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SEALINGS AS ARTIFACTS OF INSTITUTIONAL ADMINISTRATION IN ANCIENT MESOPOTAMIA

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In the last few years a number of studies have appeared which have focused on clay sealings, not on the impressions on the sealed surfaces of the sealings (hereafter referred to as obverse or front), but on the backs or reverses.¹ In contrast to earlier studies and catalogues which routinely describe sealings as “jar sealings,”² those studies, largely the work of Enrica Fiandra of the University of Rome, have sought to identify and describe the various objects that were sealed (and the methods by which they were sealed) from positives of the objects. The positives were made by making molds in high-quality plaster of the backs of the sealings (the backs of sealings are negative impressions of what the sealings were on). Fiandra’s studies have not only contributed to the knowledge of what objects were sealed, but have emphasized, although to date largely implicitly, the character of sealings as artifacts reflecting administrative procedures and, so, their potential value in reconstructing administrative systems of organizations or institutions.

The sealings from Level IV of the temple of Inanna at Nippur, the level dating to the period of the Third Dynasty of Ur (ca. 2112-2004 B.C.), are of

1. Dominique Beyer, “Scellements de portes du palais de Mari,” *MARI* 4 (1985) 375-84; Piera Ferioli and Enrica Fiandra, “The Administrative Functions of Clay Sealings in Proto-historical Iran,” in Gherardo Gnoli and Adriano V. Rossi (eds.), *Iranica* (Naples, 1979) pp. 307-12; P. Ferioli, E. Fiandra, and S. Tusa, “Stamp Seals and the Functional Analysis of Their Sealings at Shahr-i Sokhta II-III,” in J. E. van Lohuizen-de Leeuw (ed.), *South Asian Archaeology 1975* (Leiden, 1979) pp. 7-26; Enrica Fiandra, “A che cose servivano le cretule di Festos,” *Pepragmena tou B’ Diethnous Kritologikon Synedriou* 1 (Athens, 1968) 383-97; “Ancora a proposito delle cretule de Festòs: connessione tra i sistemi amministrativi centralizzati e l’uso delle cretule nell’eta del bronzo,” *Bollettino d’Arte*, ser. 5, 60 (1975) 1-25; “Attività a Kish di un mercante di Lagash in epoca presargonica,” *OrAnt* 20 (1981) 166-74; “The Connection Between Clay Sealings and Tablets in Administration,” in Herbert Bärstel (ed.), *South Asian Archaeology 1979* (Berlin, 1981) pp. 29-43; “Porte e chiusure di sicurezza nell’antico oriente,” *Bollettino d’Arte*, ser. 6, 67 (1982) 1-18.

2. See, for example, Frankfort’s discussion of objects sealed (Henri Frankfort, *Cylinder Seals* [London, 1939] p. 2). Note also the more recent remarks of McGuire Gibson in his summation in McGuire Gibson and Robert D. Biggs (eds.), *Seals and Sealing in the Ancient Near East* (Malibu, 1977) p. 148. In noting the difficulty of fitting “jar sealings” to specific jar

particular value for testing whether and to what extent clay sealings can be employed for purposes of reconstructing the administrative organization of ancient Mesopotamian institutions.³ The value of those sealings lay in their secure archaeological context (the known character of the building and the findspots of the sealings within the building) and in the fact that the seals impressed on them can be identified by their inscriptions as belonging to specific individuals. The titles of those individuals are, in many instances, given in the inscriptions on their seals and their role in the administration of the temple—more generally the administrative organization of the institution—can be outlined from the texts of its archive, which were found in the course of the temple's excavation. The remains of that archive consisted of more than 1100 clay tablets written in Sumerian.⁴

types, Gibson acknowledged, at least implicitly, that the description "jar sealing" was a problematic one.

As an example of a recently published catalogue in which clay sealings are routinely described as "jar sealings," see Briggs Buchanan, *Early Near Eastern Seals in the Yale Babylonian Collection* (New Haven, 1981). In that catalogue, for example, the fragments listed as no. 681 (pp. 287-88) are all described as "jar sealings," but none in fact are.

3. On the excavations of the temple of Inanna, see Vaughn E. Crawford, "Nippur, the Holy City," *Archaeology* 12 (1959) 74-83; Richard C. Haines, "Where a Goddess of Love and War was Worshipped 4000 Years Ago," *The Illustrated London News*, 18 August 1956, pp. 226-29; "Further Excavations of the Temple of Inanna," *The ILN*, 6 September 1958, pp. 386-89; "The Temple of Inanna at Nippur," *The ILN*, 9 September 1961, pp. 408-11; Donald P. Hansen and George F. Dales, "The Temple of Inanna, Queen of Heaven at Nippur," *Archaeology* 15 (1962) 75-84; Donald E. McCown, "A Discovery which has Immensely Enriched the World's Oldest Literature: Excavations at Nippur, the 4400-Year Old City of Sumeria and Babylonia," *The ILN*, 28 June 1952, pp. 1084-87; "Recent Finds at Nippur," *Archaeology* 5 (1952) 70-75.

A few of the sealings from the Level IV temple have been published already. See, for example, Briggs Buchanan, "An Extraordinary Seal Impression of the Third Dynasty of Ur," *JNES* 31 (1972) 96-101; Early Near Eastern Seals, nos. 425 and 681; William W. Hallo, "The House of Ur-Meme," *JNES* 31 (1972) 87-95.

The sealings from Level IV were discussed more generally in Richard L. Zettler, "The Ur III Temple of Inanna" (unpub. Ph.D. diss., University of Chicago, 1984) pp. 150-87.

4. More than two thousand tablets and fragments were found in the area of the temple of Inanna. Of the 2032 found, 1163 were economic texts of the period of the Third Dynasty of Ur, most of them part of the administrative archive of the Level IV temple. A few of the texts (163 tablets and fragments, and seven tags) were found in situ in the Level IV building. The remainder was found in secondary context, in distinct pockets in the fill of the platform built as a foundation for the original Parthian version of the temple. The texts had apparently been dug out of the Level IV temple, along with numerous other objects, in the course of levelling operations undertaken by Parthian builders, who then backfilled to form the core of the platform. (For the levelling operations, the platform, and the distribution of texts in the fill of the platform, see Crawford, *Archaeology* 12 [1959] 77-78.) The texts can be identified unmistakably as part of the administrative archive of the temple: a few carry the postscript é 'Inanna, "temple of Inanna"; others can be identified as part of the archive on prosopographical grounds.

In this article⁵ I will present the evidence of the sealings from Level IV of the temple of Inanna. On one level I will be testing the proposition that sealings contribute to an understanding of administration. On another level I will, at least implicitly, be outlining a methodology and setting parameters for the study of sealings in reconstructing administration. The application of the methodology and parameters in the study of sealings from prehistoric and historical levels and sites, I think, holds the promise of more rigorous and effective analyses of those sealings. Specifically in terms of the Inanna temple sequence, the application of the methodology and guidelines to the analysis of the many clay sealings found in the levels of the initial phase of the Early Dynastic period, ca. 2900-2750 B.C., ought to permit a reliable diachronic study of administration in a single institution.⁶

In order to present the evidence of the sealings from the temple as clearly as possible, I will first review what I have been able to reconstruct of the administration of the temple based on the combined evidence of the texts and of the inscriptions on seals impressed on clay sealings. I will, next, look in detail at the sealings, at their reverses as well as obverses, and, so, outline that part of the picture of the administration of the temple painted by the sealings alone, as well as that part added to the total picture by the sealings.

Administration of the Temple: Evidence of Texts and Sealings

Like establishments of many institutionalized religions, the temple of Inanna at Nippur was an economic unit with considerable resources and a substantial annual operating budget.⁷ A number of balanced accounts in

5. This article is an expanded version of a paper given at the One Hundred and Ninety-Fifth Meeting of the American Oriental Society, held at Ann Arbor, Michigan, in 1985. I wish to thank Robert D. Biggs, Miguel Civil, McGuire Gibson, Erle Leichty, and David Stronach for either reading the article over or discussing its contents with me. I have benefited from all of them. In addition, I wish to acknowledge Jane Becker, Lowie Museum, University of California, Berkeley, who did the illustrations for Figures 7-8, 10-12, and 14, and Tim Lajoie, University of California, Berkeley, who did the illustrations for Figures 3-4. The photographs published as Figures 15a-b are reproduced with the permission of the Kelsey Museum of Ancient and Medieval Archaeology, Ann Arbor, Michigan.

6. On the sealings from Levels XI-IX of the temple, which date to the initial phase of the Early Dynastic period, see Donald P. Hansen, "Some Early Dynastic I Sealings from Nippur," in David Gordon Mitten, John Griffiths Pedley, and Jane Ayer Scott (eds.), *Studies Presented to George M. A. Hanfmann* (Mainz, 1971) pp. 47-54.

7. For a reconstruction of the economy and administration of the temple of Inanna in the Ur III period, and for full documentation for the summary outline presented in this article, see Zettler, "The Ur III Temple of Inanna" pp. 191-465.

the temple's archive indicate that the total operating capital available to it in any given year was made up, on the one hand, of commodities or goods contributed from outside the institution, for example from the royal administration (Sumerian *bala*) and from the temple of Enlil,⁸ and, on the other hand, of the yield from real property (farm lands and gardens) and animals held by the temple. The latter component made up the larger part (roughly sixty percent) of the temple's annual operating capital.

The use of that part of the operating capital which the temple derived from sources outside it was, in all likelihood, determined by decisions made outside the temple administration. The texts of the temple's archive provide little information on it. They indicate that the management of the temple's real property and animals, or the capital which those resources generated, was highly centralized in the hands of a single official with the Sumerian title *ugula é (šabra)* "Inanna, a title perhaps best translated by the term "chief administrator."

Presumably because of his central role in the administration of the temple, the transactions of the chief administrator make up the largest discrete group of texts within the archive. The texts, many of which were found in secondary context, constitute, *de facto*, an archive; the few preserved tablet basket labels suggest that those texts had been filed together, at least prior to being sorted into larger, summary accounts.

The texts which make up the archive of the chief administrator are consistent in showing him to have been the "public face" of the temple of Inanna. He was responsible for the receipt of commodities or goods into the temple. In addition he acted on behalf of the temple in concluding purchase or sale contracts and in other legal proceedings such as claims raised against the temple. Where individuals other than the chief administrator are recorded as acting in such capacities, those individuals are in most instances either explicitly described as acting on his behalf or can be shown to have been acting on his behalf. Parenthetically, among those most commonly recorded as acting for the chief administrator were *Ur-šul-pa-è*, a scribe in the temple's chancery, and one or another of the chief administrator's sons. I will touch on this point again below.

By virtue of his position, the chief administrator had access to land for his own benefit. The texts of the archive record that the chief administrator

8. On the *bala*, see William W. Hallo, "A Sumerian Amphictyony," *JCS* 14 (1960) 88-114; also Piotr Steinkeller, "The Administrative and Economic Organization of the Ur III State: The Core and the Periphery," in McGuire Gibson and Robert D. Biggs (eds.), *The Organization of Power: Aspects of Bureaucracy in the Ancient Near East* (in press).

held land on prebend (Sumerian GÁN kur₆) and that he leased other lands for a share of the produce (Sumerian GÁN apin lá).⁹

In addition to managing the temple's resources the chief administrator perhaps had cultic and judicial functions, but the texts of the archive give only limited evidence of those aspects of his office.

In a study published fifteen years ago William W. Hallo pointed out that the post of chief administrator of the temple of Inanna was heritable and passed from father to son through four generations during the Third Dynasty of Ur.¹⁰ Hallo furthermore showed that the extended family to which the successive chief administrators belonged was one of the most prestigious and powerful in Nippur. It included as members not only the chief administrators of the temple of Inanna, a number of whom also held positions in the temple of Enlil at Nippur, but governors of Nippur as well. Figure 1 is a genealogy (revised from that given by Hallo) of the extended kin group to which the successive chief administrators of the temple belonged.¹¹ It shows five generations (marked by Roman numerals I-V along the right-hand margin of the genealogy). The chronological distribution of texts in the archive is such that detailed information is available only on individuals in generations III and IV (and the information in this article, in large part, reflects the period when Lugal-engar-du₁₀ [no. 6], son of ^dEn-lil-á-maḥ, was chief administrator of the temple). The branch of the family on the right side of the genealogy is that of the chief administrators of Inanna. Prior to Šulgi year 35 the post of chief administrator was held by Ur-Me-me (no. 1), the earliest documented member of the family, and his putative son, ^dEn-lil-á-maḥ (no. 4); from Šulgi year 35 perhaps to Ibbi-Suen year 5 by Lugal-engar-du₁₀ (no. 6), son of ^dEn-lil-á-maḥ; from Ibbi-Suen year 5 well into the reign of Išbi-Erra, first king of the dynasty of Isin, by Lugal-engar-du₁₀'s son, Sag-^dEn-lil-lá (no. 14).

The branch of the family on the left in the genealogy is that of the governors of Nippur. Lugal-engar-du₁₀ (no. 2) and his son, Ur-^dNanibgal (no. 5), held that post during the second half of the reign of Šulgi; Ur-^dNanibgal's two sons, Nam-zi-tar-ra (no. 9) and Da-da (no. 10), held the post during the reign of Šu-Suen and Ibbi-Suen.

9. For the administrative terminology used for agricultural lands in the third millennium B.C. in Mesopotamia, see Giovanni Pettinato, *Untersuchungen zur neusumerischen Landwirtschaft 1: Die Felder* (Naples, 1967) 27-37. Rental lands, in particular, were discussed by Kazuya Maekawa, "The Rent of a Tenant Field (gán-APIN.LAL) in Lagash," *Zinbun* 14 (1977) 1-54.

10. Hallo, *JNES* 31 (1972) 87-95; see now Richard L. Zettler, "The Genealogy of the House of Ur-Me-me: A Second Look," *AfO* 31 (1984) 1-14.

11. Zettler, *AfO* 31 (1984) 2 fig. 2.

The texts of the temple's archive indicate not only that the post of chief administrator was heritable, but also that in one way or another many of the members of the Ur-Me-me family were tied into that institution. I have elsewhere described the roles of the various members of the Ur-Me-me family in the temple in detail.¹² Here I will only note that during the years in which Lugal-engar-du₁₀ was chief administrator many of his family members were active in the affairs of the temple and/or had access to the resources of that institution: his sister, ^dInanna-ka (no. 7), who was the wife of Ka-kù-ga-ni, en of Enlil; his five sons, Šeš-kal-la, Lugal-gizkim-zi, Lú-bal-sa₆-ga, Sag-^dEn-líl-lá, and Ur-^dA-ba-ba (nos. 11-15); and his brother's son, Ur-^dMa-ma (no. 16). Only one of these persons, Lú-bal-sa₆-ga, might have acted in an official or quasi-official capacity in the temple; during a part of the time in question he was his father's designated successor. The evidence indicates that none of the others had any official standing in the temple; their tie to the temple was a function of their being part of the Ur-Me-me family.

Clay Sealings from Inanna Temple, Level IV

One hundred forty-nine clay sealings were found in the temple of Level IV.¹³ Because context is critical in assessing their import, before discussing them in detail I will describe the Level IV building and the findspots of the

12. Zettler, "The Ur III Temple of Inanna" pp. 417-45; "Administration of the Temple of Inanna at Nippur under the Third Dynasty of Ur: Archaeological and Documentary Evidence," in Gibson and Biggs, *Organization of Power* (in press).

13. A total of fifty-six sealings were registered; ninety-six other sealings were not registered, but were kept as a study collection. Of the fifty-six registered sealings, the findspots of three are either problematic or doubtful and so I have not included them in the total given here. The sealing 5 NT 560, for example, is listed as from the "southeast end of the temple," a context too indefinite to be of value for purposes of this study. The two sealings 5 NT 521-22 are listed as from "Locus 4, floor 2 (south)." The tablets attributed to that same findspot suggest that it was either a disturbed context or that the finds from it were mixed with those from other loci, either in the field or in the cataloguing process.

Thirty-eight tablets are listed as from "Locus 4, floor 2 (south)." However, several of those texts, among them 5 NT 532 and 5 NT 536-38, are not texts of the Ur III period, but of the succeeding Isin-Larsa period. At least 5 NT 536-38 were included by Sigrist in his recently published study of Isin-Larsa *sattuku* texts (René Marcel Sigrist, *Les 'sattuku' dans l'Ešumeša durant la période d'Isin et Larsa* [Malibu, 1984]). The texts in Sigrist's study apparently spanned the time from Lipit-Enlil of Isin to Rim-Sin of Larsa, that is, roughly the last three quarters of the nineteenth century B.C. It is difficult to accept the attribution of 5 NT 532 and

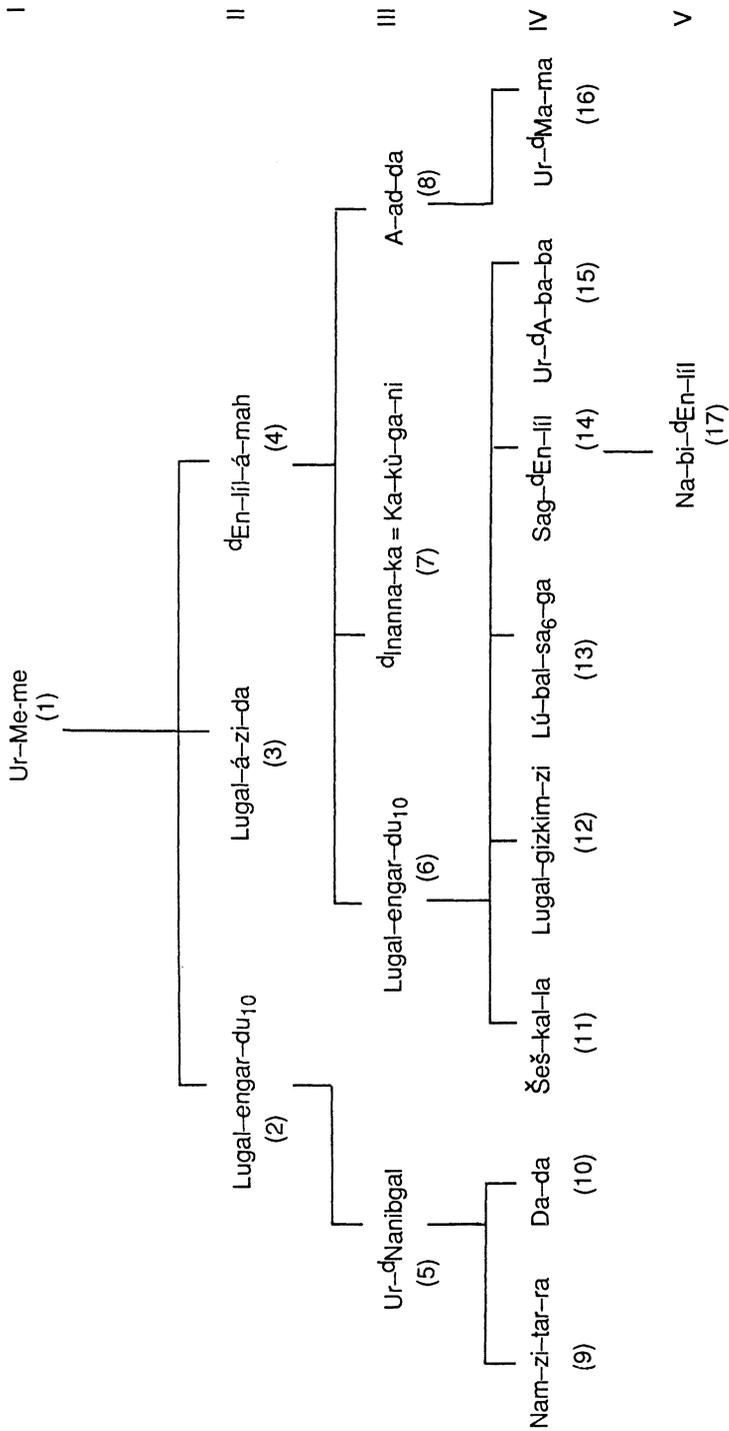


Figure 1. Reconstructed genealogy of the House of Ur-Me-me

main groups of sealings. Figure 2 is a reconstructed plan of Level IV. Only the northwesternmost rank or two of rooms were well-preserved. The central portion of the building was cut up and the southeastern third almost completely removed by levelling activity related to the construction of a Parthian version of the temple.¹⁴ The Level IV building was a large, rectangular structure. The main entrance was in the northwestern wall; two subsidiary entrances existed in the southwestern wall. Like the latest well-preserved structure of the Early Dynastic period (Level VII A), the temple was a fusion of two parts, a southwestern sector and a northeastern sector. Access into the northeastern sector was restricted. No doorways led from outside the building into that sector and access from the southwestern sector of the temple was only through a narrow corridor (Locus 16) which led from the western courtyard (Locus 28) into the northern courtyard (Locus 3), or through the two rooms (Loci 126 and 135) which led from the southern courtyard (Locus 118) into a corridor (Locus 125) running northwest to southeast. In addition, in the plan given here I have restored a third connection, the corridor Locus 130, between the southwestern and northeastern sectors of the temple in the poorly preserved southeastern portion of the building. Doors inside the connecting rooms Loci 16 and 135 could further control communication between the two sectors of the temple; no indication of a door or doors in Locus 130 was preserved.

The southwestern sector of the temple was the more public part, the part connected with the functioning of the cult. Monumental doorways directed circulation from the main entrance through two large courtyards (Loci 28 and 118) into the southern corner of the building. Foundation deposits below the brickwork on each side of the main entrance and on each side of the doorways in the southeastern walls of the two courtyards further emphasized the line represented by the doorways.¹⁵ The cellae of the temple, although not preserved, were located in the southern corner of

5 NT 536-38 to a lower floor of Locus 4. The great bulk of Isin-Larsa period texts found in the fifth season of excavations at Nippur were found in the fill of the Parthian platform with a concentration above Locus 4. I suspect that 5 NT 532 and 5 NT 536-38 likewise were found in that fill and were later wrongly attributed to Level IV, Locus 4. But the fact that they were attributed to "Locus 4, floor 2 (south)" at all makes that context a problematic one; I have therefore excluded the two sealings attributed to that findspot from this study.

14. On the levelling operations and the original Parthian version of the temple of Inanna, see Crawford, *Archaeology* 12 (1959) 77-79.

15. On the foundation deposits, see Haines, *The ILN*, 18 August 1956, pp. 266 and 268, figs. 9, 11-12; and *The ILN*, 6 September 1958, pp. 386 and 389, fig. 19.

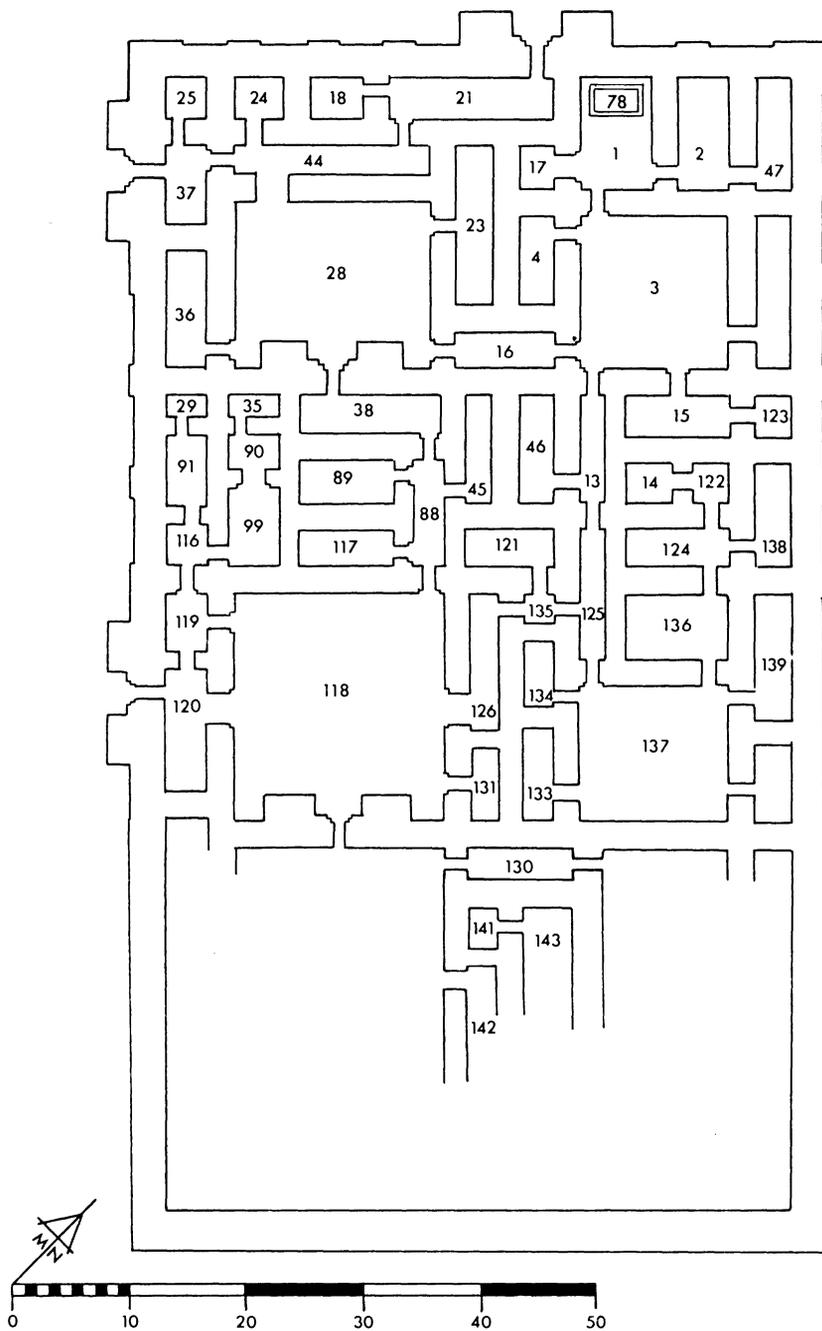


Figure 2. Reconstructed plan of Inanna Temple, Level IV

the building.¹⁶ The southern corner of the Level IV building lay directly over the cellae of earlier versions of the temple of Inanna.

Few objects or texts were found in the southwestern or cult-related sector of the temple. A single clay sealing was, however, found in Locus 23, the room opening to the northeast off the northern courtyard, Locus 28. The impression on the front of that sealing was poorly preserved; the back was broken away.¹⁷

What was preserved of the northeastern part of the building consisted of two main complexes of rooms, one in the northwest centered on the courtyard, Locus 3, and the other in the southeast associated with the courtyard, Locus 137. The two complexes were linked by a corridor formed by Loci 13 and 125.

The nine rooms around Locus 3 functioned as the administrative center of the temple: Loci 15 and 123 as the principal reception suite¹⁸; Locus 4 as a toilet and washroom and/or storeroom; and Loci 1, 17, 2, and 47 as the chancery with its associated magazines and storage spaces. Excluding the major courtyards, Locus 1 was the largest room in the temple. It measured six meters by nine meters, both distances too great to span effectively with any locally-available beams.¹⁹ It was probably open to the sky, an interior courtyard off the larger and presumably busier courtyard Locus 3. Such a courtyard would have been a suitable place for drawing up administrative records and other texts, and twenty or so tablets were found on various floors in the locus.

At the northwestern end of Locus 1 was a rectangular bin (Locus 78) built of mud brick. The walls of that structure were founded below the

16. Earlier versions of the temple of Inanna, such as Levels IX-VIIA, had two cellae (see Crawford, *Archaeology* 12 [1959] 79-81, and Hansen and Dales, *Archaeology* 15 [1962] 76-79 and 80-82), and I assume that the Level IV temple did as well. The Parthian version of the temple also had two cellae (see Crawford, *Archaeology* 12 [1959] 78-79).

17. 5 NT 474. The sealing is registered as from "Locus 23, floor 2." The impressions on the front of the sealing, though poorly preserved, showed a presentation scene.

18. On the character of the principal reception suite, at least as it relates to palaces of the late Assyrian period, see Geoffrey Turner, "The State Apartments of Late Assyrian Palaces," *Iraq* 32 (1970) 181-84. For reception suites in chronologically earlier buildings, check the page references listed under "salle de réception, secteur de réception" in Jean Margueron, *Recherches sur les palais mésopotamiens de l'âge du bronze* (Paris, 1962) p. 615.

19. In southern Mesopotamia in ancient times, as today in southern Iraq, split palm logs were in all likelihood the most widely available and commonly used roofing beams. Split palm logs cannot effectively span much more than 3.50 meters (Donald E. McCown and Richard C. Haines, *Nippur 1: Temple of Enlil, Scribal Quarter and Soundings*, OIP 78 [Chicago, 1967] 37).

base of the foundations of the courtyard; the tops of its walls rose to just above the level of the original floor in the locus (floor 2), and it was partially roofed. The bin was clearly designed to be below floor level, but accessible from it. The inner walls of the bin were covered with a thin coating of bitumen. The fill inside it was loose, apparently unstratified, and contained broken and deliberately crumpled tablets (a number recognizable as writing exercises), as well as thirty-four broken clay sealings.²⁰ The bin was, I would suggest, used for the storage of clean clay or clay which could be recycled for making tablets.²¹ When the bin went out of use at a later floor level (floor 1), it was replaced by a large storage jar coated inside with bitumen.

If the hypothesis put forward regarding the functioning of the rectangular bin in Locus 1 is correct, then I would argue that the tablets and sealings found in that bin were deposited over a relatively short span of time just prior to its going out of use, and that that event can be pinpointed to the last years of Amar-Suen or the early years of Šu-Suen.²² If that were not so, the tablets and sealings would more likely than not have been

20. The bin (Locus 78) had exterior dimensions of 4.80 by 3.00 meters and interior dimensions of 3.98 by 2.06 meters. The walls of the bin were 1.73 meters high, but for purposes of calculating the capacity of the bin it is probably better to use the height from the floor inside to the top of the bitumen coating of its walls, that is, .76 meters. The effective capacity of the bin, then, would have been roughly 6.25 cubic meters.

I have pieced together the description of the fill in the bin from isolated remarks in Richard C. Haines' field notes of the fourth and fifth seasons of excavations, and from the daily log of finds and the various object catalogues of those seasons. In addition to the tablets (5 NT 568, 5 NT 573-81, 5 NT 590-92, and 5 NT 614-16) and sealings (5 NT 593-613, 5 NT 621-31, and 5 NT 653-54), a clay figurine and four weights (one duck weight and three barrel-shaped weights) were found in the fill of Locus 78.

21. The administrative complex in Area F at Terqa in Syria (which apparently dates to the time of Šamši-Adad and Zimri-Lim and so is later in time than Level IV of the temple of Inanna) has a "scribal installation" with a rectangular bin similar to Locus 78. See Giorgio Buccellati and Marilyn Kelly-Buccellati, "Terqa: The First Eight Seasons," *Annales Archéologiques Arabes de Syrie* (forthcoming).

22. The bin, Locus 78, was in use with the original floor in Locus 1, floor 2, but was sealed by the succeeding floor, floor 1. The point at which floor 1 was laid down, that is, the time at which the bin went out of use, cannot be determined precisely, but it must have been late in the reign of Amar-Suen or early in the reign of his successor Šu-Suen. First, three of the texts found in Locus 78 (5 NT 574-75 and 5 NT 615) have year dates. The latest of the three (5 NT 615) is dated to day eighteen month three of Amar-Suen year 8, that is, roughly a year before the king's death. None of the tablets found on floor 2 in Locus 1, or on contemporary floors in Locus 2 (floors 3-2), have year dates which put them later in time than that. The date of 5 NT 615 can therefore be taken as a *terminus post quem* for floor 1 in Locus 1. Secondly, the seal most commonly found on the sealings from the bin (see pp. 221-22 below) is the

recycled. In turn, that implies, specifically with regard to the sealings found in the bin, that the individuals whose seals were found impressed on them were active in the temple at roughly the same time. The implication of that assertion will be made clear below.

Locus 2, which opened off Locus 1, could be closed off by a door. Three floors were excavated in the locus. Numerous clay tablets, many of them large summary accounts, the sort of records presumably held for some time, were found on the various floors. I have concluded that Locus 2 was the archive room of the temple.²³ Besides the tablets numerous broken objects of ivory, bone, shell, and stone were found in the room; these perhaps indicate that in addition to its function as archive room it served to store raw materials or materials which could be recycled. I assume that Locus 47 served the same function.

The courtyard, Locus 137, located in the eastern portion of the temple, was roughly the same size as Locus 3. Although enough remained of its foundations to outline the courtyard, only a small portion of its north-western wall was preserved and the floor in the courtyard was preserved only in the vicinity of that portion of the wall. On the floor were a fireplace and an oven, each rebuilt at least once during the life-span of the building.

No finds were recovered from the floor in Locus 137, but a refuse pit associated with that courtyard yielded many objects, including five ceramic jars, a clay rattle, thirteen clay figurines (animal and human figurines), a clay plaque with an incised erotic scene, a number of stone statue fragments and pieces of stone vessels, a bronze arrowhead, four

“official seal” of Lugal-engar-du₁₀ the son of 4En-lil-á-maḅ, the chief administrator of the temple (Buchanan, JNES 31 [1972] 87-88). A few unpublished impressions of the same seal, such as those found on the tablets 4 NT 132-33 (both of which are dated to the first year of Ibbi-Suen), show that the sign “amar” in Amar-Suen had been erased and the sign “šu” for the succeeding king Šu-Suen carved in its place. All of the impressions of the “official seal” of Lugal-engar-du₁₀ on sealings from the bin, Locus 78, have Amar-Suen, not Šu-Suen. I presume that the recutting of Lugal-engar-du₁₀’s “official seal” to reflect the change in rulers took place in the first year or two of Šu-Suen’s reign; that date can therefore be taken as a terminus ante quem for floor 1 in Locus 1.

23. One tablet each was found on floors 3 and 2 in Locus 2, the two floors contemporary with floor 2 in Locus 1, that is, the floor at which the bin was in use. Both texts (5 NT 461 and 4 NT 265) are legal texts, the sort of records likely to have been kept for a period of time.

Twenty-five tablets were recovered from the topmost floor in Locus 2. Of those 4 NT 203 records an interest-bearing loan of grain. The text 4 NT 212 is an account of the monthly expenditures of the chief administrator of the temple. Both 4 NT 197 and 4 NT 218 are long, summary accounts; 4 NT 197, for example, is a balanced account of the temple for a period of a year.

shell inlay curls, some fifty-five clay tablets (many of which were either blank or erased or contained rough writing exercises), as well as one hundred and fourteen clay sealings, most of them small fragments.²⁴

With regard to the refuse pit in Locus 137 it is necessary to make two observations which bear on the analysis of the sealings found in it: first, the field notes from the excavations have no information on the stratification of objects within the pit; second, the stratigraphic and chronological relationship of the pit and its sealings to the bin and sealings in the chancery courtyard cannot be determined because the eastern sector of the building was too poorly preserved to make such correlations possible.

The long narrow room, Locus 139, I have assumed opened off the north corner of Locus 137. Its shape suggests that it was a magazine or storeroom.²⁵ Two smaller rectangular rooms, Loci 133 and 134, opened to the southwest off the courtyard. Of Locus 134 only the foundations, northwestern wall, and part of the southwestern wall were preserved. Two baked bricks against the southwestern wall gave the level of the floor and indicated that the room had been at least partially paved. Locus 133 had been almost completely cut away by a well from the Parthian levels. No small finds were listed in the object catalogues from either room.

To the northwest of Locus 137 were four rooms, Loci 136, 124, 122, and 14. Although enough was preserved of the foundations to outline the rooms, little remained of the walls and floors, and the circulation through the rooms was not indicated. The arrangement of the rooms, however, is

24. Of the 114 sealings, eighteen were registered under five catalogue numbers, 6 N 430, 6 N 435, 6 N 436, 6 N 437, and 6 N 438. The remaining ninety-six sealings were mostly small fragments and were not registered, but were kept as a study collection.

25. This long, narrow locus is similar to rooms in the É-nun-mah at Ur, in the Sin-kašid palace at Uruk, in the palace at Mari, and in other public buildings. Like those better preserved examples, Locus 139 at Nippur probably functioned as a magazine, as did Locus 47, the unnumbered locus northeast of Locus 3, and Locus 138. In the Mari palace Room 116, which opened east off Courtyard 106, contained eleven large jars; it was very clearly a magazine, as were Rooms 122 and 124-26 located in the southeast sector of the building (Andre Parrot, *Le palais: architecture, Mission archéologique de Mari 2* (Paris, 1958) 94-96 and 285-87). Rooms 2b-5 in the Sin-kašid palace were probably storerooms (Heinrich J. Lenzen, 18. vorläufiger Bericht über die von dem Deutschen Archäologischen Institut und der Deutschen Orient-Gesellschaft aus Mitteln der Deutschen Forschungsgemeinschaft unternommenen Ausgrabungen in Uruk-Warka, *Abhandlungen der Deutschen Orient-Gesellschaft 7* [Berlin, 1962] 25). Despite Woolley's insistence on interpreting the É-nun-mah as at least in part a temple, it too was probably given over to storage (Sir Leonard Woolley, *The Buildings of the Third Dynasty, UE 6* [London, 1974] 45-54). Note that the Sumerian designation é uš gid-da or "long house" probably referred to such long, narrow storage rooms (see CAD s.v. *ašlukkātu*).

striking in its similarity to apartment suites in late Assyrian palaces; in fact it is identical to the so-called master private apartment in Residence K on the citadel at Khorsabad.²⁶ Such apartment suites, however, were not restricted to late Assyrian palaces. Prototypes of the apartment suites of late Assyrian palaces existed in southern Mesopotamia as early as the Early Dynastic period.²⁷ I would argue that Loci 136, 124, 14, and 122 constituted a residential unit—Locus 136 a courtyard, Locus 124 a reception room, and Loci 14 and 122 retiring rooms—off the courtyard, Locus 137; I have restored circulation through those rooms accordingly.

That the temple of Inanna had a residential unit within it should not be surprising. In southern Mesopotamia already in the Early Dynastic period there were houses inside the compounds of major temples; House D in the Temple Oval at Khafajah is an example of one such house.

As should be apparent from the foregoing description, with the exception of a single sealing from Locus 23, all of the sealings from the temple building of Level IV were recovered from two findspots, the rectangular bin used for storing clay in the chancery courtyard and the refuse pit in the eastern courtyard. As the character of those findspots indicates, all of the sealings had been discarded after having been broken away from what they had sealed. In the following sections of this article I will look at sealings from each of the two findspots separately to determine what they indicate of the administrative organization of the temple of Inanna.

Sealings from the Bin in the Chancery Courtyard

Of the thirty-four sealings from the bin in the chancery courtyard, eighteen, or fifty-three percent, had been broken off knobs (table 1). In order to hold a door closed, a cord or hook affixed to the door was wound around or thrown over a peg set into the door jamb. To strengthen the jamb and keep the peg firmly in place, a plaque with a hole through its center was often (apparently) set into the jamb and the peg inserted through it. In

26. On apartment suites at least in palaces of the late Assyrian period, see Turner, *Iraq* 32 (1970) 177-213. For apartment suites in chronologically earlier buildings, check the page references listed under "appartement" in Margueron, *Recherches sur les palais mésopotamiens* p. 611.

27. John C. Sanders, "Aspects of Mesopotamian Settlement Geography: An Empirical and Computer-Aided Analysis of Building Forms, Room Arrangements and Circulation" (M.A. thesis, University of Wisconsin-Milwaukee, 1981) pp. 88-91.

TABLE 1

Clay Sealings from Bin in the Chancery Courtyard by Reverse Groups

<i>Reverse Groups</i>	<i>Numbers</i>	<i>Percentages</i>
Knob with cord latching	3	9
Knob with hook latching	15	44
Jar	5	15
Bag	1	3
Box (?)	1	3
Miscellaneous, unidentified	6	17
Back not preserved	3	9
Total	34	100

an elaborately decorated building such as the temple of Inanna the plaque could be inscribed or decorated and the peg could be dressed with a knob finial (fig. 3).²⁸ In order to insure that the door remained closed to all but authorized persons, clay could be pressed around the knob and cord or hook, and then sealed. Figure 4 is a cut-away showing the plaque anchored into the wall, as well as knob and hook sealed. In that figure the hook is depicted around the constricted mid-section of the knob, although, as

28. This method for holding doors closed, while commonly employed, was not the only one used. Note, for example, the door bolts found at Chogha Zambil, discussed in the report on the excavations at that site and recently in Fiandra, *Bollettino d'Arte*, ser. 6, 67 (1982) 1-18.

For a discussion of the use of plaques and pegs with knob finials in connection with securing doors, see Donald P. Hansen, "New Votive Plaques from Nippur," *JNES* 22 (1963) 147-53. Hansen noted that in the passageway between Court 1 and Room 2 in the palace at Mari there was an impression in the mud plaster of a square plaque which had been fixed in the wall. He also noted that a circular pottery plaque serving the same function was found still in place in the left (eastern) jamb of the doorway between Rooms 109 and 108 in the palace. A circular plaque somewhat similar to the one found in place in the palace at Mari has now been found in the lower level of a building (apparently datable to the Isin-Larsa period) uncovered at Isin in the Südostabschnitt. That plaque, which was approximately eight centimeters in diameter, was located seventy centimeters above floor level on the room face of the wall near the door jamb (B. Hrouda, *Isin-Išan Bahriyāt* 2 ([Munich, 1981] 55-58, pl. 20:2-3).

On sealings which had been on knobs, see, for example, Fiandra, *Bollettino d'arte*, ser. 5, 60 (1975) 9-17, and Ferioli, Fiandra, and Tusa, *South Asian Archaeology* 1975 pp. 13-20. The

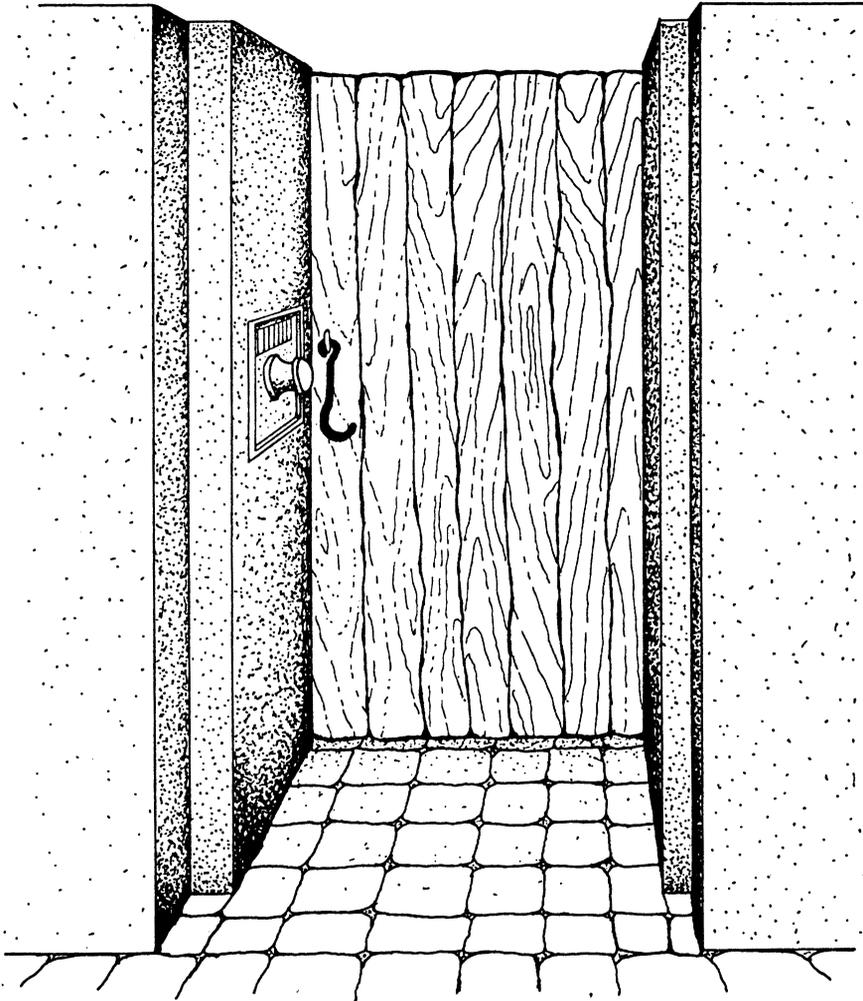


Figure 3. Reconstruction showing plaque and knob in door jamb and hook attached to door

sealings published or discussed by Fiandra and others all show doors latched to knobs by means of cords. The sealings from Level IV of the temple of Inanna are particularly interesting in that they give evidence not only of doors latched by means of a cord, but also doors latched by means of a hook. At least to my knowledge they are the only set of sealings which do so. None of the other sealings from Nippur that I have examined—and I have seen a

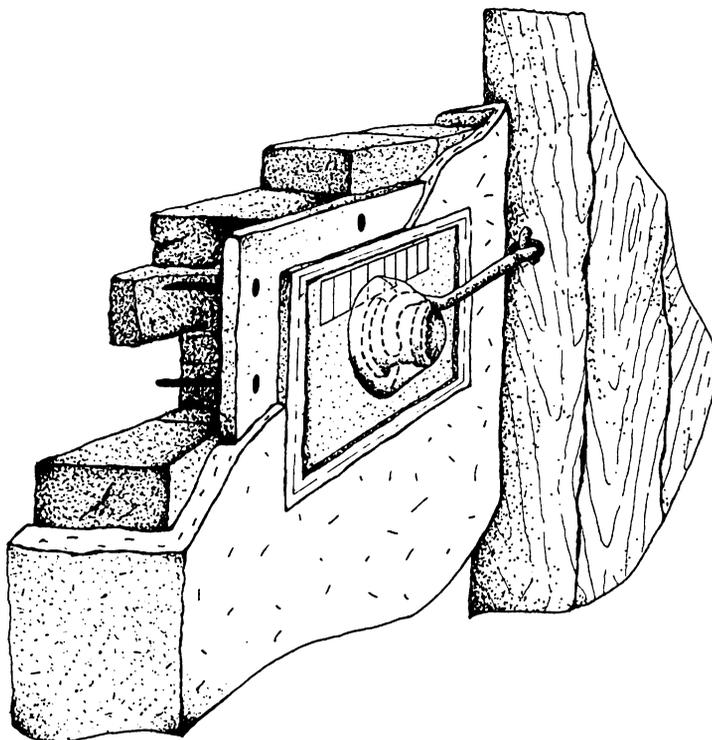


Figure 4. Cut-away showing plaque anchored into door jamb and knob and hook sealed

good many of the sealings from TA, TB, and the North Temple in the Iraq Museum and the Oriental Institute Museum collections—do so.

All of the sealings from Level IV of the temple are fragmentary and none show more than a small portion of the hook which latched the door. Two sealings show the point at which the hook curves out from its shaft, which would have been connected to the door; other fragments show portions of the hook around the knob. None of the fragments show the end of the hook. The various fragments indicate that the end of the hook over the knob was roughly circular with an inner diameter of six to seven centimeters. I cannot determine what the hook was made of. Since it shows no grain or any texture, it probably was not made of wood, reed or grasses, or leather. I can only suggest that it was a solid metal piece with a diameter of roughly 1.2 centimeters. Note that metal hooks were found with other objects connected with a door in Room 8 of the palace at Mari (André Parrot, *Le palais: documents et monuments, Mission archéologique de Mari 2* [Paris, 1959] 92-93, pl. 33:708-709).

many of the sealings found in the temple show, the hook was frequently put around the cylindrical base of the knob (see fig. 9 below). Of the eighteen sealings from the bin which had been broken off knobs, three had been on a knob with a cord wound around it; fifteen on a knob with a hook over it. Figures 5 and 6 are photographs, taken from different angles, of the reverse of a sealing (5 NT 595) which had been broken off a knob with a hook over it. Figures 7a and 7b are respectively a line drawing and a photograph of a positive made from the sealing. They show the knob and hook which had been sealed laid out roughly as if viewed above; that is, with the knob projecting out from the face of the plaque and door jamb, and with the hook coming from its attachment to the door on the right and around the base of the knob. Figures 8a and 8b are a line drawing and a photograph of that same positive, but laid out as if viewed from a slightly different angle.

Within the group of sealings which had been on a knob and hook I have been able to pick out two different knobs which had been sealed, the one knob squatter than the other.²⁹ Figure 9 shows a reconstruction of each of the two knobs side by side, and below each a section through a typical sealing broken off it.

The flattened bases of a number of sealings from the bin which had been broken off a knob and hook (the "base" of the sealing is identified as such in the sections given in fig. 9 and is shown in fig. 6) show a raised casing and inscription. The cuneiform signs are in mirror-image, which indicates that the clay had been pressed against a cut inscription. That inscription was carved on the face of the plaque to which the knob was affixed.³⁰ A portion of the casing of the inscription and several signs are visible on the sealing and positive of 5 NT 595 (fig. 8). As that sealing shows, the inscription was

29. Of the sealings sufficiently well-preserved to permit accurate measurements, 5 NT 595-96 and 5 NT 605 had probably been on the taller of the two knobs, and 5 NT 597-98 and 5 NT 612 on the squatter one.

A knob of roughly the same size as the larger of the two I have reconstructed from the sealings found in the bin was found in Locus 1, fifteen centimeters above floor 1. That knob, 4 N 187 (=4 NT 267) was made of limestone; it had a height of 8.7 centimeters, a width at the top of 6.9 centimeters, and a width at the base of 6.3 centimeters. The knob had a dowel hole roughly conical in section cut in its base and traces of bitumen mastic in that hole. The knob was inscribed with a dedication to Inanna.

30. In all probability the plaque was similar to the plaque from Assur with the inscription of Zariku, military commander of that city (area) in the time of Amar-Suen (see Walter Andrae, *Die archaischen Ischtar-Tempel*, WVDOG 39 [Leipzig, 1922] 106-107 and pl. 64c). For similar plaques, but carrying inscriptions of Naram-Suen, see André Parrot, Tello (Paris, 1948) fig. 32 g-g'.

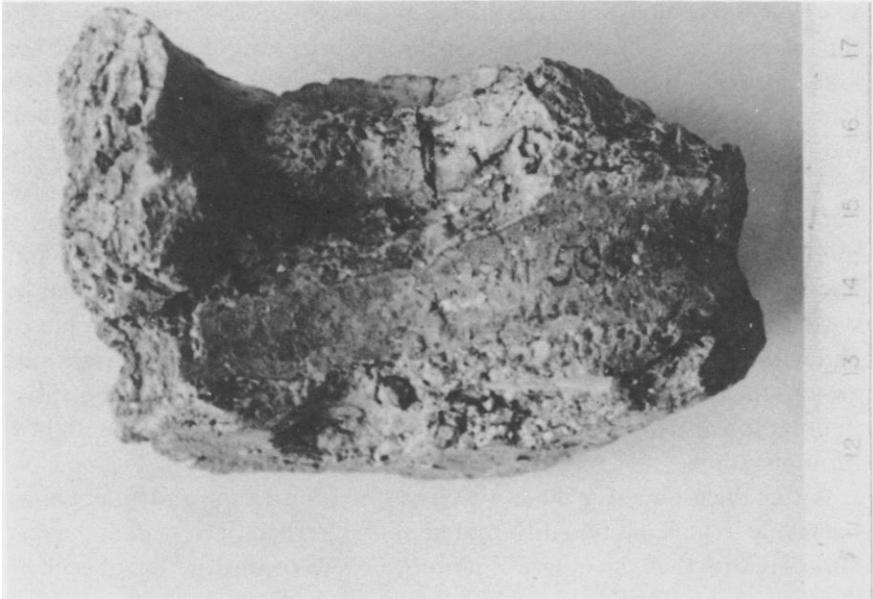


Figure 5. Reverse of sealing 5 NT 595

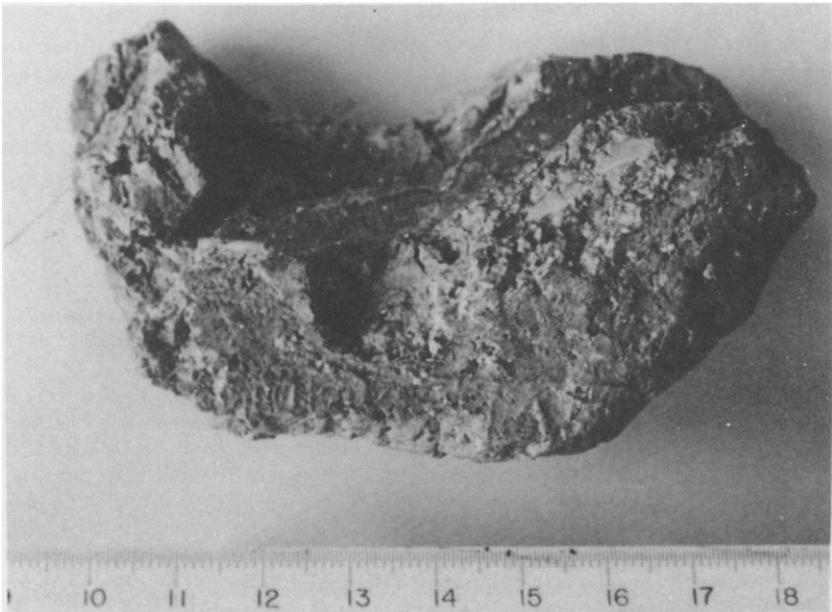


Figure 6. Reverse of sealing 5 NT 595 (different angle from fig. 5)

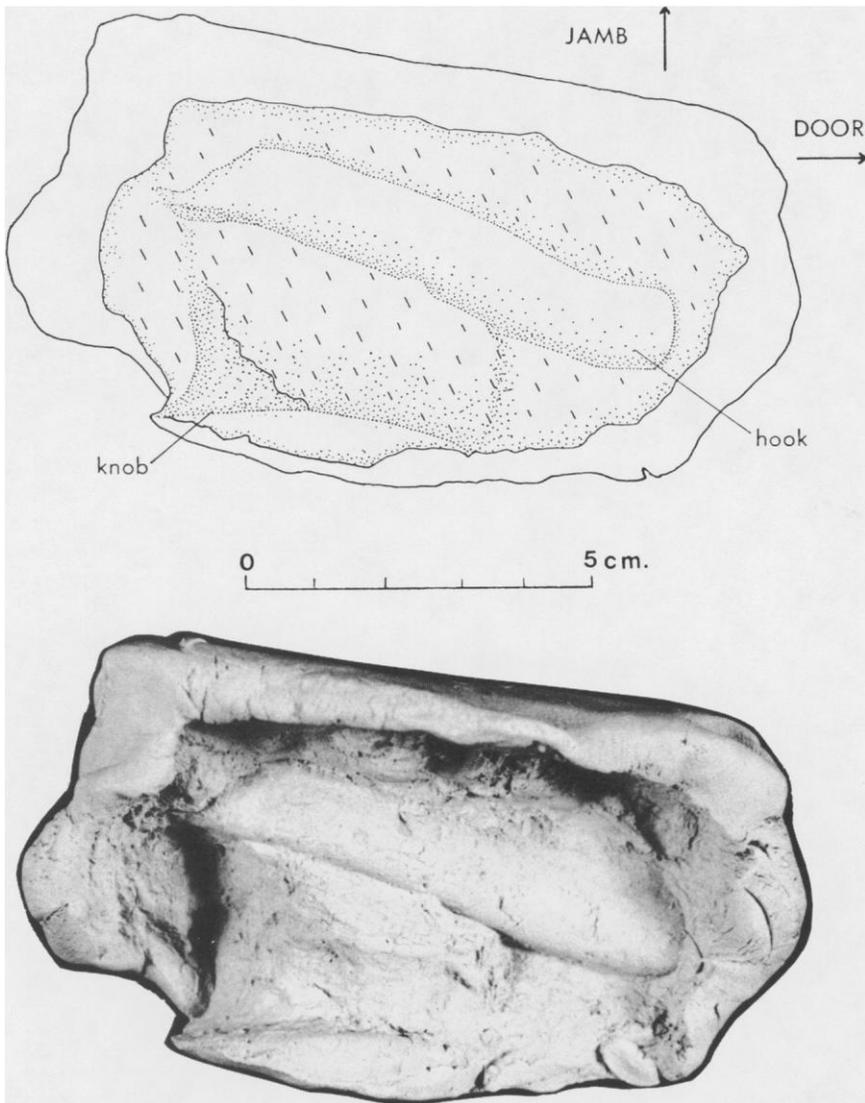


Figure 7. Line drawing (a) and photograph (b) of positive made from sealing 5 NT 595, showing knob with hook over it

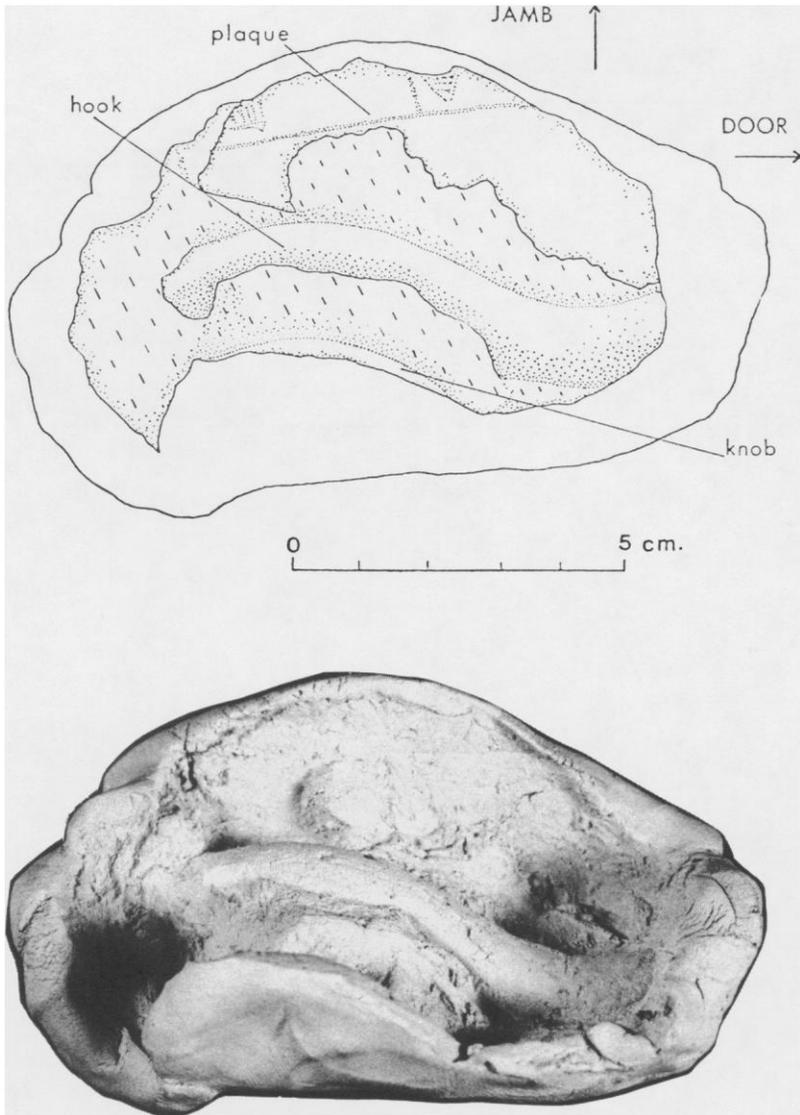


Figure 8. Line drawing (a) and photograph (b) of positive made from sealing 5 NT 595, showing knob with hook over it (different angle from fig. 7)

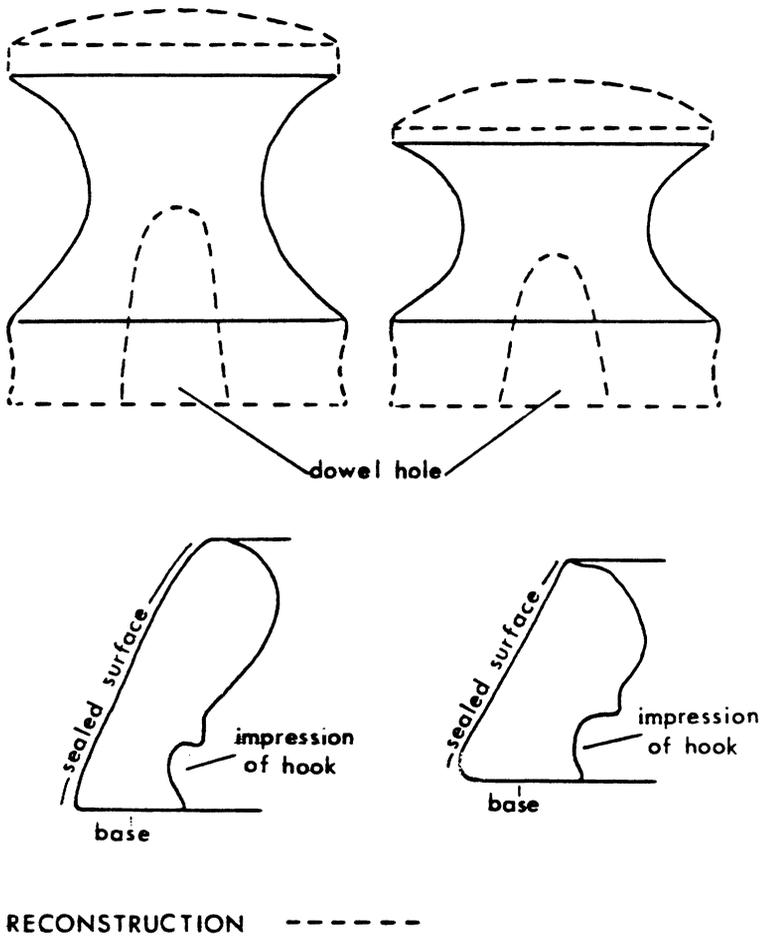


Figure 9. Knobs reconstructed from sealings found in Locus 78 (a) and section through sealing off each (b)

cut above the knob and vertically; that is, it was placed so that the cuneiform characters within cases were arranged from top to bottom and the cases from right to left.³¹ The inscription is not well-preserved on any of the sealings from the bin, but is on a sealing found in secondary context.³² Figures 10a and 10b are respectively a line drawing and a photograph of a positive made from that sealing. They show a portion of the hook and the inscription above it. What remains of the inscription is sufficient to identify it, and the examples from the bin in Locus 1, as duplicates either of Šulgi's inscription for Inanna found on baked bricks or of that on pivot stones used in the temple.³³

The presence of door sockets shows that in the area of the chancery of the temple only the doorways to Locus 2 and Locus 4 certainly had doors; I think it reasonable to assume that the sealings found in the bin had originally secured the doors to those two rooms. In Locus 2 two floors contemporary with the floor at which the bin was in use in Locus 1 were distinguished. The same pivot stone, located at the southeastern jamb of the doorway, was used for the door at both floor levels. That pivot stone was a large chunk of basalt carrying Šulgi's inscription for Inanna. To judge

31. On the orientation of cuneiform inscriptions, see S. A. Picchioni, "The Direction of Cuneiform Writing: Theory and Evidence," *Studi Orientali e Linguistici* 2 (1984-85) 11-26; "Die Keilschriftichtung und ihre archäologischen Implikationen," *Sumer* 42 (1985) 48-54; and Marvin Powell, "Three Problems in the History of Cuneiform Writing: Origins, Direction of Script, Literacy," *Visible Language* 15 (1981) 424-31.

32. 6 NT 149, catalogued as from SB 76, that is, from the fill of the Parthian platform (see n. 4 above).

33. An eight-line inscription recording Šulgi's construction of the temple of Inanna was stamped on baked bricks which formed the boxes for foundation deposits; see for example 5 NT 688, from the foundation deposit under the northwestern tower flanking the main doorway in the northwestern wall of the Level IV building (for published references to the foundation deposits, see n. 15 above). The inscription reads: 'Inanna, nin-a-ni, Šul-gi, nita kalag-ga, lugal Ūri^{ki}-ma, lugal ki-en-gi ki-uri-ke₄, é Dur-an-ki-ka-ni, mu-na-dù, "(For) Inanna, his lady, Šulgi, powerful man, king of Ur, king of Sumer and Akkad, her house in Duranki, built."

An eleven-line inscription recording Šulgi's construction of the temple was carved on pivot stones found in the building, for example, 3 N 407, from Locus 2. The first eight lines of that inscription duplicate the eight-line inscription on the stamped bricks. The three additional lines read: ki-bi mu-na-gi, nam-ti-la-ni-šè, a mu-na-ru, "its place he restored, (and) for his life, he dedicated it." A door socket with the same inscription was found in the University of Pennsylvania's excavations at Nippur at the end of the nineteenth century (see L. Legrain, *Royal Inscriptions and Fragments from Nippur and Babylon*, PBS 15 [Philadelphia, 1926] no. 42 [pictured in L. Legrain, "Two Door Sockets of the Kings of Ur," *The Museum Journal* 15 (1924) 77-79]).

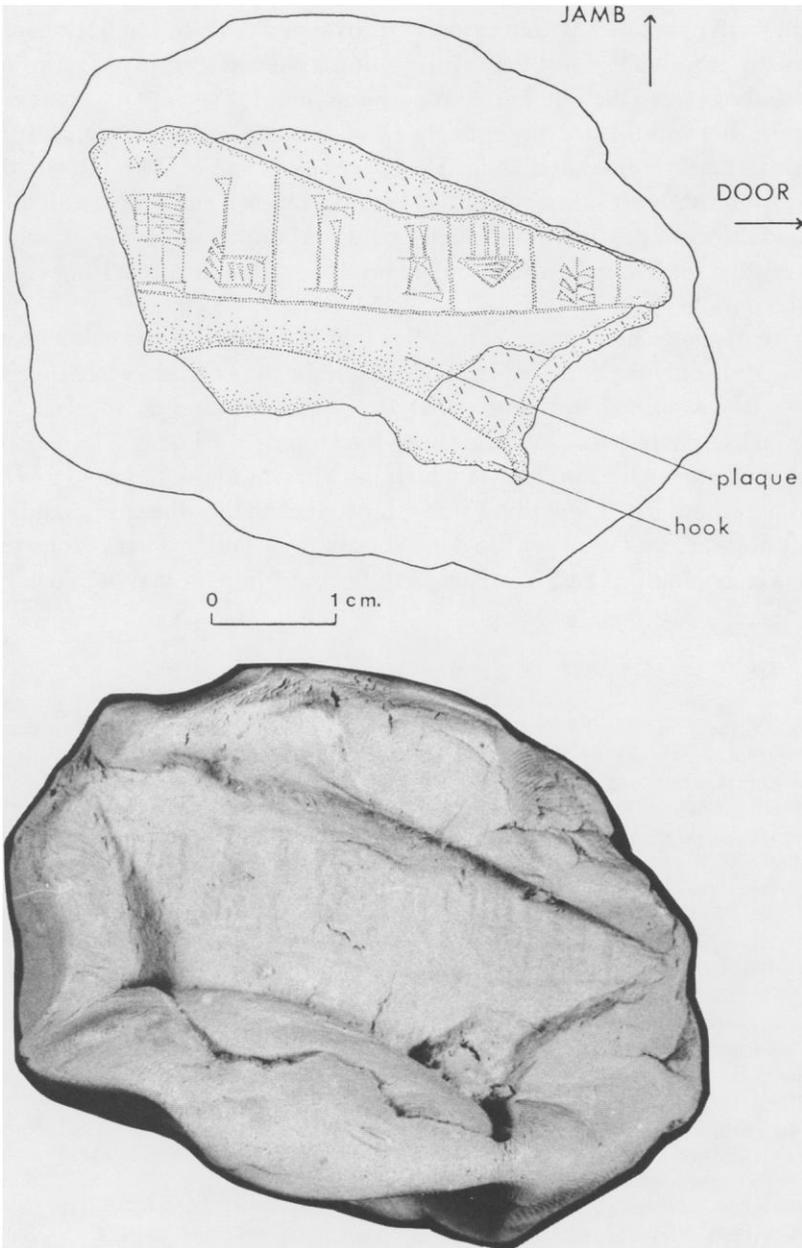


Figure 10. Line drawing (a) and photograph (b) of positive of sealing showing inscription cut on face of plaque

by the wear marks on the stone, the door post had a substantial diameter and the door was presumably commensurately heavy.³⁴ In view of the importance of the room, the formal character of the doorway (it is rabbeted; see the plan, fig. 2), and the size of the door, I would suggest that an inscribed plaque and knob were originally affixed to the northwestern jamb of the doorway and a hook attached to the door. All of the sealings found in the bin in Locus 1 which had been broken off a knob latched by a hook, then, would have secured the door to Locus 2. More specifically, the character of the fill in the bin and the function proposed for it suggest that the sealings had secured the door to that room at the time of the later floor (floor 2). The two different knobs which I have been able to pick out can be accounted for by assuming that at some point during the time that floor was in use the knob set into the plaque in the door jamb was taken out—perhaps it had broken—and replaced by one of slightly different proportions.

In Locus 4 a door socket made from a broken baked brick was found against the northwestern jamb of the doorway.³⁵ That a door socket of baked brick and not of stone was used suggests that the doorway was less important, and the door itself less sturdy, than that of Locus 2. The door was, perhaps, a wood-framed door with reed panels like those found at Ur and Nippur.³⁶ The door to Locus 4, I would suggest, was closed by a knob with a cord latch. The sealings from the bin in Locus 1 which had been broken off a knob with a cord around it, then, would have secured the door to that room.

Twelve of the fifteen sealings which had been on a knob with a hook over it, sealings which had likely secured the door to Locus 2, the archive

34. The pivot stone is pictured in McCown, *Archaeology* 5 (1952) 74. For an excavated example of the sort of substantial door I envision, see Parrot, *Le palais* pp. 267-70.

35. The baked brick door socket in Locus 4 was probably associated with both floor 2 and floor 1 in that room. Correlating the floors in the area of the northern courtyard, Locus 3, is problematic, but the evidence of absolute elevations, combined with Richard C. Haines' mention in his field notes of white-washed walls at specific floor levels in Locus 2 and Locus 4 suggests that floors 2-1 of Locus 4 were later in time than Locus 1 floor 2, the floor at which the bin (Locus 78) was in use, and Locus 2 floors 3-2, the floors with which the original pivot stone in that room was associated. The original floor in Locus 4, floor 3, presumably contemporary with Locus 1 floor 2 and with Locus 2 floors 3-2, was excavated only over the southeastern portion of that room; as a consequence, it is not possible to say whether a door socket was associated with that floor or not. However, the existence at the latest floors in the locus of a door socket—and a door socket of a particular type such as a baked brick—may suggest the existence of a door socket at an earlier level and give an indication of its character.

36. Sir Leonard Woolley and Sir Max Mallowan, *The Old Babylonian Period*, UE 7 (London, 1976) 127 and 143, fig. 39; McCown and Haines, *Nippur* 1 15 and pls. 10B and 25:6.

room, have on the front impressions of seals which can be linked to individuals whose titles are known and/or whose role in the temple can be reconstructed. Nine of those sealings have impressions of the “official seal” of Lugal-engar-du₁₀ (fig. 1, no. 6), the chief administrator of the temple.³⁷ Two of the sealings have impressions of the seal of Lugal-engar-du₁₀’s father’s brother, Lugal-engar-du₁₀ (fig. 2, no. 2), the son of Ur-Me-me. This Lugal-engar-du₁₀’s father and brother (fig. 1, nos. 1 and 4, respectively) had been chief administrators of the temple of Inanna and he himself had been governor of Nippur. No evidence exists, however, that at the time his brother’s son was chief administrator he held any official position at Nippur or in the temple of Inanna, and I presume that in fact he did not.³⁸

One of the sealings has impressions of the seal of Ur-^dŠul-pa-è. Ur-^dŠul-pa-è was a scribe working in the chancery from late in the reign of Šulgi through the reign of Amar-Suen. He occurs frequently in texts of the archive, and is explicitly noted in a number of texts as acting for the chief administrator.³⁹

37. Lugal-engar-du₁₀ (fig. 1, no. 6) had at least two seals. The inscription of one seal dates it to a time when his father was still chief administrator of the temple; this seal has a standard Ur III presentation scene (Hallo, JNES 31 [1972] 90). It occurs on the envelope 6 NT 708b, and on a number of sealings, 5 NT 521-22 (supposedly found in the temple, see n. 13 above), 4 NT 271-72, and 6 N 301-302. The same seal occurs on a tablet which carries the text of a court case redividing the inheritance to be left his sons by Lugal-engar-du₁₀ (Jean-Marie Durand, “Une condamnation à mort à l’époque d’Ur III,” RA 71 [1977] 125-36; also now Martha T. Roth, “A Reassessment of RA 71 [1977] 125ff.,” appendix to Zettler, AfO 31 [1984] 9-14). The chronological priority of that seal over Lugal-engar-du₁₀’s second seal and its occurrence on the inheritance text, primarily a matter of personal or family concern, suggest that the seal was Lugal-engar-du₁₀’s “personal seal.” The original inscription of Lugal-engar-du₁₀’s second seal (published by Buchanan, JNES 31 [1972] 96-97) included a dedication to king Amar-Suen, and Lugal-engar-du₁₀’s official titles (Hallo, JNES 31 [1972] 87). Presumably sometime early in the reign of Šu-Suen the inscription on the seal was recut, and the dedication changed from Amar-Suen to Šu-Suen (see n. 22 above). The seal occurs on three tablets in the temple archive, 4 NT 132-33 and 6 NT 27, and on numerous clay sealings. The use of the seal on 4 NT 132 is of particular interest. The text of that tablet records that An-ba-a received (šu ba-ti) a quantity of malt from Ur-^dNin-urta. Since it is normally the receiver who seals such a text (Steinkeller in Gibson and Biggs, *Seals and Sealing* p. 42), I suggest that as a rule such receipts had to be sealed by the chief administrator, but that others—in the case at hand, An-ba-a—could act on his behalf and make use of his seal. The fact that the inscription on the seal contains Lugal-engar-du₁₀’s titles and the fact that it was used by others, presumably on his behalf, lead me to consider it was his “official seal.” The definition of “official seal” is roughly in keeping with that used, at least implicitly, by Richard T. Hallock (“The Use of Seals on the Persepolis Fortification Tablets,” in Gibson and Biggs, *Seals and Sealings* pp. 127-33).

38. On Lugal-engar-du₁₀, the son of Ur-Me-me and governor of Nippur, see Hallo, JNES 31 (1972) 88-90 and 93; Zettler, AfO 31 (1984) 2-3.

39. The scene on Ur-^dŠul-pa-è’s seal appears to be an animal combat scene of a type standard in the time of the Dynasty of Agade: to the right of the inscription a bull-man is shown in combat with a lion and to the left of the inscription is a nearly identical combat scene

In sum, the evidence of the fifteen sealings which had been on a knob and hook suggests that the archive room, Locus 2, was formally under the authority of the chief administrator of the temple, but that on occasion a scribe in the chancery and the chief administrator's father's brother could secure the door to that room.

Of the sealings which had been on a knob and cord, sealings which, I suggested, had secured the door to Locus 4, only one has impressions of an identifiable seal, and that is the seal of Ur-^dŠul-pa-è, the scribe.

Up to this point I have discussed only the sealings which had been against knobs, and therefore had secured doors and rooms. Thirteen, or thirty-eight percent, of the thirty-four sealings from the bin in Locus 1, however, had been pressed against other objects. Five had been on jars. Positives made from them show a piece of leather stretched over the mouth and rim of a jar and held taut by a cord wound around the jar's neck (fig. 11).⁴⁰ At least in the case of two of the sealings it is possible to determine the rim type of the jar and, thus, the type of jar which had been sealed. Both sealings had been on jars with a flaring, ridged rim (diameters in the range of ten to fourteen centimeters).⁴¹

One of the sealings from the bin in Locus 1 had been on the neck of a leather bag and another on the corner of a wood-framed box. The positive

in which the bull-man is replaced by a nude hero with hair arranged in six side locks. The inscription on the seal reads Ur-^dŠul-pa-è, dub-sar, dumu Lú-^dInanna.

Ur-^dŠul-pa-è, the scribe and son of Lú-^dInanna, occurs in at least six texts of the temple's archive and one text from outside the archive. The texts range in date from Šulgi year 43 to Amar-Suen year 7. Two (4 NT 184 and 4 NT 185) record that Ur-^dŠul-pa-è received barley from Ū-ma-ni in place or on behalf of the chief administrator of the temple (Sumerian mu . . . šè). Both texts are sealed by his seal. Three texts (6 NT 66, 6 NT 72, and 6 NT 129a) all record the delivery of grain to the temple by various persons; all three are sealed by the seal of Ur-^dŠul-pa-è, indicating that he took in the grain. A text from outside the archive of the temple records that the chief administrator received 2520 sila of dates from Lugal-^hé-gál (David I. Owen, *Neo-Sumerian Archival Texts Primarily from Nippur in the University Museum, the Oriental Institute and the Iraq Museum* [Winona Lake IN, 1982] nos. 21-21a). The dates are described as wages for hired men and guruš. The text is sealed with the seal of Ur-^dŠul-pa-è, probably indicating that he received the dates on behalf of the chief administrator (Steinkeller in Gibson and Biggs, *Seals and Sealing* p. 42).

In none of the texts in which Ur-^dŠul-pa-è occurs is he given a title other than that on his seal, that is, scribe. Text 6 NT 114, for example, records distributions, perhaps of the chief administrator of the temple. The date is broken. Listed among the distributions is fifteen sila of flour (eša) for Ur-^dŠul-pa-è, the scribe.

40. Fiandra, *OrAnt* 20 (1981) 169-70 and pls. 15, 17-18.

41. For published examples from Ur III levels, see McCown and Haines, *Nippur* 1 pl. 84:3-4. Three ceramic jars with identical flaring ridged rims were found with the sealings and other objects in the refuse pit in Locus 137. The jars are 3 N 341-43.

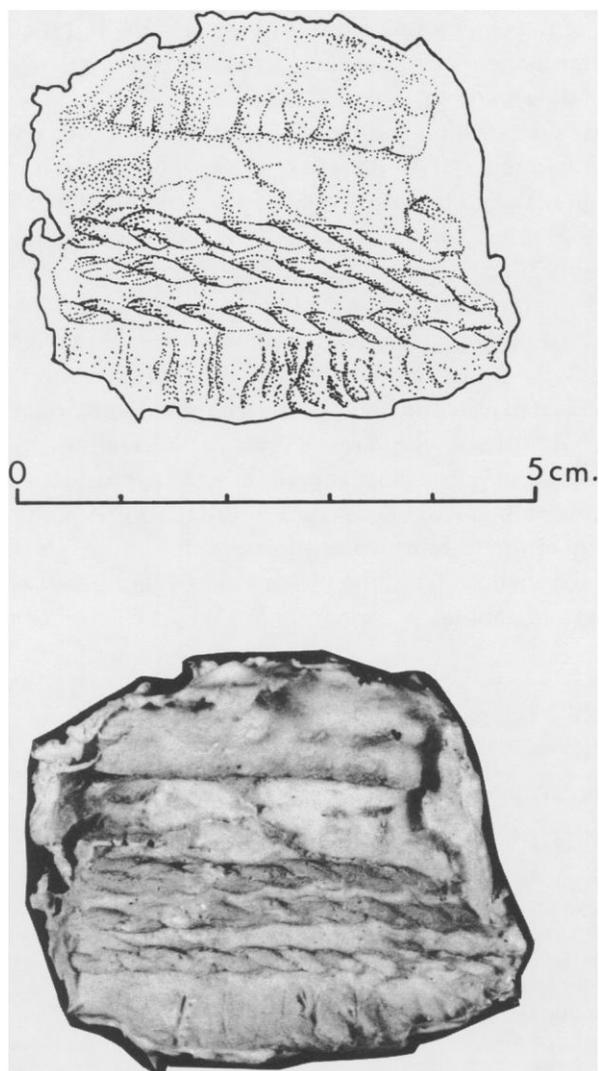


Figure 11. Line drawing (a) and photograph (b) of positive made from sealing off a jar

of the sealing that had been on the neck of a leather bag (fig. 12) shows a small leather bag drawn tight at the neck by a fine cord; the cord is wrapped at least three times around the neck of the bag.⁴² The positive made from the box-sealing shows two boards, each roughly two centimeters wide, joined at a right angle. A cord or thong passes over the top of one board and down into the joint between the two; in all likelihood the same cord or thong comes out of a hole cut in the second board, then runs over the top of it and down into the center area formed by the two boards. Perhaps the cord or thong served to lash together the frame and secure the central panel of the box.⁴³

Six of the sealings from the bin in Locus 1 had been on objects which I cannot identify or which show only traces of a cord or cords. The backs of three of the sealings are not preserved.

Of the five sealings which had been on jars, four have impressions of the "official seal" of Lugal-engar-du₁₀, the chief administrator of the temple. The other sealing has impressions of a seal with an animal combat scene that I cannot link to any particular individual. The bag sealing has impressions of a seal with a presentation scene; I cannot connect it with any one individual. The box sealing has impressions of the "official seal" of Lugal-engar-du₁₀.

Of the remaining nine sealings seven have impressions of the "official seal" of Lugal-engar-du₁₀, the chief administrator. One of the other two sealings has impressions of a seal with a presentation scene belonging to Lú(Lugal)-sa₆-ga, about whom I have no information; the second shows impressions of a seal with a presentation scene which I cannot link to any particular individual.

42. For such bag sealings, see Daniel Arnaud, Yves Calvet, and Jean-Louis Huot, "Ilšu-Ibnišu, orfèvre de l'É.BABBAR de Larsa," *Syria* 56 (1979) 6 and 13, figs. 11 and 57-58; also G. A. Reisner, "Clay Sealings of Dynasty XIII from Uronarti Fort," *Kush* 3 (1955) 27-28.

43. Wooden boxes—wooden objects in general—are not usually found well-preserved in Mesopotamian sites (see, for example, C. Leonard Woolley, *The Royal Cemetery, UE 2* [London, 1934] 383-86). The sort of simple wood-framed boxes I have in mind have, however, been found intact in tombs in Egypt (for example, Armas Salonen, *Die Möbel des alten Mesopotamien* [Helsinki, 1963] pl. 53,2; also William C. Hayes, *The Scepter of Egypt 2* [Cambridge, 1953] 196, fig. 111). Such Egyptian boxes with a knob on the side and a knob affixed to the lid might be sealed by wrapping a single cord around both knobs and then pressing clay either on the knobs or on the cord (see Fiandra, *Pepragmena tou B' Diethnous Kritologikon Synedriou* 1 389). Such boxes and especially boxes without knobs might equally well be sealed by putting clay on each of the four corners where the lid rests on the frame of the body of the box (for corner sealings, see Reisner, *Kush* 3 [1955] 28). The box sealing from the temple of Inanna, I think, is such a corner sealing.

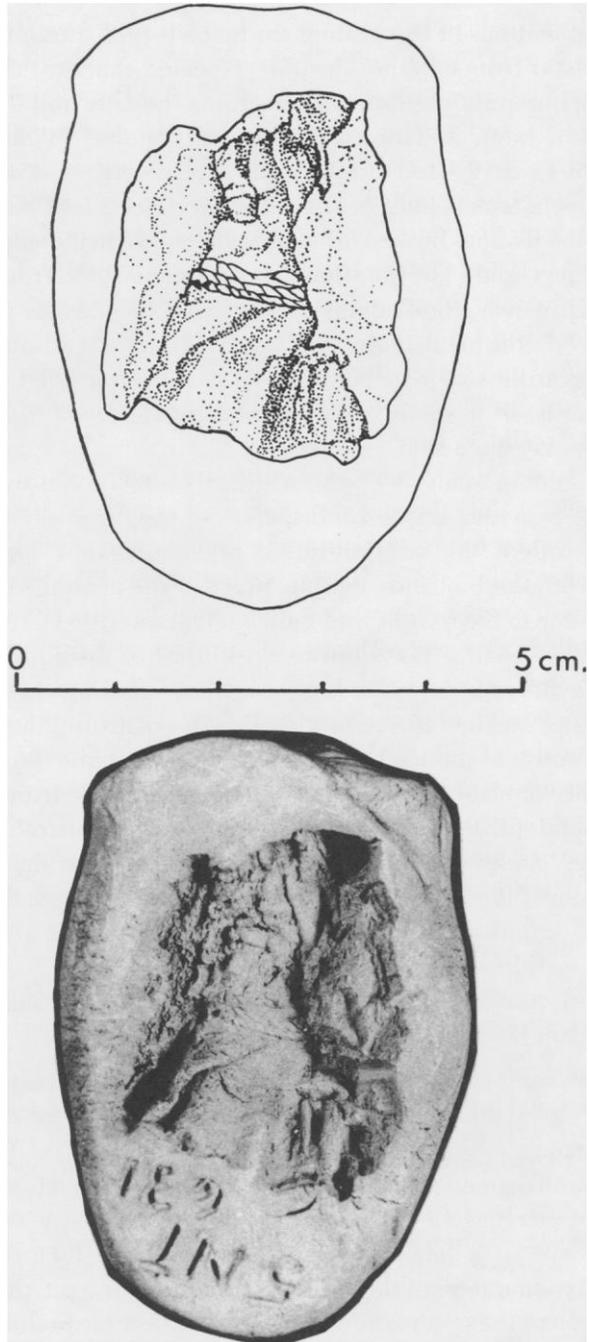


Figure 12. Line drawing (a) and photograph (b) made from sealing off a leather bag

The implications of this sealing evidence for the administration of the temple are far from certain. The objects sealed can, for the most part, be identified; but questions remain concerning their use and status. Were the various jars, bags, and boxes permanently stored in the temple—for example, in Locus 2—and did the sealings serve to restrict access to them? Or did the containers hold commodities or objects sent into the building and were the sealings broken off in order to check their contents? What did the containers hold? The questions cannot be answered from the evidence at hand. However, the sealings indicate that the various jars, bags, and boxes were, in the main, under the control of the chief administrator of the temple, regardless of whether the seal had been affixed on permanent temple stores or on items in transit, and regardless of what the various containers may have held.

The foregoing analysis of the sealings from the bin in the chancery courtyard provides ample confirmation of the proposition that sealings generally reflect the administrative organization of institutions. The sealings from the bin, for example, point to the central role of the chief administrator in the temple and indicate that a scribe (Ur-^dŠul-pa-è) was active on his behalf. This confirms the outline of the administration that can be drawn from the texts. But the sealings also indicate that the chief administrator and his father's brother (Lugal-engar-du₁₀ the son of Ur-Meme) were active in the affairs of the temple at the same time. The sealings thus amplify or elaborate on the information available from the texts, and give greater depth to the outline of the temple's administration: the texts of the temple's archive point only to the involvement in the temple of the chief administrator's sister, his sons, and his brother's son; the activities of the chief administrator's father's brother in the temple are documented only by the sealings.

Sealings from the Refuse Pit in the Eastern Courtyard

The analysis of the sealings from the refuse pit in the eastern courtyard, Locus 137, presents numerous problems, and the picture of the administrative organization of the temple of Inanna which can be drawn from the study of those sealings is far less detailed than that pieced together from the analysis of sealings found in the bin in the chancery courtyard. The problems are in a large measure a function of factors such as the fragmentary character of the sealings from the refuse pit; the poor state of preservation of the southeastern portion of the temple building; the lack of information on stratification of finds in the refuse pit; and the inability to

correlate the refuse pit stratigraphically and chronologically with the bin in the chancery courtyard. The sealings from the refuse pit can be treated in much the same way as were the sealings from the bin in the chancery courtyard, but the factors which hinder their interpretation need to be noted.

The distribution of the one hundred and fourteen sealings found in the refuse pit is shown in Table 2. Seventy-two, or more than sixty percent, had apparently secured doors. The reverses of thirty-eight of the seventy-two sealings indicate that they had been broken off a knob with a hook on it. The reverses of seventeen of the sealings indicate that they had been broken off a knob with a cord wound around it. Figure 13 is a photograph of the back of a sealing which had been broken off a knob with a cord

TABLE 2

Clay Sealings from the Refuse Pit in the Eastern Courtyard
(Locus 137) by Reverse Groups

<i>Reverse Groups</i>	<i>Numbers</i>	<i>Percentages</i>
Knob with cord latching	17	15
Knob with hook latching	38	33
Knob (no indication of latching)	9	8
Cylindrical peg with cord latching (?)	2	2
Multiple pegs with cord latching	5	4
Multiple pegs with hook latching	1	1
Jar	1	1
Bag	1	1
Miscellaneous, unidentified	20	17
Not seen**	2	2
Broken	18	16
Total	114	100

**The four sealings registered under the field number 6 N 430 are in the Iraq Museum, Baghdad. I have seen only three of the four. Two of the four sealings with the field number 6 N 436 are also in the Iraq Museum. I have seen only one of the two.

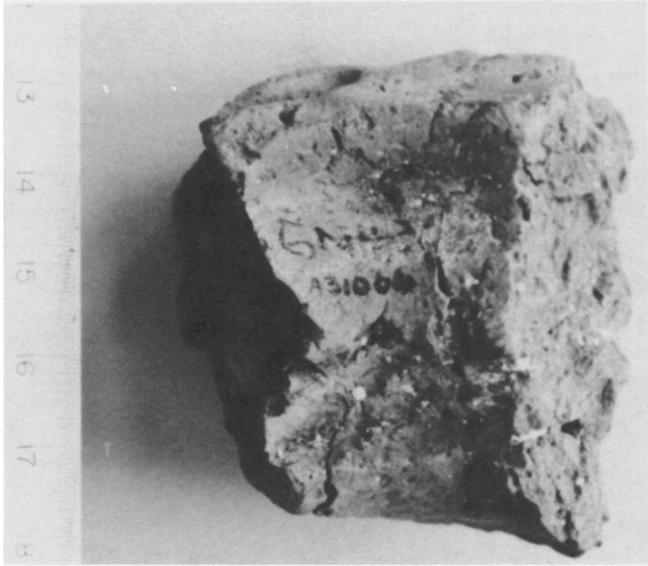


Figure 13. Reverse of a sealing off a knob with cord wound around it

wound around it⁴⁴; figures 14a and 14b are, respectively, a line drawing and a photograph of a positive made from the sealing. The reverses of nine of the sealings indicate that they had been broken off a knob, but preserve no trace of the way the door was latched to the knob.

The flattened bases of a number of sealings which had been on a knob with a hook over it and one which had been on a knob with a cord wound around it show traces of a raised inscription; the cuneiform signs are in mirror-image. All texts can be identified as Šulgi's inscription for Inanna. The knobs off which those sealings had been broken had been affixed to a plaque with Šulgi's inscription, similar to that which I suggested had existed at the doorway to Locus 2 in the administrative sector of the temple.

44. One of the five sealings is registered under the field number 6 N 435. It is Oriental Institute A 31064.

The reverses of two small fragments from the refuse pit, instead of showing the usual knob with disc base, incurving sides, and rounded top (fig. 9), show what I take to be a cylindrical peg of roughly the same size and presumably function. The peg was rather elaborate with its base of slightly greater diameter than its upper portion and a decoration(?) of regularly spaced and evenly cut parallel lines running its length. I cannot identify the material from which the peg was made, but the lack of clearly visible grain would seem to indicate that it was not wood; it may have been metal, stone, or baked clay. Impressions on the flattened base of the larger of the two sealings indicate that the peg had been set against a wooden background, presumably a plate set into the jamb of the doorway or a wooden panelling or lining of the jamb. The same fragment shows the end of a cord against the peg, indicating that the door was latched to the peg by means of a cord.

Six of the sealings give evidence of a mechanism for securing a door which is an interesting variation on those I have described up to this point (figures 15a, 15b, and 16 are photographs of the reverses of two of these sealings⁴⁵). Positives made from the sealings show what I take to be several pegs roughly 1.7 centimeters in diameter) set close together and at an oblique angle to one another, so as to form a sort of composite peg. A fine grain running parallel to the length of the pegs is visible on at least two of the positives, indicating that the pegs were made of wood or reeds. The positive made from one of the sealings which give evidence of the multiple pegs shows a hook over them (figs. 15a-b); positives of the other five sealings show a cord wound around them (fig. 16).

It is not clear in all examples how the pegs were set into the jamb of the doorway. They may have been driven into the bricks and/or mortar and plaster, or may have formed part of some more elaborate fixture. The flattened base of the single sealing which shows multiple pegs with a hook over them has a raised inscription, the cuneiform signs in mirror-image (figs. 15a-b). The inscription can, again, be identified as Šulgi's for Inanna. That indicates that in the doorway to the room whose door that sealing had secured, a stone plaque, like that which I suggested existed at the doorway to Locus 2, was set into the jamb and several wooden pegs driven through the central hole in the plaque. The flattened bases of a number of the sealings which show multiple pegs and a cord wound around them have

45. Respectively, one of four sealings registered under the field number 6 N 436 (Kelsey Museum of Archaeology 63.6.108) and one of four sealings registered as 6 N 437 (IM 61379a).

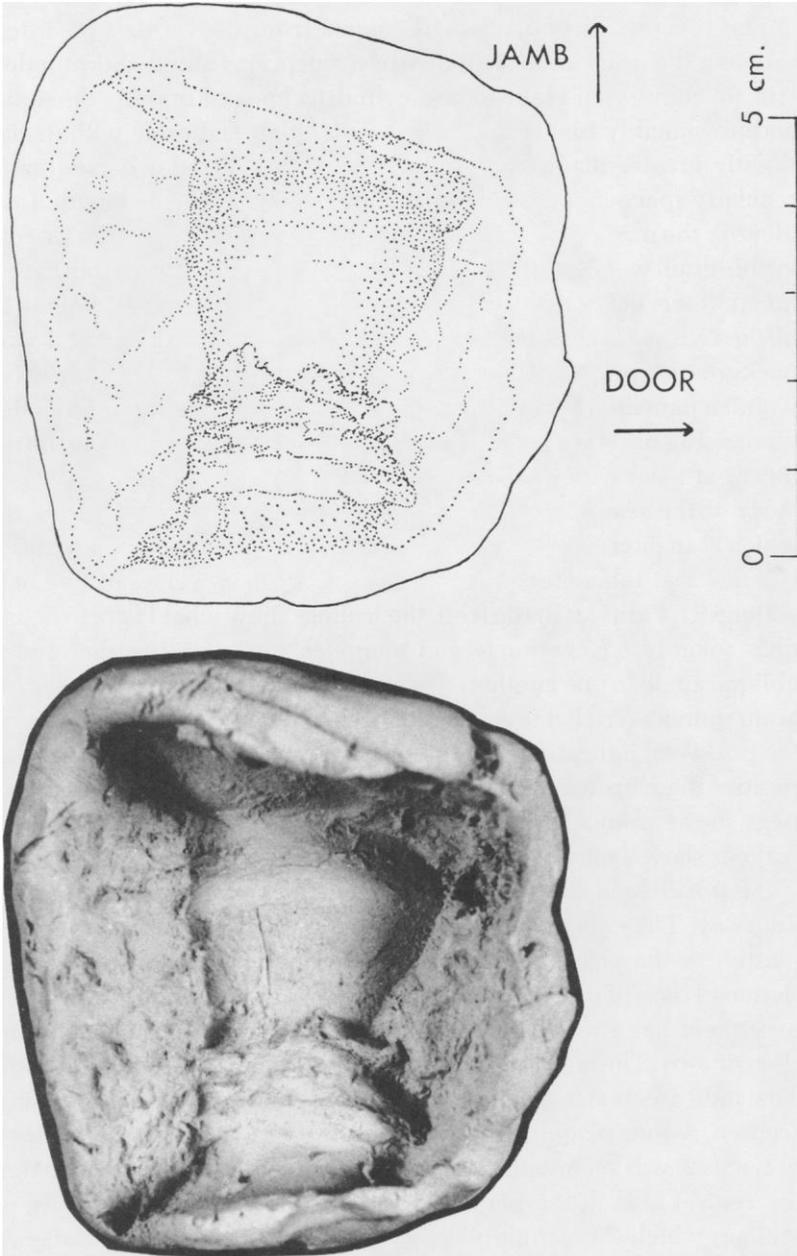


Figure 14. Line drawing (a) and photograph (b) of positive made from sealing off a knob with cord wound around it (sealing the same as that in fig. 13)

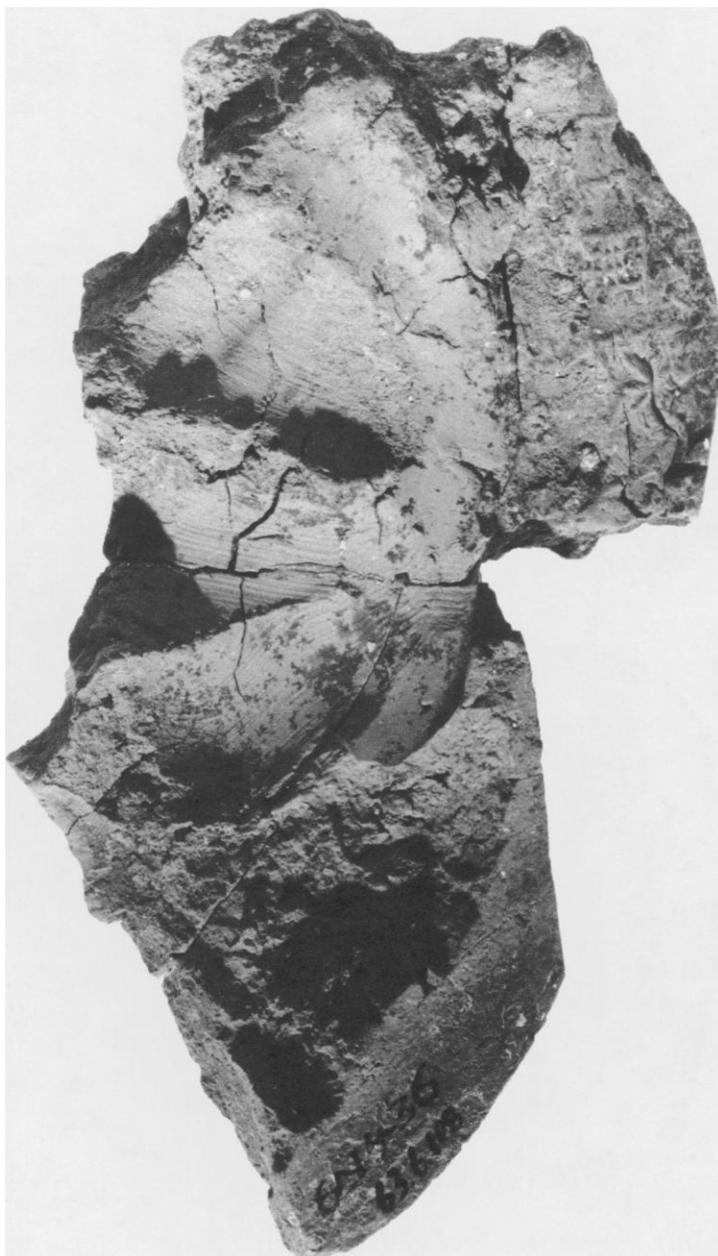


Figure 15a. Reverse of sealing off multiple pegs with hook over them
(a and b are the same sealing, but from different angles)



Figure 15b. Reverse of sealing off multiple pegs with hook over them (a and b are the same sealing, but from different angles)

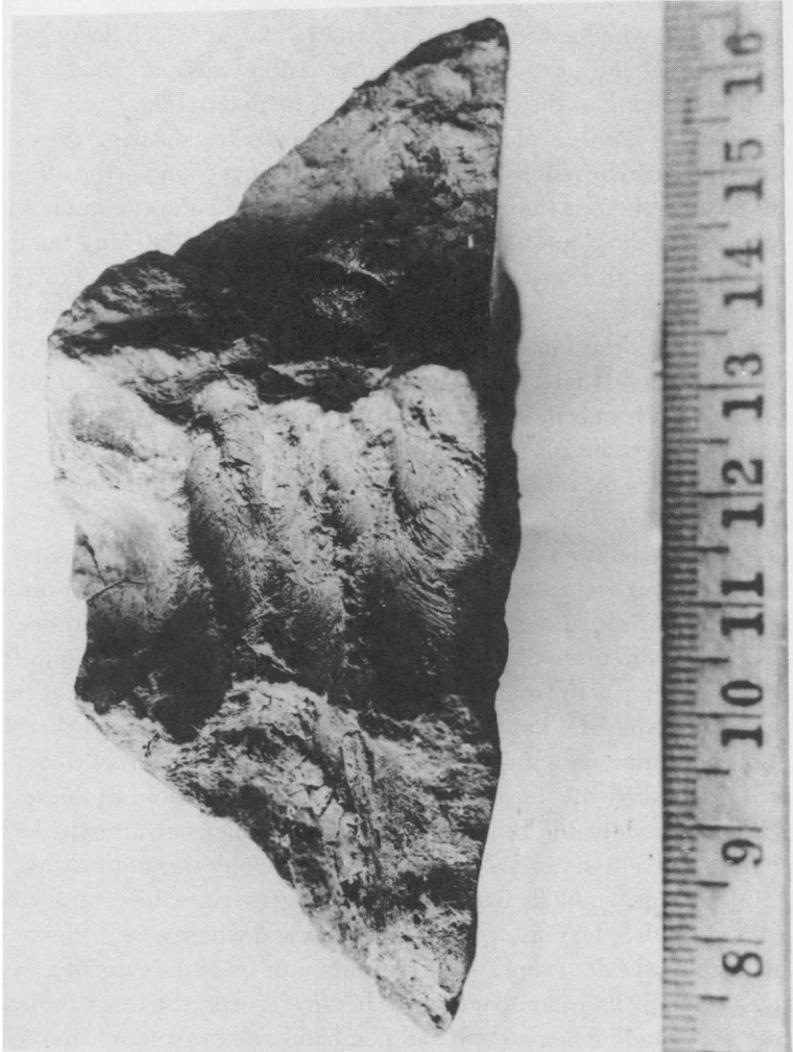


Figure 16. Reverse of sealing off multiple pegs with cord wound around them

impressions of two wooden boards, approximately 3.5 centimeters wide, meeting at right angles, the one running over the top of the other. The impressions indicate that the sealings had overlapped a wooden frame of some sort, but whether the frame was part of a plate in which the pegs were set or whether the portion of the frame visible was part of a wooden panelling or lining of the door jamb cannot be determined.

In sum, the number of different mechanisms for securing doors and rooms which can be reconstructed from the sealings found in the refuse pit totals five (table 2): a knob with a cord latching the door; a knob with a hook latching the door; a cylindrical peg with a cord latching the door; multiple pegs with a cord latching the door; and multiple pegs with a hook latching the door. Because so little was preserved of the floors, walls above floors, and doorways in the vicinity of Locus 137 and because few pivot stones were found there, none of the mechanisms can be linked to specific doorways and rooms in the area of the eastern courtyard.

That five mechanisms for securing doors can be reconstructed from the sealings found in the refuse pit might suggest that in the immediate vicinity of Locus 137 five doorways and rooms could be closed off and secured. Although that number accords with the number of rooms around the eastern courtyard, the assertion will not stand close scrutiny. In the first place, it is possible, if not probable, that the sealings which had been on knobs were from more than two knob fixtures. Because the sealings from the refuse pit were so fragmentary I have not been able to take accurate measurements on the knobs attested by those sealings and I therefore cannot determine with any certainty the number of different doors and rooms secured by means of knob and cord or hook latch. In the second place, it is conceivable that certain of the mechanisms attested by the sealings represent successive emplacements at the same doorway. For example, I think it is likely that the multiple pegs set into the central hole of the plaque with Šulgi's inscription for Inanna and which give evidence of a hook latching the door represent a temporary or secondary use of a fixture which originally had a knob attached. In other words, they may indicate a "quick fix," made when a knob and peg had been broken or removed.

It is of interest and value to study the seals impressed on sealings found in the refuse pit which had secured doors and rooms, even in the absence of definitive information on the number of doors and rooms, and on exactly which doors and rooms in the area of the eastern courtyard could be closed off. By far the greatest number of the sealings, fifty-nine of the seventy-two, or eighty percent, have impressions either of the seal of Lugal-engar-du₁₀ (no. 2) the son of Ur-Me-me, or of the seal of Lugal-engar-du₁₀'s

brother, Lugal-á-zi-da (no. 3).⁴⁶ Specifically, nineteen of the sealings have impressions of the seal of Lugal-engar-du₁₀ and forty impressions of the seal of Lugal-á-zi-da.

Of the remaining thirteen sealings, one has impressions of the seal of Lú-itu-da, described in the inscription on his seal as mu lú maḥ 4Inanna-ka, that is, “cook (and) ecstatic of Inanna.”⁴⁷ Six of the sealings have impressions of a votive seal given by Ur-zu, (date palm) cultivator of Enlil, to Inanna.⁴⁸ Six sealings have impressions of six different seals, none of which I can link to particular individuals, either by inscriptions on the seals or by iconography.

In sum, the evidence of the seventy-two sealings which had apparently secured doors demonstrates the authority of Lugal-engar-du₁₀ and Lugal-á-zi-da, both sons of Ur-Me-me, over rooms in the area of the eastern courtyard of the temple. The ramifications of that in terms of the administrative organization of the temple, however, cannot readily be calculated because the chronology of their activity in the area is an open question. Were Lugal-engar-du₁₀ and Lugal-á-zi-da active in the area of the eastern courtyard at the same time? Were the two active during their father’s tenure as chief administrator, or during the tenure of their brother or of their brother’s son? In the absence of recorded observations on the stratification of the refuse pit and the findspots of the sealings in it and because the area of Locus 137 was too poorly preserved to permit stratigraphic correlation of the refuse pit (and the sealings found in it) with the securely dated bin in the chancery courtyard (and the sealings found in it) neither question can be answered with any degree of certainty. At least in the case of the second question, however, other factors suggest that Lugal-engar-du₁₀ and Lugal-á-zi-da were active in the area of the eastern courtyard during their brother’s son’s tenure as chief administrator.⁴⁹

46. On Lugal-á-zi-da, see Hallo, JNES 31 (1972) 88-90; Zettler, AfO 31 (1984) 2-3.

47. In addition to the impression referred to here, the seal occurs on two other fragmentary impressions. On all of the fragments (all three are unregistered) the impressions are faint and the inscription is difficult to read. The scene on the seal shows an animal combat with three figures, two heroes grappling with a lion. The inscription reads Lú-itu-da ‘mu’ lú-m[ah], 4Inanna-ka. For the translation “ecstatic” for lú-maḥ, see CAD s.v. *maḥḥá*.

48. The seal has an animal combat scene with three figures, a bull-man with attacking lions right and left. The inscription, reconstructed from many fragments, reads 4Inanna, nin-a-ni, Ur-zu, GAL.NI, 4En-líl-lá, nam-ti-la-ni-ṣè, a mu-na-ru, “(To) Inanna, his lady, has Ur-zu, (date palm) cultivator, of Enlil, for his life, dedicated (this seal).” On Sumerian GAL.NI as a (date palm) cultivator, see Miguel Civil, “Cuneiform Texts,” in McGuire Gibson, Excavations at Nippur: Eleventh Season,” OIC 22 (Chicago, 1975) 125.

49. Three facts taken together suggest (but only suggest) that Lugal-engar-du₁₀ and Lugal-á-zi-da were active in the eastern courtyard (Locus 137) at the time their brother’s son was

The sealing with impressions of the seal of *Lú-itu-da* and six sealings with impressions of *Ur-zu's* votive seal still call for brief comments. That the seal of *Lú-itu-da* the cook should be found on a sealing from the refuse pit is not surprising. The oven and fireplace in the eastern courtyard make it an obvious place for a cook to have worked. Perhaps *Lú-itu-da* was responsible for opening, closing, and securing the door to the room(s) in which food stores were held. It is possible that the long narrow room, Locus 139, on the northeastern side of the courtyard, may have been one of these.

The significance of the occurrence of the seal given by *Ur-zu* to *Inanna* on sealings from the refuse pit, which must have secured doors in the vicinity of the eastern courtyard, is more difficult to assess. I. J. Gelb pointed out in his typology of seal inscriptions that such votive seals, although they name the donor, were not used by the donor, but by the deity to whom they were presented.⁵⁰ The seal, then, would have been used to mark what was under the authority of *Inanna*. I can only speculate that the seal was used to secure a storeroom holding something, such as jewelry or clothing for the cult statue, that belonged specifically to the goddess. It could also have secured a passage leading from one sector of the temple to another; the door in Locus 135 is an example. Neither

chief administrator of the temple. The first of those facts relates to the general chronological distribution of dated texts in the temple's archive. Isolated texts exist from early in the reign of *Sulgi*, but substantial numbers of texts begin only with *Sulgi* years 39-40, that is, at a time when *Lugal-engar-du₁₀* son of *En-líl-á-maḥ* was already chief administrator of the temple. I presume that the chronological distribution of sealings from the temple corresponds roughly to the distribution of the texts. Secondly, the sealings from the bin (Locus 78) in Locus 1 demonstrated that *Lugal-engar-du₁₀* son of *Ur-Me-me* was alive and active in the temple at a time when his identically-named nephew was chief administrator (see pp. 221-22 above). That makes it at least a possibility that *Lugal-á-zi-da* was, too. Thirdly, one of the sealings from the refuse pit has impressions of the seal of *Ur-Šul-pa-è*, the scribe, son of *Lú-Šul-pa-è* (see p. 222 above). *Ur-Šul-pa-è* was active in the temple during a restricted and well-defined period of time, from late in the reign of *Sulgi* through the reign of *Amar-Suen*, a period corresponding to the first twenty years of *Lugal-engar-du₁₀'s* tenure as chief administrator (see n. 39, above).

50. The inscription puts the seal clearly into Gelb's Type XX, that is, votive seals (I. J. Gelb, "Typology of Mesopotamian Seal Inscriptions," in Gibson and Biggs, *Seals and Sealing* pp. 109-11, 112, 120-21). Gelb noted there (p. 112) that "the main characteristic of the votive seals is that while they identified the donor of the seal, they were not used by the donor but by the divinity to whom they were offered. Certain seals can be used for purely ornamental purposes but nothing would prevent the temple from employing them in identifying and legal purposes." In support of his remarks Gelb cited a votive seal of *Esarhaddon* which according to its inscription had been offered to *Marduk*; it was considered property of the temple of *Marduk* and was used as the seal of *Adad* of *Esagila*.

suggestion, however, provides an indication as to who had authority to impress that particular seal on clay.

Twenty-two of the sealings found in the refuse pit in Locus 137, or roughly nineteen percent, had been on jars, leather bags, or assorted other objects which I cannot identify (table 2). By far the greatest number of those sealings fall into the last-mentioned group. Most of those show only cord impressions (sealings, especially small fragments, which show only the impression of cords might well have been part of sealings broken off knobs or pegs with cords wound around them) or reeds or sticks and cord impressions.

Of the twenty-two sealings, five, including the one which had been on a leather bag, have impressions of the seal of Lugal-engar-du₁₀, the son of Ur-Me-me; ten have impressions of the seal of his brother, Lugal-á-zi-da; five have impressions of the seal given to Inanna by Ur-zu; and one has impressions of the seal of Ur-^dŠul-pa-è, son of Lú-^dInanna, the scribe whose seal was found on sealings from the bin in the chancery courtyard. The other two sealings have impressions of seals I cannot link to particular individuals. One (6 N 438) is a jar stopper (a plano-convex lump of clay whose base shows the outline of the mouth of the jar in which it was set); it has impressions of a seal with an Early Dynastic animal combat scene. The other sealing has impressions of a seal with an Akkadian animal combat scene.

The remaining twenty sealings not dealt with here either I have not seen or their backs are not preserved.

The foregoing analysis of the sealings found in the refuse pit in the eastern courtyard, Locus 137, thus provides, with due caution, a degree of confirmation for the proposition that sealings reflect the administrative organization of institutions. The sealings, for example, indicate that Lugal-engar-du₁₀ and Lugal-á-zi-da (fig. 1, nos. 2-3), the sons of Ur-Me-me, apparently without holding official positions in the temple, had authority over rooms around the eastern courtyard perhaps at the same time their brother's son (fig. 1, no. 6) was chief administrator. The seals thus again confirm and amplify the picture of the association of the Ur-Me-me family with the temple of Inanna that can be drawn from the texts of the temple's archive. As I indicated earlier, the texts of the temple archive point to the activities of the chief administrator's sister (fig. 1, no. 7), his sons (fig. 1, nos. 11-15), and his brother's son (fig. 1, no. 16) in the temple, but do not give similar information for his father's two brothers (fig. 1, nos. 2-3).

While confirming the value of sealings in reconstructing administration, the study of the sealings from the refuse pit also emphasizes that effective

analysis of sealings with a view to reconstructing administration is dependent on thorough stratigraphic observations and recording, and on relatively well-preserved architectural remains.

Summary

In this study I have attempted to test a proposition long stated or implied in studies of ancient Mesopotamian seals and sealing practice, most recently in a series of important articles by Enrica Fiandra, namely, that clay sealings are artifacts reflecting administrative procedures and therefore can be utilized in reconstructing the administrative organization of institutions. In testing the proposition I used the sealings found in building Level IV of the temple of Inanna at Nippur, the building dating to the period of the Third Dynasty of Ur. I did so because those sealings had a secure provenience and because my previous study of the administrative archive associated with the building provided an outline of the workings of the building and of the administrative organization of the institution against which the information gleaned from the sealings could be measured.

In my analysis of the sealings I examined separately the two main groups of sealings found in the building. I studied first the reverses of the sealings to determine the objects off which the sealings had been broken, that is, what the sealings had sealed, and then attempted to correlate with that information the seal impressions on the obverses of the sealings. The greatest number of seals impressed on the sealings were inscribed and could therefore be identified as belonging to specific individuals, individuals whose role(s) in the temple I could reconstruct, at least in part.

In general, analysis demonstrates that sealings can in fact be used to suggest an outline of the administrative organization of institutions and can, moreover, amplify information drawn from archival texts. The study also showed that in order to maximize the amount of information drawn from sealings further studies are desirable and certain archaeological preconditions must exist. With regard to the former, for example, I would suggest that the number of sealings I had to put in the reverse group "miscellaneous, unidentified" calls for or ought to call for the continued study and routine publication in drawings or photographs not only of the seal impressions on sealings, but of reverses of sealings as well, the likelihood being that as the number of published exemplars increases so will the possibility of identifying with a degree of certainty what all the sealings had been on. In addition, I would suggest that because many

sealings had been on jars, bags, and boxes, studies aimed at delimiting the range of contents of such containers are called for. Examples are residue analysis of whole jars of various types and a systematic survey of the contents noted as in sealed jars, bags, and boxes in archival texts. With regard to the necessary archaeological preconditions, I should repeat and emphasize the observations made in the analysis of sealings from the refuse pit in the eastern courtyard. Because a large number of sealings had secured doors, their effective analysis presupposes well-preserved architectural remains.

In the introduction to this study I indicated that it had two purposes, and I described those purposes as testing a proposition and outlining a methodology and setting parameters for the analysis of sealings from prehistoric and historic levels and sites. Those aims I hope I have met. The study has had, however, one more general, if unstated purpose: to encourage new approaches to seals and sealings, the sort of new approaches typified by the work of Enrica Fiandra and others, and the development of methodologies for exploiting those artifacts in reconstructing the social and economic organization of ancient Mesopotamia.