

AGENCY

IN ANCIENT WRITING

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T W O

Bureaucratic Backlashes

*Bureaucrats as Agents of Socioeconomic
Change in Proto-Historic Mesopotamia*

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Writing systems, at their most fundamental level, are visual manifestations of established social norms and contracts. Such a notion is well expressed in a comment by the noted Assyriologist Ignace J. Gelb in his book *A Study of Writing* (first published in 1952), where he stated that “[w]riting began at a time when man learned how to communicate his thoughts and feelings by means of visible signs, understandable not only to himself but also to all other persons more or less initiated into the particular system” (Gelb 1969, 13). What Gelb vaguely referred to as a “particular system” is the very breeding ground for writing, a society at a crucial point of its socioeconomic development when the abstraction of the spoken word into symbols becomes desirable or unavoidable. It is the role of the scribe in Mesopotamia in this particular constellation that I shall make the focus of this study.

No study of the agency of writing can be complete without considering Mesopotamia, home to some of the oldest civilizations known to us. To many scholars of the past this is where it all began, including writing. Gelb’s own studies on this topic still reflect a strongly diffusionist stance in which, as paraphrased by Cooper (2004, 71), “writing was invented in Babylonia just before 3000 BC, very soon stimulated the development of writing in nearby Egypt, and by

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means not well understood eventually stimulated the development of writing in China some 1500 years later.” Over the past decades Gelb’s approach, which clearly reflects influences from V. G. Childe’s work (Childe 1952), has been superseded by more region-based studies that take account of local development and idiosyncrasies. Scholars now agree that writing “was invented more than once, as the Mesoamerican evidence compels us to believe, it could have been invented four times” (Cooper 2004, 72). Mesopotamia may no longer be considered the cradle of all writing systems and, according to recent discoveries in Egypt, it might not even have the earliest known inscriptions.¹ Such caveats, however, have not diminished the significance that Mesopotamia holds for our understanding of the impact that the development of a writing system has on society. Rather unusually, the precursors to Mesopotamia’s writing system, which can be traced back over millennia, are well-known. “True” writing finally emerged between 3500 and 3000 BC, at about the same time that a highly urbanized society manifested itself in Mesopotamia. My present study will address the mutual impact that urban society and the writing system had on each other’s development.

When looking for individuals and individualism behind the emergence of Mesopotamia’s writing system, we are confronted with several problems. Data for scribal traditions in *historical* Mesopotamia (after 2500 BC) are abundant—we often know the scribes’ names, their patronymics, exact titles, overlords, and sometimes even elements of their characters. Such traits by definition are more difficult to recognize in prehistory. The scribe himself remains nameless, but his actions and abilities can be discerned from the artifacts that were left behind for us. The scenario evoked in my subsequent discussion not only echoes Adam Smith’s doubts about “intelligent” designs behind most writing systems to some degree (see Smith, this volume) but even suggests a certain “inevitability” in the emergence of an early Mesopotamian writing system. It would be thoroughly misleading, however, to see the Mesopotamian scribe as a “reactionary” who simply mimics newly established social and behavioral norms in writing. During a crucial time between 4000 and 3000 BC, scribes became significant agents that spurred social and economic changes in a fashion similar to those later observed during the Mycenaean period in Greece (cf. Nakassis, this volume). Their actions helped to establish and maintain the subsequent state societies of Sumer, Babylonia, and Assyria, which dominated vast parts of the Middle East for millennia and even affect our modern-day society to a significant degree.

DEFINING DATA SETS, AGENTS, AND ENVIRONMENTAL SETTINGS

The origins of writing in other parts of the world, such as Egypt, China, and Mesoamerica, may be less obvious because of Mesopotamia’s larger numbers of religious, political, and even symbolic early texts. In Mesopotamia, hundreds

of thousands of administrative and economic documents, written on tablets in cuneiform script using the Sumerian and Akkadian language, show that the origins of its writing system are undoubtedly bureaucratic. To some degree, the large number of surviving texts can be explained through the writing material itself. Unlike paper or papyrus, clay is cheap and omnipresent in the Middle East. Once discarded, tablets do not disintegrate—they are protected by the surrounding soil until retrieved in excavation. A fire destruction, which will completely destroy documents made of organic materials, actually helps to preserve tablets by baking them, making them even less susceptible to disintegration. Much of what we see now as Mesopotamia’s “bureaucratic record” may have been discarded in antiquity and survived by accident. Even if we account for such heirlooms, however, the number of tablets still reflects Mesopotamia’s inherent systemic need for highly organized bureaucratic systems.

Writing as a syntax-based recording system emerged only around 2500 BC. Before that, most records consisted of lists of commodities and names that were prefixed by numbers and quantities. Recording a quantity (bulk or volume) versus a number may not make much of a difference to the present-day literate reader, but these two practices were based on very different recording systems that predated writing in its proper form. Whereas the former was based on sealing clay lumps that were attached to containers and doors, the latter used tokens or counters, as will be described below in more detail. Writing itself, as will be shown in this discussion, emerged at a key point in Mesopotamia’s socio-economic development, essentially merging both recording systems.

Because much of the following discussion relates to prehistoric materials, my use of the term “scribe” in this context could be questioned and considered inappropriate. By using the term “pre-scribal” in prehistoric context I hope to emphasize a functional continuity between prehistoric and historic recording systems. Since early Mesopotamian writing is largely bureaucratic, the use of the term “scribe” versus “bureaucrat” requires clarification. We cannot determine with certainty if “scribes” and “bureaucrats” always were one and the same or if each bureaucrat had his own scribe(s). Here we have to concede the limits of our data resolution. In prehistoric context we cannot attach names to agents nor can we be certain that such an action was carried out by a single person. In the following discussion, therefore, an “agent” can be an individual or an “office” and held by several individuals who used—or shared—official status markers in an administrative context.

The impact that landscapes and geographical factors had and continue to have on the social and economic development of societies has been discussed widely, often to a degree of an environmental “determinism” in which human action itself is perceived as “reactionary,” as a mere adjustment of systemic practices to environmental challenges.² It would, however, be equally misleading to ignore local environmental preconditions altogether in a discussion of the

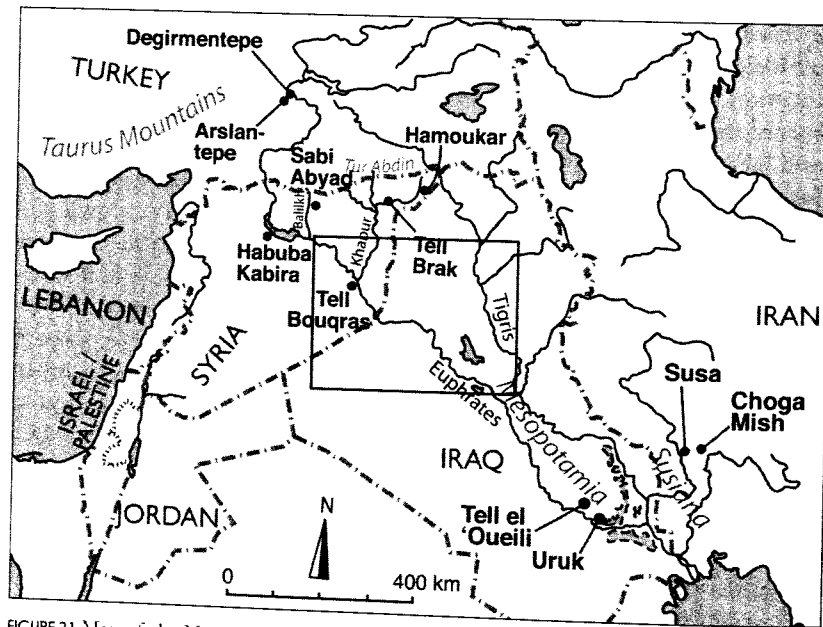


FIGURE 21. Map of the Near East, showing sites discussed in text (map by the author).

development of a society. Man may shape nature, but nature, as I will show in the following discussion, also affects man's individual decisions. The archaeological sites to which I shall be referring in the following discussion are located in two fundamentally different zones (see Figure 2.1).

Southern Mesopotamian Alluvium

Located in modern-day southern Iraq and southwestern Iran, the southern Mesopotamian plain, crossed by its principal rivers Euphrates and Tigris, represents a highly asymmetrical landscape that clearly challenged and directed human agency in numerous ways.³ It is an alluvial plain created by heavy sediment loads carried by the rivers from the Turkish and Iranian mountains during flood episodes following the annual spring snowmelt. Over time, these deposits have altered the landscape significantly, raising its plain level by up to fifteen meters in the past 5,000 years. Increased sedimentation also caused river meanders and avulsions, resulting in significant changes to river courses. These changes also affected our archaeological data set. With many early sites obliterated or covered by several meters of mud, our knowledge of early archaeological sites in this area remains very limited. This modern-day challenge for archaeologists, however, merely reflects a situation that has shaped human

development in this area over millennia. A floodplain that essentially consists of fertile silt, southern Mesopotamia has vast agricultural potential. Because annual rainfall rates between 20 and 50 mm are insufficient to allow for rain-fed agriculture, however, canals have to be dug from the rivers to irrigate the fields after the sowing season. In addition, dikes need to be constructed to keep floodwaters away during harvesttime in spring. The positive feedback of irrigation agriculture on the social and economic development of societies that are centered on and influenced by river systems led Karl Wittfogel (perhaps somewhat dogmatically) to devise his model of early "hydraulic civilizations," including those in Mesopotamia, in the Nile and Indus Valleys, and along the Yangtze River in China. In Wittfogel's view, the labor input needed for the creation and maintenance of large-scale irrigation systems required a high degree of labor management, which led to surplus production, craft specialization, and an increasingly stratified society (Wittfogel 1957). Wittfogel may have overstated the significance of irrigation in the urban formation process. New paleoenvironmental data suggest that, during the late fifth and early fourth millennium BC, Mesopotamia's climate appears to have been significantly moister than today (Algaze 2008, 41–49). More recent discussions on Mesopotamian urban developments, therefore, have emphasized its geopolitical position as a decisive factor in both state and urban formation process. Emphasizing southern Mesopotamia's position "at the head of an enormous dendritic transportation system" (the Tigris-Euphrates river catchment area) Algaze (2008, 50–62) suggests that the low costs for bulk transports on rivers and canals compared to land-based transport served as a key factor in this region's socioeconomic development. Between 4000 and 3000 BC, large urban centers emerged; Uruk, the largest one, extended over an area of 250 hectares.⁴ The presence of a large number of public and religious buildings that covered a sizable part of the city's area attested to the presence of a multi-tiered political, social, and religious hierarchy. An increasing need to organize taxation, storage, and redistribution of staple and traded commodities required the development of administrative systems, resulting in the emergence of an elaborate bureaucratic apparatus. In Mesopotamia, as I will discuss below, this trajectory led not only to the formation of highly urbanized societies but also to the emergence of scribal traditions.

Northern Mesopotamia's Upper Plains and Foothills

The areas to the north, by comparison, presented a very different setting. The plains of northern Mesopotamia—corresponding to present-day northern Syria and the foothill mountains of southern Turkey—are part of an ancient cultural landscape that extends from the Levant across the plains of northern Syria and the foothills south of the Taurus Mountains in southern Turkey to the slopes of the Zagros Mountains in western Iran. Characterized by a tempered

climate that favored forests and grasslands with a variety of huntable species, this area contained some of the oldest traces of human habitations in the ancient Near East.⁵ The “Agricultural Revolution,” which after 9000 BC emerged in this area and spread from it, was favored by annual rainfall rates of more than 200 mm, which allow rain-fed agriculture without the burden of irrigation (Akkermans and Schwartz 2003, 2–7). To the present day, the settlement pattern in this area is dominated by agricultural villages that in the past interacted with nomadic and seminomadic pastoralists. This area never quite saw the scale of urban expansion found in southern Mesopotamia, but it provides crucial settlement data on early complex village communities (ca. 6500–4000 BC). Although shorter and smaller in scale than in southern Mesopotamia, periods of urbanism occurred during the fourth and third millennia BC (Akkermans and Schwartz 2003, 181–210).

For the purpose of our study, therefore, southern Mesopotamia provides data from large-scale, urbanized settlements in which a fully fledged writing system gradually emerged after 3500 BC. The “prequel” to this developmental process is visible at village communities and proto-urban centers in northern Mesopotamia. In spite of their geographically different origins, these data sets provide a consistent overall picture of the development of early bureaucracies and, as we shall see, the role of scribes during the emergence of urban structures.

ACCOUNTING FOR BULK AND VOLUME: INDIVIDUALIZED PRE-SCRIBAL AGENCY IN NEOLITHIC VILLAGE CONTEXTS

Writing, as mentioned above, emerged as a combination of two recording procedures: one accounting for bulk volumes and numbers, and the other for numbers. To understand the role of “scribal” agency (based on my definition above, I shall use the term “scribe” even in a prehistoric context) in pre-urban context it is necessary to discuss both systems, paying tribute to their respective socio-economic settings.

The basic tools to account for bulk and volume were clay sealings, attested throughout the Neolithic period and early Late Chalcolithic period (ca. 6500–4500/4000 BC).⁶ Essentially they are lumps of clay that bear impressions of one or several seals on one side and impressions of movable items, such as jars, bags, and baskets to which they had been attached, on the other side (Figures 2.2a–c). Frequently, these containers had been closed with a string—bags were tied up while jars were covered with a lid and a piece of cloth that was fastened around the neck of the jar. The resulting knot in the string usually was embedded within the clay, after which it was impressed with one or multiple impressions of a seal. Once the clay had dried, the attached container could be opened only by breaking the sealing. With unauthorized openings noticeable, the integrity of a commodity “under seal” was guaranteed.

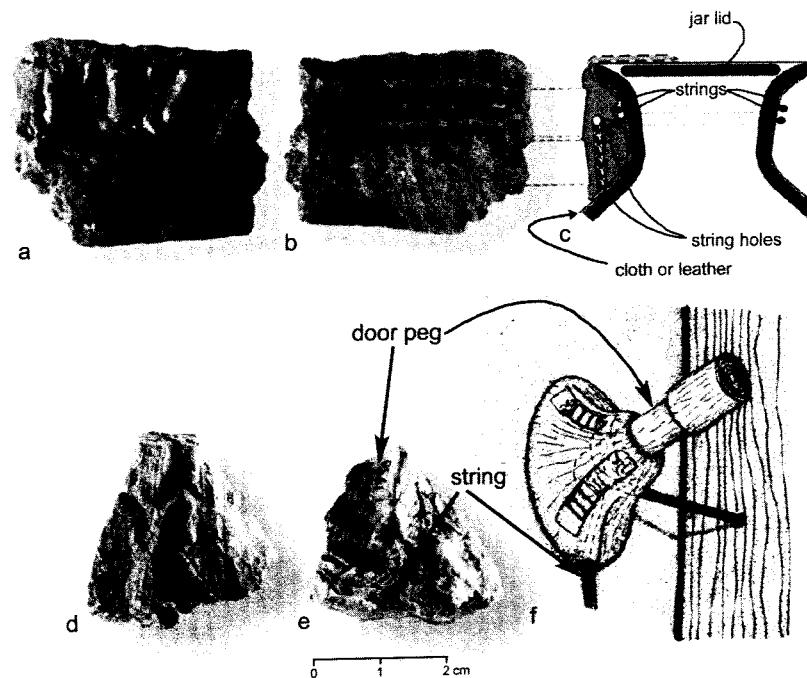


FIGURE 2.2. Clay sealings: (a) front, (b) back, and (c) reconstruction of a jar sealing (from Hamoukar, ca. 3500 BC, Deir ez-Zor Museum); (d) front, (e) back, and (f) reconstruction of a door sealing (from Tell Asmar, Iraq, ca. 1900 BC, Oriental Institute Museum). Images a–c: courtesy of Hamoukar Expedition, Oriental Institute, University of Chicago; d–f: courtesy of Diyala Project, Oriental Institute, University of Chicago.

The seals used from the so-called Halaf period (6500–5000 BC) onward were stamps made of wood, bone, shell, or stone (Figures 2.3).⁷ Perforations found on many of them suggest that they were suspended from a string, hence worn around the neck or wrist. Their shapes and appearances varied greatly, ranging from abstract to figurative. Because many are in the shape of animals or body parts, it is quite likely that they also were used as amulets or talismans. Among smaller social groups, such status markers would have been individually recognizable so they could have served various functions, from providing protection to visually identifying individualized agency in socioeconomic transactions and events. During the Halaf period the use of seals, therefore, was individualized or, at most, family-based. Containers closed and sealed within domestic bounds could be surrendered to non-family-controlled space without relinquishing control over their contents.⁸

The variety among seal designs was limited, initially showing abstract but later also figurative motives. Many of these motives likely represent family or

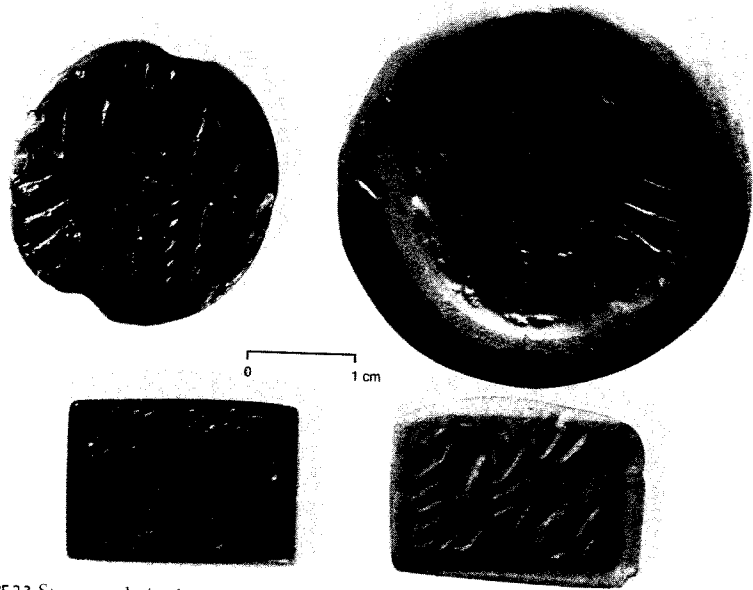


FIGURE 23. Stamp seals (and modern impressions), black stone, showing dancers, from Hamoukar, Late Chalcolithic 2 (Deir ez-Zor Museum, 4500–4000 BC). Photographed by author.

“tribal” markers, once more suggesting their use among smaller groups in which such repertoires would have provided sufficient distinction. This observation generally fits the settlement pattern of Halafian village communities, which rarely extend over more than a few hectares but mostly seem to represent hamlets. Much of the space within larger settlements, such as at Sabi Abyad on the Balikh or Tell Bouqras on the Middle Euphrates, was devoted to large centralized storage facilities consisting of large sections with small, square or rectangular rooms arranged in a checkerboard or grid pattern, representing granaries that presumably were accessed from the roof, or long, narrow rectangular rooms with access along their short sides.⁹ Such units would have been outside the spatial control of family boundaries. Sealing sacks of grain or other food products stored here, therefore, not only identified them as family property but also ensured that no one could open them unnoticed.

ACCOUNTING FOR SPACE: INSTITUTIONAL AGENCY IN PRE-SCRIBAL TRADITIONS

As far as we can tell, all sealings associated with the Halaf period were container sealings, restricting control to the items that they sealed but not extend-

ing it to the space in which they were stored. Such control is first attested during the subsequent ‘Ubaid period (ca. 5500–4500 BC; see Henrickson and Thuesen 1989), signaling not only a new level of socioeconomic complexity but also the emergence of new agents that used seals. The earliest evidence for this shift was found at Degirmentepe, a site in southeastern Turkey that showed evidence for specialized copper production from the ‘Ubaid period onward (Esin 1989, 137). Most of the 450 sealings found at this level in a clearly non-random pattern were container sealings, originally attached to jars, reed baskets, leather bags, and wooden boxes (Esin 1994).¹⁰ One of them, however, showed what appear to be impressions of wall plaster and a wooden peg; hence, it appears to have closed a door (Esin 1994, 69, figure 7.5; cf. Figures 2.3d–f). Just as in the Halaf period, containers with food or manufactured items continued to be sealed before being deposited in external storage locations. The Degirmentepe door sealing, however, if identified correctly, attests to the appearance of a new bureaucratic procedure in which the door to a storage unit also is sealed to control access to it. Closing the door of a storage room with a seal added another layer of security, because unnoticed access to containers inside now required access to two seals that were located at different places. In terms of agency, the individual or family behind the container seal now was joined by a specialized authority that controlled administrative space, showing the gradual emergence of a bureaucratic apparatus. This function might have been held by one or several individuals who shared not only a position but also the use of a seal. A door sealing, accordingly, represents not *individual* but *institutional* agency.

URBAN REVOLUTION AND THE BUREAUCRAT: “DEPERSONALIZING” SCRIBAL AGENCY

By the late fifth millennium BC, the transition from the Neolithic to the Chalcolithic period, data from southern Mesopotamia increasingly become available. By the beginning of the fourth millennium BC, southern Mesopotamia takes precedence in the development of scribal agency. As indicated earlier, this time period, named after the site of Uruk, is characterized by the emergence of large cities in southern Mesopotamia and the Susiana in southwestern Iran, where large settlements dating to the Uruk period were centered on the sites of Susa and Choga Mish.¹¹ By the Middle Uruk period (3600–3200 BC), Syria, southern Turkey, and western Iran were covered by a vast network of Uruk colonies, indicating that southern Mesopotamia exercised control over much of this area at least in economic, if not political, terms.¹² Large complexes of public and religious architecture exposed at Uruk leave no doubt that this city had a multi-tiered society with clearly defined social boundaries and was controlled by a strong political power base and elaborate religious institutions.¹³

Labor organization, taxation, and storage or redistribution of staple and manufactured or traded commodities required bureaucratic specialization and accountability. Large numbers of clay sealings found at Uruk, Susa, and Choga Mish attest to extensive pre-scribal bureaucratic agency within Uruk entities.¹⁴ Unlike the northern sealing tradition of using stamp seals, however, southern Mesopotamians used cylinder seals, consisting of stone cylinders into which seal designs were engraved (Figure 2.4). The difference between stamp seal and cylinder seal is much more than a technical one and, in fact, tells us about the very nature of scribal agency behind the seal. The limited space on the reverse side of a stamp seal also limited the potential variability in the iconographic repertoire of seal designs. Accordingly, the number of easily discernible variations on a theme is limited. The surface of a cylinder seal, by comparison, provides the “canvas” for a long rectangular image, making it a perfect place to apply an elaborate design with “narrative” depictions. Sufficient room meant that the same theme easily could be varied without confusion or mix-up. This medium, therefore, suited the requirements of an increasingly complex bureaucratic system in which an iconographic theme identified a bureaucratic entity but required subtle details to identify individual administrative agents within its system.

Even for a present-day viewer of an Uruk seal, likely relationships between image and possible functions of its user are not too difficult to decode. A herd of sheep or goats shown in association with a temple might represent the authority of an administrator in charge of a herd belonging to a temple household (Figure 2.4a); a scene showing the production of goods, such as pottery vessels, would have belonged to an official in charge of a manufacturing unit (Figure 2.4b). Symbols and metaphors could also be used: spiders, for example, appear to have represented textile production in large-scale manufactures (Figure 2.4c).

Whereas geometric patterns and animal designs on Neolithic seals appear to identify individuals, families, or tribal affiliations, the agent identified by Uruk seals appears to be an institution-bound official—either one person or multiple persons who shared one office. Seals and sealings from the southern Mesopotamian Uruk culture, therefore, are likely to reflect institutional rather than individual agency.

Although the Uruk culture was dominated by the use of cylinder seals, not all urban developments during the fourth millennium BC adopted them. Urban centers in northern Syria and southeastern Turkey, which developed independently from Uruk (although often were taken over later during Uruk colonial expansion into these areas) continued to use stamp seals, but these were generally larger and more elaborate than those used during the Neolithic period.



FIGURE 2.4. Cylinder seals: (a) temple and two goats feeding off a plant; (b) squatting women(?) manufacturing pottery vessels; (c) series of spiders, possibly symbolizing textile work (a: from Khafaje, Iraq, ca. 3000 BC; b and c: from Tell Agrab, Iraq, ca. 3000 BC). Oriental Institute Museum, photographed by author.

QUANTIFYING ADMINISTRATIVE RESPONSIBILITY: BUREAUCRATIC AGENCY AND SPACE

Although a sizable number of Uruk period door sealings attests to well-defined bureaucratic responsibility within administrative space, insufficient recordings of find contexts and frequent occurrences in extrusive contexts at Uruk and Susa allow few of them to be related to a functional context. The limited

possibilities for spatial analyses on Uruk sites, however, can be offset by data from contemporary urban centers in northern Mesopotamia, which at this time was part of the "Late Chalcolithic" culture. The significance of spatial control within pre-scribal bureaucratic agency, including the limitations of its extent, will be highlighted in two case studies.

Case Study A: Arslantepe

At the site of Arslantepe level VIa (ca. 3100 BC) in southeastern Turkey, more than 2,000 clay sealings were recovered in administrative context (Ferioli and Fiandra 1983; Frangipane 2007; Frangipane and Palmieri 1983). A large corpus was found in situ in a three-room storehouse that was entered from a street on its western side through a central room (A364) (Frangipane 2007, 31–38; figures I.4–6). On its northeastern side it opened toward a second room (A365) that was full of storage vessels. On the opposite side a narrow passageway, too small for humans to pass, opened to another room (A340), which could be entered only through an external doorway from the east—the opposite side of the building from the doorway into central room A364. In addition to a few storage vessels and items used for food preparation (grind stones, cooking pots), this room contained more than 100 mass-produced bowls used for, among other things, food dispersal.

The function of this unit is easily understood. Jars with food provision were passed from A365, the main storage room of this unit, through A364 into A340, where food was not only prepared but also dispersed to recipients waiting outside. In terms of administrative space, therefore, this three-room unit consisted of two sections, one a storage unit (A365 and A364) and the other a kitchen (A340), into which commodities could be transferred from the other rooms but which could not be entered from them. But where were the jars opened? Who took over the administrative responsibility for the content of these containers? The recovery of 175 clay sealings in the eastern corner of kitchen A340 suggests that these expenses were accounted for by agents associated with food production, not storage (Frangipane 2007, 34). Inscribed seal impressions from later palatial or cultic contexts in the Near East indicate that responsibilities within administrative space generally were well defined both spatially and functionally (Reichel 2001, 2002). The evidence from Arslantepe suggests that a similar complexity already existed here in prehistoric times.

The curious concentration of sealings in the corner of kitchen A340 suggests intentional retention, not discard, at this location. Piera Ferioli and Enrica Fiandra (1983), who have conducted extensive functional analyses of the Arslantepe sealings, suggest considering this assemblage a "temporary archive" used to account for the number of containers that had been opened.¹⁵ The sig-

nificance of this observation will become apparent in the context of numerical accounting systems, to be discussed below.

Case Study B: Hamoukar

Evidence from Hamoukar, a site in northeastern Syria, shows that the level of restrictiveness that was imposed upon an individual bureaucratic agent depended on his function within a system. Recent excavations uncovered two large building complexes that were destroyed by fire around 3500 BC (Reichel 2002, 2009; Figure 2.5a). Although different in details, these complexes resemble each other in their general layout: built around a roughly square courtyard, each of them has a tripartite building (TpB-A and TpB-B in Figure 2.5) built against its northern side. TpB-A, the tripartite building in the eastern complex, could be identified as a storehouse since its smaller internal rooms were full of storage jars and also had door sockets in its doorways, indicating the presence of lockable doors (Figure 2.5a). The recovery of 173 clay sealings from both the ground floor and an upper floor that had fallen down suggests that this building was controlled by an elaborate bureaucratic system. Although several door sealings were retrieved, most of them were container sealings, with basket sealings outnumbering jar sealings by more than ten times. A horizontal pattern analysis and a section view through the three western rooms (Figure 2.5b and c), however, show that the distribution of sealing types follows clearly defined spatial parameters (Reichel 2002). Door and jar sealings were found in ground-floor association, whereas basket sealings were found almost exclusively at the upper-floor level, showing a meaningful functional distinction in the use of space.¹⁶

But what about the agents who controlled this building? Figure 2.6, which displays the distribution of three distinct seals found on sealings (hereafter seals A, B, and C) in plan and section views, shows that the distribution of seal motifs in this building follows spatially and functionally defined boundaries. Seals A and B were found exclusively on door sealings in ground-floor context and, with one exception, all in one room (134), suggesting limited but spatially well-defined administrative responsibility (Figure 2.6a). The spatial overlap and the recovery of three sealings that had impressions of both seals are of particular importance when evaluating the nature of agency in this context, because they suggest that they represent two individuals who shared an office, but each one used his own seal. By contrast, seal C, of which 31 impressions were found, only appeared on container sealings. Its spatial distribution, however, was much wider than those of seals A and B (Figure 2.6b). In addition to appearing in upper-floor contexts on the western side (rooms 132, 134, and 135) and the eastern side of the building, it was found at ground-floor level in two of the smaller rooms (132 and 135), and at least one more impression has been found outside this building. Clearly, this seal seems to represent an office associated with a



FIGURE 25. (a) Plan of administrative complexes at Hamoukar (TpB-A, which is shown as a close-up in b, is shown in dark gray); (b) close-up of tripartite building TpB-A, showing spatial distributions of clay sealings from ground, and upper-floor levels; (c) section view through western rooms, showing vertical distribution of sealings. (Drawn by the author.)

production unit whose realm of interaction was much wider than that of A and B and who in all likelihood was located outside of TpB-B. Items produced at the production unit behind seal C, however, could be placed under lock by administrators' seals, such as A and B."

With the emergence of urban entities, therefore, the need to guarantee the integrity of stored or traded commodities became a prime element of bureaucratic control. Earlier individualized seal use on a personal or family level during the Neolithic period gave way to a predominantly institutional use of seals

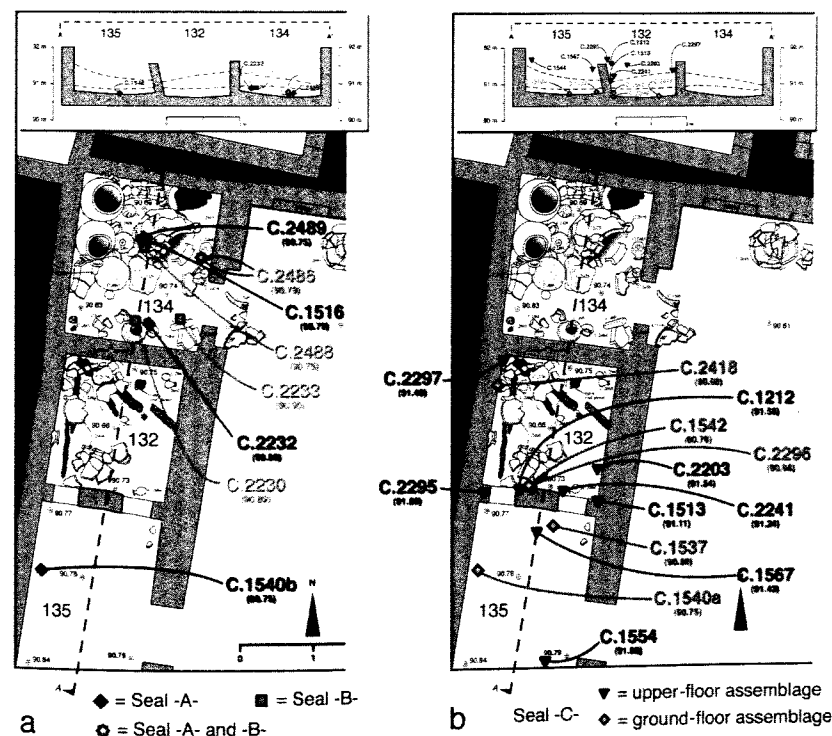


FIGURE 2.6. Close-ups of tripartite building TpB-A (see Figure 2.5), showing spatial distributions of clay sealings with impressions of seals A and B (a) and seal C. (Drawn by the author.)

in specialized contexts, highlighted by the emergence of door sealings in the 'Ubaid and Uruk periods. Agencies behind seal use, accordingly, increasingly became "officialized."

ACCOUNTING FOR NUMBERS: MOMENTUM TOWARD SCRIBAL AGENCY

In bureaucratic contexts, sealings allow for the control of bulk and volume but not in numbers. Commodities such as livestock could not be sealed. Moreover, the dispatch of, say, seventeen sealed jars of oil to an institution only guaranteed the integrity of each jar but did not record the total number of jars. The evidence from Arslantepe showed that sealings, once removed from their containers, might have been retained as temporary records of expenditure; hence, they were implicitly turned into counters. This idea might not be so far-fetched. Counters, small items made of stone or clay of figurative or geometric shape, indeed were used in the ancient Near East from the Neolithic period onward (Figure 2.7). A relatively wide array of shapes makes it difficult to identify an overall unify-

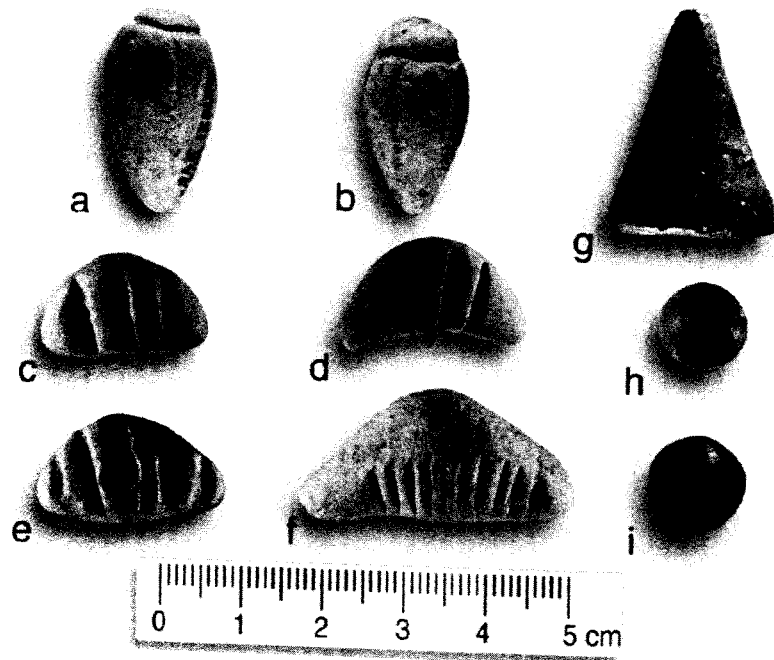


FIGURE 27. Selection of tokens from Choga Mish (a-f) and Hamoukar (g-i) (a-f: ca. 3500-3200 BC, Oriental Institute Museum, University of Chicago; g-i: ca. 3500 BC; Deir ez-Zor Museum, Syria). a-f: photographed by the author with permission; g-i: photographed by the author.

ing characteristic for them, aside from the fact that they often tend to be found as assemblages. In the past four decades the study of the counters has become intrinsically connected with the name of Denise Schmandt-Besserat, who has published widely on this topic and whose definition, with some reservations, is accepted here for the purpose of this study (Schmandt-Besserat 1992, 1994, 1996, 2007).¹⁸ By referring to them as “tokens,” Schmandt-Besserat saw them not only as counters but also as “placeholders” for specific objects to be counted and accounted for.

Our understanding of the precise role of these tokens in business procedures remains as limited as the identity and nature of the agents who operated them. We have to assume that they represented commodities that were handed over and/or stored away. We do not know, however, what happened to these tokens after accounting was completed. In most cases, they probably were just used for counting. By the Middle to Late Uruk period (3500-3300 BC), however, some of them became part of the transaction record. Excavations at several Uruk sites uncovered clay balls of 5-10 centimeters in diameter whose surfaces

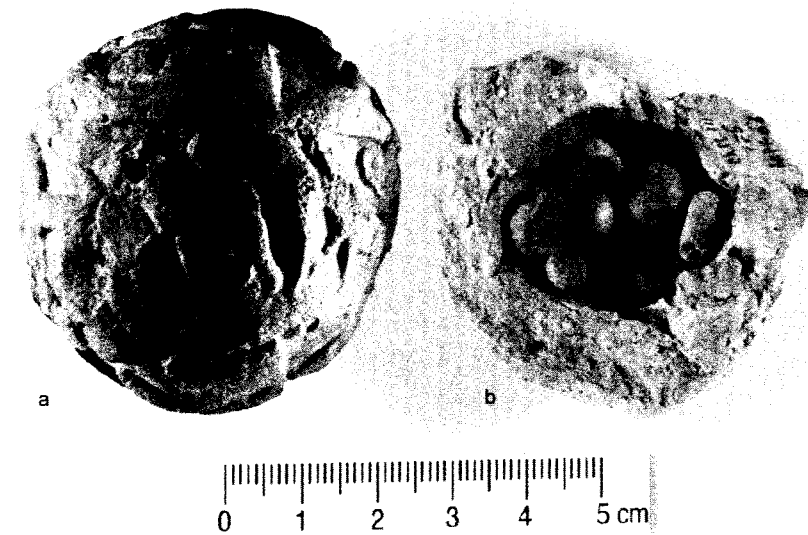


FIGURE 28. (a) Sealed clay ball with tokens inside; (b) broken clay ball, showing tokens inside (from Choga Mish, ca. 3200 BC, Oriental Institute Museum). Photographed by the author.

were covered with cylinder-seal impressions (Figure 2.8a).¹⁹ The recovery of numerous broken specimens (Figure 2.8b) confirmed that they contained tokens. These balls provided an answer to the question of how to safely store numbers. The proper number of tokens was wrapped in clay, rolled into a sphere, and then sealed (Schmandt-Besserat 1992, 110-28). Once the clay had dried, any alteration of the number inside would have been impossible without breaking the clay ball, creating a secure “envelope” for its content.

The precise functional context of these balls remains uncertain. One possibility could be that they were a receipt for items that were turned over for storage in an administrative unit. If so, the seal on the clay ball would reflect the authority of the storage unit’s administrator, and the ball would likely be broken when the items were retrieved.

What is of great interest is the geographical distribution of these clay balls. They were found only at sites within southern Mesopotamia (Uruk), at sites in the Susiana and in Syria that were part of the Uruk system (Susa, Choga Mish, Habuba Kabira), and at sites that otherwise show contact with the Uruk culture during the later fourth millennium BC (e.g., Tepe Yahia in the central Iranian highlands).²⁰ The fact that only Uruk-style cylinders seals with an “institutional” repertoire similar to those found on clay sealings show up on these clay balls supports the notion that this is an Uruk-specific bureaucratic tool. We should be cautious, however, when evaluating the overall significance of these

balls, especially their absence in northern Mesopotamia, where the use of seals, sealings, and tokens had the same long history as in southern Mesopotamia. Any assumption that tracking numbers was “somehow less important” to bureaucrats in a non-Uruk context would be misleading. Even on Uruk sites the relatively moderate number of recovered clay balls suggests that this “recording technique” never enjoyed the same widespread use as seals and sealings. On the other hand, their uniformity, combined with their occurrence on several Uruk sites that are quite distant from each other, strongly suggests that they were used by an organization that had an extensive bureaucratic network and whose recording technique, if not “experimental,” was at the forefront of technology, quite possibly the state itself.

FROM NUMBERS TO WRITING

Recording numbers through tokens in clay balls not only was laborious and cumbersome but also had obvious logistical shortcomings: once securely stored, the number itself became invisible from outside. The verification of the number of tokens inside required the destruction of the actual storage device (i.e., the clay ball). These clay balls might have been suitable as storage receipts, but for recording numbers alternatives had to be sought. Some tokens (e.g., Figure 2.7e) were perforated, indicating that they could have been strung up. Once tied together, the string's knot could be wrapped in clay and sealed, which kept the number of strung-up tokens safe from alterations. Several oblong to biconical sealed clay lumps with string holes found at Susa, Choga Mish, Habuba Kabira, and Tell Brak fit this pattern (Schmandt-Besserat 1992, 108–10, figures 53, 54). It was in connection to clay balls, however, that a more practical approach appeared, signaling the impending advance of a “true” writing system: numerous clay balls were found with a number of markings on the outside that corresponded to the number of tokens inside (Figure 2.9).

Although these add-ons, which are found only on a limited number of surviving clay balls, were “secondary” notations—the primary “legally binding” number still constituted by the tokens inside—their addition had consequences that extended far beyond anything that the inventor of this system could have imagined. These incisions *de facto* constitute a first writing system. These secondary recordings soon turned primary when similar notations were made on round slabs of clay (Figure 2.10a). Just like clay balls, these slabs were sealed to verify the accuracy of an account (Figure 2.10b). In the context of scribal agency, the fact that these proto-tablets were sealed *before* they were inscribed, with signs often cutting into seal impressions, is of significance. The types of seals found on them are of the same “institutional” type as those found on clay balls and sealings from the Uruk context, thus identifying these tablets as office “stationery” for office-bound transactions.

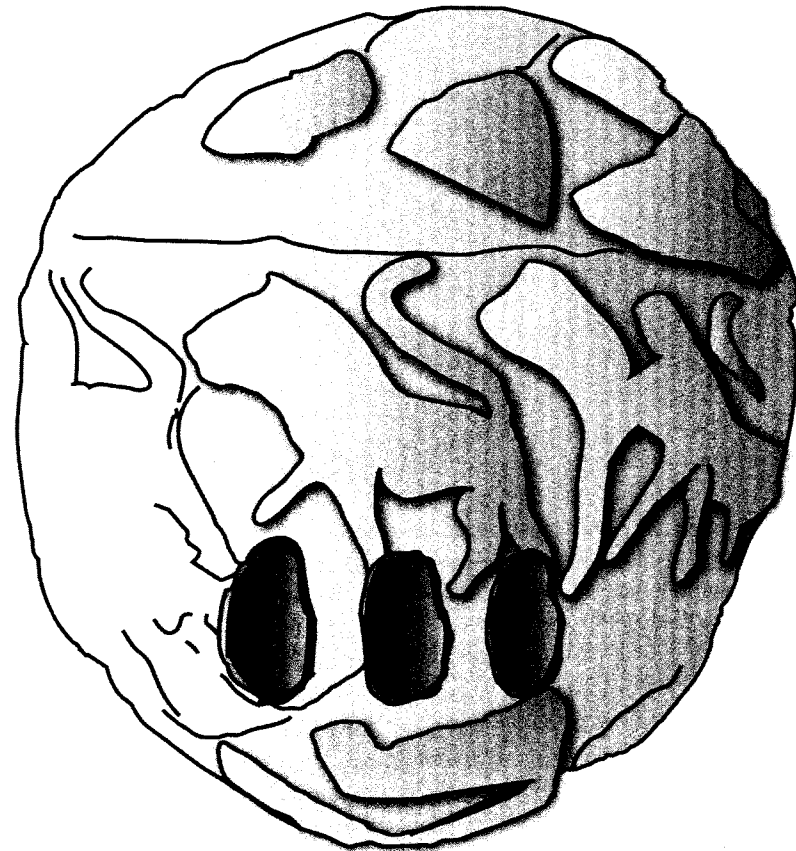


FIGURE 2.9. Schematic rendering of a sealed clay ball with numerical notation (drawing by author, based on the Choga Mish bulla shown in Figure 2.8).

Recording numbers on clay slabs as opposed to counting tokens must have changed bureaucratic procedures considerably. More to the point of this study, these technological innovations resulted in the transition of the recording agent from a pre-scribal accountant to a scribe. Over the next two to three centuries, the rise in scribal activity was meteoric. As shown by the large number of surviving texts dating to Uruk IV, the latest phase of the Uruk period (3100–3000 BC), scribal agency had become one of the pillars of society that guaranteed economic maximization and stability (Englund 1994; Englund and Nissen 2001, 2005).

Over the years, the writing system evolved. Numerals were expressed with different signs—small round, large round, and wedge- or cone-shaped impressions—which started to appear on numerical tablets, expressing a numerical

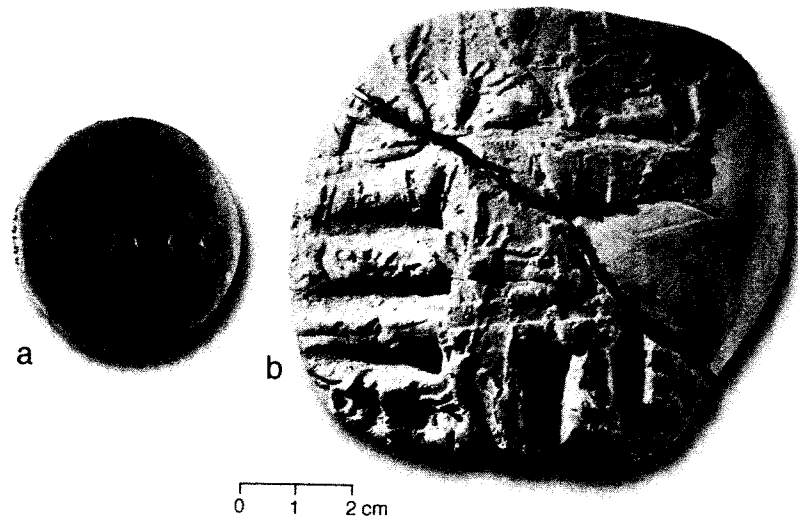


FIGURE 2.10. Choga Mish tablets: (a) circular tablet with five impressions, showing simple numerical notation, ca. 3100 BC (Oriental Institute Museum, photographed by author with permission); (b) numerical tablet marked with 5(+) wedge-shaped markers, sealed with cylinder-seal impression showing women making pottery jars, ca. 3100 BC (Oriental Institute Museum, image reproduced with permission).

hierarchy.²¹ The greatest advance in this new recording technique, however, was constituted by the development of non-numerical signs that could identify commodities and, subsequently, also people (see, e.g., Nissen 1986, 1993, 19–24). Images of full or partial renderings of items initially were incised with a pointed tool next to the lists of numerals. Later texts from Uruk level III (ca. 3000–2900 BC) show that the incising of signs, which was a laborious undertaking, gradually gave way to a more simplified form of writing, in which wedges were impressed into the clay with a stylus, creating more abstracted versions of previously incised images.²² This step led to further simplifications of the signs, ultimately resulting in a wedge-shaped “cuneiform” writing system. Although many of these early texts are not fully readable, there is little doubt that the underlying language upon which this writing system is based was Sumerian, because many Uruk IV and III signs are pictorial forerunners to later Sumerian signs.

MESOPOTAMIAN WRITING: AN INTELLIGENTLY DESIGNED SYSTEM?

In this volume, Adam Smith questions the emergence of “intelligently designed” writing systems, suggesting that much of the establishment of signs in the early

Chinese script was based on the repeated use of certain symbols. Much of my contribution might echo Smith’s suggestions, and I do concur with him to a certain degree, even if our materials and approaches differ substantially. Mesopotamia’s writing system was not the outcome of a centralized plan; its development, as shown in the foregoing discussion, was to a large degree “accidental.” Its developmental history extended over millennia, originating in the use of seals and sealings by individuals or families in village-based economies during Neolithic times. The subsequent rise of urban complexity during the Uruk period also affected the type of agents that are found in pre-scribal bureaucracies, when the individualized use of seals was juxtaposed by an increasingly “institutionalized” use, with seals now tied to offices instead of individual persons. Although a “true” writing system only emerged during the Uruk period with its highly organized state society and elaborate bureaucratic apparatus, its invention was brought about not by the decision of an individual elite or political figure but by the actions of anonymous bureaucrats. Most importantly, the mechanics of how to record and control administrative data were present for millennia before writing on a slab of clay first appeared. Mesopotamia’s writing system, therefore, represented a *technological*, not a *conceptual*, innovation.

We cannot entirely discard the notion of “intelligent” design within Mesopotamia’s writing system. The emergence of royal inscriptions during the mid-third millennium BC furthered the development of syntactical structures and verb forms, as well as suffixes and infixes for declination and conjugation, to allow the record of narratives. The introduction of Akkadian, a Semitic language, as the language of royal inscriptions during the Akkadian Dynasty (2350–2200 BC) required a standardization of cuneiform signs and the establishment of syllabic readings for signs that so far had logographic values based on the Sumerian language (Edzard 1995). Similar state-ordered standardizations in the writing system occurred under King Shulgi of the Ur III Dynasty (2094–2048 BC; Steinkeller 1987, 21).

There is no doubt that throughout Mesopotamia’s history rulers used and influenced scribal agency to propagate their ideologies in writing, but such motivations were still absent when writing came about. Uruk’s rulers certainly did not avoid using propaganda, but they used architecture and imagery rather than written materials. Uruk’s political elite indirectly may have fostered the emergence of the writing systems in its administrative or bureaucratic entities, but not for the purpose of political propagation.

MESOPOTAMIAN WRITING: AN “INEVITABLE” DEVELOPMENT?

In my introduction I highlighted the impact that southern Mesopotamia’s environmental and geopolitical determinants might have had on the development

of a complex, and ultimately bureaucratic, society. If Mesopotamia's writing system was not an "intelligent" design, was its emergence inevitable?

I am aware that an environmental-adaptivist viewpoint may be unpopular in a volume on agency, because it de-emphasizes the impact of individual decision making, but it is fallacious to disregard this view entirely in this discussion. Environmental factors alone did not bring about writing, but they could have evoked human responses that opened a trajectory toward the development of a writing system. Let us remember that, although seals, sealings, and tokens were known in most parts of the Near East, the development of clay-ball "envelopes" for tokens and numerical tablets occurred only on Uruk and Uruk-affiliated sites, the same area in which "true" writing later emerged. Northern Mesopotamia's Late Chalcolithic urban culture, although technologically and administratively at par with the Uruk culture, did not develop a similar writing system. What sets southern Mesopotamia apart from the surrounding area is its landscape with its unique potentials (a low cost of transporting bulk on rivers and canals across long distances) as well as constraints (diminishing rainfalls over time, resulting in an increasing dependence on river water for irrigation agriculture). The need for large-scale socioeconomic organization, accordingly, was significantly higher in this area than in northern Mesopotamia, highlighting an inherent need for an elaborate administrative recording system.

In this setting, the emergence of a complex bureaucracy in this area may almost seem somewhat inevitable. As the foregoing discussion has shown, however, it is overly simplistic to see the emergence of writing as an adaptive response to an environmental challenge. The long trajectory from container and door sealings, tokens, and sealed clay balls to numerical and pictographic tablets precludes the emergence of writing in Mesopotamia as an "intelligent" design. But the trajectory is uneven—thousands of years dominated by the use of container sealings and tokens were followed by few centuries during which sealed clay balls and numerical and later pictographic tablets were developed in rapid sequence as administrative recording tools. The origins of Mesopotamia's writing system clearly lie within its bureaucratic needs, and it is misleading to de-emphasize the role of the scribe as a key agent of social and economic change in the formation of the urban, literate Mesopotamian society that dominated the ancient Near Eastern world for several millennia.

NOTES

1. On evidence for written documents from Egypt dating to Dynasty 0, found at Umm el-Qaab (Abydos, Upper Egypt) and dating to ca. 3300 BC, see Dreyer (1998). Recent news stories trying to date the invention of the Harappan writing system in the Indus Valley as early as 3500 BC have been widely discredited (<http://news.bbc.co.uk/2/hi/science/nature/334517.stm>).

2. See, for example, Karl Wittfogel's model of a hydraulic society (Wittfogel 1957), discussed below.

3. For a comprehensive description of the formative processes that generated the modern-day southern Mesopotamian landscape, see Adams (1981, 1–26).

4. This estimate was published by Finkbeiner (1991, 194), following his 1982–1984 intensive site survey.

5. For a description of northern Mesopotamia's geography, see Oates (1968, 1–16); for a summary account of its early occupational history, see Watkins (1992).

6. The time periods correspond to the so-called Hassuna, Samarra, and Halaf periods in the north and the early Ubaid period in the south. Cultural periods and corresponding dates given here follow Hansen (1992) for southern Mesopotamia and Akkermans and Schwartz (2003) for northern Mesopotamia and Syria. See Akkermans and Schwartz (2003, especially chapter 4) for a summary of this period in Syria.

7. Unless indicated otherwise, my account of seals and sealings from the Halaf period is based on Akkermans and Schwartz (2003, 139–41, figures 4.23–4.25).

8. The relatively wide intra-site distribution of seals dating to the Halaf period supports this notion. Among 300 sealings found at Sabi Abyad, for example—the largest assemblage of sealings recovered so far on any Halaf site—70 distinct seal motifs could be identified, which does not suggest the presence of tightly controlled specialized administration behind these sealings (Duistermaat 1996). These sealings were found in smaller hamlets, as well as larger settlements, suggesting a wide, non-exclusive use of seals (Akkermans and Schwartz 2003, 140). An individualized or family-based ownership of seals is also supported by the seal motifs, which mostly consist of single animals and animal groups, often in the context of hunts. Human representations remain rare and often occur in "Master of Animal" groups. Given the relatively small space in which it was to be deployed, the iconographic repertoire allowed for limited discernible recombinations, which would be suitable for family or tribal markers.

9. See Sabi Abyad in the Balikh Valley (Akkermans and Schwartz 2003, 113, figure 4.7; 114, figure 4.8) and Tell Bouqras on the Middle Euphrates (Akkermans and Schwartz 2003, 123, figure 4.14) for examples within Syria. Although little is known from southern Mesopotamia in this period, granaries of the grid type were found at the "Ubaid 0" settlement of Tell el-'Oueili (Huot 1992), dated to the second half of the seventh millennium BC based on C-14 dates (Valladas, Evin, and Arnold 1996).

10. For the distribution pattern of the Degirmentepe sealings see Helwing (2003), 73 and Figures 2.3a and b.

11. For the purpose of this study I have treated the southern Mesopotamian Uruk sites and the Susiana as a cultural entity, based on the material assemblages (notably, pottery and glyptics) from the Middle Uruk period onward, which strongly suggest that its key settlements by that time were controlled by the Uruk culture (Algaze 1993, 11–18). It should be pointed out, however, that the level of control exercised by Uruk over this area and the Susiana remains discussed, and some scholars (e.g., Amiet [1966], whom I have used extensively for this discussion) have treated the evidence for scribal traditions in the Susiana separately from those at Uruk.

12. A comprehensive discussion of the Uruk colonial phenomenon is beyond the scope and purpose of this chapter. For an overview, see discussions by Algaze (1993) and Stein (1994) and contributions in Rothman (2001).

13. Clearly defined social hierarchies are indicated in Uruk artwork, most famously on the "Warka Vase," which shows a relief band with naked human laborers below and clearly separated from a higher band that shows the city's ruler as the provider of the temple of the city goddess (Strommenger 1964, figures 19–22).

14. Seal impressions from Uruk dating to the Uruk period are published in Boehmer 1999. For the fourth-millennium BC seal impressions from Susa, see Amiet (1972, 66–108; nos. 463–704); for Choga Mish, see Delougaz, Kantor, and Alizadeh (1996, 135–48, plates 135–58).

15. "When the sealing is taken off it loses its function of closing guarantee, but it keeps the record; so it becomes a document of proof of the accomplished control of guarantee between an operation and the other, and it bears witness that a change in the quantity took place after an operation that was correct in the procedure" (Ferioli and Fiandra 1983, 460).

16. Because of the rapid decay of collapsed mud-brick architecture close to the surface, evidence for upper stories often is inconclusive. In TpB-A, however, the recovery of numerous pieces of roof plaster just below topsoil in the area of the two southwestern-most rooms of TpB-A indicates that at least this part of the building carried an upper story.

17. The access route to the upper story could not be clarified conclusively. No staircase was found, and it is possible that ladders were used. It is, therefore, impossible to say with certainty which administrators' seals could lock items sealed by seal C.

18. It should be noted that Schmandt-Besserat's work has garnered praise as well as severe criticism. See Zimanksy (1993) for a particularly harsh assessment of Schmandt-Besserat (1992) and see Powell (1994) for a slightly more positive review. Taking all viewpoints into account, I agree that although some of Schmandt-Besserat's conclusions should be treated with caution, her principal ideas are sound and credible.

19. Unfortunately, most of the excavated contexts at Uruk, Susa, and Choga Mish that contained clay envelopes are notoriously difficult to date with precision. The example from Habuba Kabira, whose relatively short occupation can be related to Uruk levels VI and V based on parallels in pottery assemblages, appears to be the earliest known example.

20. See Amiet (1972, plates 68–72) for Susa; Delougaz, Kantor, and Alizadeh (1996, plates 34–39) for Choga Mish; and Strommenger (1980, figure 58) for Habuba Kabira. Single hollow clay balls also were found or acquired at Dharan (Saudi Arabia) and Shahdad (eastern Iran), but little if anything is known about their context. A clay ball said to have been bought at Dumah (Israel) most likely is unrelated to its acquisition context (Schmandt-Besserat 1992, 114–16, figure 61).

21. These signs show a striking similarity to Mesopotamia's later numerical notations, possibly, although not inevitably, representing both decimal and hexagesimal accounting systems. See Nissen (1993, 125–51) for examples of such tablets and a reconstruction of the accounting systems found in Uruk IV and III tablets.

22. The assignment of the Uruk IV and III tablets to their respective levels is by far less certain than often assumed. As Nissen notes, none of the Uruk IV and III tablets "had been found in primary, undisturbed context, but either in unmistakable layers of rubbish or in deposits of which the dating was uncertain. Falkenstein [the field epigrapher] and the excavators had dated these tablets by attributing them to (building) levels III and

IV. From both Falkenstein's publication and the various preliminary excavation reports, however, these attributions proved difficult to check against the original site records, and thus uneasy feelings arose as to the validity of such ascriptions" (Nissen 1986, 318f).