



**CLAY SEALINGS FROM THE PYRAMID COMPLEX OF KING
RANEFEREF KEPT IN THE NÁPRSTEK MUSEUM:
GENERAL FEATURES OF THE CORPUS AND ITS POTENTIAL
TO THE STUDY OF THE ADMINISTRATION OF THE ROYAL
FUNERARY CULT**

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ABSTRACT: In the 1980s, the excavations of the Czechoslovak Institute of Egyptology headed by Miroslav Verner excavated large parts of the pyramid complex of King Raneferef (Neferefre)² and uncovered evidence of the mortuary cult of the king, including ca. one thousand of clay sealings (or sealing fragments). Out of them, a corpus of over three hundred sealings was acquired by National Museum – Náprstek Museum of Asian, African and American Cultures. In most aspects, they make a representative sample of the whole corpus. This paper presents in summary properties of the corpus relevant to the interpretation of the temple administration as it is reflected in the sealing activity.³ After a brief introduction to the site and the organization of the excavated corpus, the attention will be focused particularly on the general patterns of the distribution of sealings with regard to space, type, and attested epigraphical features (titles, names of gods and institutions, other iconographical features), as these are the means to uncover potential correlations between the activity of holders of particular

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² The names of kings of the Fifth Dynasty in the present work are transcribed according to Verner 2014.

³ The full presentation of the evidence of the corpus in its details and complexity goes far beyond the scope of a single article and would be presented eventually in series of specialised studies and the final publication of the sealing material from the pyramid temple.

offices (or representatives of particular institutions), particular parts of the temple and particular types of sealings (i.e. particular kinds of sealed containers).

KEY WORDS: Ancient Egyptian Administration – sealings – *cretulae* – seals – Old Kingdom – Abusir – Raneferef's Pyramid Complex – Neferefre

Introduction

King Raneferef reigned over Egypt during the Fifth Dynasty for a very short period of time. His death likely occurred during the second year of his reign (or shortly after)⁴ which had a serious impact on the building project of his mortuary monument, that was built in Abusir, to the southwest of Neferirkare's pyramid. The early death of the king affected the plan of his monument severely – its valley temple and the causeway were never built. The core of the pyramid was erected merely up to about three-quarters of the first step, and the pyramid was converted to a sort of primordial mound (Verner *et al.* 2006: 101). Besides the transformation of the shape of the pyramid itself, the cult in the pyramid temple had to be put into practice earlier than expected. This resulted in several building phases gradually extending the premises of the temple from a provisional state up to a design more like the sufficient funerary temple. The period of this gradual expansion of Raneferef's pyramid temple under Nyuserre followed the period of its reduction under his successors when non-formal secondary structures appeared within the temple.⁵

Before the excavation by the Czechoslovak Institute of Egyptology, headed by Prof. Miroslav Verner, the monument was considered a possibly unfinished pyramid; however, its functionality was disputed. Verner's excavation particularly proved that the pyramid was actually "finished", though in an improvised way, and that the entire complex was functional for a period of time – it was both a place of the cult and a place of the actual royal burial.⁶ Excavation of the pyramid shed more light on the building technique of the pyramid core (Verner *et al.* 2006: 9); the building inscriptions pinpointed the estimated length of the owner's reign, and the excavation uncovered important objects: the royal portraits of Raneferef, and the fragments of the archive of the administrative papyri that provide vital evidence of the administration of the royal mortuary cult, an important extension of the corpus of the Abusir administrative papyri.⁷ Availability of administrative papyri only raises the importance of complementary evidence of the administration of the royal mortuary cult in Abusir, namely of the corpus of sealings from the respective pyramid complex.

⁴ "The builders' inscription with a date, *rntp sp tpy, 3bd 4 3ht, sw 4+x*, found on a large corner block in the pyramid's core, indicated that the king did not reign longer than one or two years" (Verner *et al.* 2006: 100; Posener-Kriéger – Verner – Vymazalová 2006: 325).

⁵ The full excavator's reconstruction of the chronology of the Raneferef's pyramid complex is described in Verner *et al.* 2006: 100–112.

⁶ Mummy parts found in the burial chamber were studied and attributed to the buried king (Verner *et al.* 2006: 518).

⁷ Cf. Posener-Kriéger – Verner – Vymazalová 2006 for a publication of the archive from the Raneferef's pyramid complex and Vymazalová 2015 for further discussion and comparison of evidence from all three Abusir archives.

Excavated corpus

About one thousand clay sealings (*cretulae*) were uncovered during the excavations. Over 300 of them were taken to Czechoslovakia where they entered the collections of the National Museum – Náprstek Museum of Asian, African and American Cultures. The majority of the corpus is stored in the Egyptian Museum in Cairo.

A selection of 250 sealings (from both the Prague and Cairo collections) was published by Miroslav Verner in the monograph presenting the outcomes of the excavation (Verner *et al.* 2006: 209–270). The publication focused mostly on the obverses with the seal impressions and presented a thorough analysis of the epigraphic material. Some notes were also given concerning the imprints on the reverses of some of the pieces; these indicated the further potential of the material and inspired the present study. The author tried to elaborate on the previous publication about the recently established methods which aims to re-evaluate the material from a different perspective. Due to the limitations of access to the Egyptian museum, as well as the quantity of the finds, the sealings from the collection of Náprstek museum served for a test study whose outcomes are presented in this paper. This material is being gradually complemented by studies conducted by the author in the Egyptian Museum in Cairo. It is worth mentioning that only about 10 percent (33 sealings) of the Prague collection were included in the published volume (Verner *et al.* 2006), while the present study reflects upon the entire Prague set.

Regarding the documentation of the finds, the precise location of their find contexts within the rooms are marked in the plans and described in the find cards, including the designation of the stratigraphic layer. The excavation numbers were ascribed to the sealings according to particular excavation contexts. The volume of fragments included in individual excavation numbers varies between one and eighty-four sealings, found in the same context. The most extensive set in the Prague collection includes fifty-four sealings under one excavation number.

Three distinct reference systems could be used for the identification of the sealings: the original excavation numbers (e.g. 483/I/82a); the object numbers within the collection of the Náprstek Museum (e.g. P6808a); or the numbers of selected objects published in the *Abusir IX* volume (Verner *et al.* 2006: 209–267, Nos. 1–250), where they are accompanied by excavation numbers as well.

Employed typology

The sealing and unsealing of doors and containers was a routine practice that was optimized for speed and efficiency (cf. Frangipane [ed.] 2007: 66). This leaves us the prospect that sealings are a kind of artefact whose material qualities are tightly bound with their functionality, and that the abundant variety of marks that we find on them are signs that we might learn to interpret. In fact, attempts to assess the functionality of sealings on the basis of their reverses (i.e. the side which was attached to sealed container or doors) do have a tradition that has developed in the past four decades. The present study draws mostly from the work of John Nolan (Nolan 2010), who presented one of the most recent reviews of the general typology of sealings related to Ancient Egypt in the age of the pyramids. Nolan's summary of typology critically reflects previous attempts on the typology of sealings published since the seminal work of Peter Kaplony (Kaplony 1977). The in-depth discussion of current methodological

questions will be attempted by the present author in a different paper. The typological assessment of individual corpus cannot rely only on the pre-made general typology of Old Kingdom sealings⁸, and fine-tuning based on reflection of the local evidence is necessary. The outcomes of the typology could still be deemed as difficult when taken at face value. When we speak of types of sealings in regard to their reverse, in the present summary, we will recognize bag sealings, jar sealings (of several kinds), document sealings, sealings from boxes and sealings attesting the closing mechanism of “peg-and-string” which could have been used on doors as well as on some kinds of containers.

Unlike John Nolan in his typology, the author does not use aggregate type “possible containers” in case of uncertain or ambiguous fragments, but tries to attribute the type to the sealings with modal markers (e.g. possible peg-and-string sealing, possible bag sealing etc.) or in eight cases with a dual assessment (e.g. indirect jar sealing/bag sealing). The inconclusive cases are left undetermined just as in Nolan’s typology.

Beside the typology of sealings based on their shape and functionality, parallel typology pertains to the designs impressed by seals on the sealings’ obverses, or to other kinds of making notes on the clay sealings (by means of writing short notes onto the clay with a stylus).

The main type of seals used by the high officials of the royal administration in the Old Kingdom is called *official seals* (*Amtssiegel*) following the publication of Kaplony’s typology (Kaplony 1977). These seals follow a highly formal design displaying not exclusively, but primarily the repeated depiction of the Horus name of the contemporary ruling king in a *serekh* and other royal names and epithets as well as titles of the seal bearer. The pattern of the seal is organized mostly in vertical columns, yet one or two lines of text might run horizontally below. The presence of the Horus name of the (presumably) ruling king makes the impressions of this kind of seals a crucial dating tool for archaeologists. As studies of sealings from ancient Egyptian settlements such as Elephantina (Pätznick 2005) or Heit el-Ghurab (Lehner – Hawas 2017: 56; Witsell 2014) showed, the dominating presence of this type of seals is not self-evident. Yet it is not so surprising, that particularly in the pyramid temple of the deceased king, that is in one of the top centres of the Egyptian ideology of kingship, sealings of this type would amount up to 95 percent of the corpus. Besides the official seals, ca. six sealings with an informal design were observed in our corpus. The degree of “deviation” from the pattern of official seal varies. Eleven sealings with incised markings were found; ten possibly bore hieratic signs, one seems to be purely ornamental and is counted amongst the informal as well. One of the sealings remarkably combines the imprint of an official seal with the fragment of an incised inscription.⁹

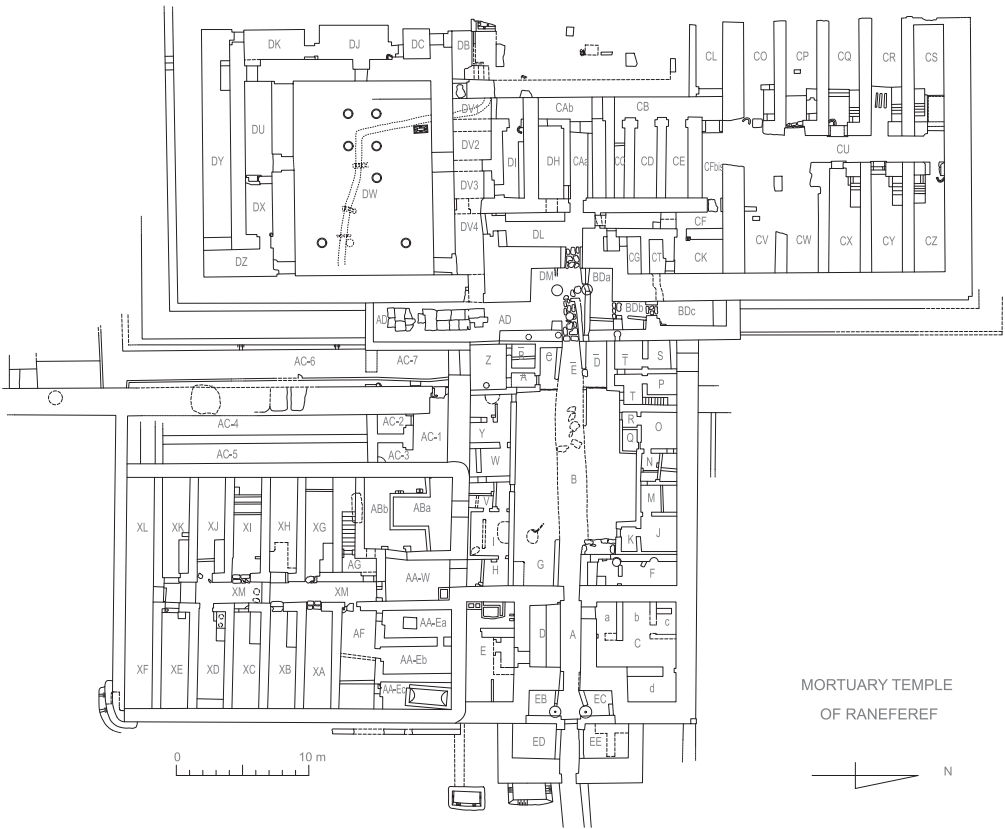
How the collection under study represents the sealing activity in the entire pyramid complex

The sealings in the Prague collection cover all parts of the temple¹⁰: entrance of both the early and the expanded temple, northern and southern storage rooms, central part of

⁸ Despite progress made in the understanding of sealing types that was achieved in past decades, one might keep in mind that the general typology emerges out of the study of a limited number of sizeable corpora which mostly reflect somewhat different periods and functional contexts. As such, the general typology of Old Kingdom sealings should be taken as a “work in progress”.

⁹ Such a hybrid use of sealings is rare, but not without the analogy. Cf. Kromer 1978: 98, Abb. 32.

¹⁰ See [Pl. 1] for the overall plan of the temple and designation of its rooms.



Pl. 1 Archaeological plan of the Raneferef's mortuary temple with marking of rooms (Verner *et al.* 2006: 29, Fig. 1.2.1).

the early temple, the “priests’ city” (built within the open columned courtyard), the AC area,¹¹ and the (former)¹² House of the Knife.¹³ For most areas of the temple, the Prague collection includes between thirty to sixty percent of the sealings found there. The significant exception is the area of the southern storage rooms and the hypostyle hall of the Early Temple, which is greatly underrepresented in the Prague corpus (only about five percent of the sealings from the area are in the Náprstek Museum).¹⁴

¹¹ AC area designates the complex mix of several former store rooms and a refuse deposit accumulated over them along the later side exit from the temple to the south.

¹² The designation “House of the Knife” refers to the name of the structure, not to its lasting purpose. When the area of former slaughterhouse was encompassed into the expanding temple complex, already during the reign of Nyuserre, its functionality altered.

¹³ The paper divides parts of the complex according to the structure of presentation of its parts in the excavation monograph (Verner *et al.* 2006).

¹⁴ Objects from the southern area of the Early Temple, that were studied so far in the Egyptian museum in Cairo, show significant presence of peg-and-string sealings of the same kind that were present in the corresponding portion of the Prague corpus.

Area	Number of sealings	Degree of representation
Early Temple – Entrance Area	5	31%
Early Temple – Central Sector	36	32%
Early Temple – Southern Sector	12	5%
Early Temple – Northern Sector	116	44%
Expanded Temple – Open Columned Courtyard + North and South Row of Houses	7	ca. 50%
Expanded Temple – Entrance	23	62%
Surroundings of the temple (incl. former rooms AC)	30 (all specifically from the AC area)	25% (resp. 37% for the AC area)
House of the Knife	85	42%

Not only does the number of finds vary on a room-to-room basis, but the degree of representation varies on a room-to-room basis as well. The figures presented in the table are average, yet finds from some rooms may even be exclusive to either the Egyptian Museum in Cairo or to the Náprstek Museum. When the content of the room is divided between both collections, the sets which were ascribed a particular excavation number (i.e. which were found in singular excavation context) are always kept together in one collection.

There are rooms in the temple where either none or individual *cretulae* were registered, while on the other hand very large sets were found in a couple of rooms. As we are further focusing on the corpus kept in the Náprstek Museum, the individual places with sets of more than 20 *cretulae* include storage rooms CR and CS from the Northern Section of the Early Temple (55 and 29 *cretulae*), storage rooms XJ and area XG/AI¹⁵ from the former House of the Knife (44 and 38 *cretulae*), and the AC area with 30 *cretulae* in the corpus in the Náprstek Museum.

Most *cretulae* were found on the floor levels, resp. in the closest layers above the floor level (at least 59 percent of the sealings from the Prague collection); this makes their find contexts *potentially* (N.B.) identical or close to areas of their function, i.e. places where they were broken or, with some of them, applied on doors and containers.¹⁶ In addition, some *cretulae* (16 percent) were found even under the floor levels¹⁷ or in the layers between the different floors established along with additional modifications of the temple.¹⁸ There are also sets that were collected from refuses and layers of drifted sands, and where the relation of sealings to the area of their function cannot be

¹⁵ The room XG was called AI in the earlier stage of the excavation and the original name of the find place might still emerge in the documentation of particular objects.

¹⁶ Sealings applied on doors (or stationary containers) can serve as evidence for actual presence of the seal holder in the complex.

¹⁷ E.g. set of 19 *cretulae* from the CS storage room in the artificial hole (P6831a-f, P6832g-m, P6833n-s).

¹⁸ Set of 19 *cretulae* from the layer in between two floors in the room CAa (P7199a-l, P7200a1-i).

established (or only obliquely, if the prevailing relation of particular refuses to a particular area of the temple could be established). There are also rooms in which the reported find context has to be evaluated with respect to evidence of the disintegration of the originally two-store units (the storage rooms in the Northern Sector¹⁹ and in one of the priest houses in the former Open Columned Courtyard²⁰ particularly²¹).

Distribution of types of sealings

Altogether, 314 cretulae and their fragments were studied at the Náprstek Museum. For 148 pieces (47 percent), some typological classification was proposed. For 8 fragments, variant classification was recorded, either between two types or within variants of one type.

The overall typological distribution of determined fragments is as follows:

broad type	N ^o	% out of determined ²²	% out of all ²³	specific type	N ^o	% out of broad type
peg-and-string	95	64	30	two-pegs-and-string	3	3
				peg-and-string	30	32
				possible peg-and-string	37	39
				implied peg-and-string	20	21
				possible peg-and-string or two-pegs-and-string	1	1
				possible two-pegs-and-string	2	2
				two-pegs-and string, or peg-and-string	1	1
				possible peg-and-string or box sealing	1	1
Bag	23	16	7	bag	6	25
				possible bag	12	50
				possible bag, or indirect jar sealing	4	17
				possible bag, or stopper	1	4

¹⁹ Cf. Verner *et al.* 2006: 59 ff.

²⁰ Papyri from the pyramid complex of Raneferef (doc. 4 A and doc. 45-46 Ac) mention a door under the stairs to the rooftop in the room of the *hm-ntr* priest and the routine check of the seal of this room. Cf. Posener-Kriéger – Verner – Vymazalová 2006: 339 f. For the archaeological evidence of the stairs in the room P in the Northern Row of Houses, cf. Verner *et al.* 2006: 73 f.

²¹ There is evidence of stairs also in the House of the Knife, but it seems that they were already dismantled at the time of the incorporation of the House into the Expanded Temple. Cf. Verner *et al.* 2006: 93 ff.

document	1	less than 1	less than 1	document sealing	1	100
box ²⁴	7	5	2	“box sealing”	6	86
				possible peg-and-string, or box sealing	1	14
jar sealings	28	19	9	direct jar	5	18
				indirect jar	6	21
				stopper	7	25
				topper	2	7
				possible bag or stopper	1	4
				possible indirect jar	3	11

Bag sealings

The class of *bag sealings* contains sealings which were applied to sacks (big or small). They were pressed onto the strings which tied the neck of the sack. The requisite for identification of such a type is the imprint of textile²⁵ on the reverse of the sealing; further typical features are traces of binding twine(s) on the surface and traces of folding and bunching or patently uneven surface on the reverse.

Likely bag sealings (23 fragments) are centred around the storage rooms of the Northern Sector (9) and the Central Sector (9) of the Early Temple. The concentration of potential bag sealings in the room CAa (5) is related to the presence of sealings marked repeatedly by the “Seal of the sealer of finest offerings”, respectively marked with the title-element *pr-ḥd n ḥnw* (the treasury of the residence) and *jm.j-ḥ.t pr-ḥd* (under-supervisor of the treasury). The former element is attested on possible bag sealings only, however, in total there are a mere two fragments. In CAa room in the Central Sector of the temple, they represent 3–5 fragments out of 9 typologically identified (or of 19 total sealing found in that room), in the storage room CR up to 5 fragments out 21 are typologically identified (or 54 total).

Jar sealings

In the studied corpus of jar sealings, preserved traces show, that often the mouth of a jar was covered by a piece of textile which was secured in place by binding (twines, though the thin strips of cloth are attested as well) tied around the jar’s neck. Sealings were then attached either only between the rim and the shoulder of the vessel, where they secured the binding on the cloth (indirect jar sealings in a strict sense), or above the whole mouth of the jar and presumably also around the neck and shoulders (stoppers) or possibly only in the mouth of the jar (toppers). Moreover, the clay could also be applied

²² The 100% amounts to 148 determined fragments. The values were rounded to whole numbers.

²³ The 100% amounts to 314 studied fragments. The values were rounded to whole numbers.

²⁴ This does not represent the whole category of boxes, but only the particular sub-type of sealings that reveal a flat reverse with an imprint of a smooth wooden surface. The other likely boxes are undistinguished in the peg-and-sealing type so far (see below).

²⁵ Possibly also of leather, though none imprint of leather was identified so far.

directly on the ceramics (in analogy direct jar sealings in the strict sense, stoppers and toppers). In case of stoppers and toppers applied on the jar without the textile cover, the clay could enter the mouth of the jar or be suspended by a flat potsherd, worked out to a roughly hexagonal or trapezoid shape. Parts of stoppers that were overreaching the mouth of the jar, perhaps up to its neck and shoulders, used to break off.

In the initial classification of jar sealings from the corpus under study, *direct-* and *indirect jar sealings*, *toppers* and *stoppers* were distinguished. Originally, the attempt was made to follow Nolan's synthesis of previous accounts of the typology of jar sealings (Nolan 2010: 101–109), but eventually a less strict approach was chosen for the current level of study of our corpus: the direct and indirect jar sealings in present works represent any fragments of jar sealings that showed an imprint of jar shoulders/necks. Some of them would be eventually revised as parts of larger stoppers that used to break off during the opening when the typology would be elaborated enough to draw a clear line. The sealing fragments that were applied above the top of the jars are determined as stoppers, or, in marked instances, where the perimeter of the sealing clearly shows that it did not outreach the mouth of the jar, they are determined as toppers.²⁶

All five sealings that were confidently determined as a *direct jar* type (in a broad sense) were found in three rooms of the Central Sector of the Early Temple: in the rooms DH, CE and CF. The six sealings that were confidently of an indirect jar type (in our broad sense), were found in storage rooms of the Northern Sector of the Early Temple (CV, CR, CS), in the Central Sector of the Early Temple (CAa) and in the storage room of the former House of the Knife (XJ). None were found in significant concentrations. If we also took into consideration the uncertain candidates for the indirect jar type, the picture differs only slightly. Another one or two fragments were found in respective rooms plus one uncertain indirect jar (or bag) sealing also appeared in the Entrance of the Expanded Temple (A).

Peg-and-string sealings

This type relates to the mechanism of securing a door or a container by sealing the twine coiled around a (wooden) peg. Such kinds of closing could be used on wooden boxes, doors and perhaps other containers. Recently, peg-and-string sealings were connected with the closing mechanism of grain bins in area AA in the pyramid settlement in Giza (cf. Witsell 2014: 34).

A *cretula* of this type often features a generally round shape (actually many fragments were obvious parts of conical *cretulae*, with preserved parts of the base rim and the base surface). For classification as a peg-and-string type, marks of the axial object (peg) should also be preserved together with imprints of one or more coils of twine, passing perpendicularly across the peg. If all these features were present, the sealing was determined as a *peg-and-string* sealing. Two types were introduced for less certain instances. If a majority of features described above were present, but there were some doubts, the sealing would be determined as a *possible peg-and-string* sealing. If a sealing missed an imprint of a peg, but its shape hinted relation to an axial object and traces of twines were positioned as likely coiling around such axis, the sealing was classified as *implied peg-and-string* sealings.

²⁶ Three sealings, which could be toppers as well, but the result is inconclusive due to erosion or fragmentary preservation is currently kept with the stopper class.

Several cretulae in our corpus suggested that the cretula might have been attached on a pair of loosely intersecting pegs, bound together by twines. Further studies both in Náprstek Museum and in the Egyptian Museum in Cairo confirmed the existence of such types of sealings. Relevant sealings were determined as *two-pegs-and-string sealings* or as *possible two-pegs-and-string sealings*, resp. *two-pegs-and-string-or-peg-and-string sealings*, depending on the conclusiveness of both imprints.

The peg and string type sealings found were definitely the most frequently represented (or *identified*) type. With certainty, it would be divided into more subtypes, as several kinds of imprints of pegs were observed.

Most significant concentrations of potential peg-and-string sealings were found in storage rooms of the Northern Sector (29) and storage rooms of the former House of the Knife (45). At least in some quantity (1–6) they were attested in all other areas of the temple except the Entrance Area of the Early Temple. All the (few) sealings from the Southern Sector of the Early Temple, to which a type was ascribed were confidently classified as peg-and-string type (5 fragments out of 11 finds).

Boxes

It was not a primary intention to outline the box sealing type as a separate category on this level of analysis, due to the assumption that boxes were largely closed by peg and string mechanism (like the door), and we should seek them as a sub-type of peg-and-string sealings after further refinement of the typology.²⁷

In the corpus under study, several sealings showed flat even surface with obvious marks of wooden year-rings and passes of twines. That alone qualifies them for a *box sealing* type in current typologies, regardless of any traces of the peg-and-string mechanism. Sealings that are determined as box sealings so far represent only a part of all sealings that used to secure chests and boxes and would be eventually complemented by parts of peg-and-string sealings.

Six fragments with flat wooden surface were found in the entrance area of the Expanded Temple, in corridor A (1) and in the refuse layer in the room E (5). One further fragment which shows both a wooden flat surface and peg-and-string features was found in storage room CO in the Northern Sector of the Early Temple.

Documents

This type contains sealings with an observable texture of a papyrus on the reverse side of the cretula (i.e. checker consisting of squares with imprints of fibres with alternating orientation). The cretulae may show traces of gentle binding (usually organic fibres, not the twines common on other kinds of sealings). The end of the folded papyrus might have “cut” into the clay.


Only one sealing from the room Z in the southern row of houses in the “City of Priests” was identified with certainty as a *document* sealing. In fact, the marks of papyrus on the reverse are very subtle and could not be identified with confidence if the fragment is not preserved well. In the future, the author deems to be necessary to articulate auxiliary clues that might help to identify this type of sealing.


When thinking about the evidence of the written administration, one should consider that archival documents kept in the funerary temple did not have to be stored individually sealed, but could have been placed in sealed containers (e.g. sealed boxes).


²⁷ It is possible, that some boxes could have been secured also without the use of a peg.


Distribution of titles and their elements


Some titles could be elaborated and could consist of a longer string of signs, but they are rarely preserved on fragmented sealings in a complete state. In an attempt to present raw data before much interpretation and conjectures, the following part of the report refers primarily to (selected) distinctive title-elements. When the presence is quantified, the reference pertains to fragments where the respective elements are present explicitly.²⁸


The title-element that was attested most frequently was the sequence of *hm-ntr* priest . Its prominence is hinted also by Abusir papyri.²⁹ It was recorded at least on 36 fragments explicitly. Sealings with the *hm-ntr* element were most prominently found in storage rooms, namely in a storage room of the House of the Knife (16) and of the Northern Sector (13). This title-element was also present on at least two out of five reconstructed theoretical seals (Seal of sealing No. 245 and Seal of sealing No. 26 [after Verner 2006]). More specifically, the element was very often part of a longer string. Partially preserved continuations of imprints very often suggest the title of *hm-ntr Ntr:j-b3w-Rc-nfr=f* (*hm-ntr* priest of the pyramid complex of Raneferef) and repeatedly also *hm-ntr Rc Hwt-hr m St-jb-Rc* (*hm-ntr* priest of Re and Hathor in the sun temple of Neferirkare).

The title or title-element *hr:j-sšb3*  “one who is privy to the secret” or “secretary” is the second most frequent in the studied corpus. It was recorded on 24 sealings, 11 of them came from the storage rooms of the former House of the Knife. It is present on three out of five theoretical seals (Seal of sealing No. 154 and Seal of sealing No. 245, possibly also on the Seal of sealing No. 26).

The element of the titles related to wab priests (*w^cb*)³⁰  was recorded on 16 fragments (6 from the House of the Knife and 5 from the Northern Sector). The potential presence of the element on the theoretical Seal of sealing No. 245 is under consideration. It seems to be present also on the Seal of “chancy bull”.

The core element of the title “scribe”, *zh3* or *zš* , resp. of derived titles was recorded on 13 fragments (7 from the Northern Sector, 5 from the House of the Knife and remaining one from the Entrance of the Early Temple). In individual instances, the reading could be extended to *zh3 nswt*, *šhd zh3 n hwt-wr:t*, and perhaps *zh3 pr-hd* and *zh3 n htm.tj-ntr*.

A judge, resp. element of judiciary titles *z3b*  was recorded on 9 fragments (3 from the House of the Knife and 3 from the Northern Sector). On two instances from the room CAa in the Central Sector the sequence *z3b c_d-mr* could be read.


One core element of the title of the holder of the seal and of derived titles *htm(w)*  was recorded explicitly on 8 fragments. This element is attested somewhat more frequently (3) in the “City of the Priests” in the original Open Columned Courtyard of the Expanded Temple. It is attested on two so far identified theoretical seals: “Seal of the Sealer of finest offerings” and Seal of sealing No. 26. If we take into consideration also its implicit presence of the latter reconstructed seals, it would become prominent in

²⁸ After the reconstruction of theoretical seals, one could take all titles attested on the seal to be implicitly represented on sealings ascribed to that seal.


²⁹ For this and several other titles, cf. Vymazalová 2015: 127–166; Posener-Kriéger 1976: 384–405, 565–609; Posener-Kriéger – Verner – Vymazalová 2006: 370–374.

³⁰ Or perhaps to the institution of *wabet*, despite the element not being attested together with proper classifier.


places of their presence (rooms CAa (6) of the Central Sector and CR (4) of the Northern Sector). The element *h̄tm(w)* has been attested as a part of the title *h̄tm(w) ḥ3t ḥtp.wt* “sealer of the finest/foremost/best offerings” (Jones 2000: 772, No. 2805) that is implicitly present on several replicates of the eponymous theoretical seal, within titles *h̄tm.w ḏḃ.w*, *jr.j-h̄tmt* and perhaps *h̄tm.tj-ntr* and *zh3 n h̄tm.tj-ntr*³¹.




Element *sh̄d*  “the inspector of [...]” was recorded on four fragments, mostly from the Northern Sector (3). Once it is part of the title *sh̄d zh3 (n) ḥw.t-wr.t*, once the sealing possibly refers to an inspector of wab priests of a different pyramid complex.


Element *z3*  referring possibly to the administration of phyles was recorded on two fragments.

Another title well known from Abusir papyri,³² the *h̄nt.j-š*  was attested as well. Due to the typically fragmentary state of preservation of sealings, it is difficult to distinguish, in some cases, the presence of the title *h̄nt.j-š* “tenant” or “attendant” from the element of theonyms and divine epithets. Two or three occurrences do refer to *h̄nt.j-š*, four more are ambiguous due to incomplete preservation. Instances when the *h̄nt* sign clearly occurs in the sequence [XY] *h̄nt.j*-[NN], “[XY,] one who is foremost of the [NN]” common in divine epithets (or names) were omitted in this enumeration.

Sometimes the titles of individual officials specify institution where the official held his office. Thus the names of relevant institutions could be found on the sealing fragments as well.³³ Besides the often fragmentary references to pyramid complexes (and particularly to the pyramid complex of King Raneferef *Ntr.j-b3w-Rc-nfr=f*), that are not surprising in the given context of this pyramid complex, several other institutions occur on the sealings:

Reference to the Great House (or its officials) *pr-c3*  was recorded on 20 fragments. It was prominently attested from the storage houses in the Northern Sector (14) and the House of the Knife (4). The *pr-c3* is mentioned also in the title *jr.j-mrḥt pr-c3* “keeper of oils/ointments of the Great House” (Jones 2000: 317, No. 1164) that was identified on the Seal of “chancy bull”.

Sun temple of Neferirkare *St-jb-Rc*    (cf. Verner 2014: 209 and Posener-Kriéger – Verner – Vymazalová 2006: 351 f.) was named on 14 fragments, half of them comes from the former House of the Knife. The name is included on replicates of the Seal of sealing No. 245 (cf. *ḥm-ntr* above).

The Treasury *pr-ḥd*  was recorded on 9 sealings; all but one comes from the Central Sector of the Early Temple. (Cf. above about the striking prominence of potential bag sealings impressed by seals bearing this element.) Besides the sequence *jm.j-ḥ.t pr-ḥd* “under-supervisor of the treasury” (Jones 2000: 286, No. 1037) that is present on the reconstructed “Seal of the Sealer of finest offerings”, two more fragments might refer to the treasury of the residence *pr-ḥd n ḥnw*.

The latter two sealings are the only ones where *ḥnw*  “the royal residence” was attested so far.

³¹ In the last case, the element merely determines the post of a scribe.

³² The *ḥm-ntr* priests, *wcb* priests and *h̄nt.j-š* should be essential titles of attendants of the royal funerary cult, according to the evidence of Abusir papyri. Cf. Vymazalová 2015: 127–166, Posener-Kriéger – Verner – Vymazalová 2006: 371 and Posener-Kriéger 1976: 565–582.

³³ Cf. Verner 2014: 99 ff., Posener-Kriéger – Verner – Vymazalová 2006: 336 ff. and Posener-Kriéger 1976: 519 ff., 611 ff. (...) for the description of involvement of various institutions in the operation of the royal mortuary cult according to Abusir papyri.

Theoretical seals

Above we considered the spatial distribution of sealings as referring to particular administrative titles, while the analysis was based on the explicit evidence of the respective titles on the fragments. We could also try to find details regarding the activity and authority of individual officials (seal holders) who were connected with the operation of the pyramid complex of King Raneferef, either *in situ* or by sealing containers that were regularly sent over there. This may be attempted by a search for recurrent seal designs attested on fragments of cretulae under study. Then we could study the properties of the seal holders and their areas of activity (or areas where the fragments of their sealings were found), as well as relate titles that were attested on their sealings, and kinds of objects sealed by their seals.

The reconstruction of theoretical seals was based upon the assumption that common features of fragments that were joined together are reasonably exceptional (within the given corpus) to conclude that the features are likely to have been produced by a single seal (while some markers could be truly unique, in reality, a sufficient degree of exceptionality is usually based on the concurrence of several followed markers). In literature, sealings which were created by the same seal are termed “replicates” (Nolan 2010: 21) and their identification is an important step in processing large sealing corpora. Miroslav Verner already suggested in nineteen instances that sealings published in the excavation monograph (Verner et al. 2006: 209–270) could have one or more replicates.

Details of the methodology of reconstruction as well as its application on the corpus under study would again be part of the separate presentation. So far five theoretical sealings were identified.

Name	Replicates	Rooms	Reign	Types	Titles and title-elements
Seal of sealing No. 154 ³⁴ [Pl. 2]	14	XG/AI	Djedkare	peg-and-string (2), two-pegs-and-string (2), possible peg-and-string (2), implied peg-and-string (2)	<i>hr:j-sš3,</i> <i>jr:j-md3.t nswt [...]</i> , ³⁵ <i>[...] n:j hrt-^c</i> ³⁶
Seal of “chancy bull” [Pl. 3]	7	CR	Djedkare	peg-and-string (1), possible peg-and-string (1)	<i>jr:j-mrht pr-^c3,</i> <i>w^cb Ntr:j-js.wt-Mn-k3.w-Hr (?)</i>
Seal of sealing No. 245 ³⁷ [Pl. 4]	2–5+	XJ	Nyuserre	possible peg-and-string (1), implied peg-and-string (1)	<i>hm-ntr R^c Hw.t-hr m</i> <i>St-jb-R^c,</i> <i>hr:j-sš3,</i> <i>hm-ntr Ntr-j-b3.w-</i> <i>R^c-nfr=f,</i> <i>w^cb(?)</i>
Seal of the Sealer of finest offerings [Pl. 5]	6–8	CAa	Khafre(!)	possible bag (2), possible bag, or indirect jar sealing (2)	<i>jm.j-h.t pr-^c h^d,</i> <i>htmw h3t htp.wt</i>

Seal of sealing No. 26 ³⁸ [Pl. 6]	4–5	CR	Djedkare	peg-and-string, or two-pegs-and-string (1), implied peg-and-string (1), possible bag (1)	<i>ḥtm.tj-ṛ nṛ</i> ⁷ (<i>sd3wty ṛ nṛ</i> ⁷), ³⁹ <i>ḥm-nṛ</i> ; <i>ḥr.j s[šṭ] (?)</i>
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Interestingly, several sealings impressed by the seal issued already during the reign of King Khafre, whose reign predated the existence of Raneferef's pyramid temple for about a hundred years, were found in the latter king's pyramid temple. Yet the existence of the sealings attests, strictly speaking, only to the unsealing (breaking) and disposal of the respective seals. One might think that a container with an "antique" content was unsealed in the temple, though further clues regarding the seals of *ḥtmw ḥ3t ḥtp.wt* from Abusir with the Horus name of Khafre together with the find context obscure the matter and asks for a complex explanation.

With exception to the "Seal of the Sealer of finest offerings", four other theoretical seals were attested on peg-and-string sealings to some extent. As was stated above, the type of peg-and-string sealings is vague in terms of objects that were sealed by them. The author of the presented study considers the local activity of those who used the latter four seals as likely due to size and mass of fragments of some of the peg-and-string sealings they impressed. Even though that they cannot be associated with doors with certainty so far, the size of sealings hints that they impressed more robust containers or bins that were possibly stationary, resp. that were less likely a subject of transport.

Much more surprising – and informative in regard to the evidence of the temple administration – is the fact, that all the theoretical seals were extremely localised. Each was attested not only as dominant in a certain area of the temple, but actually as found exclusively in a single room. This might be a hint of a surprising level of spatial specialization of the temple's rooms – or of the authority of the sealers; it depends on whether the respective seals were used for sealing in a particular place, or if they merely attest exclusive "address" to which containers closed by a particular official were shipped (as might be the case of the seal issued in the reign of Khafre). Regarding the specialization of particular rooms in the temple, one might take the names of rooms used in papyri as a complementary evidence (cf. Posener-Kriéger – Verner – Vymazalová 2006: 336–350, particularly 262–264, doc. 45–46 Ac).

The fact that replicate seals were recognized in the rooms like AI, CR, CAa could also be due to the large sets of cretulae found precisely in these rooms. Still, such a strict regionality of replicates is beyond mere coincidence. In case of the Seal of sealing No. 245 the result seems to be strengthened by the possible evidence of multiple seal-designs with the same title (priest of the Re and Hathor in the Sun temple of Neferirkare)

³⁴ Cf. Verner *et al.* 2006: 242–243, Nos. 150, 151, 153, 154.

³⁵ "Keeper of royal documents", cf. "Keeper of royal documents of the Great House" (Jones 2000: 318, No. 1169?)

³⁶ "One of the writing case", cf. Nolan 2010: 162; could be part of a scribal title, cf. Jones 2000: 867, No. 3174.

³⁷ Cf. Verner *et al.* 2006: 266, No. 245, possibly also p. 266: No. 243.

³⁸ Cf. Verner *et al.* 2006: 216, Nos. 26–28.

³⁹ "God's sealer", or "treasurer of the god" (Jones 2000: 767, No. 2791).

attested in the same room, though a study of excavation documentation of the Cairo corpus suggests that this priestly title might be attested on three more theoretical seals which were used in different rooms of the temple.

Summary

The study of sealings from the presented work has served also as a test of methodology before the treatment of a broader set consisting of, at the least, the complete corpus of clay sealings from the pyramid complexes of King Raneferef and possibly also of Queen Khentkaus II as a part of the author's dissertation. In addition, the study brought both original results and feedback, where the potential of the material under study is held down by the present methodology.

Five seals with recurring sealings were recognized and their functional properties were documented. The most striking property of those seals is that their replicates have been found so far in each one's respective room; this was either a room where the respective official had worked, or where containers sealed by his seals were exclusively directed. This may hint at the functional property of the respective room.

The correlations of sealing types are still less informative. A potential correlation might arise with regard to sealed bags. So far, sealings that bore the imprint of official(s) related to the treasury and particularly the treasury of the residence seems to have been used to close bag sealings, but the number of their sealings is small. The strong presence of peg-and-string sealings is no surprise, as some of them were used regularly for the securing of doors. The presence of sealings attached to a bound pair of intersecting pegs extends current typology already. The full potential of evidence in sealing reverses (types) has yet to be achieved after further elaboration of the typology of sealings. This would be achieved with the help of extension of the corpus under study to sealings from the Raneferef's pyramid complex that are in the collections of the Egyptian Museum in Cairo. Study of reverses of sealings from the Náprstek Museum collection was not focused on their immediate typological assessment only. Already in this phase, 49 sealings were marked as typologically important pieces, that are sealings, which are either complete (14), or patently illustrating particular types (5), or offering clues that could advance understanding of the typological assessment when additional evidence or better parallels are found. After the sealings from the pyramid complex are fully structured, based on features that can be observed directly on them, the parallels could be drawn also on the basis of iconographic and textual evidence (following Pätznick 2005) or inventories and other documents from the temple archive itself.

Titles that are deemed important for the participation in the royal funerary cult (*ḥm-ntr* priests, *wꜥb* priests and *ḥnt.j-š*) according to the papyri, were among those attested on the sealings. Other titles might refer either to officials who secured objects that were transported from other institutions and unsealed in the temple or to other titles of those who were involved in the temple activity in a monthly rotation of phylai.⁴⁰

In the full treatment of the topic, the sealings would be closely related to the archaeology of the monument, and to concrete evidence offered by the Abusir papyri.

⁴⁰ Many titles attested in sealings do have parallels in Abusir archives, but number of individuals involved in the service of the pyramid complexes might be high due to monthly rotation. The comparison of particular evidence would be treated in a separate paper focusing on actors in the reflection of the sealing corpus.

The typological considerations were given greater focus, so far, to avoid or limit forced interpretation of sealing material. If the sealings are meant to enter the dialogue of various types of evidence, they need to develop and preserve its own testimony.

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Pl. 2 Imprint of the Seal of sealing No. 154 (Inv. No. P7190d).



Pl. 3 Imprint of the Seal of "chancy bull" (Inv. No. P6817q).



Pl. 4 Imprint of the Seal of sealing No. 245 (Inv. No. P7197g).



Pl. 5 Imprint of the Seal of the Sealer of finest offerings (Inv. No. P7199b).



Pl. 6 Imprint of the Seal of sealing No. 26 (Inv. No. P6818s).