsula and Mesopotamia during the Middle to Late Uruk period, potentially based upon the copper trade. The first is a cylinder seal from Abu Dhabi emirate, said to be Late Uruk in date, though this style may continue into the Jamdat Nasr period (Figure 30.2), and the second is a report of copper at a mid-fourth millennium site in Oman. The former was found near Madinat Zayed, between Abu Dhabi and the Liwa oasis approximately 35 km south of the coast (see Figure 30.3 for location). This was a surface find, and depicts two pigtailed ladies and two spiders, considered to be a reference to weaving (Potts and Pittman 2009; Potts 2010: 23, Cat. 1, 36). It is thought that such seals, which were found in the Uruk colonies of northern Syria as well as in southern Mesopotamia, were emblematic of high office within the textile industry. A highly tentative speculation would be that such an individual was present in the region in the Late Uruk period to trade Mesopotamian textiles for copper.

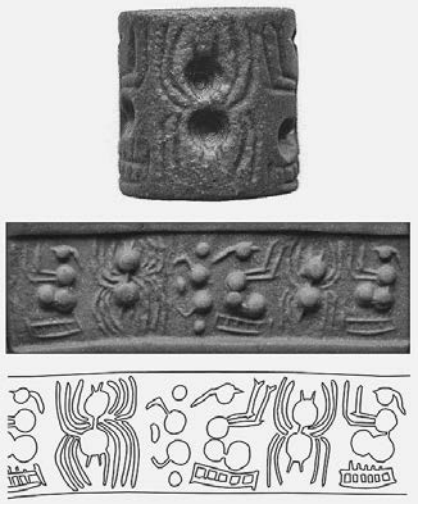

Figure 30.2 Late Uruk or Jamdat Nasr cylinder seal found near Abu Dhabi, UAE (courtesy of Daniel T. Potts)

The second discovery concerns the site of Wadi Shab-GAS1, a Late Neolithic shell midden on the east coast of Oman between Muscat and Ras al-Hadd (see Figure 30.3 for location), where copper artefacts are found, suggesting knowledge of metal in the Oman Peninsula as early as the Middle Uruk (Tosi and Usai 2003: 20; Usai 2006: 275, 286). The site is radiocarbon dated to *c.*3800–3500 BC (cal. at 2σ). Caution should be exercised as Islamic period remains are reported on the surface of the site and the authors of one of the preliminary reports believed that the metal indicated a post-fourth millennium horizon (Gaultier et al. 2005: 19), but the excavators also noted that the narrow drill holes in the (Neolithic) softstone beads were likely to have been made by metal rather than stone drills (Tosi and Usai 2003: 20–21).

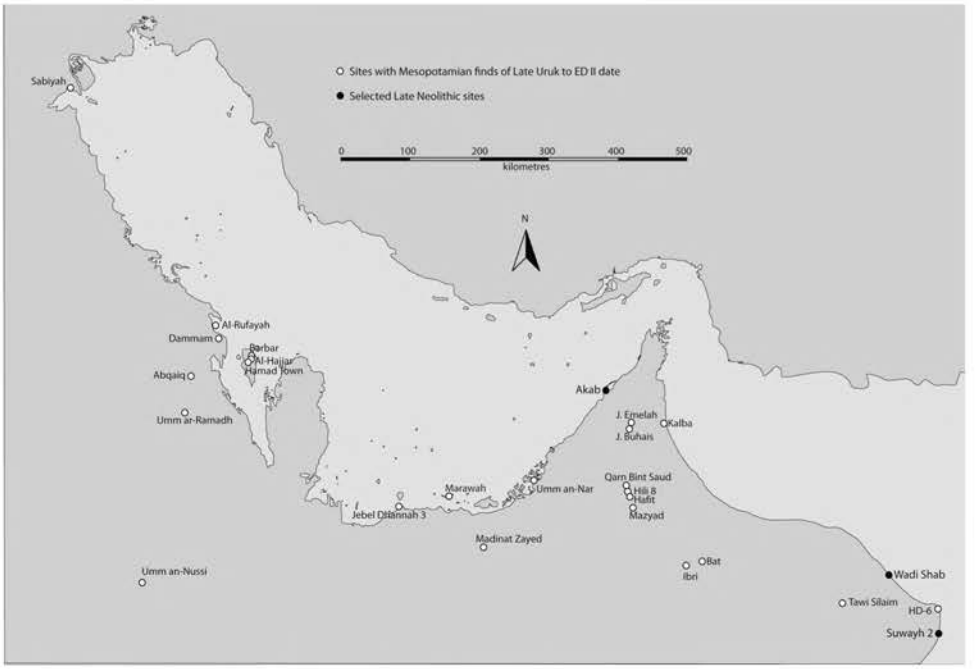

Figure 30.3 Map of the Gulf showing sites of the Uruk to ED II periods with Mesopotamian finds, and Late Neolithic sites mentioned in the text

Copper is also reported on shell midden sites in the Wadi Shab (possibly the same as Wadi Shab GAS-1) and Ra's Shaqallah, also of Neolithic date (Tosi and Usai 2003: 22, n. 15). These finds suggest tentatively that there were coastal communities in Oman with knowledge of and access to copper.

These communities were in contact with other Late Neolithic peoples living on the Gulf coast side of the Oman Peninsula, in the foothills of the western side of the copper-bearing mountain range, and on the Gulf coast itself. This would have shortened the distance between early Mesopotamian seafarers and any local population. It is usually considered that eastern Arabia was almost completely deserted during the first eight or nine centuries of the fourth millennium because of a period of extreme aridity, save for the fishing communities of the Indian Ocean coast of the Oman Peninsula (Uerpmann 2003; Parker et al. 2004, 2006b; Preston 2011: 64). Evidence is now beginning to emerge that people lived on or visited the Gulf coast prior to the Jamdat Nasr period, and in the case of some sites (especially Akab, Umm al-Qaiwain, UAE) they continued to visit the area almost throughout the fourth millennium dry spell. Cultural connections between the people of the two coasts are evinced by distinctive softstone tubular beads ('Akab type') found at sites on the coast of the UAE, and at Suwayh 2 (eastern Oman) (Charpentier and Méry 2008: 130). As well as a series of radiocarbon dates from Akab ranging from the late fifth to the late fourth millennium BC, evaluations from other coastal shell middens and late Neolithic campsites in Ras al-Khaimah, Umm al-Qaiwain and Sharjah give calibrated date ranges in the fourth millennium BC, including al-Daith, UAQ 2, Point 69, Point 81, Point 70, Hamriyah, al-Qassimiyah,

ar-Ramlah and a site known as 'Police Pit' (Preston 2011: tabs 4a–4c). Sum probabilities for these dates from the Gulf coast peak during the first half and the last two centuries of the fourth millennium (Preston 2011: fig. 9.2), suggesting a potential gap in occupation between *c.*3200 and 3500 BC. No metal has yet been reported from these sites, but their existence indicates that Akab was not isolated on the Gulf coast. The presence of this population means that, should merchants, explorers or prospectors from Mesopotamia have reached the Lower Gulf coast at almost any time in the fourth millennium except the final part of the Middle Uruk and the earliest part of the Late Uruk period, they would have encountered a small local population with whom to enter into trading relations, which had connections with the mountains and the eastern side of the peninsula. If the visitors travelled further still, beyond the Straits of Hormuz and round to the east coast of Oman, they would have found a more densely populated coastline, in closer proximity to the copper-bearing mountains, with communities which possessed knowledge of copper.

Jamdat Nasr period interactions with the Oman Peninsula

As noted above, the evidence for both production and trade with Mesopotamia is more solid for the Jamdat Nasr to ED II period. Potts' survey of Mesopotamian pottery in Hafit period tombs enumerated eighteen vessels, extending as far as Tawi Silaim in the Sharqiyah of Oman (D. Potts 1986b: fig. 1–2). Cleuziou and Méry also show a Jamdat Nasr-style vessel from Qarn Bint Saud, and Jamdat Nasr–ED II funerary vessels at Jebel al-Emelah and Ras al-Jinz (RJ-6) (Cleuziou and Méry 2002b: figs. 2a, 4). Jars of Mesopotamian style of ED I–II date are also seen in cairn tombs BHS 72 at Jebel al-Buhais and tomb K2 at Kalba, with additional rims of typical ED I–II Mesopotamian vessels in tomb BHS 69 (Eddisford and Phillips 2009: fig. 4, bottom left; Jasim 2006: figs. 9:1–2, 16). To the funerary corpus of the Gulf coast can be added a miniature pot from the island of Marawah, recorded by the author (Figure 30.4). This was in a brown ware with a faded plum-red slip surviving internally, found in a small cairn with a simple chamber at site MR6.3. A coastal population in contact with the wider world can be inferred from Mesopotamian pottery of Jamdat Nasr, ED I or ED II date on the Gulf coast, including Jebel Dhannah 3, consisting of surface finds on a slope probably derived from cairn burials situated uphill (Vogt et al. 1989: 56, pl. 8:5).

Evidence of Jamdat Nasr–ED II connections is also found at the few known excavated Hafit period settlement sites, including rare pottery from Hili 8 (around 100 sherds from less than sixty vessels possibly spanning 300 years); even rarer material from HD-6 ('hardly ever found'); greenish-buff Jamdat Nasr-ED I type vessels from Bat (al-Matariyah, Tower 1147; see Thornton, this volume), and various vessels of ED II style from the settlement on Umm an-Nar island Period 0 (Cleuziou and Méry 2002b: 282; Cleuziou 2003: 139; Azzarà 2009: 5; Frifelt 1995: 41, 237–239). Period 0 at Umm an-Nar was the earliest occupation above bedrock and should be regarded as a Hafit period coastal settlement; Hafit tombs are found in the adjacent cemetery (Potts 1990: 74, fig. 7, n. 67). Radiometric dating evidence for HD-6 and al-Matariyah (Bat) has not yet been published, so it remains possible that elements of these sites may even pre-date the Jamdat Nasr period. At Hili 8, the earliest radiocarbon dates (two of 4400 +/- 100 BC) calibrate at two sigma to a long range of 2874–3364 BC, centred around 3000 BC. These mark the construction date of the first major building, and ceramics of the first

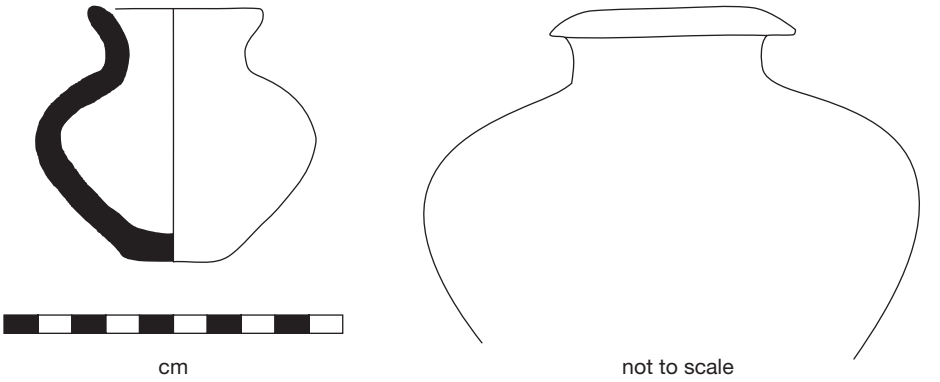

Figure 30.4 Previously unpublished pottery of Jamdat Nasr to ED II date found in the Gulf. Left: Marawah, Tomb MR-6.4. Right: Sabiyah, Tomb SBH-17 (sketch from photograph, courtesy of Sultan al-Duwish, National Museum of Kuwait)

phase of occupation are Jamdat Nasr to ED I (Cleuziou 1989: 74–75, pl. 22). Parallels have been observed between the plano-convex mud-bricks of Hili 8 Phase IIa and those of ED II Mesopotamia, though the excavator of Hili 8 considers the mud-bricks to have been different in size, shape and arrangement (Cleuziou and Méry 2002a: 197).

Attention must also be drawn to the striking similarities between the mud-brick architecture of HD-6, Ras al-Hadd (eastern Oman) (Figures 30.5–6), and the buildings of Ubaid, Uruk and Early Dynastic Mesopotamia. The HD-6 buildings exhibit the classic tripartite construction pattern developed in Mesopotamia during and after the Ubaid period, with a central hall flanked by around three side-rooms (Azzarà 2009: figs 2, 4, 7; Strommenger 1980: back inside cover; Postgate 1994: 90, fig 5.2; van Driel 2002 fig. 1ff). Nothing like this has ever been recorded elsewhere in the region, though closer examination of certain third millennium sites may change the picture; for examples Amlah 4, Andam 1 (Schreiber 1998: Abb. 10–12, 45, 58). At HD-6 the basic tripartite units are slightly smaller than those found at the northern Uruk colonies (approx. 8 m x 8.5 m, cf. approx. 11 m x 11.5 m at Habuba Kabira), and an additional difference is the extension of the central hall beyond the edges of the side-rooms.

The similarities are so great that it is unlikely to be coincidental, and although in terms of scale the HD-6 settlement is very small, and the artefactual inventory does not indicate systematic and regular interactions with Mesopotamia (lacking seals, seal impressions, tablets and having only rare Mesopotamian pottery), one has to ask whether the similarities result from Mesopotamian influence or even demographic input, albeit perhaps in previous generations.

The oasis-farming economy of the Oman Peninsula could not have arisen fully formed at the time of its first archaeological attestation, at Hili 8 in the early third millennium (period 1b). At this time a suite of several types of wheat, barley, dates and melon can be identified (Cleuziou 1989: 79–80). The agricultural economy must have undergone an earlier development in the Late Uruk or very early Jamdat Nasr period, including the adoption of plant cultivars and agricultural techniques. Some of the most important cultivars (wheat and barley) certainly originated in the north and are thought to have been disseminated southwards down the eastern and western shores of the peninsula (D. Potts 1994: 239; Boivin and Fuller 2009: 148). Even the date palm

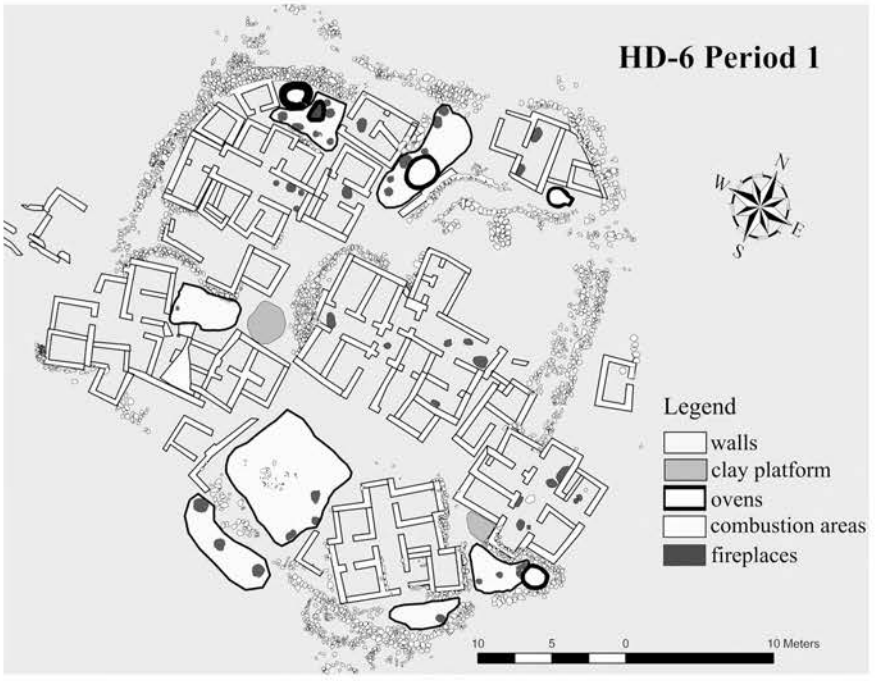

Figure 30.5 Site HD-6, Ras al-Hadd, Oman
(courtesy of Valentina Azzarà and the Joint Hadd Project)

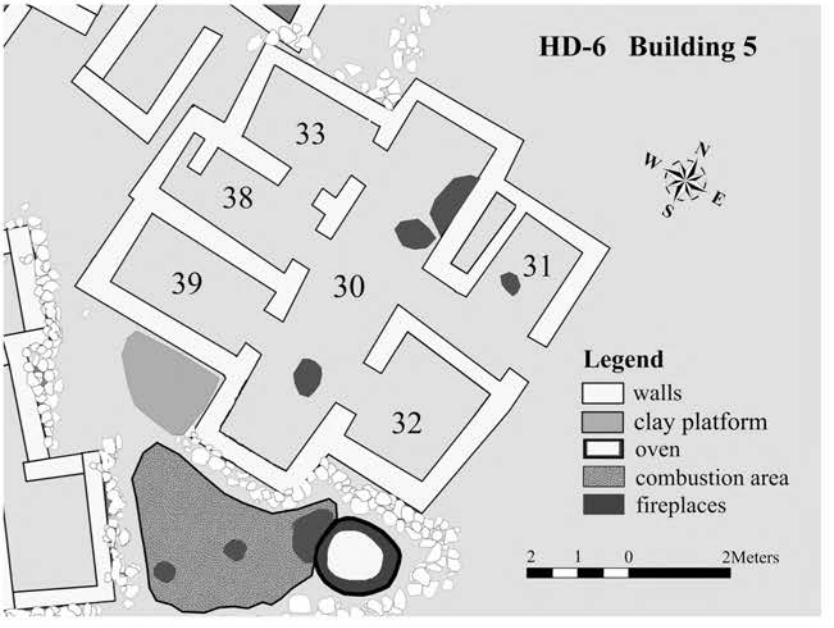

Figure 30.6 Detail of Building 5 at HD-6, showing Mesopotamian-style tripartite architecture (courtesy of Valentina Azzarà and the Joint Hadd Project)

was potentially a Mesopotamian domesticate; although it is sometimes thought to have been domesticated in Arabia owing to early discoveries at two Neolithic sites in the Gulf (Boivin and Fuller 2009: 148), the sites in question were both engaged in trading relations with Mesopotamia. In fact it is in Ubaid period Mesopotamia, at Oueili and Eridu, that the first abundant evidence is found for cultivation of the date palm, albeit slightly later (Parker 2010: 198). It is not until the Hafit period that comparable evidence is found in the Oman peninsula, at Hili 8 and HD-6 (Azzarà in press).

We may therefore detect Mesopotamian agency in the development of the agricultural foundations of Early Bronze Age society in the region. On the other hand, various authors have pointed out that the earliest local Bronze Age ceramics derive from an Iranian tradition of black-on-red painted ware, which begins to appear in small quantities in Hafit period contexts, and then become highly characteristic of the subsequent Umm an-Nar period (D. Potts 2005; Cleuziou and Méry 2002a: 200). Moreover, metallurgy was already well-developed in Iran, and Cleuziou urges that southeast Iranian links should be considered, rather than Mesopotamian connections, with regard to the origins of metallurgy and agriculture in the region, as well as the local ceramic tradition (Cleuziou and Méry 2002a: 201).

Regarding copper production, current data indicates that between a fifth and a quarter of Mesopotamia's demands were fulfilled by metal from the Oman Peninsula during the Jamdat Nasr, ED I and ED II periods, accounting for 21 per cent, 20 per cent and 29 per cent of the analysed Mesopotamian inventory respectively. Within the Oman Peninsula no smelting sites earlier than the mid-third millennium have yet been identified (Weeks 2003), but there can be no doubt that copper production was taking place on an increasing scale. Hafit period copper finds are reasonably plentiful, and include fish-hooks, pins, tweezers and blades (Cleuziou 1989: pl. 33, 2–6; Cleuziou and Méry 2002b: 282; Begemann et al. 2010: 138; Azzarà 2009: 13, n. 1; Frifelt 1971: fig. 12 B–C, fig. 22 C–E; Frifelt 1975: fig. 5; Cleuziou 1977: 17, 20; Boehme 2011: fig. 3).

Mesopotamia and the Central and Upper Gulf

The Central Gulf region renewed contacts with Mesopotamia during the Late Uruk period. Apart from the archaeological evidence (see below), protoliterate texts from Uruk provide early attestations to Dilmun, which by the second half of the third millennium is well identified with Bahrain and the Eastern Province of Saudi Arabia. The protoliterate references often mention Dilmun in conjunction with copper, therefore either Omani copper passed through the Central Gulf, or Dilmun was then used as a broad geographical designation for all areas on the southern side of the Gulf, including the Oman Peninsula.

The evidence includes both lexical lists and economic documents. In the former we find *enku-dilmun*, also transliterated *Dilmun-enku*$_x$ (ZÀ), enku being an official concerned with tax or rent collection (Green and Nissen 1987: 186, Sign 77; D.T. Potts 1990: 86). The translation "Dilmun tax-collector" is offered (Englund 1983: 35; D.T. Potts 1990: 86). Such a man might have been responsible for collecting a portion of the goods brought back by trading expeditions into the Gulf. Also in the lexical lists, under metals, is either *tun*$_3$–dilmun (Englund 1983: 35), being an unidentified object made of Dilmun-metal, or *tun*$_2$–dilmun, being a 'Dilmun axe' (Nissen 1986: 338). A geographical list (G 6) includes Dilmun, indicating that it had a geographical designation.

Aside from the lexical lists, several badly preserved protoliterate economic texts (numbering 9 or 11 according to different authors) mention Dilmun (Green and Nissen 1987: 186, Sign 77; D.T. Potts 1990: 86). One has the sign for Dilmun in contact with the sign for copper; three concern textiles and Dilmun, one of which is perhaps a reference to '1 bale of Dilmun garment'; one refers to the disbursement of thirty Dilmun-items to an official (the type of item cannot be read); and one records the disbursement of milk-fat to an official known as the *NUN.É.DILMUN* (Nissen 1986: 338–339; Englund 1983: 35, and Notes 4, 5; D.T. Potts 1990: 86–87). All the relevant protoliterate texts date to the Uruk III (Jamdat Nasr period) except for one mention of the *enku-Dilmun*, which is thought to be Uruk IV. Because of the existence of officials with Dilmun in their name, Nissen considers that something more than simple trade in copper and textiles was occurring at the time, involving much closer mutual contacts than those which would be sustained by occasional trade, and that 'these relations had existed long before the existence of writing'.

Bahrain was very lightly settled at this time compared to the Eastern Province of Saudi Arabia, where mound fields and settlement sites indicate significant late fourth to mid-third millennium occupation (see below). Evidence is limited to two, perhaps three, Jamdat Nasr-style pottery vessels from tombs at Hamad Town, as well as a sherd of Jamdat Nasr polychrome ware at the Barbar temple, and a re-used Jamdat Nasr period seal from the al-Hajjar cemetery (Vine 1993: 16; Crawford 1998: 35; D.T. Potts 1990: 63–64).

In contrast, the adjacent portion of the Arabian mainland and the island of Tarut (i.e. the Eastern Province of Saudi Arabia) were relatively densely occupied from the Late Uruk period onwards, and in close contact with southern Mesopotamia. Potts reports the presence of serrated sickle blades in the area, and it seems likely that an agricultural package derived from Mesopotamia took root in the region during the fourth millennium, potentially involving the movement of people as well as techniques and cultivars. An extensive mound field at Abqaiq contained tombs with Late Uruk and Early Dynastic material derived from Mesopotamia. Piesinger considered that the early phase of tomb construction peaked in the ED I period, but the earliest tombs went back to the Late Uruk. Surface and redeposited ceramics at the Dhahran tumuli field also belonged to this broad date range, and although the tombs there appear to be later (Early Dilmun period), she believed that there may have been a Late Uruk–ED I cemetery in the area. Settlement sites with Mesopotamian pottery of Late Uruk to ED I date were also frequent, albeit none of great size, most notably Umm ar-Ramadh in the al-Hasa oasis, Umm an-Nussi in the Jabrin oasis, Al-Rufayah (Ar-Rafi'ah) on Tarut (next to a mound with Early Dynastic period graves), 'Ubaid Sites' 31 and 10 near Dhahran, and site AS 27 in the Abqaiq area, along with approximately fifteen others observed from survey around the Abqaiq area (Piesinger 1983: 71–220, 473, 483–503; D.T. Potts 1990: 65). Potts considers some of the material identified as Late Uruk to be ED I in date, but notes the presence of a Late Uruk droop-spouted jar from Dhahran, as well as a clay *bulla* found near Dhahran airport, of presumed late fourth millennium date (D.T. Potts 1990: 63; D. Potts 1986b: 123, pl. 1b; Schmandt-Besserat 1980: 362–363, n. 21).

Regarding Tarut, Potts reports that the graves at Al-Rufayah contained complete ED I–II pottery vessels, while this site yielded more than 300 pieces of carved soft-stone vessels in the *série ancienne* or 'intercultural' style (D.T. Potts 1990: 66–68; Zarins 1978). It is now known that some varieties of *série ancienne* softstone continued to be

manufactured into the Ur III period in southeast Iran, around Tepe Yahya and Jiroft (Kohl 2001: 201; Crawford and al-Sindi 1996), but at least one of the types represented at Tarut is considered to be exclusive to the ED II period. The presence of *série ancienne* softstone in the Gulf draws attention to connections between the Iranian side of the Gulf and Eastern Arabia, particularly Tarut's potential as a staging post between southern Mesopotamian (and Susa) and urbanised southeastern Iran, thought by some to equate to Marhashi (D. Potts 2005; Steinkeller 2006). *Série ancienne* material appears in Mesopotamia as early as the ED II period (D. Potts 1994: 257). The Tarut corpus is badly in need of restudy in the light of the new dating of some types, and the new finds from around Jiroft (Anon 2003).

Further relevant finds at Tarut include a lapis-lazuli statue of a bearded man, a limestone statue of a naked male in a typically Mesopotamian devotional posture, and a cast bronze bull's head. All indicate close ties with Early Dynastic Mesopotamia (D. T. Potts 1990: 66–68; Zarins 1978), or even the Jamdat Nasr period (Ippolitoni-Strikka 1986). Piesinger believed the evidence from Al-Rufayah indicated that Tarut was "a major transshipment centre" during the early third millennium, due to the presence of abundant chunks of "raw copper, steatite and lapis lazuli" in the layers above an ED I floor, though it must be cautioned that these layers were heavily disturbed, devoid of stratigraphy and contained Early Dilmun and Hellenistic pottery.

In sum, these sites and finds indicate a settled farming population in the Eastern Province from the late Uruk period, which was in frequent contact with southern Mesopotamia. The presence of the *bulla*, a protoliterate administrative device connected with the movement of goods, denotes an early trading relationship, or even the presence of communities which used Mesopotamian administrative practices. By the ED I or II period, the extent of settlement appears significant and the ties with Mesopotamia were strong and crossed into the devotional sphere, with cultic objects (i.e. the statuary mentioned above) being found. While this suggests integration into the Sumerian world, trading ties with Iran are also significant (e.g. in the steatite), while the local character of the bulk of the domestic inventory and funerary architecture indicates that a distinctive regional culture had emerged. It remains unknown whether this complex included a truly urban centre, though investigations of the *tell* site beneath the fort at Tarut, tested briefly by the Danes and shown to contain Neolithic and Bronze Age finds (Bibby 1973: 29–31), would be revealing.

Information from the Upper Gulf (Kuwait) is limited. Considerable numbers of cairn burials are known in the adjacent Sabiyah, Mughaira and Bahra areas on the north side of Kuwait Bay (Carter and Crawford 2010: Appendix I). Many of these have now been excavated by Kuwaiti and Polish teams, though publication is currently limited to brief online reports (see individual season reports for Al-Sabiyah in the PCMA newsletters of the University of Warsaw, 2007–2010, at www.pcma.uq.edu.pl). Most of the excavated tombs are impossible to date, but the available artefactual inventory (mainly beads, and some copper alloy fragments) tentatively indicates dates in the late fourth or first half of the third millennium for some (SQM 30, SB 65). Hitherto unpublished finds include a Mesopotamian pot from tomb SBH-17 (Sabiyah-Bahra 17), excavated in 2009 by a Kuwaiti team led by Sultan al-Duwish. A sketch is given in Figure 30.4 above; the shape of the rim and shoulder are identical to an example found at Al-Rufayah (Tarut), and suggests an ED I–II date (D. Potts 1986b: pl. 2a).

ORGANISATION AND LOGISTICS OF EARLY TRADING RELATIONS

The presence of Dilmun tax-collectors from as early as the Late Uruk period suggests state intervention (taxation) in a trading context from the very start of the observable relationship. This in turn implies the existence in Mesopotamia of mercantile concerns operating independently of the central state. This does not rule out the parallel existence of state-sponsored trading expeditions: the protoliterate economic tablets, with their record of disbursements of grain, wool or textiles and milk products to individuals connected in some way with Dilmun, may constitute evidence that the Uruk state underwrote trading expeditions to the Gulf. If not from a state or palace archive, these tablets could alternatively constitute the records of temples or private estates. Isolated scraps of evidence from the Central Gulf and the Oman Peninsula (the *bulla*, and the seal from Madinat Zayed) imply that individuals from Mesopotamia were present in both areas, though it is unknown what public or private organisations they represented. It is also unknown whether such individuals operated as isolated agents in an entirely foreign milieu in the Gulf, or whether trading colonies were founded there in the manner of the northern Uruk Expansion.

It appears that the search for copper and other raw materials was a major motive behind the movement of these early explorers (and perhaps settlers). In terms of journey times, a supply of copper from the Gulf region was almost certainly more easily accessed than the older sources in Anatolia and Iran. It is not coincidental that the northwards Uruk Expansion tailed off at the same time that southern Mesopotamian trading interests reactivated in the Gulf, a point that has been noted before (D.T. Potts 1990: 92). Although some believe that Uruk interests in the north were terminated by a phase of socio-environmental collapse in the south, leading to the weakening of communication with the colonies and ultimately the expulsion of southern colonists by resurgent local communities (Algaze 1993: 105–107), others see no evidence for such disruption in the south (Nissen 2001: 166–167). Instead, the southern population may have switched its trading interests to the Gulf region because the relative efficiency of maritime transport within the Gulf, compared to riverine transport up the Euphrates and Tigris.

To take a specific example, a journey up the Euphrates from Uruk to the Late Uruk trading depot at Hacınebi was around 1360 km, following the course of the river. According to Salonen, ancient river boats on the Euphrates had to be towed upstream by teams of men, with speeds varying between 10 km and 20 km per day depending on the size of the towing team, and presumably the size of the boat (Casson 1995: 29). Assuming no rest days, journeys would therefore have taken between 68 and 136 days. The return was faster, with downstream speeds of 30–35 km per day, giving a time of approximately thirty-nine days. The entire return journey time would therefore have been between approximately 175 and 107 days – somewhere between three-and-a-half and six months, assuming no breaks on the way.

In contrast, maritime transport between the southern Mesopotamian sites and the Central and Lower Gulf was considerably quicker. Estimates of average speed on traditional craft vary from about 4 knots/7.4 km per hour or faster (for Roman trading craft in the Mediterranean) to an average of about 1.75 knots/3.24 km per hour (Johnstone 1980: 81–82; Vosmer 2003: 157, note 1). Assuming a coast-hugging route, the distance between Ur and Umm an-Nar island, the assumed terminus of the copper

trail from the mountains during the ED periods, was about 1300 km. This would have taken between twenty-two and fifty days only, at the slow rate and assuming only eight hours of sailing per day. Much later sources record Chinese trading vessels taking just twenty days to travel the 1,200 km from the mouth of the Indus to the city of Hormuz (Vosmer 2003: 157, note 1). The return journey to Mesopotamia probably took longer, as prevailing winds favoured journeys from the northwest to the southeast, but it is hard to imagine that journey times would have approached those of the river route. It is moreover probable that the boats taking the sea-trade were larger than those on the rivers, which were limited by water depth. Although the potential size range was large, river boats generally averaged between 1 and 11 tonnes burden (Casson 1995: 29). Other authors judge that, in the second half of the third millennium, Magan-boats destined for the Gulf trade would have been most likely of 60 or 120 *gur* capacity, translating into a cargo tonnage of 15 or 30 tonnes (Zarins 2008: 214, 216; Vosmer 2008: 233). The sea-trade did not entirely replace trade along the inland waterways of Mesopotamia, southeastern Anatolia and the Zagros, as even a cursory examination of the economic texts reveals. However, in terms of bulky and massive goods such as copper, high-grade stone and wood, the sea-trade carried obvious advantages.

The ascendancy of the maritime route to the Oman Peninsula, at the expense of the northern Uruk colonies, therefore seems all-but inevitable once trading partners were present in the Gulf region. The reason these advantages had not been previously exploited (since the Ubaid) lies within the settlement trajectory of the Gulf region itself. A prolonged phase of extreme aridity ameliorated at around 3200 BC (Preston 2011: 64–65, 77; Orchard and Orchard 2002: 227; Orchard and Stanger 1994: 85, 97–98; Parker et al. 2006a: 472–473), and the onset of wetter conditions was accompanied by both the rapid development of a regional oasis-farming and copper-using complex (the Hafit horizon), and the development of trading contacts with Mesopotamia. It is sometimes considered that the latter provided a significant stimulus to the former, with the demands for manpower and fuel required for copper production provoking the creation of agricultural surplus and specialisation (Cleuziou and Méry 2002a: 200). As noted above, demographic input from Mesopotamia should not be ruled out during this formative phase, in a process of exchange and ethnogenesis with the indigenous Late Neolithic population.

THE BRONZE AGE TRADING SYSTEM (ED III–ISIN-LARSA PERIOD)

Trading relations in the ED III period

From the ED III to the Isin-Larsa period, Mesopotamian relations with the Gulf revolve around mercantile activities, albeit with sporadic claims of conquest, the most convincing of which are in the Ur III period (see below). Apart from archaeological distributions of Mesopotamian material in the Gulf, and vice versa, we have access to archives relating to three merchants over this long time span: Ur-Enki (ED III, reign of Lugalanda of Lagash, twenty-fourth century BC), Lu-Enlilla of Ur (Ur III, reign of Ibbi-Sin) and Ea-Nasir of Ur (Isin-Larsa period, reign of Rim-Sin). These are just three merchants out of the many hundreds who must have existed during the relevant half-millennium, from just two cities, and each is separated by a time span of around 200

to 300 years. Any attempt to discern a narrative is therefore speculative, but the following pattern is broadly accepted: during the ED III period trade was with Dilmun, generally in goods which must have originated elsewhere, unless Dilmun still applied to the whole Gulf. Magan, considered to refer to the Oman Peninsula and probably also the adjacent portion of Iran, appears in the royal texts at the start of the Akkadian period, and a small number of economic texts document trade with Dilmun and the preparation of Dilmun-boats. By the Ur III period, Dilmun has disappeared entirely from the economic texts, with Magan being the focus of trading activities in the Gulf. A radical reorganisation took place after the demise of the Ur III state, whereby Dilmun, based now in Bahrain and with a major outpost on Failaka Island, Kuwait, monopolised Gulf trade and became the sole maritime trading partner of the southern Mesopotamian cities, well into the Old Babylonian period.

For the ED III period, the texts indicate that Ur-Enki went to Dilmun himself to buy the goods. He brought various amounts of copper, the highest single entry being 236 *mina* (approx. 100 kg) (Weeks 2003: 15; Heimpel 1987: 70–71; D.T. Potts 1990: 182). This is a relatively small amount, equivalent to around seventy bun-shaped ingots of typical size, but it may not refer to his whole shipment. In related texts, smaller amounts of copper are also listed as being brought by Ur-Enki from Dilmun, with one text listing 214 *mina* broken down into 72 *mina* of copper 'of the barley', 20 mina 'of the cedar', 96 *mina* 'of the unguent' and 26 *mina* 'of the wheat' (Heimpel 1987: 70–81, text 4). These may be the direct returns from a shipment of barley, cedar, unguent and wheat advanced for the trading expedition. In the reign of Urukagina, garments woven from Dilmun-linen were provided for the decoration of cult statues (D.T. Potts 1990: 183).

Dilmun maintained ties with northern Mesopotamia as well as the south in the mid-third millennium. As early as *c.*2500 BC there are references to Dilmun copper and Dilmun tin at Ebla, and Dilmun also occurs there as a toponym, and an element in professional titles (Weeks 2003: 15). A strong association between Dilmun and trade is also suggested by the use of the 'Dilmun-shekel' at Ebla (D.T. Potts 1990: 188–189; D. Potts 1986a: 391–392). Glyptic evidence from the Gulf points to well-established and long-lasting contacts between the region and northern Mesopotamia during the ED period and later in the third millennium. Apart from the seal impression from Umm an-Nar island (*c.*2500–2500 BC), which has its closest parallels with sites in Syria, the iconography of late third millennium Persian Gulf seals has parallels with Mesopotamian and specifically Syro-Anatolian glyptic (Peyronel 2008: 237, 240ff., 247; D.T. Potts 1990: 113; Laursen 2010: 98–99, n. 2). Much later, in the Isin-Larsa period, trade with Mari appears to have been direct and important, with royal attention being directed towards caravans from Dilmun (D. Potts 1986a: 392–395).

At this time (the ED III period), there is little evidence of occupation in Bahrain, though the burial mounds in the Eastern Province indicate contact with Mesopotamia, while some of the Al-Rufayah finds may belong to this period and the *tell* on Tarut island remains unexcavated. There is a relative abundance of finds of this date in the Oman Peninsula. Again, copper was likely the most important item of exchange, and nearly half of the ED III items sampled by Begemann et al. bore the fingerprint of Omani copper (23 out of 48, i.e. 48 per cent) (Begemann et al. 2010: tab. 5). The coastal warehouse site of Umm an-Nar Island was active, and bears significant quantities of Mesopotamian ceramics, one with a cylinder seal impression dated to the third quarter of the millennium (Frifelt 1995; Potts and Pittman 2009: 118). It is thought that copper

from the mountains made its way northwards to Umm an-Nar island, along the oasis chain inland of the mountains (e.g. via Hili 8). Mesopotamian boats also made their way over to the east coast. ED III Mesopotamian pottery found as far away as Bilad Bani Bu Hasan in the Sharqiyah region (Edens 2008: 176, 180 and fig. 2: 1), while at RJ-2 (Ras al-Jinz) fragments of impressed bitumen from around 2300 BC are identifiable as Mesopotamian boat remains (Connan et al. 2005). The bitumen is of Mesopotamian origin, as is the boat-building technology (bitumen amalgam spread over a reed-bundle hull), which corresponds to the construction of the 'Magan-boats' known from later (Ur III) shipyards in southern Mesopotamia (Zarins 2008; Cleuziou and Tosi 2000). These Mesopotamian boats were already engaged in trade with the Indus Valley Civilization as well as the Oman Peninsula, as demonstrated by numerous Indus-related finds in the region dating to the last three centuries of the millennium.

Akkadian to Isin-Larsa period

Sargon of Akkad boasted that he made the Dilmun-boats, Magan-boats and Meluhha-boats dock at his quay. The economic texts of the Akkadian period reveal continuing trade with Dilmun, with one text recording flour being loaded onto a Dilmun-boat, and another showing flour disbursed to an official for a Dilmun-boat. Documents mention caulking a Dilmun-boat and workers assigned to a Dilmun-boat depot (Potts 1990: 184). There are also Akkadian period references to Magan, concerning copper. These include copper being brought to the palace at Tello from Magan, a reference to Magan-copper being removed from a house, a mention of a bronze object from Magan, and reference to a courier from Magan (D.T. Potts 1990: 137). Mesopotamian ceramics comprise at least 10 per cent of the assemblage in the first phase at Qala'at al-Bahrain (period 1a), thought to be of Akkadian date (Laursen 2011: 32). In the Lower Gulf, the warehouse site on Umm an-Nar island was still active, while 55 per cent of the Akkadian metal artefacts analysed by Begemann at al. contained Omani copper (Begemann et al. 2010: tab. 5).

The Ur III period saw the heyday of the Mayan trade, which Ur-Nammu claimed to have restored. Dilmun disappears from the texts, but evidence from the burial mounds of Bahrain and Qala'at al-Bahrain shows that it remained in contact with both Mesopotamia and the Oman Peninsula (Laursen 2009, Laursen 2011). It is likely that the majority of goods passed through Bahrain and/or the Eastern Province, even though Mesopotamian merchants now traded directly with the Oman Peninsula. A distinctive type of Mesopotamian vessel, Laursen's Type 1, is a strong correlate of the Magan trade of the Ur III state, and is widely distributed in Bahrain, the Oman Peninsula, Tarut and Failaka (Laursen 2011: 45, and fig. 9). The lack of mention of Dilmun as a trading partner may be due to its likely incorporation into the Ur III empire (see below).

There is no space to go into the activities of the Ur III merchant Lu-Enlilla in the Magan trade, which have been well summarised by Oppenheim, Potts and others (Oppenheim 1954; D.T. Potts 1990: 145–148), save to note that he received large amounts of garments, wool, oil and leather from the temple of Nanna in order to trade for copper in Magan (Weeks 2003: 16; Heimpel 1987: 80–81, texts 43, 46, 47). Another text shows that he gave a tithe of the goods obtained on a trip to Magan to the same temple, including copper, semi-precious stones, ivory and 'Magan-onions'.

Around two centuries later, by the time of Ea-Nasir (Isin-Larsa period, reign of Rim Sin), the configuration of Mesopotamian relations with the Gulf had changed again. Tremendous ructions had occurred in the region, including Amorite incursions, the collapse of the Ur III state, and societal collapse and depopulation in the Oman Peninsula. During those centuries, Dilmun had risen to dominate Gulf trade, and still shipped large quantities of copper to southern Mesopotamia. No claims of conquest by Mesopotamian rulers are known, and by this time Failaka, rather than being an outpost of the Mesopotamian state, was a trading station of Dilmun, which ran its own boats, distinctively depicted on the Dilmun glyptic, to the cities of Mesopotamia (Carter 2012).

CLAIMS OF MESOPOTAMIAN HEGEMONY

Mesopotamian rulers occasionally made boasts of conquest of the regions of the Gulf between the mid- and late third millennium. The first of such claims is potentially as early as the ED III period, in texts of Ur Nanshe (First Dynasty of Lagash, *c.*2500), inscribed on wall-plaques and pivot stones. Two widely divergent translations exist: one is that Ur Nanshe had Dilmun-ships transport wood to Lagash from foreign lands (Alster 1983: 39; Lombard 1999: 26, and Objects 1, 77; D.T. Potts 1990: 88). Heimpel, however, considers it to be a claim that Ur-Nanshe had laid his yoke upon (i.e. subjected) the Dilmun-boats: 'Dem Ur-Nanshe, König von Lagash, legten sich Tilmunschiffe aus dem Land (nämlich Tilmun) das Joch auf den Nacken' (Heimpel 1987: 40, 70, Text 1).

Akkadian kings made several claims of conquest. Sargon of Akkad stated that Enlil gave him the Upper and Lower Sea (D.T. Potts 1990: 136), and claimed to have made the Meluhha-boats, the Magan-boats and the Dilmun-boats tie up alongside the quay of Akkad (Kramer 1964: 49). This may have been intended to indicate that he had secured the commerce previously enjoyed by the great sea-trading cities of Sumer, such as Lagash and Ur. Subsequently, Manishtushu claimed to have crossed the Lower Sea and defeated thirty-two lords, following a campaign against Anshan and Sherihum, though there is no specific mention of Dilmun or Magan; Naram Sin then claimed to have subjugated Magan and captured its king (D.T. Potts 1990: 136–137). Finally, partial inscriptions on several softstone and alabaster vessels are thought to match a whole inscription on a lost alabaster vessel which was inscribed with 'Naram Sin, king of the four world quarters, vessels [from the] booty of Magan' (D .Potts 1989; D.T. Potts 1990: 139–141). There are also claims of hegemony over the regions of the Gulf in the reign of Gudea (second Dynasty of Lagash), who twice claimed that he laid his yoke upon Dilmun and Magan (Statue D and Cylinder A), while the first monarch of the Third Dynasty of Ur, Ur-Nammu, stated that he had 'returned the Magan boat to Nanna', that is, restored trade with Magan (D.T. Potts 1990: 142, 144).

A small number of documents provide good evidence, untainted by the hyperbole of royal boasts, that the Ur III empire extended to Dilmun and as far as the Lower Gulf (Magan) for a while. First, a text of Shulgi Year 34 mentions the dispatch of troops to Magan. Second, copies of a letter to Shulgi from an official state 'My lord, you have given me instructions about every matter, from the sea and the land of Dilmun to the borders(?) of Simurrum.' (D.T. Potts 1990: 144; ECTSL *Letter from Aradgu to Šulgi about irrigation work*). The latter implies the incorporation of Dilmun into Shulgi's

realm. Third, a text of Amar Sin Year 1, 13 or 14 years later than Shulgi's dispatch of troops, refers to a governor (*ensi*) of Magan (D.T. Potts 1990: 144).

This phase of direct Mesopotamian rule may relate to a recently identified site of the Ur III period on the island of Failaka, Kuwait, at the base of the sequence of mound F6 (Højlund 2010). Failaka, approximately 260 km to the southeast of Ur in a direct line (probably not more than a week's sail), was to become a major trading station of the Dilmun civilisation in the Isin-Larsa period. The newly discovered levels display a purely Mesopotamian material culture. One has to ask whether this site represents an outpost of the Ur III empire, established to maintain control over the peoples and trading networks of the Gulf. This would reconcile the lack of any mention of trade with Dilmun in the texts: it was not mentioned because Dilmun was within the borders of the Ur III kingdom for much of its duration.

CONCLUSIONS: ANOTHER SIDE TO THE URUK EXPANSION?

The chief aim of this chapter has been to highlight the emerging evidence that contacts between Mesopotamia and the Gulf became significant at an earlier date than previously believed, during the Uruk period, and that these contacts may have been accompanied by the movement of people from Mesopotamia to eastern Arabia, on a scale greater than the travels of a few itinerant merchants. It has been previously proposed that 'at least some rerouting' of the exchange system towards the Gulf took place during the Jamdat Nasr period (Nissen 2001: 174), but the significance and timing of the shift has been underestimated. The appearance of Dilmun in the archaic texts and the first shipping of Omani copper to southern Mesopotamia can be connected to the later phases of the Uruk Expansion, while even earlier connections with the Uruk world are suggested by the presence of Omani copper in Middle and potentially Early Uruk contexts in Mesopotamia.

A change in the scale and intensity of interactions is notable in the Jamdat Nasr period, particularly in the Lower Gulf region, connected to local demographic developments which enabled large-scale production of copper. Rapid population expansion occurred, precipitated both by climatic amelioration and the introduction of plant cultivars from Mesopotamia or Iran, perhaps stimulated by industrial specialisation in the production and traffic of copper (D. Potts 1994: 239; Cleuziou and Méry 2002a: 201).

It was suggested decades ago that metal prospectors from Mesopotamia may have colonised the eastern regions of Arabia (During Caspers 1971), but as yet there is no decisive evidence of a significant movement of Mesopotamian people to Arabia or between the two regions, and no site that can clearly be identified as a colony. The architecture of HD-6 nonetheless demands explanation. Nothing should be ruled out, given our very sketchy knowledge of the nature of both interregional contacts and local settlement during the late fourth and early third millennium. In European archaeology, theories of demic diffusion of new technologies and strategies (e.g. agriculture or metalworking) have enjoyed a renaissance, as new genetic and stable isotope studies show movements of people associated with such behaviours at critical transformative stages of history and prehistory (Budd et al. 2004; Evans et al. 2006; Balaresque et al. 2010; King and Underhill 2002). It is therefore not an outlandish suggestion that numerically significant groups of Mesopotamian natives could have travelled to and settled in the Gulf area and even eastern Oman, merely a few weeks away by boat.

During these developments, the agency and demographic input of the local Late Neolithic and early Hafit period populations must not be denied. These expanded beyond their chief coastal refugia on the northwestern shore of the Oman Peninsula and the Indian Ocean coast of Oman, to occupy and exploit the resources of the piedmont, mountains and inland oasis chain. The repopulation and the advent of the Bronze Age in this region is probably best seen as a process of ethnogenesis, where local populations interacted with ideas and people from Mesopotamia and Iran to create an entirely new cultural configuration.

Following this formative phase, distinctive local cultural and political configurations arose in the Central and Lower Gulf by the ED I or II period, and the descendants of these communities, respectively the Dilmun complex in the Central Gulf and the Umm an-Nar complex in the Lower Gulf, went on to become active partners in the great maritime trading network that connected Bronze Age Mesopotamia, Iran, eastern Arabia and the Indus Valley region. Although overland contacts should not be ignored, the emphasis on seafaring is inevitable: throughout the long time span covered by this chapter the waters of the Gulf worked as a connective element rather than a barrier, being easier to navigate than the inland waterways, the deserts and the mountains of the neighbouring regions.

Finally, there remains no convincing explanation for the appearance of Mesopotamian features in Upper Egypt in the late fourth or early third millennium BC, particularly the depictions of a highly distinctive Late Uruk/Jamdat Nasr boat type in rock art in the Wadi Hammamat, and on an ivory knife handle from the same area (the Jebel Arak knife handle) (Mark 1997: 69–73, fig. 34, 81–82, fig. 44; Wengrow 2006: 40, 136–137, 140, figs. 7.1, 7.4). Current opinion favours a route following the Euphrates via the Uruk colonies, with both maritime and terrestrial routes of communication converging in the southern Levant, but this does not explain the appearance of eastern materials (lapis lazuli) initially in Upper Egypt rather than Lower Egypt. Arguments against a coastal route around Arabia include the colossal distance entailed in circumnavigating the peninsula. The presence of communities on the eastern tip of Oman (i.e. HD-6), in contact with Mesopotamia and perhaps even with Mesopotamian demographic input, would begin to close this gap.

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CHAPTER THIRTY-ONE

MESOPOTAMIA, MELUHHA, AND THOSE IN BETWEEN

Christopher P. Thornton

INTRODUCTION

The Harappan Civilization of Pakistan and Northwest India remains something of an enigma for archaeologists despite almost a century of excavation and research. While few would argue against the idea of "the Harappans" being both urban and literate (although see Farmer et al. 2004), we still know next to nothing about the structure(s) of their societies (e.g., are there elites?), about the history of their development (e.g., multiple centers of origin or only one?), and the so-called "Indus Script" remains entirely unreadable (see Wells 2011). What little evidence we do have for the more socio-political aspects of Harappan society come, somewhat frustratingly, from Mesopotamian texts of the Akkadian and later periods with their occasional references to "Meluhha" and the people and trade goods from that region (e.g., Parpola et al. 1977; Reade 1995; Possehl 1996). Given the problems associated with using the term "Indus Civilization" to refer to a vast socio-cultural phenomenon that stretches far beyond the realm of the Indus Valley (Possehl 2010), the term "Harappan Civilization" will be used following the convention of naming archaeological cultures after the first reported site (in this case, the site of Harappa in the Punjab of northeastern Pakistan).

The literature on the locations of ancient "Telmun/Dilmun" (i.e., the upper Gulf), "Makkan/Magan" (i.e., the lower Gulf), and "Melukkha/Meluhha" (i.e., the greater Indus Valley) is copious and need not be repeated here (Oppenheim 1954; Bibby 1969; Potts 1990; Edens 1992: 130; Glassner 1996; Ratnagar 2004 for summaries and bibliography). The reference to all three areas in multiple texts of the later third millennium BC, often when referring to ships and sea trade, provides a convincing argument that Southern Mesopotamia was deeply involved in the importation of goods from as far away as India via the Persian Gulf. Overland trade from the east had played a key role in the preceding fourth millennium, leading to the spread of first Uruk and then Proto-Elamite merchants and administrators onto the Iranian Plateau in order to gain better access to the flow of resources (Alden 1982; Helwing 2004). As the sea trade grew in importance, the slower and more costly overland trade probably deteriorated (Possehl 1986: 88; T.F. Potts 1993), contributing to the collapse of trade routes across north-central and northeastern Iran (from Godin Tepe to Tepe Hissar) in the first half of the third millennium.

Contact between the greater Indus Valley and Mesopotamia probably began around the same time that the northern Iranian trade routes collapsed, although Sumerian

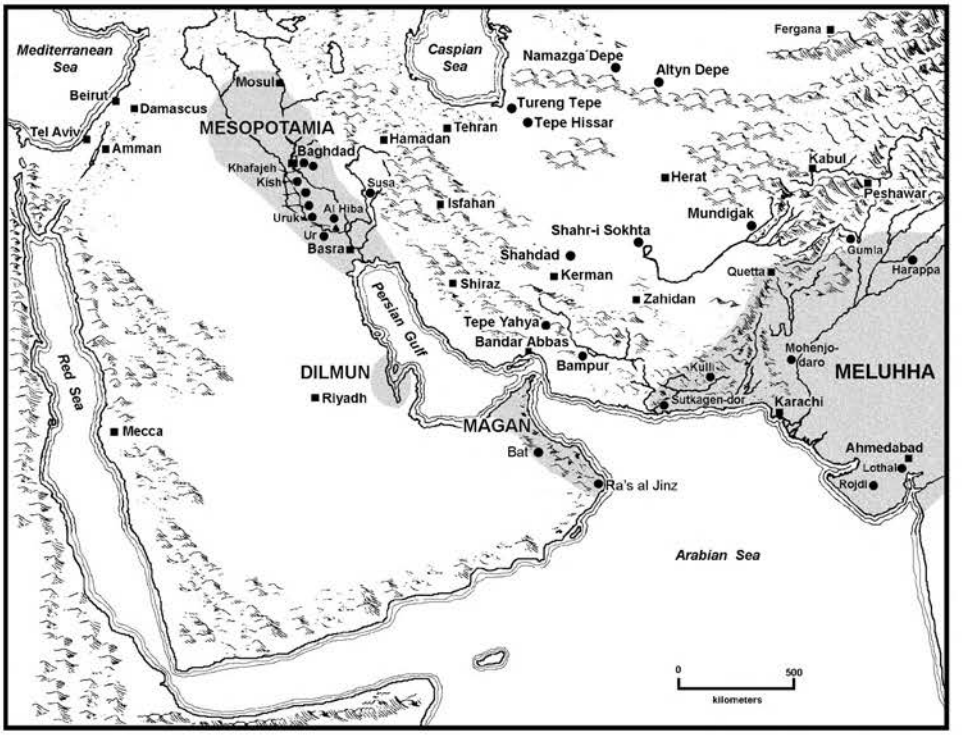

Figure 31.1 Map of the regions discussed in the text (courtesy of Gregory Possehl).

texts of the time refer only to "Telmun" as the entrepôt through which eastern sea trade reached Southern Mesopotamia (Englund 1983; Crawford 1998: 1–8). The somewhat sudden appearance of references to "Magan" and "Meluhha" as well as to "Marhashi" (likely the Kerman region of Southeastern Iran; see Steinkeller 1982, 2006; *contra* Francfort and Tremblay 2010) in the Akkadian texts of Sargon and his descendants (*c.*2300–2100 BC) is a phenomenon that has not been well explained (e.g., Gelb 1970; Glassner 1989). Better studied is the near-complete lack of Mesopotamian imports in sites of the Harappan Civilization (see During Caspers 1984; Chakrabarti 1990; Possehl 2002a) despite an appreciable (if still rare) number of Meluhhan-related objects in Mesopotamia (see Parpola et al. 1977; Possehl 1997a: 90; Kenoyer 2008). If the Meluhhans and Akkadians were carrying out more direct trade by the Sargonic period, as the texts would suggest, then what were the people of the greater Indus Valley getting in return?

While the "ships of Meluhha" may have anchored at the Akkadian capital, as Sargon of Agade boasted, they were probably not trading exclusively in Meluhhan-manufactured goods. Instead, it seems likely that they were probably stopping first at Magan (and/or Dilmun) to unload cargo. While at these intermediary ports, the Meluhhans may have traded their goods for raw materials such as copper, diorite, timber, and possibly chlorite/steatite, which were then brought to Mesopotamia (Oppenheim 1954; Cleuziou and Tosi 1989). This does not explain, of course, what the Mesopotamians gave the Meluhhans in return for these precious raw materials. Traditionally, scholars

have argued that the Mesopotamians traded "invisible exports" (*sensu* Crawford 1973) such as textiles or oils in exchange for metals, stones, and timber from the Gulf and South Asia. Indeed, pre-Sargonic texts from Lagash record Mesopotamian grain, aromatics, flour, wool, and silver being exchanged for copper and tin from Dilmun (Foster 1977). Of these Mesopotamian products, only the silver would be obvious in the archaeological record today. Of course, silver did not originate in ore-less Mesopotamia just as copper and tin did not originate in ore-less Dilmun, so even if silver were found at Harappan sites, the material itself could tell us little about such trade. More puzzling is the suggestion of pre-Akkadian tin coming from Dilmun, since tin–bronze does not become common anywhere in Iran (Thornton 2009), the Gulf (Weeks 1999, 2003), or the greater Indus Valley (Kenoyer and Miller 1999) until *after* the Sargonic period. Tin would seem to be an "invisible export" of a different variety.

The idea of "invisible exports" such as grains, textiles, and oils may hold water when speaking of Mesopotamian trade with Dilmun or even the west coast of Magan (i.e., the Emirati coast) (Edens 1992: 127), but it is hard to imagine huge shipments of grain or textiles being needed in the lush Indus Valley by the industrious Meluhhans. Uerpmann and Uerpmann (2008) have recently proposed the export of Mesopotamian sheep/goats to Magan and perhaps to the Indus Valley in the later third millennium BC, although they await further studies to test that hypothesis. Nevertheless, if

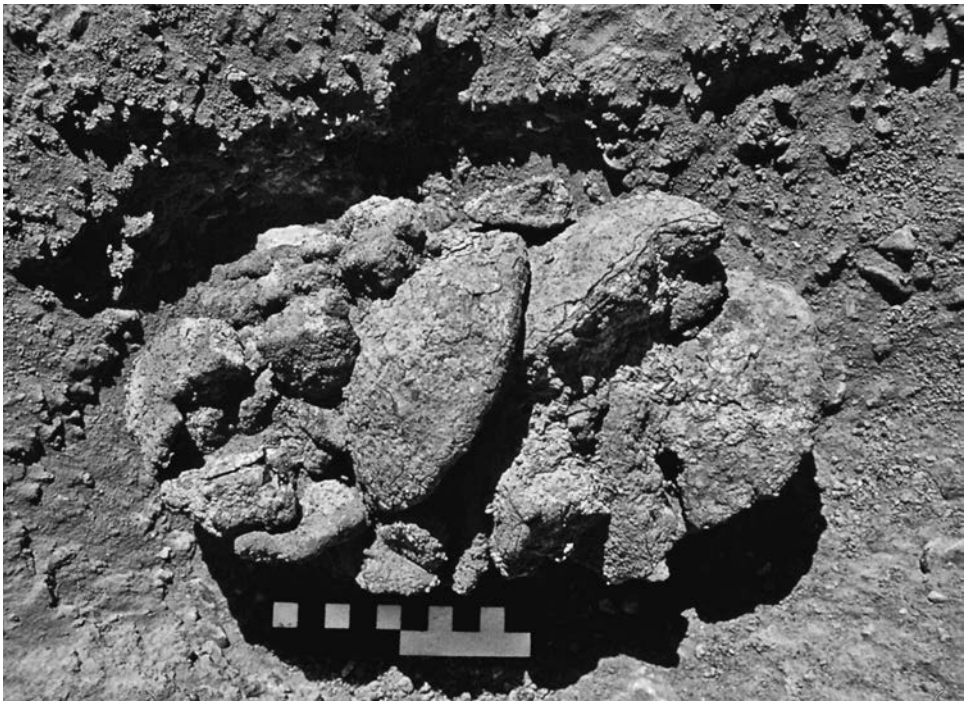

Figure 31.2 A hoard of copper bun ingots discovered at the late Umm an-Nar site of Maysar in northern Oman (Weisgerber 1981: Abb. 39; courtesy of Andreas Hauptmann). Similar ingots have been found at third millennium sites from Syria to the Indus Valley, and may have come from "Magan" (see Weeks 2003, 2007)

Meluhhan sea traders were bringing perishable items from Mesopotamia to Dilmun and/or Magan in exchange for copper, diorite, chlorite/steatite, etc. to bring back to the greater Indus Valley, then we can explain the lack of non-perishable Mesopotamian goods in South Asia. Sadly, only the fragmentary texts from Mesopotamia provide us with a glimpse of the broader trade system through the Persian Gulf in the second half of the third millennium BC.

Our reconstruction of the sea trade between Mesopotamia and Meluhha is still largely speculative and will require far more research. However, it is possible now to observe larger patterns of socio-economic and cultural influence over the Gulf trade based on the material evidence published thus far (e.g., Reade 2008; Edens 1993; Cleuziou and Méry 2002). While many scholars have argued that the presence of material culture from Mesopotamia and the greater Indus Valley in the Gulf polities of the third millennium BC provides evidence for a socio-political dominance or hegemony over "peripheral" regions, it is equally possible that these "secondary states" in fact exerted great agency and independence (see Edens 1992: 133). Just as Persia and Afghanistan played the Russian Bear and the English Lion against each other during the "Great Game" of the nineteenth century, so Magan and Dilmun may have manipulated their powerful neighbors in order to maintain sovereignty. For example, it is interesting to note that Magan seems to have played a much stronger role than Meluhha or even Mesopotamia in the formation of the important Barbar Culture of Dilmun (e.g., Rice 1994: 238; Laursen 2009, 2011: 43 note 8).

In an attempt to demonstrate the material evidence for such relationships, this chapter will focus on the area of Magan (i.e., the Emirates and Northern Oman, possibly also the coast of Southeastern Iran and the Pakistani Makran; see Frifelt 2002; Reade 2008: 16) vis-à-vis its relations with Mesopotamia and the greater Indus Valley. While the rise of Sumerian, Akkadian, and later dynasties of Southern Mesopotamia is detailed in other parts of this volume, it behooves the author to first provide a short summary of the rise and fall of the Harappan Civilization before speaking about its role in Gulf trade with Mesopotamia and Magan. In addition, the influence of Marhashi on Magan will be discussed briefly as a counter-point to traditional east–west thinking on the rise of the Gulf trade.

THE HARAPPAN CIVILIZATION

The developmental trajectory of the Harappan Civilization often begins in the Quetta Valley of north-eastern Baluchistan (e.g., Possehl 1990), which is today the important highland region situated between the Afghani lowlands of the Helmand and Arghandab Valleys and the Pakistani lowlands of the Indus Valley. The Quetta Valley provides the earliest evidence of sedentary farming communities in South Asia in the seventh to fifth millennium BC. From these humble beginnings, the highlands of Pakistan and northwest India produced a number of archaeologically defined cultures of the Chalcolithic period (*c.*4500–3000 BC). These "cultures," possibly representing distinct ethnic or cultural identities, are best represented by the beautifully painted and well-made ceramic types of each region, such as Togau and Kechi Beg Wares (northern Baluchistan), Sohr Damb I/Miri II-III wares (southern Baluchistan/Makran), and Sheri Khan Tarakai Ware (Bannu Basin) (Franke 2008). Most importantly, it is at the end of the Chalcolithic (fourth millennium BCE) that coherent archaeological

assemblages appear in the lowlands of the Indus Valley, such as the "Kot Dijian" wares of Sind or "Hakra" wares of the Punjab (Mughal 1970, 1988).

The early third millennium of the greater Indus Valley is, in many ways, simply a continuation of the cultural patterns seen in the fourth millennium BC. These include small settlements (average: ~5 ha), fairly limited evidence of long-distance trade and exchange, and highly-regionalized styles of pottery: e.g., Amri/Nal (southern Baluchistan/Makran to northern Gujarat); Damb Sadaat (northern Baluchistan); Kot Dijian (northern Sindh to Punjab); and Sothi-Siswal (Indian Punjab to western Uttar Pradesh) (Possehl 2002b: 40–46). These so-called "Early Harappan" cultures, although mostly distinct from one another, are found over much broader areas than their late Chalcolithic predecessors, and show more cultural and economic interaction between them (Mughal 1988). It was out of this intensification of regional and inter-regional exchange that the Harappan Civilization was born.

The sudden appearance of the Harappan Civilization *c.*2600–2500 BC, signified by a shared assemblage of artifacts (e.g., Indus ceramics, stone weights, writing and seals, terracotta cakes) and architectural styles (e.g., use of baked brick, well-planned streets, emphasis on hydraulic engineering) over a vast area (from Baluchistan to the Punjab to Gujarat), is still not well understood. In a now famous paper, Possehl (1990) argued that trade with the west may have provided the catalyst for the urban civilization that arose from the ashes of Early Harappan settlements, the majority of which were abandoned (often sealed by either violent or ritualized conflagrations) during this transition (Possehl 2002b: 56). However, recent excavations at sites like Harappa have shown how many of the signifiers of Harappan Civilization (e.g., seals and proto-writing, proto-urbanism, standard weights) actually appeared in the Kot Dijian phase (*c.*2800–2600 BC (Meadow and Kenoyer 2008). Thus, the relatively rapid rise of urban civilization in the greater Indus Valley can only be explained as a product of both local socio-cultural trajectories and intensification caused by long-distance socio-economic interactions.

Although sites of the Harappan Civilization share many traits in common, including certain pottery types, square stamp seals, and various architectural elements, it is important to remember that this archaeological "Culture" (with a capital "C") is also highly regionalized. Possehl (1982) called these regional variants "domains," and he delineates at least six. While the Harappan domains likely engaged in intensive trade and exchange activities, they were not a homogenous group of people ("the Harappans") as many introductory textbooks would like to suggest. We know this because of the contemporaneous presence of two or more domains' material cultures found in the same areas – for example, Late Kot Dijian ceramics in the Sindhi Domain, or Sindhi material in the Sorath Domain (see Possehl and Raval 1989). Indeed, numerous fortified and unfortified Sindhi Harappan sites have now been identified within the Sorath Domain (from Dholavira to Lothal), suggesting a level of intra-regional colonization not previously recognized within the Harappan Civilization.

At its zenith *c.*2000 BC, the Harappan Civilization extended from Pakistani Makran to the western Ganges, from Badakhshan in northeastern Afghanistan to the Gulf of Khambhat in southeastern Gujarat – an area of approximately one million square kilometers (Possehl 2002b: 6). It is possible that this extraordinary growth and expansionism ultimately led to the collapse of the Harappan Civilization *c.*1900 BC. The succeeding "Late Harappan" or "post-Urban" phase is not well understood (see

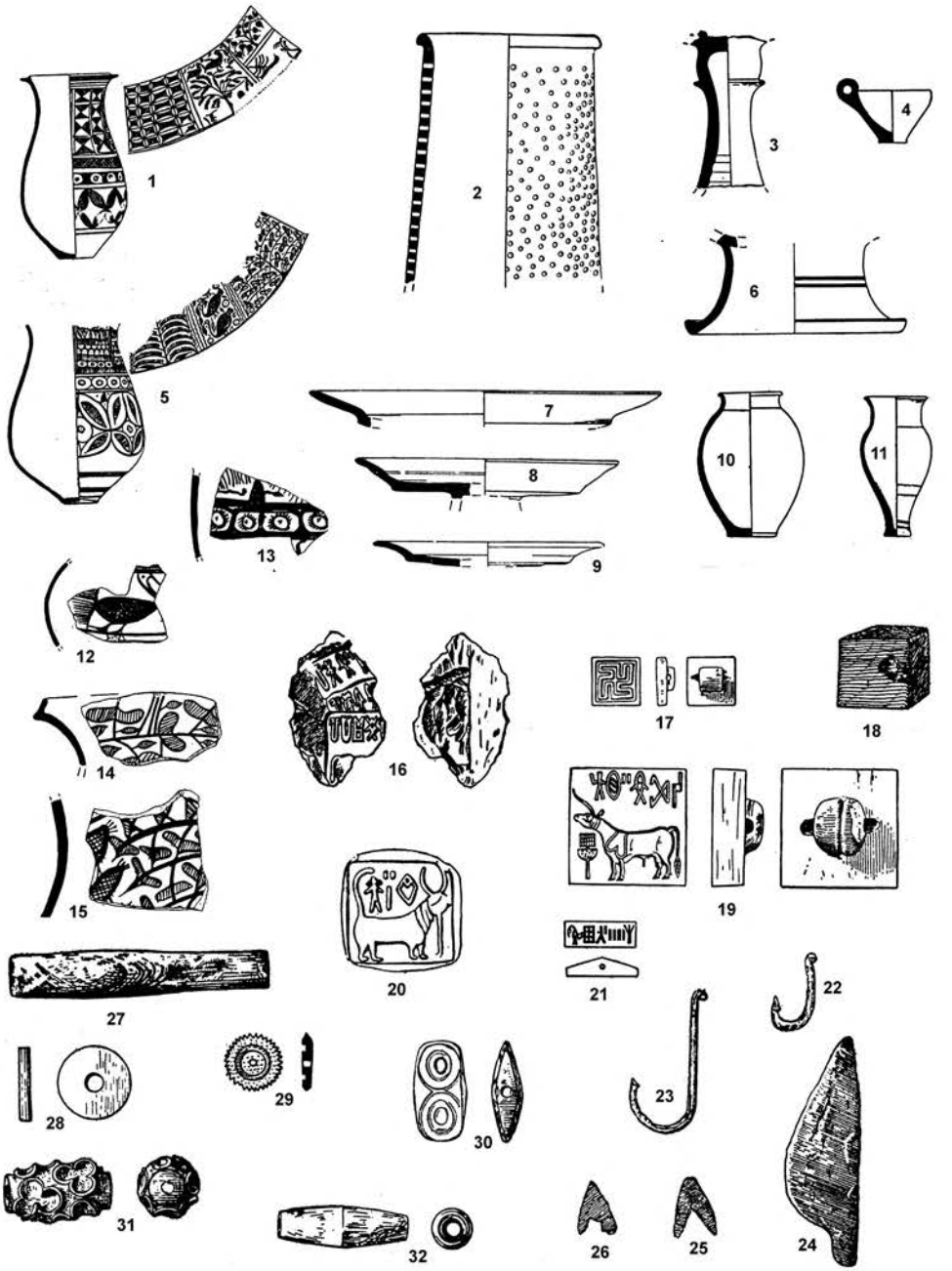

Figure 31.3 Some classic indicators of the Harappan Civilization, including pottery (#1–15), seals and sealings (#16–17, 19–21), cube weights (#18), and various small finds (#22–32) (courtesy of Gregory Possehl)

Figure 31.4
Map showing the various "domains" of the Harappan Civilization defined by differences in local ceramic and small find assemblages (courtesy of Gregory Possehl)

Jarrige 1973; Mughal 1990; Possehl 1997b; Kenoyer 1998: 173–178; Lahiri 2000), but the abandonment of the major cities along the Indus Valley as well as the cessation of writing, complex craft technologies, and other hallmarks of the Harappan Civilization suggest a somewhat cataclysmic "de-urbanization" event. What remains are a number of regional cultures with limited evidence for exchange and interaction – a situation similar in many ways to the one that existed in the Early Harappan period.

EVIDENCE OF MESOPOTAMIAN RELATIONS WITH MAGAN

There are few indeed who would argue that the early development of "middle range" societies on the Omani Peninsula was not in some way affected by Mesopotamia. Fifth millennium Ubaid ceramics are attested along the eastern Arabian coast as far as the Emirates (Shepherd Popescu 2003), while vague reports of Ubaid sherds from Omani sites remain unconfirmed. Curiously, Uruk period ceramics are essentially absent from both the western and eastern sides of the Omani Peninsula, due perhaps to the dearth of fourth millennium sites in this region (Uerpmann 2003). A notable exception is the site of R'as al-Hamra (RH5) in modern-day Muscat, where two body sherds of Uruk period Mesopotamian ceramics (Méry 1995) were reportedly found, although the context of these two sherds is not clear. Regardless, the well-known 'expansion' of Uruk trade as far as Egypt, the Caucasus, and north-central Iran does not seem to have included seafaring (see Algaze 2005; papers in Rothman 2001), and Mesopotamia had only a limited presence on the Omani Peninsula in the fourth millennium BC.

This picture changes dramatically at the very end of the fourth millennium and the beginning of the third. At this time, called the Hafit period (*c.*3100–2700 BC), the

societies of the Omani Peninsula underwent a dramatic transformation. For the first time, sizable settlements with permanent (often monumental) architecture of stone and mud-brick were built (e.g., Hili-8, Bat-1147, Hadd-6). Tens of thousands of nearly identical stone-built cairn burials appeared on the tops of low hills from Abu Dhabi to R'as al-Hadd. These highly visible tombs on the landscape often contain one or two inhumations with an assortment of graves goods, including ornaments of fired steatite, shell, metal, and semi-precious stones, as well as weapons and tools of copper-base metal. Most importantly, nearly every Hafit period grave contains at least one miniature Jemdet Nasr-style (*c.*3100–2900 BC) or Early Dynastic I-style (*c.*2900–2700 BC) ceramic vessel.

The origins of these Mesopotamian-style vessels has been explored by Sophie Méry (e.g., 1991, 2000; Méry and Schneider 1996, 2001; see also Cleuziou and Méry 2002), who has demonstrated that many of these were manufactured in Mesopotamia and brought to the Omani Peninsula. This is particularly true for the polychrome painted jars and the wheel-made jars with a greenish-buff and well-fired fabric. However, the majority of ceramics in Hafit period tombs are of a distinctly different character – that is, their shape is the same (or similar) to the polychrome and greenish-buff jars, but

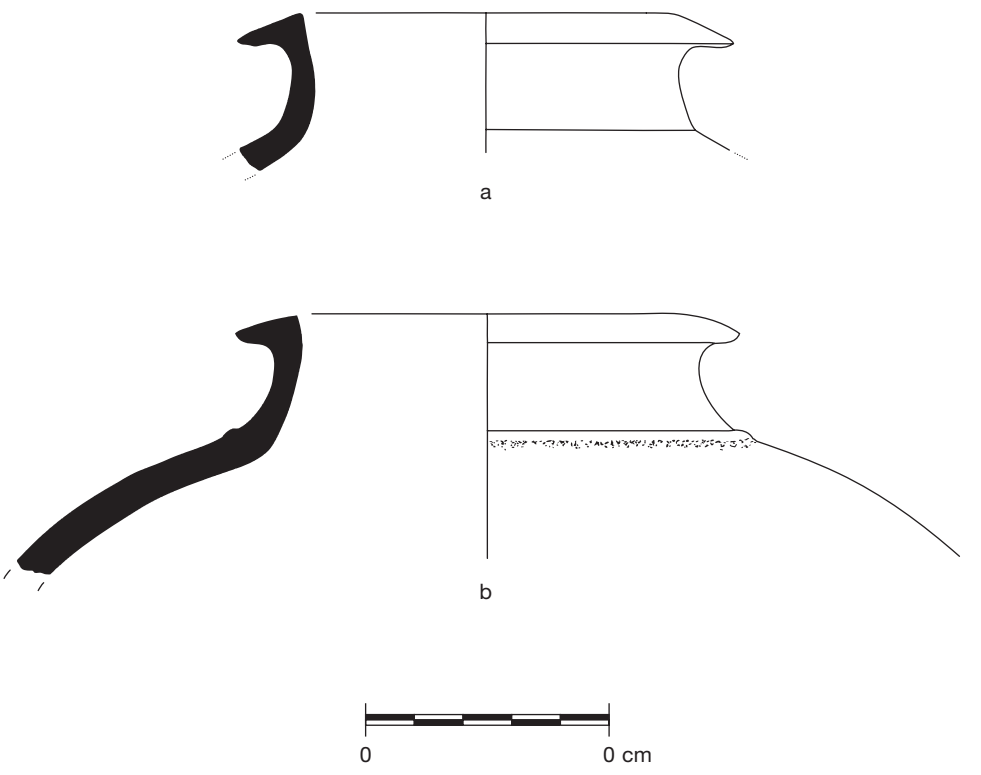

Figure 31.5 Two Jemdet Nasr/Early Dynastic I-style rim sherds from Matariya (Tower 1147) at Bat in northern Oman: (a) fine greenish-buff fabric, wheel-made, small black inclusions, lot 092607; (b) medium coarse red-brown fabric with darker core and buff slip on exterior, hand-made, small white, black, and red inclusions, lot 090827 (courtesy of the Bat Archaeological Project)

they are not as well-fired, they are hand made, and they often have much coarser fabrics (Frifelt 1970, 1975; Thornton pers. obs.). Arguably, these "Hafit" ceramics may be local imitations of Mesopotamian forms, although this awaits empirical documentation. Recent excavations at the Hafit–early Umm an-Nar period site of Matariya (Tower 1147) at Bat in northwest Oman have uncovered both wheel-made, greenish-buff JN/ED I-style jar fragments as well as sherds from a hand-made jar of identical form but with a coarse, poorly fired fabric and a crude buff slip (Possehl et al. 2009). The chemistry of the clays used to make these ceramics is currently being compared to the clays used in mud-bricks from Matariya to determine possible origins for these vessels.

The chronology of the succeeding Umm an-Nar Culture (*c.*2700–2000 BC) has never been defined through systematic, stratigraphic excavation, but relies instead on the contents of large, multiple-use tombs for relative dating. Until such a chronology is established, the period can be divided roughly in half. The early Umm an-Nar period (*c.*2700–2300 BC) is defined by large settlements in the Omani highlands and tombs utilizing small, well-cut "sugarlump" stones. The late Umm an-Nar period (*c.*2300–2000 BC) is defined by the growth of settlements on the Emirati coast and tombs utilizing large, well-cut white stones, gutters, and carved doorways. The early Umm an-Nar period is distinguished from the late Hafit period by the presence of locally made Black-on-Red ceramics and larger, multiple-use tombs. Mesopotamian imported vessels all but disappear from the archaeological record in the early Umm an-Nar period. With the exception of Umm an-Nar island, where hundreds of ED II-III vessel fragments were present (Frifelt 1991: 50, 1995: 121–188), only a few examples of Mesopotamian-style storage and transport jars have been found at coastal sites from Abu Dhabi (e.g., al-Tikriti 1985: 12) to R'as al-Jinz (Cleuziou and Tosi 1994: 757). Even fewer such imports have been uncovered from inland settlements (e.g., at Bisya; Thornton pers. obs.), suggesting that their presence in the interior was minimal.

By the Akkadian period, Mesopotamian imported vessels are practically non-existent in Magan. Instead, the late Umm an-Nar burials contain mostly locally made painted pottery as well as imported wares from Iranian Baluchistan (mostly Emir Grey Wares and Incised Grey Wares) and Harappan fine painted wares (Edens 1993: 341; Méry 1996: 170). Examples of Barbar pottery from Dilmun can also be found among the sites of the Emirati coast (Méry et al. 1998), although such pottery is unknown in the interior. After the collapse of the Umm an-Nar Culture and the rise of the enigmatic Wadi Suq Culture (*c.*2000–1500 BC), Mesopotamian and Dilmun ceramics are found almost exclusively on the Emirati coast (e.g., at Tell Abraq; T.F. Potts 1993: 429–433) while Late Harappan wares are mostly restricted to the east coast of Oman (e.g., at R'as al-Jinz; Cleuziou and Tosi 2007: 272) and to sites in Bahrain (Carter 2001).

EVIDENCE OF MELUHHAN RELATIONS WITH MAGAN

Although it is unclear when Magan and Meluhha first established contact, it seems likely that intensive interaction did not occur until the second half of the third millennium (see Cleuziou 1992). This supposition is supported by two lines of evidence. First, the prevalence of Jemdet Nasr/ED I-style ceramics from Mesopotamia in early third millennium tombs and settlements of Magan as far to the east as R'as al-Hadd without corresponding materials from Early Harappan cultures (with the possible exception of fired steatite beads) suggests a strong Mesopotamian influence on

the Omani Peninsula at this time. Second, ceramics such as the iconic black-slipped storage jars (BSJs) from the greater Indus Valley do not appear on the Omani Peninsula until *c.*2500–2400 BC – for example, at Hili phase IId (Cleuziou and Méry 2002: 291). Indeed, it seems likely that the sudden rise of the Harappan Civilization between 2600 and 2500 BC is somehow related to the development of the early Umm an-Nar Culture on the Omani Peninsula, although the exact causality of this dynamic remains uncertain.

There are a few aspects of the Meluhhan–Magan relationship in the second half of the third millennium BC that are worth further comment. First, like the Jemdet Nasr/ED I-style ceramics of the preceding Hafit period, Indus-style ceramics are found across the entire Omani Peninsula during the Umm an-Nar period, although more often in settlement contexts than in graves (Cleuziou and Méry 2002: 291). It should be noted, however, that the Indus-style ceramics found, including both imports (often distinguished by their well-fired red fabric with large visible inclusions of mica) and local imitations (with fabrics indistinguishable from the local Umm an-Nar fine wares; see Méry 2000: 238), generally come from a very limited repertoire of Harappan ceramics (e.g., compare Méry 2000: fig. 143 with the diversity displayed in Dales and Kenoyer 1986). It has been suggested that all of the imported Indus-style pottery probably comes from one small region (or "domain") of the Harappan Civilization based on the distinctive micaceous red fabric, which is actually unusual in sites of the greater Indus Valley but does appear at Chanhu-Daro in the Sindhi Domain of the lower Indus Valley (Cleuziou and Méry 2002: 297; Méry pers. comm. 2011). However, it is also possible that at least some of the Indus-style pottery came from Gujarat (Sorath Domain), as this area (particularly the site of Lothal) shows the strongest connections with the Persian Gulf region (see Méry and Blackman 1999).

The most remarkable evidence for Meluhhan influence in Magan can be found at R'as al-Jinz, the easternmost point of the Omani Peninsula. In this area, a number of sites have been found with significant quantities of Harappan material culture, including HD-1 (Reade 1990) and the small fishing village of R'as al-Jinz (Cleuziou and Tosi 1989, 2000). While HD-1 and other sites near R'as al-Hadd are reported to have the most varied Harappan repertoire on the entire Omani Peninsula (Cleuziou and Tosi 2007: 235–239), they remain under explored and incompletely published. Instead, it is R'as al-Jinz that has provided the most impressive collection of Indus-related artifacts (see Cleuziou and Tosi 2000, 2007: 229–235, 245–247). These include not only Harappan ceramics, but also personal ornaments, metal tools, and writing ("graffiti"). It seems possible that people from the greater Indus Valley were actually living with the local populations of R'as al-Hadd/R'as al-Jinz throughout the second half of the third millennium BC, although whether they ventured into the interior of Magan or not remains an open question.

MAGAN–MARHASHI RELATIONS?

In the preceding two sections, the evidence for Mesopotamian and Meluhhan contact with Magan was summarized in order to look at changing patterns of socio-cultural and/or socio-economic influence over the Persian Gulf trade in the third millennium BC. These patterns suggest that during the first half of the third millennium, competition between the Sumerian dynasties of Southern Mesopotamia created a huge

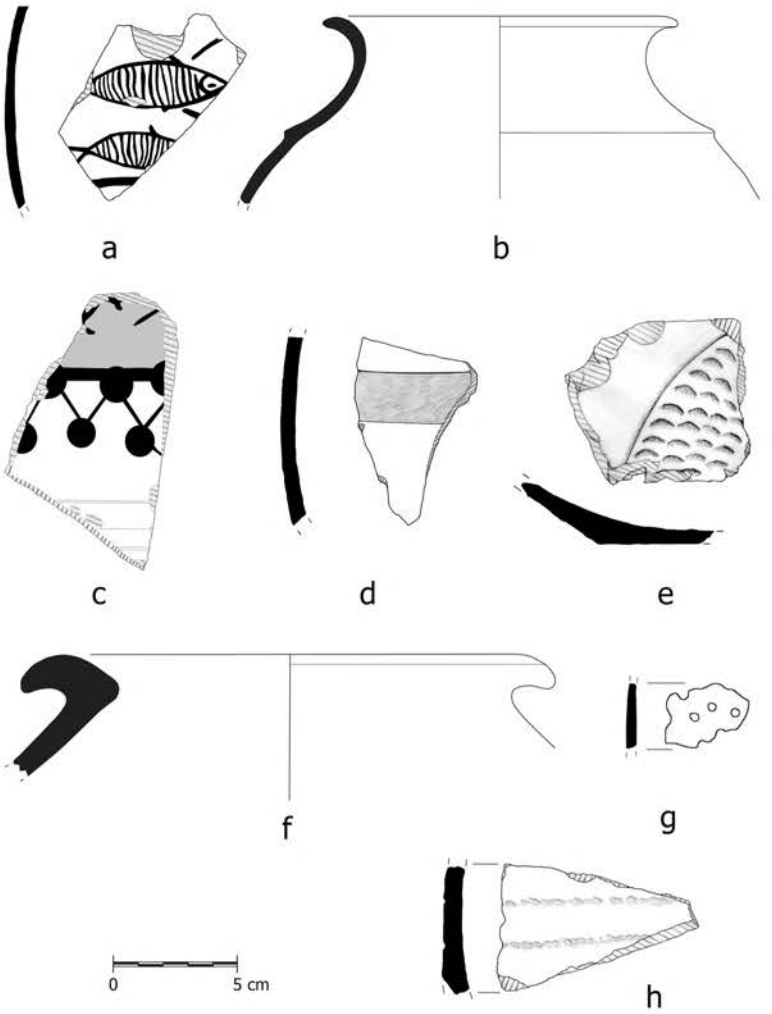

Figure 31.6 Examples of Harappan-style sherds from Bat in northern Oman: (a) Black-on-Red painted, Op. B, lot 070304; (b) Buff unpainted, T. 1146, lot 090305; (c) Black-on-Bichrome painted, T. 1147, lot 100805; (d) Red-on-Buff painted, T. 1147, lot 101004; (e) fingernail-impressed, T. 1147, lot 101615; (f) Black Slip Jar, T. 1156, lot 101701; (g) perforated, T. 1148, lot 070021 (courtesy of the Bat Archaeological Project)

demand for exotic raw materials that was increasingly fulfilled by the seafaring merchants of Dilmun as the overland trade routes from the east collapsed. As the major consumer of Magan's raw materials, Mesopotamia quickly became the dominant cultural and economic focus of Magan's emerging complex societies.

The appearance of Indus Black Slip Jars in Magan *c.*2500–2400 BC suggests that soon after the Mature Harappan urban explosion, the Meluhhans took to the seas and began aggressively trading with their neighbors. This would have created markets for the Harappans' intensive craft industries, but also provided raw materials to feed these same industries. Initially, the Meluhhan merchants probably ventured no farther than

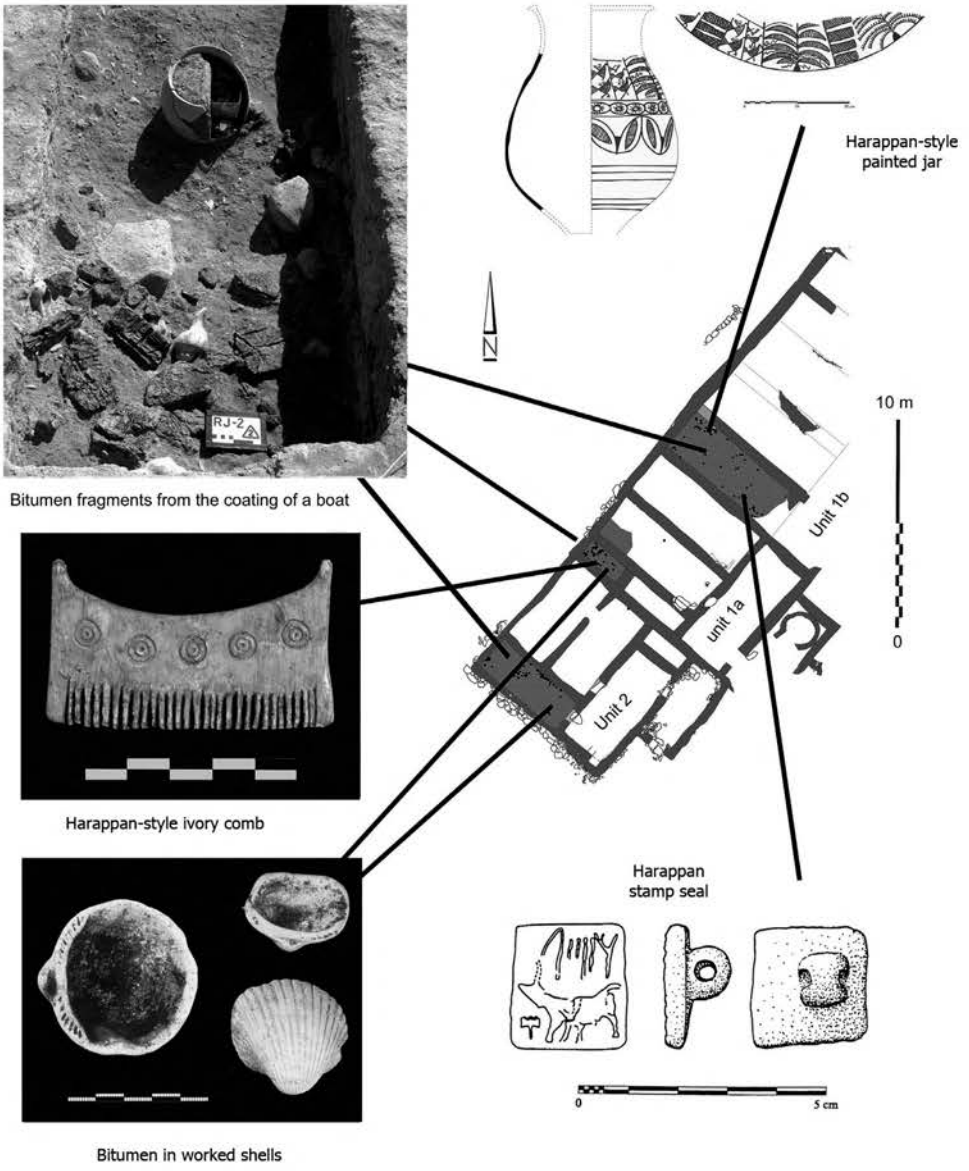

Figure 31.7 Harappan-related material from one compound at R'as al-Jinz in eastern Oman (adapted from Cleuziou and Tosi 2007: fig. 23; courtesy of Maurizio Tosi and the Ministry of Heritage and Culture, Oman)

the Emirati coast or perhaps to Dilmun. This would have allowed these intermediaries to benefit from the Mesopotamians' unquenchable thirst for Harappan-made luxury goods in the Early Dynastic III period (e.g., long carnelian beads; see Chakrabarti 1993). By the time of Sargon (*c.*2300 BC), this situation had changed dramatically. Now, the demand was so great that ships from Dilmun, Magan, *and* Meluhha were used to fulfill the consumer needs of Mesopotamian society. The societies of these three

seafaring regions became wealthier as a result, leading to significant changes in Dilmun (e.g., the rise of the Barbar Culture with strong ties to Mesopotamia and Magan), in Magan (e.g., the late Umm an-Nar development of important sites along the Emirati coast as well as increased contact with the Meluhhans as seen at R'as al-Jinz), and even in Meluhha itself (e.g., the creation of "colony" sites as far as Badakhshan and across the Sorath Domain of Gujarat in order to control access to important resources such as lapis and carnelian, respectively).

This summation is a fairly well-trodden path in discussions of Indus-Mesopotamian relations and their influence on the rise of Dilmun and Magan in the third millennium BC. However, it remains mostly hypothetical and does not take into account the third major contender for economic and social power in this region, that being the highland polities of Southwestern Iran (i.e., "Elam") and Southeastern Iran (i.e., "Marhashi"). While not major seafarers, the advanced societies of Kerman (e.g., "Jiroft") and Fars (e.g., the Old Elamites of "Anshan" or Tal-e Malyan) were both producers and consumers of raw materials and luxury trade items that were part of the Gulf trade (see Madjidzadeh 2003, 2008 and Lamberg-Karlovsky 2004 for Jiroft; Sumner 1989 and Petrie et al. 2005 for Kaftari period Malyan). Indeed, the role of "Marhashi" in the development of Magan has long been ignored, with some scholars seeking either an indigenous origins for the Hafit Culture in the fourth millennium villages of the northeast Omani coast (e.g., RH5) despite few parallels, or a Mesopotamian origin for social complexity in Magan. Few have ever sought the origins of the Hafit in nearby Southeastern Iran, which contained small-scale but complex societies with monumental architecture, mud-bricks, and long-distance imports as early as the Yahya VI A period (*c.*mid-fifth millennium BC; Thornton 2010: 33).

There are of course a few exceptions to this statement. In numerous publications, Sophie Méry (e.g., 1996, 2000) has noted that some of the earliest locally produced pottery in Hafit societies were Black-on-Red high-neck jars imitating Southeastern Iranian pottery of the Yahya V A/IV C period (*c.*3100–2900 BC). Furthermore, the locally-produced pottery of the following Umm an-Nar period (*c.*2700–2000 BC) is unquestionably related (both technologically and typologically) to the southeastern Iranian style of black-on-red/buff pottery of the Yahya IV B period. Similarly, both de Cardi (1970: 268–269) and D. T. Potts (2003, 2005) have noted the important links between southeastern Iran and the Omani Peninsula in the third millennium BC. So why is there so little discussion about the influence of "Marhashi" on the formation of Magan?

The answer to this rather loaded question lies partly in modern geopolitics, and partly in the dominant paradigm of the 1930s–1950s emphasizing the centrality of urban, literate "civilizations" over their neighbors, a theory that was then re-imagined in the 1970s as "World Systems Theory" or "Core-periphery" dynamics (see Kohl 1989; Stein 1999). While this is not the venue to expound on these issues, it is important to note that the recent "discovery" of the urban, proto-literate "Jiroft Civilization" of Southeastern Iran (e.g., Lawler 2004; Covington 2004) with strong cultural ties to the Umm an-Nar Culture of the Omani Peninsula must surely raise new questions about the actual influence of both Mesopotamia and the greater Indus Valley in this region. As Holly Pittman (2008, in press-a, in press-b) has noted, based on the radiocarbon dates and extensive seals and sealings from Konar Sandal South, the "Jiroft Civilization" erupts into a monument-building, proto-literate urban society in the ED

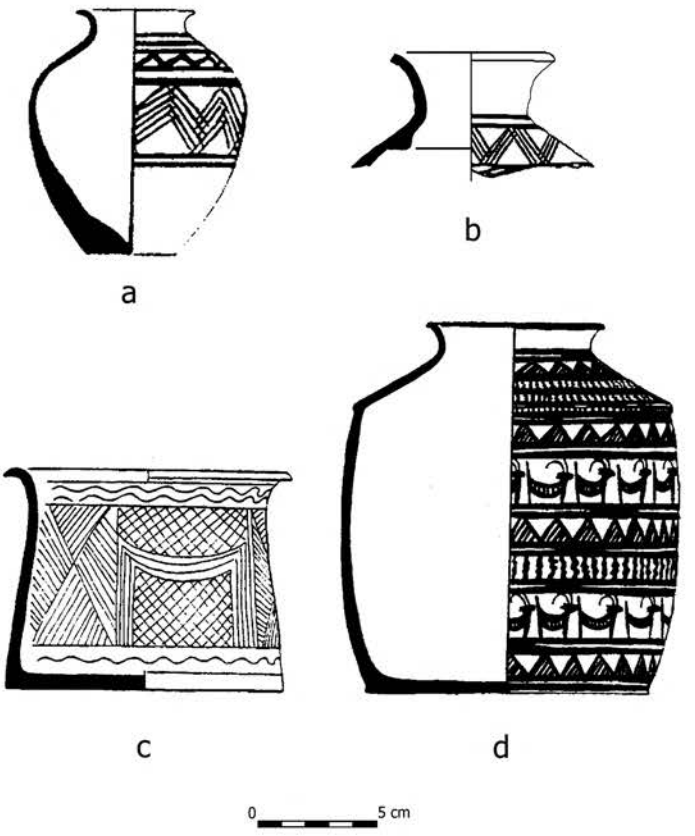

Figure 31.8
Examples of third millennium southeastern Iranian pottery from the site of Hili near Buraimi: (a) Black-on-Red jar; (b) Black-on-Red jar rim; (c) Incised Grey Ware; (d) Black-on-Grey canister (adapted from Vogt 1985)

II–III period and ends during or just after the early Akkadian period (*c.*2300–2200 BC). Evidence of long-distance contact with Mesopotamia (perhaps through Elam) is well attested in levels both before and during this great social transformation, while evidence of interaction between southeastern Iran and the greater Indus Valley over the same time period is notably sparser. How and why Meluhha maintained a more dominant presence in Magan but not Marhashi, while the Mesopotamians continued trade with Marhashi but not with Magan, are questions that should drive our research over the next several decades.

CONCLUSION

To return to the initial focus of this chapter, relations between Mesopotamia and Meluhha were always conducted at a distance, both physically and politically. Both were extraordinarily organized and industrious societies who often influenced the economic and cultural *milieux* of their neighbors. However, they were not quite the imperial powers projected by "World Systems" and other Marxian theorists. Instead, the region from Mesopotamia to Meluhha is better envisioned as a number of overlapping economic and cultural spheres of influence emanating from distinct and empowered polities of varying scales – a model called by Possehl (2007) the "Middle

Asian Interaction Sphere" following Caldwell (1964) and Lamberg-Karlovsky and Tosi (1973). Dilmun, Magan, and Marhashi were at least three of these polities, and even they were divided into regions just like the "domains" of the greater Indus Valley or the city-states of pre-Sargonic Mesopotamia. Only by understanding the intra-cultural and inter-cultural relations in tandem can we begin to understand the complex networks of trade and exchange as well as cultural and technological transfer that accompanied such relations.

The neo-Marxian theorist Christopher Edens (1992: 133) once wrote, "resistance at [imperialism's] peripheries involved intensification of production and mobilization of labor in the contexts of secondary state formation, often using symbols of power and administrative instruments borrowed from the imperialist state." Mesopotamia, Elam, and Meluhha were all polities with well-attested histories of colonization (Lamberg-Karlovsky 1993: 64), while evidence for such expansionist tendencies from Dilmun, Magan, and Marhashi is much less prevalent. Although notions of "primary" vs. "secondary" states in a third millennium context are inappropriate, Edens's focus on the transfer of "symbols of power and administrative instruments" is surely correct. The efficacy of studying these material remnants of social interaction was most elegantly demonstrated by Lamberg-Karlovsky (1975) in his discussion of seal design and use across the vast area of Possehl's "M.A.I.S.," but have until recently received relatively little attention. In the past few years, work by Marta Ameri (2010) on M.A.I.S.-related seals from the far eastern edge of Meluhha, by Dennys Frenez on the sealings from Lothal (Frenez and Tosi 2005), by Holly Pittman (2008) on the extraordinary diversity of seals and sealings from Konar Sandal South, by D.T. Potts (2010) on Mesopotamian cylinder seals found in Dilmun and Magan, and by Steffen Laursen (2010) on how influences from Mesopotamia, Elam, Magan, and Meluhha all played a role in the formation of "Gulf Type" seals from Dilmun, have contributed immensely to this discourse. We must now expand such studies beyond the "symbols of power and administrative instruments" to look for other types of cultural and technological transmission, such as the ceramic, lapidary, and metallurgical crafts from these same regions. Only in this way will we move beyond studies of the literate and administrative social classes and begin to access the everyday people in their daily lives. It should be the goal of archaeologists interested in Indus-Mesopotamian relations to understand how people in all echelons of these societies interacted with each other and with "others" in a tightly inter-connected and rapidly expanding Bronze Age world.

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CHAPTER THIRTY-TWO

EGYPT AND MESOPOTAMIA

Alice Stevenson

INTRODUCTION

On 2 June 1923 the *London Illustrated News* published an article entitled 'The most important historical relic ever found in Egypt' detailing a lecture in which Flinders Petrie described a recent purchase by the Louvre. The photograph central to the piece was of a carved ivory handle, bearing distinctly Mesopotamian imagery, into which was set a quintessential Egyptian Predynastic ripple-flaked knife: the Gebel el-Arak knife. For Petrie, the find had re-opened the 'whole question of the relations of early civilisation in Egypt' (Petrie 1917: 26). He viewed it as proof that Sumer and Susa were the originating area for his 'Dynastic race', who he believed had invaded Egypt at the end of the prehistoric period and instigated Dynastic civilisation. Although his theory continued to be advanced for many years by some (e.g. Emery 1961: 39–40) more sophisticated accounts of the manner in which Mesopotamian elements were incorporated into the early Egyptian world were being formulated. Henri Frankfort (1924, 1941, 1951) rejected Petrie's model and was the first to synthesise comprehensively the evidence for the impact of these supposed Eastern imports:

> Egypt, in a period of intensified creativity, became acquainted with achievements in Mesopotamia; that it was stimulated; and that it adapted to its own development such elements as seemed compatible with its efforts. It mostly transformed what it borrowed and after a time rejected even these modifications.
>
> (1951: 110)

His eloquent characterisation of the role of Mesopotamian cultural elements in Egypt of the late fourth and early third millennium BC (Frankfort 1951: 110) remains today, some sixty years later, succinctly accurate.

Egypt has long been compared to Mesopotamia (e.g. Trigger 1993; Baines and Yoffee 1998). As Frankfort noted, however, for the study of the development of Egyptian society from the mid-fourth to early third millennium BC Uruk period, Sumer is more than a convenient comparative case study; it was a source and a mediator of some exotic goods and imagery that influenced the indigenous formation of elite cultures in Egypt, as the Gebel el-Arak knife materialises. Nevertheless, in the Egyptian first dynasty of the early third millennium BC, Mesopotamian influences disappear from the archaeological record completely. This marks the end of centuries of selective and

opportunistic borrowings that include raw materials such as lapis lazuli, a handful of cylinder seals, artistic inspiration from a limited number of glyptic motifs, a few tenuous pottery parallels and, more controversially, the concept of niched architecture. In contrast, no material correlates of reciprocal borrowings from Egypt are currently known from Mesopotamia.

The source, scale and nature of such borrowings in early Egypt has been continually scrutinised since the beginning of the twentieth century. Frankfort's ideas were enthusiastically taken up by Kantor (1942, 1952), Baumgartel (1955) and Ward (1964) who all drew attention to further artefacts of possible Mesopotamian derivation. The latter part of the twentieth century saw further syntheses by scholars such as Moorey (1987, 1990) and Smith (1992). The validity of specific identifications of some of the imports they describe has been debated persistently as reflected by a vast literature of opinion. It is not the intention here to provide another exhaustive review of the same set of data. Rather the concern is how Egypt became 'acquainted with achievements in Mesopotamia' and why certain elements were borrowed in the way they were. To this end, the possible networks of communities through which material could travel should be considered, as there is a tendency to simply juxtapose two 'great civilisations' at the expense of appreciating the role of surrounding societies. The analysis of networks through which material flowed from the East to Egypt has in the last few decades focused on the 'Uruk expansion' and connections through Syria. This does not, however, preclude the possibility of additional points of entry for exotica and ongoing consideration ought to be given to the wider field of social networks extending across and around the Arabian peninsula. Such an attempt remains complicated by outstanding problems of chronological synchronisation and gaps in the archaeological evidence, but it is still possible to challenge definitive statements about the movement of ideas and materials in prehistory. A second theme explored below concerns how foreign imports may have been socially evaluated through consideration of the reception and incorporation of exotic materials and images. Overall, this review is not intended to be conclusive as many questions remain concerning the dating, materials and routes of exchange, and this field is always open to new findings and interpretations.

PREDYNASTIC AND EARLY DYNASTIC EGYPT

In the winter of late 1894 and early 1895, the pioneering archaeologist Flinders Petrie excavated a vast cemetery in Upper Egypt at Naqada. Some 3,000 graves were opened over the course of the season and Petrie was struck by the seemingly 'wholly un-Egyptian' (Petrie and Quibell 1896: 8) character of the burial assemblages found within. At that time prehistoric Egypt was only a vague concept without tangible reference points and Petrie did not at first recognise that what he had documented at Naqada were in fact the forebears for the better-known dynastic culture. Following similar discoveries, however, the true significance of Naqada as a prehistoric necropolis was accepted. Petrie's innovative sequence dating of the grave assemblages from both Naqada and cemeteries around Diospolis Parva formed the material framework for what became known as the Predynastic period (Table 32.1).

In stark contrast to Uruk period evidence, mortuary contexts have remained the primary source of data for the interpretation of the Egyptian Predynastic, especially

Table 32.1 Absolute and relative dates compared (adapted from Hendrickx 2006: tab. II.1.7; but cf. Joffe 2000: fig. 1)

Hendrickx period	*Description*	*cal. BC*
Naqada IIIC1–IIID	First–Second Dynasty/Early Dynastic Period	*c.*3150/3100–2686
Naqada IIIA1–IIIB	Late Predynastic	*c.*3350–3150
Naqada IIC–IID2	Middle Predynastic (Gerzean)	*c.*3600–3350
Naqada IA–IIB	Early Predynastic (Amratian)	*c.*4000/3900–3600

from the southern part of the country, Upper Egypt. These contexts attest to increasing inequalities in society as the millennium progressed and the establishment of regional elites at the Upper Egyptian centres of Naqada, Hierakonpolis and Abydos (Kemp 2006: fig. 22). More recent work has redressed the bias towards examination of simply the funerary arena. Ongoing excavations at sites such as Hierakonpolis have disclosed a wider picture of social complexity based upon settlement, cemetery, ceremonial and industrial spaces of activity (e.g. Friedman 2004: 2). Publications over the last thirty years have also extended the scope of analysis to include more data from the northern Delta region. This includes the identification of communities living in Lower Egypt around Maadi and Buto in the early–mid Predynastic that were distinct from their Upper Egyptian neighbours in both social practices and material culture (Rizkana and Seeher 1987, 1989). By the end of the fourth millennium BC, Egypt was seemingly unified politically, with those individuals interred in the main burial chambers in the Umm el-Qa'ab at Abydos being recognised as the embodiment of divine kingship, whose role in maintaining order over chaos was paramount.

EXPANDING HORIZONS

Although some form of political unity is understood to have been in place in Egypt by the first dynasty, the process of social and cultural integration had been underway for centuries and the Naqada IIC period in particular was pivotal. In this phase, social practices and material culture associated with Upper Egypt – the so-called 'Naqadan culture' – began to appear in Lower Egypt as economic and social centralisation gathered pace. Not only do Upper Egyptian burial traditions become rooted in the Fayum region at this same time, but also an increasing presence of Egyptian goods is noted along the southern coastal plain of the Levant as the introduction of the donkey as pack-horse transformed overland exchange (Wengrow 2006: 39). The spread of material out of Upper Egypt from Naqada IIC is also apparent to the south in Lower Nubia amongst the burials of the 'A-group' communities. These groups had been interring their dead in this area since at least Naqada IC, but in Naqada IIC the presence of Upper Egyptian material becomes marked.

The material associated with this Naqada IIC expansion is distinctive and as such it forms a clear relative dating horizon. For instance, a new type of harder pottery fabric, marl clay, was introduced in Naqada IIC. Within this medium forms inspired by foreign material culture appear, such as wavy handles (Petrie's W-ware) borrowed from Levantine imports. Such objects thus materialised the expanding interaction

spheres of the Nile's inhabitants who incorporated outside influences within their own technologies. However, despite the horizon's distinctiveness in relative terms, its absolute resolution oscillates over a 200-year time range. High chronologies favour a date *c.*3600 BC for the beginning of the Naqada IIC phase (e.g. Hendricx 2006), while lower estimates place its onset at *c.*3400 BC (e.g. Joffe 2000). The restricted number of currently available radiocarbon dates does not permit greater resolution, but new datasets may in future clarify some issues (cf. Bronk et al. 2010). Whether full synchronisation is truly possible remains to be seen, however, as temporal signatures in separate regions are based on different contexts and taphonomic environments.

In comparison, the Mesopotamian temporal framework has been refined over the last ten years, providing a longer duration for the Uruk expansion (Joffe 2000; Schwartz 2001; Wright and Rupley 2001). In place of a short-lived phenomenon restricted to the Late Uruk period, an extension of Uruk material into Syria is recognised in LC4, dated roughly to 3600–3400 BC, which still corresponds approximately with the Naqada IIC phase. These new estimates accommodate the evidence for Mesopotamian influences in Egypt far better than had ever previously been the case (Joffe 2000). This is particularly so with regard to the occurrence of lapis lazuli, cylinder seals, glyptic motifs and (perhaps) niched architecture.

LAPIS LAZULI

The overlap of social networks radiating out from both Egypt and Mesopotamia is first signalled in the Egyptian archaeological record by the striking semi-precious stone lapis lazuli. This vibrant blue and speckled pyrite material is one of the most direct pieces of evidence archaeologists have for the links extending from the East to Egypt, for it is unknown in Egypt itself, as are the geological conditions necessary for its formation (Bavay 1997: 80). The most likely provenance is in the Badkhshan province of Afghanistan, although an alternate source in the Chagai Hills of Pakistan (Casanova 1992) remains unsubstantiated for this time period. An estimated 167 Egyptian Predynastic graves out of some 15,000 known contained lapis (Hendrickx and Bavay 2002: tab. 3.3), but given the statistical vagaries introduced by tomb robbing and the limitations of early excavation reports, this occurrence is likely to have been higher. Nevertheless, the amount of lapis in circulation was still limited and contact with the East is likely to have only been small scale and indirect.

Lapis first appears sporadically in one or two graves in Naqada I/II, but it is not until Naqada IIC that a definite presence of lapis across Upper Egyptian communities is established (Hendrickx and Bavay 2002: tab. 3.3). It has been found in a cross-section of Upper Egyptian burial contexts, from small, basically furnished burials to large tombs with more elaborate assemblages. By the first dynasty, however, lapis appears to be restricted to only the most elite of contexts, including the burials of the first rulers. Yet in the succeeding second and third dynasties not a single example can be cited and some lapis found in the tomb of King Qa'a, the final king of the Egyptian first dynasty (Hendrickx and Bavay 2002: 66), is the last known example for almost half a millennium. It is not until the fourth dynasty that it appears again, notably in the burial of Queen Hetepheres, a wife of King Sneferu (*c.*2613–2589 BC). Whether this is a true hiatus in lapis availability is uncertain, as second dynasty contexts are very poorly attested relative to the previous dynasty.

As it stands, however, this parabolic pattern of lapis lazuli occurrence over time does coincide with the ebb and flow of social networks across the Egyptian and Sumerian worlds. For instance, one of the earliest cemeteries in Lower Egypt associated with the northwards spread of Naqadan social practices is el-Gerzeh, founded in Naqada IIC and which notably has a high concentration of lapis (Stevenson 2009: 118–119). Out of 298 graves, sixteen were found to contain lapis, the highest percentage of graves with lapis known from any Predynastic cemetery of that date. The high incidence of lapis at el-Gerzeh relative to other cemeteries may be attributable to the unusually intact condition in which the majority of tombs were found. It might also, however, point to the social ability of community members here to acquire material through the new opportunities afforded by closer proximity to the expanding social currents in Mesopotamia.

Passage through the Uruk colonies in Syria and then across a sea route from the northern Levant is currently the favoured model (Kantor 1992; Moorey 1987, 1990; Tessier 1987) and certainly the discovery of lumps of raw lapis at Jebel Aruda (van Driel and van Driel-Murray 1979: 19–20) is suggestive of such a route. The role of Byblos on the Levantine coast has been noted in this context as a possible intermediary between the Uruk and the Egyptian worlds (Prag 1986). This, however, is disputed (e.g. Philip 2002: 219) and not until the first half of the third millennium BC does the port definitely occupy a central position in inter-regional trade. This in itself is part of a wider pattern of shifting exchange interests and opportunities. Just as the upturn in the quantity of lapis coming into Egypt coincides with a meeting of the Uruk and Naqada expansions, its seeming disappearance at the end of the first dynasty corresponds with the retraction of the Uruk sphere of influence.

The coincidence of lapis in both Egypt and Syria, however, does not necessarily prove a direct or exclusive 'trade' route (*contra* Marks 1997). As a visually striking substance, lapis invited complex biographies as it circulated through communities and travelled far from its geological point of origin. At el-Gerzeh, as at most Predynastic sites, lapis is most usually found in the form of small disc beads that comprise part of longer composite strings of beadwork. Such beads are frequently so tiny and so few in number that they were not visually prominent in the wider set. In such small quantities, lapis could have been transported the 4000 km to Egypt by any number of routes, through multiple hands and via several stops (Sherratt and Sherratt 1991: 357). Thus while lapis was likely propelled north through Sumer, it could also have become entangled in other geographies of exchange bypassing Sumer entirely. For instance, it has been noted (Smith 1992: 245) that the earliest parallels for glyptic art found in Egypt (see below) are with Susa, rather than Sumer suggesting that the former could have been the southern Mesopotamian intermediary for the transmission of imports, such as lapis, to the Nile Valley.

A sea route around or a land route across Arabia, for instance, has long been mooted. In the earlier twentieth century, this was considered to be the direct link between Egypt and Mesopotamia (e.g. Frankfort 1951: 110–111; Kantor 1952: 250; Petrie 1917), with the Wadi Hammamat in Egypt's Eastern desert seen as providing the crucial channel connecting the Nile to the Red Sea. Early rock art depicting high-prowed boats was cited as evidence to support this maritime connection (Winkler 1938: 26), as were the boats carved on the Gebel el-Arak handle (Petrie 1917). Yet as Moorey noted (1987: 39) Winkler's boat distinctions are not clear cut and their distribution is not restricted to

the Wadi Hammamat, as they are also found some 130 km south of the First Cataract. As for the Gebel el-Arak handle, Moorey has drawn attention to the Egyptian attire of the so-called invaders, casting doubt on 'whether the ships with rising prows and sterns have anything to do with Mesopotamia,' (Moorey 1987: 39).

Notwithstanding these issues, sea contact cannot be categorically ruled out. The Arabian peninsula occupies a central juncture between the Indian subcontinent and Africa and is noted as witnessing some of the earliest known maritime trade activities and seafaring routes (Boivin et al. 2009). It is only in the last decade or so that details from new archaeological work in countries such as Oman have been forthcoming, providing new evidence that communities in this part of the world were embedded within a wider nexus of exchange relations encompassing the Indus Valley and Mesopotamia, often mediated in the early second millennium by Dilmun. Similarly, the extent of Indus valley activities has also begun to be revealed (Agrawal et al. 2010) and lapis bead working is noted in the earliest levels at Harappa, *c.*3300–2800 BC (Kenoyer 1997: 267). These activities largely post-date the introduction of lapis into Egypt and most of the reported evidence concerns the later third and early second millennium BC. Nevertheless, this evidence highlights how a range of societies made up possible chains of connections and it is clear that future investigations have the potential to alter our understanding of the dynamics of exchange across this region in earlier periods. Communities in Egypt at least seem to have tapped into networks on the side of the Red Sea early on as evidenced by the presence of obsidian in several Predynastic graves (Hendrickx and Bavay 2002). Recent studies of obsidian artefacts suggest that several had an origin either in the hinterland of western Yemen on the Arabian peninsula, or from a region on the Eritrean coast and the northern part of the Rift Valley in Ethiopia (Aston et al. 2000: 46; Bavay et al. 2000; Zarins 1989: 367). Other studies indicate that Anatolian sources were also being exploited, and unworked obsidian has been found on the Lebanese coast suggesting a northern maritime route (e.g. Bavay et al. 2000). Obsidian thus demonstrates the multiple pathways of exchange around Egypt at this time. Although international connections for lapis are attested from the mid-third millennium BC at places such as Tarut, an island in the Gulf close to the Arabian coast (e.g. Aruz 2003: 324), lapis is currently not attested in the archaeological record of the Arabian peninsula for the fourth or early third millennium BC. It thus remains, for the time being, an unproven possible avenue of early exchange between Egypt and the East.

The lack of inter-regional evidence may in itself turn out to be significant. For example, the disparity between the conspicuous impact of Mesopotamian imports on communities in the Nile valley at the end of the fourth millennium BC and the minimal evidence for an equivalent influence on the Levant is notable. Philip (2002: 225) suggests that this may be attributed to the social contexts of reception whereby, despite widespread contacts, only certain communities with favourable social or political circumstances accommodated foreign elements within their own traditional practices. In this regard, the timing of Uruk expansion was fortuitous and rather than instigating developments in Egypt, communities of the Nile Valley seem to have been particularly receptive to exotic resources that could be creatively incorporated into already developing cosmologies (see below). Moreover, Egypt had particular contexts of consumption in the form of display-orientated burial practices which have been more favourable to the preservation of material culture than is the case elsewhere.

Regardless of its route, at lapis' final point of consumption in the funerals of Predynastic Egyptians, its actual source was probably not known to the mourners. It would, however, have been recognised as non-Egyptian and exotic from its vibrant, unusual appearance and for that very reason it was a substance of significance and, potentially, a source of social power. As Helms (1988) has argued, long-distance interests for 'prestige goods' are not merely trade pathways, as geographical distance is a symbolic construction invested with power. Exotica, she contends, involve intangible knowledge of distant landscapes regaled in shared oral narratives that are made manifest by the materials from those places. Power may be acquired by access to imported goods and those individuals or groups who obtain such items may lay claim to the esoteric, specialist knowledge that such things imply. It is not merely the peculiar nature of such knowledge that is significant, but also the politics that are involved in accessing such information. In this manner, material from the Sumerian World could serve as potent resources for those attempting to negotiate their own social environments.

CYLINDER SEALS

One Predynastic Egyptian burial in which lapis beads were placed was T29 at Naqada, the site first excavated by Petrie in 1894. The burial is one of the more unusual Predynastic tombs in that it appears to have been a large, communal interment, as were many in Naqada Cemetery T. This necropolis was also separated spatially from the main cemetery where single inhumations were the norm. What is particularly notable about the burial assemblage is that it also contained a cylinder seal, a hallmark of ancient Near Eastern cultures. The seal's geometric design is made up of three ovals enclosed in irregular borders, which can be compared with examples known from Telloh and Susa. The co-occurrence of lapis and cylinder seal in this grave is perhaps suggestive of a common transmission route. A second example was discovered in the main cemetery, in grave 1863, and is now in the Petrie Museum, London (UC5374). The piece, carved in brown limestone, is incised with curved lines including what may be the representation of fish swimming in water, similar to designs from Ur, Tell Brak and Tepe Gawra. These pieces are two of only approximately twenty known cylinder seals in Egypt (Boehmer 1974a; Podzorski 1988) although, unlike the Naqada examples, some might be local imitations. Neither context at Naqada allows for a precise date as diagnostic pottery is absent from both, but they can be placed broadly in mid to late Naqada II. Notably, many of the earliest cylinder seals formed part of composite bead sets and may thus have been valued in the context of personal display, in a similar way to lapis, rather than indicative of administrative activities (Podzorksi 1988; Wengrow 2006: 187).

In addition to cylinder seals, at least one if not two stamp seals are also known: one from Naga-ed-Der from an otherwise unremarkable tomb (Podzorski 1988), the other possibility being a red jasper example from Harageh (Engelbach and Gunn 1923). In the context of transmission routes, it is perhaps significant that the latter is a site close to Gerzeh in Lower Egypt and the seal is said to be Syrian in origin (Moorey 1990: 63). While stamp seals do not seem to have inspired the production of local imitations, cylinder seals were quickly adopted. Moreover, recent discoveries in six Naqada IID graves in Abydos Cemetery U demonstrate that the practice of sealing was known by

then (Hartung 1998; Hill 2004). These sealings were all made in local Nile mud and incorporated distinctively Egyptian imagery. Thus, like the wavy-handled pottery, an import was quickly appropriated to convey manifestly Egyptian concepts.

MOTIFS

Such foreign cylinder seals may have been the medium for the transmission of Near Eastern glyptic art (Amiet 1980), another category of import that has long been recognised. However, the imported examples in Egypt, like those at Naqada, all carry schematic rather than figurative designs. It is possible, however, that figural seals were also introduced into Egypt as even in Mesopotamia there are few protoliterate figural seals known outside of Uruk (Pittman 1996: 16). It is also conceivable that seal impressions themselves may have made it to Egypt.

The range of motifs adopted was selective and only a handful are recognised including: felines with long necks, the winged griffin, the master of beasts, snakes twisted around rosettes and animals in procession and in human attitudes. They were not incorporated into an Egyptian glyptic, but translated into relief carvings on characteristically Egyptian ceremonial objects such as knife handles, like the Gebel el-Arak knife, and palettes of the latter part of the fourth millennium (Asselberghs 1961: pls. 43–52, 122–23, 127–28, 151, 168–169; Boehmer 1974b). Just a single motif has been found fixed in its original context, painted on the wall of the only known decorated tomb from the entire Predynastic period. Dated to Naqada IIC, Hierakonpolis tomb 100 is one of the largest known burials of the era (Kemp 1973; Quibell and Green 1902). Across the white mud-plastered background of the subterranean chamber were images of animals, boats and humans in combat. In the midst of this scene is a motif more familiar from round button seals and impressions from Susa than anything in the Egyptian repertoire; that of the hero/ruler as master of animals (Amiet 1980; Smith 1992). At Hierakonpolis the figure holds back two opposing feline creatures (Figure 32.1), perhaps lions, and it represents the earliest borrowed design in Egyptian art. It is certainly lions that are featured on the Gebel el-Arak knife handle. So striking is this image that it has been suggested that it forms evidence for the presence of Mesopotamian craftsmen in Egypt (Sievertsen 1992: 58; Trigger 1993: 39–40). Yet given the occurrence of lapis and cylinder seals in Egypt, it is clear that objects were entangled within wider currents of material circulation that could easily have brought images to Egypt, not necessarily itinerant craftsmen.

Such knives tend to date to Naqada IIC/IID, but as luxury artefacts they may have been in circulation for generations before being reworked to accommodate decorated handles. Most known examples have appeared on the art market without provenance, leaving assessments reliant upon art historical parallels that generally placed the carvings in Naqada III. Recent finds of seven similar ivory handles in the elite cemetery U at Abydos, however, have provided Naqada IID contexts (Dreyer 1999). Glyptic images are less apparent on the ceremonial palettes. Plain siltstone palettes were relatively common throughout the Predynastic and were used as a surface on which to grind cosmetic pigments. Towards the end of the fourth millennium BC these were appropriated by the elite as a vehicle for conveying the ideology of kingship and incorporated some foreign elements to this end. The most prominent example, two felines with long entwined necks, appears on the famous Narmer palette.

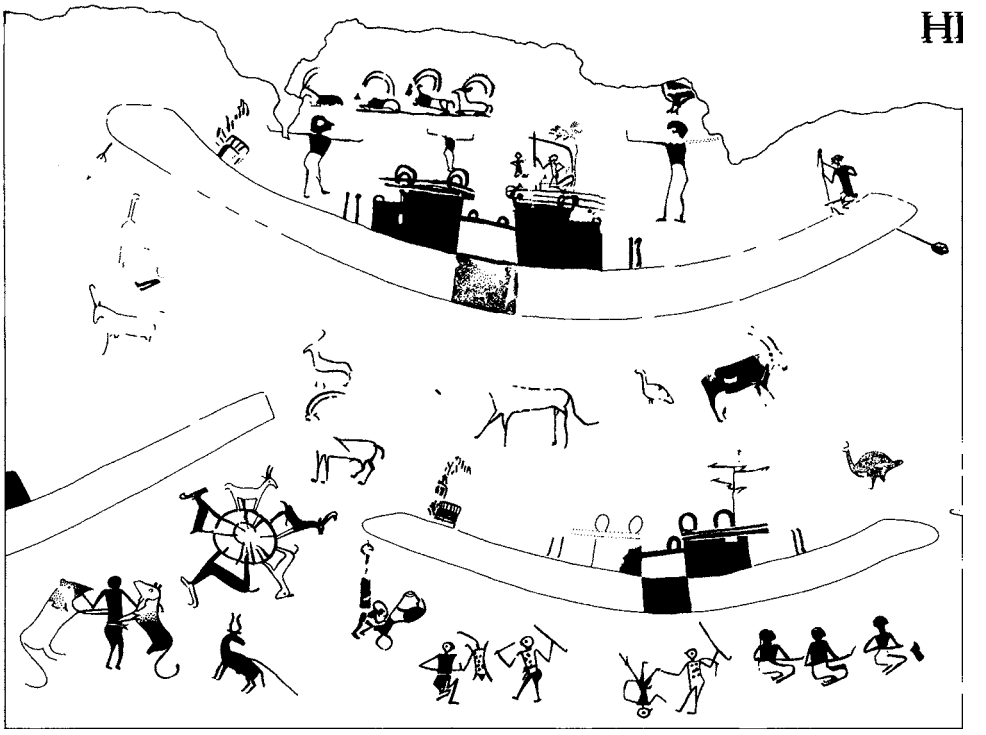

Figure 32.1 Portion of the painted wall of Naqada IIC tomb 100 at Hierakonpolis. A figure holding back two animals can be seen in the bottom left-hand corner, a motif seen first on round button seals from Susa, but later also common in the Sumerian glyphic repertoire (Kemp 2006: 80)

The similarity of many of these images to Susan as opposed to Sumerian styles has been noted (e.g. Boehmer 1974a: 514; Moorey 1987: 39; Smith 1992: 245), but perhaps overstated as evidence of a transmission route that bypassed Sumer. Given that these iconographical features have been found in Northern Syria on the LC4–5 sites of Habuba Kabira, Sheikh Hassan and Jebel Aruda (Pittman 2001), it is not necessary to seek their direct origin as far as Susa. Ultimately, however, it is possible that seals and sealings were conveyed along several routes.

As other scholars have noted (e.g. Moorey 1987), the original meanings associated with these motifs within the Sumerian world may not have been known in Egypt and indeed could have been irrelevant as they were reinterpreted to fit the developing ideology of the Egyptian elite. Moorey suggested (1987: 43) that they were symbols of the authority and power of the distant people who controlled access to such exotic materials as lapis. Yet as with lapis, the potency of these images was as much bound up with their status simply as exotic imports and their inherent drama as in whatever they may have symbolised. Their fantastical nature lent them a unique position outside the indigenous repertoire of representation, which by contrast drew from the Egyptian's natural environment (Pittman 1996: 19–22). Consequently, such images were appropriate references for the margins of the Egyptian's known world. They were

thus easily accommodated within the developing elite's concern with 'the containment of unrule' and the domination of order over chaos (Baines 1995: 13–14; Kemp 2006: 92–99). The potency of these images as representations of the dangerous edges of the habitable landscape may also explain the manner in which they were materially incorporated into the Egyptian world. The positioning of such images on the handles of knives, for example, made it possible for certain individuals to physically grasp them, effectively smothering and controlling these images of chaos. The association of ceremonial object and elite subject in this way, as Baines (1995) has suggested, restricted modes of communication and display to an inner elite and these images did not circulate beyond this enclosed social world.

OTHER EARLY IMPORTS

The case for directly imported Mesopotamian pottery is much weaker. Baumgartel (1955: 52–102) argued strongly for extensive Mesopotamian influence upon decorated pottery. Few scholars, however, regard the simple geometric patterns as evidence for the adoption of foreign designs and debate has focused instead on ceramic form. The most convincing parallels are triangular lug handles present on some painted vessels of Naqada IIC/IID (Petrie 1921: pl. XXXIV–V; Figure 32.2). The marl pottery fabric and the designs upon them are local, but the type of handles are known from Uruk pottery (Amiran 1992: 427–428) and form another example of the selective incorporation of foreign elements within the local oeuvre similar to the adoption of the Canaanite wavy handle. Imported prototypes are rare, but a sherd from Badari (Petrie Museum UC9796) and a vessel from Mostegedda (Brunton 1937: pl. 32.3) should be noted. More direct imports in the form of spouted vessels have also been claimed (e.g. Marks 1997; Wilkinson 2002), but the ware of many of these is local (contra Wilkinson 2002) and independent invention or local imitation is possible for this rather generic form (Hendrickx and Bavay 2002: 70). Thirteen sherds found in the Delta at Buto that were identified as Amuq F-ware ceramics from Northern Syria (Köhler 1992, 1998) remain contentious (Faltings 1998: 366–371). On the subject of pottery sherds, it should be noted that only one piece of evidence for Egyptian material in the Sumerian world has been proposed: a fragment of 'black incised' pottery (N-ware) found at Habuba Kabira-South (Sürenhagen 1986: 22), a type of ceramic created in Egypt's neighbouring Nubia. This fragment is, however, small (<5cm) and its identification is open to question.

The material elements so far mentioned are the most visible references in the archaeological record to wider exchanges from beyond Egypt. There remain, however, more ambiguous traces, such as the movement of resins, as these are more difficult materials to analyse. A wide variety of resins may have been exploited by Egyptians and while Levantine sources were more accessible, resources are widely distributed (Serpico 2000). Similarly, bitumen could have been available to Egyptians from a number of locations and deposits in the Near East (Serpico 2000: 454). More intangible still are supposed stimuli for technical concepts such as writing and faience production, for which Mesopotamian origins have been proffered (Dalley 1998: 11; Lucas and Harris 1962: 464–465), but for which no substantiation currently exists (Tite and Shortland 2008: 58). In the case of writing, recent evidence from tomb U-j at Abydos has certainly pushed back the date for the earliest notation in Egypt to Naqada IIIA1, but this is far from establishing whether this or the Mesopotamian system is older (Baines 2004: 176).

Figure 32.2
Decorated pottery vessel from Predynastic Egypt, Naqada II, with triangular lug handles (E10758, courtesy of the Oriental Institute of the University of Chicago)

BUILT ENVIRONMENT

In contrast to the portable ceremonial artefacts that were the restricted preserve of a small inner circle of elites, are the once highly visible and imposing funerary monuments that appear in the first dynasty at sites such as Abydos, Saqqara (Figure 32.3), Naqada, Tarkhan, Naga-ed-Der, Giza and Abu Roash. The external façades of these mud-brick *mastaba* structures were niched in a manner that recalls Uruk temples. In Egypt, such architecture is often referred to as the 'palace façade' as it was long assumed to be connected with the appearance of the royal palace. This hypothesis was seemingly confirmed in the 1970s with the discovery of a monumental Early Dynastic gateway at Hierakonpolis (Fairservis et al. 1971–72: 29–33). The association of the palace façade with kingship was further encoded in the form of the *serekh*, introduced in the late Predynastic (Naqada III), which by the Early Dynastic period was the convention for framing the royal name.

When Frankfort (1924: 124) first postulated a Near Eastern origin for Egyptian buttress-recessed architecture, the only comparisons then available were from sites such as Ur. Further discoveries at Uruk and Tepe Gawra permitted Frankfort (1941) to further extend his thesis, but it was not until the 1970s and 1980s with the unexpected discovery of buttress-recessed structures at Habuba Kabira and Jebel Aruda that a wider comparative context was revealed. To many, these discoveries were further testament to the consequences of the 'Uruk expansion', and underscored the role of the 'Syrian connection' in introducing Uruk forms to Egypt (e.g. Moorey 1987: 40–46, 1990: 62).

Figure 32.3 First Dynasty niched *mastaba* at Saqqara (photograph in the Lucy Gura Archive, Egypt Exploration Society, courtesy of the Egypt Exploration Society)

Others (e.g. Hendrickx 2001) have remained sceptical, rightly pointing out that the development of Egyptian architectural forms is difficult to substantiate given that early funerary superstructures were constructed in perishable materials, as is evident from the elite necropolis at Hierakonpolis where all that remain are post holes. Hendrickx (2001: 97) also cites differences in building technique between Uruk and Egyptian palace-facade forms.

Corroborative evidence for an external impetus seemed to come in the 1980s when it was reported that terracotta wall pegs of typical Uruk type, yet made in local Nile clay, had been recovered from Buto in the western Delta (von der Way 1987). These apparent architectural embellishments were not, however, found in the context of any structure and their identification as decorative nails has lost support, as has the idea of a Lower Egyptian origin for niched architecture (van den Brink 2001). Material references for contacts with Syria in the Delta archaeological record are thus, at present, threadbare. Circumstantially, it remains the case that the sudden appearance of the niched form in Egypt seems to occur against the backdrop of the much longer developmental sequence in Mesopotamia (Sievertsen 2008) and an external influence remains plausible. Frankfort also advanced the idea that it was not just the style of these buildings, but their very substance, mud-brick, that was introduced from Mesopotamia (see also Sieversten 2008: 791–794). He argued that there was no evidence for extensive use of mud-brick before the Dynastic period although there is now limited evidence for its development, at least from Naqada II (Kemp 2000). Others have proposed a Levantine influence (e.g. Rizkana and Seeher 1989: 49–56).

If not the technology, but the appearance of niched architecture can be attributed to outside inspiration, it might be questioned whether it is necessary to rely on itinerant Near Eastern peoples to explain the construction of such monuments in Egypt (cf. Moorey 1987: 64; Hendrickx 2001: 97; Sievertsen 2008: 800; von der Way 1992: 220). Such a movement of people is admittedly conceivable, but the role of oral transmission of knowledge that accompanied the spread of lapis, seals and possible sealings cannot be discounted. Pictorial prompts to such narratives certainly occurred on Sumerian and Susan sealings, such as a sealing from the Red Temple at Uruk (Amiet 1980: pl. 200; Smith 1992: 238–240), and these might hypothetically have inspired their realisation in the Egyptian landscape, although this remains to be examined critically.

LEGACIES

The break in the evidence for Mesopotamian influence in Egypt is often explained by the apparent collapse of the Uruk expansion. Yet, this cession owes as much to shifts in the Egyptian world as it does the Sumerian. In the first dynasty, the Egyptian state sought to consolidate a bounded national identity through 'internal colonisation' (Wengrow 2006: 142–146) and relations were curtailed around a southern and a northern border; the Nubian A-group disappears and following the direct expansion of Egyptian groups into southern coastal Levant in Naqada IIIA–C1 (Levy and van den Brink 2002), the Egyptian presence recedes markedly.

The disappearance of Mesopotamian images from the elite visual repertoire in the first dynasty cannot be explained simply as a constriction in social networks as it was not just the motifs that disappeared: the very medium of their realisation vanished, never to be revived in subsequent dynasties. The ceremonial palettes, mace-heads and ivory knife handles are a distinctly late Predynastic phenomenon. As Wengrow (2006: 216) has suggested, such ceremonial objects confined these images to restricted material forms that impeded their incorporation into the wider social world in which they had little relevance. It would take another florescence in cultural creativity afforded by the fragmentation of the centralised Old Kingdom c.2160 BC for foreign motifs to once again find an available niche.

The 'palace-façade' architecture, on the other hand, was a more enduring feature perhaps because, unlike the ceremonial objects, they were so visibly rooted in Egyptian surroundings and thereby normalised. While by 3000 BC such structures had largely disappeared in Mesopotamia, niched façades remained in use for Egyptian tomb architecture until the late Old Kingdom and in the third dynasty was adopted for stone sarcophagi. In these contexts niched architecture was unmistakably Egyptian.

CONCLUDING REMARKS

By the time small lapis beads started to filter into the Nile Valley in the latter half of the fourth millennium BC, Egypt was already on a trajectory of increasing social complexity. Lapis was caught up in these developments as one material amongst many that could be drawn upon as a source of social power. Within centuries it was not just what could be held in the palm, but what could be perceived in the landscape that might represent most eloquently the impact of foreign imports in the Egyptian world. Regardless of whether or not specific cultural attributes were or were not Sumerian in

origin, it is clear that any such influences were subject to local redefinition, resulting in a distinctly Egyptian material culture. Such conclusions are not new nor are they in dispute. Similarly, we cannot yet discount Frankfort's (1951) closing observation of his seminal work that 'the question where contact between Egypt and Sumer took place must remain, for the moment, a matter of surmise'. The question can be reformulated, however, for it presupposes a singular point of intersection. Rather, it is the social networks through which these elements traversed and the local contexts in which they were consumed that remain to be fully qualified, not just within the Egyptian and Sumerian worlds, but also in the spaces in between.

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POSTSCRIPT

THE MESOPOTAMIAN MARSHLANDS A PERSONAL RECOLLECTION

by Azzam Alwash

I grew up on the fringes of the marshes of southern Iraq. My father, who was the district irrigation and flood engineer, used to take me into the marshes in the early spring. His mission was ostensibly to inspect flood control structures in preparation for the coming spring floods, but in reality he was just finding an excuse to go duck hunting. Given my father's busy schedule, I loved to go with him as I had him all to myself in the boat, save for the boatman. We meandered in these small canals, surrounded with reeds that towered to the sky. The water was so clear you could see the fish scrambling away from the bow of the boat. Every now and then we would come to a large lake where the breeze hits your face and birds would fly into the sky shying from the noise of the boat engine.

He went from one floating village to the next speaking to the people of the marshes. I had thought of them as backward people who lived with water buffalos and in houses made of reeds. We were not taught in school what these people represent and the connection they have with our common ancestors, the Sumerians, whose temple in Ur I visited many times on family picnics. I have vivid memories of picnics at the Ziggurat of Ur where as a little boy I picked at the reed bits stuck in the tar between the bricks of the stairs leading to the top of the temple. I had no knowledge at the time that I was picking at the work of the ancestors of the Marsh Arabs, the Sumerians, nor did I understand that the life style of the Marsh Arabs was little changed from that of builders of Ur.

Few people understand the organic connection between the mountains of Iraqi Kurdistan in the north and the plains of southern Iraq. The marshes and the plain of Mesopotamia are in fact a gift of the mountains of Kurdistan. The annual spring floods that result from the snowmelt in the mountains of Kurdistan bring huge amounts of water and soils, and deposit them in southern Iraq creating the plain that we now call Mesopotamian. The marshes of southern Iraq are essentially retention basins that are recharged every spring. The whole ecology and biodiversity of the area evolved around this annual event. The water comes in and flushes the brackish water that accumulates from the evaporation of the year before just as the reeds are coming out of winter hibernation. The depth of the water increases just in time for the spawning of fish and just as the birds are migrating. Furthermore, the lateral extent of the marshes is increased, covering the grasslands along the perimeter of the marshes with a new layer of silt and clay revitalizing these agricultural lands, which is why agriculture in southern Iraq did not need fertilization well into the twentieth century.

It was not coincidental that agriculture first developed in the naturally renewable fertility of the grasslands surrounding the marshes. What the Sumerians did was invent an ingenious irrigation system which their Marsh Arabs inheritors continued using. Following the peak of the floods, they broadcast seeds on the higher lands that first start emerging as the floodwaters recede. These higher lands get covered twice a day as a result of the tidal actions of the Gulf that slows the flow in the Tigris and Euphrates, causing a "backup" of the water. The seeds thus get irrigated automatically without having to open canals or pump water. As the seedlings grow, however, the water recedes too far to allow for irrigation, and thus the seedlings are transplanted from the higher land into the low lying fields/grasslands. The irrigation system continues to provide water twice a day well into the early days of summer. By the time the floodwaters have receded, the roots of the seedling would tap into the groundwater and are in no need of the hard labor of irrigation.

In this way, the Sumerian culture gave us sustainable agriculture, which allowed settlements and eventually cities to be built, leading to laws and writing and all the trappings of culture. It is without irony that the marshes can be called the cradle of Western civilization.

Empires came and went, but the Marsh Arabs' lifestyle did not change much. The rhythms of life in the marshes were predictable. Every now and then, the floods would cause rivers to change course and communities had to move when water is cut off but in essence, at the micro level, the fabric of society stood the test of time.

Then, in 1991, following the defeat of Saddam in Kuwait, the people of Iraq rebelled. The insurgence, however, was short lived as the cities were taken over by the Iraqi army, which was allowed to crush the rebels under the watchful eyes of the Western alliance. The remnants of the insurgency sought refuge in the marshes to hide from the wrath of the army and of Saddam. This was not a new phenomenon. The history of Iraq is filled with stories of rebels using the marshes as a place to hide. After all, life in the marshes was relatively easy from the natural abundance of water and food, but more importantly, the marshes protected the individuals and the small bands from the organized armies of whoever was controlling the empire at any given time in history.

In 1992, we began hearing rumours that the marshes were being drained. It was hard to believe that it is possible to drain 12,000 square kilometers but sure enough by 1997, satellite pictures showed with certainty that the marshes were being dried and only 700 square kilometers of marshes shared between Iraq and Iran remained. It turns out that at a time when Iraq was not allowed to sell a single drop of oil officially, Saddam's regime literally used every piece of heavy equipment available in Iraq in a massive engineering project designed to direct the waters of the Tigris and Euphrates away from the marshes depriving them of their source of life. Six major canals were excavated and thousands of kilometers of embankments, the dirt of which had to be trucked in, were built up to increase the flow capacity of the rivers and tributaries of the Tigris and Euphrates. From the engineering point of view, it was a massive project that showed the versatility of the engineers of the Iraqi ministry of water resources. In less than seven years, only a fraction remained. In place of the unique water-world of the marshes was a salt-encrusted, barren moonscape incapable of supporting life. Deprived of their livelihood, the Marsh Arabs migrated en masse from the marshes. Those that wanted to stay were brought into compounds and became dependent on the government for

their food through the ration program instituted under the "Food-for-Oil" program. A proud people became slaves to the power of the government and all resistance ceased.

The effects of drying the marshes were not limited to the Marsh Arabs of course. The Kuwaiti Institute for Scientific Research indicated that the drying of the marshes caused the temperature to increase locally by five degrees centigrade and worse still, all the silts and clays that used to be deposited in the marshes (not to say anything about the heavy metals and organic matter) were now being deposited in the Gulf covering the coral and oyster beds that Kuwaitis made their living off before the discovery of oil. Fish catches and shrimp landings were also reduced by 50 percent and the migratory birds had to go elsewhere to find a rest stop. A local indigenous bird, the Basra Reed Warbler, was found as far away as Israel in its attempt to find a suitable habitat. It is on this basis that the United Nations Environmental Program called the drying of the marshes "one of the world's greatest environmental disasters of the last century."

Prior to 2003, "experts" said that the marshes could not be restored as the soils had changed chemically or, alternatively, that the seed bank had been exhausted by the drying, or worse still that the Marsh Arabs did not want the marshes restored as they had become used to life in cities and wanted the trappings of modern life. After the toppling of Saddam in April 2003, however, this conjecture was challenged by facts on the ground. Surviving residents began breaking the embankments and opening the floodgates to allow water back into the marshlands. Re-flooded areas began sprouting reeds within six months, defying the predictions of experts.

It turns out that the Marsh Arabs did want the marshes back and acted with their own hands – literally. These people did not restore the marshes because they loved the environment per se, but rather they restored the marshes to regain a way of life that used the marshes as an independent source of food and income. When a people are dependent on the existence of a healthy marsh to live, they act to protect the wetlands. One of the Marsh Arabs I encountered upon return to Iraq told me that it was pride and self-respect that motivated him to flood a portion of the marsh close to his original village. He said, "I do not have to beg for daily work to feed my children. I can use my own hands to fish and harvest reeds so I can afford to feed my children." This is the basis for a model of sustainable restoration. As long as the people of the marshes can depend on them for their livelihood, the marshes and nature will have their defenders.

It is tempting to see the story of the marshes as a sort of phoenix rising out of the ashes of destruction, but it is not all smooth sailing. In the 1990s Turkey began a massive program of building dams on the upper reaches of the Tigris and Euphrates, and it continues on its quest to harness the energy of nature. It is ironic that the world views dams as a source of sustainable renewable and supposedly clean energy. While it may be true that the hydroelectric power generated from dams reduces CO_2 production (as compared to generating electricity from fossil fuel), however the effects downstream are devastating to natural systems.

One of the direct results of the dam building upstream is the loss of the flooding cycle, the pulse that drove the natural life rhythm of the Marsh Arabs and the nature on which they depend. The size of the restored marshes varied from a high of 65 percent in 2008 to as low as 35 percent in 2010. The water reaching the marshes is no longer full of silt and clay, but rather is salty as the farmers in Iraq, Syria, Turkey and Iran still use flood irrigation systems that result in the generation of a huge amount of

salty drainage water that is dumped back into the rivers. This causes the water quality to depreciate downstream. Nevertheless, the marshes are hardy and the reeds of the marshes are a versatile plant that can even grow in a brackish environment. However, less hardy species such as frogs, fish, birds, and other flora and fauna are not capable of withstanding the changes and, as a result, the biodiversity of southern Iraq is changing as nature adapts to the changed flow system and water quality.

The way forward for the marshes and the Marsh Arabs, if they are to be preserved for future generations, depends on the nations sharing the waters of the Tigris and Euphrates. They must work together to modernize irrigation techniques and agree to an equitable system of water usage and distribution. This is needed not just to save the marshes, but to save agriculture and to promote regional cooperation.

The water resources issue, if viewed as a competition, will cause increased political tensions, when in fact it can be used as a tool to promote cooperation and mutual benefits. Solutions exist but they require thinking outside the box. Personally, as an activist who has worked on the restoration of the marshes and the protection of the cultural heritage of Iraq, I am hopeful that the marshes of southern Iraq and the culture they spawned will last well into the future. Even if the countries upstream do not cooperate, I predict the death of agriculture in Iraq (due to salinization) before the marshes are dried again. Moreover, given that the lifetime of dams is only 200 years, it is but a blink of an eye in geological terms. Watching the powers of nature in action over the last eight years, I am awed by its power and ability to adapt.

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