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# The School Ostraca from the Upper Egyptian Athribis (*Hwt-Rpy.t*): Preliminary Results

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## Abstract

While most of the, by now, over 27,000 mainly demotic ostraca from Hut-Repit/Athribis in Upper Egypt that were discovered by the archaeological mission of the University of Tübingen are connected to the temple administration, a significant number can be identified as pupils' exercises. This article, which is the updated and expanded version of a paper presented at the 14th International Conference for Demotic Studies held at Heidelberg in September 2022, presents the different types of demotic school texts attested on sherds from Athribis and the edition of a number of these ostraca.

The site of Hut-Repit, also known somewhat misleadingly as Athribis,<sup>1</sup> has yielded more than 27,000 inscribed sherds since the beginning of the yearly archaeological mission of the University of Tübingen in 2003,<sup>2</sup> although only about 500 had come to light prior to 2018.<sup>3</sup> The vast majority have been found since spring 2018 in a vast dump created by *sebakhin* in the late 19<sup>th</sup>/early 20<sup>th</sup> century, to the west of the temple constructed under Ptolemy XII,<sup>4</sup> and somewhat overlapping another, older temple that is being excavated since December 2022 (fig. 1). Almost 75% of these sherds are inscribed in demotic, another 15–17% in Greek, the rest in hieratic (ca. 1%), hieroglyphs (less than 0.5%), and to a much lesser degree in Coptic and Arabic, but there is also a significant number with drawings (ca. 4%).<sup>5</sup> These sherds are being studied by an interdisciplinary research group which I am coordinating.<sup>6</sup> All in all, the material covers over a

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<sup>1</sup> This supposed Greek name, which obviously leads to confusion with the true Athribis (*Hwt-hry-ib*) in the Delta, had already been used by R. LEPSIUS, *Denkmaeler aus Aegypten und Aethiopien. Text. Bd. 2 Mittelaegypten mit dem Fayum* (Leipzig 1904), 159–161, and was popularized by the excavation report of W. FL. PETRIE, *Athribis* (BSAE 14; London 1908); it has now also been adopted for the series in which the results of the ongoing excavations are published at the IFAO (ed. by C. Leitz). The actual Greek name of the site was Τριφείον, and in Coptic it was called ⲁⲧⲣⲏⲏⲉ / ⲁⲧⲣⲏⲏⲉ.

<sup>2</sup> State of affairs at the end of the 2022/23 campaign, end of March 2023.

<sup>3</sup> See for the earlier finds the preliminary reports S. LIPPERT, Ostraca, Graffiti and Dipinti from Athribis in Upper Egypt: A Preview, in: M. DEPAUW – Y. BROUX (eds), *Acts of the 10th International Conference for Demotic Studies, Leuven, 26–30 August 2008* (OLA 231; Leuven 2014), 145–153.

<sup>4</sup> For the archaeological and epigraphical results of the work of the Tübingen mission on this temple, see the first nine volumes of the series Athribis, directed by Christian Leitz and published by the IFAO (vol. VIII and IX in press), as well as C. LEITZ – D. MENDEL – M. EL-BIALY, *Die Außenwände und westlichen Seitenkapellen des Tempels von Athribis* (Cairo 2014); another volume on the excavation seasons 2016–2019 (Athribis XI) is in preparation.

<sup>5</sup> For an overview of the material from the *sebakhin* dump, see A. BOUD'HORS *et al.*, Les dépotoirs à tessons de Hout-Répit / Atripé et leur matériel inscrit. Rapport préliminaire (mission 2019/2020), *BIFAO* 121 (2021), 69–145 and S. LIPPERT, Écrire comme Kha-Chechonqy. Les ostraca d'Athribis (Hout-Répit en Haute Égypte), *BSFE* 208 (2023), 15–44. For the demotic material, see also S. LIPPERT, The Athribis Ostraca – Overview of the Corpus and Preliminary Results from the Demotic Material, with a special focus on the moschosphragists' certificates, in: M. MÜLLER – C. TEOTINO TATTKO (eds), *Athribis (Atripe) im Kontext. Die Stadt und der Tempel als religiöses und kulturelles Zentrum von ptolemäischer bis frühmittelalterlicher Zeit* (SSR; Wiesbaden in press) and for the hieratic, I. GUERMEUR, "Les ostraca hiératiques d'Atripé récemment mis au jour. Un aperçu du matériel des dernières campagnes", in MÜLLER – TEOTINO TATTKO (eds), *Athribis (Atripe) im Kontext* (in press).

<sup>6</sup> Besides myself, this group currently consist of Laura Aguer (Universität Heidelberg), Anne Boud'hors (CNRS, IRHT, Paris), Marion Claude (IFAO), Delphine Dixneuf (CNRS, LA3M, Aix-Marseille), Marina Escolano Poveda (University of Liverpool), Ivan Guermeur (EPHE-PSL, AOROC, Paris), Richard Jasnow (Johns Hopkins University Baltimore), Cécile Lantrain (PhD student, EPHE, AOROC, Paris), Christian Leitz (Eberhard Karls Universität Tübingen), Brian Muhs (Oriental Institute, Chicago), Carolina Teotino-Tattko

millennium, from the 2<sup>nd</sup> c. BCE to the 10<sup>th</sup> or even 12<sup>th</sup> c. CE, but the bulk can currently be dated to the late Ptolemaic period and the first two centuries of the Roman rule.

A significant number of the inscribed sherds are amphora labels, mainly in demotic (about 10% of the demotic material) and Greek (about half of the Greek material), but some also in hieratic and Arabic. The by far largest group among the true ostraca consists of texts from the administrative and economic sphere: among these, accounts are especially well represented, followed by lists of people and receipts, all three types being attested in demotic, Greek and Coptic. The next largest group, comprising several hundred ostraca, are from the temple school. While this group does not only include demotic, but also Greek, hieratic, hieroglyphic and possibly also drawings,<sup>7</sup> I will concentrate here on the demotic material and those sherds that can reasonably be connected with the teaching of demotic. Indeed, there are numerous ostraca that are covered in strange squiggles (e.g. ostrakon Athribis 20-36-64/1442, pl. ..., fig. 2), in some cases vaguely resembling demotic signs (e.g. ostraca Athribis 16-33-5/5, pl. ..., fig. 3), but without any visible order. These suggest that the very first step was to familiarise the pupils with the writing tools, that is, how to hold the pen, how to refill it with ink, and how to draw lines, curves and angles without smudging, splattering or breaking off the point. The next step might have been to practice “writing” in horizontal, parallel lines – but for this, the pupils still drew signs that do not actually yield a readable demotic or Greek text (e.g. ostrakon Athribis 17-36-5/2323, pl. ..., fig. 4).

The first real demotic signs which pupils seem to have been taught were numbers – various ostraca show these being written in columns or lines, often with some mistakes.<sup>8</sup>

**1) Ostrakon Athribis 17-36-5/5002: demotic numbers 1–10 (pl. ..., fig. 5 [photograph] and 6 [facsimile])**

Height: 7.3 cm, width: 4.9 cm, thickness: 1.2 cm; inscribed on the convex side.  
Ceramological description pending.

Col. 1	Col. 2	Col. 3
	x+1 '..'	
	x+2 1	x+1 '2'
	x+3 2	x+2 3
	x+4 3	x+3 4
	x+5 4	x+4 5
x+1 '2'	x+6 5	x+5 '6'
x+2 3	x+7 6	
x+3 4	x+8 7	
x+4 5	x+9 8	
x+5 '6'	x+10 9	
	x+11 10	

The sherd is a palimpsest, but it is difficult to see what was written on it before, as the text is

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(Eberhard Karls Universität Tübingen), Naïm Vanthieghem (CNRS, IRHT, Paris), Günter Vittmann (Julius-Maximilians-Universität Würzburg). The research group is assisted by the IT expert Agnes Trichoche (CNRS, AOROC, Paris) who administers our work database.

<sup>7</sup> An edition of this multi-scriptural material will constitute the first volume of the new series *Ostraca de Hout-Répit/Athribis*.

<sup>8</sup> E.g. ostrakon Athribis 17-36-3/610, already published in A. BOUDH'ORS *et al.*, *BIFAO* 121 (2021), 95–96 (no. 3.4).

almost entirely washed off.

#### Col. 1

The writing in this column, as well as column 3, is very large and somewhat awkward.

x+2 The vertical stroke of the number 3 is overly long.

x+3 Although there are regions where, in later demotic, the number 4 is in fact written like a large reversed tilde (cf. Roman period texts from Soknopaiou Nesos), this is not the usual shape used in the region of Akhmim where the left curve remains pointy instead (see also col. 2, l. 5).

x+4 The same strange writing of the number 5 also occurs in col. 3, l. x+4.

#### Col. 2

The writing is significantly smaller than in columns 1 and 3, and the sign shapes are canonical; this column might have been written by the teacher or an advanced student.

1 The traces of ink might have belonged to a title or to a preceding exercise.

#### Col. 3

The hand seems the same as in column 1; the sign shapes have not significantly improved.

Sherds with day dates in rows or columns are also preserved, but they are not always clearly distinguishable from fragments of accounts with running dates. The next step would probably have been to learn how to write the Egyptian months – they constitute in fact one of the most common exercises attested on ostraca from Hut-Repit, and examples of this exercise from other sites were already known.<sup>9</sup> While for us the exercise seems trivial – after all, one only has to learn how to write the ligatures for *zbd-1* to *zbd-4* and the groups for the three seasons, *zḥ.t*, *pr.t* and *šmw*, then combine them – we have to keep in mind that, despite these being the palaeographic origins of the groups used for writing the month names (which is why we transliterate, following the historical transliteration method,<sup>10</sup> *zbd-1-zḥ.t*, *zbd-2-zḥ.t*, *zbd-3-zḥ.t* etc.), they were read completely differently, probably at least since the late New Kingdom and certainly in the Ptolemaic period, hence the Greek rendering of the Egyptian months as Θωθ (*Dḥwty*), Παωφι (*Pa-ip.t*), Ἄθυρ (*Hw.t-Hr*) etc. For a demotic pupil, the second, more difficult part of the exercise would therefore have been to memorize the connection between the individual month name and its demotic writing, which contains no phonetic clues at all.

## 2) ostrakon Athribis 17-36-5/4313+5420:<sup>11</sup> the Egyptian months (pl. ... fig. 7)

Height: 12.7 cm; width: 6.5 cm; thickness: 0.5–0.7 cm; inscribed on the convex side.

Ceramological description pending.

#### Col. 1

x+1 *nfr* (?)

#### Col. 2

complete (?)


<sup>9</sup> Cf. ostrakon Bucheum 110, ll. 1–13 (R. L. MOND – O. H. MYERS, *The Bucheum* (EES Memoir 41; London 1934). vol. II, 67; vol. III, pl. 73 and 73A); ostrakon Bodl. Eg. Inscr. 300 (U. KAPLONY-HECKEL, Schüler und Schulwesen in der ägyptischen Spätzeit, *SAK* 1 (1974), 246; reprinted in U. KAPLONY-HECKEL, *Land und Leute am Nil nach den demotischen Inschriften, Papyri und Ostraka. Gesammelte Schriften* (ÄA 71; Wiesbaden 2009), 264); papyrus Berlin P. 23861, col. 1 (K.-Th. ZAUZICH, Die Namen der koptischen Zusatzbuchstaben und die erste ägyptische Alphabetübung, *Enchoria* 26 [2000], 151–157; pl. 13).

<sup>10</sup> J. F. QUACK, Bemerkungen zur Struktur der demotischen Schrift und zur Umschrift des Demotischen, in: M. DEPAUW – Y. BROUX (eds), *Acts of the Tenth International Congress of Demotic Studies. Leuven, 26–30 August 2008* (OLA 231; Leuven etc. 2014), 207–211.

<sup>11</sup> The two fragments have not yet been joined physically.

x+2	<i>n3 3bd.w wp-st</i>	The months, in detail:			
x+3	<i>3bd-1-3h.t</i>	Thot			
x+4	<i>3bd-2-3h.t</i>	Phaophi			
x+5	<i>3bd-3-3h.t</i>	Hathyr			
x+6	<i>3bd-4-3h.t</i>	Khoiak	x+1	<i>3bd-3-3h.t</i>	Hathyr
x+7	<i>3bd-1-pr.t</i>	Tybi	x+2	<i>3bd-4-3h.t</i>	Khoiak
x+8	<i>3bd-2-pr.t</i>	Mekheir	x+3	<i>3bd-1-pr.t</i>	Tybi
x+9	<i>3bd-3-pr.t</i>	Phamenoth	x+4	<i>3bd-2-pr.t</i>	Mekheir
x+10	<i>3bd-4-pr.t</i>	Pharmouthi		[...]	[...]
	[...]	[...]			

Col. 1

- x+1 The horizontal line underneath this sign suggests that this could be the end of a preceding exercise. The sign, which at first glance resembles a large g, might therefore be the lotus sign: K.-Th. Zauzich<sup>12</sup> had already suggested that the sign resembling @ at the end of the alphabetical sign list on pBerlin P. 23861, which coincidentally is preceded by a list of the months, could be such a lotus sign, and that this might be understood as an abbreviation of the conclusion formula *iw=s pw nfr* “it has come to an end”, “it is complete”, because the lotus sign can be used as an ideogram for *nfr*.<sup>13</sup>
- x+2 The same unusual plural mark – perhaps corresponding to  ? – can also be found in other examples of exercise titles, in Hut-Repit and elsewhere.<sup>14</sup>
- x+4 The shape of the sign paleographically derived from *3bd-2* (see also col. 1 l. x+8) shows the additional oblique stroke that can be present in early demotic writings of this group,<sup>15</sup> but later disappears.
- x+6 A horizontal line divides this line from the next,



Col. 2

This column seems to have been written by another person: the calamus is finer, the writing is larger, and the shapes for the groups *3bd-1*, *3bd-2* and *3bd-3* are somewhat different: the vertical stroke of *3bd-1* is curved to the left at the bottom, *3bd-2* lacks the oblique diacritic stroke and therefore has the normal late Ptolemaic-early Roman shape which looks like *ir*, and the left part of *3bd-3* is rounded instead of pointed.

That some pupils never advanced further than that is suggested by the existence of a specific category of accounts on which only the numbers and, if present, the dates are written in demotic,

<sup>12</sup> ZAUZICH, *Enchoria* 26 (2000), 157.

<sup>13</sup> Cf. C. LEITZ, *Quellentexte zur ägyptischen Religion I. Die Tempelinschriften der griechisch-römischen Zeit*

(EQÄ 2; Münster 2004), 166 (  M9,  M77). See also the ‘rolled-up’ form that is used in the playful

hieroglyphic writing  for *Wn-nfr* (M235).

<sup>14</sup> See for example the already mentioned oBucheum 110 where it is used both in line 1 in the title *n3 3bd.w wp-st* and in line 14 in the title of the following exercise, *n3 ipt.w wp-st* “the birds, in detail (incorrectly read and interpreted in MOND – MYERS, *The Bucheum* II, 67, and by KAPLONY-HECKEL, *SAK* 1, 235, but correct in F. HOFFMANN, *Ägypten. Kultur und Lebenswelt in griechisch-römischer Zeit. Eine Darstellung nach den demotischen Quellen* [Studienbücher Geschichte und Kultur der Alten Welt; Berlin 2000], 41).

<sup>15</sup> E.g. the form on the left in the sign list of P. W. PESTMAN, *Les papyrus démotiques de Tsenhor (P. Tsenhor). Les archives privées d’une femme égyptienne du temps de Darius I<sup>er</sup>* (StudDem 4; Leuven 1994), vol. II, 25\* (N12b), 57\* *ibd-2*.

often in a very awkward hand, while other entries, probably for persons, objects or products, are written with symbols. We currently have about forty of these: a little less than half of them come from the *sebakhin* dump (e.g. ostracon Athribis 19-36-61/3133, **pl. ..., fig 8**), while the rest were found by Mohamed Abul Yazid of the Egyptian Antiquities Service when his team cleaned the rubble from some tombs in the lower part of the necropolis for the tourist circuit, just above the dump; I am grateful to him for sharing their images with me. This use of symbols recalls the worker's accounts from Deir el-Medineh in the New Kingdom that have been studied extensively since Ben Haring alerted us to their importance.<sup>16</sup> It is likely that the comparable ostraca from Hut-Repit are also to be connected to the groups of workers carving out tombs and/or extracting stone from the quarries in the *gebel*.

What we do not have, for the moment, are exercises of single demotic signs repeated in rows or columns. It looks like the pupils learned writing by immediately copying whole words. This seems to have been mainly done through thematically arranged lists, that is, onomastics. There are several sherds with lists of body parts,<sup>17</sup> professions,<sup>18</sup> gods<sup>19</sup> and toponyms (?)<sup>20</sup> as well as (for the moment single) examples with animals,<sup>21</sup> with family relations<sup>22</sup> and perhaps with plants.<sup>23</sup> Especially well covered is the semantic field of time: besides the months and day dates which have already been mentioned, there are several ostraca with festival days<sup>24</sup> and with at least two different lists of terms: one on time relations (“yesterday”, “today”, “tomorrow”)<sup>25</sup> and the other on the phases of the day. The latter, which contains seven terms always given in the same order, is currently attested on about forty sherds, of which, according to the handwriting and the ceramological characterisation by Delphine Dixneuf, over thirty belong to the same vessel. During the 2022/23 campaign, several new sherds have come to light and we were able to partially reconstruct “la potiche”, as it has become affectionately known (see **pl. ... fig. 9** for one of the larger pieces, reassembled from four fragments),<sup>26</sup> but several connecting

<sup>16</sup> For a short overview, including the bibliography until 2017, see B. HARING, *Cracking the Code: Deciphering the Marks of the Royal Necropolis Workmen of the New Kingdom*, in: G. ROSATI – M. C. GUIDOTTI (eds), *Proceedings of the XI International Congress of Egyptologists. Florence, Egyptian Museum. Florence, 23-30 August 2015* (Archaeopress Egyptology 19; Oxford 2017), 266–270. For more detailed information, see now B. HARING, *From Single Sign to Pseudo Script. An Ancient Egyptian System of Workmen's Identity Marks* (CHANE 93; Leiden – Boston, 2018).

<sup>17</sup> Ostraca Athribis 2010.A.18, 17-36-5/3958 and 17-36-5/4588 (all unpublished). A similar, but not identical list is also attested on ostracon Strasburg 5 (W. SPIEGELBERG, *Aus der Straßburger Sammlung demotischer Ostraka*, *ZAS* 50 [1912], 28).

<sup>18</sup> Ostraca Athribis 17-36-3/84, 19-36-30/3439 and perhaps also 19-36-61/2215 (all unpublished); compare also the ostracon Strasbourg 174, which lists terms for sellers of different products (J. JOHNSON, *Compound Nouns, Especially Abstracts, in Demotic*, in: R. JASNOW – G. WIDMER [eds], *Illuminating Osiris. Egyptological Studies in Honor of Mark Smith* [MVCAE 2; Atlanta 2017], 170–171, pl. 11).

<sup>19</sup> Ostraca Athribis 16-33-51/95, 17-36-4/3018, 20-39-1/3203; specifically forms of Horus: ostraca Athribis 18-36-2/3842, 19-36-61/2999, 19-36-61/3964, 20-39-1/2533, 20-39-1/2986; specifically forms of Amun: ostracon Athribis 20-39-1/2153 (all unpublished).

<sup>20</sup> Ostraca Athribis 17-36-3/558: villages of the region of Hut-Repit?, 17-36-5/5525: countries? (both unpublished).

<sup>21</sup> Ostracon Athribis 17-36-5/2870 (unpublished).

<sup>22</sup> Ostracon Athribis 17-36-2/633 (unpublished).

<sup>23</sup> Ostracon Athribis 17-36-5/1555 (unpublished).

<sup>24</sup> Festivals of the lunar month: ostracon Athribis 17-36-3/564; epagomenal days: ostraca Athribis 19-36-61/3587, 19-36-61/3825, 19-36-61/4950; list titled “the festival days”: ostraca Athribis 17-36-2/379 (only the title preserved), 19-36-30/2302 (all unpublished).

<sup>25</sup> Ostracon Athribis 17-36-2/47 (unpublished).


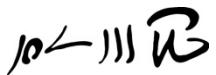
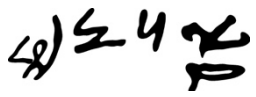
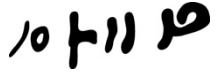
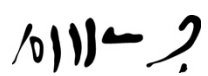


<sup>26</sup> Ostraca Athribis 17-36-2/656+17-36-5/1711+17-36-5/5087+19-0/1729.

fragments are still missing.<sup>27</sup> However, it is already clear that the broken off lower third of an amphora had been used, which must have been completely covered by several dozens of repetitions of this list in the form of irregular, slanting columns, sometimes divided by more or less vertical lines, with horizontal lines between each repetition of the list.

### 3) “la potiche”:<sup>28</sup> onomastic list of the times of the day and night

Measurements of the complete object are still pending, awaiting further reconstruction.

Lower part of the body of an amphora in alluvial clay (type 1a and 3a), outer surface brown to red and smoothed, inner surface brown-grey, partially pitched, with turning lines; break brown or red to grey-blue, fine and compact to slightly less fine.<sup>29</sup>

(1)		<sup>30</sup> <i>iny-ḥb</i> (?)	afternoon (?)
(2)		<i>nbyt</i>	dusk
(3)		<i>grḥ.t</i>	night
(4)		<i>ḥr(.t)-ib</i>	middle (scil. of the night)
(5)		<i>ḥty</i>	dawn
(6)		<i>dwzwy</i>	morning
(7)		<i>m&lt;t&gt;r(.t)</i>	noon

- (1) This word seems not yet attested; other possible readings would be *py-ḥb*, *iny* or *py* with a festival determinative. If the reading *iny-ḥb* is correct, it might be understood as “bringer of the festival” and thus designates a similar concept to the German term “Feierabend”, that is, the time when people stop working and can follow festive activities, which is traditionally in the (late) afternoon. That something similar to “afternoon” is meant is clear from the fact that the list, ordered chronologically and covering the whole day (in the sense of a 24h-period), ends with “noon” (7) and that (3) is “night”. It is surprising that the list starts with this term instead of “dawn” (5), but this

<sup>27</sup> Other ostraca with this list are Athribis 17-36-3/829, 17-36-4/1460, 19-36-30/230+19-36-61/2700, 18-36-2/2762 and 19-36-30/3228 (all unpublished); the last two are seemingly by the same scribe as “la potiche”, but on sherds from another vessel. Ostrakon Athribis 17-36-2/379 (see above) might contain words from this list next to other onomastic exercises.


<sup>28</sup> Ostrakon Athribis [17-36-3/1067+17-36-4/116+17-36-5/3420+17-36-5/4467+17-36-5/4470+17-36-5/5085+17-36-5/5094+19-36-30/3235+20-39-1/3060]+[17-36-2/656+17-36-3/1046+17-36-3/1066+17-36-5/1711+17-36-5/4049+17-36-5/4054+17-36-5/4463+17-36-5/4672+17-36-5/5087+17-36-5/5095+18-36-2/2740+19-0/1729+19-0/1903+19-36-30/3249+19-36-61/2450+19-36-61/3233+19-36-61/3858+20-39-1/2070]+17-36-5/1541+17-36-5/4694; grouped in square brackets are fragments that join directly.

<sup>29</sup> Ceramological description by Delphine Dixneuf, LA3M, Aix-Marseille.

<sup>30</sup> The facsimiles have been taken from different iterations of the list so as to obtain clear and undamaged writings.



is confirmed by two other ostraca with this list, at least one of which is by a different scribe.

- (2) *Nbyt*, here with a sun determinative, seems not yet attested in demotic. On the ostracon Athribis 19-36-30/2230+19-36-61/2700 containing the same list, this entry is written *nbt*; the determinative is there broken off. One would have expected *rhy* “evening” to precede *grh.t* “night”, especially as this word is attested on another ostracon from Hut-Repit.<sup>31</sup> I had proposed at the conference in Heidelberg to explain *nbyt* / *nbt* as a nisbe of the infinitive of the verb *nby* “to burn” or of the noun *nbi.t* “flame” and thus an allusion to the reddening of the sky at sundown, cf. also the name *nbi.t-hprw* attested for the 11<sup>th</sup> hour of day at Dendara.<sup>32</sup> Joachim Quack, however, suggested a link to the word *nbq* for which the *Wörterbuch* only gives the translations “böse sein, schädlich sein” (“to be evil, destructive”) for the verb and “der Böse” (“the evil one”, as a name for Seth and Apophis) for the noun,<sup>33</sup> but which, as he pointed out, are better translated as “to become/be dark” and “(demon of) darkness”, as already proposed by Kees<sup>34</sup> on the basis of the night-sky determinative used in pBerlin P. 10482. This translation also fits better for *wnw.t=fnbq.t grh.t* in Tb 21, currently understood as “his evil hour of the night” or “his evil hour, the night”.<sup>35</sup> The term therefore most likely designates the time just after sundown when it gets dark, i.e. dusk, and thus constitutes a fitting opposition to term no. 5.
- (3) Although the pupil who inscribed this vessel always wrote the word *grh.t* with a third sign that resembles the vertical *s*, this is clearly a deformation of the tall *h*, as shown by ostracon Athribis 19-36-30/2230+19-36-61/2700, l. 4:
- 
- (4) The writing is very similar to that of the preposition *hr-ib* “in the middle of” in manuscripts from the Akhmîm region, e.g. pBM EA 10507, col. 4, l. 15<sup>36</sup> or pStrasbourg 3 verso, col. x+5, l. 7,<sup>37</sup> which also display the sun determinative, except that the scribe of “la potiche” always puts two vertical strokes after *hr* and none after *ib*. As a noun, *hr(.t)-ib* “middle part, centre” seems to be female in demotic,<sup>38</sup> in our context, where it follows “night”, it can be understood as midnight, a use that seems not yet attested in any Egyptian language stage. One wonders whether this was an Akhmimic regionalism, which might be the reason why the preposition *hr-ib* was written with a sun determinative there.
- (5) The term *hty* with a sun determinative, which does not seem to be hitherto attested in demotic as a term for a time of the day, is most likely a phonetic rendering of older *hd-*

<sup>31</sup> Ostracon Athribis 17-36-5/1560 (unpublished), probably a fragment of another onomastic list: “[...] moment, morning, evening [...]”.

<sup>32</sup> Dendara V, 95; pl. CCCXCII et CCCXCVI. S. CAUVILLE, *Dendara V–VI, Traduction. Les cryptes du temple d’Hathor* vol. 1 (OLA 131; Leuven etc. 2004), 182–183: “celle dont la manifestation est brûlante”.

<sup>33</sup> *Wb* II, 247.

<sup>34</sup> H. KEES, *Nbq* als Dämon der Finsternis, *ZÄS* 59 (1924), 69–70. See also A. KLASSENS, *A Magical Statue Base (Socle Behague) in the Museum of Antiquities at Leiden* (OMRO 23; Leiden, 1952), 96.

<sup>35</sup> See the translations of this spell by Burkhard Backes in the database *Das altägyptische Totenbuch. Ein digitales Textzeugenarchiv* (<https://totenbuch.awk.nrw.de/spruch/21>).

<sup>36</sup> M. SMITH, *Catalogue of Demotic Papyri in the British Museum III: The Mortuary Texts of Papyrus BM 10507* (London 1987), 175.

<sup>37</sup> M. SMITH, *The Liturgy of Opening the Mouth for Breathing* (Oxford 1993), 111.

<sup>38</sup> E.g. on the Moschion Stela, G.1 (S. P. VLEEMING, *Some Coins of Artaxerxes and Other Short Texts in the Demotic Script Found on Various Objects and Gathered from Many Publications* [StudDem 5; Leuven 2001], 199–209, no. 205).



*tʒ* “dawn”,<sup>39</sup> compare Coptic ⲉⲧⲟⲟⲩⲉ.<sup>40</sup> Curiously, historic writings of *hd-tʒ* in demotic are not known. The present phonetic writing might have been influenced by the term *hty.t* “moment”, best known from the expression *n tʒy hty.t* “now, immediately”.

- (6) The word *dwʒwy* “morning”, earlier *dwʒ.w*, shows a fairly standard writing of this word.
- (7) This unusual writing of *mtr(.t)* “noon”, in which the *mt*-group (ⲙⲧ, ⲙⲧ) normally preceding the two small vertical strokes (corresponding to the two fingers ⲙⲧ) has been replaced by *r* (Ⲡ), is probably influenced by the fact that the *t* was no longer pronounced, compare Old Coptic ⲙⲉⲣⲉ and Sahidic/Akhmimic ⲙⲉⲣⲉ.<sup>41</sup> It is less likely that this specific writing reflects how the word *mtr(.t)* “noon” was taught to pupils in this time and region: a perfectly normal writing of *mtr(.t)* is attested several times in pBM EA 10508.<sup>42</sup> Unfortunately, none of the hitherto known ostraca with this list written by other scribes than the one who inscribed “la potiche” preserve this entry.

Of the seven words on this list, four can be put in diametral opposition: “dawn” and “dusk”, “noon” and “midnight” – these are also terms that designate moments, or at least fairly short periods. Two of the terms, “morning” and “night”, clearly cover time periods of several hours, and one may assume that “night”, although always placed before “mid(night)”, was also used for the hours between midnight and dawn. Whether *iny-hb* (?) designates a moment (end of work?) or rather a time period of several hours (afternoon?) cannot yet be ascertained.

Another very popular onomastic exercise is the list of 25 birds also known as “bird alphabet” – over thirty sherds with fragments of this list have already been found at Hut-Repit.<sup>43</sup> Others contained a list of just the one-consonantal signs, in the order of the “bird alphabet”, arranged in columns, comparable to pBerlin P. 23861.<sup>44</sup>

#### 4) oAthribis 19-36-61/2371 (pl. ... fig. 10)

Height: 9.5 cm; width: 9.5 cm; thickness: 0.7 cm.

Sherd from the body of an amphora in alluvial clay (type 1a), with a brown-red, smoothed outer surface and a pitched inner surface that shows turning lines; the break is brown to red to grey-blue, with a fine texture.<sup>45</sup>

<sup>39</sup> *Wb* III, 207–208.

<sup>40</sup> See W. E. CRUM, *A Coptic Dictionary* (Oxford 1939), 727b–728a, where, however, a conflation of two distinct lemmata seems to have occurred: ⲉⲧⲟⲟⲩⲉ (S), ⲉⲧⲁⲩⲉ (S<sup>f</sup>, A<sup>2</sup>), ⲉⲧⲁⲩⲉ (A, A<sup>2</sup>), ⲉⲧⲁⲩ (A<sup>2</sup>) deriving from *hd-tʒ* “dawn” (possibly, as G. FECHT, *Wortakzent und Silbenstruktur. Untersuchungen zur Geschichte der ägyptischen Sprache* [ÄgForsch 21; Glückstadt – Hamburg – New York 1960], 112 n. 346 suggests, through a contamination with hypothetical *hd-tʒ.wy*), and ⲧⲟⲟⲩⲉ (S), ⲧⲁⲩⲉ (S<sup>a</sup>), ⲧⲟⲟⲩⲓ (B) from *dwʒ.w* “morning” (similar W. WESTENDORF, *Koptisches Handwörterbuch* [Heidelberg 1977], 401). This etymology is rejected by W. VYCICHL, *Dictionnaire étymologique de la langue copte* (Leuven 1983), 317a, but his argument that *hd-tʒ* should result in unattested Bohairic ⲉⲧⲟⲟⲩⲓ instead of supposedly well attested ⲉⲧⲟⲟⲩⲓ is difficult to follow, given that *hd* becomes ⲉⲧⲁⲧ also in Bohairic and that neither Crum nor Westendorf actually list a Bohairic form ⲉⲧⲟⲟⲩⲓ.

<sup>41</sup> CRUM, *Coptic Dictionary*, 182b–183a.

<sup>42</sup> H. J. THISSEN, *Die Lehre des Ancheschesonqi* (P. BM 10508) (PTA 32; Bonn 1984), 81.

<sup>43</sup> For a selection of these, see now S. LIPPERT, Pots cassés et noms d’oiseaux – nouvelles attestations de l’alphabet démotique dans les ostraca de Hout-Répit/Athribis en Haute Égypte, in: *Festschrift NN* (in press). For the (hitherto unique) hieratic fragment or the bird alphabet on ostrakon Athribis 17-36-3/482+506, see GUERMEUR in: BOUD’HORS et al., *BIFAO* 121 (2021), 110–112 (no. 4.5).

<sup>44</sup> ZAUZICH, *Enchoria* 26 (2000), 151–157.

<sup>45</sup> Ceramological description by Delphine Dixneuf.

Col. 1

1 n3 i[p] t[.w wp-st]

The birds, [in detail:]

Col. 1a

1 *h*  
2 *r*  
3 *h*  
4 *m*  
5 [k]  
6 [w]  
7 [s]  
8 [l]  
9 [b]  
10 [t]

Col. 2

1 š  
2 g  
3 n  
4 *h*  
5 *d*  
6 p  
7 [ʒ]  
8 [ʻ]  
9 [k]  
10 [h]

Col. 3

1 [t]  
2 [i]  
3 f  
4 d  
5 q

The columns 1a, 2 and 3 are divided by vertical strokes: the one between columns 1a and 2 is executed in two parts, the scribe had to dip in his pen again about halfway through. The division by vertical strokes is also used on ostracon Athribis 20-39-16/1085 (unpublished), which seems to leave out several signs in the latter part of the lists.

Col. 1

1 Although almost lost, the remains of the title suggest that this exercise was seen as a derivation of the onomastic list of numbered birds' names, which is titled in this way.<sup>46</sup>


Col. 1a

- 1 The unusual shape of the letter *h* is not yet attested on other ostraca from Hut-Repit.
- 2 Although at first glance, one could take this sign for the letter *l*, the first letter of the second bird (*rte*, a type of crane?)<sup>47</sup> is clearly written as *r* in all extant examples of this bird from Hut-Repit. The letter *l* would have been in position 8 (in the versions with full bird names, *lbn*, an unidentified bird). The pupil seems simply to have hesitated and redrawn part of the stroke.
- 4 The *m* is very angular, but the position of this letter as no. 4 (*mnw* "dove") is well attested.

Col. 2

- 1 This ostracon confirms the position of the letter š as no. 11; the corresponding bird must have been called *šmnw*,<sup>48</sup> but it is never completely preserved on the ostraca from Hut-Repit.
- 2 As on other bird alphabet ostraca from Hut-Repit, no. 12 is the letter *g* (*gymz* "hen"), while the letter *k* comes as no. 19 (*kmz* "glossy ibis [?]").
- 4 The shape of the *h* seems to be influenced by that of the word *hpr*.
- 6 The shape of the *p* seems influenced by that of the *q* in col. 3, l. 5, which also follows a

<sup>46</sup> E.g. ostraca Athribis 18-36-2/3765 (Lippert, in: *Festschrift NN*) and Athribis 19-36-61/4117 (unpublished). See also oDeM 4-2 (D. DEVAUCHELLE, L'alphabet des oiseaux (O. dém. DelM 4-2), in: A. M. DODSON – J. J. JOHNSTON – W. MONKHOUSE (eds), *A Good Scribe and an Exceedingly Wise Man. Studies in Honour of W. J. Tait* [GHP Egyptology 21; London 2014], 57–65).

<sup>47</sup> See also P. COLLOMBERT, Le toponyme  et la géographie des 17<sup>e</sup> et 18<sup>e</sup> nomes de Haute Égypte, *RdE* 65 (2014), 21–23.

<sup>48</sup> See J. F. QUACK, Eine neue Quelle für die Vögel des spätägyptischen Alphabets: pTebtunis 8311+8352+8685A, in *Festschrift NN* (in press) et LIPPERT, in: *Festschrift NN*.

*q* (see commentary there).

Col. 3

- 2 Only the very end of the curved lower stroke of *i* is preserved.
- 3 The almost vertical *f* is also attested in the single-letter exercise of papyrus Berlin P. 23861. Could this explain why in the classical Coptic alphabet the letter *fai* is written as **ϣ** and not, like in the Old Coptic alphabets, as **ϣ** ?
- 4 The bird alphabet contains indeed two *q*: one as no. 15 (*dndn*<sup>49</sup>), the other as no. 24 (*ddy*, “sparrow”) – the latter probably derived from original *t*.<sup>50</sup>
- 5 Underneath the *q* there is a horizontal stroke to mark the end of the alphabet.

Other exercises concern the combination of verbal forms and prepositions with the suffix pronouns.<sup>51</sup> These are also already known from other sources. One ostrakon, published by Reich from a hand drawing,<sup>52</sup> then in the possession of F. Ll. Griffith and now in the Ashmolean Museum,<sup>53</sup> is so similar to one found at Hut-Repit in spring 2020 that it is highly likely that it had been given to Griffith by W. Fl. Petrie after his excavation there in 1907/08. Other sherds from Hut-Repit also ended up in the Ashmolean Museum, such as various astrological ostraca which Marina Escolano Poveda identified as being written by the same scribe as one found by the Tübingen mission in the 2018/19 campaign,<sup>54</sup> but information about their provenance was lost.

**5) ostrakon Athribis 17-36-5/3927 (pl. ... fig. 11 [photograph] and 12 [facsimile])**

Height: 8.6 cm; width: 5.7 cm; thickness: 0.6 cm; inscribed on the convex side.

Ceramological description pending. The surface is very much weathered.

Col. 1

- |   |                         |                                    |
|---|-------------------------|------------------------------------|
| 1 | <i>[pzy-dd=w] n[=y]</i> | [what they said] to [me]           |
| 2 | <i>[pzy-dd=w] 'n=k'</i> | [what they said] to you (masc. s.) |

Col. 2

- |   |                               |                             |
|---|-------------------------------|-----------------------------|
| 1 | <i>pzy- 'dd'[=w n=f]</i>      | what [they] said [to him]   |
| 2 | <i>pzy-dd=w [n] 's'</i>       | what they said [to] her     |
| 3 | <i>pzy-dd&lt;=w&gt; 'n=w'</i> | what <they> said to them    |
| 4 | <i>pzy-dd=w n=n</i>           | what they said to us        |
| 5 | <i>pzy-dd=w n=tn</i>          | what they said to you (pl.) |
| 6 | <i>[..]'...'</i>              | [..]...                     |

It is uncertain whether the paradigm *pzy-dd=w* here already had the connotation of Coptic

<sup>49</sup> Interpreted by L. STÖRK, *Dndn* ‘der Schwan’?, *GM* 19 (1976), 57–58, as “swan”, but perhaps rather a stork (cf. LIPPERT, in: *Festschrift NN*).

<sup>50</sup> See QUACK, in: *Festschrift NN*.

<sup>51</sup> E.g. ostraca Athribis 2010.B.204 with the verb *nh* and 17-36-4/287 with the verb *hb* (both unpublished).

<sup>52</sup> N. REICH, A Grammatical Exercise of an Egyptian School Boy, *JEA* 10 (1924), 285–288.

<sup>53</sup> It is listed in Trismegistos as TM 99287, “oAshmolean unknown number”. The typewritten ‘Notes on Ashmolean Demotic ostraca’ in the inventory catalogue of the Ashmolean Museum identify it as D.O.726. I am grateful to Liam McNamara and Marina Escolano Poveda who provided me with copies of these notes.

<sup>54</sup> M. ESCOLANO POVEDA, Astrologica athribitana: Four Demotic-hieratic Horoscopes from Athribis (O.Athribis 17-36-5/1741 and ANAsh.Mus. D.O.633 reedited), *Journal for the History of Astronomy* 53.1 (2022), 49–87 (esp. 50).

ⲛⲉⲗⲁⲩ “they said, one said”, as Reich presumed.<sup>55</sup>

Col. 1

2 That the phrase with the suffix of the 2<sup>nd</sup> person singular feminine is not simply lost, but was originally lacking, is suggested not only by the above-mentioned ostrakon published by Reich, which also excludes this suffix from the two exercises it contains,<sup>56</sup> but also by ostrakon Athribis 19-36-61/3327 (n° 6 infra) as well as ostrakon Athribis 2010.B.204 (unpublished). The reason for this repeated omission in Hut-Repit remains unclear: in the exercises on pCarlsberg 12 verso<sup>57</sup> (Tebtynis, 2<sup>nd</sup> c. CE?), the suffix of the 2<sup>nd</sup> person feminine singular does occur and is there placed after the 3<sup>rd</sup> person feminine singular, and the 2<sup>nd</sup> person feminine singular might also be present in an exercise of the dependent pronouns on ostrakon Athribis 16-33-51/65 in the same place.

Col. 2

3 The same unusual form of *n=w* is also attested on the ostrakon published by Reich. The order for the pronouns in the plural is also the same there, that is, 3<sup>rd</sup> person plural, 1<sup>st</sup> person plural, 2<sup>nd</sup> person plural, and this order also occurs in ostrakon Athribis 19-36-61/3327 (n° 6 infra), which again makes it unlikely that this was an individual pupil's mistake, as Reich had assumed.<sup>58</sup>

There are also enumerations of the same noun with varying genitive attributes and phrases with the same grammatical form (imperative,<sup>59</sup> negative imperative,<sup>60</sup> imperfect,<sup>61</sup> irreal optative *hmy*,<sup>62</sup> etc.) or turns of phrases. These types of exercises were already attested, especially in teaching manuals, of which at least some were ordered alphabetically.<sup>63</sup> It is likely that the teachers of Hut-Repit had similar manuals at their disposal, as there is at least one example of a school ostrakon that combines both types of exercises and might have come from the section on the lettre *h*:

**6) ostrakon Athribis 19-36-61/3327 (pl. ..., fig. 13 [photograph], 14–16 [facsimiles])**

Height: 13.1 cm; width: 17.4 cm; thickness: 0.7cm; inscribed on the convex side.

Ceramological description pending.

Col. 1

1 *i.iry hb r di.t mzy=s*

Send a letter (lit. “make a sending”) in order to let her understand.

2 *i.iry hb r di.t mzy=w*

Send a letter in order to let them understand.

<sup>55</sup> REICH, *JEA* 10 (1924), 285.

<sup>56</sup> REICH, *JEA* 10 (1924), 285, attributed this to a mistake of the pupil.

<sup>57</sup> A. VOLTEN, An “Alphabetic” Dictionary and Grammar in Demotic, *ArOr* 20 (1952), 496–508; pl. 52; L. PRADA, Egyptian Education in Hellenistic and Roman Egypt: A Take from the Fayum – School Textbooks and *P.Schulübung* Revisited, in: M.-P. CHAUFRAY *et al.* (eds), *Le Fayoum. Histoire – Archéologie – Religion* (Wiesbaden 2018), 114–118.

<sup>58</sup> REICH, *JEA* 10 (1924), 285.

<sup>59</sup> Ostraca Athribis 17-36-3/288, 17-36-4/843, 17-36-5/2160, 19-36-61/1608, 19-36-61/3613, 120-36-64/1236 (all unpublished).

<sup>60</sup> Ostraca Athribis 16-33-51/65 and 17-36-4/1685 (both unpublished).

<sup>61</sup> Ostrakon Athribis 19-36-30/3024 (unpublished).

<sup>62</sup> Ostrakon Athribis 19-36-61/4907 (unpublished).

<sup>63</sup> For this text type, see PRADA, in: M.-P. CHAUFRAY *et al.* (eds), *Le Fayoum*, 105–126.

3	<i>i.iry hb r di.t 'mzy=n</i>	Send a letter in order to let us understand.
4	<i>i.iry hb r di.t 'mzy=tn</i>	Send a letter in order to let you (pl.) understand.
5	<i>i.iry 'hb r` di.t rh=y</i>	Send a letter in order to let me know.
6	<i>i.iry hb r di.t rh=k</i>	Send a letter in order to let you (masc. s.) know.
7	<i>i.iry 'hb r` di.t rh=f</i>	Send a letter in order to let him know.
8	<i>i.iry hb r di.t {r} rh=s</i>	Send a letter in order to let her know.
9	<i>i.iry hb r di.t rh=w</i>	Send a letter in order to let them know.
10	<i>i.iry hb r di.t rh=n</i>	Send a letter in order to let us know.
11	<i>i.iry hb r di.t rh=tn</i>	Send a letter in order to let you (pl.) know.
12	<i>i.iry hb r ir=w 'h` m-b3h pzy=y hry</i>	Send a letter so that they present themselves (?) before my lord.
13	<i>i.iry hb r ir=w 'h` m-b3h tzy=y hry.t</i>	Send a letter so that they present themselves (?) before my lady.
14	<i>i.iry 'hb` [...]</i>	Send a letter [...]

col. 2

1	<i>p3 h (n) sb3</i>	the expense (for) <i>sb3</i> -plant
2	<i>p3 h (n) tsly</i>	the expense (for) linseed (?)
3	<i>p3 h (n) nyf</i>	the expense (for) flour
4	<i>p3 h (n) gltn</i>	the expense (for) <i>gltn</i> -plant
5	<i>p3 h (n) 'tr</i>	the expense (for) papyrus (?)
6	<i>p3 h (n) 3ky</i>	the expense (for) sesame (oil)
7	<i>p3 h (n) tgm</i>	the expense (for) castor (oil)

col. 3

1	<i>p3 h (n) gdw</i>	the expense (for) safflower (oil)
2	<i>p3 h (n) ibi</i>	the expense (for) honey
3	<i>p3 h (n) mlh(.t)</i>	the expense (for) oil
4	<i>p3 h (n) sgn</i>	the expense (for) unguent
5	<i>p3 h (n) sgn tsr</i>	the expense (for) red unguent
6	<i>p3 h (n) hdn</i>	the expense (for) garlic (?)
7	<i>[p3 h (n) ..]'r`[...]</i>	[the expense (for) ..].[...]

Col. 1

- 1 *hb* in *i.iry hb* can either be understood as the infinitive of the verb *hb* “to send (scil. a letter)”, in which case this would be a periphrastic imperative, or as the undefined noun “letter, missive”.
- 1–4 The full series of the suffixes is given for the verb *rh* in lines 5 to 11, which means that for the verb *'mzy*, the first three suffixes (1<sup>st</sup> person singular, 2<sup>nd</sup> person singular masculine and 3<sup>rd</sup> person singular masculine)<sup>64</sup> are missing. Since the sherd is complete on the upper and right sides, these might have been inscribed on another sherd and perhaps preceded by other exercises.
- 5–11 For this order of the suffixes, with the 2<sup>nd</sup> person singular feminine missing and with the 3<sup>rd</sup> person plural preceding the 1<sup>st</sup> and 2<sup>nd</sup> person plural, see n° 5 supra.

<sup>64</sup> For the missing 2<sup>nd</sup> person singular feminine, see the commentary to ostrakon Athribis 17-36-5/3927 (n° 5) col. 1 l. 2 above – if present, it should have been placed after the 3<sup>rd</sup> person singular feminine.

12–13 In both lines, the scribe had first written *i.iry hb r 'h' m-b3h (...)* and later squeezed in *ir=w* before *'h'*. The periphrastic use of *ir 'h'*, literally “to make a standing”, instead of *'h'* “to stand”, is somewhat unusual; it might have been used to convey a specific nuance, here rendered by “to present oneself”.

Col. 2

- 1 The word *šb3*, here written with a plant determinative, might be connected to *šb.t* “cucumber, gourd”<sup>65</sup> or *š(w)b* “persea”.<sup>66</sup>
- 2 In oBerlin P. 9030, l. 10,<sup>67</sup> a plant or plant product *tšre* is attested as part of the payment of the rent for fields.<sup>68</sup> *dšr* with the grain or plant determinative also appears in earlier medical prescriptions,<sup>69</sup> and Chassinat,<sup>70</sup> following Brugsch,<sup>71</sup> proposes to connect it with  $\Theta\epsilon\rho\omega$ ,  $\Theta\eta\rho\omega$  “linseed”,<sup>72</sup> attested in the Bohairic *scalae*, pointing out that this not only works as a plausible etymology, given the reddish-brown colour of linseed, but also with the way this ingredient is used in the various prescriptions.
- 4 The plant *gl̄n* might be connected to Coptic  $\kappa\omicron\rho\tau\epsilon\eta$ ,<sup>73</sup> translated in the Bohairic *scalae* as *حي العالم* (a calque of Greek  $\alpha\epsilon\iota\zeta\omega\omicron\nu$  “eternally living”). It was translated by Crum as “house-leek” (*Sempervivum tectorum*), but seeing that this plant is not a native of Egypt, nor any other Arabic-speaking country,<sup>74</sup> and even other species of the genus *Sempervivum* do not originally grow anywhere in the Arabic-speaking world except for Morocco,<sup>75</sup> this is not very likely. The identification, also made by Kazimirski,<sup>76</sup> is probably simply due to the fact that the modern botanical name of the genus to which the house-leek belongs is *Sempervivum* “living forever”, but this neither means that the ancient and medieval nomenclature called it that, nor that direct translations of this word in other languages were used for the same plant. Modern botanical works give *حي العالم* as the Arabic translation of *Sedum* (Stonecrop),<sup>77</sup> another succulent genus, which,

<sup>65</sup> *DemGloss*, 496; G. CHARPENTIER, *Recueil de matériaux épigraphiques relatifs à la botanique de l'Égypte antique* (Paris 1981), 662–663, n° 1081; CRUM, *Coptic Dictionary*, 580b–581a:  $\omega\omega(\omega)\pi\epsilon$ ,  $\omega\omega(\omega)\beta\epsilon$ .

<sup>66</sup> *DemGloss*, 496; CHARPENTIER, *Recueil*, 658–659, n° 1078; CRUM, *Coptic Dictionary*, 603a:  $\omega\omicron\gamma\eta(\eta)\beta$ , see the variants  $\omega\eta\beta$  (S) and  $\omega\beta\epsilon$  (B).

<sup>67</sup> TM 49898. G. MATTHA, *Demotic Ostraka from the Collections at Oxford, Paris, Berlin, Vienna and Cairo* (PSFP Textes et Documents 6; Cairo 1945), 198–200, pl. 27 (n° 275).

<sup>68</sup> MATTHA, *Demotic Ostraka*, 199–200, proposed to read *tšr it rtb 1/4* “a quarter artaba of *tšr* grain”, but the supposed *it rtb* is simply the end of the word *tšre* with the plant determinative. However, *tšly* can still have been measured in artabas, because this measure is conventionally not written before quantities smaller than one.

<sup>69</sup> H. VON DEINES – H. GRAPOW, *Grundriß der Medizin der alten Ägypter VI. Wörterbuch der ägyptischen Drogennamen* (Berlin 1975), 581; CHARPENTIER, *Recueil*, 848–849, n° 1459.

<sup>70</sup> G. CHASSINAT, *Un papyrus médical copte* (MIFAO 32; Cairo 1921), 114.

<sup>71</sup> H. BRUGSCH, *Dictionnaire hiéroglyphique et démotique contenant en ordre méthodique les mots et les groupes dont se compose la langue et l'écriture sacrée et populaire des anciens égyptiens leur définition philologique et l'indication de leurs affinités avec les mots correspondants de la langue copte et des idiomes sémitiques VII* (Leipzig 1882), 1375.

<sup>72</sup> See also CRUM, *Coptic Dictionary*, 69a.

<sup>73</sup> CRUM, *Coptic Dictionary*, 117b.

<sup>74</sup> See the distribution map of the species on *Plants of the World online*: <https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:276682-1>.

<sup>75</sup> See the distribution map of the genus on *Plants of the World online*: <https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:12245-1>.

<sup>76</sup> A. DE BIBERSTEIN KAZIMIRSKI, *Dictionnaire Arabe-Français* (Paris 1860), 523.

<sup>77</sup> <http://elianto.fisica.unimi.it/life/index.php?x=8846&d=100&l=0&s>.

however, also seems to be absent from Egypt, but not the surrounding countries.<sup>78</sup> If *gl̄n*/ΚΟΡΤΕΝ designated some kind of succulent, it is likely that this might be the same plant as the one spelled *glnty* in the herbal P. Carlsberg 230, frag. 4+5, col. x+2, l. 21 where it was left unidentified by Tait:<sup>79</sup> the context there is rather lacunary, but the plant is described as growing on the mountain or in the desert (*glnty rn=f 'iw'=f rd hr 'p3' tw n p3y '... [...]*). Its appearance in a herbal also implies a medicinal use, which would explain why it was used in the lexicographical exercise as an example of plants for which expenses were made.

- 5 'tr is perhaps a variant writing of *ztr/itr* “papyrus”.<sup>80</sup> Underneath the *r*, there is some smudged ink: if this was a sign that something has been rubbed out, the pupil might at first have written 'trm “clover”, but the position of the *m* underneath the oblique *r* would be strange, so it is perhaps more likely that this was simply an accidental ink drop.

### Col. 3

- 1 The identification of *gwd* (here written *gdw*) as safflower (*Carthamus tinctorius*, Late Egyptian *k(3)-t(3)*, Coptic ⲉⲟϣⲭ)<sup>81</sup> had already been proposed tentatively by Spiegelberg.<sup>82</sup> This fits very well with its position after two other words for oil fruits, *zky* “sesame” and *tgm* “castor beans”. It is likely that all three refer to the oil made from these plants; compare the entries for *gd* and *tgm* in the offering account ostrakon Athribis 17-36-4/1138.<sup>83</sup>
- 2 Although earlier *bi.t* “honey” was feminine, the demotic word *ibi* is treated as masculine, and this is also the case for the Coptic ⲉⲃⲓⲱ.<sup>84</sup> The *t*-shaped sign underneath the bee-sign therefore might be a historic leftover, if not something else altogether. The scribe repeated the group of the bee several times on the left.
- 3 The position, just before *sgn* “unguent”, makes it likely that *mlh* is a variant of *mrh.t* “oil”,<sup>85</sup> despite the plant determinative instead of the more common vessel determinative: if *mlh* “salt” was meant, one would expect the grain determinative.<sup>86</sup>
- 5 *sgn t̄sr* “red unguent” probably designated an unguent with a red (or possibly yellow, orange or brown) colour, whether naturally or through the addition of a colouring substance.
- 6 *h̄dn* is a variant of *h̄dn*<sup>87</sup> which, as Muhs and Dieleman have pointed out,<sup>88</sup> is most likely

<sup>78</sup> <https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:30001444-2>.

<sup>79</sup> W. J. TAIT, P. Carlsberg 230: Eleven fragments from a Demotic herbal, in: P. J. FRANSEN (ed.), *The Carlsberg Papyri I. Demotic Texts from the Collection* (CNI Publications 15; Copenhagen 1991), 69, 74; pl. 5.

<sup>80</sup> Papyrus as a plant and source of fibres, also for rope-making. *Wb* I, 147; *DemGloss*, 13; CHARPENTIER, *Recueil*, 42–43, n° 60; 134–135, n° 210. See also Coptic ⲁⲧⲏⲣ (R. KASSER, *Compléments au Dictionnaire copte de Crum* (BEC 7; Cairo 1964), 4b: “sens inconnu”, but citing a context that makes it likely that the same plant is meant: ⲡⲛⲟϣⲢ ⲛⲁⲧⲏⲣ “the rope of papyrus[-fibres]”).

<sup>81</sup> CRUM, *Coptic Dictionary*, 840b.

<sup>82</sup> See K. SETHE – J. PARTSCH, *Demotische Urkunden zum aegyptischen Bürgerrechte vorzüglich der Ptolemäerzeit* (AAWL 32; Leipzig 1920), 189. This translation had not been noted by *DemGloss*, 595 (“eine Frucht”), but appears in the *CDD* g, 80.

<sup>83</sup> LIPPERT, in: BOUD’HORS *et al.*, *BIFAO* 121, 92–93.

<sup>84</sup> *Wb* I, 434; *DemGloss*, 26; *CDD* i, 80; CRUM, *Coptic Dictionary*, 52b.

<sup>85</sup> *DemGloss*, 169.

<sup>86</sup> P. GALLO, *Ostraca demotici e ieratici dall’archivio bilingue di Narmouthis II* (nn. 34–99) (Pisa 1997), 153; S. GIANNOTTI – C. GORINI, Due esempi di ricerca e schedatura attraverso il database DEMOS, *EVO* 29 (2006) 106.

<sup>87</sup> *DemGloss*, 373, “ein Gemüse”.

<sup>88</sup> B. MUHS – J. DIELEMAN, A Bilingual Account from Late Ptolemaic Tebtunis, *ZÄS* 133 (2006), 60.



specifically “garlic”, like Coptic ⲠⲬⲏⲏ.<sup>89</sup>

Columns 2 and 3 combine the noun *h* “expense” with different products, mainly vegetal. Although the products are not the same, this reminds one of the school tablet Louvre E 9846 recto, col. Ia and Ib (lines 5 to 12), which contains eight entries that combine the words *nʒ šsp.w* (*n*) “the revenues (of)” with various genitive objects, among others “rations”, “clothing”, “emmer” and “barley”.<sup>90</sup>

There are several ostraca with letters, and at least some of them seem to be copies of model letters, for example ostracon Athribis 18-36-2/1050 (unpublished) which starts with *w .t š .t i .ir nʒ .* “[...] “A letter that the [...] have written [...]”, although one, ostracon Athribis 19-36-61/3868 (unpublished), might be a style exercise: it is addressed to the writer’s father, but is inscribed underneath a line of hieratic and is on the bottom adorned with the drawing of a sitting baboon. Some excerpts of literary texts can also be found, such as a passage of the narrative frame of the Wisdom of Kha-Sheshonqy (ostracon Athribis 19-0/1055, unpublished), seemingly written in charcoal and therefore unfortunately rather rubbed, while other sherds bear what look like maxims from a wisdom text, perhaps even the one attributed to Kha-Sheshonqy, that may have doubled as grammatical exercises since several consecutive phrases start with the same grammatical form.<sup>91</sup>

A small number of ostraca contain mathematical exercises.<sup>92</sup> Two sherds joining the one already published in *BIFAO* 121<sup>93</sup> were discovered during the 2021/22 season, but could not yet be united physically; they significantly advance the understanding of this exercise and therefore warrant a reedition:

**7) ostracon Athribis 16-33-33/2 + 18-36-2/2138 + 19-0/2069 (pl. ..., fig. 17 [photomontage convex side] and 18 [facsimile concave side of 16-33-33/2])**

Measurements pending, awaiting the joining of the fragments; inscribed on the convex and concave sides.

Ceramological description pending.

Convex:

Col. 1

x+1	[ <i>my ir 3 rʒ 20</i> ]	[Divide 3 by 20!]
x+2	[ <i>pʒy=f<sup>1</sup>/10 □ 2</i> ]	[Its <sup>1</sup> /10: 2,]
x+3	[ <i>pʒy=f<sup>1</sup>/20 □ 'I</i> ]	its [ <sup>1</sup> /]20: 1.
x+4	<i>my ir 4 rʒ 20</i>	Divide 4 by 20!
x+5	<i>pʒy=f<sup>1</sup>/5 □ 4</i>	Its <sup>1</sup> /5: 4.
x+6	<i>my ir 5 rʒ 20</i>	Divide 5 by 20!

<sup>89</sup> CRUM, *Coptic Dictionary*, 615b.

<sup>90</sup> G. VITTMANN, Ein frühdemotisches Schultäfelchen (Louvre E 9846), in: M. BROSE *et al.* (eds), *En détail – Philologie und Archäologie im Dialog. Festschrift für Hans-Werner Fischer-Elfert* (Beihefte ZÄS 7.1; Berlin – Boston 2019), 1194–1195; 1199–1200 [1191–1210].

<sup>91</sup> For example ostracon Athribis 17-36-1/1146 (lines starting with *hmy* “Oh that ...”, similar to pBM EA 10508, col. 10, l. 11 – col. 11, l. 4), ostracon Athribis 17-36-2/49 (lines starting with *šn* “Ask ...”) and ostracon Athribis 20-36-64/1148 (phrases starting with *m-ir* “do not”, for example “Do not take the property (*nkt*) of the god, saying ‘I will [...]’, similar to pBM EA 10508, col. 6, l. 10 – col. 7 l. 17; col. 7, l. 21–24; col. 9, l. 5–14).

<sup>92</sup> Ostraca Athribis 17-36-5/1643, 17-36-5/5151, 19-36-61/3860, 19-36-61/4206, 20-26-65/1078, 20-39-1/2272 (all unpublished).

<sup>93</sup> LIPPERT, in: BOUD’HORS *et al.*, *BIFAO* 121, 96–98 (no. 3.5): ostracon Athribis 16-33-33/2.

x+7	$pzy=f^{1/4} \square 5$	its $1/4$ : 5.
x+8	$my \text{ } \bar{ir} \text{ } 6 \text{ } r3 \text{ } 20$	Divide 6 by 20!
x+9	$pzy=f^{1/5} \square 4$	Its $1/5$ : 4,
x+10	$pzy=f^{1/10} \square \text{ } \bar{2}$	its $1/10$ : 2.

Col. 2

1	$[my \text{ } \bar{ir} \text{ } 7 \text{ } r3 \text{ } 20]$	[Divide 7 by 20!]
2	$[pzy=f^{1/3} \square 6^{2/3}]$	[Its $1/3$ : $6^{2/3}$ ,]
3	$[pzy=f^{1/60} \square 1/3]$	[its $1/60$ : $1/3$ .]
4	$[my \text{ } \bar{ir} \text{ } 8 \text{ } r3] \text{ } 20$	[Divide 8 by] 20!
5	$[pzy=f^{1/3} \square \text{ } \bar{6} \text{ } ^{2/3}$	[Its $1/3$ :] $6^{2/3}$ ,
6	$\text{ } \bar{pzy=f} \text{ } \bar{[1/15]} \square 1 \text{ } 1/3$	its $[1/15:]$ $1 \text{ } 1/3$ .
7	$my \text{ } \bar{ir} \text{ } \bar{9} \text{ } r3 \text{ } \bar{20}$	Divide 9 by 20!
8	$pzy=f^{1/3} \square 6^{2/3}$	Its $1/3$ : $6^{2/3}$ ,
9	$pzy=f \text{ } \bar{[1/10]} \square 2$	its $[1/10:]$ 2
10	$pzy=f^{1/60} \square 1/3$	its $1/60$ : $1/3$ .
11	$my \text{ } \bar{ir} \text{ } 10 \text{ } r3 \text{ } 20$	Divide 10 by 20!
12	$pzy=f^{1/2} \square 10$	Its $1/2$ : 10.
13	$my \text{ } \bar{ir} \text{ } 11 \text{ } r3 \text{ } \bar{20}$	Divide 11 by 20!
14	$[pzy=f^{1/2} \square 10]$	[Its $1/2$ : 10,]
15	$[pzy=f^{1/20} \square 1]$	[its $1/20$ : 1.]

Col. 3

1	$my \text{ } \bar{ir} \text{ } [12]$	Divide [12]
2	$r3 \text{ } \bar{20}$	by 20!
3	$pzy=f^{1/2} \square 10$	Its $1/2$ : 10,
4	$pzy=f^{1/10} \square 2$	its $1/10$ : 2.
5	$my \text{ } \bar{ir} \text{ } 13$	Divide 13
6	$r3 \text{ } 20$	by 20!

Concave (rotated 90° in relation to the inscription on the convex side, only on sherd 16-33-33/2):

1	$my \text{ } \bar{ir} \text{ } \bar{19} \text{ } [r3]$	Divide 19 by
2	$20 \square \text{ } \bar{pzy=f} \text{ } (?) \text{ } 1/2 \text{ } (?) \text{ } \bar{[ \square 10]}$	20! Its $(?) \text{ } 1/2 \text{ } (?)$ : [10,]
3	$pzy=f \text{ } \bar{.} \text{ } \bar{hmt} \text{ } (?) \text{ } 6^{2/3}$	its $1/3 \text{ } (?)$ : $6^{2/3}$
4	$\text{ } \bar{pzy=f} \text{ } \bar{ } ^{1/10} \square 2$	its $1/10$ : 2,
5	$\text{ } \bar{pzy=f} \text{ } \bar{ } ^{1/60} \square 1/3$	its $1/60$ : $1/3$ .

On the basis of the fragment published in *BIFAO* 121, it had seemed that the pupils had to learn (or had access to) tables of integral dividers for different numbers (and the lines of column 2 had been reconstructed accordingly). The new fragments show that the approach was different: in order to achieve sums of unit fractions starting with the largest possible one, the point of departure seems to have been tables listing unit fractions of these numbers, as is clear from the use of  $1/3$  which, for 20, does not result in an integral, but in  $6^{2/3}$ . The pupil first selected the largest unit fraction that gave a result equal or smaller than the denominator and, if there was a remainder, proceeded in descending size of unit fractions. Note that there is a mistake in the division of 6 by 20: the pupil should have used a split of 6 into 5+1 and therefore written  $pzy=f^{1/4} \square 5$ ,  $pzy=f^{1/20} \square 1$ .

Concave:

While this had been understood as an unconnected auxiliary calculation in *BIFAO* 121, the new fragments, although only inscribed on the convex side, allow us to understand this as the last division of the exercise, i.e. 19 divided by 20.

- 1 The descending stroke of the number 19 is vertical, as is normally the case in the ostraca from Hut-Repit.
- 2 After 20, which constitutes the end of the subtitle of the preceding line, a space is left. The following, very rubbed, ink traces had not been taken into account in the facsimile in *BIFAO* 121: they should belong to  $pzy=f\frac{1}{2}$ .
- 3 The reading of the beginning of this line remains uncertain: in order for the result to be  $6\frac{2}{3}$ , which is clearly visible at the end, the unit fraction needs to be  $\frac{1}{3}$ , as in col. 2 l. 8 on the convex side. However, after the two small strokes for  $pzy=f$ , there are clearly at least two signs, of which the one on the left resembles the metal or seated child determinative – this is the sign that had been interpreted as 90 in *BIFAO* 121, based on similar shapes of this number in the 9<sup>th</sup> Upper Egyptian province. Could this be an unusual word-writing of “one third”, derived from the root *hmt* “three” (Akhmimic ⲉⲗⲙⲧ<sup>94</sup>), expressed here unetymologically with the word *hmt* “copper” (Akhmimic ⲉⲗⲙⲧ<sup>95</sup>)?

The number of school ostraca from Hut-Repit will likely still increase with the ongoing excavations, but it is already now equalling, if not already surpassing, the slightly later material from Narmouthis. The large variety of attested exercises will undoubtedly help us better understand how an Egyptian temple school in the late Ptolemaic and early Roman period taught apprentice priests the various subjects they needed to know in order to accomplish their duties.

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<sup>94</sup> CRUM, *Coptic Dictionary*, 566b. The fraction is expressed in Sahidic as ⲡⲮⲮ(ⲱ)ⲛ ⲛⲱⲮⲟⲙⲧ (from ⲟⲮⲱⲛ “part”, CRUM, *Coptic Dictionary*, 483a-b).

<sup>95</sup> CRUM, *Coptic Dictionary*, 678a.

820 000000 850 000000 880 000000 910 000000 940 000000 970 000000 1000 000000 1030 000000 1060 000000 1090 000000 1120 000000 1150 000000 1180 000000 1210 000000

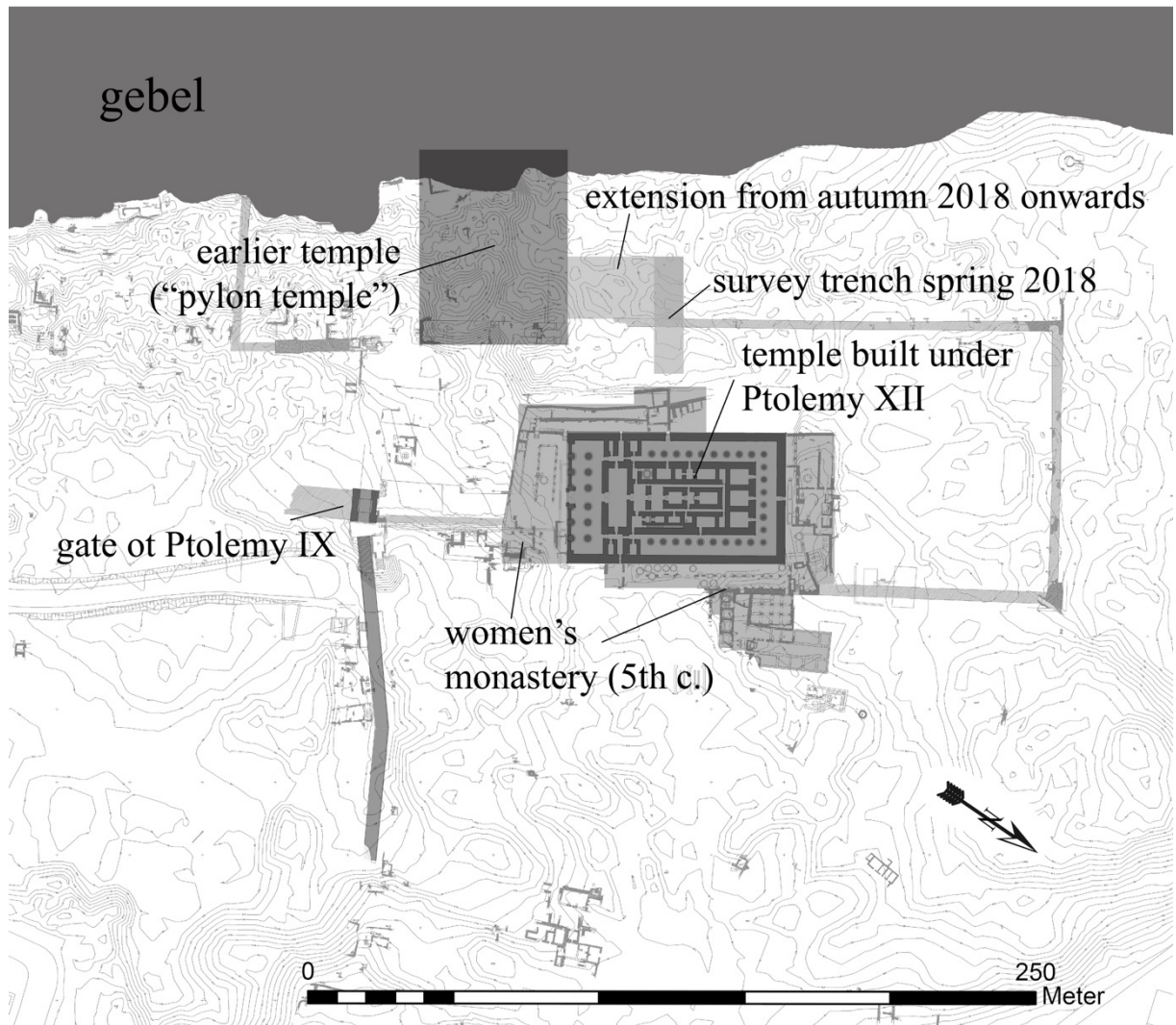


Fig. 1: Site map (Athribis project, Tübingen)

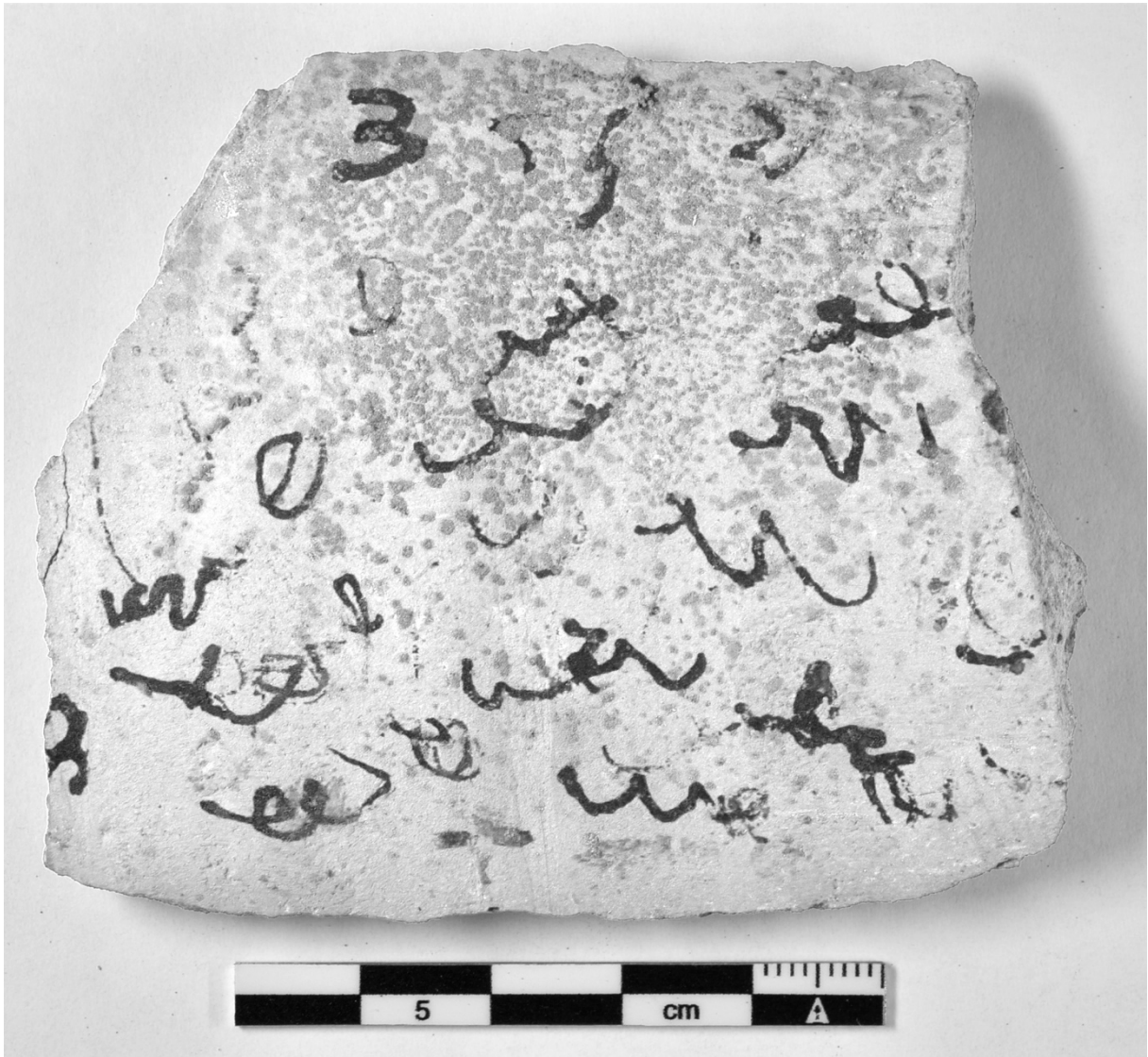


Fig. 2: ostracon Athribis 20-36-64/1442 (image: Athribis project Tübingen)



Fig. 3: ostracon Athribis 16-33-5/5 (image: Athribis project Tübingen)





Fig. 4: ostracon Athribis 17-36-5/2323 (image: Athribis project Tübingen)



Fig. 5 et 6: ostracon Athribis 17-36-5/5002 (image: Athribis project Tübingen, facsimile: Lippert)



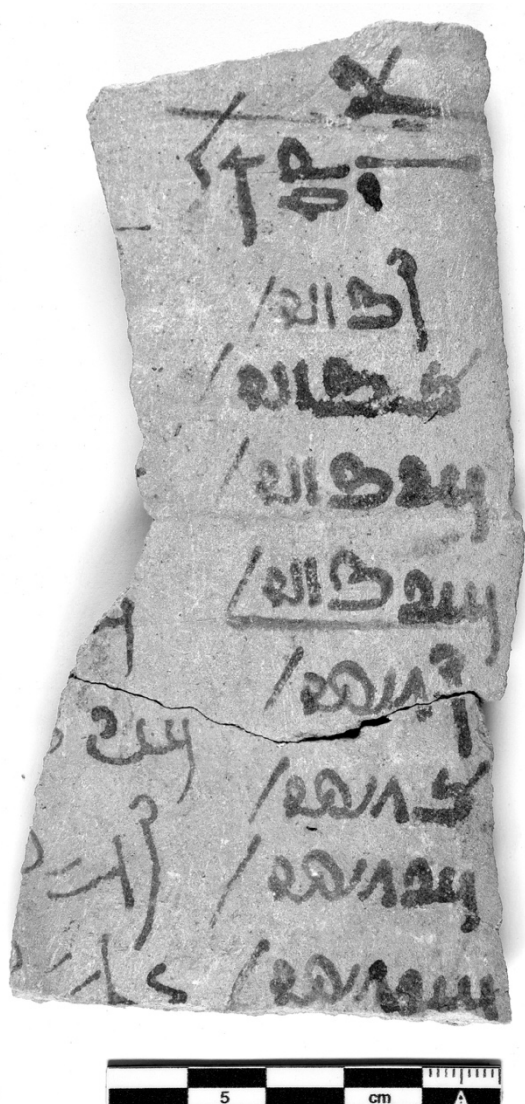


Fig. 7: ostracon Athribis 17-36-5/4313+5420 (image: Athribis project Tübingen)

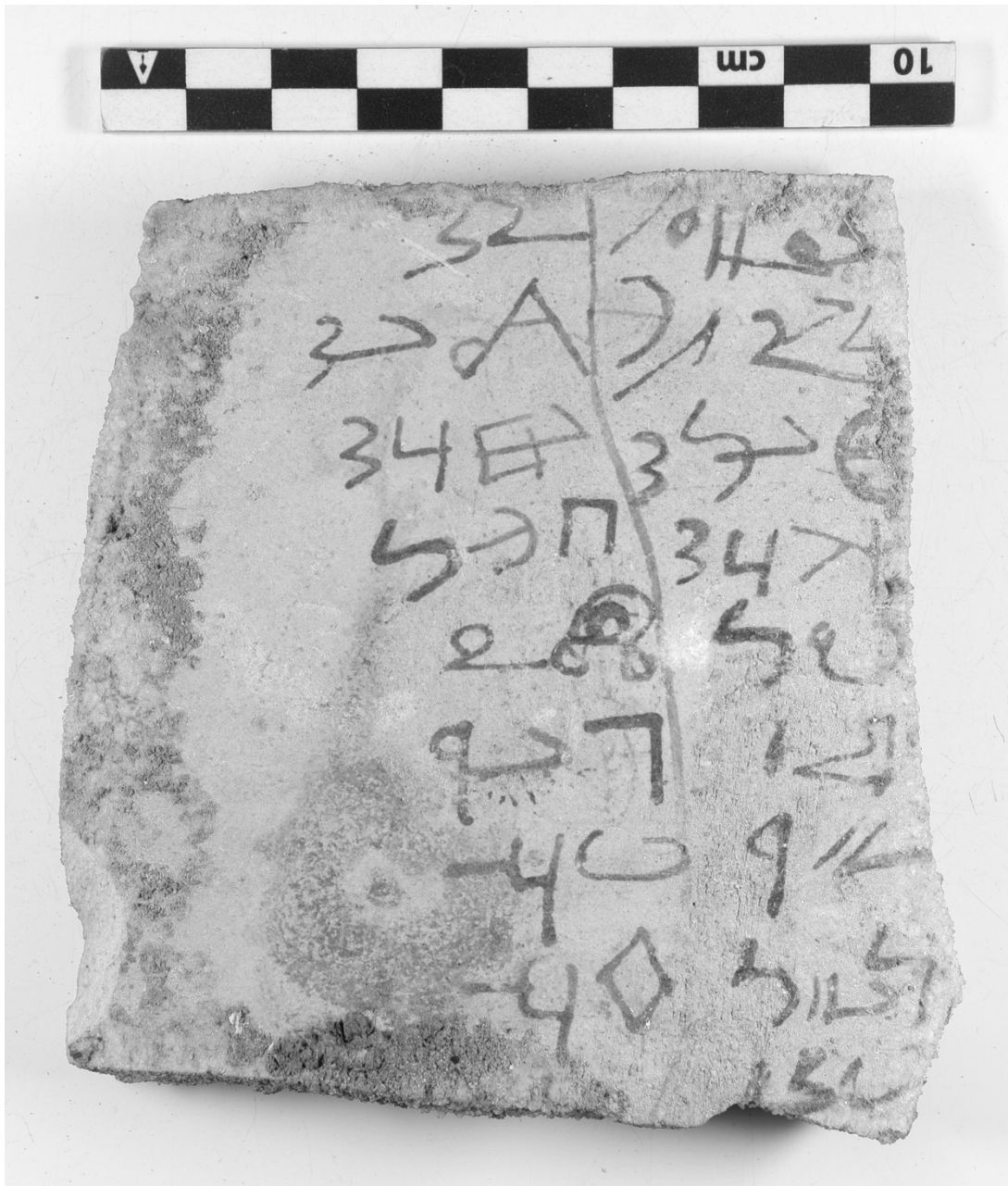


Fig. 8: ostracon Athribis 19-36-61/3133 (image: Athribis project Tübingen)

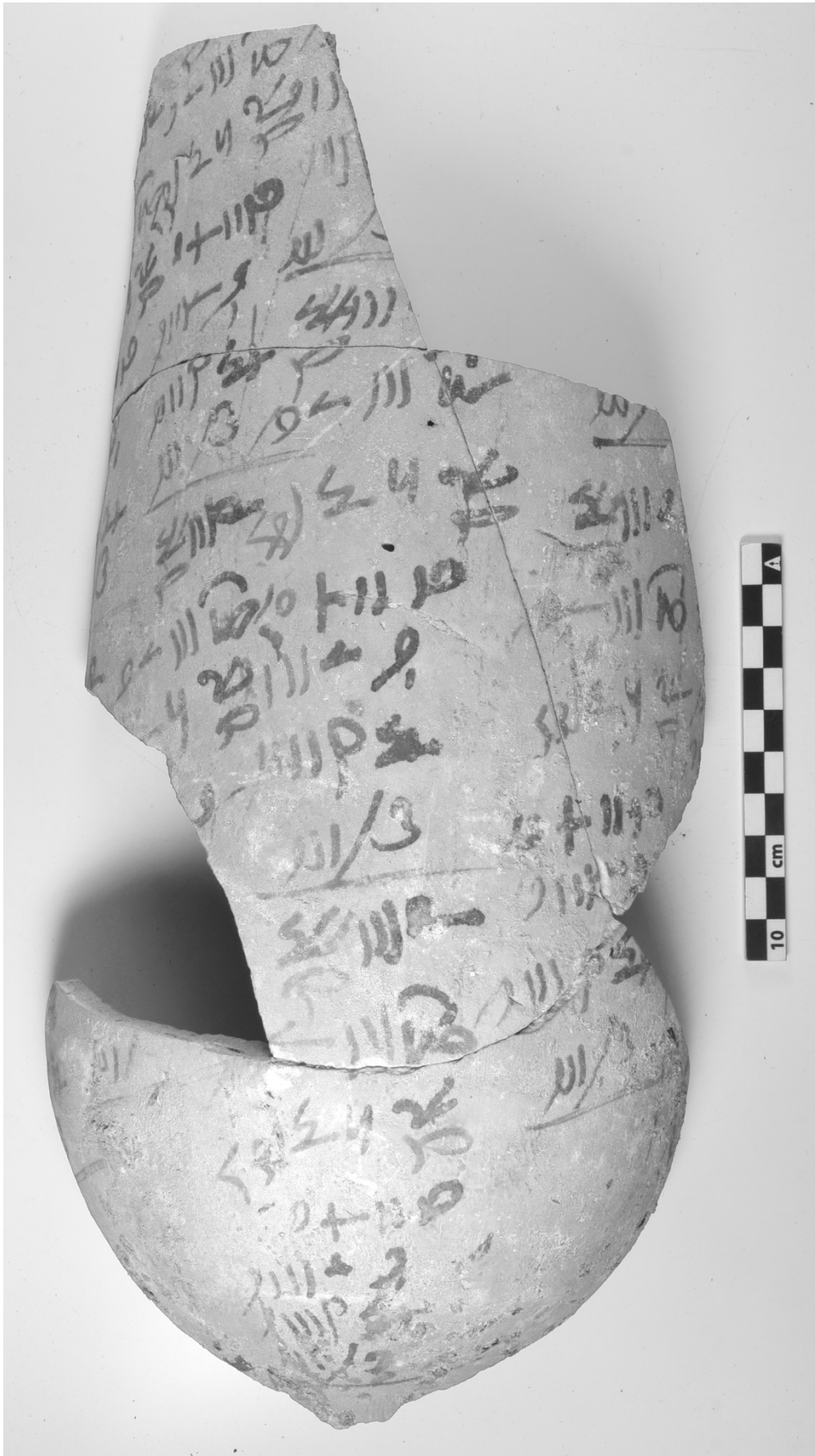


Fig. 9: “la potiche” (image: Athribis project Tübingen)

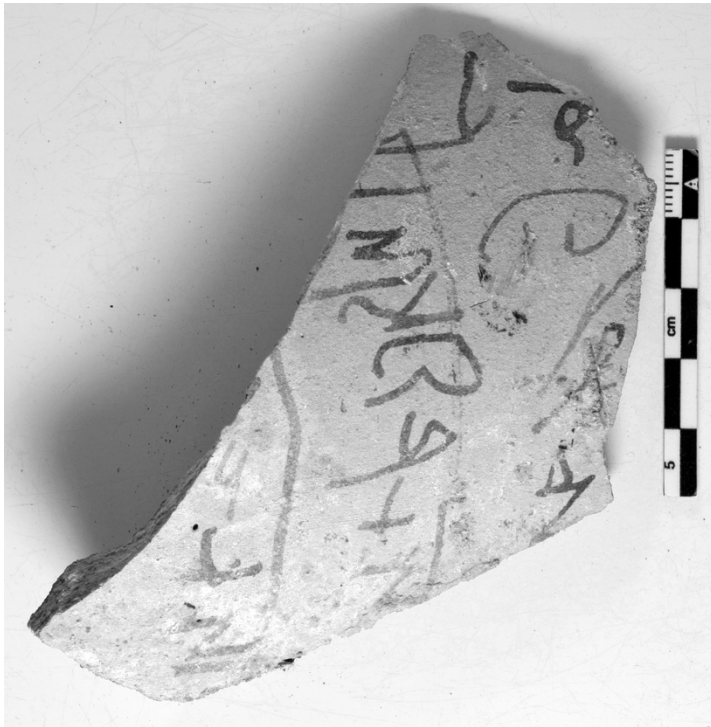


Fig. 10: ostracon Athribis 19-36-61/2371 (image: Athribis project Tübingen)

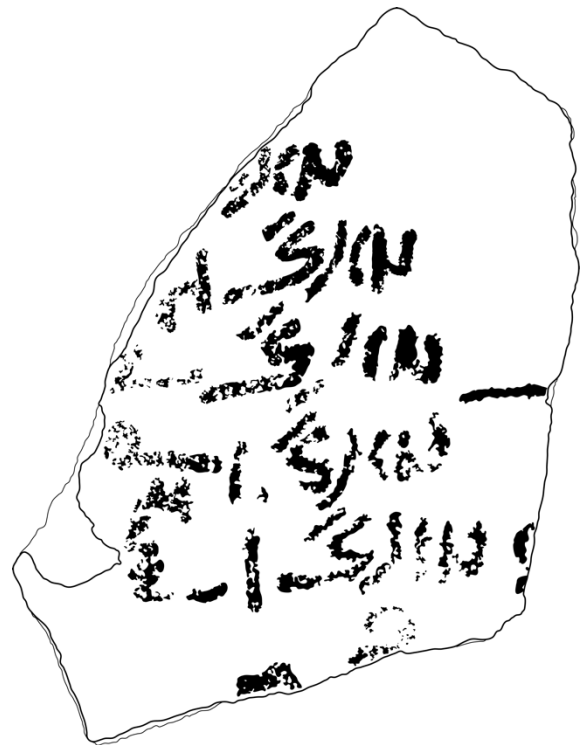
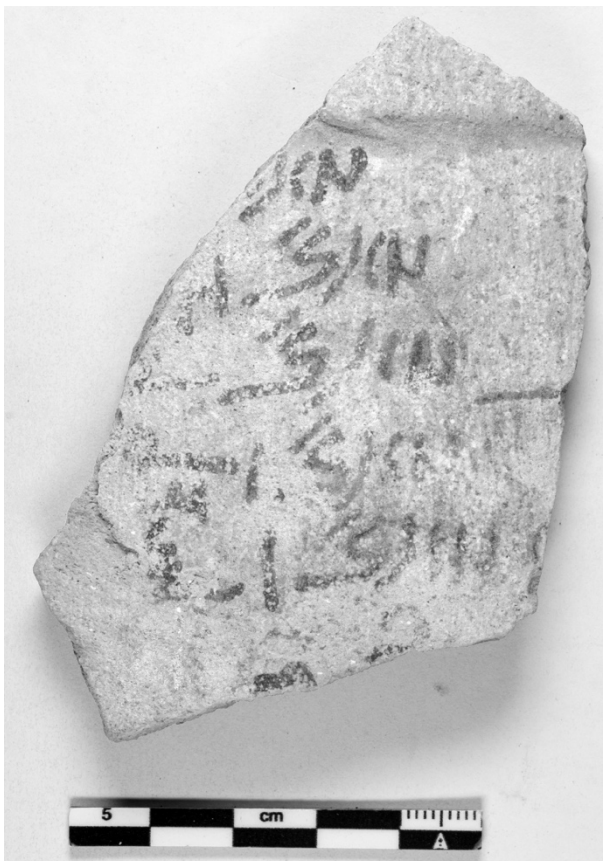


Fig. 11 and 12: ostracon Athribis 17-36-5/3927 (image: Athribis project Tübingen, facsimile: Lippert)

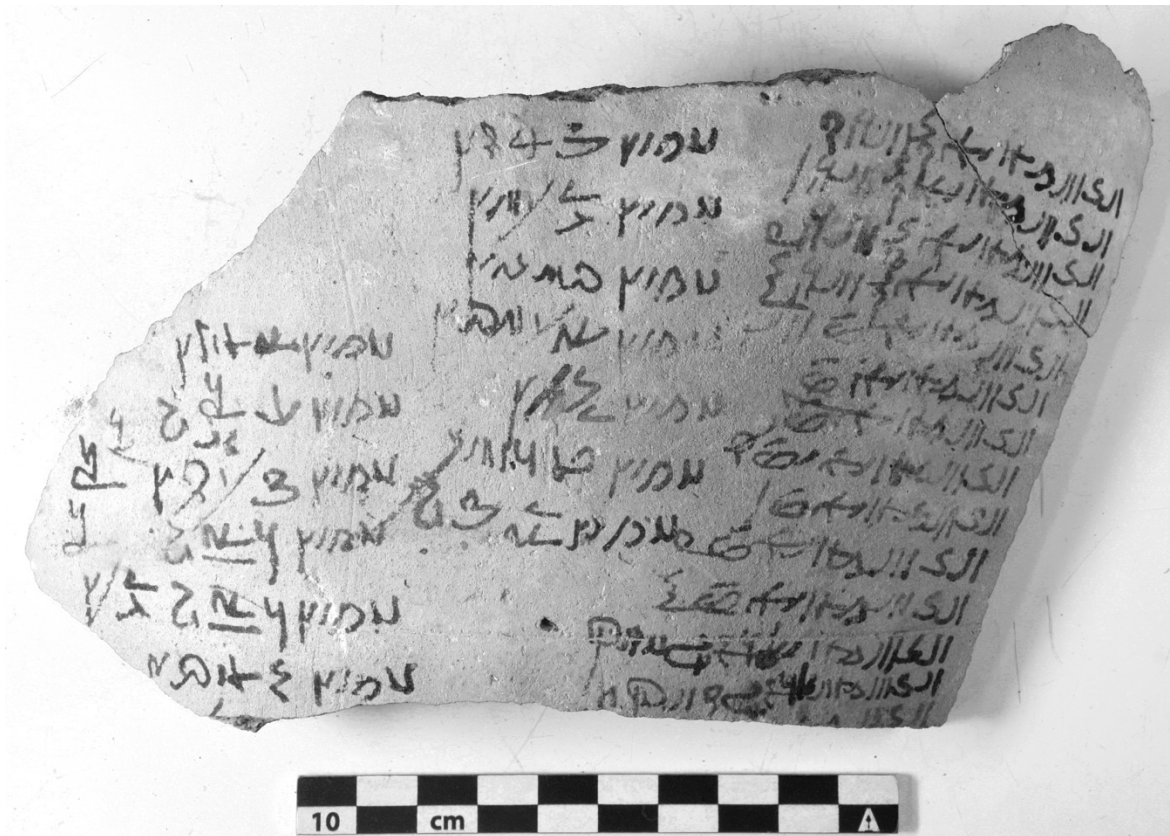


Fig. 13: ostracon Athribis 19-36-61/3327 (image: Athribis project Tübingen)

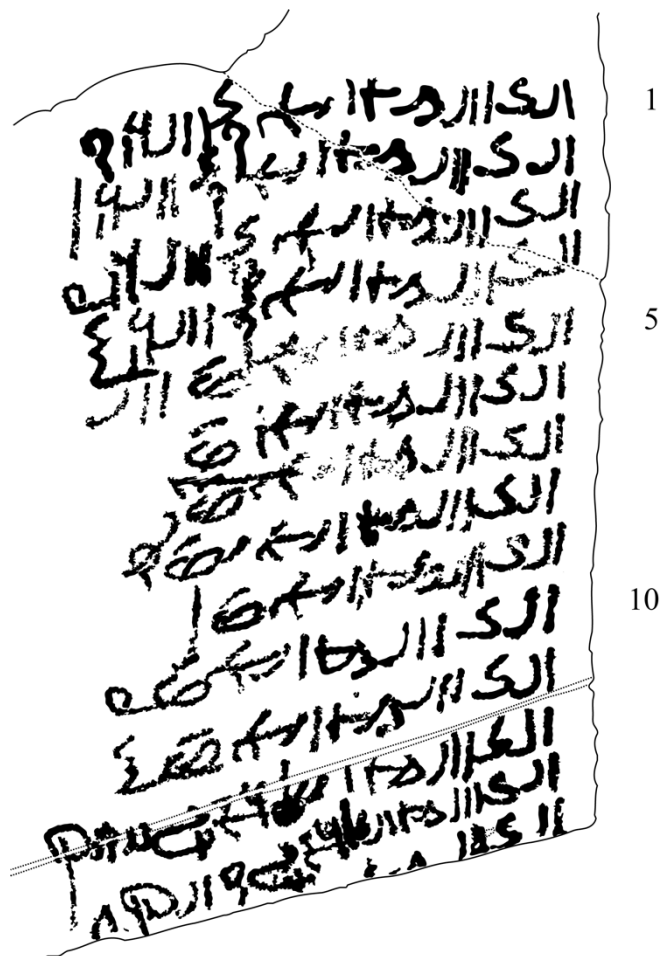


Fig. 14: ostrakon Athribis 19-36-61/3327, col. 1 (facsimile: Lippert)

1  
5

Fig. 15: ostrakon Athribis 19-36-61/3327, col. 2 (facsimile: Lippert)

1  
5

Fig. 16: ostrakon Athribis 19-36-61/3327, col. 3 (facsimile: Lippert)

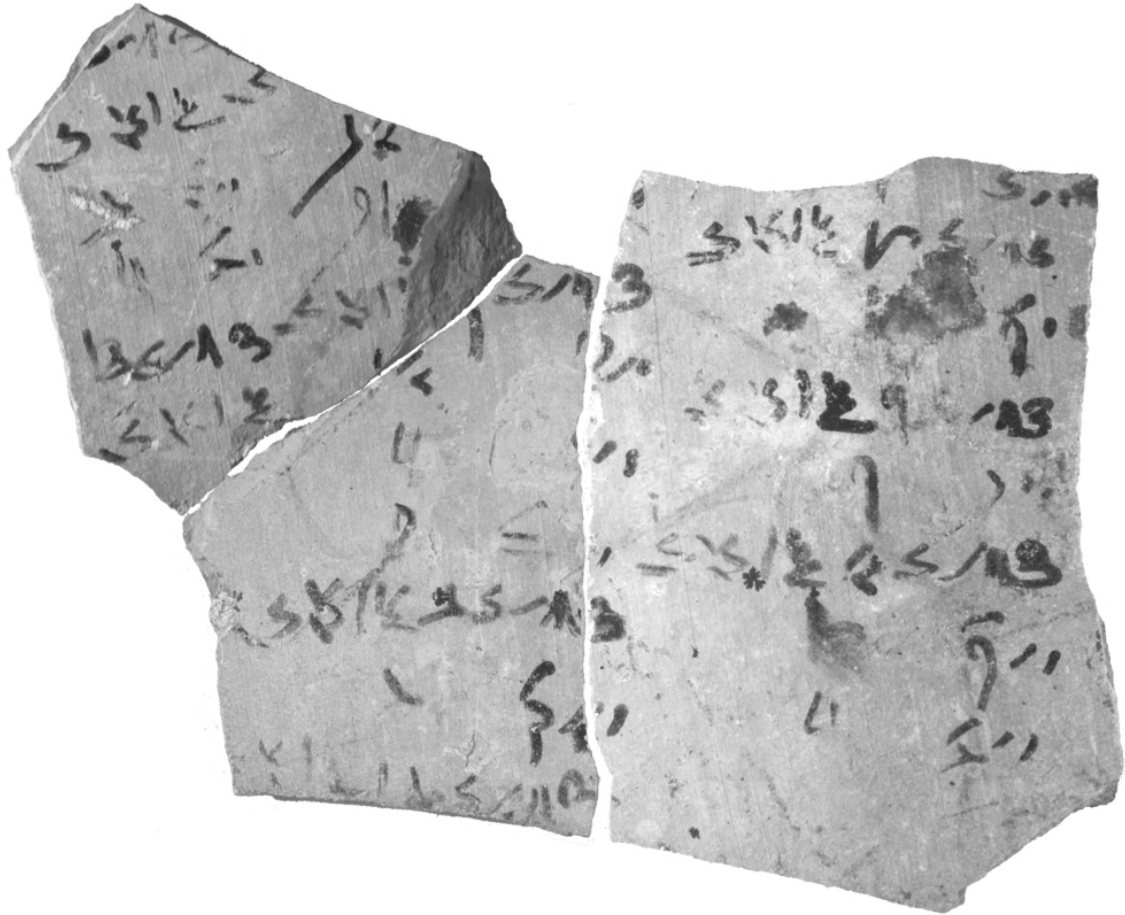


Fig. 17: ostracon Athribis 16-33-33/2 + 18-36-2/2138 + 19-0/2069, outside (image: Athribis project Tübingen)

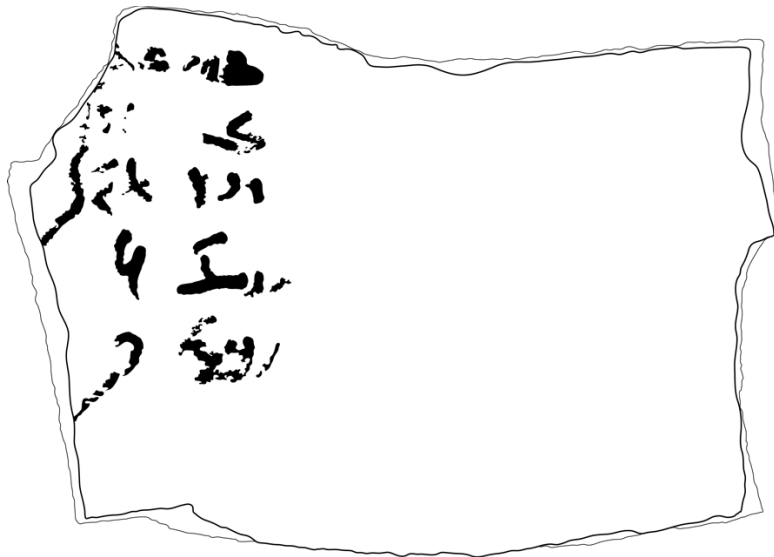


Fig. 18: ostracon Athribis 16-33-33/2 + 18-36-2/2138 + 19-0/2069, inside (facsimile: Lippert)