Naissance de l'état, naissance de l'administration :
le rôle de l'écriture en Égypte, au Proche-Orient et en Chine

Emergence of the state and development of the administration:
the role of writing in Egypt, Near East and China

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Erratum

Il a été porté à notre attention que deux erreurs se sont glissées dans l'article intitulé «The Significance of Predynastic Canid Burials in Ancient Egypt» publié par Mary Hartley dans le volume 25 (2015) de notre revue. Page 59, à la fin du 5e paragraphe, l'intention de l'auteur était de faire référence à Van Neer et al. 2004: 120 au lieu de Friedman et al. 2011: 120. Le nom de l'auteur a aussi été mal orthographié («Freidman» au lieu de «Friedman»). La rédaction d'*Archéo-Nil* présente ses excuses pour les désagréments occasionnés.

It was brought to our attention that two errors occurred in the article entitled "The Significance of Predynastic Canid Burials in Ancient Egypt" published by Mary Hartley in the volume 25 (2015) of our journal. On page 59, end of the fifth paragraph, the author's intent was to reference Van Neer et al. 2004: 120 instead of Friedman et al. 2011: 120. The name of the author was also regrettably misspelt ("Freidman" instead of "Friedman"). *Archéo-Nil*'s team sincerely apologises for any hurt or confusion these errors may have caused.

Sommaire du n°26

Études et essais

Lectures

The Origins of administrative practices and their developments in Greater Mesopotamia. The evidence from Arslantepe

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The debate on the origins of administrative practices in the Near East has often overlapped and coincided with the debate on the origins of the State, since the formation of bureaucratic-administrative structures underpinned the political structure of the early centralised societies, and led to a radical, and often irreversible, change in the system of relations. In the late 1970s and early 1980s, the origins of "bureaucracy" was considered to be an essential indicator of the presence of the State, in that it revealed the typical ways in which central politics were managed (Wright & Johnson 1975; Wright 1977). Quite rightly, the existence of administrative systems was considered to reflect a system of delegated powers vested in individuals and institutions with specific administrative functions, which brought about a historic transformation from being tribal societies, in which the authority of a paramount chief was inalienable and non-transferable and legitimised on the basis of the social and kinship relations on which the structure of the community itself was based, to becoming centralised political societies in which the all-embracing central power could be delegated to individuals who were not necessarily blood-related, and who were bound to the leader by relations of subordination and faithfulness (Claessen & Skalnìk 1978).

Contributions from more recent archaeological research in the Near East, which was a 'primary' State formation area, has nevertheless shown that the need to 'administer' goods arose long before that transformation occurred, from the time of the Early Neolithic communities in Upper Mesopotamia (Jezirah) at the end of the 7th millennium BCE (Akkermans & Duistermaat 1996). And it is very interesting to see that even though that need must have arisen in connection with the production of food surpluses, as cropping and livestock raising took root, it was not found in all, but only in certain, types of Neolithic communities.

We must therefore ask ourselves: (1) what were the needs, and the contexts, in which controlling the movement of goods, and possibly the need to record them, became necessary; (2) what was the impact on the social and political relations of the groups in which those needs arose and became established.

The origin of administration in the Neolithic

The unexpected discovery of hundreds of *cretulae* in the so-called "burnt village" of the Early Ceramic Neolithic at Sabi Abyad, on the River Balikh in western Jezirah, gave rise to new ideas regarding the economic and social reasons for the origins of administration (Akkermans 1996; Akkermans & Duistermaat 1996; Frangipane 2000). Even though seals, or *pintaderas*, have been found in various Neolithic sites in the Near East – from Upper Mesopotamia to Anatolia and the Levant – it is only in certain contexts that we find any evidence of the 'administrative' use of seals.

In the central-western Anatolian sites, the seals found there have not (at least, so far) been matched by corresponding seal impressions, and are often made of terracotta. This material would not have been appropriate if the seals were expected to be preserved for a long time; and if they were intended for administrative use as a means of identifying individuals (or groups, should the seals be appended by a representative of a whole group), they would have had to last at least for the lifetime of the individual using them and keeping them safe. The motifs found on the seals, moreover, were mostly very simple geometric designs and in some cases repeated identically in different contexts and on different sites, which would mean that they did not symbolise any specific personal identity (**Fig. 1**). At all events, the Neolithic societies in both central and western Anatolia seem to have been sedentary family-based agricultural communities, where families appear to have played a crucial role as the basic economic and social unit. This is shown from (a) the domestic architecture, in which the house was the hub around which all their daily activities, including storage, revolved, (b) the funerary ideology in which the home was used for burials, (c) the almost total absence of common areas, except for the large courtyards at Çatal Höyük, which at all events were enclosed spaces shared by several houses (perhaps belonging to the same extended

family?), but not open to collective sharing by the whole community or large sections of it (Hodder 2006; Hodder & Pels 2010; Düring 2006). Even on the westernmost sites in the so-called Lakes Region, such as Hacilar, Bademağacı, or Höyücek, or in the Izmir province, such as Ulucak (Duru 2008; Çilingiroğlu et al. 2012; Özdoğan et al. 2012), the domestic equipment and traces of activities have always been found either inside the house or just outside it, adjoining the perimeter walls. In such contexts, in which foodstuffs seem to have been processed and stored in the home, and were therefore under a household management system, it is hardly surprising that no administrative control systems developed, for they would have been of no use with this type of economic management of the consumption and circulation of goods. We have no idea what the central and western Anatolian stamps were used for, but it is rather unlikely that they indicate any full-fledged administrative activities.

Conversely, the Neolithic societies that developed in the Syro-Iraqi Jezirah after the end of Pre-pottery Neolithic were quite different. Here, as early as the first occupation of the region in the 7th millennium, the archaeological data reveal the existence of agro-pastoralist societies made of small groups with a possible high degree of mobility and forms of group specialisation, who seem to have been organised on the basis of very close cooperation between villages within the territory. Evidence has been found of the specialised hunting of gazelle and wild asses both in the pre-Hassuna phase (7th millennium BCE), at Umm-Dhabaghiyah (Kirkbride 1975), and in the later Halaf period (6th millennium BCE) (Akkermans 1993; Akkermans & Wittman 1993), which suggests that these products circulated, perhaps with others, between different villages within the territory (Frangipane 2007; 2013; Nieuwenhuyse et al. 2013). The wide extent of the cultural areas sharing ways of life, types of economies, types of dwellings, ceramics and other objects are evidence of intense interaction between the groups throughout an extremely vast region, while
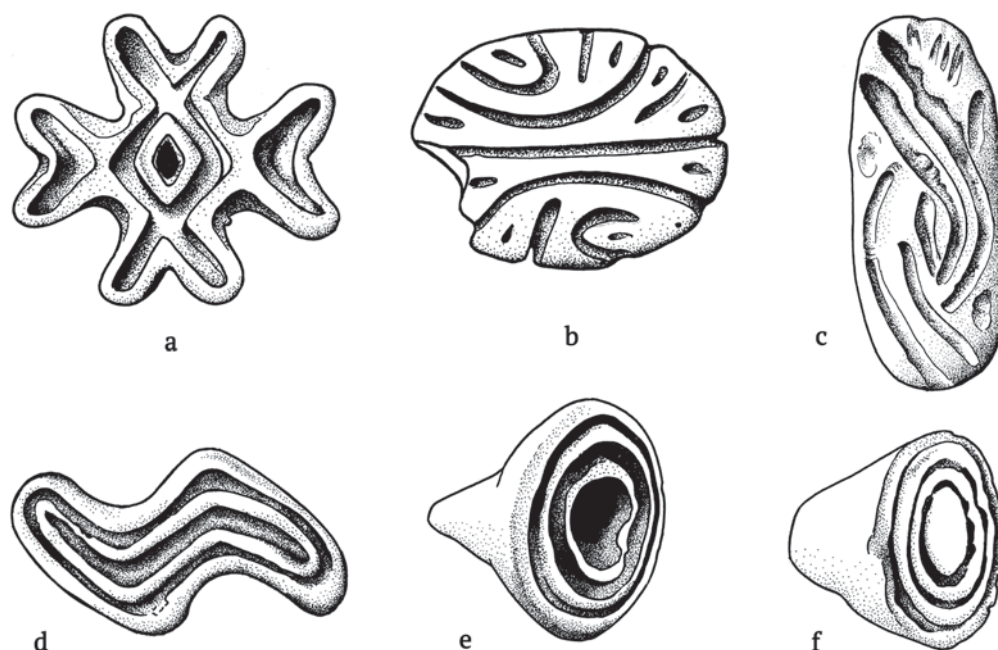
Fig. 1
Baked clay stamps ('*pintaderas*') from Neolithic sites in Central and Western Anatolia.
a-d. from Çatal Höyük (a-c. Redrawn from Mellaart 1967: fig. 121; d. Redrawn from Hodder 2006: fig.75);
e-f. from Bademağacı (redrawn from Duru 2008: fig. 189).

the layout of the villages, which included wide open spaces for activities in common (with numerous outdoor implements and equipment that cannot be precisely related to any specific houses) and large storage buildings, perhaps for the whole community or for broad sections of it, suggest that the main production and consumption unit (Flannery 1972) must have been the group as a whole, whether the entire village, or other large social entities, such as an extended clan.

It was within this socio-economic context that the use of seals and sealings became very widespread. We have significant, albeit indirect, evidence from the Halaf period of the widespread use of these practices: large numbers of stone seals, mostly bearing geometric motifs, but with a wide variety of sealing surface shapes probably intended to better distinguish between the different seals, was associated with the presence of a number of clay-sealings (von Wickede 1990) (**Fig. 2a**). Large store-buildings have also been identified in some villages, such as at Sabi Abyad, where a large storage structure has been also brought to light in an Early Halaf phase (level 3) (Akkermans 1996: 84-105), and most likely on other sites, such

as Yarim Tepe (Yoffee & Clark 1993), where large cell-buildings might have been used as collective storage facilities.

The ultimate proof of a full-fledged administrative system for controlling the circulation of staple products in the Neolithic of Upper Mesopotamia has however emerged from the findings in the earliest Neolithic phase at Sabi Abyad, in the famous "burnt village" of level 6 (Akkermans 1996: 38-63; Verhoeven 1999), in which a complex of stores made up of adjacent cell buildings has been brought to light containing hundreds of *cretulae*. Most of them were piled up in a small room without any containers, suggesting that they must have been kept there after being used and then removed (**Fig. 2c**) (Akkermans 1996; Duistermaat 1996). The discovery and study of the thousands of later *cretulae* at Arslantepe (Frangipane et al. 2007) has also enabled us to understand the way this very ancient system operated. It indeed appears to have been almost certainly based on the same principles: 1- The seal was applied by the person withdrawing the goods – and the very large number of different seal designs (about 65) recognised from the impressions at Sabi Abyad demonstrates that, since so many individuals had
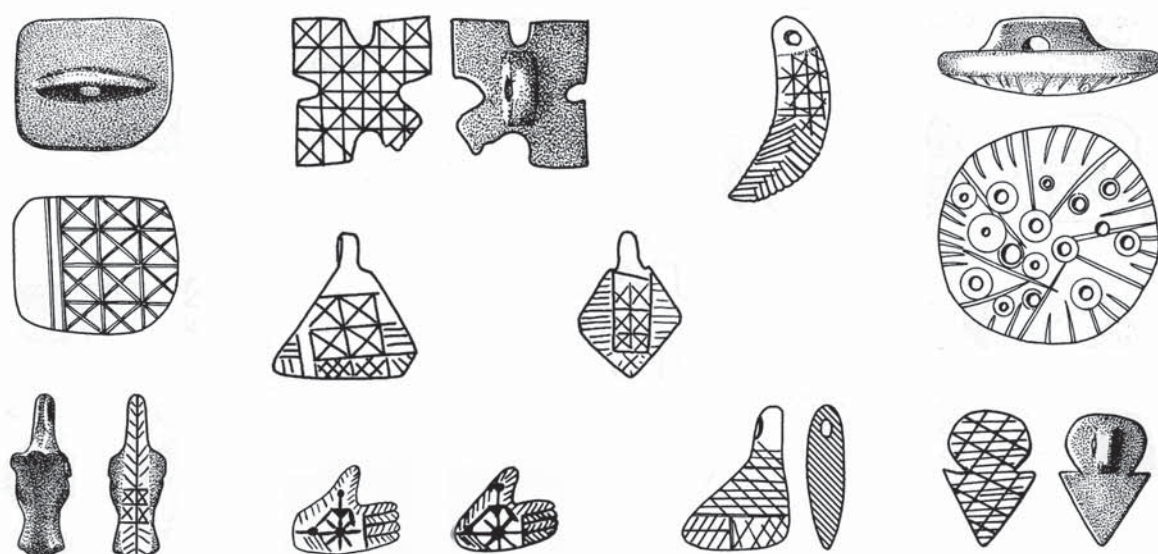
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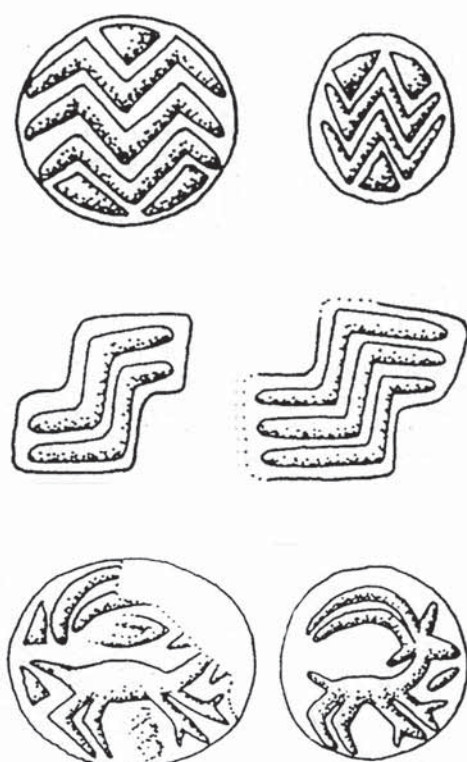
b
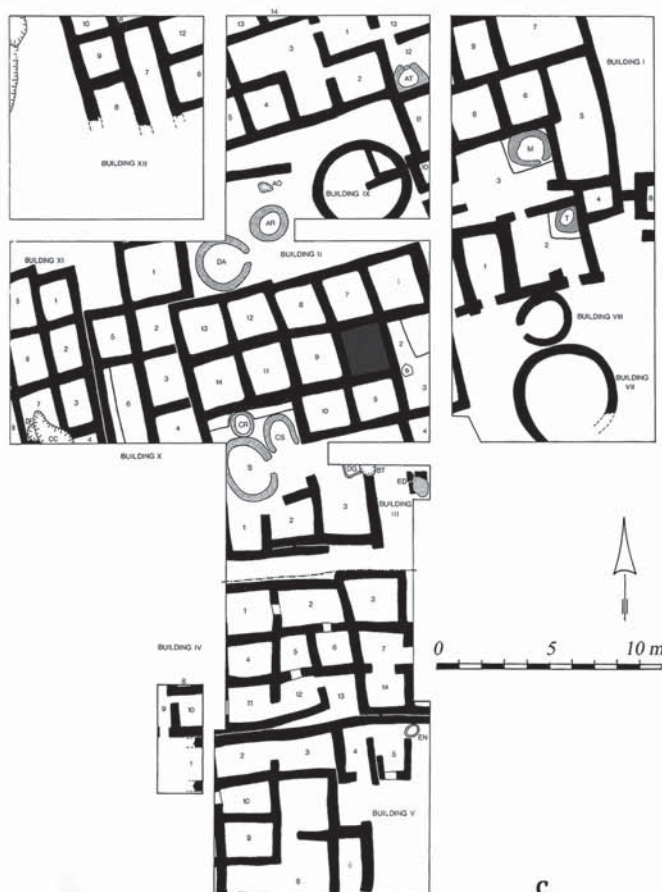
c

Fig. 2

Administration in Upper Mesopotamia in the Neolithic period (7th-6th millennia BC). **a.** Stone seals from the Halaf period (from von Wickede 1990: ns. 183, 166, 155, 207, 143, 150, 164, 57, 161, 171 – from top to bottom and from left to right); **b.** Seal designs recognized from the impressions (*cretulae*) found in the store buildings in the Early Neolithic village (level 6) at Sabi Abyad (from Duistermaat 1996: fig. 5.3); **c.** The store buildings at Sabi Abyad, level 6 (from Akkermans 1996: fig. 2.7). The dark grey colour indicates the room with the maximum concentration of cretulae.

applied a seal, they would not have been the store-keepers but the users of the stores; 2- The attached seal on the *cretula* was the proof of the transaction performed and identified the person performing it, in other words it was the equivalent of placing a signature (the seal impression) on a receipt (the *cretula*). And this is the reason why the *cretulae* were kept aside after being removed to testify the legitimacy of the operations carried out by the storekeeper. As we have seen at Arslantepe, after removal, the *cretulae* were almost certainly stored for a certain period as a record of the operations carried out and were kept in a controlled place, which, in the Sabi Abyad case, was the store itself. The majority of the *cretulae* found in the 'burnt village' actually came from a small cell-room in the storage building complex where there were no containers nor stored cereals (Akkermans & Duistermaat 1996; Verhoeven 1999), thus suggesting the *cretulae* were piled up there after being removed (**Fig. 2c**).

It is interesting to notice that the numerous iconographies were grouped together by categories of similar motifs (Duistermaat 1996) (**Fig. 2b**). Considering the egalitarian structure that have probably typified this 7th millennium Neolithic society, the different iconographic groups may have referred to family or clanic groups, whereas the individual seals, differing in their details, would have distinguished the individual members of these groups operating in the stores with 'administrative' responsibilities.

The reason for pooling goods (perhaps harvests) in these contexts has been convincingly suggested by Akkermans & Duistermaat (1996), who argue that it was a society with a mixed economy and a dual production structure (cropping and animal husbandry), in which some members of the group would have to leave the village as transhumant pastoralists and therefore have to entrust their property to others (the store-keepers), ensuring that they would be able to retrieve it on their return to the village. This type of organisation is perfectly consistent with the type of economy and territorial organisation of production and

the circulation of products that we have suggested for the pre-Hassuna, Hassuna and Halaf societies, based on other archaeological evidence (Frangipane 2007; 2013). This type of organization alone might explain the need for a Neolithic agro-pastoralist society to share goods in common, then finding ways and means of managing them properly and fairly.

In this case, then, the social, political, and economic function of administration was to maintain relations of equality and equity within the group by enhancing cooperation and collectivisation in the management of goods (Frangipane 2000; 2007). There would have been no point in sealing containers and putting in place sophisticated instruments of control in a purely family-based economy and society, where the food was stored in the house, as was the case in other Neolithic societies in the Near East and the Mediterranean regions.

The development of administrative systems in the 5th millennium

Straddling the 6th and 5th millennia in northern Mesopotamia, a far-reaching change occurred in the societies occupying Jezirah which, for reasons that are still unclear and the subject of debate, increasingly resembled the southern model of Ubaid society as their economic and social structures became more hierarchical and internally unequal (Breniquet 1996; Forest 1996: 53-115; Frangipane 2007). In these regions, this process marked the starting of political and to some extent economic centralisation, revolving around new 'temple' institutions and probably high status persons performing the rituals, which were wholly unknown in the Halaf phases. Collective stores disappeared, and large tripartite houses were adopted in the north – although they were smaller than their prototypes in the south – in various regions, from the areas lying east of the Tigris (Tepe Gawra, lev. XV-XII: Tobler 1950; Rothman 2002) to the Turkish Upper Euphrates valley (Değirmentepe,

in the Malatya plain: Esin 1994; Gurdil 2010), and in all the phases of the so-called "Northern Ubaid" period. Archaeological evidence of the increasing inequalities between the members of society is shown, especially in the final phase of this period, by the existence of few houses which were larger than others (see Gawra XII) and by the beginning of the mass production of bowls (known as the *Coba bowls*), probably to be used to distribute food in non-household environments, perhaps by preeminent persons or families, who operated in both the public and private spheres.

The new 'Northern Ubaid' societies adopted from the Neolithic communities of the region the use of seals for administrative purposes (which had been unknown until the very end of the Ubaid period in the southern Mesopotamian alluvial plain), but the administrative procedures were now mainly used in the temple or public areas, where food seems to have been ceremonially redistributed in feastings and commensal events (Helwing 2003; Pollock 2012), and in the tripartite houses (Esin 1994), in which plentiful concentrations of administrative materials have been found in the larger and most important buildings, such as the 'White Room' in level XII at Tepe Gawra (Rothman 2002). The procedures and the administrative technology developed in the Neolithic age in these regions to meet the need to guarantee the equitable distribution of primary goods between socially equal groups in egalitarian societies with a collective management of the staple economy, appear to have remained unchanged, while the economic and social function of the sealing operations was reversed: the earlier purpose of seals as a means of maintaining equality and equal access to the goods and commodities produced, now became a tool for the discriminatory distribution of resources by preeminent persons to further enhance their privileges (Frangipane 2000). The concentration and redistribution of food no longer took place in collective structures, but by now they were probably controlled by "élite" groups, whether they were the leaders of the community, who also

gained prestige, authority and consensus thanks to these redistributions, or members of pre-eminent families who had acquired more resources and means of production, and needed the work of other less fortunate members of the community to make these means fully productive. In these contexts, as a matter of fact, *cretulae* were always found associated with large numbers of mass-produced bowls, suggesting that the main type of activity subject to administrative control was the distribution of meals.

The motifs found on the seals, which were still stamp-seals, gradually became more frequently figurative, depicting both animal and human figures and even scenes, albeit schematic, codified, and compressed on the seals (**Fig. 3**). At both Tepe Gawra and Değirmentepe, where numerous assemblages of *cretulae* have been unearthed, these bore complex and differentiated images, while widely shared iconographic codes (for example, the way of representing figures in space or recurrent animal types) and 'styles' expressing specific cultural identities were at the same time being developed. The glyptic production, in other words, was increasingly defining more highly specialised craftsmanship that was taking on increasing social importance, probably linked to the increasing economic and political importance of administration. Even the sealed containers, in the few cases in which they have been identified, varied considerably in terms of their categories and the type of closures (Esin 1994).

The main concentration of *cretulae* in the areas connected with cultic buildings and in certain tripartite houses seem to have been consistent with the gradual establishment, throughout the broader Mesopotamian world (the so-called Greater Mesopotamia), of a system of increasingly centralised staple economy in the hands of leaders and socially pre-eminent individuals. These, in the exercise of their authority, appear to have used highly effective instruments of ideological/religious legitimisation, but must also have been able to exploit the economic inequalities which were being created to their advantage in the 'private' sphere. This system was

Fig. 3
Seal designs from the Ubaid Period at Tepe Gawra (from Forest 1996: fig. 77).

to become the main feature of Mesopotamian societies, and between the end of the 5th and the beginning of the 4th millennium, societies with forms of economic and institutional-political control exercised by the most powerful members of the community over the weaker ones began to be developed. Administration played a key role in this process, by contributing as before to maintaining the social order which, nevertheless, had radically changed. The people using the administrative tool no longer did so to guarantee meeting the common needs of the community but to work on behalf of certain social categories, who used these tools to enhance their privileges and govern their prerogatives.

The total establishment of centralised administration and bureaucracy in the 4th millennium BCE

The authority and economic domination of the élites expanded considerably in the course of the 4th millennium, and is manifested in both their daily life activities (the evidence from the pre-eminent residential area at Jebel Aruda is significant in this respect: van Driel

& van Driel-Murray 1983; Frangipane & Palmieri 1988-89), and the economic choices of the ruling class that they embodied, whose political economy was based on the centralisation of staple products.

Once again, not all the Late Chalcolithic and Early Bronze hierarchical societies with political leadership of the Near East adopted administrative systems based on the use of *cretulae* and seals. Throughout the 4th millennium and in part of the third, there was nothing of the kind, for instance, in Western and Central Anatolia, and only to a small extent in the Levant. In these regions, we presume that there were also hierarchical societies headed by élites, but their relations with the population and their economic policies appear to have been very different, and there is no evidence of any central interference in the staple economy of their community (Frangipane 2010). The sophisticated administration system that developed in the 4th millennium Mesopotamian societies were bound up, as we have already pointed out, with their specific economic system that was based on the centralised management of staple goods, the means for producing them (land and livestock), and the labour force. The Mesopotamian ruling classes, by making the system financing them and their public

activities revolve around the staple economy, accumulated perishable goods (the central stores in the Uruk world, where they have been brought to light, seem to have been use to keep foodstuffs), and had continuously to reinvest them in the form of remuneration for work, making foodstuff production to further expand in a self-perpetuating circuit. In other words, it was a kind of 'entrepreneurial' system in which the outgoing goods were as important as the incoming goods, and, with the expansion of the activities and sectors kept under control, the administrative management of these movements became increasingly more crucial to the sound operation of the system as a whole.

The systematic use of administrative practices also made it possible to delegate tasks and powers to officials who were now able to manage goods on behalf of the central authority. By doing so, they also became a tool of third-party political control over territories and people, creating a network of institutional intermediaries and codes of conduct forming the core of the birth of the State. And it is no coincidence that the only other area of the Near East where this system was soon adopted – probably by acquiring it, directly or indirectly, from the Mesopotamian world – was Egypt, where a highly centralised State structure, probably also largely based on the control of the flows of staple products, was established as early as the end of the fourth millennium (Wengrow 2006; Wenke 2009). Here, given the strongly top-down character of Egyptian society, which was less 'stratified' than Mesopotamian society and with less widespread distribution of power, the system seems to have been essentially concentrated in the hands of the central institutions.

Administration thereby became an instrument of power and even the imagery on the seals radically changed from originally being simply icons and symbols of personal or group identities, to becoming "narratives" which expressed and entrenched the ideology of power (**Fig. 4**). And it is quite likely that the emergence of the cylinder seal around the mid-4th millennium BCE had to do with this new 'secondary' function (but of primary importance) of supporting a kind of "state art". Recent studies on the glyptic looking beyond the traditional art-history approach, have widely examined the various different functions of the images on the seals, as the expression of ideological aspects relating to the exercise of power, or as ways of representing possible social categories and activities perceived as important in the economic systems involved, while at the same time looking at the seals as reflection of interregional relations (Pittman 1993; 1994; 2001).

Fig. 4
Seal designs from the Uruk period in Southern Mesopotamia and Susiana.
a-c. from Uruk-Warka (a. from Boehmer 1999: Abb. 121; b. from M.A. Brandes 1979: taf.30; c. from Boehmer 1999: Taff. 17 and 35);
d. from Susa (Amiet 1972: n. 646).

It is possible that the prior knowledge of the seal as an administrative tool in the Neolithic of Jezirah drove its adoption and subsequent development in the Mesopotamian world, albeit in widely different contexts. But this adoption was certainly the result of needs brought about by a particular economic and political system in which the centralised management of the movement of primary goods prevailed, as had also been the case in the widely diverse environments in which the seal came into being.

Centralisation in both contexts entailed the accumulation of goods for redistribution, but in the new Early State society, the centralised economy would appear to have mainly revolved around the control of the labour force, suggesting that the means of production which that labour force was expected to render productive, were probably also being centralised. The regular "redistribution" of part of the incoming goods was the core of the economic and administrative activity of the first central institutions (temple and palace), which made it possible to remunerate and support the labour force (with food distributions) and to finance the activities of the ruling élites (with the distributions of resources to be put to use, such as lands of be farmed, raw materials to be processed, livestock to be tended, etc.). It is therefore the *outgoing goods* that became the focal point of the "central" economies in the Mesopotamian world from the 4th millennium BCE, and this required the further development of administrative tools to be used for controlling these movements and accounting for them.

The *cretula*: features and functions

Pioneering functional studies conducted on *cretulae* by Enrica Fiandra in the 1960s on items unearthed in the palace at Festos, in Creta, and, later, on many other assemblages from the Near East (Fiandra 1968; 1975; 1981; Ferioli *et al* 1994; 1996), which have more recently been followed by other scholars from different countries (Reichel

2001; 2002), focused on the value of the *cretula* as an administrative and economic tool, which, being the material proof of transactions, became full-fledged "documents" of the transactions themselves, and not merely the means of protecting the goods against violations.

The political and economic significance of the use of *cretulae* varied, as already mentioned, depending on the societies in which they were used and on the dominant social and economic relations within those societies. But once codified, their administrative meaning and significance remained unchanged for a long time. As Enrica Fiandra has pointed out many times, the *cretula* is a neutral tool *in se,* but it acquires extraordinary potential for revealing economic models and relations as soon as it is studied in terms of its specific applications and in specific contexts.

The object and contexts of the sealing procedures (public, private, communal), the number of people involved with responsibilities to apply seals, the type of container that each of them sealed, the ways the sealings were attached, removed and possibly stored temporarily after removal, the particular places in which they were used, their concentration and their subsequent dumping, are all crucial elements for an understanding not only of the way the administrative procedures operated, but also of the organisation of "bureaucracy" and the very nature of the economic systems which were governed by these procedures.

The Arslantepe *cretulae*: The reconstruction of a sophisticated administrative system in the era of State formation

The painstaking and interdisciplinary study of the vast corpus of thousands of *cretulae* (almost 2200 pieces still bore the impressions of the seals and the sealed objects) found in the late 4th millennium monumental public area at Arslantepe-Malatya (Turkey)

Fig. 5
Arslantepe, period VIA (Late Chalcolithic 5, 3370-3100 BC). Plan of the palace with the indication of the areas where cretulae were mainly concentrated.

(period VI A, Late Chalcolithic 5, Late Uruk in Mesopotamia), has made it possible to thoroughly investigate the structure of this very ancient centralised administrative system, and to understand the way it operated, while also recognising its structural and functional features. These features can therefore be generalised and extended to apply to other similar contexts in the Mesopotamian world and, in more general terms, to the first Early State societies in the Near East (Frangipane *et al.* 2007). The *cretulae* at Arslantepe, which were all found *in situ* in substantial assemblages concentrated in several different points in the early palatial complex (**Fig. 5**), have enabled us to recognise and confirm clearly and with documentary evidence the procedures and the phases in the administrative activities performed in a centralised political system, at a time when the institution of the state was coming into being. The analysis has also confirmed the insight of E. Fiandra regarding the multiple functions of the *cretulae*, as a means of guaranteeing the goods conserved and as the document of the transactions conducted on them (Fiandra 1981), making it quite clear that this object category would, on its own, provide data of primary importance for an understanding of the operation of early administrative systems before and without writing. Since it was not difficult to break a clay-sealing, the purpose of sealing the goods was not only to prevent theft, but also to provide evidence of the integrity of the contents and give proof of lawfully performed transactions to the persons who owned the goods. In order to give "legitimacy" to the opening of a particular container, the clay sealing that had been removed, or some part of it, had to be temporarily kept as a document-receipt for the transaction.

The *cretulae* at Arslantepe comprised six main assemblages, composed of thousands of fragments found in different places within the large palatial complex, and were the result of different operations conducted in various operational phases in the sequence of administrative activities (**Fig. 5**). These assemblages can in fact be grouped together

in terms of three main typologies: (a) *cretulae* still in use on containers (found on the ground near the containers, under collapsed buildings), found in the rooms where the transactions were performed; (b) *cretulae* momentarily set aside after removal and found piled together in the same places in which the operations had taken place; (c) *cretulae* discarded in large numbers in special spaces within the palace complex, which had been re-used specifically for the dumping of this particular administrative materials, thus preventing them to be dispersed and, on the contrary, maintaining them 'under control', even after they were not in use any more. In some cases, these dumps, which also included other discarded items such as pottery, animal bones and seeds, seem to have also had a secondary purpose, namely, to fill up small spaces no longer in use, preparing the areas for future building reconstructions or modifications. This is the case of room A430, which was divided into two halves by building a dividing wall, with one part of the room being partially filled up and no longer used (**Fig. 6**). The discarding of the *cretulae* almost certainly took place after checking them, and "accounting" for them, as shown by their 'orderly' distribution in the stratigraphy of the dumps, and may have marked the end of the cycle of operations or perhaps the end of an administrative period. There were actually two main types of *cretulae* dumps in the Arslantepe palace: 1- Small groups of fairly homogeneous materials resulting from similar types of operations, perhaps accounted for and immediately discarded after completing a specific series of transactions (A434, Frangipane *et al.* 2007: 145-147); 2- The systematic and final dumping of all the materials at the end of a whole cycle of transactions or of a particular administrative period (A206 and A77) (Frangipane *et al* 2007: 68-111; 126-136; 425-465) (**Fig. 6**).

The *Cretulae in situ* in the rooms in which the operations were transacted
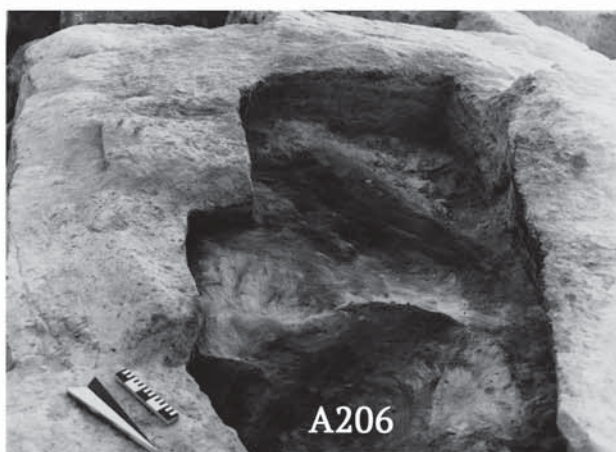
The first type of findings (a), that is to say, *cretulae* which must have originally been still attached to the containers, was almost

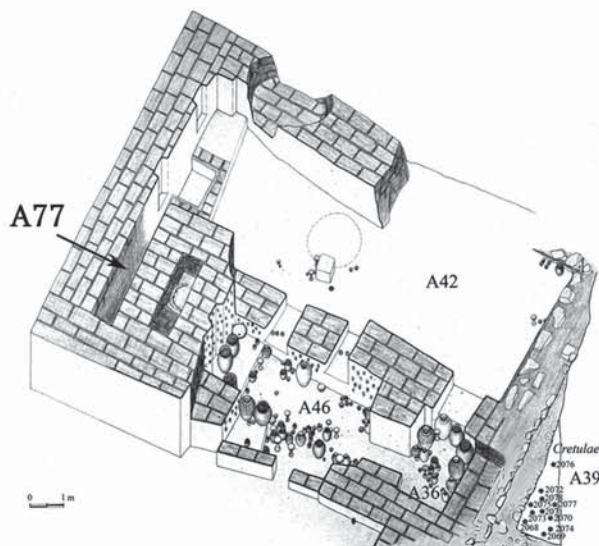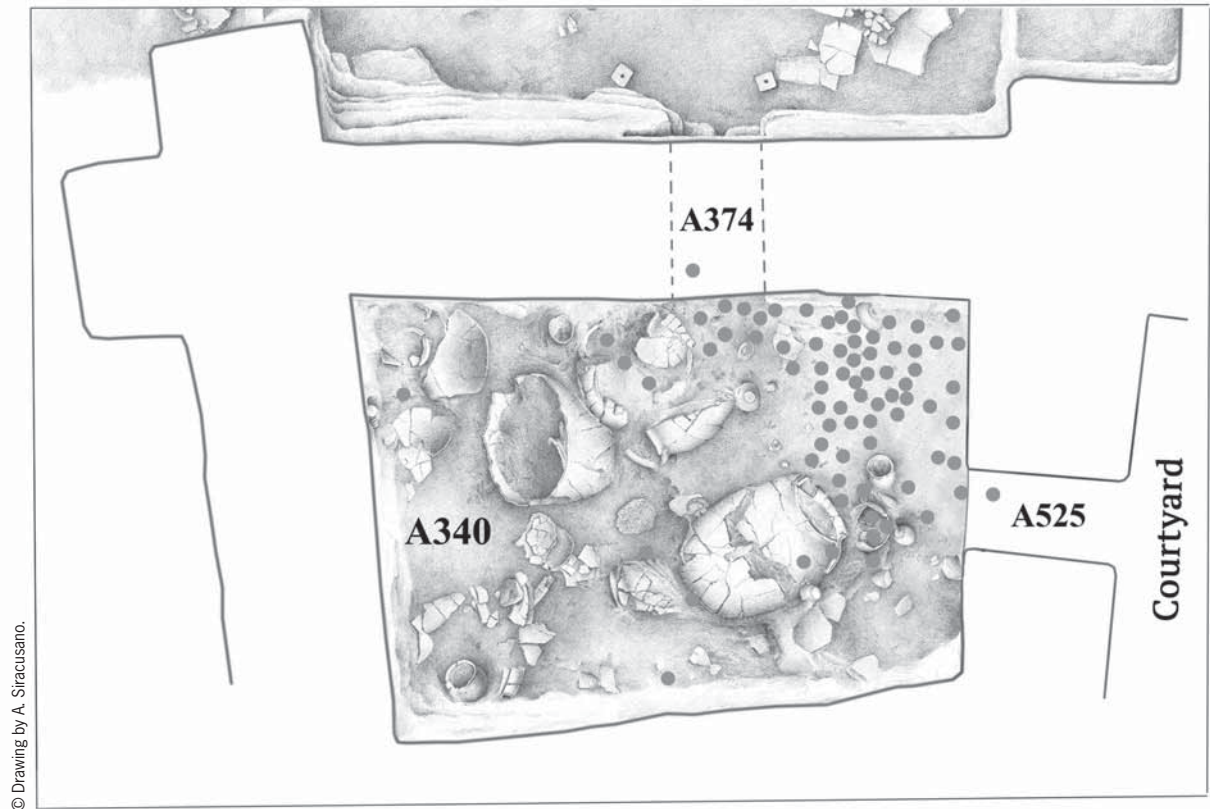**Fig. 6** • Arslantepe, period VIA. The administrative dumps in the palace.

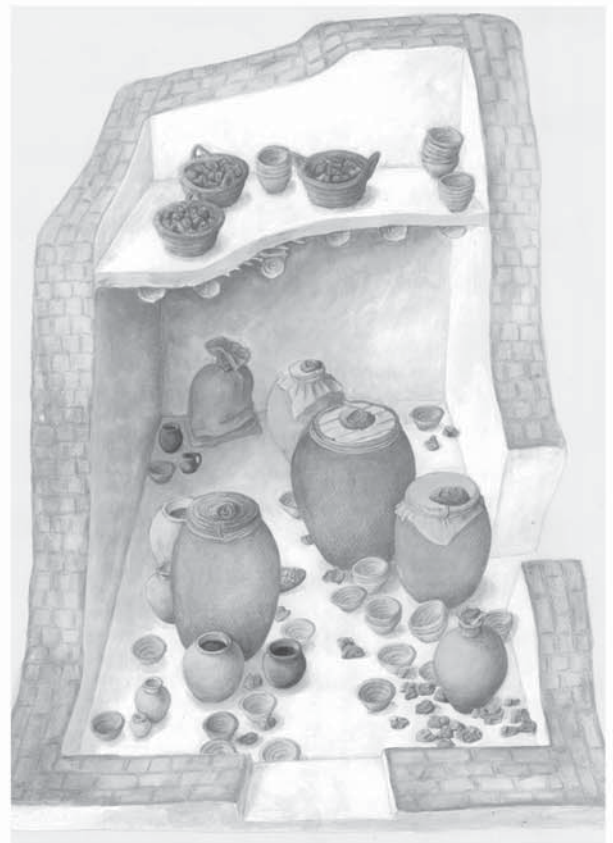**Fig. 7** • Arslantepe, period VIA. The storeroom A340 with materials in situ: plan (a), photo (b), and reconstruction (c).

© Drawing by A. Siracusano.

a

b

c

entirely discovered in the re-distribution store A340, where numerous *cretulae* were found on the ground beside the containers to which they were presumably linked (**fig. 7**) (Frangipane *et al.* 2007: 31-38; 11-126; 415-425). The fact that this room was used for food redistribution was evidenced precisely by these *cretulae* and by more than 100 wheel-made mass-produced bowls (**fig. 8**). Only two *cretulae-stoppers* on necked jars were found close to the containers in the main room of Temple B (A450), where no distribution practices were performed involving the population (Frangipane et al. 2007: 43-47).

In the same places – storeroom A 340 and Temple B – the second type of materials (b) were unearthed, namely, the removed *cretulae* set aside temporarily. Once again, in Temple B, the operations had been conducted on a smaller scale, perhaps only occasionally, and the procedure of setting aside the *cretulae* is somewhat uncertain because only a small group of materials have been found there, perhaps kept in a bag (there are also vestiges of straw or fabric) near one of the two windows connecting the main room A450 with a side entrance room (A809).

A large quantity of removed *cretulae* were conversely found in A 340, in the corner near the door/window leading to the courtyard, through which various categories of individuals (workers?) entered the room to withdraw food (**Fig. 7 a, c**). The massive presence of *cretulae* in this corner of the room, where there were no containers, clearly shows that this material had been temporarily set aside, judging from the fact that many of them had certainly been removed from the same containers in the room, as evidenced from an analysis of the impressions left by the containers on their back side. The containers seem therefore to have been repeatedly opened and re-sealed, perhaps by the same individuals, on successive days. The presence in the layers of the

fallen debris of the room of numerous *cretulae* mostly bearing the impressions of the same seals and the same containers as those found on the ground moreover suggests that the materials may have subsequently been taken to an upper storey or balcony, from where they must have fallen down (**Fig. 7c**). A total of 175 *cretulae* were found in the storeroom A340, which, taken as a whole, are evidence of ongoing activities and the temporary setting-aside of the *cretulae* after removal.

Inside the stores no substantial storage of seeds have been found – despite the fact that they remain preserved for millennia once they have been charred – but only a few fragments of wheat and barley that were possibly leftovers from grinding. The numerous containers, varying in shape and size (**Fig. 8b**), however, show that food was stored there, obviously already processed or milled into meal, of which no archaeological traces remain[1]. Liquids must also have been plentiful there, judging from the numerous ceramic bottles, often with a spout for pouring, mostly found in the large store.

The small group of grape pips found in a bowl in the distribution store also shows that the grape or grape products were kept there.

Meat must also have played an important part in the food distribution system, judging from the large numbers of animal bones (more than 1,000) found in room A340.

The fact that large numbers of people went regularly to the palace to receive food rations or daily meals indicates the total or partial "handing-over" of labour services for the benefit of the central institutions and their rulers. Regular services provided by large sections of the population were therefore probably mainly remunerated with food distributions, not only in occasional or ceremonial events, but in the form of proper "wages", distributed in 'secular' areas of the palace complex (storerooms and courtyard) under the close control of a network of officials.

Fig. 8
Arslantepe, period VIA. Sealings, seal designs and pottery from the redistribution room A340.

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1. Bio-chemical analyses have been attempted at the time of the discovery of the storerooms, but, probably due to less sophisticated analytical methods at the time of the storerooms discovery, the results were unsatisfying. The completed restoration of the vessels (now kept in the Malatya museum) makes new analyses rather impossible.

a

b
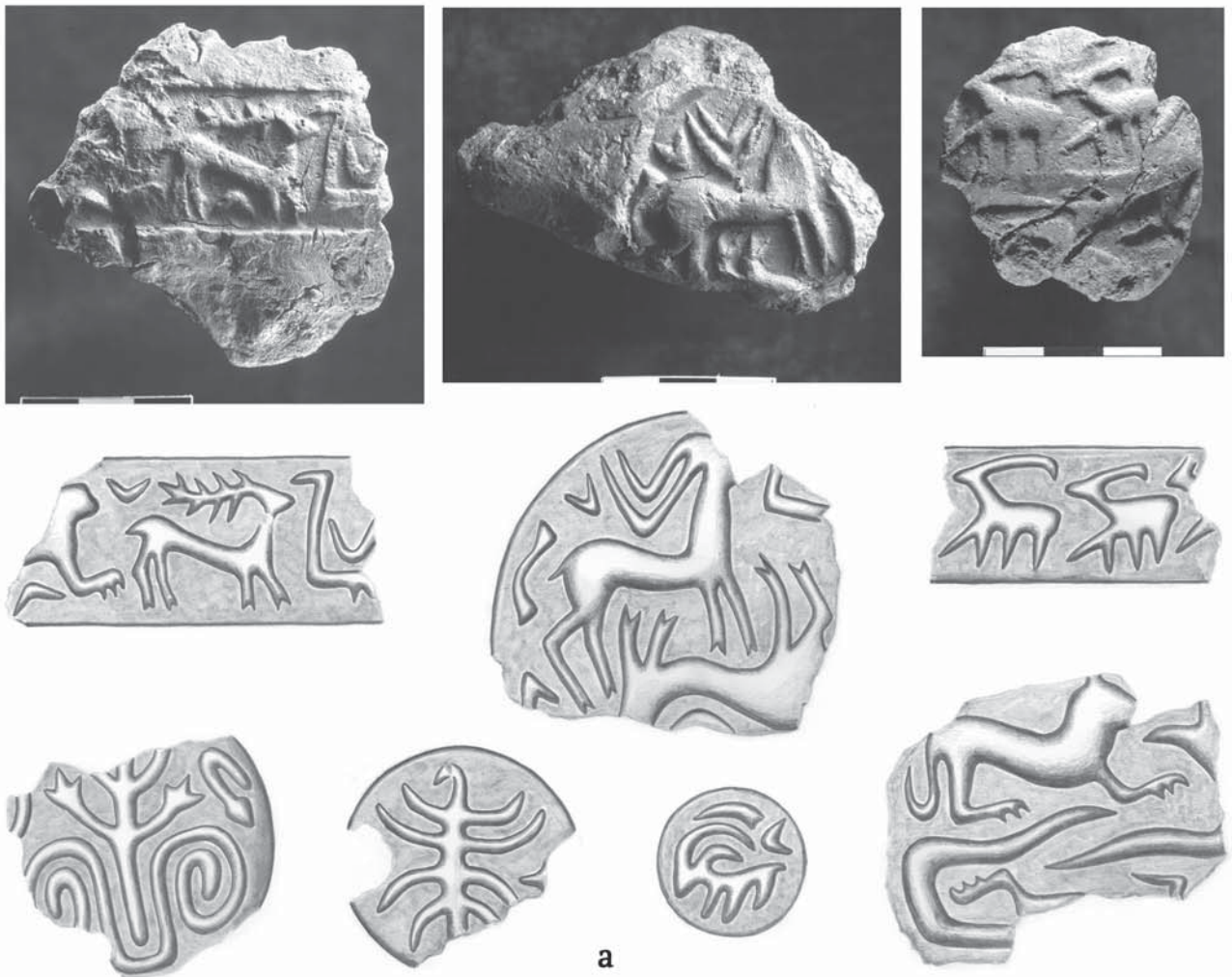
We do not know if the leaders imposed tributes to the population, but they certainly organized in a new way labour services as the managers of public affairs. This indirectly means that they must have had possessions to be made productive by this labour force: fields to be farmed, flocks to be grazed, and raw materials to be processed into finished products. It was by controlling such a large labour force that they gradually increased their wealth and power.

Cretulae discarded after preliminary ordering

Most of the *cretulae* (1934 well-preserved fragments) were found in dumps, where, as already indicated, they had been discarded in several successive layers of waste of administrative materials. These places were in small rooms or spaces set aside for the purpose in various parts of the palace. The main dump was in a small long and narrow room (A206) set into the western wall of the large access corridor, where almost 5000 fragments of *cretulae* had been dumped together with hundreds of mass-produced bowls and other discarded waste, in 18 successive thin layers. Among these fragments, 1728 *cretulae* still bore the legible impression of the seal and/or the sealed container. The other two dumping places contained a far smaller number of *cretulae* – 136 in one narrow room in Temple A (A77) and 70 in room A430 – suggesting that the *cretulae* were discarded in different ways probably according to different types or areas of activity, perhaps varying in duration and intensity of operations.

Dump A206, must have been the final waste of an "administrative period" and/or a series of several types of transactions, judging by the number of the accumulated layers, the vast number of *cretulae*, their variety in terms of seals and sealed containers, and from the way they were ordered in recognisable groups in the various successive dumping operations.

The layers can be grouped into series of successive piles, each of which was characterised by *cretulae* bearing the impression of the same seals and the same sealed objects
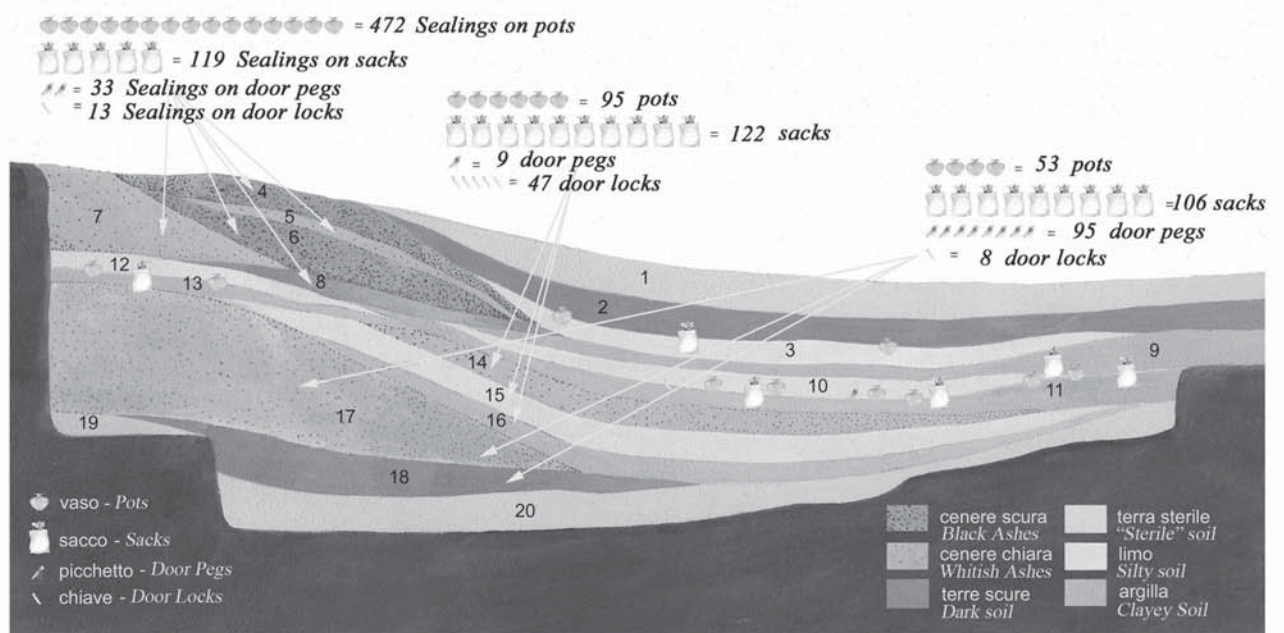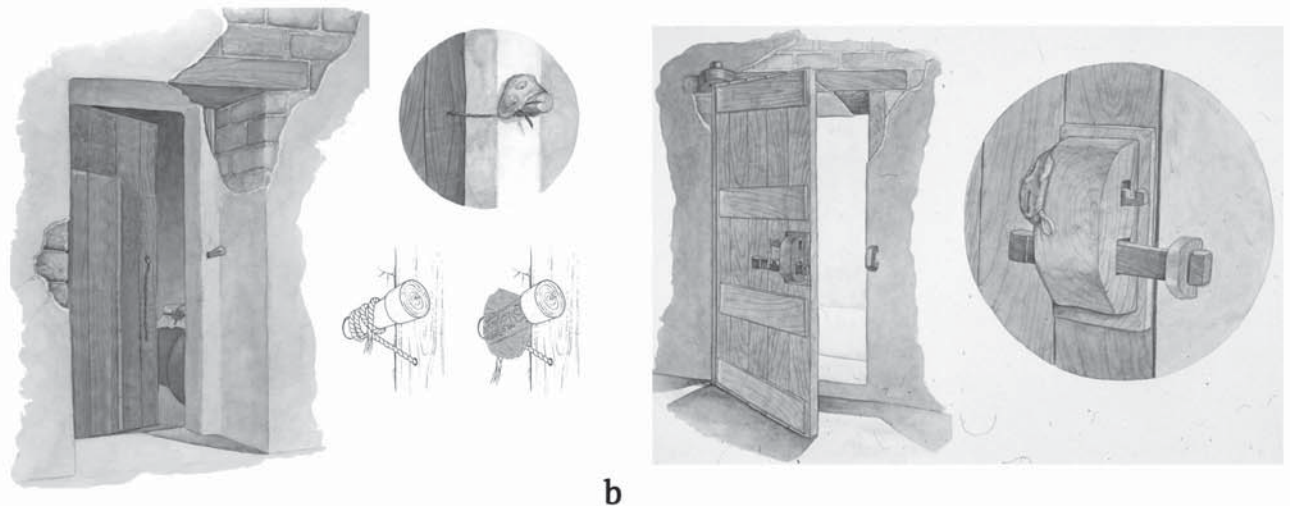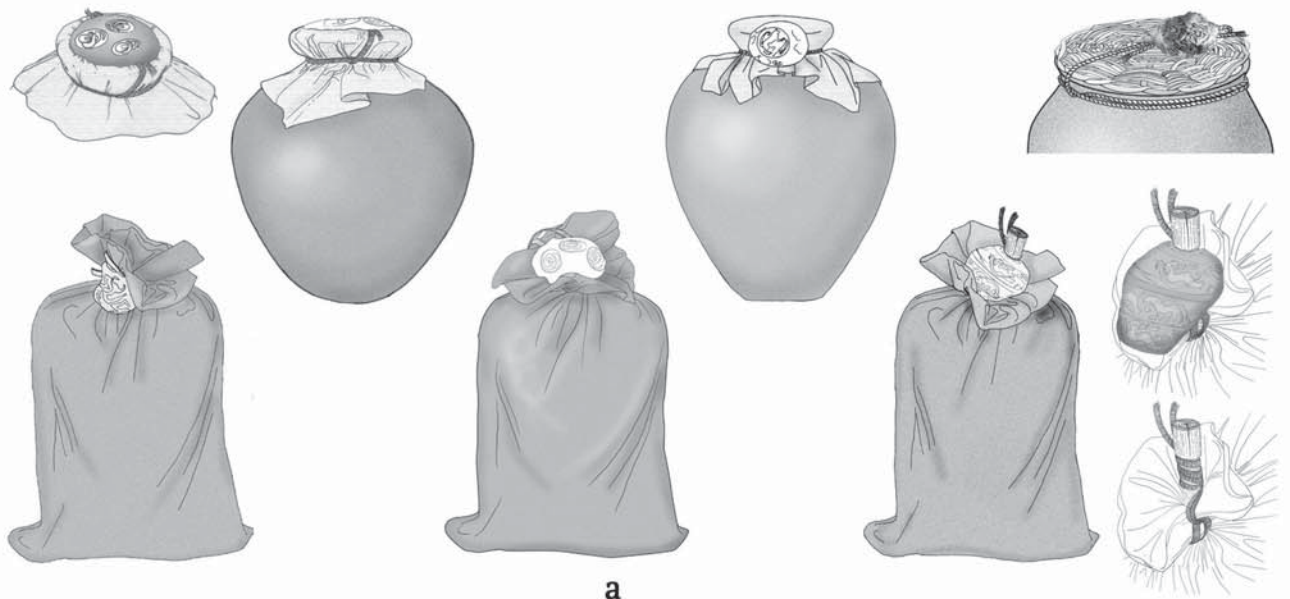
(**Fig. 9c**). At least 11 different types of sealed objects and ways of closing them have been recognised: vases closed with cloth, leather and lids, sacks, perhaps baskets, and doors, each closed in different ways (**Fig. 9a**). Eight different specific doors have been recognised by E. Fiandra and P. Ferioli, closed in two different ways: with door pegs and with wooden locks, the latter indicating a more complex access system (**Fig. 9b**) (Frangipane et al. 2007: 61-111). What is interesting here, as Enrica Fiandra has pointed out many times, is that the strings were never knotted, but were only plaited or placed together, showing that the main purpose of the *cretulae* was not so much to make the closure safe, but rather to document the legitimacy of the opening and closing operations.

There were the impressions of 127 different seals, indicating that there were at least 127 people performing administrative duties, probably comprising internal officials and representatives of groups of the population or teams of workers who had served during the relatively short period of time to which the archive refers (the relatively short duration of the entire dumping process is indicated by the presence of the same seal impressions in both the upper and lower layers of the dump).

The operations that can be inferred from the discarded archive seem to refer to different types of transactions grouped in order and discarded one after the other, perhaps after having been checked and/or accounted: In the upper layers (4 to 8) the large majority of vessel sealings (**Fig. 9c**) together with a very large number of seals impressed on the *cretulae*, used often only once or two-three times (**Fig. 11b**), suggest that the materials found in these layers may refer to regular distributions of goods, very likely food (indicated by the vessels), to large numbers of people (indicated by the very numerous persons responsible of the withdrawals). The substantial prevalence of sacks and the high number of door sealings in the middle (14-26) and lower (17-18) layers, combined with a sharp reduction in the number of the seals employed, almost each of which was affixed many times, may conversely sug-

© drawing by T. D'Este

a

b

= 472 *Sealings on pots*
= 119 *Sealings on sacks*
= 33 *Sealings on door pegs*
= 13 *Sealings on door locks*

= 95 *pots*
= 122 *sacks*
= 9 *door pegs*
= 47 *door locks*

= 53 *pots*
=106 *sacks*
= 95 *door pegs*
= 8 *door locks*

vaso - *Pots*
sacco - *Sacks*
picchetto - *Door Pegs*
chiave - *Door Locks*

cenere scura
Black Ashes
cenere chiara
Whitish Ashes
terre scure
Dark soil

terra sterile
"Sterile" soil
limo
Silty soil
argilla
Clayey Soil

c
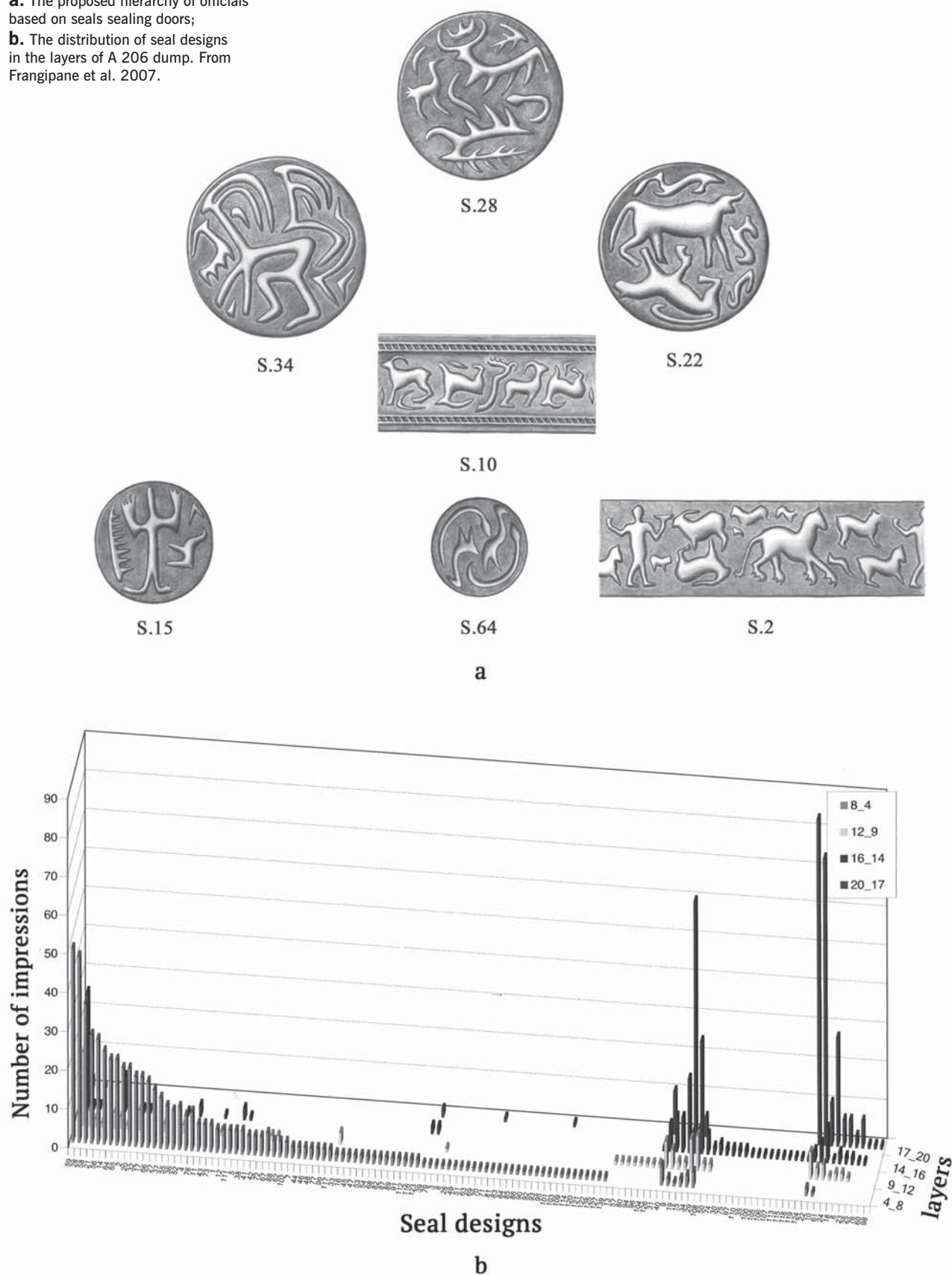
Fig. 10 • Arslantepe, period VIA. *Cretulae* and seal designs recognized from the impressions from the main dump A206.

Fig. 11 • Arslantepe, period VIA.
a. The proposed hierarchy of officials based on seals sealing doors;
b. The distribution of seal designs in the layers of A 206 dump. From Frangipane et al. 2007.

a

b

gest these *cretulae* refer to particular withdrawals carried out on special occasions for internal movements of goods, feasts or ceremonies by internal palace officials, who sealed both the containers and the store doors. The use of the same clay type, probably the same clay mass used until it was completely used up, and the frequency of deformed *cretulae* (that means they were removed within the 24 hours after having been put on the container) in the middle and lower layers moreover reveal the intensity of these operations and their concentration in a short period of time (Frangipane et al. 2007: 425-459). There were also interesting differences between these two groups of layers, because in the middle layers most of the *cretulae* were attached to locks and in most cases the sacks were sealed on the inside, while in the lower layers the majority were closures with door pegs and the sacks were sealed on the outside. This might indicate that the operations reflected in the materials from these two groups of layers referred to different stores and or different types of transactions (relating to different goods?), which had been counted and then disposed of successively.

In all, or virtually all cases, the operations had been performed locally, as evidenced from the results of the analyses of the clays used, all of which came from the Malatya plain (Blackman et al. 2007).

The dump therefore appears to have been the result of the final disposal of a sort of 'archive', where the different types of transactions performed within the palace in a given area or period or both have been controlled and probably accounted by checking the *cretulae*, before discarding them. The *cretulae* may indeed attest the number of operations carried out by each individual, and the clusters of similar *cretulae* in the dump layers indicate they had been previously ordered according to both the operations carried out and the officials performing them.

At least 3 of the 32 official's sealing doors were responsible for controlling several different stores (different doors), and were therefore people with more responsibility

on different types of transactions or supervisors with broader powers, suggesting the rise of high-rank figures in the palace administration and the emergence of a complex hierarchical bureaucracy (**Fig. 11a**).

This system, mainly used to control the withdrawals of goods for redistribution purposes to people working for the palace, may have involved a large number of individuals perhaps of different origins. The study of the seal designs has made it possible to recognise several and clearly distinct styles and iconographic patterns, a trait that is peculiar to the Arslantepe glyptic in comparison with other Near Eastern contexts (**Fig. 10**) (Pittman, in Frangipane et al. 2007: 284-338). This variety probably had to do with the low level of urbanisation at the site and with the inclusion of various communities from the surrounding territory (rural villages, pastoralist groups, etc.) in the centralised economic-administrative system of the Arslantepe palace.

The 4th millennium administrative systems at Arslantepe: a few concluding remarks

The economic and administrative centralisation at Arslantepe had an important precedent in the occurrence of substantial assemblages of *cretulae* in two imposing buildings, which we can today consider as part of a mid 4th millennium temple area (period VII, Late Chalcolithic 3-4), prior to the layout of the period VIA palace (**Fig. 12**). Groups of seal impressions were found in two small rooms, one in each building: in the so-called Temple C, which has been fully excavated, the *cretulae* were found in one of the side rooms, perhaps held up after removal and apparently having fallen from an upper storey; in Temple D, which came to light in the 2015 campaign and is only partially excavated, numerous *cretulae* had been conversely dumped to feel a little corner room, presumably a stairwell, and probably marked the final destination of the

Fig. 12
Arslantepe, period VII (Late Chalcolithic 3-4, 3700-3450 BC).
a. *Cretulae* from the temple area;
b. Plan of Temples C and D with the location of *cretulae*.

a

b
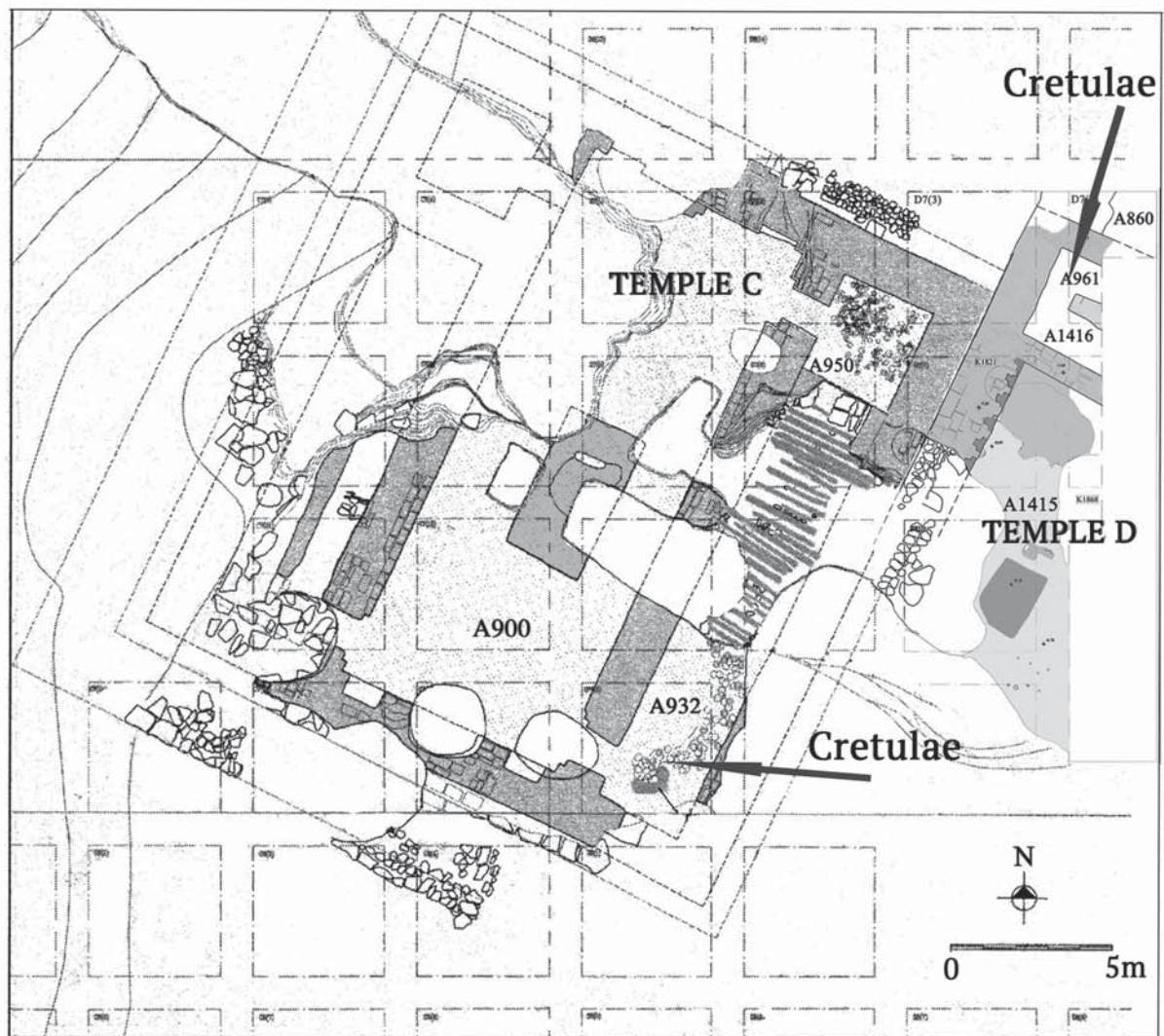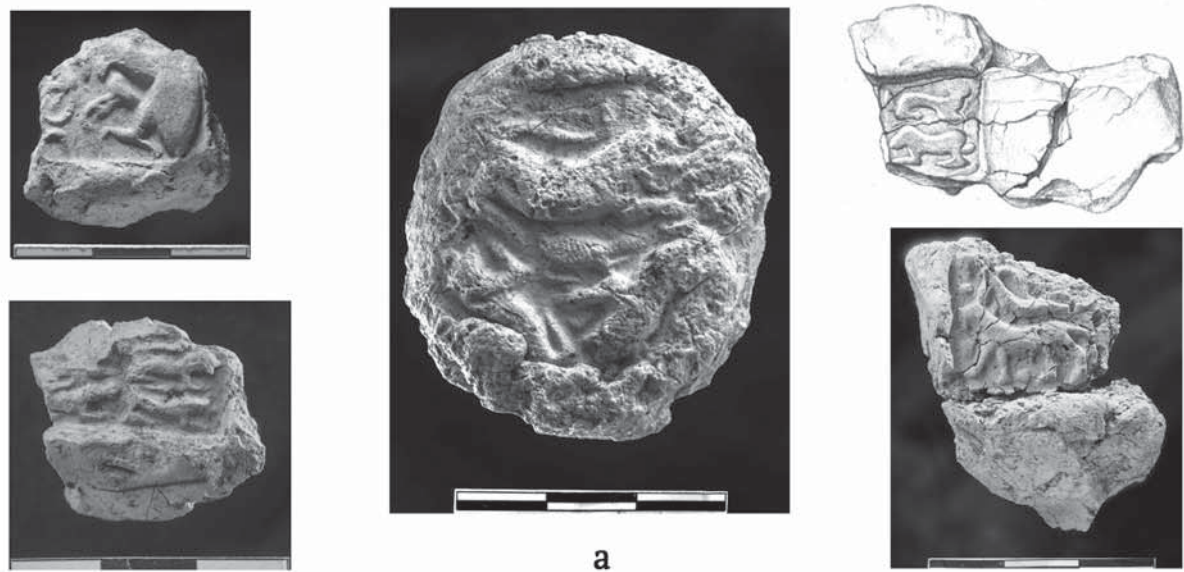
discarded materials following the completion of all the operations. Given the siting of these *cretulae* in cultic public environments, and given their association with hundreds of bowls used to distribute food in both buildings, it is clear that, also at Arslantepe as in Mesopotamia, ceremonial redistribution practices were performed in the first half of the 4th millennium inside 'sacred' buildings. Even though the study of the dump in Temple D has only just begun and the excavations are still waiting to be completed, the similarity that is already clear between the ways in which *cretulae* were used and dumped both in these contexts and in the later palace, once again emphasises the continuity of the development of this system from the very earliest periods, due to its operational efficiency. But, also in this case, the change in the socio-political and economic context led to an increasing complexity and to changed effects and spin-offs on all the social, economic and political relations that the system regulated. The administrative procedures, passing from being applied to ceremonial – and hence occasional – food distributions in sacred environments to regular and routine redistribution practices in a non-religious and radically transformed palace-like public complex, seem to have in turn contributed to a significant socio-political change by giving a major boost to the growth of a new class of bureaucrats and their role in the society. The fundamentally secular nature of the new public area at Arslantepe has been confirmed not only by the changed function of the temples in the period VIA palace (Temple A and Temple B), that became places for cultic purposes and activities reserved to only a few (Frangipane ed. 2010), but also by the very

latest discoveries, in the last two excavation campaigns, of an imposing non-religious building (Building 37) (**Fig. 5**) facing a large courtyard to receive people, in the most internal political core of the complex, which confirm the basically secular nature of the new public area.

The emergence in the palace of a class of officials with a sophisticated organization, aimed at administering the goods of the rulers, documents the rise of bureaucracy and a system for delegating power to an increasingly large number of individuals, which is a trait typical of a State organization.

This very efficient 4th millennium administrative system however had a weakness: the sealings were unable to provide the information on the quantities of goods withdrawn and the time of the withdrawal. Therefore, being unable to preserve the memory of the operations performed, if mixed with sealings from later years they would upset the accounting system; the "archive" therefore had to be regularly emptied, and this was probably the reasons why we found so many sealing discarding places.

It was the advent of writing in Mesopotamia around 3100 BC that, enabling to record quantities and keep the documents of transactions for a longer time, gave a major new impetus to the development of administrative systems.

Would writing have eventually developed at Arslantepe if the palace and its organisation had not been abruptly destroyed? This is one of the many unanswered questions of history, which is fraught with interrupted progress and unfulfilled potential. The State formation process was nevertheless already in progress, and the society and its political relations deeply transformed.

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