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Review Articles

A Prehistoric Communication Revolution

Archives Before Writing

edited by Piera Ferioli, Enrica Fiandra,
Gian Giacomo Fissore & Marcella Frangipane, 1994.
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'IT' is altering not only our individual lives but the very world we live in. Hailed as an information revolution, the new cyberspace is literally transforming time, space and distance. There can be little doubt that our world will never be the same again, but there have been earlier communication revolutions which have had comparable social and economic consequences, not least the invention of the printing press which revolutionized the potential of the written word. The subject of this book concerns a yet earlier IT revolution, which reflected a developing social and economic complexity and which had, undoubtedly, an equivalent impact on its contemporary world. This prehistoric communication revolution began some 9000 years ago among the early agricultural communities of northern Mesopotamia and Syria. Like the invention of the computer, it involved

the creation of an ingenious device which served both to transmit information and to record it for future reference. In Neolithic Mesopotamia this new device served also to identify property and to ensure its security, and in that sense to signal to us not only that society was becoming more differentiated (that is, that there were those with goods to protect or secure) but that man could no longer trust his fellow man.

This prehistoric information 'system', the first such in human history, involved the use of simple seals carved with patterns that were impressed on plaster or clay. It was to form the basis of accounting procedures followed widely not only throughout the Near East but elsewhere in the ancient world, a 'system' of such simple efficiency that it remained an important administrative technique even after the development of writing. Indeed, it still survives in the great seals of state, in such personal accoutrements as the signet ring, and in the lock on the Vatican Treasury door. In the Near East even today no official document is valid without its authenticating stamp, often more than one, while the seals themselves remain objects of great 'value', often kept in the office safe. Ultimately to become closely associated with the invention of writing, this Neolithic marking of property, 'receipts' and 'guarantees' may well have originated with the growing sense of family

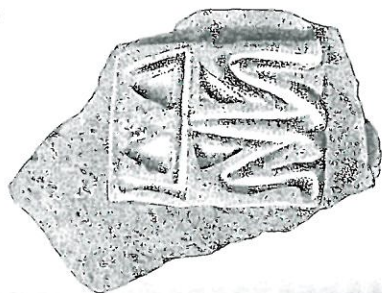


Figure 1. Samarran seal impressions from Tell es-Sawwan, on gypsum plaster. (After von Wickede 1990, figs. 49, 53.)

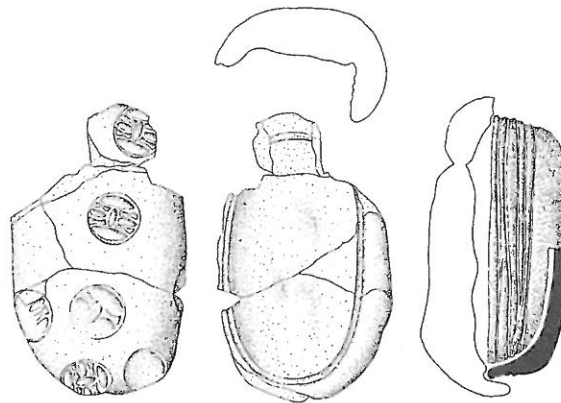
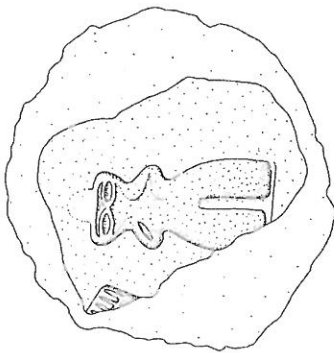


Figure 2. a) Clay sealing, and b) incised gabbro bowl and associated clay cover, Sobi Abyadh. (After Akkermans & Verhoeven 1995, figs. 12, 13.)

identity and property in early food-producing societies, and the accompanying increase in the complexity of social relations.¹ Significantly, the new 'accountability' transcended the keeping of record, by memory in making them open to inspection by others.

Archives Before Writing publishes papers presented at an international colloquium held in Rome in 1991. The papers examine early examples of 'accounting by sealing' in the Near East, the Aegean and North Africa, though as Tom Palaima notes, 'archives before writing is hardly relevant in the Aegean' (p. 331). Among the papers are contributions by Enrica Fiandra and Piera Ferioli, who were the first to draw archaeologists' attention to the wealth of information contained on the previous neglected reverse sides of clay sealings. As Mario Liverani remarks (p. 413), however, it was Sir Austen Henry Layard who first observed and illustrated such functional information almost a century and a half ago in *Discoveries in the Ruins of Nineveh and Babylon* (1853, 154), though colleagues were slow to follow his lead.

In the Rome volume much emphasis is placed on the close analysis of groups of sealings from the same context, seen here as 'archives' on a par with those of the later cuneiform texts in providing coherent and related economic, even social, data. The term 'archive' is used provocatively, deliberately emphasizing the fact that the absence of writing hinders neither the development of accounting systems nor the preservation of economic records. The act of sealing is seen as representative of a genuinely 'conceptual system', that is, the physical expression of a transaction that was intellectually complex (p. 11).

This last assertion is hardly contentious, but the hypothetical archives are perhaps less straightforward, not least owing to ambiguities in the archaeological record. At the earlier prehistoric site (the 'Ubaid colony', Değirmentepe, in Anatolia, and Bakun in southeast Iran; Esin and Alizadeh, this volume) sealings are found throughout the settlement with concentrations in particular 'domestic' rooms often those that are relatively inaccessible. Perhaps even more informative is Sobi Abyadh, a small prehistoric tell on the Balikh in northern Syria, where some 300 clay sealings have been found in a heavily burnt, Samarra-related level (late sixth millennium uncalibrated). These constitute the earliest clay sealings known, a discovery made too recently for the Rome colloquium,² and a reminder of how much we still have to learn (Fig. 2). The Sobi Abyadh sealings were found together with simple geometric

tokens, as were those at Bakun. Their abundance together with their relatively specific distribution has encouraged Akkermans & Verhoeven to write of carefully stored 'archives' and to suggest that 'these objects were part of a widely accepted, standardized system of administration and recognition, involving well-developed concepts of ownership and the presence of the bureaucratic means to control it' (1995, 24). One of the Sobi Abyadh 'archive rooms' also contained a large number of apparently deliberately broken female figurines, themselves perhaps a material witness to some form of contractual obligation.

Thus the idea of 'archives' of discarded sealings can be taken back virtually to their earliest usage, but we know neither which sealings were stored, nor for how long. The analogy is of course with literate Mesopotamia and its cuneiform archives, but even when we can read the texts it remains uncertain which tablets were kept, and why. If *Archives Before Writing* has a fault, it is perhaps in too great a reliance on later administrative procedures, using them in what must at least in some respects be anachronistic reconstructions.

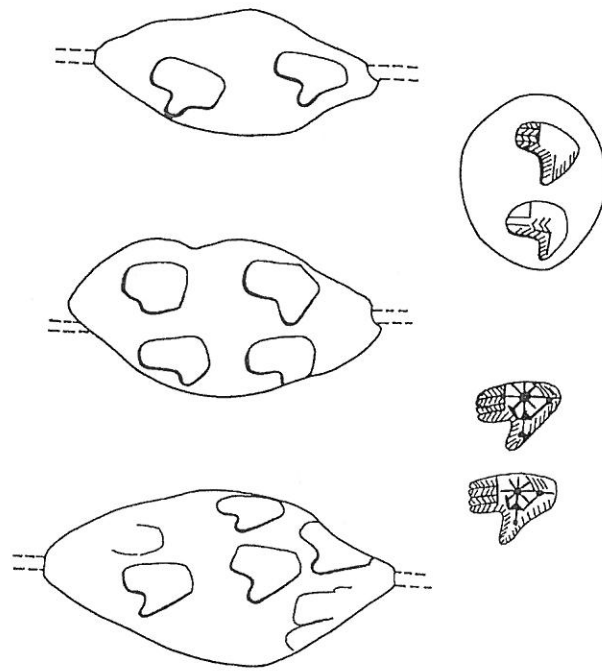


Figure 3. The earliest known clay bullae, oval clay nodules covering a knotted string for attachment to a container, come from the latest Halaf level at Arpachiyah in northern Iraq, dated c. 5500 cal. bc. The left hand drawing illustrates the sealings from the photographed bullae. (Photograph courtesy of the Trustees of the British Museum; drawings after von Wickede 1990, figs. 54-8.)

Early fourth millennium sealings, best attested at Tepe Gawra (Rothman, this volume), further underline the value of carefully observed context. In an important and thorough analysis of the Gawra material, Rothman concludes that groups of sealings from different 'private' buildings can be associated with specific craft activities, the seals themselves belonging to those who controlled such crafts. This is a fascinating reconstruction, but it cannot be ignored that the site was dug some 60 years ago, and that many sealings were found 'under door jams and floors' (p. 84), i.e. in almost certainly secondary contexts. The fourth millennium evidence from Susa is summarized by Pierre Amiet, one of the most distinguished experts in the study of ancient glyptic, who also notes the essentially 'private' context of the early Susa sealings.

In studying ancient seals and their impressions, two very specific variables can be analyzed: 1) the particular administrative task (type of sealing, read from its reverse impression, and 2) the possible person, office, institution or commodity involved (seen in the iconography of the seal itself). The focus in this volume is on function, but it is the combination of image and function that conveys the fullest meaning. Amiet provides a nice example in the case of the well-known sealing depicting the 'priest-king' besieging a fortified city (Fig. 4). By contrast with the majority of other contemporary seal designs at Susa, this is found on several different types of 'document', suggesting its use by more than one official in some central office controlled by an official of higher rank (p. 92), i.e. that it is a seal of special status. A number of papers focus on iconography, that by Holly Pittman, in particular, which considers in detail the vivid and varied imagery of Late Uruk Warka. Important papers by Judith Weingarten on the Middle Bronze sealings from Karahöyük and the palace at Phaistos, and by Joan Aruz on evidence from the earlier Aegean world, like that of Rothman, provide

detailed analyses of both iconography and function, yet even in these relatively well-documented examples both the image message and the exact administrative procedures remain problematic. That a very specific message is encoded on the seal is shown in Mesopotamia by the widespread presence of sealings on the laconic numerical tablets and their increasing omission from the early pictographic texts in which the message is now conveyed by simple writing. Who 'read' the seal messages, and how widespread was such special knowledge, are important questions to which we may never know the answers.

The first serious attempt to understand sealing discard in the sense of the 'archives' of the title was that by Henry Wright and his colleagues at Sharafabad in southwest Iran, where the stratigraphically layered structure of a large Uruk refuse pit was interpreted in terms of seasonal activities, including administrative functions as seen in the clay sealings (Wright *et al.* 1980). But it is the site of Arslantepe near Malatya, excavated by the late Alha Palmieri and more recently by Marcella Frangipane, one of the editors of this volume, that has provided the most extensive and informative data. The Arslantepe material is discussed in detail in *Origini XII* (1983), and the view is repeated here that the site provides evidence for a reconstructible administrative sequence: sealings were at first kept for a certain time at the site of actual use (illustrated by Storeroom A340), were then collected and stored in a single room, the 'archive proper', as yet unidentified, and were then 'audited' and disposed of at the end of the 'administrative period' (deposit A206) (Feriolli & Fiandra, p. 149; cf. also Frangipane's paper and illustrations). The evidence has been meticulously observed and recorded. From the final disposal pit (A206) in which twenty, thin, stratigraphically discrete rubbish layers were identified (p. 158, fig. 6), some 180 sealing fragments bear the impressions of over a hundred different seals. This 'ordered discard' is



Figure 4. A figure of 'authority', the so-called 'priest-king' depicted on a fortified city. Seal impression from Susa. (After Amiet 1980, 650)

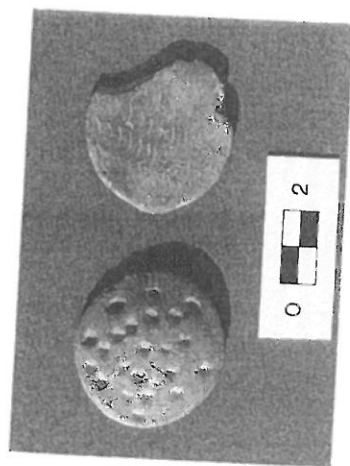


Figure 5. Third millennium BC clay 'counting disks' from Tell Brak (TB 13,084 & 13,085).

believed to reflect an administrative sequence of perhaps as little as 20 days. It is also suggested that clay 'counting boards' (Liverani 1983; see also Fig. 5), at Arslantepe found exclusively in this disposal pit, were used in the sealing inventories. This Arslantepe evidence adds exponentially to our knowledge of administration by sealing (including, it is proposed, the issue of cooked rations from storeroom A340 from which over a hundred mass-produced conical bowls as well as some 200 clay sealings were recovered). It must be admitted, however — and these reservations are also expressed by Judith Weingarten (p. 278; p. 291 n. 12) — that the nature of the actual pit which illustrates the 'final phase in the archive process' (p. 149) is difficult to understand. This 'disposal pit' is a 6-m-long cavity literally dug into a 'palace' wall, ostensibly for purposes of renovation (cf. fig. 2, p. 128). But no mud-brick wall is repaired from its interior, and one must envisage a period when the adjacent room stood open and roofless (or had gone out of use after which a refuse pit was dug into the wall). Moreover, a careful reading of the *Origini XII* reports provides no compelling reason for the association of the 'dumping area' with the functions of the nearby storerooms, while there is a significant mis-match between the sealings of the two areas (graphically illustrated by Weingarten, this volume, p. 273).

Over a thousand years later the evidence from Aemhöyük, yet to be published in detail, seems more conclusive. This was one of the most important centres of the so-called Cappadocian trade, where large numbers of sealed bullae were recovered from the storerooms (interestingly, with the exception of those filled with *pithos*). In the so-called Sarıkaya 'palace', bullae impressed with one and the same seal are said to have been found in the same storeroom, that is, storerooms appear to have been reserved for particular individuals or firms, while two rooms are identified as 'file rooms'. The latter contained examples of 'almost all the seal impressions found in the regular storerooms' (Özgeç 1980, 61). Indeed bullae from 'file room' 6 had clearly been stored on wooden shelves. In the case of Aemhöyük the presence of sealings of Mesopotamian and Syro-Carchemish confirms the external origin of the stored commodities.

Feriolli & Fiandra also assume that 'audited' sealings were not just thrown away but were 'rendered unusable' in order to prevent their re-use in 'fraudulent' 'accounting'. This seems an unnecessarily complex reconstruction, and certainly neither the

Ur (SIS strata) nor the Phaistos sealings (which had been mixed with the cement rubble that sealed the ruins of the third phase of the First Palace, presumably to add bulk) can be said to have been disposed of 'with great care' (p. 149). The idea that sealing debris within a plaster floor constitutes deliberate 'secure disposal' is not only highly implausible but reveals a lack of understanding of ancient building methods. Crucially important questions to which we lack satisfactory answers include the following — what procedure is actually represented by the sealing on a container? Does it reflect internal administration or the receipt of external goods? Do all such sealings represent the same procedures? Who controls the storeroom doors (a question for which there is later cuneiform evidence)? How many officials have access? That sealings represent *withdrawing* is a fundamental tenet of Feriolli & Fiandra's reconstruction. Important to this reconstruction is the analogy of the later cuneiform administrative texts which refer largely to withdrawals (but note that the important official is the individual responsible, not the recipient), and such observations as that at Lerna where 19 sealings bearing *different* seals are all said to have sealed the same container (p. 242). With reference to Arslantepe these arguments are believed to 'exclude the possibility that we are dealing with incoming goods'; indeed it is proposed that the Arslantepe sealings constitute a 'distribution warehouse management archive' (149 ff. 242–3). Moreover, by analogy with the Mesopotamian ration system, the 'clear connection between sealings and mass-produced bowls in room A340 seems to outline a redistributive activity carried out under administrative control' (Palmieri 1988–89, 546). In somewhat contradictory

mode, Frangipane also argues that the early use of seals in northern Mesopotamia and Anatolia was associated with an emphasis on exchange, by contrast with southern Mesopotamia where the slower development of such procedures was associated with the growth of centralized institutions (p. 95), a view which seems at odds not only with the proposed reconstruction of administration at Arslantepe as internal and redistributive, but also with the (admittedly limited) chemical analyses of prehistoric sealing clays which, up to now, point to essentially local, i.e. 'internal', sources (p. 167; Rothman & Blackman 1990).

But warehouses and storerooms must be stocked and replenished, and it is difficult to accept the view, proposed here, that the sole record of such incoming was the sealing on the door, a view visibly contradicted by the evidence from Acmehöyük and Brak (Fig. 6). Nor is it clear how door sealings could have had any 'accounting' value (Fiandra, p. 170). Weingarten, on the other hand, argues that 'non-intensive seal use', the presence of large numbers of

seal designs each represented by only one or two impressions, as in the Arslantepe storerooms, must indicate external as opposed to internal activity, i.e. incoming goods, a reconstruction that would seem better to suit the narrow Arslantepe storeroom doors, through which otherwise there must have been a disruptive and chaotic *va-et-veni*. As she notes with respect to Karahöyük, 'if anything remotely like [8 different seal-owners] had been allowed their own access to Room 6³ the authorities might as well have left the door open, unsealed, and unguarded' (p. 268). Later cuneiform records suggest a very small number of individuals with actual access to storerooms: at Mari the texts mention only seven officials so empowered, while evidence has been recovered of only 22 seals used to secure doors within the vast palace. But we must resist the temptation of too heavy reliance on later economic evidence. It is highly likely that the great variation in sealed containers at Arslantepe represents some less centralized system, and even more likely at earlier sites that similar evidence could reflect some less organized 'social' activity such as gift-giving, a possibility suggested at Sabi Abyadh by the high quality, and therefore value, of some of the containers themselves (Fig. 2b). It is a statement of the obvious that there is but a subtle difference among gift, obligation and tax.

Although 'temporary archives', in the simple sense of collections of discarded sealings, are unequivocally attested from the time of Sabi Abyadh onwards, the conservation of sealings in solid containers such as jars or baskets (Feroli & Fiandra's final 'book-keeping' or 'audit') is less certain. It is true that clay tablets were kept (sometimes) in both baskets and jars, but this does not make every prehistoric basket an 'archive container' (pace Feroli & Fiandra, pp. 156-8). At both Susa and Mari there is possible (though equivocal) evidence for the keeping of sealings in jars (Le Brun & Vallat 1978, 34-5; Margueron 1982, 332), and there is evidence to suggest that collections of sealings may have been contained in perishable receptacles such as bags or sacks (Beyer 1985, 165; Oates 1993, 291; Oates & Oates in press). But Jean Margueron proposes another very plausible explanation for the Mari jar, which was set into a corner of Palace Room 196, as a receptacle in which to keep the sealing clay humid. At Nippur, Warka and Terqa there occur scribal installations with very large built-in basins which contained discarded tablets and/or sealings.⁴ Of the Nippur basin Richard Zettler writes, 'the fill inside was poorly apparently unstratified, and contained broken and deliberately crumpled tablets as well as thirty-four

broken clay sealings. The bin was, I would suggest, used for the storage of clean clay which could be recycled' (1987, 207, my italics). Such an interpretation would also plausibly explain the hypothetical sacks of sealings near the doors of administrative rooms at both Brak and Mari, collected for re-cycling rather than 'accounting'. Such a reconstruction makes sense in terms both of the specially prepared clay that was used for both tablets and sealings and the quantity of such clay that must have been required at any one time. Also in support of the 're-cycling' view is the evidence that some sealings had been re-used immediately, while the clay was still soft, attested in the visible survival of the original 'discarded' impression; hardening time is estimated at 18-26 hours (Feroli & Fiandra 1979, 19). Discarded, in the sense of 'scrunched together', sealings have also been found in an administrative room (SS 18) at Tell Brak (Oates & Oates in press, pl. 2b, bottom row).

The connection of sealing with the development of writing has already been referred to, but this should not be taken in the sense of any *direct* evolution. As Marcella Frangipane concludes, 'the origin of writing is evidently linked to the quantitative growth of the information which had to be recorded rather than to intrinsic functional requirements of the [sealing] system' (p. 134). Nor, as Palaima notes (p. 355), can one assume that later more sophisticated systems necessarily replaced earlier ones. An amusing example in Britain was the persistence of medieval wooden tally sticks used as receipts by the Royal Exchequer which were abolished only in 1834. Perhaps relevant to the function of the Sabi Abyadh broken figurines (above) is the fact that during a royal audit the official who paid a sum into the Exchequer had to produce the corresponding tally stick which matched the split-away counter-tail (see also Fig. 7). The notches for the sums were cut through both pieces, making forgery difficult, since no stick naturally splits evenly.⁵ Relationships between writing and sealing are examined again in Palaima's very useful paper on the Aegean evidence, which focuses

in particular on Hagia Triada, benefiting from the extensive studies previously carried out by Judith Weingarten. The volume also contains papers of considerable interest on clay sealing use in the Sudan (Meriotic Jebel Barkal), recent stone tablet registers from the Jebel al-Akhdar in Libya and a theoretical paper on the conceptual development of archives (Fissore).

The volume opens with an article on the so-called 'token system' by Denise Schmandt-Besserat, whose important research in this area is now widely known, while Poursat's paper raises the question of possible 'token' use at Mallia (Crete). The occurrence of tokens and other small clay 'accounting' or 'contractual' devices has already been noted in the context of 'temporary archives' of sealings at prehistoric sites such as Sabi Abyadh and Brak. Nonetheless, there exists up to now no convincing evidence to support Schmandt-Besserat's claim of a prehistoric 'token system' remarkably stable throughout 5000 years' (p. 13). Although for the later fourth millennium she is almost certainly correct in concluding that the contemporary token system was used for recording economic data, the earlier function(s) of such objects, their identification specifically as 'commodity units' and their alleged relationship with the pictographic script remain matters of contention (cf. recent reviews, *inter alia*, Zimansky 1993; Friberg in press). If one follows Schmandt-Besserat's argument that token = commodity unit, the surviving 'accounts', seen particularly in the Middle and Late Uruk spherical bullae where the associated token groups are preserved intact, would have recorded such small quantities that it is difficult to imagine

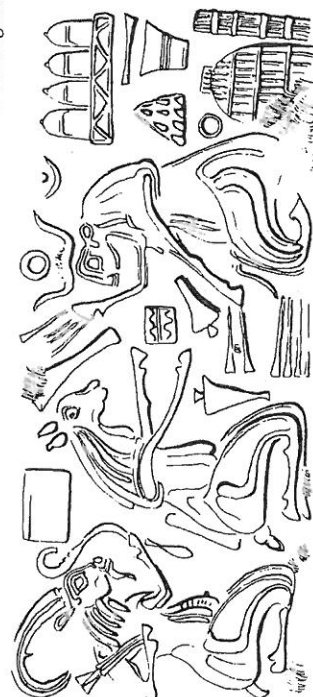


Figure 7. 'Scribal scene' on a proto-Elamite seal, c. 3000 BC. It has been suggested that the sticks in the 'hands' of the bull and goat are 'tally sticks' or perhaps even stylus for inscribing clay tablets such as those depicted in the background (Pittman 1993, 238). This 'accounting' scene takes place near a granary (upper right), with a becelled rim (?ration) bowl before it. (After Amiet 1980, 568.)

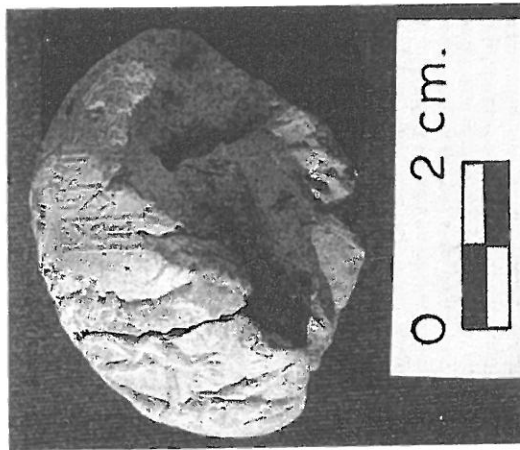


Figure 6. Bulla of the Akkadian period (c. 2200 BC), attesting the dispatch of some attached commodity from Gasur (ancient Nuzi, near Kirkuk in eastern Iraq) to Tell Brak (NE Syria), where it was found, a distance of over 350 km. The sealing belongs to one Ibbalaba, the Akkadian governor of Gasur. The string impression on the bulla interior is clearly visible (TB 8014, 5.5 x 4.0 cm).

any need for formal accounting. The latest word is that of Jöran Friberg, whose proposal that the spherical envelopes (bullae) and 'numerical tablets' record disbursements of barley for rations or 'wages' over considerable periods of time, on a par with later cuneiform records, makes by far the most sense. Indeed, the parallels with the archaic texts are striking. If Friberg is correct, then the Mesopotamian ration system was already in operation in the early part of the fourth millennium bc, and possibly even earlier.

Before the invention of the spherical bulla and the numerical tablet, both now dated to 'Middle Uruk' at Shaikh Hassan and Brak (Boese 1995, abb. 8; Oates & Oates 1994, 175) and well-represented at the Uruk 'colony' sites, the clay sealing was the primary vehicle of book-keeping, but it would be a mistake to search within these earlier systems for evidence of the 'balanced accounts' of the third millennium cuneiform texts. Equally, the apparent association of early sealings with domestic structures does not exclude the possibility that their use was related to some more centralized regulation. Nor should we forget the possible amuletic/magical value of seals, conceivably an important aspect of their early use. This is seen perhaps most obviously in the great variety of Halaf amulets and in the very beautiful mid-fourth-millennium seal-amulets from Brak, of which no impressions have been recovered from any site (Mallowan 1947, pls. XI-XX, XLV-XLVII). Most important of all, we can never assume that we have found all the components of any past system, nor even all the tablets or sealings which originally formed a particular deposit or 'archive'. Both archaeological survival and discovery are a most unpredictable lottery.

The study of sealing function, which owes so much to the editors, and especially Flandra and Ferioli, has in recent years progressed by leaps and bounds. The publication of this fascinating volume constitutes a major landmark, bringing together papers of both interest and quality. Given that it is published largely in English (the alternative language is French), the typographical errors are remarkably few and can, for the most part, be easily ignored. 'Wailly' (p. 207), however, is the name of the 1960s Director-General of Antiquities in Baghdad; the name of the site is 'Oueili' (French transliteration) or 'Awayli' (Adams survey site 460). There are no seal impressions from 'Oueili', nor indeed from any other South Mesopotamian site before the Uruk period. The only 'figural representation' from the site (p. 207) is a so-called 'seal-amulet' (Breniquet 1987, 142 & pl. II.6), which cannot simply be assumed to have been a

functional seal — compare, for example, the seal-amulets from Brak referred to above. There is no mention in *Origini* XII or in Marcella Frangipane's paper of sealings 'still in situ... on jars' (p. 165), a serious misunderstanding. *Pisammum* is simply the Akkadian reading of Sumerian *g'pisan.dub.ba*; they are not different kinds of container (p. 151). One further small point, irrigation agriculture is an unlikely basis for the economy at Tepe Gawra, given the geomorphology of the adjacent landscape (p. 102; Rothman, p. 100). Errors in references are an occasional irritation to the reader.

But these are very minor emendations to a volume that deserves to be on the bookshelves of every scholar not only of the ancient Near East or the Aegean but of those interested in the wider history of bureaucracy and administration. Even at our present very inadequate levels of understanding, studies of seals and their imprinted messages have opened up an astonishing vista of complex economic organization and relationships, extending in ancient Mesopotamia some 3000 years before any attestation of writing. Perhaps ironically, a type of object once the preserve of collectors and art historians lies at the focus of this new economic research. It has been said that information is mankind's most valuable resource; we owe to the ancient Near Eastern world man's first attempt to organize its storage and transmission.

Notes

1. The earliest seal impressions known come from the PPN-B Syrian sites of Bouqras and Al-Kowr. They consist of a small number of both geometric and figurative impressions on gypsum plaster lids or 'covers'; more elaborate seal designs also impressed on gypsum plaster, are known from Samarran levels at Tell es-Sawwan in central Iraq (Fig. 1). General reference: von Wickede 1991.
2. Described briefly by Peter M.M.G. Akkermans and Marc Verhoeven in *AJA* 99, 1995, and the subject of an unpublished M.A. thesis by Kim Duistermaat, Leiden 1994. At Sabi Abyad 2' seal designs have been impressed by at least 6 different seals.
3. Room 6, the smallest of the rooms with sealings at Karahöyük, contained almost half the sealings so far recovered; it measures 3.3 x 1.5 m. Store room A340 at Arslantepe was 2.5 x 4.0 m in area.
4. The Nippur basin is situated in Room 1 of the Inanna Temple; it is bitumen-lined and measures 4.80 x 3.0 x 1.73 m. It was replaced in a later phase by a large storage jar, also bitumen-coated

The Nippur sealings included both door and container specimens. Some 116 clay sealings were found in the Late Uruk installation at Warka, which was situated in the north corner room of the very ornate square building known as 'Palace E'. It measured 3.6 x 3.2 x 0.3 m in depth (Lenzen 1968, 15-16 & pls. 9b & 10a). Both basins are larger than the Arslantepe and Karahöyük storerooms! For Terga, cf. Buccellati & Kelly Buccellati 1983, 49 and Figure 3.

5. The Exchequer tally sticks are famous in another context, in having caused the fire which in 1834 burnt down the original Palace of Westminster. The stove in which the worm-out and worm-eaten bits of wood were burnt in their final disposal set fire to adjacent panelling, which in turn set fire to both the Lords and Commons. Without these ancient tally sticks Big Ben might not have been built!
6. The Brak numerical tablet was found in a level below the hearth from which the CH 103 14C determination was obtained (BM-2915: 4650±50 bp, 3505-3405 or 3385-3360 cal bc). The latter provides a close match with the earlier of the two dates from the TW Phase 16 Northern Middle Uruk house (BM-2900: 4660±35, 3500-3410 or 3385-3370 cal bc). The run of determinations from Shaikh Hassan suggests that the c. 3500 bc dates are to be preferred for Middle Uruk (Boese 1995, abb. 15).

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