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VI

LANGUAGE, LITERATURE AND TEXTS

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Two Demotic Ostraca from the Ashmolean Museum, Oxford

WO DEMOTIC OSTRACA dated to the Roman period and belonging to the collections of the Ashmolean Museum, Oxford, previously of the Bodleian library, are presented here. The first one informs us about a working day accomplished by the bankers of the royal bank of Thebes. The second one is a receipt for an obscure tax paid in money to the bank of *Dm3*. Both texts reveal unique scribal practices.

Ostracon 1. Oxford, Bodleian library, Bodl. Eg. Inscrip. 51	(fig. 1)
Provenance: probably Thebes (acquired by J.G. Milne) ¹	
Date: Roman period ²	
Description: potsherd of light color, written on one side of the potsherd with a possibility a palimpsest	of being
Transliteration:	

- 1. r.wt P3-tj-Hnsw s3 Pa-Mnt r p3 shn
- 2. pr-'3 br t3 s.t-iwn Gpls n
- 3. Pa-rl ms.t Tj3n hr p3 ht tmn 4
- 4. n Gljmts sttr 3.t 'rmt Twtw'
- 5.Rwl² ... sttr 2.t...

Translation:

- 1. What Petechonsis son of Pamonthes paid to the bank
- 2. of the Pharaoh (royal) for the bath (tax), Kephalos to
- 3. Pahrer the interest (of) Theon for the tax of 4 temen

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This ostracon previously belonged to the collection of the Bodleian library, then all Bodleian ostraca were sent to the Ashmolean Museum, whereas the papyri remained in the Bodleian library (information kindly provided by Dr. Helen Whitehouse, formerly in charge of the Department of Antiquities of the Ashmolean Museum).
 The paleographical features of the text, the thin pointed script resulted from using the Greek reed pen, suggest decisively the Roman period as a possible date for this ostracon: DEPAUW 1997, p. 26.

- 4. to Kallemachos 3 staters the man of Totoes
- 5. Lelous... 2 staters...

Line commentary:

L. 2. Two diagonal signs are written for the '. w. s. formula, occurring after the god's determinative in *pr-*'3, instead of three, which is a common scribal practice.³

The preposition $\underline{h}r$ "for" is written as two diagonal strokes, which is one of the variants from the Roman period.⁴

The feminine definite article preceding *s.t-iwn*, is rounded in an exaggerated way.

Gpls is probably one of the variants of *Gphls*,⁵ with the determinative for foreign names.⁶

L. 3. *Pa-rl* is a possible variant of the name *P3-rr*,⁷ with the sitting man determinative.

The vertical stroke appearing between *ms.t* and the proper name *Tj3n* could have been added by the scribe to separate between the two words, or it might have been traces of a previous text, not fully obliterated.

tmn, in the formula of p_{3} *ht tmn 4* "the tax of 4 *temen*", is legible, but no parallel word could be found. Its meaning can be speculated in virtue of the occurrence of p_{3} *ht* (the tax) as a type of taxes raised during the Roman period.

L. 4. *Gljmts* could be suggested as a variant of the proper name *Gljmqs*⁸ with a clear determinative for foreign names.

The curve representing the *r* and *t* signs in the group of *rmt* "man" is formed in a rounded shape.⁹

L. 5. *Rwl3* is a plausible variant of the name *Llw3*.¹⁰

General Commentary:

This document represents what seems to be a Roman tax receipt, in which Petechonsis son of Pamonthes made a money payment to the royal bank, the financial institution receiving all types of state dues made in money,^{II} for the bath tax (L.I: r.wt P3-tj-Hnsw s3 Pa-Mnt r p3 shn "What Petechonsis son of Pamonthes paid to the bank" L.2: pr-53 hr t3 s.t-iwn "of the Pharaoh (royal bank) for the bath (tax)"). After this statement the sum paid was supposed to be mentioned, instead, we find many personal names, with two sums of money, which are not relevant to the bath tax:

L. 2. Gpls n "Kephalos to";

L. 3. *Pa-rl ms.t Tj3n hr p3 ht tmn 4* "Pahrer the interest (of) Theon for the tax of 4 *tmn*";

- L. 4. n Gljmts sttr 3.t 'rmt Twtw' "to Kallemachos 3 staters the man of Totoes";
- L. 5. Rwl3... sttr 2.t... "..... Lelous... 2 staters..."

3. LICHTHEIM 1957, no. 1.5-6, no. 2.3, no. 3.4, no. 4.3, no. 5.3, no. 7.2, no. 16.3, no. 71.2, no. 73.1.

4. Erichsen 1954, p. 386.

5. DNB, p. 1022.

6. Greek male names were normally followed by either the foreigner determinative or that of the sitting man: CLARYSSE 2013.

- 7. DNB, p. 198.
- 8. DNB, p. 1036.
- 9. El-Aguizy 1998, pp. 199, 396–97.
- 10. Lwl3 and Rwr3 are the closest variants to it; DNB, p. 727.

11. Pestman 1993, p. 334.

The bath tax ($\beta\alpha\lambda\alpha\nu\epsilon\nu\tau\iota\kappa\dot{o}\nu$) was a capitation tax paid by each taxpayer whether he used baths or not, in order to support public baths. It was paid at the rate of one kite (=2 *drachmae*),¹² either in full or in two installments¹³ (½ *kite* and 5 *obols*¹⁴). Sometimes the tax was paid together with other taxes like *poll* (^{*c*}*p.t-* $\lambda\alpha\circ\gamma\rho\alpha\phi\iota\alpha$), *dike* (*nbj-* $\chi\omega\mu\alpha\tau\iota\kappa\dot{o}\nu$) and *apomoira* taxes, where the sums paid per each tax were mentioned separately.¹⁵ Demotic tax receipts issued by banks normally bear no signature of bankers, while those issued by tax collectors always included their signatures.¹⁶ So, it is too difficult to guess the identity of those appearing in the text. The formula of this text also reveals irregularities compared to the usual Roman tax receipts formulae, represented in:

- the negligence of the sum paid for the bath tax;
- the recurrence of persons who seemed to be responsible for receiving different money payments;
- the mentioning of the interest of Theon paid for the obscure tax of tmn 4;
- the appearance of two sums without revealing the type of taxes for which they were paid (3 and 2 staters);
- neither the date in which the tax was paid nor that of the issuing of the receipt was mentioned.

Accordingly, it can be proposed that this text is a kind of daily documentation of the activities carried out by the bankers serving at the royal bank, so that it may be used as a proof of executing their responsibilities when the moment of drawing up the payroll came.

Ostracon 2	Oxford, Bodleian library, Bodl. Eg. Inscrip. 52	(fig. 2)
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Provenance: Jeme (Ta Memnoneia)¹⁷

Date: Year 30 of Augustus (5 April 1 AD)

Description: Potsherd of light color, written on one side of the potsherd

Transliteration:

- 1. r. in P3-šr-Mnt s3 Pa-Mnt s3 Hr-s3-Is.t r p3 shn
- 2. *n n3* ⁽.*wj.w m*ḥ*tj.w* <u>b</u>r ḥ*t* ḥ.....
- 3. kt 1.t 1/2 tb' 41/2 r kt 1/2 tb' 51/4 r kt 1.t 1/2 tb' 41/2 'n
- 4. n h3.t-sp 30.t ibt-4 pr.t sw 10

13. Wallace 1938, p. 158.

14. LICHTHEIM 1957, no. 35.3.

15. LICHTHEIM 1957, nos. 38–45, nos. 47–48.

16. During the Roman period, the Ptolemaic system of tax farming was gradually converted into a system of direct collection by government officials; LICHTHEIM 1957, p.17; nos. 115–116.

17. The museum's register refers to Thebes as a provenance of this ostracon.

^{12.} Two exaggerated payments appeared, the first of which was 40 drachmae (= 20 kite) at Dendera (Wallace 1938, p. 159), the other was 200 tbn (= 2000 kite) at Thebes (NUR EL-DIN 1974, no. 19.3).

Translation:

- 1. What Psenmonthes son of Pamonthes son of Harsiesis paid to the bank
- 2. of the northern quarters for the tax of *b*.....
- 3. 1½ kite 4½ obols make ½ kite 5¼ obols make 1½ kite 4½ obols again
- 4. in year 30 Pharmouthi day 10.

Line commentary:

L. 2. The curve ending the sign for *br* is not fully closed.

The name of the tax that is supposed to occur after hrht "for the tax", which starts with h, was probably erased then rewritten by the scribe. That is why the signs of this word are illegible.

- L. 3. The sign for the fraction ¼ is written under the figure 5 in a ligatured form. In the repetition of the total sum paid (kt 1.t ½ tb^c 4½) before *cn* "again", number 4¹⁸ is written in an odd form ligatured with ½. This peculiarity can be explained as both of 4 and ½ were written on other signs written by mistake by the scribe who neglected to erase them.
- L. 4. The four strokes forming *ibt-4* "fourth month" are written separately instead of being joined. This scribal practice is known from other variants of this figure.¹⁹

The cursive form of the *pr.t* season can be attested in other tax receipts from *Dm3*.²⁰

General commentary:

This ostracon bears a text representing a money payment made by *P3-šr-Mnt* s3 *Pa-Mnt* s3 *Hr-s3-Is.t* for a tax, unfortunately illegible (l. 2: *br ht h.....* "for the tax of *h.....*"). The sum paid was remitted to the financial institution located at *Dm3* that is *p3 shn n n3* '.*wj.w mhtj.w* "the bank of the northern quarters". During the Ptolemaic period, those who lived at Thebes on the east bank of the Nile had to pay their money payments, due to the state, to the bank of Thebes, while those who lived at *Dm3*, extending between Deir el-Medina and Dra Abu el-Naga in the north and Medinet Habu and Hermonthis in the south, on the west bank of the Nile opposite Thebes, had to pay their state dues to the bank located at Hermonthis. The reason behind this is that *Dm3* did not have a bank of its own. Moreover, *Dm3* administratively belonged to Pathyris (Gebelein),²¹ whose administrative authorities, bank, agoranomos and registration office, were located at Hermonthis.²² But starting from the beginning of the Roman period (during the reign of Augustus), or perhaps earlier, the bank of the north enorth enorth and the north enorth and the north enorth en

The payer of this receipt and two persons, probably his brothers, were attested as taxpayers in the receipts coming from Medinet Habu and published by Miriam Lichtheim,²⁴ where our payer appeared in a receipt, dated to year 38 of Augustus, acknowledging a money payment made to the

19. NUR EL-DIN 1974, no. 30.3, no. 411.3.

- 21. 25 kilometers southwest of Thebes.
- **22.** Pestman 1993, p. 353, pp. 411–413.
- 23. Lichtheim 1957, nos. 110–114; Nur el-Din 1974, no. 58.
- 24. LICHTHEIM 1957, nos. 59, 86, 93.

^{18.} Cf. other odd forms of number four in: NUR EL-DIN 1974, no. 162.3, no. 290.8.

^{20.} LICHTHEIM 1957, no. 63.6.

same financial institution for the hay seller's tax (*s n sm*). As for his two brothers, one of them (*Ns-n.j:hmn.w s.j pa-Mnt s.j Hr-s.j-Is.t*) appeared as a payer of an amount of wheat made for the land rental (*hw 'hwtj*) and a priestly tax (*hr n.j 'j.w n s.j 5* "for the chiefs of the five phylae"²⁵) in a receipt of year 40 of the reign of Augustus from *Dm.j.* However, his second brother (*Stj?²⁶ s.j pa-Mnt s.j Hr-s.j-Is.t*) occurred as a payer of an amount of sesame made either for a land rental or a loan²⁷ in a receipt from *Dm.j.* belonging to year 34 of Augustus.

These documents unveil the identity of our payer and his brothers as peasants in the society of Dm3 during the reign of Augustus, where one of the two brothers was also a priest probably at the temple of the god having the same name as the district, i.e. Dm3.

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25. Miriam Lichtheim suggested that this tax was a kind of annual tax to which all priests were subject: LICHTHEIM 1957, pp. 18–19.

26. *štj* is my suggestion as Lichtheim left it unread.

27. The payment was made to the granary of Apollonides the strategos specialized in collecting land rentals and making and collecting loans of seed grain. LICHTHEIM 1957, p. 35.







Fig. 2. Ostracon Bodl. Eg. Inscrip. 52.

Five Unpublished Ostraca Preserved in the Coptic Museum, Cairo

HE PURPOSE of this article is to present five unpublished Coptic ostraca that are kept in the magazines of the Coptic Museum (CM). These ostraca were selected from the inventory of the Coptic Museum as part of my MA thesis.¹ Unfortunately, no information on their provenance and history is available in the museum's register. Some data is provided by S. Kent Brown in *The Ostraca of the Coptic Museum in Old Cairo, Egypt* (2009), a complete catalog of the 1,127 ostraca.

A LETTER FROM PAUL AND ESDRA TO ANANIAS

CM no. 4530.109	

Material: Pottery.

Dimensions: A: $8,0 \times 6,0$ cm; B: $5,6 \times 3,0$ cm.

Condition: Two disconnected fragments. The ink is friable and smudged.

Description: Brown, ribbed, pitch on back, pink slip. Text on one side; semi-skilled hand; apparently nine lines.²

Provenance: Thebes?³

I.

Date: 6th–7th centuries?

* I would like to thank Prof. Paola Buzi (Sapienza University), Dr. Frederic Krueger (Freie Universität Berlin) and Dr. Arto Belekdanian (PhD University of Oxford) for their assistance.

1. I obtained the approval of the Supreme Council of Antiquities to study and publish a collection of Coptic ostraca from the Coptic Museum for my Master's thesis (Sohag University, 2015) and these five ostraca are part of this collection.

2. Brown 2009, p. 125.

3. This letter was only translated in CRUM, WHITE 1926, no. 492, a publication about the Coptic ostraca and papyri from the Monastery of Epiphanius at Thebes. Regarding the provenance of this ostracon, he mentions that it was "found in the ruined Christian buildings at the tomb of Daga also a number of other ostraca found at certain outlying sites, together with some others acquired by purchase and of uncertain provenance."

TEXT AND TRANSLATION

(A)

[φορπ/γλθη μέν μπφλχέ] νταμντειλαχιστο[ς [φωινε/τνπροσκ ετεκμντειωτ] ετ<τ>λιηγ γμ πχωκ[νταψγχη] ία ντετν ρ π `εν΄ μεγ[ε γμπ4ι εγραϊ 4 ννεκ] σιχ φταμο [

(B)

]о епсок а[+(?) споуч ес гепе ачеі е[етрепсемпау пач ?

8 μ ταας μπαθιώτ αναν<ι?>a[c(?) είτν παγλος μν ες.Δρά

[Before (coming to) the affair] (I) of my humility [I greet your] (2) revered [Fatherhood(?)] in the fullness [of my soul(?) Be so] (3-4) kind and remember us [in the raising up of your] hands. I inform (?) (5) A sack (6) last year(?) behold, he came to (7) to do it for him (8) give it to Ananias (9) from Paul and Esdra.

I.2. COMMENTARY

Not much can be said about the content of this letter. However, it is obviously a reply to a letter from Paul and Esdra to a clergyman (whom the author calls "my father" in the address formula l. 8–9).

- 1. I. The restoration [ΦΟΡΠ/ελθΗ ΜΕΝ ΜΠΟΔΧΕ] is based on ΝΤΑΜΝΤΕΙΔΑΧΙCΤΟ[c from the Greek word ἐλάχιστος.⁴
- **1.2.** The restoration [+ФЛИС/ТИПРОСК СТСКМИТСИФТ] is based on СТ<Т>АНУ "honorable" that follows it, which together form a common greeting formula.⁵
- 1. 3. Dr. Frederic Krueger pointed out that it could be read īā мтетмр п `єм' мєх[єром(?) "that you may be our security" (ἐνέχυρον).
- **1. 5.** A sack is mentioned COK "which may have held fodder or corn".
- **1.6.** The enclitic particle $\in c = 26 \Pi e^6$, is known in texts from the 6th to the 8th centuries.⁷
- 1. 7. At the line faint traces.
- **1.8.** TARC in the address formula is usually translated as "give it", i.e. an imperative. But Prof. Heinz-Josef pointed out that it should be translated as an infinitive, in accordance with the Coptic form used.⁸
- 4. CRUM, WHITE 1926, nos. 127, 174 and 180; BIEDENKOPF-ZIEHNER 2000, p. 197.
- 5. CRUM, WHITE 1926, nos. 180, 296, 340 and 341; CRUM 1902, nos. 98, 103 and 152.

- 7. Biedenkopf-Ziehner 1983, p. 22.
- 8. Markiewicz 1999, p. 80.

I+I+

^{6.} Elnassari 2011, pp. 1–14.

AN INCOMPLETE LETTER THAT INCLUDES A REQUEST

CM no. 4604	(fig

Material: Pottery.

Dimensions: $11,3 \times 9,7$ cm.

Condition: The text is badly damaged.

Description: Brown, ribbed, pitch on back surface. Text on one side; semi-skilled hand with ligatures; nine lines.

The text was written in black ink on the recto only. Nine lines remain: the ostracon is broken at the top left and on the right side, resulting in loss of the sentence endings; the ink has deteriorated and there are many ligatures.

Provenance: Unknown.

Date: 4th-8th centuries?

2.I. TEXT AND TRANSLATION

```
Р
маре текмпт
еют етоуаав фаопа[с]
мфш...
4 епеч...
```

```
же...
(?). ммоч ем пефв м...
моуаі жекас нек...
8 ...каі гар
```

...€λλ@...

(1) May your (2) holy fatherhood give (a?) bowl/pan?(3) to/of Pho...(or v~wb?) ... (4) ...(?) (5) ...(?)
(6) it/him in the matter of... (7) so that your... (?) (8) ...(?) for that... (9) ...(?)

2.2. COMMENTARY

This letter is incomplete, and the sender's name is now lost. The addressee may be a clergyman, where we read TEKMNTEIDT ETOYAAB.

1. 1-2. The sender asked him to give a bowl to/of someone whose name is incomplete: Pho(?).

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2.

(fig. 2)

A LETTER TO APA DIOS

CM no. 4541

Material: Limestone.

3+

Dimensions: $7,5 \times 12,5$ cm.

Description: White, now yellowed. Text on one side; unskilled hand; 14 lines.

Condition: Top and right edges of the text are chipped off. The ink on the left edge is chipped. The text is written in black ink. The top left and top right sides of the text are missing, which led to the loss of the beginnings and the endings of the sentences. The letters on the last two lines are faded.

(fig. 3)

Provenance: Thebes?

Date: 7th century?

3.1. TEXT AND TRANSLATION

[арі пла лгтллоу п]екоужаї лаї:ммол пагнт:0үш[ф] есфтм:пекоу

5 жаї: мпроф тарепжоеіс смоу єрок:тп нооу поужаї пне кферн.`анс'пасон

10 [λπ(?)]λ μαγνος:@[τ(?)] ογο:τλάς μ [πλ]ειώτ λπλ [λ.?]ιος ει[τν(...)]

(Please send?) (1) your health (2) to me, for (3) my heart wishes to hear (of) your (4) health (5) Do not delay, (6) so that God may (7) bless you! (8) Send (?) the health of your (9) sons (...) my brother (10) Apa(?) Magnus who is Honored(?) (11) Give it to (12) my father Apa (13) Dios (?) from (...).

3.2. COMMENTARY

This is a private/personal letter⁹. The name of the sender is now lost. It is addressed to someone named Apa Magnus asking him to send news of his health and that of his sons. The letter ends with the address formula. This type of letter is known as a friendship letter and was mostly written on limestone.

9. Contra: Brown (2009, p. 211), for whom the "subject of such ostracon is the authorization of a payment in a letter form."

- **1. I.** IJEKOY:XAI. The etymology of the word is the ancient Egyptian wd3, literally meaning "health". Anneliese Biedenkopf-Ziehner mentions that it expresses the meaning of "reply to a letter", which is similar in its use to the word GUNE, which means "news". It is mentioned in some letters that the sender asks the addressee to write to him about his health or news, which means that he is asked to write in response to his letter. The restoration [API TINA NFTENDOY] is based on TEKOY:XAI.¹⁰ So, the proposed supplement to this part is API TINA NFTENDOY or XOOY.
- 1. 3-5. Πλεητ:ογω[[0] εςωτώ:πεκογ:χαϊ:Μπρόω. This sentence is a kind of compliment that was common in friendship letters.

1. IO-II. 6[T(?)]0YO at the end of l. 10 the letter is lost. Perhaps we should read it 61620YO(?).

1. II-13. TAAC \overline{M} [TA]EIOT ATA [A.(?)]IOC 21[TN(...)].

Writing the address here confirms that the letter was delivered by the official post office and that the sender and the recipient were not in the same place.

Colons (:) are present (l. 2, 3, 4, 5, 6, 7 and 11) to separate words and sentences; a single dot (l. 9) also appears, possibly as a sign of separation.¹¹

This ostracon was probably found in Thebes, since most of the texts written on limestone flakes originated from western Thebes.¹²

A DEMARCATION OF A LAND PROPERTY

CM no. 4564	(fig. 4)

Material: Limestone. Dimensions: 12,7 × 9,3cm. Condition: The top edge of the text is broken off. The ink is faded, smudged. Description: White, now darkened. Text on one side; semi-skilled hand; six lines. Provenance: Thebes? Date: 6th–8th centuries?

4.I. TEXT AND TRANSLATION

- + neihbt +oy nnwe wn wom[te]
- 2 ΝΧΗCE• ΑΝ2ΗΤ• CNAY ΝΝΟΥ2 ΠΕΜΝΤ ΤΟΥ ΝΝΦ2 ΠΑΡΑ 4ΤΟ[ΟΥ] Νσοστ πρης 4τοογ Νηφ2
- 5 ПАРА \overline{MNTACE} \overline{NOCT} +

10. Crum 1902, Nos. 49–348.

4.

II. The single dot was used in Coptic texts as "a raised point written upon the line, a point on the line and a low point written under the line", see AHMED 2008, p. 23.

12. The single dot was used in Coptic texts as "a raised point written upon the line, a point on the line and a low point written under the line", see AHMED 2008, p. 23.

(1) The east: 5 ropes, and 3 *jêse*. (2) In the north: 2 ropes. (3) The west: 5 ropes minus 4 Kiost (a measure of length). (4) The south: 4 ropes (5) minus 16 Kiost.

4.2. COMMENTARY

This is a financial text.¹³ Apparently, it is a demarcation of a land property, indicating its exact dimensions. This kind of text was often sent to tax officials so that they can determine the level of taxation or the demarcation of this land in order to sell it.

The author may have started the text with with the Chi Rho or the staurogram, but we cannot be sure, as the top is broken off, and he ended the text with a Greek cross.

1. 1. NODE "a rope" is a unit of land and the Coptic equivalent of Greek σχοινίον,¹⁴ i.e. 100 cubits = 52.5 meters.¹⁵

1.2. XHCE is another unit of land, perhaps I/100 aroura.

1. 4-5. GOCT is a measure of length less than the unit of land (NOY2), the Egyptian word is gsti.¹⁶

A raised dot is used twice in l. 2. It resembles the verse dot which was used in hieratic texts. The dialect is Sahidic with some variations $\varepsilon > \mu$ in εHBT , $o\gamma > \omega$ in ND2.

It seems that the provenance of this text is Thebes, where the raised dot is attested in many texts from the Monastery of Epiphanius in Thebes.

5.

AN APPEAL TO SEVERAL MONKS FOR THEIR PRAYERS

CM no. 4565	(figs. 5–6)

Material: Limestone.

Dimensions: 11,9 \times 10,7cm.

Condition: The top left portion of the recto text is lost; the top of the verso text is chipped off. The ink is faded and friable.

Description: White, now darkened. Text on both sides; semi-skilled hand.

Provenance: Thebes?

Date: 7th century?

The text, written in black ink, begins on the recto and continues on the verso in reversed position. There are 12 lines of text on the recto, but most of them are barely legible. Furthermore, the left edge is broken, such that the beginnings of the first four lines are lost on the recto. The first three lines are clear, but only traces of the fourth survive.

13. Contra: BROWN (2009, p. 219), for whom the "subject of such an ostracon is a letter about goods purchased and delivered."

14. Crum 1939, p. 241a; Westendorf 1965, p. 134.

15. BAGNALL 2009, pp. 185–186.

16. Černy 1976, p. 337.

RECTO: TEXT AND TRANSLATION

```
апа данін[а 1-2]фі [соу (?)] к´д`
апа пагомо
```

3 апа беодорос пмарту рос етоуаав гамни

(I) Apa Daniel, the 24th [day(?)] (2) Apa Pachomius, (3–4) Apa Theodore the holy martyr! Amen.

5.2. RECTO: COMMENTARY

This is an invocation of saints, no doubt to pray to God for the writer's soul, as was extremely common in western Thebes. It is not clear whether Apa Daniel refers to the biblical prophet of the same name, or to the Apa Daniel who is known to have lived in the monastery of Deir el-Medina.

Pachomius is, of course, the famous founder of coenobitic monasticism in Upper Egypt.¹⁷ He and his teacher Palamon, as well as his successors (Theodore, Horsiese and Petronius), are often invoked in the prayers of West Thebes, like this one. It is possible that the Apa Theodore in this text is the successor of Pachomius. However, he was never specifically called 'the holy martyr', who is therefore probably one of the two great martyrs of this same name, Theodore the General or Theodore the Western.

5.3. VERSO: TEXT AND TRANSLATION

```
]ςογ
[λπλ πλ]εωμω
3 λπλ] θεολωγος
λπ]λ βεςλριον
λπ]λ Ϊεζεκιμλ
6 λπλ λλρων
```

- апа віктфр апа өєо[дфрос/досіос(?)]
- 9 апа фоів[аммфи]
 - апа [?] Флна
 - €**X**,⊞I

(1) ...] day(?) (2) [Apa Pa]chomius, (3) [Apa] Theodore, (4) [Ap]a Besarion, (5) [A]pa Ezekiel,
(6) Apa Aaron, (7) Apa Victor, (8) Apa Theo[dore/dosios (?)] (9) Apa Phoib[ammon], (10) Apa [(...)], (11–12) pray for me (!).

17. For more details about Pachomius, see VEILLEUX 1991.

5.1.

5-4- VERSO: COMMENTARY

Once again, this is a prayer addressed to several saints to pray to God for the writer's soul, this time followed by the typical request "pray for me".

We have Pachomius again, followed by Theodore and then Besarion (a fifth-century Egyptian monk who is celebrated on 17 June in Roman martyrology).¹⁸

Apa Ezekiel and Apa Aaron often appear in the Coptic ostraca kept in the Leipzig University Library. The former, and possibly the latter, may have been bishops. These ostraca also mention a monastery of Apa Ezekiel. An Apa Ezekiel lived with his disciple in Theban Tomb 1152, but these are not necessarily the same people. In any case, the name points to Thebes, as does Apa Aaron's, who, with his partner bishop Apa Andreas, was the leader of the monastic community in western Thebes, as the Leipzig ostraca show.¹⁹

Another Theodore, or perhaps Theodosius, appears next, followed by Apa Phoibammon, most likely the martyred saint of the great monastery of Hatshepsut's temple at Deir el-Bahari.²⁰ Another name on l. 10 is illegible.

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Fig. 1. Ostracon CM no. 4530.109.



Fig. 2. Ostracon CM no. 4604.



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Fig. 3. Ostracon CM no. 4541.



Fig. 4. Ostracon CM no. 4564.



Fig. 5. Ostracon CM no. 4565 (recto).

Fig. 6. Ostracon CM no. 4565 (verso).

Susanne Beck*

How Do You Spell This?

Deviations and Corrections in Papyrus AMS 23b (Old: Leiden I 347)

PAPYRUS AMS 23B

I.

Papyrus AMS 23b (old: Leiden I 347) is approx. 226.2cm long and has an average height of 15.7cm. The beginning of the manuscript is broken off, and the holes in the papyrus suggest that it was rolled. The papyrus only shows an inscription on the *recto* in 12 columns, with an average of 12 lines and a colophon (R:XIII) of three vertically lines. The text is written in a trained and even hand in a rather small script (height of the lines: 0.5–0.6cm). Paleographically, the papyrus dates to the end of the 18th dynasty (reign of Amenhotep III/IV).¹ The manuscript probably comes from the Memphite region.² It was part of Giovanni Anastasi's (1765–1860) private collection and was acquired by the Dutch state in Leghorn (I) in 1826.³ Today, it is kept in the Rijksmuseum van Oudheden (RMO), Leiden (NL).

The papyrus was never properly edited but—of course—did not go unnoticed through its history: the manuscript was briefly described by François Chabas in Conrad Leemans' catalogue, which contains a facsimile of the text.⁴ In 1885, Adam Massy presented an "edition" of the papyrus on 22 pages, including a commentary.⁵ Difficult passages are skipped in his transliteration and translation. Nevertheless, it is a remarkable work for his time. Allen H. Gardiner examined the text for the *Wörterbuch der ägyptischen Sprache*.⁶ Matthias Müller translated parts of the text⁷ and

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- 1. For further details, see the text edition by BECK 2023.
- 2. CHABAS 1901, p. 5; AL-SAYED 1982, p. 372. Compare also Müller 2008, p. 262.
- **3.** Chabas 1901, p. 5; Bierbrier 2012, p. 19; Beck 2019, p. 17.
- 4. Leemans 1840, pp. 63–64, pp. 73–74, pls. CXLI–CXLVI.

6. The card catalogue is accessible online ("http://aaew.bbaw.de/tla/index.html" accessed 1st October 2020) and almost includes all parts of the papyrus. ERMAN, GRAPOW (eds.) 1926–1950.

^{5.} Massy 1885.

^{7.} Müller 2008, pp. 262–274.

Joris F. Borghouts announced his planned edition during the ICE VI in Turin (I) in 1990, but this was never actualised.⁸ Furthermore, the text is mentioned in other publications here and there.⁹ The author of this paper is currently preparing a contemporary edition of this text.¹⁰

CONTENT OF THE PAPYRUS

The manuscript contains two different texts. As the beginning is broken off, no title of the "book" is known. The first composition (R:II–III4) is difficult to comprehend, as the papyrus is very fragmentary. Various offerings are presented to an anonymous god (?) who apparently is asked to protect the reciter of the text. It ends in a ritual instruction.

The second composition (R:IIII–XIII3) is a hymnic-magical text in five verses. The first two verses (R:IIII–10, III10–IV2) address Horus imi-Shenut^{II} (Hr.w jm.j Šn.wt). This is followed by a text on Horus of Athribis (R:IV3–V8). The main topic of this part is the lord of everything. Afterwards, "the gods in their shrines" ((ntr.w) jm.jw k r.w sn; R:V8-X2) are invoked. The verse also mentions to a certain degree topics on Horus of Athribis. At the end, he is directly named. The last verse addresses "the lords of eternity" ($nb.w nhh; R:X2-XIII_3$). This part picks up on the well-known facts of Horus as son of Isis, legitimate heir of Osiris, opponent of Seth, but his solar aspects as god of heaven are also used quite frequently. That these different verses belong to one main composition becomes clear at the end: in the ritual instruction, Horus imi-Shenut is named again as benefactor of the reciter.

3. DEVIATIONS AND CORRECTIONS

There are different types of approach for how to deal with deviations in manuscripts. It is often not entirely clear in how far the scribe really made a *mistake*, or if the text simply shows a deviation.¹²

Thomas G. Allen classifies different variations of the text as omissions, additions, transpositions, and interchanges.¹³ Thereby, every scribe develops his own features.¹⁴

Günter Burkard describes several mechanical *mistakes*, which are depending on how the text was produced: a manuscript can be copied by a template, written down from memory or dictated—

9. Vernus 1978; Al-Sayed 1982; Borghouts 1971, etc.

14. Allen 1960, pp. 20–25. Allen analysed the Book of the Dead.

2.

^{8.} BORGHOUTS 1991, pp. 106–107. The publication rights were passed on to C. Leitz before the current author received them.

^{10.} The edition of the papyrus is part of the habilitation project on falcon-headed crocodile deities with special focus on Horus imi-Shenut.

^{11.} For more information on Horus imi-Shenut, the discussion of the reading of his epithet, and more generally falcon-headed crocodile deities, see among others KEES 1929, pp. 107–112; CHASSINAT 1966-1968, pp. 333–337; BRESCIANI 1986, pp. 87–94; SETHE 1928 (ed. 1960), p. 145–187; KOCKELMANN 2017, I, pp. 198–199 and BECK 2023, pp. 139–171.

^{12.} See among others ZEIDLER 1999, pp. 19–22; BACKES 2011, pp. 455–456, 459.

^{13.} ALLEN 1960, p. 21 uses the word "transposition" to describe metathesis and the word "interchanges" for many different occurrences in the texts, such as change of signs (e.g. 3 to j), omission of plural or feminine markers, addition of signs in words, etc.

every method shows specific *mistakes*, which can only be identified if the method is known.¹⁵ The most typical are reading *errors*, hearing *errors*, and slips of memory,¹⁶ besides slips of the pen and editorial variations of the text as well as unexplainable deviations.¹⁷

According to Ursula Rößler-Köhler, *mistakes* are wittingly or unwittingly produced deviations from the template, which was used to create the text. These *mistakes* can be based on subtractions, additions or substitutions of single signs, words or complete phrases. These deviations are caused by distraction of the eye, lack of space, defective or fragmentary templates, attempts for corrections, slips of memory or other, indefinable reasons, besides conscious changes of the text. Therefore, there are three main *errors* that are on the one hand mechanical *mistakes*, slips of memory and correction *errors* and on the other *mistakes* by subtractions, addition and substitution.¹⁸

Jürgen Zeidler divides potential *errors* in reading *errors*, articulation *errors*, processing *errors*, slips of memory and slips of the pen, but he prefers the word deviation instead of *mistakes*, because not all deviations of a text have to forcibly be *errors*. Unconscious deviations can be subtractions, additions, substitutions, and permutation of single signs, words or phrases caused by the same reasons mentioned by U. Rößler-Köhler (see above). Conscious deviations are corrections and modernisations, text adaptions due to lack/plenty of space or adjustments for specific persons, locations or periods, besides spontaneous rephrasing, etc.¹⁹

All authors more or less agree that conscious and unconscious deviations can occur in a text. Therefore, one can find subtractions, additions, substitutions, and permutations in manuscripts, which can have different reasons (see above). It is not always possible to determine if a deviation was made wittingly or unwittingly within a text. Therefore, the neutral terms addition, subtraction, substitution, and permutation are used here. For the following analysis, subtraction applies to all cases in which something was omitted in the text, substitution as form of replacement of single signs, words or phrases, addition for signs or words, which were unintentionally written down, and permutations for rearrangements for phrases or paragraphs of the text.²⁰

Furthermore, it is possible to modify the text during the writing/copying process or checking on/ reading it. Therefore, it is common to find corrections and remarks in either the same hand or in another hand/multiple hands in a manuscript. In general, it was not common to thoroughly proofread a text in a modern sense in ancient Egypt. Texts were more likely browsed by the scribe to erase the most obvious deviations he made.²¹

15. BURKARD 1977, pp. 2–3. Burkard's analysis is based on wisdom texts.

19. ZEIDLER 1999, pp 18 (fig. 1), 19–25. Zeidler analysed the Book of the Gates.

20. For the analysis of pAMS 23b are only subtractions, additions, and substitutions of interest. As duplicates to the text only sparsely exist, it is not really possible to study potential permutations.

21. Rössler-Köhler 1979, p. 27; CANCIK-KISCHBAUM, KAHL 2018, pp. 192–198. Compare also Beck 2023, pp. 11–20.

^{16.} Burkard 1977, pp. 3, 10, 12, 72–73, 116–117.

^{17.} Burkard 1977, pp. 146–147, 192, 247.

^{18.} RÖSSLER-KÖHLER 1979, pp. 30-35. Rößler-Köhler's research is based on the Book of the Dead.

DEVIATIONS AND CORRECTIONS IN PAMS 23B

For pAMS 23b, it can be stated that the magical-hymnic text on Horus imi-Shenut (R:IIII–XIII3) shows numerous corrections, which were made by the same scribe who copied the text.²² More than 250 deviations/corrections are identifiable—not all of them are corrected by the scribe. The intervention in the text took place in two phases: the former during the writing or more precisely the copying process (phase I) and the latter during the placement of the verse points in the manuscript (phase II). The first corrections were implemented by the scribe during the copying process and marked by the use of black ink, or can be indirectly detected (palimpsest).²³ Here, the scribe erases his "mistake"²⁴ and replaces them with new signs (palimpsest; see fig. 1a)²⁵ or simply overwrites them (see fig. 1b). Altogether, 19 deviations can be assigned to the first phase of correction of the text.²⁶

The second phase of correction was implemented in the text at the same time when the verse points were put into the manuscript, which is visible by the homogenous consistency of the red ink used for the verse points and the corrections.²⁷ The corrections can be found above, within or below the line (see fig. 2). There are 49 corrections above, 36 within, and 16 below the line. Typical deviations in the manuscripts are substitutions in which the scribe replaces single signs, words or phrases in the text (see fig. 2a). Furthermore, subtractions are quite common, with the copyist omitting something (see fig. 2b), as well as additions in which signs or words were written but not supposed to be there (see fig. 2c). Interestingly, the text shows several occurrences of reading errors whereby the copyist obviously misread the Hieratic signs in the original manuscript (see fig. 2d).

One can find 22 substitutions, 25 subtractions, and two misreadings above the line (total: 49). Within the line, there are 11 substitutions, nine subtractions, and nine additions as well as six misreadings (total: 36), and two substitutions, 12 subtractions, and one addition (total: 16) below the line (see fig. 3a-c). There is no pattern determinable why the copyist placed his corrections where he placed them. Only a certain tendency is shown to insert omitted suffixes below the line. Additions within the line are only made when there is enough space.²⁸

Besides the many changes the scribe included himself in the manuscript, there are still numerous incorrect phrasings in the text, which were not revised by him. These have to be corrected due to syntactical and grammatical reasons. There are 20 substitutions, 51 subtractions, 70 additions and 4 additions in red that the scribe placed erroneously. In one occasion, a misreading is likely (see fig. 3d).

3.1.

^{22.} Interestingly, there are almost no corrections by the scribe in the R:II-III3.

^{23.} A palimpsest is of course a direct intervention in the text in which the signs are erased on purpose. Nevertheless, as the previous hieroglyphs are not legible in pAMS 23b, the palimpsest is addressed here as indirect. Only the washed-out surface of the papyrus can be used for finding these corrections.

^{24.} Not all his corrections in the text actually improve the grammar, see below in the continuous text.

^{25.} All used photographs are enhanced in contrast. Hieratic signs, which are not necessary for understanding, were deleted; pictures of pAMS 23b are a courtesy of the Rijksmuseum van Oudheden, Leiden, NL.

^{26.} In two cases, the palimpsest is not entirely clear (R:IX10, X5), so it could be only 17 attestations.

^{27.} Compare the much stronger pigmented and thicker red in in R:VI10 (jnk), which was definitely not done at the same time as the other *rubra*.

^{28.} The detailed analysis can be found in the chapter "Abweichungen und Korrekturen in Papyrus AMS 23b" in BECK 2023.

In the manuscript, there are 265 interventions made in the text. The scribe revised the text 120 times himself. In the first correction phase (I), he changed 19 things using black ink, and 101 in the second phase (II) using red ink. Nevertheless, it is necessary to amend and emendate the text 145 times more (see fig. 3e).

3.2. EXAMPLE FOR DEVIATIONS IN PAPYRUS AMS 23B

The following example $(R:IV_{1-2})$ is used to demonstrate the many deviations in the manuscript (see fig. 4):

I) 'ķ=j r pr [[mrw.t]] {wj} <u>mrjj wj</u> ^{IV}²[[m]] kk.w^o

When I enter a house, (then) [[in]] the darkness [[love]]{me} loves me.

2) $pr(r){t}=\langle j > r-hnt(y) \{mrw.t\} < mrj > wj shd(w) dd.w=j \{n=j\}^{\circ}$

When <I> come forth, (then) the light {love} <loves> me, which I give {for me}.

3) *m bsf.w=j jn br-nb.w m33.t(j)=f(j) wj*^o

Through my approach: every person is it, who will see me.°

As the picture (fig. 4) clearly shows, the scribe revised the text several times. Nevertheless, it is necessary to amend few more things. Generally speaking, the first two sentences are parallel constructs. The verb 'k "to enter" corresponds with prj "to come forth" and the darkness (kk.w) with the light (shd(w)). In the first sentence (I), the copyist writes instead of the verb mrj "to love" the noun mrw.t "love", which he revises to mrjj wj "loves me" in red above the line in the second phase of correction (II). The same substitution occurs in the second sentence (2) but is not amended (*{mrw.t}<mrj>*). The following dependent pronoun *wj* implies that the verb *mrj* should also have been written there. In the first sentence (1), the scribe's revision *mrjj wj* adds an additional independent pronoun wj. The copyist crosses out the noun [[mrw.t]] but does not touch the following, now redundant dependent pronoun w_j , which has to be amended ($\{w_j\}$). Furthermore, the preposition [*[m*]] was accidentally added by the scribe in the text in the first sentence (1). This addition most likely came into the text on the one hand for the scribe had to start in a new line, and on the other the combination m kk.w is a very common phrase.²⁹ In addition, there are few more corrections necessary for the second sentence (2): pr.t has to be amended to pr(r) with addition of the omitted suffix (z < j >) and the indirect object has to be deleted ($\{n > j\}$) because it doesn't make any sense in this context.

29. See among others the attestations listed in Wb V, 143.3, 6.

The last sentence (3) seems to be a *jn*-construction with a *sdm.tj=fy* as predicate and a precedent adverbial phrase (*m hsf.w=j*).³⁰ This sentence—besides the slightly unexpected structure—is almost correct. The only thing missing was *hr* for the lemma *hr-nb.w* "every person, everyone" (*Wb* III, 130.4–12), which the scribe added above the line in red in the second phase of correction.

CONCLUSION

The given outline plainly demonstrates the many deviations and corrections that occur in pAMS 23b (old: pLeiden I 347). The scribe, or better the copyist—some of the deviations are clearly misreadings—implemented his corrections in two phases in the manuscript: the first one during the copying process (phase I) in black ink and the second one (phase II) during the placement of the verse points (phase II) in red above, within or below the line. Typical deviations are subtractions, substitutions, and additions. Permutations are difficult to determine due to a certain lack of parallel texts that would be essential for the comparison.

The example nicely displays that the copyist did not revise every *error* he made in the text on the one hand, and on the other that a text was not clearly thoroughly proof-read but rather browsed or, in this case, *mistakes* are randomly spotted by placing the verse points. Therefore, it is necessary to amend and emendate the text on more than one occasion.

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Fig. 1. Examples: Deviations and Corrections (phase I).



Fig. 3. Charts: Deviations and Corrections.



Fig. 4. Example of Deviations in pAMS 23b.

722 Susanne Beck

Marco De Pietri*

An Amduat Papyrus at the Archaeological Museum of the University of Pavia

THIS PAPER offers the first philological edition of an Amduat papyrus in the Archaeological Museum (University of Pavia, henceforth UNIPV), in the so-called "Egyptian Corner" (cat. no. E16; inv. no. 82/214; fig. 1).¹ The papyrus was donated, together with fragments of the mummy cover of Huynefer (end of New Kingdom)² and a male mummy head (Roman period), by Eduard Rüppell, a German zoologist and botanist born in Frankfurt am Main, who studied at the UNIPV and purchased antiquities from Egypt, today kept in Pavia, at the Liebieghaus Museum Alter Plastik and the Senckenberg Naturmuseum (Frankfurt).³ The papyrus is registered in the general inventory of 1825: "Due pezzi di Papiro scritti [...], svolti, ed incorniciati con vetro." Even though the papyrus was firstly published in the catalogue of the Archaeological Museum,⁴ a philological edition of the text was lacking. The papyrus captured the attention of the Italian demotist Giuseppe Botti, who saw some pictures of the artefact and stressed its value in two letters.⁵ It carries the text of the 12th hour of the Amduat, in cursive hieroglyphs with retrograde writing, using black and red ink (only for gods' names and vignettes). It measures 20×116 cm (four kollemata) and, according to Niwiński's typology, can be included in type A.II.1.b.⁶ The palaeographical analysis (discussed by the present author elsewhere)⁷ hints to a dating between the 21st and the 22nd Dynasty (ca. 1076–746 BC).

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1. I acknowledge Jonah Lynch for his proofreading. About 'minor' Egyptological collections in Italy: PIACENTINI 1996; Curto 1961. On Egyptian collections at Pavia: DE PIETRI 2022. On the collection of the Archaeological Museum of the UNIPV: DE PIETRI 2012a; DE PIETRI 2019; DE PIETRI, forth. b.

3. De Pietri 2012a; De Pietri 2019; De Pietri 2020; De Pietri 2022; De Pietri, forth. b; De Pietri, forth. c.

- 5. Botti 2011, pp. 247–249, 466–469. Cf. De Pietri 2012b; De Pietri, forth. b; De Pietri, forth. c.
- 6. Niwiński 1989, pp. 180–184, pl. 36b–37a.
- 7. DE PIETRI, forth. a; cf. NIWIŃSKI 1989, table VIIc.

^{2.} Argentino et al. 2021.

^{4.} Mora 1984.

TRANSLITERATION AND TRANSLATION⁸

I.I. UPPER REGISTER

τ.

Solar barque dragged by nine males (standing on a snake) and ten females, all looking backwards.

⁽¹⁾ sķdd ⁽²⁾ nţr pn m z < þr >. w^{sic (3)} pn m d.t=zn^{sic (4)} d.t=zn^{sic pr (5)} j^cr.wt ⁽⁶⁾ = zn m rmn.w ⁽⁷⁾ = zn m-bt ⁽⁸⁾ spr ntr pn ⁽³⁾ ⁽⁹⁾ r n(j)w.t ţn wnn ⁽¹⁰⁾ [hn^c] ntr p[⁽¹¹⁾ n <j>n ns.wt < tpj.wt> ⁽¹²⁾ r(J) n(y)^{sic}] j^cr.wt=zn ⁽¹³⁾ [hzf] ⁽¹⁴⁾ hr R^{c (15)} r ^crry. ⁽¹⁶⁾ t jJbt.t ⁽¹⁷⁾ n(y).t Jb.t hn ⁽¹⁸⁾ < s/z > zn ⁽¹⁹⁾ hr.t m- ⁽²⁰⁾ ht=f m ⁽²¹⁾ s.t=zn ⁽²²⁾ n(y).t m^cnd.t ⁽ⁿ ⁽²³⁾ st nn n(y) ⁽²⁴⁾ ntr.w m- ⁽²⁵⁾ ht ntr p ⁽²⁶⁾ n ⁽³²⁾ tz ⁽²⁷⁾ štJ ⁽²⁸⁾ n(y).t p.t htp. ⁽²⁹⁾ hr=zn m ⁽³⁰⁾ zz. wt^{sic}=zn ⁽³¹⁾ ntzn s ⁽³²⁾ ndm jb ⁽³³⁾ n(y) ntr.w ⁽³⁴⁾ jmn.t m ⁽³⁵⁾ R^c-hr-Jb.t(y) jr(j).t ⁽³⁶⁾ = zn pn ⁽³⁷⁾ m tJ rd(j).t ⁽³⁸⁾ fb n n ⁽³⁹⁾ t(y).w m kk.wy ⁽⁴⁰⁾ m t ⁽⁴¹⁾ kJ.w ⁽⁴²⁾ n(y).t j^cr.wt ⁽⁴³⁾ = zn m-bt ⁽⁴⁴⁾ = zn sb{z ^{sic} (45)</sup> = zn R^c ⁽⁴⁶⁾ njk=zn n=f ^cpp ⁽⁴⁷⁾ m p.t wnn=zn ⁽⁴⁸⁾ m zhr pn

(1) Sails this god in this form in their [sic] own body; (5) their *uræi* come out from their shoulders after his great god had reached this city; they are (10) with this god. It is the flames coming from the mouth of their *uraei* that drive away Apep from Re (15) towards the Eastern gate of the horizon; they cross the firmament after (20) him at their places of the solar barque; these gods come back after this (25) great god had crossed the mysterious sand-bank of the sky and they rest on (30) their seats; they appease the heart of the gods of the Western side together with (35) Re-Harakhty; this is what they do on earth: to free those who stay in the darkness (40) with the flames of their *uræi*, after they had led (45) Re and had punished for him Apep in the sky; they are in this form.

I.2. LOWER REGISTER

Series of 23 deities carrying *w3s* sceptres, oars, and flaming *uræi*, or in worshipping gesture. Some of them have theriomorphic heads and one is a snake-shape demon, spitting fire from its eyes.

¹⁾ wnn=zn²⁾ m zbr³⁾ pn m d.t⁴⁾ =zn d.t=zn⁵⁾ htp=zn br⁶⁾ R^c m p.t⁷⁾ ntzn šsp⁸⁾ m pr(j) nn^(?) jm⁹⁾ =zn m j3b ¹⁰⁾ t.t n(y).t p.t r^c-¹¹⁾ nb wnn=zn¹²⁾ r^crry.¹³⁾ t=zn n(y).t 3b.t¹⁴⁾ zšm=zn¹⁵⁾ dw3.t r k¹⁶⁾ rr.t tn¹⁷⁾ wnn=zn m ¹⁸⁾ zbr pn br¹⁹⁾ <m>jh.wt^{sic 20)} =zn ntzn²¹⁾ brf^{sic} (pp²²⁾ m j3b.t n(y).t²³⁾ p.t m-bt²⁴⁾ ms.w ntr.w²⁵⁾ jr(j).t= zn p{n}²⁶⁾ w jr(j.t)=z tz.²⁷⁾ w n²⁸⁾ jtn (3²⁹⁾ m 3b.t n(y).t³⁰⁾ p.t r^c-nb jzn^{sic 31)} m jr.t=f^{sic 32)} pzn bft(y).w ³³⁾ R^{c 34)} m nhp³⁵⁾ bnz nn n(y)³⁶⁾ ntr.w br.t³⁷⁾ m-bt³⁸⁾ ntr p<n> '3³⁹⁾ r^c-nb {zn}^{sic 40)} wnn=<zn> ⁴¹⁾ m zb<r>, w^{sic 42)} pn b3.t-zp⁴³⁾ zšm={z} Wsjr⁴⁴⁾ bnt.y kk.wy-sm3.w⁴⁵⁾ md.w dd.⁴⁶⁾ w{t}^{sic}zn [n ntr pn'3]

^{8.} Hieroglyphic transcription in fig. 2. Transliteration standard: ^{no.)} = no. of col.; ^{sic} = misspelling or abnormal writing; ^(?) = doubts in reading; despite /z/ and /s/ are no more phonologically distinguished from Middle Egyptian onwards, I leave the signs as they are in the original (s for S29 and z for O34); the same for the feminine ending: t (for XI) and t (for VI3); for *nisbe*, I follow GRANDET, MATHIEU 2003, § 8.3; [...] = text in lacuna; <...> = integration of signs omitted by the scribe; {...} = text to be expunged. Translation standard: nos.) indicate the cols. (five by five). Heartfelt thanks to Alessandro Roccati, Joachim Friedrich Quack, and Ursula Verhoeven-van Elsbergen for their precious suggestions. For comparisons: HORNUNG 1963; HORNUNG 1967; SADEK 1985; WARBURTON 2007.

1) They are in this form in their own body; 5) they rest in front of Re in the sky; they receive (him) in his coming towards them in the 10) Eastern part of the sky, everyday; they are in front of their gate of the horizon; their image 15) of the Duat (is) towards this cavern; they are in this form, bringing 20) their oars; they drive away Apep to the Eastern side of the sky, after the gods had been generated; 25) what they do is this, to do such: the lifting of the great sun-disk at the horizon 30) of the sky, every day; "That-Who-Burns-With-His-Eye" cooks Re's enemies at the dawn; 35) these gods cross the firmament after this great god, everyday; 40) they are in this form^{sic} in the presence of the image of Osiris, the leader of the unified darkness. 45) Words spoken by them [to this great god].

2. PHILOLOGICAL NOTES⁹

2.I. UPPER REGISTER

- 1-3. The passage has been reconstructed by comparison; the subject is *ntr pn*, singular, while the ipseity construction in cols. 3–4 presents the 3rd-plur. suffix pronoun *zn*, probably through confusion on the part of the scribe. *zbr(.w)* is here written only with O34 + Z2; it is also likely that the scribe wrote O34 + Z2 for the 3rd-plur. suffix pronoun *z<n>*, omitting N3. Note the frequent use of geminated forms.
- 3-4. Ipseity form <u>d.t</u> (instead of <u>ds</u>), attested in the Coffin Texts.¹⁰ Other Amduat papyri (e.g. that of an anonymous chantress of Amun¹¹ and that of Asety)¹² show this form in the same passages.
- 9. Consistent use of \underline{t} (V13) for t (X1) for the demonstrative pronoun tn and for the *nisbe* n(y).t (cf. lower register, col. 29).
- **17–18.** hn < s/z > zn: the scribe omitted O34/S29 in hns, "durchziehen; vorbeiziehen".¹³
- **22.** '*n*²³' st: '*n*, "(sich) umwenden; zuwenden",¹⁴ written with D54 instead of D55; for the reflexive pronoun after this verb.¹⁵
- **30.** $zz.wt^{sic}zn$: the scribe wrote this term (with O34 instead of N35) for the correct plural form (*nz.wt*) of *nz.t*, "Sitz; Thron"¹⁶; maybe a dittography.
- **35.** *pn*: here *pn* vs *pw*.¹⁷
- 37. *fb*: here *fb*, "lösen"¹⁸ instead of the causative *sfb*, "lösen; *ablösen*".¹⁹

- 11. BM EA 10012, TIP, ca. 1076–723 BC, Niwiński's A.II.1.a = London 33 (NIWIŃSKI 1989, p. 329, pl. 36a).
- 12. pBerlin 3143, TIP, ca. 1076–723 BC, Niwiński's A.II.1.b = Berlin 22 (NIWIŃSKI 1989, p. 250, pl. 36b).
- 13. Wb III, 229. Cf. Hornung 1963, vol. 1, p. 194; Sadek 1985, p. 53.
- 14. Wb I, 188–189.
- 15. See Hornung 1963, vol. 2, p. 186, n. 3; Wb I, 188, 18–19.
- 16. Wb II, 321–323. Cf. Hornung 1963, vol. 1, p. 194; Sadek 1985, p. 53.
- 17. Hornung 1963, vol. 1, p. 194.
- 18. Wb I, 587.
- 19. Wb IV, 116–117. Cf. Hornung 1963, vol. 1, p. 194; Sadek 1985, pp. 54, 66.

^{9.} I only present here notes related to my transliteration; for a complete palaeographical, morphological, and syntactical analysis, see DE PIETRI, forth. a.

^{10.} Borghouts 2010, vol. 1, p. 104.

- **38.** *kk.wy*: as in lower register col. 44, the scribe uses an "apparent dual" for *kk.w.*²⁰
- **42.** *m-ht*⁴³⁾*zn*: the scribe, as in Sadek,²¹ attached the suffix pronoun directly to *m-ht*, differently from the form attested in Hornung²² *m-ht jwj=zn sbj=zn*, "*nachdem sie (wieder)gekommen sind, wenn sie Re geleitet*".²³
- 43. sb{z}^{sic 44)}≠zn: the scribe wrote a second O34, to be expunged, after the verb sb(j), "(weg)gehen; führen; aussenden; durchlaufen; verbrennen",²⁴ probably influenced by the suffix pronoun ≠zn, or because of a confusion between the determinative D54 and the sign O35 (sb), typically used in this word.²⁵
- **45.** $njk=zn: sdm=f vs sdm.n=f form njk.n=zn.^{26}$

2.2. LOWER REGISTER

- 7. *ntzn šsp*: the scribe omitted *ntr pn '3* after *šsp*.²⁷
- 8. $m pr(j) nn^{(?)} jm^{(c)} zn$: probably the scribe wrote *nn* instead of *zn*, being confused after the omission in col. 7.
- 19. <m>jh.wt^{sic 20)}zn: the scribe omitted the *m* of the word *mjhw*, "Ruder";²⁸ the form without *m* is attested.²⁹ The *t* written by the scribe cannot be a feminine ending: it could instead be a stroke after sign P10, as in lower register col. 36.
- 21. *brf^{sic}*: unattested verb; the common form is *bsf*, "abwehren; abweisen".³⁰
- **25.** $jr(j).t = zn p\{n\}^{26}w jr(j.t) = z tz.^{27}w$: after the relative form, the *n* of the demonstrative pronoun must be expunded, because of the presence of *w*, suggesting a *pw*; the construction can be an infinitive + suffix pronoun (3rd sing. f.), "that" + substantive $tz.^{27}w.^{31}$
- **30–31.** The spelling of the name of the snake-shape demon is peculiar: jzn^{sic} (possibly a relative form or a participle, j.n < z > r, with metathesis) + $Z_2 + m jr.t = f$, written D12 + I9 + X1 (with metathesis between t and f), possibly a confusion with the following bft(y).w in col. 32 (usually, even not here, spelled with the same metathesis);³² probably a misspelled form for nzr m jr.t = f "*Mit seinem Auge Brennender*".³³
- 20. Wb V, 142.
- 21. SADEK 1985, p. 54.
- 22. Hornung 1963, vol. 1, p. 194.
- 23. Cf. Hornung 1963, vol. 2, p. 186, n. 8.
- **24.** Wb III, 429–431.
- 25. Cf. Hornung 1963, vol. 1, p. 194; Sadek 1985, p. 54.
- 26. As Hornung 1963, vol. 1, p. 194; Sadek 1985, p. 62.
- 27. cf. Sadek 1985, p. 65.
- 28. Wb II, 44.
- 29. TLA, Zettel DZA 21.198.960; SADEK 1985, p. 66.

30. Wb III, 335–337. We could also postulate the following construction: the infinitive form jr(j).t + the substantive ztz.w (Wb IV, 361, "Aufrichtung; Erhebung"). Cf. Hornung 1963, vol. 1, p. 202; SADEK 1985, p. 66.

- 31. Wb V, 409.
- **32.** Confusion probably caused by the shape of the first sign $jr = DI_2$ in cursive hieroglyph, very close to that of
- b = Aai; cf. Möller 1909-1912, no. 574 (Aai) and no. 88 (D12).
- 33. TLA, lemma-no. 501158; Hornung 1967, p. 838; LGG 4, p. 352. Cf. Sadek 1985, p. 66.

- **32.** *pzn*: anormal form of the verb *psj*, *"kochen; backen; erhitzen"*,³⁴ geminated (*pzz*) in Hornung;³⁵ *n* is probably a confusion with z.³⁶
- **35.** hnz: n is here miswritten as z.
- **39.** ${zn}^{sic\ 40} wnn < zn >:$ the scribe wrote < zn before the verb wnn (maybe haplography for ntzn?); or possibly the scribe omitted an entire sentence.³⁷
- **41.** $z_{p} < r > .w^{sic}$: the scribe omitted D21; the plural ending .w can be considered as an alternative writing;³⁸ in any case, it is singular because of the demonstrative pronoun *pn*.
- *zšm*²{*z*}: *zšm*³⁹ is written, as usual, with Z2; O43 must be expunded, probably a confusion influenced by the previous plural suffix pronoun *zn*; otherwise, the scribe could have written O34 instead of N35 (indirect genitive before Osiris).⁴⁰
- **45.** *md.w* <u>*dd.w*{*t*}^{sic}*zn*: probably a relative form, with *t* to be expunged, or even a s<u>*dm.tw*</u> *f* postponed to the subject.</u>

3. NAME OF DEITIES/DEMONS

The names of the deities written in red do not correspond, except in part, to those attested in other Amduat papyri. Very often, the sign of the star (N14) is iterated two or three times, suggesting a reading ntr.w, "the gods/demons", or dw3.t(.yw), "those of the Duat" (or they are simple filler-signs).

3.I. UPPER REGISTER

Nine male deities on the snake:

- **I.** pr(j): "to go out".⁴¹
- **2.** *dw3.t*(*.y*): "that of the Duat".⁴²
- **3.** *n* [...]: unreadable.
- **4.** bnt(.y): "he who stands before".⁴³
- 5. *št3*: "the secret/the mysterious one".⁴⁴
- 6. *tpr*: (to be read *pr.t?*): "the apparition/procession (of the god)".⁴⁵
- **7.** *dw3.t*(*.y*): cf. *supra*.
- 8. (*j*) $m(.\gamma)$: "he who (is) within".⁴⁶
- 34. Wb I, 551–552.
- **35.** Hornung 1963, vol. 1, p. 203.
- **36.** Cf. Sadek 1985, p. 66.
- 37. Cf. Sadek 1985, p. 66.
- **38.** Wb IV, 287–288.
- **39.** *Wb* IV, 290–291.
- 40. Cf. Sadek 1985, p. 68.
- 41. Cf. LGG 3, p. 48.
- **42.** SADEK 1985, p. 67, no. 897.
- **43.** Cf. LGG 5, p. 773.
- 44. Cf. LGG 7, p. 129.
- **45.** Cf. LGG 3, p. 93; LGG 7, p. 404.
- **46.** Maybe (*j*)*m*(*y*) *n*<u>t</u>*r*, as in SADEK 1985, p. 69, no. 907.

- **9.** kt(y): name of a magical snake⁴⁷/*bnt.y*: cf. *supra*.
- **10.** three stars = dw3.t(.yw): "those of the Duat".⁴⁸

Ten female deities:

- **II.** *mt.y*: "that related to the deceased".
- **12.** *dw3.t*(*.y*): cf. *supra*.
- **13.** two stars = dw3.t(.y): "that of the Duat".
- **14.** *dw3.t*(*.y*): cf. *supra*.
- **15.** *bnt*(.*y*): cf. *supra*.
- **16.** *jmnt.t*: "the Western side".
- **17.** *dw3.t*(*.y*): cf. *supra*.
- **18.** (j)m(y): cf. supra.
- **19–22.** two stars = dw3.t(y): cf. *supra*.

3.2. LOWER REGISTER

Four deities:

- **1.** *bnt*(.*y*): cf. *supra*.
- **2.** *št3*: cf. *supra*.
- **3.** *dw3.t*(*.y*): cf. *supra*.
- **4.** $y^{(?)} nb^{?} .t$: "the lady".

Nine figures with a human or zoomorphic head and an oar in hand:

- 5. *nfr.w*: "good ones".
- 6. three strokes.
- 7. *ntr*: "the god/demon".
- 8. (j)m(.y): cf. supra.
- **9.** *dw3.t*(.*y*): cf. *supra*.
- **10.** kt(y): cf. supra.
- **II.** *bnt*(.*y*): cf. *supra*.

Five female figures, four of which have a snake around their shoulders:

- **12.** *šms*(.*w*): "the companion".⁴⁹
- **13.** hr(.t.y)-*ntr*: "the worker of the necropolis".⁵⁰
- **14.** jm(.y) dw3.t: "that who (is) in the Duat.
- **15.** *dw3.t*(*.y*): cf. *supra*.

- **48.** Cf. *L*GG 7, p. 523.
- **49.** Wb IV, 485–486.
- 50. Wb III, 394.

^{47.} *Wb* V, 72.5; *LGG* 7, p. 227.

Five figures in worshipping gesture: **16.** (j)m(.y): cf. *supra*. **17–19.** two stars = dw3.t(.y): cf. *supra*. **20.** three stars = dw3.t(.yw): cf. *supra*.

Some final remarks can be outlined: Pap. Pavia E16 presents an Amduat text (type A.II.1.b), strictly resembling that of the New Kingdom royal tombs (an *abrégée* version but not the *Kurzfassung*); the dating can be estimated (on palaeography and comparisons) between the end of the 21st and the beginning of the 22nd Dynasty. Peculiarities in the palaeography, morphology, and the vocabulary can be noted: characteristic sign-shapes, abbreviations (*scriptio defectiva*), metatheses, geminate verbs, morphological and lexical "confusions" of the scribe; the regular use of the ipseity form d.t=2n d.t=2n suggests a possible common workshop (or, at least, similar scribal features) for Pap. Pavia E16, Pap. BM EA 10012, and pBerlin 3143; possibly, a provenance from Thebes can be argued. The edition of Pap. Pavia E16 contributes to providing a further attestation of the Amduat text to be compared with other papyri of the same period, increasing the number of Amduat papyri published thus far.⁵¹

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51. The text of the papyrus, with its transliteration, translation, and commentary by the present author, will also be included in the *TLA*, thanks to an agreement with the Ägyptologisches Institut—Universität Leipzig.

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Fig. 1. Amduat Pap. Pavia E16, after restoration by Chiara Argentino, 2017 (photo by C. Argentino).



Fig. 2. Hieroglyphic transcription of Pap. Pavia E16 (JSesh).
Defining the Concept of "Egyptian Temple Inventory"

The *s:ip(.ti)*-Texts as an Administrative Text Genre

THIS PAPER aims to define from an emic perspective the concept of "Egyptian Temple Inventory", for it has been used inaccurately by Egyptologists hitherto. Some Egyptian texts are labelled "Temple Inventories", although they obviously belong to other text genres, for example the so-called "Cultic Inventory from Coptos".¹ As the beginning of this inscription at the end of line 3 makes clear, it is not an inventory, but rather an *rht* n (*b.t*, that is a list of votive offerings donated by the king's son Hetep-ka-min to a sanctuary in Coptos. Therefore, this text belongs to the genre of donation inscriptions. Similarly, Taharqa's stelas III and VI from Kawa are not temple inventories as supposed by Sylvie Cauville, but rather donation inscriptions.² Both stelas begin with the formula usually found in donation inscriptions: ir.n=f m mnw=f n it=f imn, which means "it is for his father Amun for whom he made it as a donation".³ The problem in identifying Egyptian temple inventories probably arises from our definition of *inventory* (from the Latin word inventarium) which, according to the Oxford Dictionary, means "a complete list of items such as property, goods in stock, or the contents of a building".⁴ But this broad definition of inventory is not suitable to study Egyptian temple inventories, for it can designate any list containing sacred artefacts regardless of their use and function, such as those in donation inscriptions. Thus, in this paper, I will first define the Egyptian term $\hat{s}_{i}\hat{t}p(.t\hat{t})$ used to designate the inspection of a temple and its inventory (1), then I will attempt an identification of Egyptian temple inventories (2) and a classification according to their form (3).

DEFINITION OF THE TERM Ś:ÍP(.TÍ) REGARDING ITS USE IN TEMPLE ACTIVITIES

There seems to be a consensus among scholars that the word *ś:ip* means "to carry out an inspection in order to make an inventory", i.e. "to inventory".⁵ This word is widely attested from

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2. CAUVILLE 1987, p. 74.

^{1.} Goedicke 1994.

^{3.} See the discussion on this formula in Díaz Hernández 2019, p. 26.

^{4.} Oxford Dictionary of English, s.v. "Inventory".

^{5.} Redford 1981, pp. 92–94; Vernus 2016, pp. 13–14, n. 38.

the Old Kingdom to the Ptolemaic period.⁶ It is originally the causative of the verb ip "to count, to reckon up", therefore *ś*:*ip* means literally "to let count/examine (let/do count up)". Though *ś*:*ip* is not a weak verb, its infinitive is usually written with the ending *t*. In addition, this verb shows the affix *ti* when it is used as a substantive.⁷ Concerning the temple activities, the word *ś*:*ip*(*.ti*) has two meanings: 1) the official process of examination, i.e. the inspection of temple artefacts and their state of preservation; and 2) the recording of the artefacts examined during a temple inspection in documents called *ś*:*ip*(*.ti*) or *ś*:*ip*(*.ti*) *wr*.

I.I. Ś: ÎP(.TÎ) "INSPECTION OF TEMPLE ARTEFACTS"

As the following instances show, the aim of the inspections was to examine valuable artefacts or monuments in order to restore those in a poor state of preservation and to provide sanctuaries regularly with votive gifts:

(I) $ii.n=i m-bnt br hm=f d=f s:ip=i it(.w=f) ntr(.w) dr=i nkn^8$

It was in order that he made me inspect (the statues of) his fathers, the gods, and remove damage, for what I came to His Majesty.

- (2) a) 'ḥ'.n wd rd.t m-ḥr=i m dd b3k ś:ip.ti nb n.ti m p3 r pr
 b) iw=i ḥr ir.t mi wdd.t nb.t
 - c) iw rd.n=i ś:rwd=tw mnqb nb n(.i) ntr nb n.ti m p3 r pr⁹

a) Then it was commanded to instruct me, saying: "Carry out every inspection in this sanctuary."

- b) I was acting according to all that was commanded.
- c) I have caused that one renovated (lit.: made firm) every chapel of every god in this temple.

In the so-called *Fundtopos*,¹⁰ the temple inspections are the *prima causa* for the finding of magical spells by the king:

(3) $\ln s_3 n \le M Dd_{f} - Hr gm \le m w_3(.t) = f r ir.t \le ip.t(i) m r(.w) - pr(.w)^{II}$

It was the son's king Djedefhor, who found it (i.e. the magical spell), when he was on his way to carry out an inspection in the sanctuaries.

- 6. See the instances registered in the Thesaurus Linguae Aegyptiae.
- 7. Osing 1976, pp. 333–334, obs. 1431.
- 8. Sethe 1928, p. 75, ll. 13–14.
- 9. SETHE 1928, p. 76, ll. 21–24. See a similar instance in Papyrus Harris I 57,7 (ERICHSEN 1933).
- 10. Stadler 2009, pp. 88–89.
- 11. Tb. 30 B, Ig (NAVILLE 1886). See a similar instance from medical texts in VERNUS 2016, p. 14.

The label *ś:ip.ti wr* "great inspection" is probably used to designate an examination of all artefacts in one or more sanctuaries, as can be seen from the following instances:¹²

- (4) a) ir.y=i ś:ip.t(i) wr n(.i) n3y=k rh-nf
 b) d.w=i htp=w m k3r.w n.t hw.t-ntr=k¹³
 - a) I (Ramses III) carried out a great inspection of your idols.b) I let them rest in the shrines of your temple.
- (5) a) wd hm=f (r)d.t m-hr-n [sh]-nśw hr(.i)-hjb.t im.i-r-pr-wr lti
 b) r [ir.t ś:]ip.t(i) wr n(.i) ntr(.w) ntr.(w)t nb.w t](.wi) [...]¹⁴

a) His Majesty commanded the king's scribe, lector priest and high steward Iti,b) [to carry out] the great inspection of all (statues of) masculine and feminine deities in the two Lands [...].

According to their objectives, inspections can be classified as intern or extern. Intern inspections were those planned by the personnel of a sanctuary. The temple inventories from al-Lāhūn were recorded thus during an intern inspection:

(6) a) śmỉ s3 fd.nw n(.ỉ) ḥw.t-nṯr wnw.t n.tỉ m ś:mn.t m 3bd
b) dd.tn-śn pw h3w(.w)=k nb ʿd(.w) wd3(.w)
c) ś:ỉp.n=n ḥnw(.w) nb n(.ỉw) ḥw.t-nṯr
d) (ỉ)ḥ.(w)t nb.(w)t n.t ḥw.t-nṯr ʿd(.w) wd3(.w) n s3 dp(.ỉ) n(.ỉ) wnw.t ḥw.t-nṯr n.tỉ m ʿḥʿ m ʿbd¹⁵

a) Report of the fourth phyle of the sanctuary, the hour-priesthood, which leaves in (this) month.

b) This is what they said: "All of your possessions are safe and sound,

c) after we inspected all drinking bowls of the sanctuary.

d) All things of the sanctuary are safe and sound for the first phyle of the sanctuary hour-priesthood, which stands in (this) month."

Extern inspections were carried out by independent officials frequently on the king's order (see examples 1 and 5, above). The inspection of sanctuaries was a task for high officials with administrative titles such as *sh2-nśw* "king's scribe" (see example 5, above), *mtr* n(.i) *sy*¹⁶ "regulator of

- 12. See also Grandet 1994, vol. 1, pp. 95–96.
- 13. Papyrus Harris I 25, 8 (Erichsen 1933).
- 14. KITCHEN 1975–1990, vol. 4, p. 26, ll. 4–5. See other instances in KITCHEN 1975–1990, vol. 5, p. 232, ll. 7–13; BARGUET 1952, pp. 100–101.
- 15. Sethe 1928, p. 96, ll. 14–17; vgl. Borchardt 1899, p. 97.

16. Неск 1983, р. 8, l. 5.

phyles", im.i- bnt^{17} "chamberlain" and im.i-r pr- bd^{18} "overseer of the treasury". The title s:ip.t(i) r-pr Hr"inspector of the Horus' sanctuary" is attested on the New Kingdom granite statue of Sen-em-jah.¹⁹ It is noteworthy that Nephthys is called nb<.t>sb3 $s:(i)p\{p\}<.t>r(.w)-pr(.w)$ "mistress of the writing and (female) inspector of the sanctuaries" in inscriptions of the Opet temple.²⁰

1.2. Ś:İP.(Tİ) "INVENTORY, REGISTER"

During temple inspections every artefact examined was recorded in administrative documents labelled *ś:ip.ti* (*wr*). These documents match our concept of inventory (from Latin *inventarium*, i.e. "property/estate register") due to their function and design. The *ś:ip.ti*-texts are basically administrative documents used to identify and control the sacred artefacts kept in a temple.²¹ They show how carefully priests handled the material wealth in their sanctuaries,²² and they should therefore be regarded as precious documents where the cultural property of Egyptian temples was written down:

Inscription from the library of the Horus-temple in Edfu:

(7) a) ś.ip.t(iw) nb(.w) h3.t=k śšt3 ir nb n(.i){t} pśd.t=k
b) ś:phr(.w) n min n pr=k r'-nb hr-s3=f²³

a–b) All temple inventories with every secret image (lit.: corpse) of you and every figure of your Ennead were written down in your house every day, one after the other, until today.

Temple libraries and archives kept the ś:*ip.ti*-texts to which only the king, his high officials and priests had access:²⁴

(8) a) (...) mś.wt-śn qm3 Pth m sh3.(w)t n.t Dhw.ti
b) r d.t-śn n ś:ip.t(i) wr n.ti m pr-md3.t²⁵

a) (...) Their original figures, which Ptah created from the drawings of Thotb) according to their bodies in the great inventory, which is located in the temple archive.

- 17. Sethe 1928, p. 75, l. 3.
- 18. Gardiner 1948, p. 75, l. 16.
- 19. Sethe 1905–1909 (Urk. IV), p. 515, l. 16.
- **20.** De Wit 1958–1968, p. 144 C.
- 21. A museum inventory book has a similar function, see WAIDACHER 1999, pp. 358–359, 365.
- **22.** Verner 2006, pp. 255–259.
- 23. Chalvet de Rochemonteix, Chassinat 1892–1934, vol. 3, p. 348, ll. 2–3.
- 24. See Burkard 1980, pp. 85–87.
- 25. Iskander, Goelet 2015–2019, pl. 3.1.13–3.1.16.

Besides their administrative purposes, the *ś:ip.ti*-texts served as templates containing representations of statues and sacred artefacts for the decoration of stelas, shrines and temple walls:

(9) a) iw ir.n<=i> wmt.t m inr ḥd nfr n(.i) rwd
 b) b{b}t m ś:ip.t(i) n(.i) ntr(.w) ntr.(w)t²⁶

a) I have made a wall of fine white sandstone,

b) on which the inventory of (the statues of) masculine and feminine deities is engraved.

2.

HISTORICAL DEVELOPMENT OF TEMPLE INVENTORIES (CF. TABLE BELOW)

Egyptian temple inventories, i.e. the *ś:ip.ti*-texts are attested from the Old Kingdom to the Ptolemaic period in papyri, ostraca, tablets, stelas and temple reliefs. The earliest preserved temple inventories are the hieratic tables of sacred artefacts from Neferikare's²⁷ and Raneferef's²⁸ funerary temples and the fragmentary temple inventory of statues from the Khentkaus' II funerary temple.²⁹ These temple inventories contain notes on the preservation state of the sacred artefacts and statues, which shows how the Egyptian priests dealt with their cultural property.

From the Middle Kingdom, we have the *ś:ip.ti*-texts from al-Lāhūn, of which only Papyrus Berlin 10003 containing several lists of sacred artefacts and royal statues has been published hitherto.³⁰ Comparison of the lists of royal statues of Papyrus Berlin 1003 with the list of kings from the "*Chambre des ancêtres*" suggests that such papyri were used as templates for the decoration of temple walls.

The number of preserved texts increases from the New Kingdom on. Papyrus Rochester MAG 51.346.1, dated to the 20th Dynasty, contains a report on inspection tasks, after a theft, at the Karnak temple of "Amun-Ra, King of the Gods".³¹ It is the only preserved witness of a *ś:ip.ti*-text³² recorded during the investigation of a crime in a temple.

After the New Kingdom, *ś:ip.ti*-texts usually served as templates to decorate monumental objects, such as stelas or sanctuaries walls. The wall representations of sacred artefacts in the 25th Dynasty crypt of the "Fourth Priest of Amun in Thebes" Mentuemhat in the temple precinct of Mut at Karnak

31. Goelet 1996; Quack 2000.

^{26.} BM EA 1688, right, 9, see Derchain 2000, p. 46, pl. III.

^{27.} Posener-Kriéger, de Cenival 1968, pl. XX, XXI, XXII, XXV.

^{28.} POSENER-KRIÉGER, VERNER, VYMAZALOVÁ 2006, pl. 27–31, 33–35, 38. The papyri from Raneferef's funerary temple are preserved today at the Grand Egyptian Museum.

^{29.} Posener-Kriéger 1995, pp. 133–142.

^{30.} BORCHARDT 1899. OSING (2012) is preparing an edition of all al-Lāhūn papyri kept in the Egyptian Museum of Berlin.

^{32.} Though QUACK (2000, p. 226, obs. c) suggested that *s:ip* means here a material's quality, there is no reason to endow this word with any meaning otherwise unattested. Its current meaning i.e. "inspection" or "examination", is indeed consistent with its context, for the inspector's role was to examine each object in the temple.

are worth mentioning here, though most of the relief images have now disappeared.³³ The *Tavoletta di Eliopoli*,³⁴ the *Inventory Stela*³⁵ and the fragment of a tablet published by Helck in 1958³⁶ are also recordings of *ś:ip.ti*-texts, as they contain representations of statues and sacred artefacts along with notes on their size and manufacturing material. Finally, similar representations of *ś:ip.ti*-texts can be found in the Naos of the Decades,³⁷ the Naos dedicated to Sopdu from Ṣafṭ al-Ḥinnā³⁸ and in the reliefs of Ptolemaic temples, such as those of Hathor in Dendara.³⁹

3.

CLASSIFICATION OF THE Ś:*İP.Tİ*-TEXTS ACCORDING TO THEIR FORM

The *ś:ip.ti*-texts can be classified into three groups according to their form:

- 1. Lists with a simple layout, i.e. enumerations of artefacts with additional information on the manufacture material, size and number of objects, such as the inventory lists from al-Lāhūn and Papyrus Rochester MAG 51.346.1.
- 2. Tables with a defined layout divided into cells, i.e. enumerations of artefacts with additional information on the manufacture material, the state of preservation of the objects, as well as their size and number in columns and rows, as the inventory tables from the Neferirkare's and Raneferef's mortuary temples.
- 3. Representations of *ś:ip.ti*-texts containing statues and sacred artefacts with additional information on size, number and manufacture material. This is the case of the fragmentary temple inventory of the Khentkaus' II funerary temple, the *Tavoletta di Eliopoli*, the *Inventory Stela*, the Helck's fragment, the Naos of the Decades, the Naos dedicated to Sopdu from Ṣaft al-Ḥinnā and the crypts of Ptolemaic temples.

It is remarkable that sacred artefacts in the inventory lists and tables are classified in groups according to their ritual use.⁴⁰ As a result, the grammar of these texts is not a system of verbal forms and sentences, but rather a semiotic arrangement of sacred artefacts used as "bearers of signs" and classified according to their ritual use and materials.

In conclusion, the Egyptian term for "inspection, inventory" is $\dot{s}:\dot{t}p(.t\dot{t})$. The causative stem $\dot{s}:\dot{t}p$ literally means "to let count/examine (let/do count up)". In the context of the temple activities, $\dot{s}:\dot{t}p(.t\dot{t})$ means the official process of examining temple objects and their state of preservation. The aim of temple inspections was to keep monuments and sacred artefacts in a good state of preservation.

35. ZIVIE-COCHE 1991. This stela is preserved today at the Grand Egyptian Museum.

- 37. Навасні І., Навасні В. 1952.
- 38. NAVILLE 1885, pp. 5–13, pl. 1–7. Jan Tattko is preparing a complete edition of this naos at the University of Tübingen.
- **39.** CAUVILLE 1987.
- 40. Díaz Hernández 2016, pp. 46–48.

^{33.} MARIETTE 1875, pl. 43. See also https://www.brooklynmuseum.org/features/mut (last updated on 19.01.2023) and Díaz Hernández's contribution on https://www.godscollections.org/case-studies/the-mut-temple-in-karnak (last updated on 19.01.2023).

^{34.} Ricke 1935.

^{36.} Helck 1958.

The objects examined during a temple inspection were recorded in documents called *ś:ip.ti* (*wr*), that is (great) temple inventories. They are expertise texts for the official function of recording Egyptian material culture kept in the temples. The *ś:ip.ti*-texts show that Egyptian priests dealt with sacred artefacts scrupulously and took careful preservation measures. Their inventories, entered on lists or tables, were preserved in temple archives for administrative and official purposes. Last, but not least, there is evidence that, from the New Kingdom onwards, they were used as templates for the decoration of temple walls.

	ś:ip.ti-texts	Form			
Old Kingdom	Neferirkare's funerary temple: BM 10735, frames 12 and 18 Louvre E 25280 JE 95680 (= CG 58063) JE 95681 (= Cairo 602) Khentkau's II funerary temple: JE 94319	Table Representation of figures and sacred artefacts			
	Raneferef's funerary temple: JE 97348/42, 49, 61, 68 and 69	Table			
Middle Kingdom	Al-Lāhūn: Berlin 10003 r. A (cols. II-III)	List			
New Kingdom	Rochester MAG 51.346.1	List			
Late Period	Mentuemhat's crypt	Representation of figures and sacred artefacts			
	Tavoletta di Eliopoli (Turin 2682)	Representation of figures and sacred artefacts			
	Inventory Stela (JE 2091)	Representation of figures and sacred artefacts			
	Helck's fragment	Representation of figures and sacred artefacts			
	Naos of the Decades JE 25774	Representation of figures and sacred artefacts			
	Naos dedicated to Sopdu CG 70021	Representation of figures and sacred artefacts			
Ptolemaic Dynasty	Reliefs of Ptolemaic temples, e.g.: Dendara	Representation of figures and sacred artefacts			

Tab. The attested *ś:ip.ti*-texts.

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The Stela of Khentykhetjwn (Florence, Egyptian Museum no. 2564) and the Ancient Egyptian Lexical Field of "The Man, Ages, and Kinship"

An Invitation to an Anthropological Analysis

THE STELA OF KHENTYKHETJWN (Florence, Egyptian Museum no. 2564) is a limestone stela with a monumental pylonshaped façade composed of a cavetto cornice and a torus moulding at the upper right and left sides—the colours of the original vegetation binding at the tops and sides of the walls are no longer visible. Dated to the 12th Dynasty, it likely comes from Thebes, though this kind of genealogical stela is from Abydos.¹ Khentykhetjwn (*Hnty-ht-jwn*) is a theophoric name embedding the name of the god Khentykhety, a local deity of the Lower Egyptian area of *Km-wr* (Athribis). From the Old Kingdom onwards, Khentykhety was absorbed by Horus, so that the name Horus Khentykhety is frequently found depicted as a falconheaded man and a crocodile—probably its original form. According to Sergio Bosticco,² this name could be interpreted as "Who has the nature/appearance of Khentykhety". Khentykhetjwn has the title of *jmj-r pr* "Overseer/steward of the house". We have no further information about him.

There is no top register usually reserved for protective *wd3t*-eyes, but they are placed at the end of the fourth line, column A. The inscription on the corniche (C) is partly corrupted but we can read "... senior, justified, his brother whom he loves *Wsr*, justified, his brother *Jpj*, justified". S. Bosticco did not suggest any relationship with Khentykhetjwn: the mention most likely refers to his already dead brothers. The first line of the inscription contains the *htp-dj-nsw* offering formula, mentioning "Osiris, lord of Busiris, and Khentykhetjwn, Lord of Abydos". It is followed by a long list of names, arranged in two columns, typical of genealogical stelae with family members and also additional names, not immediately related to the main family group (fig. 1).

2. Bosticco 1959.

^{*} CAMNES, Florence.

^{1.} Leprohon 1978.

Stele di Khentykhetiwn (Museo Egizio di Firenze, n° inv. 2564) -1c /// 1a S * 1 2a RO WAN 3 44 0 0 11 3a Ś A.A 0 1 4a S. 60 A.A 0 5a ≖⊜ň \odot N ⊜ 00 S 0 BL T 6a 事、別 0 064 7a 0 8a 5 0 0 1 9a 01 S 95 434 l 10a 10b 8 14114 D A B I 11a \$ O 11b A D 12a 12b ≥ď で「川崎涙 [0] 13a 13b RA 0154 14a A K D 15a 16a L 17a 0 17b o's ATA 18a NA S Y L 19a Bmd ğ A 0 20a Ō 111 21a Ω AA 21b 4. 25 ⊜ N 0 0 408

Fig. 1. Khentykhwtjwn stela hieroglyphic transcription.

INSCRIPTIONS OF THE STELA

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C (corniche) wrw m'3-brw, sn.f mr.f Wsr m'3-brw, sn.f mr.f Jpj m'3-brw [column A] (line 1) htp-dj-nsw Wsir nb Ddw hnty jmntyw nb 3bdw dj.f prt-hrw t hnkt k3w 3pdw sšr mnht n k3 n (2) jmj-r pr Hnty-ht-jwn jr n Mnt-wr [in this case with the determinative of the noble person] (3) hmt.f mrt.f nbt-pr Snbt-sy jr.t n Titi (4) s3t.f mrt.f Mnt-wr jr.t n Snbt-sy [2 wd3t-eyes] (5) s3.f mr.f H'-k3w-R'-hwj-njwt.f jr n Snbt-sy [determinative of the noble person] (6) s3t.f mrt.f Mnt-wr-Rnpyt jrt n Snbt-sy (7) s3t.f mrt.f J-kj jrt n Snbt-sy (8) s3.f mr.f H3- 'nh.f jr n Snbt-sy [determinative of the noble person] (9) s3.f mr.f R'-H'-k3w-Snfrw jr n Snbt-sy [determinative of the noble person] (10) jt.f mr.f jmy-r pr H3- 'nh.f jr n J-kj [determinative of the noble person] (II) mwt.f mrt.f nbt-pr Mnt-wr jrt n S3t-Jp (I2) snt.f mrt.f nbt-pr J-kj *jr*[*t*] *n Mnt-wr*(13) *jt.f jt.f Pr-hr rn.f Jtj jr n* S3t-R^c [determinative of the noble person] (14) *hmt.f mrt.f J-kj* jrt n M-s3.s (15) s3.f mr.f Pr-hr rn.f Rsw jr n J-kj [determinative of the noble person] (16) s3.f mr.f Snb.f *jr n J-kj* [determinative of the noble person] *gnty Snfrw* [determinative of the noble person] (17) *sn.f* Hpw-wr jr n S3t-R^c [determinative of the noble person] jr [sic] n Ttj-m-s3s (18) sn.f Hnty-ht.j-m-h3t jr n S3t-R^c [determinative of the noble person] (19) *jt.f mwt.f Hnty-ht.j-htp jr n Mdhw* (20) *hmt.f S3t-Jp* jrt n M-s3.s (21) s3t.f mrt.f Krwj jrt n S3t-Jp [column B] (line 2) s3t.f Kyt jrt n S3t-Jp (3) s3.f 't3 jr n S3t-Jp (4) s3t.f 'nht-sy jrt n S3t-Jp (5) s3t.s Jwj jrt n 'nht-sy (6) snt.f mwt.f S3t-Jp rnpyt jrt n M-s3.s (7) sn.f jmj-r w SJt-Hwt-Hr jr n Hwt-Hr-htp [determinative of the noble person] (8) hmt.f mrt.f Tjtj jrt n Mnt-wr (9) sJt.f hnmt Snbtj-bbj jrt n Tjtj (10) s3.f H'-k3w-R'-hwj-njwt.f jr n Tjtj [determinative of the noble person] (II) sJt.f Rsj jrt n Tjtj (I2) sn.f hry-hbt 'sJ-jbs jr n Mrtj [determinative of the noble person] (I3) hmt.f Mnt-wr jrt n S3t-mry-hr (14) sn.f jrjw-'3 n ntr-hwt S3-Hwt-Hr [determinative of the noble person] (15) sn.f jmy-r pr Mkt-sr [determinative of the noble person] (16) hmt.f Hb-pw jrt n S3t-Rnnwtt (17) mn't S3t-Rnnwtt jrt n Hrt-k3 (18) s3t.s Shrfw jrt n S3t-Rnnwtt (19) s3.s Hkw jr n S3t-Rnnwtt [determinative of the noble person] (20) 'fty D'w jr n D'yt (21) jt.f Hnmsw jr n Mmt

C [corniche] "... senior justified, his brother whom he loves Wsr justified, his brother [pj justified. [column A] (line I) A royal offering of Osiris, Lord of Busiris, Foremost of Westerners, Lord of Abydos, giving an invocation offering of bread and beer, cattle, and fowl, linen and clothing for the k3 of (2) the steward Hnty-ht-jwn begotten of Mnt-wr Špst, (3) his wife, whom he loves, the lady of the house Snbt-sy begotten of T_{jtj} , (4) his daughter, whom he loves, Mnt-wr begotten of Snbt-sy, (5) his son, whom he loves, H'-k.3w-R'-hwj-njwt.f begotten of Snbt-sy Špst, (6) his daughter, whom he loves, *Mnt-wr* the young begotten of *Snbt-sy*, (7) his daughter, whom he loves, *J-kj* begotten of *Snbt-sy*, (8) his son, whom he loves, H3-'nh.f begotten of Snbt-sy Špst, (9) his son, whom he loves, R'-H'-k3w-Snfrw begotten of Snbt-sy Špst, (10) his father, whom he loves, the Steward H3- 'nh.f begotten of J-kj Špst, (11) his mother, whom he loves, the lady of the house, Mnt-wr begotten of S3t-Jp, (12) his sister, whom he loves, the lady of the house, J-kj begotten of Mnt-wr, (13) his father of his father, Pr-hr rn.f Jtj begotten of S3t-R^c Špst, (14) his (of H. grandfather, Pr-hr rn.f Jtj) wife, whom he loves, J-kj begotten of M-s3.s, (15) his son (uncle-in-law of H.), whom he loves, Pr-hr rn.f Rsw, begotten of J-kj Špst, (16) his son (uncle-in-law of H.), whom he loves, Snbf begotten of J-kj Špst, the artisan Snfrw Šps, (17) his brother (great-great uncle of H.), Hpw-wr, begotten of S3t-R' Špst, begotten of Ttj-m-s3s, (18) his brother (great-great uncle of H.), Hnty-ht.j-m-hJt begotten of SJt-R' Špst, (19) his father of his mother, Hnty-ht.j-htp begotten of Mdhw, (20) his (of H. grandfather, maternal line, Hnty-ht.j-htp) wife, S3tIp begotten of M-s.2.s, (21) his (of Hnty-ht.j-htp) daughter (H. aunt, maternal line), whom he loves, Krwj begotten of SJt-Ip, [Column B] (2) his (of Hnty-ht.j-htp) daughter (H. aunt, maternal line), Kyt begotten of SJt-Jp, (3) his (of Hnty-htj-htp) daughter (H. aunt, maternal line), 'tJ begotten of S3t-Ip, (4) his (of Hnty-ht.j-htp) daughter (H. aunt, maternal line), 'nht-sy begotten of S3t-Jp, (5) her (of '*nht-sy*) daughter (H. cousin, maternal line) Jwj begotten of '*nht-sy*, (6) his sister of his mother (H. great-aunt, maternal line, in this case "mother" is for H. grand-mother) SJt-Jp the younger, begotten of M-s3.s, (7) his brother, the Overseer of Administrative district S3t-Hwt-Hr begotten of Hwt-Hr-htp Špst, (8) his wife (of SJt-Hwt-Hr), whom he loves, Tjtj begotten of Mnt-wr, (9) his daughter (of S3t-Hwt-Hr) the nurse, Snbtj-bbj begotten of Tjtj, (10) his son (of S3t-Hwt-Hr) H'-k.w-R'-hwj-njwt.f begotten of Tjtj Špst, (11) his daughter (of S.J-Hwt-Hr) Rsj begotten of Tjtj, (12) his brother, the priest-lector, (3J)-*ibs* begotten of *Mrtj* $\tilde{S}pst$, (13) his wife (of (3J)-*ibs*) *Mnt-wr* begotten of SJt-mry-pr, (14) his brother, the doorkeeper of the temple SJ-Hwt-Hr Spst, (15) his brother, the steward Mkt-sr Špst, (16) his wife (of Mkt-sr) Hb-pw begotten of SJt-Rnnwtt, (17) the (milk-)nurse SJt-Rnnwtt begotten of Hrt-kJ, (18) her daughter Shrfw begotten of SJt-Rnnwtt, (19) her son Hkw begotten of Sit-Rnnwtt Špst, (20) the brewer $D^{c}w$ begotten of $D^{c}yt$, (21) his father (of $D^{c}w$) Hnmsw begotten of Mmt."

The kinship lexicon used is limited to the basic terms: *s3* and *s3t, jt* and *mwt, sn* and *snt,* and *hmt,* and despite the ambiguity in ancient Egyptian kinship terminology, we can make precise family reconstruction. Khentykhetjwn's genealogical tree is the following (fig. 2):

On the stela, there are many families besides Khentykhetjwn's family (C; A2–A12): his extended family with his grandfather's new family (A13–A18) and his mother's family (A19–B6); the so-called brothers' families (B7–B11; B12–B13; B14; B15–B16); the nurse *S3t-Rnnwtt*'s family (B17–B19), the brewer D'w's family (B20–B21), and the artisan *Snfrw-Šps* (A16). No other relatives of Khentykhetjwn's wife are quoted.



Fig. 2. Table of Khentykhetjwn genealogical tree.

THE SO-CALLED BROTHERS' FAMILIES

From line B7 onwards, four "brothers" are described with their families (fig. 3), with the exception of B14—a single man. The question is this: are they really Khentykhetjwn's brothers?³ Cleary no. The mother is different and the only real sister, *J-kj*, is quoted after their parents and before the grand-parents (line A12). This is another example of the metaphorical use of the kinship term *sn* "brother".⁴ The multiple use of the term "brother" is well known. Nevertheless, if the free use of the term "brother" can be functional in everyday life, in official documents the kinship lexicon must be analysed in the internal economy of the monument where it appears to have the right perspective of its use. It can refer to people of equal status who belong to the same social group, with the meaning of colleague, in some way close to Khentykhetjwn himself or his family. This definition is confirmed by the following people and families in the fig. 4, all of them without any genealogical link to Khentykhetjwn.



Fig. 3. Table of Khentykhetjwn socalled brothers genealogical trees.

The presence of *SJt-Rnnwt* (B17) tells us that these are people who have to deal with the family for their job, but do not have a very close connection, compared to the so-called brothers, despite the fact that *SJt-Rnnwt* was the nurse. The family of B20-21 is that of the brewer, indeed. Its pivotal member *D^cw* has not the "title" of brother, a further proof that the so-called brothers are likely Khentykhetjwn's colleagues of equal rank. Otherwise, this could be evidence of the emergence of new social ties that define a kind of asymmetrical relationship. Some scholars describe this as something close to the ancient Roman distinctive social relationship between patrons and clients;⁵ a practice likely attested in ancient Egypt, during the First Intermediate Period,⁶ parallel to the emergence of a further aspect of royalty: that of the "good shepherd". Others underline the aspect of voluntariness, absence of a legal/blood bond, reciprocity,⁷ and/or the case when an individual

2.

- 5. Campagno 2014.
- **6.** Assmann 2002, p. 50.
- 7. Johnson, Dandeker 1989, pp. 221–222.

^{3.} Already William Kelly Simpson asked: "are the individuals connected by family relationships only, or are there other possible relationships as a guild, corporate, professional, and religious?"; SIMPSON 1974, p. 104.

^{4.} Revez 2003.

can be a paid employee with independent authority.⁸ This could be what the Egyptian texts define *sn-dt* "brother of endowment" a strong relationship where this man can also replace the head of the family in some works,⁹ a fact that put him on the same genealogical line of the pivotal character and therefore he can be labelled as "brother".



Fig. 4. Families without genealogical relationship with Khentykhetjwn.

3. "FAMILIAR-FAMILY"

It can be noted that in this part of the list, the author follows the importance of the character or his/her centrality within the family. For example, *S3t-Rnnwt* (the nurse) is dominant over her daughter *Hb-pw* (B16), who is only *Mkt-sr's* wife, and then, *S3t-Rnnwt* being a widow, she is central in indicating her own family: her mother, daughter, and son, in birth order. In this case, the absence of *S3-Hwt-Hr's* (B14) and *Mkt-sr's* (B15) mothers is highlighted.

We can argue that *S3t-Rnnwt* cannot be labelled "sister" for a clear contradiction in terms: she is a (non)-brother's mother-in-law and clearly belongs to another genealogical level (i.e. another generation). Further, if the term brother by profession is used for equal grades, women related to the family by nonblood ties only have the position of work, and cannot be called "sisters".

We could be in the presence of the idea of a "familiar-family", identifying not only the family, but also those who live in the same dwelling and who form a greater gentilitial unity, whose members are defined in the same terms as the family of origin. They were listed at the end of close relatives because they belong to a different level of familiarity and not to the bloodline.

These elements lead us to highlight how the term brother shows both a juridical, affective, and closeness (genealogical) relationship, in communities of dwelling, food, goods and cults. In this sense, its proximity is proposed with the words *sni* "be like, resemble" and *snw* "companion, equal". Accordingly, the bond of sibling is expressed very narrowly. Khentykhetiwn's position, before his sister, indicates his eventual power over her. Above all, the importance of siblings lies in their symbolic vitality, for which they indicate the closest possible link between equals. For this reason,

^{8.} Bardoňová, Nováková 2017.

^{9.} Moreno García 2013, p. 1045. For a complete study of the term, see Kasparian 2006.

the wife can also be referred to as a sister: because she is the person (woman) who feels part of the family and for age usually belongs to the same generation as the husband. This could also be due to the fact that with the marriage and the partner's settling in the new house, the cohabitation relationships become more important than kinship ones. Further, the use of the term "sister" also shows the greater consideration for the wif who could inherit upon the death of her husband and designate heirs.

To avoid misunderstanding, the narrow family border is represented by (6B), his sister of his mother *S3t-Jp* the younger begotten of *M-s3.s*, an expression that allows us a further evaluation. We know that Khentykhetjwn mother is (A2) *Mnt-wr* begotten of (A11) *S3t-Jp*. Consequently, *S3t-Jp* the younger could only be the greataunt following the maternal line. The pivotal person, in fact, is still Khentykhetjwn. So, is it correct to say in this case that the word "mother" means "grand-mother"? Likely, the kinship expression "sister of his mother" is enough to underline the genealogical distance from Khentykhetjwn (at least one generation), where the construction "sister of his mother of his mother" would have been redundant: generational distance from the family center was clearly remarked.

This stela shows us that the ideal genealogical list adheres to specific guidelines. Starting from the person (in this case Khentykhetjwn) that plays a pivotal role in the list, the following family members are described: a) his wife; b) his sons and daughters in order of age (the firstborn, in this case, is his daughter); c) his parents; d) his grandfather (paternal line) and his new family; e) his grandfather (maternal line) and his family; f) his familiar-family/ies; and g) other persons related to the family without blood, kinship, or affinity.

The kinship lexicon can be described in the following concentric way. In the green zone (fig. 5), the nuclear family; in the yellow and red, family members; in the grey, others with no-bloody kinship.

			it it		it mwt	sn mwt		
		sn it	it		mwt	sn mwt		
sn		hỉ	sn	ink	snt	<u>h</u> mt		
	sn						snt	
		siw sn	s}		sit	siw snt		
			sðw sð		siw sit			

Fig. 5. Kinship terms affinity.

Outside from the green zone, the kinship terms are a "product" resulting from the combination of a pair of kinship terms with another kinship term,¹⁰ starting from the pivotal position of EGO (figs. 6–8).

10. Read 1984.



Fig. 6–8. Examples of the kinship product respectively for "grandmother", "grandfather" paternal line and "grandfather" maternal line.

This formula establishes the greatest distance between Khentykhetjwn (EGO) and his relatives. In these cases (grandparents, uncles, grandchildren), affective relationships are present but are not defined in lexical terms with autonomous terminology. They are defined in relation to the father, mother, etc.: the nuclear family.

The supposed confusion created by using the same words to define different kinship relationships is avoided by the link to the mother (jr/jrt n) (fig. 9).



Fig. 9. The use of the connection with the mother.

Comparing this line (B6) *snt.f mwt.f S3t-Jp rnpyt jrt n M-s3.s*, "his sister of his mother *S3t-Jp* the younger, begotten of *M-s3.s*" with the previous information on Khentykhetjwn family, it is clear that it refers to another member of the family and not to his aunt. We know from line A11 that his mother is "the Lady of the house *Mnt-wr* begotten of *S3t-Jp* (i.e. Khentykhetjwn's grandmother)". Consequently, in B6 *S3t-Jp* the younger labelled with the kinship term "his sister of his mother" is Khentykhetjwn's great-aunt (maternal line). In this case, "mother" is not for grand-mother: its purpose is to underline the genealogical distance from the pivotal figure of Khentykhetjwn.

It is clear that the single kinship term must be understood by distinguishing between the literal and the social meaning,¹¹ and it is the formula "his Kin-term₁ (of his Kin-term₂) begotten of PN" that clarifies the genealogical relationship. The first element, the product (his Kin-term₁ of his Kin-term₂) gives the genealogical connection and the distance to EGO (Khentykhetjwn); the second element, "begotten", gives the fixing point in the kinship space of EGO.



The system has been applied to non-Egyptian people. In the Execration ^{example.} Texts within the Nubian section, the place name A.2¹² hk3 Š3^ct 3ktwj ms n Rh3j ms n Stkhj "The ruler

of \tilde{S}_{3} ^{*c*}*t*, (called) *3ktwj* born of *Rh3j* and born of *Stkhj*^{*n*}, it underlines the presence of the father and grand-father of the Nubian ruler (fig. 10).

CONCLUSION

The extensive use of the kinship lexicon to delineate other relatives could lead to the definition of a limited and confusing system, but this is not the case as the formula could be expanded to give an even more precise indication. The third element for a clear definition is the pivotal name. In this way, we should read not only the names of Khentykhetjwn's family, but also other families related to him, with different pivotal characters. The fourth element is the job title, mainly used for non-family members.

In the event that this stela would represent a record of the family that allows any eldest son to receive his inheritance and maintain privileges, rights, possessions, profession, and political-administrative positions,¹³ this formula also satisfies from a legal point of view.

In fact, with this system, there is no need to have a word for the motherinlaw and the title *hmt n* X "the wife of X" creates no confusion. We can understand from the stela that Khentykhetjwn's grandmother, Jk (quoted in A10) probably died,¹⁴ and that his grandfather Jtj (A13) remarried J-kj (A14), clearly defined *hmt.f* of Jtj. The *hmt.f* expression prevents the disjunctivity that would occur when EGO's grandfather (in this case) remarried to another woman, as it refers to the one who is at that time someone's legal wife. We can argue that one of the necessities was to express the belonging to the family without blood ties (the law-relation). Law-relatives existed on a private level, unless on the juridical level.

The Egyptian family is a functional group within which the life of the individual is carried out from the point of view of organisation and economic activity, it underlines the organisational character and sense of solidarity that lead to including and labelling with the same terms even members without blood ties, which forces the terminology to adapt to new realities. The impression we get is that the Egyptians have had, since the earliest phases of their history, a much more complex family organisation than we might think.¹⁵

- 11. Cf. Farghal, Shakir 1994, p. 242.
- 12. Posener 1940.
- 13. Cf. Campagno 2009, p. 4.

14. It is clear that this is not a second marriage to have children, male offspring, or an example of polygamy because usually the divorced woman is unlikely to be commemorated, cf. SIMPSON 1974, pp. 100–105

15. For some aspects of this complexity in the Old and Middle Kingdoms, see KASPARIAN 2003.

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Crossing Invisible Boundaries

An Erased Letter to the Chief of the Storehouse Hwy

THE RAMESSIDE HIERATIC MATERIAL IN TURIN

Since Jean-François Champollion's visit to the Museo Egizio in 1824, the Egyptological community has been aware of the incredible richness of the papyrological collection acquired from Bernardino Drovetti.¹ Next to entire rolls and large pieces of hieratic papyri, the father of Egyptology provided a vivid description of his discovery of a table covered by countless fragments in the roof space of the museum: in a letter to his brother of November 6, 1824,² he famously talked about the "*Columbarium de l'Histoire*".

These fragments have been investigated ever since³ and revealed numerous documents that are essential to our knowledge of the ancient Egyptian history and culture. Since 2019, they are at the center of the interdisciplinary project "Crossing Boundaries: Understanding Complex Scribal Practices in Ancient Egypt", a joint endeavor between the Museo Egizio, the University of Basel and the University of Liège.⁴ This project deals specifically with the Ramesside hieratic papyri of the Turin collection that stem from Deir el-Medina (ca. 1350-1050 BCE) and adopts a contextual approach to this written material.⁵

I.I. FRAGMENTS OF HIERATIC PAPYRI

The Crossing Boundaries project focuses mostly on the so-called 'CPs'. 'CP' is the abbreviation for '*Cartelline Papiri*', namely cardboard folders used for storing fragments of papyri. These

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- 1. Borgi, Donatelli 2019.
- 2. Hartleben (ed.) 1909, p. 84.
- 3. E.g. Roccati 1975, 2015.

5. E.g. Demarée, Gabler, Polis 2022.

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^{***} University of Liège.

^{4.} Polis et al. 2020.

fragments belong both to larger well-known documents and to papyri that still have to be entirely reconstructed. They were collected in Egypt by Bernardino Drovetti and by the Italian mission led by Ernesto Schiaparelli, respectively at the beginning of the 19th and 20th century.

Around 200 CPs are kept at the Museo Egizio. Among them, nearly 75% are relevant for the project, since they date back to the Ramesside period and allegedly come from Deir el-Medina. The project-relevant CPs contain more than 11,000 fragments of papyri, ranging from the tiniest piece (with some traces of ink) to the (almost) complete letter, and potentially including all kinds of administrative and literary texts usually attested in the Deir el-Medina documentation.

Over time, the CPs came to be organised in Turin following the traditional division between 'administrative' and 'literary' texts. Administrative texts are predominant in CP1 to CP100, while CP101 to CP200 contain rather literary fragments. This distribution is, however, quite theoretical: most CPs are actually made up of a mix of fragments, containing various kinds of administrative and literary texts, and a significant number of fragments are actually 'heterogeneous papyri', i.e. documents bearing different text types, which are particularly relevant for the study of complex scribal practices in ancient Egypt.

Despite continuous work on this material over the last 200 years, the majority of CP fragments remain unpublished and are generally undescribed.⁶ Therefore, each fragment has to be studied individually in order to improve our general understanding of the collection and to allow for future reconstruction of larger documents. To meet this goal, we resort to the *Turin Papyrus Online Platform*,⁷ a digital database launched by the Museo Egizio in 2019.⁸ Each fragment is first encoded in TPOP as a material object with metadata of all sorts. TPOP further allows to connect fragments originally belonging to the same papyrus as a preliminary step to reconstruct documents.

I.2. JOINING FRAGMENTS WITH A VIRTUAL LIGHT TABLE

The encoding in TPOP is supported by the creation of high quality scans at a resolution of 1,200 ppi by the staff of the Museo Egizio. These digital copies are not only necessary documentation, but also allow to shift the reconstruction process to a virtual level. To facilitate this undertaking, the project is developing a digital research tool, the Virtual Light Table (VLT).

This application will enable scholars to access and filter the fragments in TPOP, to add them to a digital worktable and to move, rotate, or flip them around as needed. The resulting reconstructions can be annotated, exported, or saved and exchanged with other scholars. Future work will add additional features like graphical filters to enhance readability and the results of the project's machine learning research, e.g. algorithms helping to find joining fragments or to position them accordingly. The VLT will be published as open source software at the end of the project phase.⁹

6. Notable exceptions are the administrative fragments transcribed by Rob Demarée, who kindly made his work available to the project.

8. https://collezionepapiri.museoegizio.it.

9. For more details on the software design and features, see UNTER 2021. An illustrated list of implemented and planned features can be found on the project website: http://web.philo.ulg.ac.be/x-bound/virtual-light-table/.

^{7.} TPOP; Töpfer 2018.

I.3. FRAGMENTS OF REUSED PAPYRI

Many fragments show traces of ink indicating that the manuscript to which they belong was used more than once.¹⁰ The remains of previous inscriptions appear in all degrees, from a few dots of ink to complete sign groups, words, or even sentences which were clearly meant to be removed, but for some reason still remain visible. While a vast number of fragments feature evidence of a previous stage of use, occasions where more than a few signs can be reconstructed are rare.

Preliminary research on the corpus of reused manuscripts in the Museo Egizio suggests that the papyri were not reused following any systematic structure. Both recto and verso sides are frequently inscribed and re-inscribed with texts of different types. While this could be coincidence and the result of the incompleteness of the preserved material, it would not be surprising if this assessment actually represented the historical reality, where the choice of reusing a papyrus was dictated by factors like necessity, writer's preference or material aspects of the manuscript.^{II}

2. BEGINNING OF A LETTER FROM A MOTHER TO A SON

The fragment presented here (CP158/006) is an informative example of erased text: while the ink was intentionally removed in antiquity, this fragment shows no trace of secondary use. Due to the lack of context, however, it is impossible to say whether this fragment was part of a manuscript which was actually reused, or whether it was just prepared for such an occasion. Further research on the Turin papyri might reveal related fragments that will clarify these questions.¹²

2.I. MATERIAL DESCRIPTION

The fragment measures 20.5×4 to 7cm. Traces of three lines belonging to the beginning of a hieratic letter written in black ink (and subsequently erased) are found on the recto (fig. 1a); the verso is blank, except for some red signs/marks, which are not readable and might even belong to a drawing (fig. 1d–e). The width of 20.5cm points to the use of a halved Ramesside roll,¹³ which is the norm for letters at this period.¹⁴ More unusual is the fact that the scribe began his text on the papyrological recto (along the horizontal fibers), since letters normally open on the vertical fibers. Letters beginning on the H/V side are usually palimpsests,¹⁵ which suggest at least three stages of use for this papyrus sheet: (a) a first text was written, then (b) the present letter was penned, and (c) erased to prepare the sheet for a third use (of which we might have traces on the verso).

12. The drawing presented here is based on a high-resolution scan (1,200 ppi). It has been collated with the original papyrus in September 2021 (https://papyri.museoegizio.it/d/622).

^{10.} Some early observations on the reuse of papyri are found in CAMINOS 1986. For a more recent summary and further references to reused papyri, see EXRE 2013, pp. 33–35.

^{11.} Contra PESTMAN 1982, pp. 156–158, who suggested a rather rigid system of use and re-use for the papyri in the Kn-hr-hpš-f archive.

^{13.} Černý 1952, p. 16.

^{14.} Janssen 1991, pp. 48–50.

^{15.} Bakir 1970, pp. 19–21.

The scribe began writing the message ca. 2-2.5cm below the upper end of the fragment. The top was certainly left empty on purpose: when done with his letter, he could roll the sheet bottom-up and this empty rim would protect the text. The missing part at the top (ca. 10 × 2.5cm) supports this scenario, since the exposed outer part would have broken first. Four horizontal folds are visible and at least 12 vertical ones, which means that CP158/006 may have formed a little package,¹⁶ first rolled horizontally and then folded vertically.

2.2. DRAWING AN ERASED TEXT

When documenting an erased text, several options are available. In some cases, a high-resolution photograph or scan already suffices to give a good impression of the remaining ink. Digital image enhancement software like Adobe Photoshop or the ImageJ plugin DStretch can be used to enhance the contrast between ink and surface, making the erased inscription easier to discern. The use of such software, however, has two major disadvantages:

- 1. The results depend on the information gathered by the respective scanning or photography process, which can only map the reality to RGB pixel values. In other words, image manipulation cannot reveal more than what is already captured on the image. Through the process of enhancing the contrast, data of the mid-tones is lost which, in a case like the one presented here, results in skewed and misleading shapes and loss of detail.
- 2. The automated contrast enhancement by the software is objective, thus does not distinguish between the nature of the darker pixels on the image—be they ink, a dark brown fiber, a shadow, a hole in the papyrus, or other disturbances on the image which again creates misleading patterns.

The time-consuming method of manually drawing the ink traces is preferable in many cases where an accurate and unambiguous result is aimed for, and was chosen for revealing the presence of ink on CP 158/006 (fig. 1b).¹⁷

2.3. ANNOTATED TRANSLITERATION AND TRANSLATION

The hieroglyphic transcription (fig. 1c) is based on the drawing and is quite tentative given the poor state of preservation of the ink. However, the regularity of the letters' introductory formulas helps significantly to ascertain the suggested transcription.

 $r^{o} I = dd.n^{(a)} (nb.n.njw.t [...]^{(b)} s_{3}\{.t\} = s^{(c)} bry-sn' Hwy^{(d)}, m' .w.s m b[s.t]$

- r^{o} 2 [Imn-R^c nsw.t] ntr.w^(e), r-nty mk <wj> hr [dd^(f) n Imn], Pth, P3-R^{c(g)}, jmy snb=k^(h)
- r° 3 [*jmy* '*nh*=*k*...] *jmy wn*=*k*⁽ⁱ⁾ [*m h*s.t *Pr*-'3, *p*3*y*=*j nb*,] *tw*=*j* [...]

16. Krutzsch 2017.

17. The drawing was created with the help of a Wacom Cintiq 16 and Adobe Photoshop, here applied on top of the original image with lowered opacity. The same method (though not digitally) was already applied by Rob Demarée (2006, pl. 28) for visualising the erased text of the palimpsest papyrus P. BM EA 75025.

- r^o I The lady [...] says [to] her son, the chief of the storehouse Hwy, in L.P.H., in [the favour of]
- r^o 2 [Amun-Raking of the] gods: look, <I> am [saying to Amun], Ptah, Prâ, to keep you in good health
- r^o 3 [to keep you alive, and] to keep you [in the favor of Pharaoh, my lord;] I [...]
- a. The introductory formula $\underline{dd.n} \ge n \ge 1^{18}$ is typical of the 19th Dynasty (and is attested mostly under Ramesses II).
- **b.** The name of the *'nb-n-njw.t* sender filled a space of roughly 3cm. The few traces do not allow to identify a proper name with any certainty. The feminine name might have begun with the group $\lim_{t \to \infty}$ or \mathbb{M} .
- c. The hieratic group before the suffix *s* looks more like *s3.t* than *s3*. Similar unexpected writings of *s3* are attested in other 19th Dynasty letters, see e.g. O. Černý 19, r° 1 (HO 54,4) or O. DeM 10249, r° 1.¹⁹
- d. The title $hry \, sn'$ is common during the Ramesside period, while *jmy-r sn'* is usually attested under the Thutmosides.²⁰ Note that the spelling with M and Sa is also typical of the Ramesside period and especially common for the 19th Dynasty.²¹
- e. The name of Amun-Ra king of the gods fits the length of the lacuna, but is not beyond doubt from a palaeographic point of view.
- **f.** The introductory formula *r-nty mk wj hr dd n* divine names is characteristic of late 18th–early 19th Dynasty letters. For the omission of *wj* after *mk*, see e.g. O. DeM 581, $r^{o} 2^{22}$ and P. Sallier 4, $v^{o} 1,3.^{23}$
- **g.** For the sequence of deities *Jmn*, *Pth*, *P3-R'*, see e.g. O. Toronto ROM 906.19.5 (A 11), II, 16²⁴ and O. Turin N. 57093, r^o 2.²⁵
- h. For the 2SG.M suffix pronoun =k written =kwj in the formula jmy snb=k, see O. DeM 581, r^o 3.²⁶
- i. This part of the transcription is an educated guess based on the few remaining traces.

3. CONTEXTUALIZATION

The $\check{s}n'$ -institutions of the New Kingdom were linked to temples; these institutions were responsible for processing agricultural products (food and clothes/linen) for the daily offerings and other special purposes.²⁷ With the $\dot{p}ry$ - $\check{s}n'$ $\dot{H}wy$ in the present letter, we add a new titleholder to the list of 27 men bearing this title during the Ramesside period,²⁸ six of which have tombs in Western Thebes: TT 3 (at Deir el-Medina), 198 (at el-Khokha), 285, 302 and 303 (at Dra' Abu el-Naga).

- 18. Bakir 1970, p. 49.
- 19. Grandet 2010, p. 358.
- 20. Polz 1990, p. 48; Eichler 2000, pp. 30-38.
- 21. Polz 1990, p. 54.
- 22. KRI III, 536,4.
- 23. LEM 89,2.
- 24. KRI III, 41,11.
- 25. López 1980, pl. 51.
- 26. KRI III, 536,5.
- 27. Eichler 2000, pp. 97–113.
- 28. Polz 1990, p. 52.

Assuming that the fragment presented here belongs to one of the two lots of Turin papyri from Deir el-Medina (the Drovetti and Schiaparelli collections), the sender or the addressee must have been part of the workers' community in some way.²⁹

The only members of the community known to hold $\delta n'$ related titles belong to the family of *P3-šd* (x), foreman of the left side at the beginning of the reign of Ramesses II and owner of TT $_{3.30}$ He and his brother *Nfr-shr.w* are the only ones who are known so far to have borne this title. Accordingly, it is tempting to connect the *bry* šn' *Hwy* to the family of *P3-šd* (x). This connection would be supported by following pieces of evidence:

- 1. Orthographical, grammatical and phraseological features of the letter point to the (early) 19th Dynasty.
- 2. A daughter of *P3-šd* (x) is named *Nwb-nfr.t*,³¹ and the proper name following '*nh-n-njw.t* could begin with the *m*-sign.
- 3. The name Hwy is attested within the family of $P_{J}-\vec{s}d(\mathbf{x})$, usually for females (his mother and one of his daughters). Using this (common) name would therefore be a likely option.

This hypothetical grandson of P3-šd (x) might have become another *hry šn*^c thanks to the family connection with this institution around the middle of the reign of Ramesses II. In this scenario, it remains however difficult to assess whether the sender or the receiver was living outside of Deir el-Medina, even if the latter option seems overall more likely. Further fragments of the letter still to be identified among the CPs of the Museo Egizio might help clarify this question or alternatively show that the papyrus had been acquired by the Deir el-Medina gang from somewhere else and then prepared for their own use.

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29. The fragment discussed here seems to be a similar case to the two 19th Dynasty letters discussed in DEMARÉE, GABLER, POLIS 2022, and might therefore originate from Schiaparelli's excavations.

30. DAVIES 1999, pp. 166–167, 279. His titles in TT 3 (Wsjr bry šn' appears twice) indicate that he had worked in Karnak before he (and probably his family) moved to Deir el-Medina (see also Stela Cairo JE 36671, where he is a bry šn' n Jmn). On a wooden coffin fragment stemming from TT 3, P3-šd is a Wsjr b3k n šn' n Jmn, which leads to the conclusion that his tomb and funerary equipment must have been almost fully prepared when he entered the community. When becoming foreman of the left side, he apparently constructed a second tomb, TT 326, which consists of a chapel solely (for representational purposes?), in which he is entitled *bry is.t* and '3 n *is.t*. Cf. Černý 1973 (ed. 2001), pp. 292–293; KRI I, 380.

31. ZIVIE 1979, pp. 68, 121.

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Fig. 1.a. CP 158/006 recto, original.



Fig. 1.b. CP 158/006 recto, drawing (Elena Hertel).



Fig. 1.c. CP 158/006 recto, transcription (Stéphane Polis).



Fig. 1.d. CP 158/006 verso, original.



Fig. 1.e. CP 158/006 verso, drawing (Elena Hertel).

Svenja A. Gülden*

Studying Hieratic and Cursive Hieroglyphs in a Digital Age

THE PROJECT Altägyptische Kursivschriften (AKU)¹ has developed a digital knowledge graph that collects the sign inventory of hieratic script and cursive hieroglyphs with extensive metadata about sources and signs. This contribution presents selected aspects of the project, such as new features of the AKU knowledge graph and initial steps in analyzing hieratic signs with digital tools and methods using sources dated to the 18th Dynasty.

The hieratic script served the ancient Egyptian scribes to write down all kinds of texts such as letters, invoices, literature, and religious texts, to name only a few examples. The scribes mostly wrote with ink on various writing materials, such as papyrus, linen, leather, wood, plaster, ceramics, stone, but also engraved the texts on clay tablets, stone objects, rocks, etc. All these factors contribute to the fact that the individual hieratic signs can be very distinct in their shape.² In this context, it is fundamental to always keep in mind that Hieratic—in particular when written with ink—is the handwriting of a scribe's personality. The individual characteristics of the scribe and the writing circumstances can therefore be further shaping aspects.³

I. THE AKU KNOWLEDGE GRAPH

I.I. A NEW QUERY OPTION

A single grapheme can thus be realized by numerous individual allographs. To represent this wealth of variants of the hieratic script, the AKU project has developed a paleography knowledge graph. While printed paleographies or sign lists are static and can only present selected examples

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^{1.} For further information on the AKU project, see https://aku.uni-mainz.de as well as Gülden et al. 2017; Gülden, Verhoeven 2017; Gülden et al. 2020.

^{2.} See Meeks 2020.

^{3.} See Polis 2020, pp. 557–558.

due to the medium, a database is dynamic and expandable.⁴ In the project's knowledge graph, the individual hieratograms⁵ are recorded, annotated,⁶ and preserved in a repository with a unique reference.⁷

The project has compiled a grapheme list in which the smallest graphemic units (monographs) of the hieratic script are collected and linked to the individual allographs. Currently, we add group writings and ligatures to the database. Sign groups and ligatures can decisively change the shape of a sign. To enable a user to find these specific occurrences of a grapheme, we have developed a new feature in the database that allows linking between group writings and monographs (fig. 1). The example (fig. 1, on top) shows that the group writing M0652 exists of (*besteht aus*) the individual signs L0020, M0630, etc., and another group writing L0030.⁸ On the other hand, one can display group writings connected to a grapheme (fig. 1, below). The hieratic sign L0020 can be part of (*ist Teil von*) group writings L0030 and M0652. The group writings provided by the link list are currently displayed in hieroglyphs. However, in the future, selected ligatures and group writings will also be displayed in Hieratic.

1.2. LINKED OPEN DATA—A NEW FEATURE USED IN THE AKU KNOWLEDGE GRAPH

The AKU project's knowledge graph now uses *Linked Open Data* (LOD). LOD is a network of freely available data published on the *World Wide Web*. The data are identified by a *Uniform Resource Identifier* (URI) and can be accessed via the *Hypertext Transfer Protocol* (HTTP). The database refers to various projects and ontologies. These include, for example, *Thesaurus Linguae Aegyptiae*,⁹ *THOT*—*Thesauri and Ontology for Ancient Egyptian Resources*,¹⁰ *Thot Sign List*,¹¹ *Getty Art* & Architecture Thesaurus[®] Online,¹² Pleiades¹³ and iDAI.gazetteer.¹⁴

The project's bibliographical data on Hieratic and cursive hieroglyphs are collected in a standardized form in the *open-access* platform *Zotero*.¹⁵ The bibliography does not claim to be complete, but it facilitates access to the specific field of cursive writing. It already can be used by researchers—even without having an account of their own.¹⁶

4. On the capabilities of a paleography database for Hieratic, cf. Gülden 2017, p. 7; Gülden 2018, pp. 88–90; Gülden et al. 2020, pp. 637–640.

5. This term was coined by VERHOEVEN 2001, p. 1.

6. It can also be linked to the photo of the original manuscript to document position and context.

7. See for this Gülden 2018, p. 90, n. 30.

8. Please note that the numbering of graphemes and group writings in the database is subject to change until the grapheme list is published.

9. https://aaew.bbaw.de/tla/.

- 10. https://thot.philo.ulg.ac.be.
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2. INITIAL TESTS OF DIGITAL TOOLS

2.1. DATA GENERATION

A database is an essential annotation and research tool, but collecting data in a database is only one small digital research aspect.¹⁷ The real challenge, on the other hand, lies in the generation of digital objects.

[...] the creation of digital objects—be it images of inscriptions or manuscripts, electronic versions of ancient corpora, or collections of secondary literature—is a crucial part of humanities research. It is more than just preparation for research. This is a fundamental difference between data-bases as they are used in the humanities and those that are used in the natural sciences. The way in which inscriptions are photographed or in which text corpora are transcribed and encoded, is crucial for the way in which these research objects will be studied in the future.¹⁸

The first step towards digital research of Hieratic and cursive hieroglyphs—the methodology of data generation—therefore requires special attention.

The AKU project uses two data formats for hieratic and cursive hieroglyphic signs—vector graphics and raster graphics. The project's facsimile drawings, e.g. from scans or photographs of papyri or other written material, are created as vector graphics.¹⁹ The retro-digitizations, scans from previously published paleographies, for example, are raster graphics. For both digitization processes, we have developed specific workflows.²⁰

Depending on the digitization process, the digitized signs are thus available in two groups, having different file formats. However, because either vector graphics or raster graphics are required depending on the analysis tool, all digitized signs must be available in both data formats. Therefore, we need to transfer vector graphics into raster graphics, and *vice versa*.²¹ To finally store the digitized signs in a repository, they also have to be validated beforehand.

2.2. DIGITAL PALEOGRAPHY IN EGYPTOLOGY

The first approaches to digital paleography in Egyptology date back to the end of the twentieth century.²² However, digital paleography in Egyptology—especially for Hieratic—has

17. On the question of what the term "digital" refers to in humanities research, see CIULA 2017.

21. Converting vector graphics to raster graphics is almost without any problems. The reverse editing process currently requires more manual intervention and is thus more time-consuming, see Gülden 2018, pp. 100–101.
22. For history and needs of digital paleography for Hieratic and cursive hieroglyphs, cf. Gülden et al. 2020, pp. 634–636.

^{18.} PEURSEN 2010, p. 11.

^{19.} The XML code underlying the vector graphics describes the paths of the facsimiles with mathematical precision. Therefore, e.g. it is possible to read out the size of the hieratogram automatically during the import in the database. **20.** See GÜLDEN 2018, pp. 95–100. The AKU project is happy to share experiences with the various methods and good practices of digitization with the community. The individual steps of our workflow for digital facsimiles and retro-digitization will be published in the project's blog (https://aku.hypotheses.org/2700).

not yet made any significant progress.²³ One reason for this may be the laborious processes of data generation. Another cause could be—compared to alphabetic scripts—a large number of graphemes *and* the numerous variants of the allographs realizing them, as described above. Thus, it is not surprising that humanities dealing with the analysis of alphabetic manuscripts have already made much better progress, such as medieval studies that, e.g. research medieval codices. There, digital paleography has developed into a full-fledged science in recent years.²⁴

2.2.1. Query-by-example Word Spotting

For Hieratic or cursive hieroglyphs, the *Optical Character Recognition* (OCR) method cannot be applied yet, mainly because there is currently not enough training data available for this approach for the reasons mentioned above.²⁵ The *Query-by-example Word Spotting* method, on the other hand, can be used without any training data.²⁶ Like others, this tool was developed for handwritten or historical documents with alphabetical scripts.

Gernot A. Fink²⁷ and his team at Technical University Dortmund allowed us to test this exciting tool using digital photos of hieratic texts. The photos are uploaded into the software and then pre-processed. For the query, one marks an area, e.g. a sign, and the tool searches for similar patterns on all photos. The corresponding positions are marked and graded in color depending on the degree of compliance.

It is important to note that this method is not searching for hieratograms but similar patterns on the analyzed image. Nevertheless, such markings can be a tremendous support for the paleographer when working on very extensive manuscripts. This method has already delivered impressive results without any prior learning. However, it can be further developed by additional training data. Therefore, the AKU project plans to participate in the benchmark for improving the word spotting method with selected papyri.

2.2.2. VIKUS Viewer

In terms of big data, we are not yet dealing with millions of hieratograms representing one grapheme. Nevertheless, the manual compilation of similar shapes is already challenging with only a few 100 allographs. Therefore, we wanted to explore if automated clustering of similar sign shapes in Hieratic or clustering of complex vs. simple shapes is possible with the tools existing so far.

^{23.} Nevertheless, more recent approaches should be named, e.g. for Hieroglyphs the projects *Hieroglyphic "Hands"* (https://journals.openedition.org/baefe/996#toct02n12/), *Polychrome Hieroglyph Research Project* (https://www.phrp.be/), and for Demotic the *Demotic Palaeographical Database Project* (http://demotischdemotisch.de/). See also for actual approaches in Egyptology HALIASSOS et al. 2020.

^{24.} See, for instance, CIULA 2005; FECKER et al. 2015; STOKES 2015. See also the contribution by T. Konrad in this volume with further reading.

^{25.} However, see Bermeitinger et al. 2021.

^{26.} See, for example, ROTHACKER et al. 2014.

^{27.} See https://patrec.cs.tu-dortmund.de/cms/en/home/People/Staff/fink.html.

VIKUS Viewer "is an advanced web-based visualization system" to "explore cultural collections along time, texture and themes".²⁸ It uses, among other techniques, the t-SNE (*t-Distributed Stochastic Neighbor Embedding*) algorithm for grouping objects with similar features. Since the software is available as *open-source* on GitHub²⁹ the AKU project could install and test the system directly on its computers. That allowed us to perform several series of tests and, furthermore, it facilitated us to check and improve the quality of our digitizations.

Fig. 2 shows one of the analyses performed with just over 100 allographs of the grapheme Gardiner G 1³⁰ dating to the 18th Dynasty. As mentioned above, the goal was to test a similarity analysis. The software did indeed form clusters of similar shapes, although the boundaries are sometimes fuzzy or overlapping. For better illustration, the clusters are subsequently marked in color. On top there are signs with reduced forms. However, they have different diagonals (purple, red, and orange). Other shapes are more detailed and are a little bit extended at the bottom (blue). Another group shows signs that have a slightly more closed form at the top (green). There are other clusters with similar shapes that one could identify, but also another phenomenon can be observed—characteristics of different rushes. The signs at the top left were probably written with a writing tool producing a fairly thick stroke. At the bottom, on the other hand, writing tools seem to have been used that produced much narrower strokes. The signs in the center connect the two groups—written with a slightly thicker rush but showing more detailed shapes.

Thus, it shows clearly that the software did not only perform a similarity analysis of the shape and complexity but also of the materiality of the rush and the writing surface.³¹

CONCLUSION

Digital script analysis could help to replace educated guess in the paleography of Egyptian manuscripts with a methodological approach. It also makes analysis methods and results sustainably reproducible. Although digital script analysis is only in its infancy in Egyptology, first tests have shown that even tools developed for other disciplines can already produce promising results of high quality. In this context, it is important to emphazise that carefully generated data is essential to participate in or decisively influence new developments in the future.

And yet, digital methods and tools by no means replace the paleographer. But they can provide valuable support and at the same time open up the possibility for new research questions.

^{28.} VIKUS Viewer was developed by Christopher Pietsch at the Fachhochschule Potsdam (https://vikusviewer.fh-potsdam.de).

^{29.} https://github.com/cpietsch/vikus-viewer.

^{30.} According Gardiner 1957, p. 467.

^{31.} For this aspect, see Gülden 2022.

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Fig. 2. Analysis of the allographs of the grapheme Gardiner GI using sources dated to the 18th Dynasty (mainly papyri and dipinti) with *VIKUS Viewer* showing clusters according to shape, complexity, and stroke width.

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New Ways to Think About Egyptian Science

UR PRESENTATION at the ICE in 2019 introduced a new research project on ancient Egyptian science that we plan to pursue for the next 15 years. This project results from our work—individually as well as combined—of the past 20 years in what is traditionally called the history of ancient Egyptian science. When we began our research in this field writing our dissertations on sources relating to ancient Egyptian mathematics (Annette Imhausen) and ancient Egyptian metrology (Tanja Pommerening), history of mathematics—as well as history of medicine and history of science—was the historiography of a modern discipline. Working on sources that originated over 3,500 years earlier than what may be considered their present-day successors granted us an exotic status in both disciplines, Egyptology and, with respect to our dissertations, history of mathematics. We combined a subject matter—mathematics—that is considered "difficult"—at least for those not working in mathematics or related disciplines—with primary sources written in what is regarded as an abstruse language—by those not working in Egyptology.

The situation in which the earliest sources of the field were analyzed, and how those whose work focuses on them were perceived, is similar in the history of medicine and the history of science in general: a "modern" reading of the sources was predominant. From a historiographical point of view, this can be explained as a consequence of the original focus according to scientific disciplines from the early histories of the subjects themselves.¹ This can be traced by well-known publications, such as *The Exact Sciences in Antiquity*² and the *History of Ancient Mathematical Astronomy*,³ both by Otto Neugebauer, or by those of Egyptologists, like the nine-volume publication *Grundriss der Medizin der Alten Ägypter*.⁴ All of these publications, which date from the 1950s to the 1970s, used modern scientific concepts to write the history of the respective disciplines. Based on the modern concept of medicine, for example, the authors selected the source material for ancient Egyptian medicine. These choices, as can be seen from the *Grundriss der Medizin der Alten Ägypter*, yielded

^{*} Frankfurt.

^{**} Marburg.

^{1.} Cf. for example POMMERENING 2010 and RITTER 2016 for case studies from the historiography of Egyptian medicine and mathematics.

^{2.} Neugebauer 1957.

^{3.} Neugebauer 1975.

^{4.} Grapow, Deines, Westendorf 1954–1973.

a corpus of texts considered to be related to (modern) medicine. However, from an ancient Egyptian perspective, this selection led to a distortion, because magical spells, which are sometimes found within the same papyri, were not included.⁵

The publications resulting from this approach were useful to determine similarities between ancient domains of knowledge and their modern successors to write a genealogical history of science. For ancient Egyptian medicine, this resulted in Egyptology as well as in the History of Medicine in a story of success.⁶ Article titles like "The first case of an illness, a diagnosis, a treatment..." indicated, on the one hand, the high level of competence that was already achieved in ancient Egypt.⁷ On the other hand, these publications also implied the "superior" knowledge of modern western medicine, because since "the first case" had been dealt with by ancient Egyptian doctors, much progress has been made (by modern western physicians) in the treatment of such diseases.

In this context, a comparison with Mesopotamia is remarkable.⁸ From the extant cuneiform sources, it would have been easily possible to write a similar history of Mesopotamian medicine, free of magic. But this book was never written. Instead, the history of Mesopotamian medicine was presented with all of its elements, namely a combination of magical, divinatory and medical practices.⁹ As a result, the interest of historians of medicine in the Mesopotamian sources was much less, and even today Assyriologists attempt to rectify the negative image that Mesopotamian medicine has held within the field.¹⁰

A similar comparison between Egypt and Mesopotamia, however with revised success stories, can be traced in the history of astronomy. In the historiography of astronomy, Mesopotamia holds a prominent role. Around the end of the first millennium BC, it was the birthplace of mathematical astronomy. This achievement made it the winner of the comparison with Egypt. Thus, Otto Neugebauer dedicated a separate volume to Egypt in his history of mathematical astronomy in order to demonstrate that "Egypt has no place in a work on the history of mathematical astronomy".¹¹ One reason for ancient Egypt's failure in (mathematical) astronomy was given by Michael Hoskin, the former head of the Department of History and Philosophy of Science at Cambridge University, in 2003: "The Egyptians were handicapped by the primitive condition of their geometry and arithmetic, and this precluded them from developing an understanding of the more subtle movements of the stars and planets."¹²

In the years 1989 to 1999, three volumes titled *Ancient Egyptian Science*. A Source Book were published by the well-known historian of science (and non-Egyptologist) Marshall Clagett.¹³ This

5. For example, the spells in the pEdwin Smith 18,1–20,12, pLeiden I 343 + I 345, recto and verso, pBM 10059 and pBerlin 3027.

6. Cf. OPPENHEIM 1962, p. 99: "Egypt alone in the ancient Near East had specialized physicians, offered an etiology of diseases, was aware of the diagnostic value of the pulse, and seems to have reached surgical achievements far beyond the dreams of Mesopotamian physicians."

7. E.g. Hughes 1988.

8. We would like to thank Nils Heeßel who pointed this out to us.

9. Oppenheim 1962.

10. Cf. Maul 2001.

11. Neugebauer 1975, vol. 2, p. 559.

12. Hoskin 2003, p. 8.

13. Clagett 1989–1999.

series is a compilation of translated sources that was not (only) motivated by modern disciplinary perspectives, but meant to represent the idea of Egyptian science as M. Clagett perceived it. The three-volume work therefore constitutes an important and new approach in the historiography of ancient Egyptian science. However, it has not been very successful, either in history of science nor in Egyptology, due to its mistakes in transliterations and translations, and the author's lack of Egyptological knowledge, which was immediately apparent to Egyptologists. Thus, James Allen's review of the first volume ends as follows : "Unfortunately, the present book will probably do more to reinforce the perception that the Egyptians were remarkably 'unscientific' than to demonstrate their true contribution to the history of scientific thought."¹⁴

Until the end of the 20th century, the primary aim of historians of science and Egyptologists was to demonstrate that among the ancient Egyptian papyri there are also texts in which elements of some (modern) sciences can be found. However, this also triggered a countermovement in history of science, the aim of which was to show that true scientific thinking only began in ancient Greece.¹⁵ One example of this movement is a popular book that has been translated into several languages. *La Naissance de la science* was written by André Pichot, a French historian of science.¹⁶ A. Pichot portrays mathematics, medicine and astronomy of ancient Egypt and Mesopotamia in a way that meant to highlight the differences to Greek scholarship. Because of his lack of knowledge of non-European cultures, Pichot's portrait of Egypt and Mesopotamia is inaccurate. In addition, it is written from a decidedly Eurocentric perspective, which does not expect any culture before ancient Greece to develop scientific thought.

However, in the second half of the 20th century, maybe in the wake of post-colonial studies prompted by the publication of *Orientalism* in 1978, another approach evolved in the history of science that aims to abandon the Eurocentric perspective.¹⁷ Scholars following this approach proposed not only the inclusion of non-Western cultures, but also a more sophisticated reading of the available sources, as well as first considerations how sciences could be grasped in these cultures.¹⁸ One might assume that by 2019, after post-colonial studies have been established and Eurocentrism is frowned upon in the history of science, the approaches to the subject have significantly changed. However, despite the ongoing work of scholars following the new approach, publications that adhere to the outdated methodology of the early historiography of science have not ceased to appear. In addition, the integration of results from the new approach into overviews covering larger periods of times (and places) as well as handbooks has lagged behind. Thus, if one looks at the table of contents of two recent handbooks published in 2018 in the respected scholarly centers of Oxford and Cambridge, a revised historiography is largely absent. The Oxford Handbook of Science and Medicine in the Classical World includes ancient scientific traditions beyond Greece and Rome, but structures them along the old disciplinary framework of mathematics, astronomy

^{14.} Allen 1992, p. 117.

^{15.} Historigraphically this should probably be assessed against the claims made by Edward Said in his famous work *Orientalism* (SAID 1978).

^{16.} Ріснот 1991.

^{17.} Cf. SELIN 1997 as well as the series Science Across Cultures edited by Helaine Selin (e.g. SELIN 2000).

^{18.} Cf. e.g. the works by Jens Høyrup and Jim Ritter on the translation of Mesopotamian mathematical texts (Høyrup 1990a-b; RITTER 1989) as well as RITTER 2009 on rational practices.

and medicine.¹⁹ The first volume of the revised *Cambridge History of Science* series on ancient science includes calendars, but—as the contributions throughout the volume show—also uses the traditional concept of science.²⁰ The last example of recent literature on ancient Egyptian science using an outdated historiography is the article "Egypt's Role in the Origins of Science. An Essay in Aligning Conditions, Evidence and Interpretations" published in 2016 by the Egyptologist David Warburton.²¹ He laments the lack of recognition that is given to ancient Egyptian sciences, and argues for its various valuable contributions. His argument, however, uses the same framework met in the very first works on the history of ancient science from the 19th century, namely, detecting first examples of later modern scientific achievements in the Egyptian sources.

Summing up what can be found in the historiography of Egyptian scholarship from handbooks and overviews, one can only realize that the basis often remains a concept that is based either on its supposed modern scientific counterpart or its counterpart in ancient Greek science. We would like to argue that this type of analysis, assessment and presentation cannot be reconciled with our current knowledge on the existing sources and should be rejected. It limits our understanding of these sources and, at best, will result in a distorted presentation of early scholarly knowledge. Despite the continuation of old-style historiography, a new approach has also taken hold as illustrated, for example, by the recent Leipzig-based project "Science in Ancient Egypt".²² The project, which aims to produce translations of all those texts that belong to the domain of Egyptian science, integrates areas of knowledge that are not considered part of modern science, such as magic. However, at least in its current representation, it does not include divination, religious astronomy, wisdom literature and dream interpretation, which—according to the work done by some Egyptologists—could be considered in this context.²³ This reveals a methodological challenge that anyone working on ancient Egyptian science faces. How do we determine which texts and domains of knowledge to include and which to exclude in the study of ancient Egyptian science?

For Mesopotamia, a related problem has been discussed by Francesca Rochberg. In her monograph *Before Nature,* she points out that the concept of "nature"—which later comes to serve as basis of all natural sciences—did not exist in ancient Mesopotamia.²⁴ However, Mesopotamian scholars have obviously contributed significantly to the development of science, most notably in the realm of astronomy. As a consequence, F. Rochberg requests that research on Mesopotamian science takes note of results obtained in Mesopotamia and analyses them within their Mesopotamian framework.

23. Cf. e.g. Fischer-Elfert 2017; von Lieven 2000; Quack 2010.

24. Rochberg 2016.

^{19.} KEYSER, SCARBOROUGH (eds.) 2018. We must concede at this point that one could subject some of our own work to this criticism, since IMHAUSEN, POMMERENING 2016 is also structured according to the traditional disciplinary subjects of astronomy, mathematics and medicine. But our focus of that volume was the conflict between the emic and the etic perspective.

^{20.} JONES, TAUB (eds.) 2018.

^{21.} WARBURTON 2016.

^{22.} Sächsische Akademie der Wissenschaften zu Leipzig, Science in ancient Egypt: http://sae.saw-leipzig.de/ startseite/, accessed 21 September 2020.

Consequently, research in sciences of ancient civilizations requires linguistic and cultural knowledge one should be able to read source texts and situate them within their context—as well as knowledge in the history of science—most notably in order to not apply modern concepts inappropriately.²⁵

For ancient Egypt, a similar assessment can be claimed. Sciences in ancient Egypt must be studied within its ancient Egyptian framework. However, it is first necessary to determine the areas to be studied, in which science was practiced, for ancient Egypt. What do we mean when we speak about ancient Egyptian science? Traditionally, as the example of the recent handbooks above has explained, the topics represented are those that have equivalents or successors in modern science. The fact that this yields an incomplete picture for Egypt is the result of previous research in the history of science. For Egypt too, we must therefore first ask the question that the philosopher Alan Chalmers posed for later times and examined in his book of the same name: *What is this thing called science*²⁶ Various researchers have addressed this question, e.g. Jens Høyrup:

"(...) I shall use the term science as an equivalent of German *Wissenschaft*, i.e., in the sense of socially organized and systematic search for and transmission of coherent knowledge in any domain. On this account chemistry, the study of law, sociology, and literary history are sciences in full right. Theology may be so, if founded on critical discussion and hence on the search for intellectual coherence, whereas the mere teaching of traditional dogma in a fundamentalist preachers' school is not. (...) Nor does the mere collection of information, for example for the compilation of a telephone guide, constitute a science: it lacks both the aim of intellectual coherence and the character of a continuous endeavor bound together by systematic transmission. Finally, the knowledge gathered by some Robinson Crusoe isolated on his island and forgotten with him constitutes no science, even if it should happen to be eminently true and coherent: it differs from the sciences by the lack of social organization and by the absence of systematic (indeed, any) transmission links."²⁷

This description is general enough to be valid not only for modern sciences (as the examples given indicate), but also for earlier periods. Looking at sciences over a larger span of times and geographical areas, one cannot but notice that each scientific tradition, often nationally constituted, has (had) its own priorities and biases. However, what is common to most cultures is the idea that science is considered as privileged knowledge, knowledge that is attributed with a high status of importance and influence. The question of what belongs to the prestigious group of scientific disciplines has always been contested and remains so today, and the role that individual disciplines have within the realm of scientific subjects changes over time.²⁸

The aim of our project is a new look at the available ancient Egyptian sources that may lead to a fundamentally different assessment of ancient Egyptian science. One of the results we hope to

^{25.} For those that are interested in the subject but come with knowledge in one of those areas only, the volume IMHAUSEN, POMMERENING 2016 is meant to facilitate the introduction to basic concepts from the various disciplines. **26.** CHALMERS 2013. In this book, the philosopher of science Alan Chalmers explains and documents with various examples from the history of science that widely held commonsense views, like for example 'that science is derived from facts', cannot be upheld.

^{27.} Høyrup 1995, p. x.

^{28.} In philosophy of science, this contest is called the demarcation problem. Cf. LAUDAN 1983.

achieve is an accurate perception of what constituted the domain called "science" in ancient Egypt. We expect that texts from the traditional scientific corpus will still be found within the scientific domain. And we also expect that areas that have until now been excluded completely will be integrated. In addition, we expect to see changes within and between disciplines during the almost 4,000 years covered by the sources.

In order to begin the assessment which areas to include that have been overlooked by the former approach, our first step is an analysis of a set of epistemologically relevant terms. In collaboration with a number of colleagues, a list of terms has been established that is studied from a lexical and semantic perspective in the beginning of our project. This study will also yield groups of texts in which these terms are used, which will lead us to the respective experts and institutions that are connected to these texts. As previous research has shown, it is necessary to include archaeological sources as well, which may lead to further experts and institutions.²⁹

We are planning coordinated research on texts, experts, institutions, practices and terminology for the next 15 years as follows: The frame is built by a series of international conferences. Their contributions will be developed further in sequences of workshops with the result of coherent volumes on various aspects of ancient sciences. For the types of questions we are interested in, we consider an interdisciplinary approach helpful. Therefore, we will not only look at ancient Egypt, but also at Mesopotamia, Greece, Rome, India and China in comparison. The diachronic and transcultural conferences will critically reflect on the Eurocentric perspective traditionally used within the history of science. We hope to break with the tradition of separating Egypt and Mesopotamia from their following scholarly cultures that were able to build on Egyptian and Mesopotamian knowledge. In contrast to previous histories of ancient Egyptian science, which have looked at the sources from a later point of view backwards, the aim of our project is to write history of science starting from its beginnings forward. We look forward to presenting the first results at a future ICE.

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The King's Speech

Some Remarks on the So-called *Titre* and *Formule* in the temple of Horus at Edfu

THE MODERN TERMS *Titre* and *Formule* refer to two textual components of offering scenes, mainly of the Graeco-Roman temples, which are placed in front of the ritualist. They contain the title of the scene and the ritualist's speech explaining the action, the importance of the offering and its mythological background.¹ In general, the role of the ritualist is performed by the king, but it is also possible for the queen or a deity to take on this role.² The relationship between the two textual components is emphasized by their position in front of the ritualist, where they are placed closely together, sometimes combined in the same column.

Different terms have been used for these two textual components so far: *Titre et Formule* in French which has been adopted in some German publications.³ Furthermore, both components together are called *Spruch* in German.⁴ The king's speech is called *Formular* or *Rede des Königs.*⁵

In contrast to the other components of the offering scenes, such as the framing columns (*Randzeilen*) and the reciprocal offerings,⁶ the title of the scene and the king's speech have received relatively little attention by researchers so far. In particular, the speech, which takes up several columns in some cases, has been analysed only at the level of content.⁷

The study of the *Titres* and *Formules* in the temple of Horus at Edfu is part of the author's doctoral thesis. The aim of the investigation is to gain an overview of their development, as well as a detailed structural analysis of the 96 scenes in the temple's pronaos.

- 3. See, for example, the publications of the Edfu project of Dieter Kurth (KURTH 1998).
- 4. WINTER 1968, p. 70; KOCKELMANN, WINTER 2016.
- 5. For the former, see BAUMANN 2018; for the latter, Kertmann 2019.
- 6. Winter 1968; Pfeil-Autenrieth 2009.

7. For some observations concerning the structure or recurring formulations in the context of individual types of ritual scenes, see KERTMANN 2019, pp. 270–277; KURTH 1975, pp. 134–136; POO 1995, pp. 47–48, 87–127.

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^{1.} In this context, the term ritualist refers to the entity standing directly in front of the god and performing the action. The extent to which other people on the royal side (e.g. the queen behind the king) are to be regarded as active ritualists remains to be investigated. See, for example, BUDDE 2011, pp. 79–86.

^{2.} For the latter, see Kockelmann 2014; Kurth 2016, p. 113.

The following explanations provide some general remarks on the occurrence of the *Titre* and *Formule* in the Edfu temple naos including the different forms of the royal framing columns and the correlations between these textual components. Initially, an overview of the general structure and the development of the ritual scenes as well as of the title and the speech are provided.

I.

TITRE AND FORMULE AS PART OF THE OFFERING SCENES IN PRE-PTOLEMAIC TIMES

Offering scenes are defined as *tableaux* which mostly depict the king acting in front of deities. They represent the vast majority of the Egyptian temple decoration.⁸ Despite the standardised composition of these scenes (ritualist in front of deity), they can easily be extended by other participants and by inscriptions on both the royal and the divine sides.⁹

Ritual scenes were already part of the decoration program in the Old Kingdom, but from the Middle Kingdom onwards they became a regular part of the temple decoration.

In comparison with later sources from the Graeco-Roman temples, their outer structure, the textual components and the amount of text vary quite considerably. Unlike the other text components of ritual scenes, such as epithets of the king and gods, the king's speech occurs only in small quantities in pre-Ptolemaic sources. It generally appears in *tableaux* that are part of a longer sequence of ritual scenes, such as festival cycles or the daily ritual.¹⁰ On the other hand, ritual scenes were regularly labelled with a title since the Old Kingdom.¹¹

As already noticed by researchers, the title can appear in short and long versions.¹² Its short version consists of an infinitive with the following object. This simple structure can be extended to the long version by various additions, such as the phrase ir f di (nb)/ir s di (nb) may he/she make a 'given-life'''. Furthermore, the recipient of the offering is named, usually by the phrase*n it f*or*n mwt f*, i.e. "for his father"/"for his mother" or special epithets of the deity, whose characteristics are connected in any way to the offering. There is also the possibility of adding*mi R' dt*"like Re, forever" to the end of the formula.¹³

9. See Beinlich 2007, pp. 4–11; Kurth 1994, pp. 39–52.

12. Kurth 1983, pp. 212–213; Jansen-Winkeln 1994, pp. 97–99; Poo 1995, pp. 47–48.

13. See, for example, Bickel 1998, Abb. 10–11, 13–14; Bresciani, Giammarusti 2012, pp. 87, 95; Brunner 1977, pl. 76–77; Favard-Meeks 1991, pp. 133–134, 140–144.

^{8.} For an overview, see CAUVILLE 2011; for general remarks, LEITZ 2001, pp. 1–2.

^{10.} See, for example, The Epigraphic Survey 1940, pl. 231, 241–242 and for the daily ritual Tacke 2013. There are rare exceptions that show that the speech can be found in other types of scenes (e.g. Bresciani, Giammarusti 2012, p. 91).

^{11.} See, for example, the decoration programs of the royal mortuary temple of Sahure (Stockfisch 2003, cat. nos. 5.2.19–5.2.19a.), the Middle Kingdom temple in Medinet Madi (Bresciani, Giammarusti 2012), the Luxor temple by Amenhotep III (Brunner 1977), the temple of Khnum on Elephantine by Alexander IV (BICKEL 1998).

During the early Ptolemaic period, a systematic external structure of the ritual scenes, typical of the Graeco-Roman period, was developed, allowing for a uniform composition of the temple walls and the overall decoration.¹⁴ This development was accompanied by an expansion of the textual components. The following parts can be found:

- the title of the scene and the king's speech;
- the name and epithets of the king;
- the name and epithets of the deity and the reciprocal offering;
- the framing columns (*Randzeilen*) behind the king and the deity, forming the lateral boundary of the individual scene.

Fixed positions and certain structures were established for the individual text components. Erich Winter (1968) was able to work out the structure of the framing columns of the king and the god for which an "ideal scheme" developed in the early Ptolemaic period.¹⁵ The development of this scheme was formally completed up to the time of Ptolemy VIII and became a standard in most subsequent temple sites.¹⁶ In addition, the plot structure of the ritual scenes changed during the early Ptolemaic period. Whereas the New Kingdom scenes have an action-reaction structure,¹⁷ the scenes of the Graeco-Roman period are characterized by a dialogical structure.¹⁸ The dialogic structure arose from the fact that the king's speech became an integral part of the ritual scenes. Accordingly, the combination of the speech and the closely placed title form an important component of the ritual scenes of the Graeco-Roman temples and their understanding as a dialogue between the ritualist and the recipient. Thus, the question arises as to the development from an intermittent component to a fixed part of the ritual scenes.

TITRE AND FORMULE IN THE NAOS OF THE TEMPLE OF EDFU

The temple of Horus at Edfu is one of the best preserved buildings of the Ptolemaic period. Founded in the reign of Ptolemy III, the main part of the temple was built and decorated in the reigns of Ptolemy IV and from Ptolemy VI until Ptolemy X. It was completed under Ptolemy XII.¹⁹

The decoration of the sanctuary (A),²⁰ which dates to the reign of Ptolemy IV, shows various scenes that are part of the daily ritual and further ritual scenes.²¹ Taking a closer look at the individual scenes, one can notice that the title and the king's speech appear together only occasionally. The common position of the two components in front of the king's legs can only be found in the

2.

- 17. El-Sharkawy 1997, pp. 209–211.
- 18. Kurth 1994, p. 44; Kurth 2016.

20. For the sigla of the individual rooms, see the map in KURTH 2004, p. 865.

21. For the scenes of the daily ritual, see HUSSY 2007, pp. 121–158.

^{14.} KURTH 1994, pp. 39–52. The decoration system of the Graeco-Roman temples is very complex. It is influenced by various mechanisms—some of them remain still unknown. They are summarised under the term grammaire du temple.

^{15.} Winter 1968.

^{16.} Winter 1968, pp. 45–55.

^{19.} Kurth 1994, pp. 26–29.

two offerings of incense in front of the divine barques on the west and east walls as well as the Maat-offerings in the first register of the north wall.²² The scene in the western half of the north wall is entitled "Offering Maat" (*hnk M3*^ct), whereas the king's speech begins with *m-n=k* and says:²³

dd mdw m-n=k M3't s3t=k wrt mr k3=k mr=s ḥm=k tpḥt-wd-k3w=k 'nḥ=k n m33=s snsn fnd=k t3w ndm im=s

"Take for you Maat, your great daughter, whom your Ka loves and who (for her part) loves your majesty, your throat, you live when you see her, your nose unites with the pleasant wind because of her."

In all the other scenes of the sanctuary, the title of the scene is placed in front of the king's legs, while the speech—if present—has a different position (fig. 1). In the first register of the east and west walls, the royal speech can be found in a horizontal line at the upper end of the scene. While in the second register this line is missing, the text of the royal framing columns consists of a speech starting with m-n-k "take for you".²⁴ Again the third register shows another picture, for these scenes only have a title. The royal framing column begins in all scenes with wnn and contains various epithets of the king.²⁵ The title of the scene appears in the short form consisting of an infinitive + object, as well as the long form with the addition "for his father"/"for his mother" or the name of the deity.

On the exterior walls of the sanctuary (B) that dates to the time of Ptolemy IV, the situation is different because the title and the king's speech appear together in these scenes regularly—the king's speech is missing only in a few cases.²⁶ They also occupy their typical position in front of the king's legs (fig. 2). Furthermore, the royal framing column of the second register begins with $\underline{ssp.n(i)}$ "I took"²⁷ and the royal framing column of the third register begins with $\underline{m.n.k}$ meaning that in the second and third register two speeches of the king appear regularly. Both formulations— $\underline{ssp.n.i}$ and $\underline{m.n.k}$ —are well known from later ritual scenes as beginnings of the royal speech.

The same situation can be observed on the contemporaneous walls of the *couloir mystérieux* (C) where title and speech appear together in most cases.²⁸

However, the situation is different in the adjoining chapels to the *couloir mystérieux* (D–M), the offering hall (R), the second hypostyle (W) and its lateral rooms (Y, Z, A', B') dating to the reigns of Ptolemy IV and VI. Predominantly, only the title of the scene appears in front of the king's legs in the form infinitive + object + n it=f/n mwt=f + ir=f di 'nb. Similar to the situation in the sanctuary, the formulation of the royal framing column with m-n=k—"take for you" appears

28. Chassinat 1929, pl. XVIII–XX.

^{22.} Rochemonteix et al. 1892 (ed. 1984), 28, 7–15; 28, 18–29, 21; 43, 6–44, 10; Chassinat 1929, pl. XI–XII, XIIIb–XIV.

^{23.} Rochemonteix et al. 1892 (ed. 1984), 28, 18–29, 2; Chassinat 1929, pl. XIIIb; Kurth 1994, pp. 94–96.

^{24.} Winter 1968, p. 37.

^{25.} WINTER 1968, pp. 37–39.

^{26.} Chassinat 1929, pl. XV–XVII.

^{27.} WINTER 1968, p. 39.

in some of the chapels and rooms mentioned above, especially in the second register. In addition, the phrase isp.n=i appears in chapel D in the first register and the phrase ii.n=i a few times in the second register.²⁹ The latter is characteristic of the royal framing column of the top register of the wall in the ideal scheme. In the second hypostyle, that contains four registers, m-n=k appears in the third register and sp.n=i again in the first register.³⁰

The pronaos decorated in the time of Ptolemy VIII is the first room in which the title of the scene and the king's speech appear together in general. They are placed in their typical position in front of the king's legs, spreading over one to three columns. The scene title shows the short form consisting of an infinitive + object while for the royal speech different formulations are used, especially for the beginning m-n*k or šsp.n*i.

CONCLUSION

After giving an overview of the occurrence of the title and the king's speech in the naos of the temple of Edfu compared with the formulations of the royal framing columns, one can summarize the following: in the naos scenes, the title and the king's speech only occasionally appear together in their typical position in front of the king. Instead, a royal speech occurs in the royal framing column in different registers several times. In addition, the speech is placed in a horizontal line above the scene in the first register of the sanctuary.

Similar to Winter's observations regarding the development of the framing columns,³¹ it seems as if different possibilities were tried concerning the position and the formulation of the king's speech. The search for a suitable position of the title and the king's speech was apparently completed at the time of Ptolemy VIII—at least in Edfu. The specific placement in front of the king's legs could have found its way into the *grammaire du temple* hereafter.

It is certainly not a coincidence that this unification took place in the time of Ptolemy VIII, for in his reign the development of the framing columns was also completed. According to the ideal scheme, only the royal framing column of the top register is composed as a speech beginning with "I have come to you" (ii.n=i). The compositions with m-n=k or ssp.n=i being former elements of the framing columns of the scenes in the naos are now part of the speech placed in front of the king. Further study is needed in order to find out whether such differences can be observed in contemporaneous or later temples.

^{29.} The various forms of the framing columns in the chapels are listed in WINTER 1968, p. 40.

^{30.} Winter 1968, p. 40.

^{31.} WINTER 1968, pp. 34-45.

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Hieroglyphs in a Multidimensional Space

A Case Study on the Applicability of Digital Paleography to Cursive Hieroglyphs

HIS PAPER presents a case study of basic machine learning techniques applied to a selected set of cursive hieroglyphs. A processing pipeline is described including analyses with dimensionality reduction and cluster algorithms. The research topic is part of the author's PhD thesis, which deals with the paleographic analysis of cursive hieroglyphs during the Middle Kingdom and is associated with the AKU project.

I.

METHODS AND AIMS OF DIGITAL PALEOGRAPHY

The application of digital methods for research questions dealing with paleographic purposes has received little attention in Egyptology so far. First attempts have been made to address the issue of paleography on a digital level, such as the Polychrome Hieroglyph Research Project,¹ the Demotic Palaeographical Database Project (DPDP),² the project Hieroglyphic "Hands",³ and the project *Altägyptische Kursivschriften* (AKU).⁴ If one compares the state of research with, for instance, medieval studies, one can see that digital paleography has already established itself as a fully-fledged discipline.⁵ The fact that digital methodology is an integral part of this field also shows the methodological reflection that is now being carried out within digital humanities.⁶

Depending on what is understood by the term "digital" in general, a wide variety of methods is attested for digital paleography. As Arianna Ciula⁷ pointed out, a lot of semantic facets exist for the

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^{2.} http://demotischdemotisch.de/.

^{3.} https://journals.openedition.org/baefe/996#tocto2n12/.

^{4.} For further information and digital methods, see GÜLDEN et al. 2020; BERMEITINGER et al. 2021.

^{5.} See for example CIULA 2005; KESTEMONT et al. 2017.

^{6.} See for example CIULA 2017; LIT 2020, pp. 102–123.

^{7.} CIULA 2017.

terminology of this field of study. First of all, the term "digital" seems to be used as an opposite to "analog"—one could also say "traditional".⁸ The minimum requirement to be considered digital is that the object to be studied is available in a somehow digital form, such as raster or vector graphics.⁹

One aim of digital paleography is to supply traditional paleographic analysis using a computeraided methodology. This lowermost level is achieved by annotating digital images with metadata and making them available online.¹⁰ Going deeper into a digital methodology, there is the possibility of manipulating the data positively, such as contrast enhancement for image data or preprocessing for further analysis.¹¹ Data that is transformed even more can be analyzed by using methods from the domain of machine learning.¹² This computational or artificial paleography produces models of prototypical graphemes.¹³ The most complex field is the use of artificial intelligence, for example, the application of artificial neural networks that simulate human visual perception. Doing paleography digitally instead of doing it traditionally leads to more transparency and reproducibility. Considering traditional methods, we might expect little descriptive expressions like "very similar", "less similar", and "not similar" if one has to estimate the similarity of allographs of one sign. Asking another scholar creates different statements concerning the distinctiveness of the signs. Different experts focus on different morphological features depending on prior knowledge and experience which leads to the fact, that the statements are hardly reproducible. In contrast, the use of digital methods makes it possible to compare these allographs objectively, since the data is transformed into numerical representations.¹⁴ Applying distance measurements among these numbers, one can describe their similarity among each other mathematically. However, one should be aware of the fundamental epistemic impacts of creating and analyzing digital objects for research purposes.¹⁵

2. DIGITAL ANALYSIS OF CURSIVE HIEROGLYPHS

2.I. EXPERIMENTAL SETUP

The key question for this study was whether we can collect information about morphological features of a single cursive hieroglyphic grapheme supported by digital paleography. To create a controlled experimental frame, we will look at a closed environment, namely on one single textual

- 10. A good approach was made by the project *DigiPal*, http://www.digipal.eu/.
- 11. CIULA 2017, pp. ii89–ii91, esp. ii90, table 1.
- 12. See for example STUTZMANN 2016.

14. On this topic see further CIULA 2005, § 4.

15. PEURSEN 2010, pp. 12–11. Nevertheless, the statements given there also apply to traditional research methods. Scholars are used to analyzing printed photographs or facsimile drawings as well as transcriptions of hieratic or hieroglyphic inscriptions.

^{8.} Ciula 2017, p. ii90.

^{9.} For different approaches of paleographic visualizations and formats, see Gülden 2018, pp. 91-95.

^{13.} CIULA 2005.

witness. The objects of study are the decorated tomb chamber and the sarcophagus of Harhotep, which were part of the Theban tomb TT 314 dating to the early 12th Dynasty.¹⁶ First excavated in 1883 by Gaston Maspero,¹⁷ both were dismantled and transported to the Egyptian Museum in Cairo.¹⁸

Their decoration program consists of Pyramid Texts and Coffin Texts executed in cursive hieroglyphs, the assigned Coffin Text siglum is T1C.¹⁹ Analyzing a specific hieroglyphic grapheme and its morphological structures, the focus lies on Sign List no. G17, the sign of the owl ().²⁰ The basis for the research of the author's PhD project—and also for this study—is the extensive photographic material of the de Buck's collection at the *Nederlands Instituut voor het Nabije Oosten* (NINO),²¹ that was used during the publication process of Adriaan de Buck's Coffin Texts edition.

2.2. DATA ACQUISITION

The workflow carried out is similar to other computer vision workflows that deal with image recognition or classification tasks. The first step within the processing pipeline is data acquisition where the digital images are enriched with specific metadata. The annotation is stored externally in XML files that use the TEI (*Text Encoding Initiative*)²² model, which allows you to locate specific regions on an image and to store the pixel coordinates into the XML file. Thus, it is possible to annotate a lot of hieroglyphs using a graphical user interface like an XML editor. For this study, the occurrences of the sign G17 were recorded.²³ On completion of this procedure, the annotated regions of the source images were cropped out and stored as separated image files by parsing the XML files.

2.3. PREPROCESSING

Once the image data has been extracted, an additional step of preprocessing is needed to clean it from unwanted noise and to scale it to a fixed size. The image processing can be achieved by using the library scikit-image²⁴ for the programming language *Python.*²⁵ At this stage, the color depth of the images is 8-bit grayscale and needs to be converted to binary images containing numerical values only of 0 and 1. After removing elements at the borders that are not part of the hieroglyphs the images are rescaled to a standard width and height of 88 pixels. Now each image is represented by a matrix of 88 × 88 pixels which yields a total of 7744 pixels per image.

20. Gardiner 1994, p. 469.

- 24. https://scikit-image.org/.
- 25. https://www.python.org/.

^{16.} Recent findings seem to shift the dating to the early 12th Dynasty. See CHUDZIK, CABAN 2017, p. 223, n. 8. Compare WILLEMS 1988, p. 113 who summarizes the dating approaches for the late 11th Dynasty.

^{17.} Maspero 1885, pp. 134–180, pl. XII–XVIII.

^{18.} CG 28023, see LACAU 1904, pp. 42–56. One fragment of the sarcophagus is located in New York, Brooklyn Museum (37.1507E). I would also like to refer to the Middle Kingdom Theban Project, which is going to re-document this tomb. See MORALES et al. 2016, pp. 257–261.

^{19.} Lesko 1979, р. 100.

^{21.} EGBERTS 1982. I want to express my gratitude to Olaf Kaper for allowing me to use the material for research purposes.

^{22.} https://www.tei-c.org/.

^{23.} Since this is only a case study, the annotation was not performed on the entire object, but only in a limited scope.

Since each image can be understood as a data point in a coordinate system containing 7744 axes or dimensions—they must be considered high-dimensional and multivariate objects, whose dimensions have to be reduced for the analysis. One possible technique is called *Principal Component Analysis* (PCA). It transforms the data in such a way that the principal components of the whole dataset are identified—keeping as much variance as possible in the first components.²⁶ This means most of the information about the data is kept within the first components, which allows the use of only the first 30 principal components for analyzing this set of images.²⁷ Using 30 dimensions instead of 7744 reduces the amount of calculation time, but does not change the fact that the data points must still be considered high-dimensional.

2.4. ANALYSIS

2.4.1. Principal component analysis

Fig. 1 shows a common visualization of the first seven principal components or eigenvectors $(\nu_o - \nu_6)$ including the calculated mean (μ) of the whole dataset. The second image (ν_0) displays the directions within the first principal component. A dark blue silhouette is visible in the first direction, representing a sign-form that consists of only one stroke for the body of the owl. The yellow silhouette (opposite direction) describes hieroglyphs that are composed of two strokes for the body.²⁸

If we plot the images on the data points of the first two dimensions, we can see the disposition of the single occurrences within the multidimensional space revealing two main clusters, the left one showing a wider expansion than the right one (fig. 2). As mentioned above, the first principal component (left-to-right) describes the difference between "one-stroke" (fig. 2, left) and "two-stroke" owls (fig. 2, right). It is harder to recognize the directions of the second component (top-to-bottom), but a closer look reveals that the orientation or rotation of the hieroglyphs has been captured here. It should be noted, that due to natural limitation, only the first two components can be displayed in the plot, although the dataset contains a total of 30 dimensions.

2.4.2. Cluster analysis

Now these feature vectors represent the high-dimensional space in which we can define the similarity of allographs based on their distance from each other. Two data points showing a small distance can be considered similar regarding their morphological structure. To group single occurrences, we can use a standard algorithm for unsupervised learning called *k*-means clustering. The algorithm uses the squared Euclidean distance between the data points and labels *k* clusters, each one having a center called centroid. Every cluster member is defined by its distance to the

^{26.} A general introduction into PCA can be found in JOLLIFFE, CADIMA 2016.

^{27.} The calculation was performed using *scikit-learn*, https://scikit-learn.org/.

^{28.} Another example of the creation of prototypes based on PCA is given in GILLIAM et al. 2010, pp. 1882–1883. See also the similar approach using *tangent space* in CIULA 2005, §§ 32–37.

assigned centroid. As a result, visually similar hieroglyphs are grouped. However, since the number of clusters to be found (k) is not known, one can use the silhouette coefficient.²⁹ Applied to the present feature vectors, the silhouette coefficient determines the number of six clusters as optimal.

At the coordinates of each centroid, there is no real hieroglyphic data, but centroid assignment allows the creation of prototypes, which is performed by transforming the centroid coordinates back to the original space of 7744 dimensions. Each artificial prototype represents the members of its cluster and approximates the real-life examples (compare fig. 2 and fig. 3). However, this method also reveals structures that human perception hardly recognizes. Although the algorithm has found the optimum number of clusters, two sets of duplicate clusters can be seen (fig. 3, no. 0+4 and no. 1+3).

This effect can be reduced by using a different algorithm which is called hierarchical clustering.³⁰ In the beginning, every data point is treated as an independent cluster being agglomerated step-by-step into larger ones. The result is displayed as a dendrogram, which can be used to read off the individual groups and their distance from each other. Considering the full dendrogram (not shown here), it is possible to cut the cluster tree at a specific point uniting the clusters below to a total set of four (fig. 4) where each cluster is visualized by the average mean of its members.³¹

RESULT

Compared to the plot of the PCA, we can see that the general division into two main clusters is measurable with this method. Considering the dendrogram, one can recognize the bipartition of the two main clusters separating at a high distance. The left cluster (blue mark) represents the occurrences of the owl written with only one stroke for the body. The right branch summarizes three subclusters, that represent several morphological forms of the owl with the body executed using two strokes. The members of the green cluster consist of hieroglyphs showing a distinctive left-sided rotation. The red cluster depicts the most detailed hieroglyphic form of the owl whereas the yellow one contains hieroglyphs with a more or less horizontal ground line.

The presented case study shows, that by the use of digital methods, paleography can be enriched with reproducible models, that allow us to investigate the morphological structures of the signs in detail. The prototype generation allows distance measurements and cluster algorithms enabling the objective comparison of the similarity or the dissimilarity of specific signs. Four main types of cursive hieroglyphs could be identified in the dataset. Some of the algorithms lack robustness due to input-related image rotations. Further study is needed to implement more resistant feature descriptors, e.g., *Histogram of Oriented Gradients* (HOG) in combination with vector quantization as it has been successfully tested for Mayan hieroglyphs.³² Overall, it should be stated that digital methods are not intended to replace traditional working methods, but can usefully complement them, depending on the research question and data availability.

^{29.} Rousseeuw 1987.

^{30.} James et al. 2013, pp. 390–399.

^{31.} An introduction can be found in JAMES et al. 2013, pp. 391–394.

^{32.} BOGACZ et al. 2018.

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Fig. 1. Visualization of the average mean (μ) and first seven principal components ($v_o - v_6$).









Fig. 3. Artificial prototypes at the centroid coordinates.



Fig. 4. PCA plot (left) and corresponding dendrogram of found clusters (right) including real hieroglyphic examples below.

Hisham el-Leithy*

Spells and Vignettes from the Book of the Dead on Funerary Wooden Stelae from Thebes from the 21st to 26th Dynasties

mntk-am3m m-shrw mnh-ddw pd-hr m-j3dt-nb(t) j.jrt:k-hpr

You are experienced in planning, excellent in speaking, far-sighted at every moment, and what you do succeeds

(P. Lansing 13b.9)

HE BOOK OF THE DEAD is not restricted to papyri, but also appears in tombs, on sarcophagi, offering tables and funerary wooden stelae. On the funerary wooden stelae from Thebes from the 21st to 26th Dynasties, the ancient Egyptian artist did not include all the vignettes and spells, only the main element that would support his idea or express its purpose or ensure the rebirth of the deceased.

I.

THE SPELLS OF THE BOOK OF THE DEAD ON FUNERARY WOODEN STELAE (SPELLS BD 2, 15, 30 AND 91)

Spell BD 2 ("Spell for going forth by day and living after death")¹ is found on stela SR A 9422 (verso) of the Egyptian Museum in Cairo (lines 6–10). The main scene of the stela shows the deceased adoring the seated god Ra-Horakhty, followed by the symbol of the West (*imntt*). However, this scene has no relation with the text below.

(6) ỉ w^c psd m ỉ ^cḥ pr wsir ^cnḥ.f-(7)n-Ḥnsw m ^cš3t.k twy r rwty (8) wḥ^cw wỉ ỉmyw 3ḥw wn.f (9) dw3t ỉs(t) Wsir ^cnḥ.f-n-Ḥnsw pr m (10) hrw r ỉrt mrr.f nbt ḥr tp t3 m-m ^cnḥw²

^{*} I dedicate this article to Prof. Dr. Fayza Haikal as a humble gratitude and acknowledgment for what she has done for me since I worked with her in July 1993. I wish her all the best wishes (*'nb wd3 snb* "Life, Prosperity and Health").

^{1.} Munro 1973, p. 187; Zayed 1968, p. 150; el-Leithy 2007, pp. 590–591; el-Leithy 2012, pp. 323–325.

^{2.} Several mentions on Theban coffins of the Late Period: 26th Dynasty coffin CG 41044 (interior), lines 98–101, see GAUTHIER 1913, pp. 60–61; CG 41058, lines 71–76, see GAUTHIER 1913, pp. 351–352; CG 41001 (interior),

(6) O Sole God shinning as the Moon, Osiris Ankhef-(7)en-Khonsu goes outside with that multitude of yours. (8) Release me, you who are the sunlight, who opens (9) the underworld, indeed, Osiris Ankhef-en-Khonsu has gone out in (10) the day to do all his desires, which are on earth among the living.

In the Late Period Book of the Dead on papyri, spells 2 to 14 were never accompanied by their own illustrations, due to lack of space, because of the long vignette of spell BD 1. It was known from the New Kingdom and the Third Intermediate Period.

Two pairs of concentric circles representing the sun and the moon are depicted. The deceased stands with a staff, facing right in front of an offering table.³

Spell BD 15 ("hymns to the god Ra")⁴ is found on funerary wooden stelae from the 26th Dynasty and on many other examples of coffins in the Egyptian Museum in Cairo.⁵

The Hymn to Ra has two parts, one for the rising sun, which usually refers to the god Ra-Horakhty, and the other for the setting sun, which refers to the god Atum. The scene on these stelae is divided into two parts: the right side is filled with the depiction of the god Ra-Horakhty adored by the deceased. Below this part, a text contains the hymn to the rising sun, which refers to life. The left side has the depiction of the god Atum, which refers to the setting sun (= death) and below this part, a text contains the hymn to the setting Ra. Sometimes Atum is on the right and Ra-Horakhty on the left—depending on where the stela was placed, Atum should be on the west side, and Ra-Horakhty on the east side; the text always seems to correspond to the god shown—i.e., for setting or rising sun. The scene and the text combined depict the cycle of the universe (life and death). In the Third Intermediate and Late Periods Ra-Horakhty was more a title or manifestation than a composite deity. It is translated as "Ra (who is) Horus of the Horizons". It was intended to link Horakhty (as a sunrise-oriented aspect of Horus) to Ra. It has been suggested that either Ra-Horakhty simply refers to the sun's journey from one horizon to the other as Ra, or that it is meant to show Ra as a symbolic deity of hope and rebirth.

This idea now is emphasized by the finding that 90% of the wooden funerary stelae were dedicated to the god Ra-Horakhty who played the role of the god Ra.

lines 71–76, see Moret 1913, p. 17; CG 41011 (interior), lines 25–29, see Moret 1913, p. 149; CG 41024 (interior), lines 2–4, see Moret 1913, p. 232; CG 41037 (interior), lines 45–48, see Moret 1913, p. 310.

3. QUIRKE 2013, pp. 16–17.

4. QUIRKE 2013, pp. 33–50.

5. Coffin CG 41042, whose owner is the same as that of stela Cairo Museum, SR A 9422, see GAUTHIER 1913, p. 21; 26th Dynasty coffin CG 41001 (interior) from Deir el-Bahari, which mentions spell BD 15, lines 94ff, see MORET 1913, p. 18; coffin CG 41002 (exterior), mentioning spell BD 15, lines 5–13, see MORET 1913, pp. 39–40; coffin CG 410017, whose spell BD 15 is mentioned twice, lines 3–11, see MORET 1913, p. 175, and lines 3–10, see MORET 1913, p. 177.

While BD 15A refers to the rising sun, BD 15B refers to the setting sun.⁶ Thomas George Allen renumbered it as BD 15A5 and BD 15B5⁷, which is found on six stelae but the most complete version is found on stela BM 22914 of `nb.f-(n)-bnsw son of Bs-n-mwt:⁸

BD 15A (rising sun):

dw3 R^c m wbn.f m 3ht i3btt nt pt in hm-ntr Mnt nb W3st imy 3bd.f pr İmn hry s3 fdnw nw hm ntr R^c-Hr-3hty tp hwt-ntr pr İmn imy-r pr Mwt wrt nb İšrw imy-r gnwt (?) Hnsw p3 hrdi '3 wr tp n İmn 'nh.f-Hnsw m3' hrw s3 mi-nn Bs-n-mwt m3' hrw dd.f ind hr.k wbn m t3 dsr.f sšp h^c m i3btt m pt wr šfyt m k3r št3 i R^c sdm.k i R^c phr.k iw šd.n.i md3t sfh sfh hr nmt '3pp hft b3.f m sdt.f h3t.f n 3h hkw.f n irt hr tmt Wn n sh3.tw.f iw ir.t(w) hrt '3pp m š^c(t) r^c nb sm3^c.i hrw.k m wbn.k mi r.k nt R^c-Hr-3hty sm3^c.k r hftyw.i hsf.n.k h3ytyw m ntrw 3hw m rmt mwtw di.k m3^c.i (?) d3d3t Wsir Wn-nfr⁹

Hymn to Ra when he rises from the eastern horizon of the sky by the priest of Mont lord of Thebes, who is in his month of Amun's domain in the fourth watch, priest of Ra-Horakhty (on) the temple-roof of Amun's domain, overseer of inquiry (?) of the domain of Mut the great lady of Isheru, overseer of annals (?) of Khons the child, first elder great one of Amun Ankhefenkhons, true of voice, son of same-styled Besenamut, true of voice.

He says:

Hail, he who rises in his sacred land, sunlight appearing in the east of the sky, great in awe in the secret shrine. O Ra! Listen to me! O Ra! Turn around! I have read the 77 books at the slaughter-block of Aapep, as his *ba*-soul in set in flame, his body to the incandescence, his word-powers to the Eye of Horus fire that he may not

exist, and may not be remembered. The lot of Aapep is done in slaughter every day. I justify you in your rising. Come. Then, Ra-Horakhty! Justify me against my enemies, when you have driven back the Disease Demons, from gods, transfigured dead, and people, damned.

7. Allen 1949, pp. 349-353.

8. Allen 1974, pp. 19–20, 25; Allen 1949, p. 352; Munro 1973, p. 205; Bierbrier 1987, pp. 21–22, pl. 35; el-Leithy 2012, p. 402.

9. Cairo Museum, SR A 9418, see Munro 1973, p. 200; Zayed 1968, pp. 164–165, pl. 14b; Wegner 2010, p. 177; EL-LEITHY 2012, p. 385; Cairo Museum, SR A 9419, see Munro 1973, p. 201; Zayed 1968, pp. 164–265, pl. 14b; Wegner 2010, p. 177; EL-LEITHY 2012, p. 388; Cairo Museum, SR A 9914, see Munro 1973, p. 202; Wegner 2010, p. 177; Allen 1974, pp. 19, 25; EL-LEITHY 2012, p. 396; Pennsylvania Museum 9371, see Munro 1973, p. 201; Zayed 1968, pp. 164–165, pl. 14b; Wegner 2010, p. 177; EL-LEITHY 2012, p. 392; Copenhagen Museum A.A.d.3, see Munro 1973, p. 204; EL-LEITHY 2012, p. 428; Brussels E6253, see Munro 1973, p. 196; Allen 1949, p. 354; ELLEITHY 2012, p. 445; Copenhagen Museum A.A.d.3544, see Munro 1973, p. 204; EL-LEITHY 2012, p. 432; Florence 2490, see Munro 1973, p. 197; EL-LEITHY 2012, p. 462.

^{6.} QUIRKE 2013, p. 591.

Cause me to be placed(?) (in?) the tribunal of Osiris Wennefer.

BD 15B4 (setting sun):

dw3 R' ḥtp.f m 'nbtt in ḥm-nṯr (...) (imy) 3bd.f (m) pr İmn ḥr s3 fdnw ḥm-nṯr R'-Ḥr-3ḫty ḥry tp ḥwt-nṯr (pr) İmn (... pr Mwt wrt nbt) (İ)šrw imy-r gwnt (?) Ḫnsw p3 ẖrd ('3) wr tp (n İmn) ('nḫ.f-n-Ḫnsw) m3' ḫrw s3 mỉ-nn Śs-(n)-mwt m3' ḫrw s3 mỉ-nn (...) dd.f ind ḥr.k R' Tm Ḫprỉ (Ḥr-3ḫty) (b3 ntry (s)ḥd dw3t m m3wt nt nṯrt.f (3ḫt) stỉ m hrw nb grḥ s(ḥb ķrty) (nb nmtt) m ḥpt ḥḥ pḥrr nnt n drw {dw3(.i) nfr.k rb.(k)wi sšm(.k) sprw.f wn br (...) mỉ 'nb nb t3 (?) m rwd¹⁰

Hymn to Ra as he sets in Life Land by the priest (...)

(he who is in) his month (of) Amun's domain in the fourth watch, priest of Ra-Horakhty on the temple-roof of Amun('s domain). (... of the domain of Mut the great lady of

Isheru, overseer of annals (?) of Khons the child, (first elder) great one (of Amun), (Ankhefenkhons), true of voice, son of same-styled Besenmut, true of voice son of same-styled (...) he says:

Hail Ra Atum Kheperi (Horakhty, divine *ba*-soul who illuminates the underworld with the rays of his luminous divine eye, who shines by day, lord of the night who makes (festive the two caverns), (lord of strides)

in the course of millions, who circles the Underworld Water-Sky without end. (I worship your beauty, for I know

your image, its petition is before (me?) (...)

as all people, the land (?) in strength.

Spell BD 30 (the heart spell) is found also on stela SR A 9422 of the Egyptian Museum in Cairo, verso, lines $2-5^{II}$ and on many other examples on tombs and coffins in the Cairo Museum.¹²

11. EL-Leithy 2012, pp. 323–325; Quirke 2013, pp. 97–100.

12. Part of spell BD 30 is mentioned on the TT34 of Montuemhat, the mayer of Thebes in Assasif, see ROSATI 2006, pp. 297–300, pl. 7; the text of the spell BD 30 on coffin CG 41068, belonging to 1000, priest of Montu from Deir el-Bahari (see GAUTHIER 1913, p. 488, lines 59–61) is identical with the one on stela Cairo Museum,

^{10.} Egyptian Museum in Cairo SR A 9418, see MUNRO 1973, p. 200; ZAYED 1968, pp. 164–165, pl. 14b; WEGNER 2010, p. 177; EL-LEITHY 2012, p. 385; Egyptian Museum in Cairo SR A 9419, see MUNRO 1973, p. 201; ZAYED 1968, pp. 164–165, pl. 14b; WEGNER 2010, p. 177; EL-LEITHY 2012, p. 388; Egyptian Museum in Cairo SR A 9914, see MUNRO 1973, p. 202; WEGNER 2010, p. 177; ALLEN 1974, pp. 19, 25; EL-LEITHY 2012, p. 396; Pennsylvania Museum 9371, see MUNRO 1973, p. 201; ZAYED 1968, pp. 164–165, pl. 14b; WEGNER 2010, p. 177; ALLEN 1974, pp. 19, 25; EL-LEITHY 2012, p. 396; Pennsylvania Museum 9371, see MUNRO 1973, p. 201; ZAYED 1968, pp. 164–165, pl. 14b; WEGNER 2010, p. 177; EL-LEITHY 2012, p. 396; Pennsylvania See MUNRO 1973, p. 201; ZAYED 1968, pp. 164–165, pl. 14b; WEGNER 2010, p. 177; EL-LEITHY 2012, p. 396; Pennsylvania Museum 9371, see MUNRO 1973, p. 201; ZAYED 1968, pp. 164–165, pl. 14b; WEGNER 2010, p. 177; EL-LEITHY 2012, p. 392; Copenhagen Museum A.A.d., see MUNRO 1973, p. 204; EL-LEITHY 2012, p. 428.

(2) ib.i n mwt.i sp sn h3ty.i n wnn.i (3) hr tp t3 m 'h' r.i m mtry m hsf r.i (4) m d3d3t m rk r.i m b3h ntr '3 nb imntt (5) is sm3.n.i t3 imy- wrt '3t pt w3h.i tp t3

(2) My heart of my mother, my heart of my mother, my fore-heart of my being (3) upon earth, do not stand against me (4) as witness, do not oppose me in the tribunal, do not lean against me in the presence of the great god lord of the west, (5) I have been buried on the west side of the sky, I endure upon the earth.

Spell BD 91 "As for one who knows this spell, he shall become an equipped Blessed One in the Necropolis" (*ir rh r pn iw.f hpr.f 3h 'pr m hrt-ntr*)¹³ is found on a stela of the Egyptian Museum in Cairo SR A 9422 (recto)¹⁴ lines 2–4 and on many other examples on coffins in the Cairo Museum.¹⁵ (2) *i k3 dw3.tw.f wr b3w b3 '3 šfšft dd nrw.f* (3) *n ntrw h'w hr nst.f wr ir w3t n b3*(.f) *n 3h*(.f) *n šwt*(.f) *iw 'pr.kwi* (4) *im 'pr ir n.i w3t r bwt ntt R' Tm Hpri Hwt-Hr im*

(2) O high one who is adored! Great of power, *ba*-soul, great in awe, terrifying (3) the gods, when he appears on his great throne. May he make a way for his *ba*-soul, his transfigured spirit, his shade, equipped there, I am equipped (4). Make a way for me to the place where Ra, Atum, Kheperi and Hathor are.

The basic purpose of this spell is to enable the soul to go forth with the deceased, thereby making him an equipped blessed one. Accordingly, the *ba* of the deceased is depicted before him, having gone forth with him. In one version the *ba* hovers in front of the deceased, facing him. The orientation of the *ba* indicates that it has successfully gone forth to join the deceased. Although earlier vignettes have been noted, none are similar to the three versions. It would appear that versions I, 2, and 3 originated from the Late Period.¹⁶

2.

THE VIGNETTES OF SPELLS BD 15, 16, 30, 58–60, 124 AND 125 ON FUNERARY WOODEN STELAE

The vignettes of the Book of the Dead on funerary wooden stelae appear in the lunette of funerary wooden stelae from the 21st to 22nd Dynasties, or in the lunette and main (central) scene of wooden stelae from the 25th to 26th Dynasties.

SR A 9422; Spell BD 30 is also mentioned on coffin CG 41042 of the priest of Montu '*nb.f-n-Hnsw* son of *Śs-n-mwt* from Deir el-Bahari, see GAUTHIER 1913, p. 5.

^{13.} Quirke 2013, p. 209.

^{14.} el-Leithy 2007, pp. 590–591; Munro 1973, p. 187; Zayed 1969, p. 165.

^{15.} On 26th Dynasty coffin CG 41044 (interior) of *Nsr-İmn* son of *'nb.f-n-Hnsw* and his mother *Ns-Hnsw* from Thebes, it has the spell 91 of the Book of the Dead, lines 54–58, see GAUTHIER 1913, p. 52; another example, coffin CG 41008 of the priest of Montu in Thebes called *P3-di-İmn* has also the same spell, lines 95–99, see MORET 1913, p. 113. **16.** Also mentioned in TT37 of Harwa in Assasif (Qurna-Thebes), see ROSATI 2006, p. 297, pl. II; and in the tomb of Sheshanq TT27, see ROSATI 2006, p. 297, pl. I.

In the 21st Dynasty and the first half of the 22nd Dynasty, a new tradition of funerary manuscript predominated at Thebes. Elite burials now included a pair of papyrus rolls, one a short version of the Book of the Dead, often comprising only a few spells, the other a document containing excerpts from the Book of What is in the Netherworld or *Amduat*, a text that had previously been the prerogative of the king.

The creation of these new manuscripts was part of a revision of funerary texts during this period. A short version of the Book of the Dead in hieratic script in the British museum (BM EA 10063), belonging to *P3-di-İmnt*, probably from Thebes, dated to from the late 21st Dynasty and first half of the 22nd Dynasty (950-900 BC), which has only one vignette to **open the document**, shows the deceased adoring, offering food and burning incense before a seated Osiris. Also in this period, funerary wooden stelae show the same scene and the same combination of elements and symbols. Also in the Third Intermediate Period, the ancient Egyptians copied the funerary scenes from the Book of the Dead onto funerary wooden stelae, because they used the wooden stelae to record the spells and vignettes of the Book of the Dead¹⁷.

The Vignette of Opening of the Book of the Dead on funerary wooden stelae and papyri from 21st and 22nd Dynasties (fig. 1a-b).

	WF Stelae	Opening of BD
I	Fitzwilliam Museum: EGA 119.1949 ¹⁸	рВМ ЕА 10063
2	The Egyptian Museum JE 29308 ¹⁹ (= SR A 9918), 21st Dynasty (990–984 BC)	рВМ ЕА 10002/1 (1069–945 ВС) ²⁰
3	Egyptian Museum in Cairo: JE 3306 (recto) ²¹ = SR A9935, 21st-22nd Dynasties (950–850 BC)	pBM EA 9974 , 21st Dynasty (950 BC)

2.1. THE VIGNETTES OF SPELLS BD 15, 16 AND 17 THAT CONTAIN THE SOLAR BOAT (21ST–22ND DYNASTIES) (fig. 2)

The vignette of the spell BD 15 or 16 shows the journey of Ra in his boat or adored by the Baboons²². The vignette of the spell BD 15 found in the Late Period documents is based on the title and the function of the spell to worship and praise the sun god. Accordingly, we see the deceased kneeling in adoration before Ra, who is enthroned and holds the authority-signifying *w3s*-scepter.

17. NIWIŃSKI 1989, p. 333 (London 48); QUIRKE 1993, p. 51, Nr. 154 mit Anm. S. 80; QUIRKE, SPENCER 1992, p. 220, Abb. 170.

- 19. Aston 1987, pp. 375376, 567; Daressy 1907, p. 17; Daumas 1980, p. 118, fig. 104; Hornung, Bryan (eds.) 2002, p. 182, fig. 89; Jansen-Winkeln 1994, p. 289; Jansen-Winkeln 2007, p. 191; PM I/2, pp. 640–641; Zayed 1968,
- pp. 152–153, pl. 8A; Saleh 2007, p. 177; el-Leithy 2012, p. 100.

- 21. Daumas 1980, p. 113; Saleh 2007, p. 203; el-Leithy 2012, p. 81.
- 22. Radwan 1984, pp. 823–827.

^{18.} Saleh 2007, p. 231; Martin 2005, pp. 116–117, n. 79; el-Leithy 2012, p. 163.

^{20.} TAYLOR 2010, no. 31.

Vignette of spell BD 16²³ In the 21st and 22nd Dynasties, the elements of BD 16 appear in the lunette of funerary wooden stelae, such as the morning boat of Ra. One finds for example the horizon as on the stela of the Egyptian Museum in Cairo SR A 9410²⁴ (= JE 29312), the *šmsw* sign as on the stela of the Egyptian Museum in Cairo SR A 9446²⁵ (= JE 29309) (fig. 2a), the sun disk adored by the Baboons as on the stela of the Egyptian Museum in Cairo SR A 9912²⁶ (= JE 29311) (fig. 2b) and the sun disk with a child inside worshipped by the two *Bas* as on stela of the Egyptian Museum in Cairo TR 20/12/24/13,²⁷ and the solar boat with the symbols of the sun disk with Khepri (*Hpri*) and the *šmsw* sign as on the Bologna stela KS 1953²⁸, and finally as on the stela MMA 28-3-35^{29.}

Vignettes of spells BD 15, 16 and 17 that contain the solar boat (25th-26th Dynasties) on the lunette or the central scene, such as:

- The lunette of stela of *Psmtk-'wi-Nt* in Vienna Museum N. 5071;³⁰
- The lunette of stela N 3787 of Wd3-rn.s in Louvre Museum, Paris;³¹
- The lunette of stela 1606 of T3y-s3t-(m)-^cwy ky in Rosicrucian Egyptian Museum and Art Gallery San Jose, California;³²
- The lunette of stela AH 22 of nbt pr 'nh.n.s-it(.s) in Leiden Museum;33
- The central scene of stela 2483 of T3y.s-İmn-gr-w3s in Florence Museum.³⁴

Vignette of spells BD 58–60 (fig. 3): From the 19th Dynasty onwards, the tree goddess Nut becomes a regular iconographic expression of the wish for air, water³⁵ and sustenance, as conveyed by

23. Since the texts of the spells BD 15 and 17 are associated with the vignettes in the Turin papyrus, Karl Richard Lepsius identified the vertical column separating these spells in the document, containing four registers of scenes, as spell BD 16. It is thus the first of the three spells identified by K.R. Lepsius that are represented only by vignettes, with no associated text. Nevertheless, this vignette is still closely connected with spell BD 15, both by its position and its content. The sun god or simply the sun disk is the principal figure for all the periods and it is the aspect of the sunrise or sunset that it illustrates, topics addressed respectively by the two main titles of spell BD 15.

24. Aston 1987, pp. 351–352, 567; Daressy 1902, pp. 155–157; Daressy 1907, p. 17; PM I/2, pp. 640–641; Saleh 2007, p. 189; el-Leithy 2012, p. 93.

25. EL-LEITHY 2012, p. 97; ASTON 1987, p. 567; DARESSY 1907, p. 17; PM I/2, pp. 640–641; SALEH 2007, p. 195.
26. EL-LEITHY 2012, p. 103; ASTON 1987, p. 362, 567; DARESSY 1907, p. 17; JANSEN-WINKELN 1994, p. 291; MUNRO 1973, p. 40; PM I/2, pp. 640–641; ZAYED 1968, pp. 153–154, pl. 8B; SALEH 2007, p. 191.

27. EL-LEITHY 2012, p. 111; Aston 1987, pp. 375, 567; Daressy 1907, p. 17; Jansen-Winkeln 1994, p. 289; PM I/2, pp. 640–641; Zayed 1968, pp. 160–161, pl. 12B; Saleh 2007, p. 19.

28. el-Leithy 2012, p. 109; Jansen-Winkeln 1994, p. 291; Palagi 1976, pp. 383–384, n. 491, pl. 399; Piacentini 1990, p. 154; Kminek-Szedlo 1895, pp. 218, 373, n. 1953; Bresciani 1985, pp. 80–81, 170, pl. 42; Saleh 2007, p. 253.

29. EL-Leithy 2012, p. 175; Aston 1987, pp. 422–424, 568; PM I/2, p. 652; Saleh 2007, p. 246. Aston 2003, pp. 142–143; Dorman, Harper, Pittman 1987, p. 77, fig. 54.

30. Munro 1973, pp. 40, 210, pl. 7, fig. 27; el-Leithy 2012, p. 546.

31. EL-LEITHY 2012, p. 542; MYŚLIWIEC 1979, p. 205, N. 33, fig. 5f; MUNRO 1973, p. 210, fig. 26; LIEBLEIN 1892, notice 2175.

32. El-Leithy 2012, p. 552; Munro 1973, p. 210.

33. el-Leithy 2012, p. 539; Schneider, Raven 1981, p. 129; Raven 1992, p. 58; Boeser 1907, p. 97; Munro 1973, pp. 209–210.

34. el-Leithy 2012, p. 549; Munro 1973, p. 209.

35. GAMER-WALLERT 1962, p. 13.

BD 59-63A, although only the text of BD 59 makes explicit reference to her. From the Late Period onwards, the tree goddess is likewise found together with the spells with the same main themes, above all BD 57, but also later, though less frequently, BD 53, 54, 56 and 58 (fig. 3a).³⁶ The vignette of the spell BD 58 appears on the funerary wooden stela MMA 22-3-33 (verso) (fig. 3b).³⁷

Vignette of spell BD 125 (fig. 4): It is noticeable that the iconography of the wooden funerary stelae of the 25th and 26th Dynasties resembles that of the coffins, itself adapted from funerary papyri. This paper considers some similarities between funerary wooden stelae and contemporary papyri and wooden coffins, such as the depiction of the judgment scene from BD 125.³⁸ The funerary wooden stelae do not represent the complete scene of BD 125 as depicted in the papyrus vignettes of the Book of the Dead. Rather, they show specific elements that refer to the vignettes, or that were used by the artist to visually ensure the rebirth of the deceased. The deceased appears in front of deities such as Ra-Horakhty and Osiris, protected by Isis and Nephthys, and the four Sons of Horus emerging from the lotus flower, as on the British Museum stela EA 8476.³⁹ Nefertum may also be depicted; the deceased is sometimes led by the god Thoth to a group headed by a rearing serpent and followed by Ra-Horakhty, Osiris, Isis, Nephthys and the four Sons of Horus, as on the Copenhagen, National Museum stela AAd 4.40 This scene can also appear in very abbreviated versions, showing, for example, the deceased before Ra-Horakhty and the rearing serpent followed by Osiris, as on the British Museum stela EA 8452,⁴¹ or with the serpent in front of Ra-Horakhty and Osiris, as on the British Museum stela EA 8453.⁴² The son of Horus, Imsety, may accompany them. The serpent sometimes wears the *atef* crown, but it may also carry an unguent cone, as on stelae in the Egyptian Museum in Cairo SR 9447⁴³, and in Oxford, Ashmolean Museum 1895.153,⁴⁴ and on an example included in a Christie's auction.⁴⁵ The snake may also have a divine beard and two legs, as on the Turin Museum stela C. 1596.46 The stela in Copenhagen, National Museum, mentioned above (AAd4),47 shows the deceased led by Thoth towards a group of deities headed by a rearing serpent with the atef crown, two arms and two legs, and followed by Ra-Horakhty, Osiris, Isis, Nephthys and the four Sons of Horus. The same scene is found on the lids of the outer coffins in the same period. The coffin of Peti-Imen-menuin in Hamm Museum 5500⁴⁸ shows the god Thoth leading the deceased to the group of deities headed by the snake and followed by Ra-Horakhty, Osiris, Isis, Nephthys,

36. QUIRKE 2013, p. 145; MOSHER 2016; QUIRKE 1993, p. 258; TAYLOR 2010, no. 31.

37. el-Leithy 2012, pp. 49–52; Aston 1987, pp. 423, 572; Bianchi 1988, p. 36, pl. XLV.2; Graefe 1981, p. 169; PM I/2, pp. 653–654; Winlock 1942, p. 37, fig. 28; Saleh 2007, p. 258.

38. Seeber 1976.

39. Bierbrier 1987 , pp. 24–25, pl. 40–41 [2]; Munro 1973, p. 218.

40. Schmidt 1879, p. 20, pl. XIV [1]; Mogensen 1918, pp. 40–41, pl. XXII [37]; Munro 1973, p. 220.

41. Bierbrier 1987, p. 17, pl. 22–23; Munro 1973, p. 189.

42. Bierbrier 1987, p. 17, pl. 22–23; Munro 1973, p. 189; el-Leithy 2012, pp. 220–222.

43. Munro 1973, p. 189; el-Leithy 2012, pp. 220–222.

44. VITTMANN 1978, p. 55; Munro 1973, pp. 189–190; el-Leithy 2012, cat. 217–219.

45. EL-LEITHY 2012, cat. 226–228.

46. EL-LEITHY 2012, cat. 235–237.

47. Schmidt 1879, p. 20, pl. XIV [1]; Mogensen 1918, pp. 40–41, pl. XXII [37]; Munro 1973, p. 220; el-Leithy 2012, cat. 681–683.

48. FALCK et al. 2004, pp. 70-75.

Neith and the four Sons of Horus,⁴⁹ who are identified only by their iconography. But on the coffins of Padiese, Leiden, Rijksmuseum van Oudheden AMM 19 (M. 24), Paenpy, Leicester 303.1882 and Taditjaina, Tübingen 150a, all the deities except the serpent are identified by their names.

In all the depictions of the snake on both stelae and coffins considered above, the figure is neither named nor referred to in the text. To the author's knowledge, only the coffin Berlin 17940 names the snake as Atum in association with Osiris or Ra-Horakhty. In the judgment scene on this coffin, the snake with the double crown represents the god Osiris-Atum in the vignette of BD 125, where he appears beside the balance.⁵⁰ The creator god Atum appears in the judgment as a member of the Ennead and was related to Ra-Horakhty-Atum. The text in front of him on the Berlin coffin reads:

dd mdw in Wsir-Tm nb t3wy

Words spoken by Osiris-Atum, Lord of the two lands. Behind him sits Ra-Horakhty-Atum, with the inscription:

dd mdw in R'-Hr-3hty-Tm nb t3wy 'Iwnw

Words spoken by Ra-Horakhty-Atum, Lord of the two lands and of Heliopolis—

as also found on the lids of inner coffins and a stela of the 25th and 26th Dynasties (coffins British Museum EA 22814,⁵¹ BM EA 25256⁵², BM EA 15654;⁵³ cf. also British Museum EA 24906,⁵⁴ late 22nd Dynasty or beginning of the 25th Dynasty; in the 26th Dynasty, the main scene of the stela was centrally divided into left and right parts, with another scene above and a text taken from BD 15). The deceased is always represented standing in adoration before the god Atum, who is depicted in his usual form as a man wearing the double crown of Upper and Lower Egypt. The rest of the text is a short hymn to Atum "who sets in life and is received into the underworld", referring to this deity as the eldest of the three phases of the sun. According to Egyptian belief, when the sun was born (rose) it was Khepri or Ra-Horakhty, at its maturity (midday) it was Ra, and it was Atum when it died (set) in the evening (Strudwick, Taylor 2005, p. 150). All these elements demonstrate that the stelae show a representation of the universe or the solar cycle: the winged sun disc at the top represents the sky; the god Ra-Horakhty on the right refers to the ground.

In the story of the Shipwrecked Sailor,⁵⁵ the serpent that the narrator meets is described as having the divine beard, an attribute of many gods, such as Ptah, Osiris and Amun. In this story, the snake is

- 50. Seeber 1976, p. 131, fig. 576, p. 134, fig. 586.
- 51. Taylor, Strudwick 2005, pp. 62–63.
- **52.** Bettum 2010, pp. 51–65.
- 53. Pischikova, Budka, Griffin 2014, p. 457.
- 54. Taylor 2010, n. 122; PM I/2, p. 829; Taylor 2003, p. 109 [pl. 58].
- 55. LICHTHEIM 1973, pp. 211–215.

^{49.} Heerma van Voss 1980, pp. 52–53.
interpreted as Atum, the god of sunset and also the creator god in the cosmology of Heliopolis, which he appeared on the primitive hill. The snake, encountered on an island, tells the ship-wrecked sailor at the end of the text that he will not see this island again because, it will be transformed into water.⁵⁶

This interpretation refers to the end of the universe, when everything will be terminated except the creator god, who is in the shape of a snake (Atum), and his daughter, the goddess Maat. This interpretation corresponds to a passage in BD 175: here it is stated that after the destruction of the universe the only remaining god will be Atum in his first image as a snake.⁵⁷

It should be noted that in the night journey of the sun god, as related in the Amduat, Ra enters the nether-world as Atum and, after overcoming many obstacles, is born from the snake body into life. Atum is described as the great god who moves upon Nun.

Thot in front of several gods or deities, such as stelae in the Egyptian Museum (SR A 9408,⁵⁸ A 9931⁵⁹) and stelae from Leiden Museum (Houten LA-2,⁶⁰ Houten EC-ZM 139⁶¹). The same scene was found on the outer anthropoid coffins of Hor in Leiden (AMM3 [M40])⁶², with an additional scene of the Balance which is followed by the scene we are talking about. This confirms the explanation of the scene as a part of the judgment scene, which is shortened on the wooden stelae because of different reasons, such as the small size of the stelae and the fact that the artist preferred to highlight only the main purpose of the scene or tried to emphasize that the deceased was justified and had passed the Divine Tribunal as on stela MMA 22-3-31 (fig. 4a)⁶³. This also could be confirmed by an inscription found on two sides of a *ushabiti* box in Bologna KS1969⁶⁴, which show a scene of a deceased holding his heart on his hand accompanied with a text on two sides (fig. 4b). The text of one side is as follows:

pr.f m wsht m3[°]tj m b3h nbw m3[°]t

He goes out from the Hall of the Two Truth Goddesses in front of the Lords of Maat.

The text of the other side is as follows:

di.tw n.i irtj.i hn' ib.i

My eyes together with my heart are given (back) to me.

64. Ріссні 2006, pp. 179–192, esp. 185.

^{56. &}quot;Moreover, when you have left this place, you will not see this island again; it will have become water" (LICHTHEIM 1973, p. 214).

^{57. &}quot;I will destroy all that I have made. This land shall return into the Deep, into the flood, as it was aforetime. (Only) I shall survive together with Osiris, after I assumed my forms of other (snakes) which men know not and gods see not" (ALLEN 1974, p. 184 [b]); see also BONNET 1952, p. 72.

^{58.} Munro 1973, p. 215; el-Leithy 2012, p. 658.

^{59.} Munro 1973, p. 216; el-Leithy 2012, p. 661.

^{60.} Boeser 1907, p. 98 [12]; Munro 1973, p. 216 [Leiden XIV, 12]; el-Leithy 2012, p. 672.

^{61.} Boeser 1907, p. 98 [15]; Munro 1973, p. 216 [Leiden XIV, 15]; el-Leithy 2012, p. 669.

^{62.} Taylor 2003, pl. 74.

^{63.} Saleh 2007, p. 257; PM I/2, p. 653; Aston 1987, pp. 422, 572; Winlock 1942, p. 32; el-Leithy 2012, p. 46.

CONCLUSION

In conclusion, I would like to point out that the ancient Egyptians used many different materials and spaces to record their wishes for resurrection or rebirth: tomb walls (burial chambers), papyri, sarcophagi, *ushabiti* boxes, and stone and wooden tombstones. In this paper I tried to highlight and connect the scenes and texts of the wooden stelae with the vignettes and spells of the Book of the Dead. Funerary wooden stelae, along with other burial equipment, were ritual and religious objects containing visual images that allowed the deceased to negotiate their identity, while signaling the religious attitudes of their society. The combination of solar and Osirian concepts dominates the religious iconography of Third Intermediate Period and Late Period art and is particularly apparent on funerary wooden stelae, which symbolized a microcosm of the universe and integrated the heavenly sphere with the earthly reality. Heaven or the sky is represented in the lunette of the funerary stelae and the earth or ground is depicted in the lowest register. The central scene illustrates a transitional stage in which the mortal encounters the divine and the deceased is shown making an offering before a deity. This main, central scene depicts the successful conclusion of the judgment scene and was based on Spell 125 of the Book of the Dead. After this stage, the deified deceased was identified with the Creator God or the Great God, who personified the solar and Osirian aspects.

This confirms the explanation of the scene as part of the judgment scene, which is shortened on the wooden stelae for various reasons, such as the small size of the stelae and the fact that the artist preferred to highlight only the main purpose of this scene or tried to emphasize that the deceased was justified and had passed the Divine Tribunal. The scenes are no longer the actual vignettes that accompanied the BD spells in the New Kingdom, but rather, are based on BD 125 or on the solar aspect of the afterlife—i.e., the vignettes with Ra-Horakhty, or both Ra-Horakhty and Atum, or with the solar barque of Ra. In the scenes on the funerary wooden stelae, the emphasis is not on the Osirian afterlife in the 22nd and 25th Dynasties (until the beginning of the 26th Dynasty?), but on the solar afterlife in 90% of the stelae, at least those from Thebes.

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Fig. 1. a. Detail of pBM EA 10002/I (after TAYLOR 2010, no. 31); b. Detail of the Egyptian Museum in Cairo stela JE 29308 (= SR A 9918) (photo Ahmed Amin).



Fig. 2. a. Lunette of the Egyptian Museum in Cairo stela SR A 9446 (= JE 29309); b. Lunette of the Egyptian Museum in Cairo stela SR A 9912 (= JE 29311).



Fig. 3. a. Detail of pBM EA 10086 BD (spells BD 58-60) ; **b.** Detail of stela MMA 22-3-33 (verso) (spell BC 58).



Fig. 4. a. Detail of stela MMA 22-3-33 (recto); b. Detail of ushabiti box Bologna 1969 (after PICCHI 2006, p. 185, fig. 6, and SEEBER 1976, pp. 94–95).

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Spatial Prepositions in Egyptian-Coptic The Long-term Perspective

THE PAPER presents results of the authors' coordinated research on spatial prepositions in Hieroglyphic Egyptian—that is meant here to say Pre-Demotic Egyptian—, and Coptic, with a focus on the long-term developments. It combines research results from Werning 2012, Werning 2014 and Lincke 2018. The research was initially funded by the Berlin Excellence Cluster 264 "Topoi. The Formation and Transformation of Space and Knowledge in Ancient Civilizations" (2007–2019). It was conducted within the framework of the research project "On the diachrony of spatial terms in Egyptian and Coptic"¹ and the graduate group "The conception of spaces in language," both lead by Frank Kammerzell and supported by the general linguist Silvia Kutscher (both Humboldt-Universität zu Berlin).

The paper starts with a short presentation of the research question and the methodological background. We investigate the core system of spatial prepositions contrasting Pre-Demotic spatial prepositions and constructions with those of Sahidic Coptic. After that, we present selected results with a focus on how to visualize the complex phenomenon on a semantic map. Finally, we will shed light on a curious phenomenon of unexpected, seemingly wrong, usages of prepositions, both in Hieroglyphic Egyptian and Coptic.

I.

PHENOMENON AND METHOD

Languages usually verbalize spatial relations occurring in nature in a seemingly deficient, or rather efficient, way. To demonstrate what this means we can "take any language, for example English:" For six different spatial relations, English native speakers normally use only four basic prepositions (fig. 1).² For example, English makes a difference between "a cup *on* a table" (TRPS no. 1) and "a lamp *above/over* a table" (TRPS no. 13). In this case, it is important whether there is

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^{1.} Project "On the diachrony of spatial terms in Egyptian and Coptic" <https://www.topoi.org/project/topoi-1-99/> accessed 16 September 2020 (archived: https://web.archive.org/web/20190601093714/https://www.topoi.org/project/topoi-1-99/).

^{2.} Cf. WERNING 2014, p. 319, pl. IV (see also §§61, 63). Research raw data of modern languages: WERNING 2016, notably DOI 10.17171/2-5-23, 10.17171/2-5-88, 10.17171/2-5-89, 10.17171/2-5-104, 10.17171/2-5-117, 10.17171/2-5-125.

space between the two objects, between the so-called "Figure" (cup or lamp, respectively) and the so-called "Ground" (table), or not. However, in the case of "*under* a table" (TRPS no. 31) and "*under* a towel" (TRPS no. 24) English native speakers make no difference: they use the same preposition "under," irrespective of the fact whether there is contact between Figure and Ground. They also make no difference between "*on* a table" (TRPS no. 1) and "*on* a door" (TRPS no. 61), although both situations are indeed very different (e.g., as to the question of support and removability).

In other languages, these spatial relations are grouped differently as far as the choice of prepositions (or other linguistic means) that are used is concerned.³

But how do we find out about what specific languages normally do—that is to mean: how native speakers of the respective languages normally verbalize spatial relations—in a scientific, experimental way that also allows for cross-linguistic comparison? For living languages, we can simply ask native speakers to describe situations in a picture. To this end, the linguists Melissa Bowerman and Eric Pederson from the Max Planck Institute for Psycholinguistics in Nijmegen developed a series of pictures called "Topological Relations Picture Series" (TRPS; Bowerman, Pederson 1992). The researcher shows the speakers 71 pictures and asks for the position of the Figure which is marked by color or by an arrow: e.g., for TRPS no. 1: "Where is the cup?," "Где чашка?," or else. The surprisingly variable answers are the data basis for further analysis. Raw data for eight modern languages was collected by Daniel Werning between 2009 and early 2011 and digitally published in Werning 2016.

But what about dead languages like ancient Egyptian-Coptic for which no native speakers can be asked? As a workaround, Daniel Werning suggested to think of spatial situations in Ancient Egypt that one holds to be maximally similar to the configurations in the pictures of the TRPS. For example, for the case of Hieroglyphic Egyptian, instead of "a cup" on "a table", he thought of "bread" on "an offering table." Then he browsed words for offering tables in the *Thesaurus Linguae Aegyptiae* (2009–2011) and the *Digitalisiertes Zettelarchiv* looking for sentences that verbalized this or a comparable spatial relation and constructions (preferably in an adverbial sentence without verb).⁴ See example 1.

(Ex. I) Earlier Egyptian, BD 69, 12, ca. 14th–12th centuries BCE (Werning 2014, p. 281)

<i>ђз</i>	т	t3	ķr	w <u>d</u> ḥ.w	n(ï)	jt-j
1000	part_of	bread	SUPERIOR	offering_table	of	father-my
FIGURE				GROUND		

"Thousands of bread are on (*br*) my father's offering table."

Daniel Werning published an interpretation of the Hieroglyphic Egyptian and the modern languages' data that he collected in Werning 2012 and Werning 2014. For Coptic, Eliese-Sophia Lincke

4. WERNING 2014, method: pp. 179–208, raw data: pp. 281–315.

^{3.} Bowerman, Choi 2001; Levinson, Meira 2003; Brala 2007; Skopeteas 2007; Feist 2008; Werning 2014, §§ 4, 6.

researched the Coptic evidence (cf., e.g., Ex. 2) in the Sahidic Old but predominately New Testament in her PhD dissertation (Lincke 2021). Our publications quote the text examples with linguistic glosses,⁵ so that our analyses are maximally transparent to both, Egyptological and general linguistic readers.

(Ex. 2) Matthews 23,18

there is-something

п-ет-на-шрк	,Д.С	ИТОЧ	м-п-д.Фрон	€т'- 81ХШ -ч	
the-which/who-will-swear	but	he	in-the-gift	which-ON&ABOVE	2-it
			FIGURE		GROUND
ΟΥΝ-ΟΥΟΝ	epo-c	4			

"(Whoever swears by the altar is bound by nothing,) but whoever swears by the gift that is on $(21\times CD)$ it [i.e., the altar] is bound by the oath."

2.

SIMPLE SPATIAL RELATIONS IN EGYPTIAN-COPTIC

2.1. SEMANTIC SIMILARITY MAP

to-him

Looking at four selected prototypical relations (TRPS 1, 2, 13, and 61), we see that—as already mentioned above—English uses the same preposition "on" for two very different relations that we chose to label VERTICAL_ON ("a cup on a table") and ATTACHED ("a handle on a door"), respectively (for the labels, see below in this section). Tunisian Arabic, on the other hand, groups (i) the totally different relations IN ("an apple in a bowl") and ATTACHED ("a handle on a door") together by using "j" ($f\bar{i}$) for both, and it groups (ii) VERTICAL_ON ("a cup on a table") and ABOVE ("a lamp above a table") together by using "j" ($f\bar{o}q$) for both (fig. 2). Hieroglyphic-Egyptian also groups VERTICAL_ON and ABOVE by using "hr" for both—indeed, this is the case in all Afro-Asiatic languages studied by Daniel Werning.⁶

The whole picture of 71 relations in the Topological Relations Picture Series is complex. In order to grasp the structure, Daniel Werning arranged the TRPS images on a semantic similarity map. The relations for which a particular preposition, e.g., *"m-hnw,"* is attested is marked as an outlined area on this map (cf. fig. 3, upper left corner). The arrangement of the images on the underlying map is driven by general typological considerations. The aim is that effectively most of the areas

^{5.} DI BIASE-DYSON, KAMMERZELL, WERNING 2010.

^{6.} WERNING 2014, pp. 221–224, 228–232; WERNING 2012, pp. 300–305, 309–311.

of any language will form *coherent*, i.e., undivided areas. The semantic map used here, proposed by Daniel Werning, is based on his research of six modern Indo-European and Afro-asiatic languages, Akkadian⁷, and Hieroglyphic Egyptian, as well as earlier general linguistic investigations.⁸

2.2. LABELS AND MEANING AREAS

Certain clusters of situations turn out to form the core of certain "meaning areas" that are observable not in every single language, but in many. For example, German regularly distinguishes between "*auf*" and "*an*," while English does not distinguish the two (both "*on*"). Despite the conflation in English, we may propose that there are two different meanings which we suggest labelling VERTICAL_ON and ATTACHED, based on earlier research. Some typical meanings that interest us here are: IN, ATTACHED, VERTICAL_ON, ABOVE, UNDER, BELOW, as well as the more specific INSIDE and ON_TOP_OF. Three conflations often observed cross-linguistically are: ON (= VERTICAL_ON + ATTACHED), INFERIOR (= UNDER + BELOW), and SUPERIOR (VERTICAL_ON + ABOVE), as well as ATOP (= ON_TOP_OF + ABOVE).⁹

The diachronic differences that we observed in the data from Hieroglyphic Egyptian and Coptic are presented in parallel maps (left: Hieroglyphic Egyptian; right: Coptic) in figures 3-4 on the color plate. The developments underlying the data in these maps will be described in the following subsections. For the sake of clarity, the prepositions and their meaning areas have each been assigned a separate color in figs 3-4 (e.g. "*m-hnw*"/"2N": red; "*hr*"/"2X": pink, and so on).

2.3. CHANGE AND CONTINUITY, AND: FROM INSIDE TO IN

Looking at the diachronic development from Hieroglyphic Egyptian to Coptic, we see both change and continuity. For example, in Earlier Egyptian, the compound preposition "*m-hnw*" was a *marked* IN preposition, appropriately labelled INSIDE. The data suggest that such INSIDE prepositions were not actually used for proper *containment*, as often assumed, but rather as a pragmatically marked way of saying "in."¹⁰ Anyhow, Earlier Egyptian "*m-hnw*" broadens its space on the semantic map, i.e., it broadens its usage/meaning, towards a *general* IN preposition in Coptic "2N" (see fig. 3 on the color plate).¹¹ Simultaneously, on the other hand, the Earlier Egyptian INFERIOR preposition "*hr*" does not change its basic usage/meaning. Coptic "2N" covers the same area on the semantic map as earlier "*hr*."

^{7.} Steinert 2014.

^{8.} WERNING 2014, p. 220, fig. 2 (also: WERNING 2012, p. 299, fig. 1); the bare map is digitally available from WERNING 2016, DOI 10.17171/2-5-258.

^{9.} Werning 2012, pp. 298–290, 304 (Tab. 2), 314 (Tab. 4).

^{10.} See the discussion in Werning 2012, pp. 315–321; Werning 2014, pp. 224–228.

^{11.} For remarkable examples in Hieroglyphic Egyptian, see WERNING 2012, p. 318–320.

2.4. INNOVATION, AND: FROM ON_TOP_OF TO ON

A broadening of a meaning of a rather specific preposition towards a rather general preposition is not only attested in the case of "*m*-<u>h</u>*nw*" INSIDE > "2N" IN, as discussed above. There is a comparable case in the realm of ON_TOP_OF. In the course of history, the compound preposition "*hr dp*" ON_TOP_OF + ABOVE, literally "SUPERIOR head (of)" is substituted by the semantically parallel phrase "*hr d3d3* (*n*)." The relational noun "*dp*" "head" is substituted by the roughly synonymous younger lexeme "*d3d3*." The attributive link "of," formerly encoded in the status pronominalis or *status constructus* of "*dp*," is paralleled by the *status pronominalis* of "*d3d3*" or a separate attributive linker "*n*" in "*d3d3 n*." The Coptic successor of "*hr d3d3* (*n*)," "21XM/21X0," occupies a larger area on the semantic map than its predecessor (fig. 3). It covers the meanings ON + ABOVE.

2.5. FROM TRIPARTITE SUPERIOR—ATTACHED—IN TO BIPARTITE ON—IN

In the preceding section, we repeatedly mentioned the conceptually interesting phenomenon that many languages use one and same preposition for such dissimilar relations like "a cup ON a table," on the one hand, and "a handle ON a door," "a picture ON the wall," "shoes ON the feet," and "a ring ON the finger," on the other hand. Note that the first relation, labelled VERTICAL_ON, is characterized by *support from below*, while the other cases, labelled ATTACHED, are characterized by an *attachment* relation (fixed, hanging, sticky, tight-fit, or else).¹²

While English, Russian, and Hebrew, generally conflate both senses in "on," "на" (na), and "על" (*'al*), respectively, German and also Earlier Egyptian normally keep the two apart. Compare the following examples (3–5).

(Ex. 3a) English (Werning 2016, DOI 10.17171/2-5-88)

The cup is on the table. VERTICAL_ON + ATTACHED

(Ex. 3b) English (Werning 2016, DOI 10.17171/2-5-114)

The shoe is on

the foot.

VERTICAL_ON + ATTACHED

12. WERNING 2014, pp. 213–218, 221–224; for Hieroglyphic Egyptian specifically, see WERNING 2012, pp. 301–303.

(Ex. 4a) German (Werning 2016, DOI 10.17171/2-5-88)

Die	Tasse	steht	auf	dem	Tisch.
The	cup	stands	VERTICAL_ON	the	table.

"The cup is on (Germ. VERTICAL_ON) the table."

(Ex. 4b) German (Werning 2016, DOI 10.17171/2-5-114) Der Schuh ist am Fuß. The shoe is ATTACHED:the foot.

"The shoe is on (Germ. ATTACHED):the foot."

(Ex. 5	a) Earlier	Egyptia	an, BD 69, 12,	ca. 14th–12th cei	nturies	s BCE (Werning 2014, p. 281)
þз	m	t3	ķr	wdḥ.w	n(ï)	jt-j
1000	part_of	bread	SUPERIOR	offering_table	of	father-my

"Thousands of bread are on (EEg. SUPERIOR) my father's offering table."

(Ex. 5b) Earlier Egyptian, PT 518, *Pyr*. 1197c^{P,M} (Werning 2012, p. 302; Werning 2014, p. 291)

<u>t</u> bw.(w)t-sn	ḥḏ.(w)t	(j)r	rd.w1-sn
sandals-their	white	ATTACHED	legs&feet-their

"Their white sandals being on (EEg. ATTACHED) their feet."

Figure 4 (on the color plate), shows that the semantic spaces of Earlier Egyptian "hr" and "r" are almost non-overlapping. Looking at the situation in Sahidic Coptic, the picture has changed significantly:

Unlike in Hieroglyphic Egyptian, where "r" expressed ATTACHED in adverbial sentences and phrases, the bare preposition "e," successor of Earlier Egyptian "r," is not used for this purpose anymore and does, therefore, not occur on the Coptic map (fig. 4b). The relations formerly covered by "r" are expressed by means of several other elements and constructions. For instance, "21," the successor of "*!*,*r*" SUPERIOR, has expanded into the ATTACHED area formerly covered by "r." Additionally, further prepositions are attested in this area, namely "e.x.N" (to some extent), and "2N" (for this, see the next section). Furthermore, some ATTACHED configurations are expressed by the construction of stative forms of a verb + preposition " ϵ ," e.g., in "KOTE ϵ " "surrounding" and "MHP ϵ " "bound to."

Simultaneously, " \mathfrak{e}_1 ,"—other than its predecessor hr—does not express superiority without contact anymore, i.e., it has lost its former meaning component ABOVE. ABOVE configurations are now covered by $\mathfrak{e}_1 \mathfrak{K} \mathfrak{N} / \mathfrak{e}_1 \mathfrak{K} \mathfrak{O}$ (compare fig. 3).

Adding the semantic space of IN relations discussed above to the picture, we see that the changes in the SUPERIOR and ATTACHED areas transform a tripartite system of Earlier Egyptian (SUPERIOR-ATTACHED-IN), comparable to, e.g., German (VERTICAL_ON-ATTACHED-IN), into a bipartite system (ON-IN) like in English, Russian, and Hebrew.

3. PARADOXICAL FIGURE-GROUND REVERSALS

In this section, we draw the attention to certain curious, seemingly illogical, usages of prepositions. In each case, the speakers use an IN preposition instead of an ATTACHED, VERTICAL_ON, or ON_TOP_OF preposition which was naturally expected. Compare the following examples from Earlier Egyptian, Italian, Coptic, and Wallonian French (Exx. 6–9).

(Ex. 6) Earlier Egyptian, BD 175, ca. 14th century BCE (Werning 2014, p. 283)

3tf.w	ntï		т	<u>d</u> 3 <u>d</u> 3-f
crown	which	[it]	IN	head-his
(FIGURE)		[FIGURE]		GROUND

"The atef-crown that is on (EEg. IN) his head"

(Ex. 7) Italian, an alternative (Werning 2016, DOI 10.17171/2-5-92)

Il	capello	è	in	testa.
the	hat	is	IN	head
	FIGURE			GROUND

"The hat is on (Italian IN) the head."

(Ex. 8) Sahidic Coptic, Exodus 12,11 (pBodmer XVI, 62,2–3, Kasser 1961: 144, Lincke 2018: 30, Ex. 34)

ере- NETN-TOOYE **2N** NETN-OYEPHTE while- your-sandal IN your-feet FIGURE GROUND

"While your shoes are on (Coptic IN) your feet"

(Ex. 9) Wallonian French, an alternative (Werning 2014, p. 239)

avoir	des chaussures	dans	ses	pieds
have	shoes	IN	his/her	feet
	FIGURE			GROUND

"Have shoes on (French IN) his/her feet."

Further examples in Coptic are "a ring IN the finger"¹³ and "a necklace IN the neck."

Despite the fact that we expected the respective language's VERTICAL_ON, ON_TOP_OF, or ATTACHED preposition, these situations indeed display an IN/INSIDE relation. However, for this the speakers would have had to switch the respective figures and grounds: "his head is IN(SIDE) a crown," "to have the feet IN(SIDE) shoes," "the finger is IN(SIDE) a ring." But this is not a very natural distribution of the given figure–ground pairs; it does not correspond to the intended communication goal. Daniel Werning suggested to call this specific phenomenon "paradoxical figure–ground reversal," inspired by comparable "figure–ground indeterminacies" found in modern languages (Werning 2014, pp. 239–245). As cognitively special cases, this phenomenon usually produces a separate area island for the IN preposition on the semantic map (compare fig. 3).¹⁴

Looking at the diachronic development of these figure–ground reversals in Egyptian-Coptic, we notice that the earlier case ("headdress IN head") disappears in the course of history. On the other hand, new cases emerge ("shoes IN feet," "ring IN finger," "necklace IN neck"). Paradoxical figure–ground reversals seem to be unstable, while the phenomenon itself is recurrent.

4. SUMMARY

Mapping and comparing the usages of Ancient Egyptian–Coptic prepositions on a semantic map, we observe the broadening and shifting of semantic scopes: the broadening of the meaning of the former INSIDE preposition "*m*-<u>h</u>nw" towards a more general IN preposition " ϵ N", the broadening of the former ON_TOP_OF + ABOVE preposition "<u>h</u>r *dp*" via "<u>h</u>r <u>d3d3</u> n" towards ON+ABOVE " ϵ IXN," paralleled by a shifting of earlier "*h*r" SUPERIOR (= ABOVE + VERTICAL_ON) towards ON (= VERTICAL_ON + ATTACHED) " ϵ I."

The kernel system restructures from a tripartite system (SUPERIOR-ATTACHED-IN) towards a basically bipartite system (ON-IN). The preposition "r" disappears in its usage as a static ATTACHED preposition and the former prepositions "hr" SUPERIOR and the successor " $hr d_3 d_3 n$ " of "hr dp" ON_TOP_OF + ABOVE take over ATTACHED-usages, thereby becoming ON prepositions ("e1" ON, "e1XN" ON + ABOVE).

^{13.} Compare a similar example from Akkadian in STEINERT 2014, pp. 154–155 ("Soon you will bind a rope around (Akk. IN) them.").

^{14.} As to the method and theory of semantic maps, these are islands that need to be allowed for as an exception (WERNING 2014, pp. 208, 241).

In Earlier Egyptian as well as in Coptic, we observe the phenomenon of "paradoxical figure–ground reversals," i.e., seemingly a misuse of prepositions for cognitively reversed relations. In Earlier Egyptian, the IN preposition is used where ON or ON_TOP_OF was expected ("a headdress IN (m) the head"). In Coptic, the IN preposition is used where ON was expected ("sandals/shoes IN (n) the feet", "a ring IN (n) the finger", "a necklace IN (n) the neck"). The former case has a parallel in Italian ("*in testa*"), the latter has a parallel in modern Wallonian French ("*dans ses pieds*"). This phenomenon is obviously diachronically unstable, however, at least in Egyptian-Coptic recurrent.

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Fig. 1. Topological facts vs. linguistic representation in English.



Fig. 2. Groupings of selected relations in English, Tunisian Arabic and Hieroglyphic Egyptian.



Fig. 3a-b. Change and continuity of spaces covered by certain prepositions on the semantic map.



Fig. 4a-b. Swallowing ATTACHED: from SUPERIOR to ON.

New Cryptograms and Cryptographic Lexicon

THE ORIGIN OF CRYPTOGRAPHY AND ITS DEVELOPMENT IN THE EGYPTIAN CIVILIZATION

The ancient Egyptians invented a writing system that aimed to obscure meaning.¹ The roots of this enigmatic writing lie in the early stages of the Egyptian language.² It continued until the fourth century BC and can be found in the last hieroglyphic text dated 394 BC.³ Cryptography

was widely employed in the New Kingdom and became a characteristic feature of temple writing in the Graeco-Roman Period (fig. 1).⁴

I.

The use of cryptography was not restricted to temples but was also found in tombs and objects like ostraca, stelae, scarabs and others.



Fig. 1. Diagram illustrating the stages of development of cryptography in the Egyptian Periods.

1. Drioton 1940; Fischer 1977, sp. col. 1196; Fischer 1986, pp. 40–42; Doresse 1991, p. 67; Étienne-Fart 1994, p. 139; Metwally 2010; Metwally in press.

2. Fischer 1977, sp. col. 1196; Fischer 1986, p. 44, fig. 12; Baines 1999, p. 23, fig. 3; Darnell 2004, pp. 3–4; Dreyer 2005, fig. 3; el-Aguizy 2009, p. 44.

3. El-Aguizy 2009, p. 36; Darnell 2020.

4. Sauneron 1959, p. 52; Sauneron 1963, pp. 204–205; Leitz 2001; Vernus 2001; Cauville 2002, p. 91; Pantalacci 2020.

2. THE PURPOSE OF CRYPTOGRAPHY

The main purpose of cryptographic writing was to highlight the importance of texts.⁵ Certain meanings were written in a peculiar style within the plain text in order to emphasize its importance.⁶ Later, it was employed for other purposes, such as hiding the magical formulas, and withholding knowledge of narcotics and toxic drugs from the public. Moreover, people used cryptography to secretly write down their wishes,⁷ and in other cases they wrote their names⁸ in this way so that they would be granted immortality and protection from any harm. In the 3rd-4th century, monks adopted this writing system in their correspondence.⁹

3. PRINCIPLES OF CRYPTOGRAPHY

There are different principles of cryptography, which created hundreds of new symbols.¹⁰ They can be outlined as follows:

3.I. FIGURING THE IMAGE DIRECTLY^{II}

E.g. Line nsw-bity 'the King of Upper and Lower Egypt'.¹²

Pth 'Ptah'.13



- 5. Capart 1929; Silverman 1980, p. 234; Metwally 2010, pp. 39–48.
- 6. Drioton 1933a, p. 204; Drioton 1935, p. 704; Parkinson 1999, p. 86 no. 11.
- 7. Drioton 1935, p. 704; Parkinson 1999, p. 86 no. 11.
- 8. Robins 1999, p. 108.
- 9. Doresse 1952, p. 218; Silverman 1980, p. 234; Doresse 1991, p. 67 nos. 6, 8.
- 10. Gardiner 1957, pp. 544–548; Daumas 1988-1995; Iversen 1993, p. 15; Wilson 2003, pp. 75–77.
- 11. Drioton 1940, p. 396; Fairman 1945, p. 62; Vernus 2001, p. 51; Daumas 1988-1995; Cauville 2002, p. 91.
- 12. DRIOTON 1936, pp. 3d, 6d; DRIOTON 1940, p. 316 nos. 5–6.

13. Drioton 1933a, p. 38; Drioton 1936, 15k; Drioton 1940, p. 342, no. 9; p. 396; Fairman 1945, p. 62; Wb I, 565; Daumas 1988-1995, I, p. 91 no. 13; p. 92 no. 21.

14. Drioton 1940, p. 321 no. 8; Gutbub 1952, pp. 36–37; Faulkner 1964, pp. 56–57; Wb I, 285,1–14; Daumas 1988-1995, I, p. 26 no. 409; p. 27 no. 407; Hannig 1995, p. 185; Van Essche 1997, p. 211, fig. 6.

3.2. REBUS

It probably began in the Pre-dynastic Period. It was used to illustrate a set of images as an expression of a certain meaning other than what they are meant to express or reflect.¹⁵ This principle was used for long in cryptography in Egyptian times. One can distinguish more than one writing system adopting the rebus principle, such as:

- Using multisound signs to reflect other signs that have the same phonetic value:

- E.g. $\overset{*}{\mathbb{X}}$ $_{2b}$ = by rebus $\overset{*}{\mathbb{S}}$ "adj. glorious, splendid".¹⁶
- $\cancel{1}$ *bnty* = by rebus $\cancel{1}$ "vb. to sail upstream, travel southward".¹⁷
- Reading the signs clutched by those illustrated on the images, whether they are men, women, deities or animals:
 - E.g. (nh w d s nh f) 'May he live, be prosperous and healthy'.

Such an example of the rebus principle can be found on King Narmer's palette, where a man is depicted holding the royal sandals in one hand and a jar in the other. His belt is in the form of the sign $\iint w^{3}d$ 'papyrus column',¹⁸ which is a rebus, as the words $w^{3}d$ and $w^{d}a$ have two basic sounds in common besides having related meanings; thus, they can be used interchangeably.¹⁹

Sandal-strap = ${}^{\prime}nb, {}^{20}$ belt = $wd3, jar^{21} = snb$.

Another example of a rebus is the name of Hsy-R' inscribed on a Third Dynasty stela in the Egyptian Museum.²² He is represented standing, holding in one hand a *bs* vessel $\bar{\lambda}$, which represents the first part of his name, and in the other a round thing that looks like the sun disk \bigcirc , which has the sound of r', thus completing his name Hsy-R'. Holding the sun disk in the hand is strange to the Egyptians, but in cryptography, signs of the same general shape, such as round signs, were used interchangeably to indicate the phonetic value of any of them. The round disk was also used to give the phonetic value of r' in Hsy-R' in the text of Pinedjem I in the Medinet Habu temple.

- 15. Gardiner 1957, pp. 6–7; Fischer 1986, p. 44; Allen 2000, pp. 3, 23.
- 16. Hannig 1995, p. 12; Wb I, 13.

Se Il

- 17. Wb III, 301–302, 308–309; Daumas 1988-1995, III, p. 556 nos. 57–59.
- 18. Daumas 1988-1995, III, p. 414 no. 395; no. 397.
- **19.** Gutbub 1952, p. 39; Metwally 2006.
- 20. Gardiner 1957, pp. 508 (S34), 557; Faulkner 1964, 43.
- 21. Urk IV, 874, 3; FAULKNER 1964, p. 231.
- 22. FISCHER 1986, p. 44, fig. 10; PIACENTINI 1999, p. 63, fig. 3.

 $ABABAS = 10^{23}$ 'servant' occurred in a cryptographic line on an Eleventh Dynasty stela of Osirian Secrets, Louvre C15.²³ The word was written with two signs representing the two sounds of *bk*, while the weak middle sound A was dropped. Later on, in religious texts of the Eighteenth Dynasty, it became common to drop weak sounds, such as *i*, *w*, and the end of feminine forms.²⁴

b. The fourth emblem in the procession of Osiris, depicted on this stela, is a symbol of Hathor, which has nothing to do with the Osiris procession. It is called *b3t* and, according to the principle of the first sound (acrophony), *b3t* denotes the phonetic value of *b'*.²⁵ The emblem symbolically emphasizes the idea of rebirth and resurrection.²⁶

k. The fifth emblem in the procession of Osiris, which had never appeared in processions before, is represented by the head of a man with two horns—perhaps it marks the beginning of the headdress worn by kings and deities, which rests on two horns - and perhaps it is related to the Atef crown k.²⁷ By the first sound principle (acrophany), the word *krty* - 'two horns', which refers to the horns of Amen's crown, is used to indicate the 'k' sound.

The same principle continued through the Late Period; one finds the name Nfr-tm-šd-sw = 1

Therefore, with a lot of evidence found in similar cryptographic texts, we can conclude that the holder of the royal sandals and vessel can be read as '*nh wdz snb*.

23. Drioton 1933b, p. 214; Drioton 1934a, pp. 21–25, figs. 8–10; PM V, p. 98.

24. Gardiner 1957, p. 28, § 20; Depuyat 1999, p. 351, § 5.48; pp. 448-451, §§ 5.197–219.

25. Drioton 1933a, p. 224.

26. Eissa 2002, p. 238.

- 27. Drioton 1933a, pp. 224–225.
- 28. Drioton 1940, p. 375 no. 199.
- 29. Borchardt 1930, p. 68; Drioton 1940, p. 318.

3.3. ACROPHONY

By this principle, the initial sound only is retained.³⁰ Its beginning was in the Eleventh Dynasty; however, one example or more can be found in the Old Kingdom.³¹

E.g. $p \text{ from } pnw \prod_{n=1}^{n} p \text{ 'mouse'}^{32}$

m from $miw \& \& \& cat'.^{33}$

 \mathbb{A} k 'suffix pronoun 2nd person masculine'³⁴ from kt \mathbb{A} 'uraeus'.³⁵

3.4. PRINCIPLE OF CONSONANTS

This principle deprives a sign from its weak consonants and retains strong consonants only. Therefore, only a segment of the phonetic value of the sign is used, while the weak sounds are dropped.³⁶

E.g. \Im f from *iwf* \Re \Im 'flesh, meat'.³⁷

f'suffix pronoun 3rd person masculine' from f $f \in \mathfrak{A}$ 'to carry'.³⁸

3.5. INTERCHANGING BETWEEN SIGNS (CONFUSION OF SIGNS)

It is a kind of replacing signs with others that are similar in shape or function,³⁹ like using \gg instead of β , ∞ , β , β . This style was notably used in mortuary writings, particularly the books of the afterlife, such as the Book of Kererets and the Amduat.⁴⁰ In traditional cryptographic writings, the possibility of changing and substituting signs within the same group can be found, as in the groups of birds, snakes, plants and others.⁴¹

- 32. FAULKNER 1964, p. 89; ROBINS, SHUTE 1987, pp. 1–61; SPALINGER 1990; HANNIG 1995, p. 277.
- **33.** Wb II, 42; Parkinson 1999, p. 86 no. 11.
- 34. *Wb* V, 83 ⁽¹⁾; Fairman 1943, p. 229 no. 195а; Drioton 1956, p. 37 no. 13; Daumas 1988–1995, II, p. 372 no. 339.
- **35.** *Wb* V, 115, 15.
- **36.** Drioton 1940, pp. 396–397; Iversen 1993, pp. 36–37.
- 37. Drioton 1943, p. 118b; Wb I, 51–52; Daumas 1988–1995, I, p. 287 по. 654.
- **38.** Fairman 1943, pp. 204, 206; Hornung 1974, p. 47; Fischer 1986, p. 4; Daumas 1988–1995, I, p. 41 nos. 685–689; Iversen 1993, pp. 16, 23.
- 39. DRIOTON 1934a, p. 10; DRIOTON 1934b, p. 193; DRIOTON 1949, p. 119; DARNELL 2004, p. 126, nos. 402, 593.
 40. PIANKOFF 1942, pp. 115, 117–18; DRIOTON 1949, pp. 120–121; GRIMM 1979; RÉGEN 2017.
- 41. DRIOTON 1933a, pp. 9–10, p. 43 no. 103; DRIOTON 1934b, p. 193; DRIOTON 1949, p. 121; DAUMAS 1988–1995, II, pp. 366–367 nos. 233–247; DARNELL 2004, pp. 39, 46, 602; CIAMPINI 2008.

^{30.} Drioton 1943, pp. 319–349; Fairman 1945, pp. 51–54; Matouk 1971, p. 25; Derchain-Urtel 1978; Kurth 1978; Sauneron 1982, p. 106; Kurth 1983; Darnell 2004, pp. 4–6.

^{31.} Drioton 1935, p. 700.

3.6. CHANGING THE PLACES AND ORDER OF SIGNS

It is a kind of camouflage that was excessively used on many scarabs.⁴² It is characterized by the absence of a single rule, but rather by a sort of perturbation, although the signs have mostly their normal phonetic value. This type of writing is considered difficult because of the undefined order of the signs, so it is hard to know where to start reading. This perturbation is also found in the religious texts of the Book of Gates in the tomb of Horemheb, the sarcophagus of Seti I and the tomb of Ramses VI.43

3.7.

ALTERATION OF SOUNDS LIKE: D, D, T, T⁴⁴ AND H, Š.⁴⁵

E.g. $rac{le}{2}t$ from $trp \stackrel{\sim}{\longrightarrow} f$, $rac{2}{2} \stackrel{\sim}{3} \stackrel{\sim}{4} ^{46}$ in cryptic word $ity \stackrel{\sim}{\searrow}$ 'sovereign, king'.⁴⁷ \square h^{48} in cryptic word hpyt $\square h^{49}$

CONCLUSIONS

The ancient Egyptians invented cryptography to preserve their intellectual and cultural heritage throughout the various Egyptian periods, especially during the periods of occupation, when cryptography was a characteristic feature of the writing on the temples of the Greco-Roman Period.

Cryptography introduced hundreds of new signs, several variations or forms of words, and many names of people (individuals and kings) and places, as well as many pronouns.

No cryptographic words were found for the sounds h, k, g, t, perhaps due to their phonetic changes or the few texts known so far.

The writing principles of cryptography are the same as those of the Ptolemaic writing, which leads us to the hypothesis that cryptography is the origin of the Ptolemaic writing.

46. Wb V, 387; Drioton 1940, pp. 396, 413; Drioton 1942, p. 97, no. 134; Daumas 1988-1995, II, p. 327 no. 683.

48. FAIRMAN 1943, p. 237 no. 243; DAUMAS 1988-1995, II, p. 468. **49.** For the normal writing of *bpyt* $[]{}_{\Box}$ see *Wb* III, 259; *bppwt* $[]{}_{\Box}$ see FAULKNER 1964, p. 188.

^{42.} DRIOTON 1944, pp. 32-33.

^{43.} DRIOTON 1933b; DRIOTON 1944, pp. 32–33; GRIMM 1979; DARNELL 2004, p. 5.

^{44.} Černy, Israelit-Groll, Eyre 1975, p. 7; Daumas 1988–1995, II, p. 360 no. 125.

^{45.} Drioton 1940, p. 346 no. 42, pp. 405–407; Daumas 1988–1995, II, p. 360 no. 125; Leitz 2001, p. 268; DARNELL 2004, p. 22.

^{47.} DRIOTON 1942, p. 97, no. 134; DRIOTON 1940, pp. 396, 413; for the normal writing of ity p. 51; METWALLY 2010, pp. 145–146, 163, signs nos. 61, 62, 194, 195 of the cryptic text of Darius at the temple of El-Khargeh.

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Secondary Epigraphy in the Temple of Ramesses II, Abydos

A Brief Report

HE SITE OF ABYDOS ranks among the most important sacred landscapes and places of memory of ancient Egypt.¹ It has a long history of divine and royal cults, and both its archaeology and epigraphy attest to an intense involvement of different communities on the site, across several millennia. Only sketching its intensive and dynamic history embodied in its landscape and buildings would take too much space in this contribution and has been better done elsewhere.²

For reconstructing a cultural biography of a large site such as Abydos,³ not only the life of its buildings, but also local religious experience, community microhistories and individual stories are all equally important. They meet, uniquely represented, in secondary epigraphy—epigraphic features that were added to man-made surfaces.⁴ Secondary epigraphy in Abydos was produced by generations of staff, local communities and visitors (fig. 1).

The temple of Ramesses II⁵ in Abydos hosts almost 20 secondary texts or text groups and almost 40 secondary figural drawings (individual figures as well as figural compositions) dated to different periods. They form, like most secondary epigraphy corpora in Egyptian temples, a very non-homogeneous corpus,⁶ and are defined as secondary, insofar as they were executed as additions to the large-scale, planned decoration of the temple, and often by different techniques. Ink writing and drawing, as well as more elaborate carvings and even simple scratched designs (see below for details), display a targeted, and possibly planned epigraphic performance in the temple spaces.

In this brief report, the corpus will be introduced classified according to locations, techniques of writing, languages, and approximate dating. Some notes on its interpretation are added in place of conclusion.⁷

- 2. Regulski 2019; Effland, Effland 2013; O'Connor 2009.
- 3. Compare Staring 2019.
- 4. About secondary epigraphy: RAGAZZOLI 2018; RAGAZZOLI et al. (eds.) 2018.
- 5. Iskander, Goelet 2015; PM VI, 33–41; Kuhlmann 1979; Kuhlmann 1982.
- 6. Cruz-Uribe 2008, p. 194.
- 7. See Navratilova 2021.

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^{1.} Pouls-Wegner 2020; Morenz 2020; Olabarria 2020; Regulski 2019.

I. LOCATIONS

As the secondary texts and figural graffiti were identified across several temple areas in the temple of Ramesses II in Abydos, these additions to the temple decoration may be characterized in terms of their overall distribution in the temple space (location) and according to their relative position on the wall and versus original decoration (placement). The text distribution covers a large part of the temple, suggesting that various graffiti and dipinti makers of the late New Kingdom and Third Intermediate Period had access to the entire building, from courtyards to areas close to the shrines, although it was not necessarily the same graffiti and dipinti makers who left traces throughout the temple rooms. Courts A and C and Chapels E, I, and J were among the most frequented areas for secondary epigraphy makers. Locations within courtyard colonnades suggest use of a shaded area, which is coherent with evidence from other temples,⁸ and suggests that an opportunistic element (waiting in a shaded area) could have played a role in this secondary marking of a sacred space. For a list of locations and placements, see Table 1.

Court A hosts most of the temple graffiti, although they concentrate only in three hotspots, with prevalence of figural graffiti, some of which even respect the conventions of formal art (A23). They appear often in sections close to passageways but are not limited to these. Blank spaces on the walls offered an opportunity, and accessibility⁹ of the court probably contributed to the appearance of graffiti. Graffiti in Court A also occasionally responded to the relief decoration above (chiefly processions and bringing of offerings and animals) in section A22.

Court B was much less frequently visited by graffiti makers than the preceding court A, similarly also Court C. Among the chapels, Chapels I and J appear as frequented by dipinti makers, with prevalence of textual dipinti. We might speculate that perhaps the chapel of Thoth (assumed to be Chapel J) might have been a particularly attractive location for the literati, but the number of secondary epigraphy features is rather more prominent also, for instance, in Chapel I (connected with Onuris), not to mention that chapel identifications may be debated.

The overall location of secondary epigraphy within the temple (fig. 2) is also suggestive of a passage of staff members as well as visitors through the temple, possibly on special occasions.¹⁰ It is interesting that the graffiti and dipinti are in the main decorated temple courts and rooms, but no traces of graffiti in "service areas" (e.g. roof and the only reported roof access close to Chapel I)¹¹ have survived, in stark contrast to the Khonsu temple roof corpus,¹² and ongoing exploration of stairways of the Karnak temples.¹³ However, both secondary epigraphic material from Abydene rooms and from Khonsu temple "service" areas have an overlap in their subject matter, and accidents

8. Note Cruz-Uribe 2008, pp. 217–218.

10. On temple cult as a system of performative practices located within different parts of a temple, see also EATON 2013.

12. Jacquet-Gordon 2003.

13. Elizabeth Frood, Eleanor Jones, Chiara Salvador, personal communication. See also SALVADOR 2019.

^{9.} The court is considered accessible to a larger number of people than the inner rooms and shrines, but many of these considerations are speculative, compare BELL 1985, and BAINES 2006.

^{11.} Kuhlmann 1979, p. 192.

of survival always play a role. Parallels with the use of graffiti in the Khonsu temple also suggest that ink-written texts in the temple halls and carved texts on the roof and in other staff areas might have appeared in the same building.

The placement on temple walls includes two main locales: 1) in areas avoiding direct contact with an earlier temple decoration, and 2) within the scenes or directly on the figures and in contact with components of the temple decoration. The placements have a number of parallels, both in temple secondary epigraphy elsewhere and in visitors' inscriptions in funerary contexts, although a more comprehensive excursus would be needed to evaluate the temple versus tomb graffiti spaces.¹⁴

A substantial portion of graffiti is located on the lower portions of walls, on the "dado" or bandeau area that was left smooth and without relief in the decorative scheme of Ramesses II, except when used for a titulary, which was later also applied or modified by Ramesses IV. These locations support the interpretation of graffiti in the context of a living, functional temple, whose rooms were kept clean and free of sand and debris, hence with lower portions of the walls easily accessible. At the same time, it would have been difficult to write high up on the walls, except with a ladder or a similar device.¹⁵ Lower portions of walls not only offered obvious greater physical accessibility but also allowed for additions of secondary texts without interference with the original decoration.

Code	Category	Technique	Location, placement
Ao-gi	figural	incised/carved	Court A, lower wall
Ao-g2	text	ink	Court A, lower wall
A6-g1	figural	ink	Court A, relief decoration
A6-g2	figural	ink	Court A, relief decoration
A7-g1	figural	ink	Court A, relief decoration
A9-g1	figural	ink	Court A, relief decoration
A9-g2	text	ink	Court A, lower wall
A9-g3	figural	incised/carved	Court A, relief decoration
A10-g1	figural	incised	Court A, relief decoration
A11-g1, -g2, -g3	figural	incised/carved	Court A, relief decoration
A12-g1	text	incised	Court A, relief decoration
A12-g2	figural	incised	Court A, relief decoration
A12-g3	text	incised	Court A, relief decoration
A12-g4	figural	painted/carved	Court A, relief decoration
A12-g5	figural	incised	Court A, relief decoration
A13-g1	figural	incised	Court A, lower wall

14. For a recent assessment of a non-royal tomb environment, see RAGAZZOLI 2017b.

15. Compare Cruz-Uribe 2008, p. 234.

Code	Category	Technique	Location, placement
A13-g2	figural	incised	Court A, relief decoration
A13-g3	figural	ink	Court A, lower wall
A14a-g1	figural	carved	Court A, lower wall
A16-g1	figural	ink	Court A, lower wall
A16-g2	figural	incised/carved	Court A, lower wall
A16-g3	figural	carved	Court A, lower wall
A16-g4	figural	ink	Court A, lower wall
A18a-g1	figural	ink	Court A, lower wall
A22-gI	figural	ink/incised	Court A, lower wall
A22-g2	figural	incised	Court A, lower wall
A23-g1	figural and text	carved/ink	Court A, lower wall
A24-g1	figural	carved	Court A, lower wall
A24-g2	figural	incised	Court A, lower wall
A24-g3	figural	incised	Court A, lower wall
A24-g4	figural	carved	Court A, lower wall
A24-g5	figural	carved	Court A, lower wall
A25-gI	figural	carved	Court A, lower wall
A26-g1	figural	incised	Court A, lower wall
A27-g1, g2, g3	figural	incised/carved	Court A, lower wall
B3-g1	text	ink	Court B, lower wall
B5-g1, g2	figural	incised	Court B, lower wall
B9-g1	figural	ink	Court B, lower wall
В9 с	text	hieratic	Court B
C4-gI	text	ink	Court C, lower wall
C6-g1	figural	ink	Court C
С10-д1	text	ink	Court C, lower wall
E4-gi	text	ink	Chapel E, relief decoration
E6-g1	text	ink	Chapel E, relief decoration
I4-gi	cross	incised	Chapel I, lower wall
I5-g1	text	ink	Chapel I, relief decoration
I5-g2	figural	ink	Chapel I, relief decoration
I6-g1, g2	text	ink	Chapel I, relief decoration
I6-g3	text	ink	Chapel I, relief decoration

Code	Category	Technique	Location, placement
J5-g1	text	ink	Chapel J, relief decoration
J6-g1	text	incised	Chapel J, relief decoration
J6-g2	text	ink	Chapel J, relief decoration
J6-g3	text	incised	Chapel J, relief decoration
O2a	text	ink	Chapel O, relief decoration
O2b	figural	incised	Chapel O
O3-gi	figural, complex	does not appear in author's documentation	Chapel O, relief decoration

Table 1. Tabular survey of graffiti: category, technique, location, and placement.

2.

SCRIPT, LANGUAGE, WRITING TECHNIQUE

The majority of textual graffiti and dipinti in the temple are in Egyptian, executed in hieratic and hieroglyphic script; there is at least one Coptic text and several Greek one-line "signatures" (section J6), and further texts are in modern Arabic (including an inscription dated to 1987).¹⁶ At present, the record does not include Demotic and Latin graffiti, but since graffiti surveys are by definition works in progress, this should not be considered a final assessment.

Hieratic dipinti in the temple of Ramesses II are written in different sizes of hieratic signs, from signs close to smaller 1–2cm sizes used on papyri and ostraca (for instance C10), to larger signs of up to 5 cm, perhaps adapted for secondary epigraphy use, being better visible (I5, J6). Some writers also seem to have realized that frequent dipping is a key to better-looking texts. When writing dipinti, the scribes often made a choice between recharging their pen with the rationale of finishing, for instance, a word or another text unit, or recharging it for reasons of calligraphy (*"rechargement raisonné"* as opposed to *"rechargement calligraphique"*).¹⁷

The corpus features a number of texts as well as figural sketches implemented in red ink. This is not exceptional among temple secondary epigraphy in general or indeed among secondary epigraphy in sacred spaces—red ink texts appear in Deir el-Bahari,¹⁸ Hibis,¹⁹ or in the Gebel Akhenaton area, where the use of the red ink appears probably as a Coptic survival of an older practice, possibly then a parallel to the Abydene examples.²⁰ The frequent use of red in temple material is somewhat different from the tomb/funerary temple visitors' dipinti that often tend to be in black ink, although

- 16. For instance, see ISKANDER, GOELET 2015, I,I, A24, pl. 3.1.62, and p. 213.
- 17. Terminology proposed by C. Ragazzoli. Compare observations on material from Grotto 504 Deir el-Bahari, see RAGAZZOLI 2017a, pp. 120–122.
- 18. As shown in PARKINSON 1999, p. 92, otherwise dominated by texts in black ink, see e.g. MARCINIAK 1974, passim.
- **19.** Cruz-Uribe 2008, pp. 141–142.
- 20. DARNELL 2013, p. 141.

red texts occasionally occur in this genre as well. The color might have been indicative of special importance of the texts for their writers, as in the rubrum used in papyri and ostraca,²¹ but there are more explanations available due to the polyvalent character of red in ancient Egyptian culture.²²

The Greek texts are incised. Coptic and Arabic texts are incised, except for one Coptic text also written with red ink (C_4-g_I) , perhaps again a survival of the red as a color of choice for important graffiti.

The figural secondary epigraphy features were either drawn with red ink or carved or incised. Lightly incised lines were considerably different from carved reliefs in a more formal style. In both cases, however, a sharp tool of some description, not just a pebble, might have been responsible for figural graffiti.²³ Some carved lines are quite clear, as indeed are the reliefs (exemplified by Graffito A23), thus inviting questions as to whether the affected portion of wall was covered with any stucco polychromy when the graffiti were made.²⁴

3. DATING

The graffiti and dipinti in the temple, as far as it may be said at present, also appear to span the period from the 20th Dynasty (or even late 19th) to the Third Intermediate Period, possibly as far as the 22nd or 23rd Dynasty. This time frame, technically speaking, would be relatively soon after the temples in Abydos were built; this aspect supports the interpretation that the secondary epigraphy production was very much a part of practices in a living, active temple. Other Abydos finds²⁵ complement the activities of the same period, and the site is well known to have remained a focus of devotion.²⁶

4. INTERPRETATION

The graffiti and dipinti are among the witnesses to functional and conceptual changes located in the temple space. As the above outline has shown, they form several groups distinguished by script, technique, contents, and location. There is a marked difference among secondary epigraphy groups located in different parts of the temple of Ramesses II. For instance, the makers of the figural graffiti in Court A had often, if not always, a good command of the conventions of official Egyptian art. One might compare for contrast graffiti in section A23 or A25 and Greco-Roman and later animal figures in Syene, or Hibis.²⁷ Several specimens of the Abydos hieroglyphic and figural graffiti tend to straddle the divide between formal and informal that may be applied to distinguish

27. Dijkstra, Cruz-Uribe 2012.

^{21.} PINCH 2001, pp. 182–185. For a useful, if slightly antiquated overview, see POSENER 1951.

^{22.} Ćwiek 2014.

^{23.} Discussed, for instance, as a probable technique for many figural graffiti at Tafa, see RAVEN 1999, p. 83.

^{24.} Compare observations on faint graffiti lines by JASNOW 1994.

^{25.} PM V, 39ff.; for a general survey, see O'Connor 2009.

^{26.} The portal temple of Ramesses II appears to have remained in operation as a place of ritual well into the Third Intermediate Period. For instance, see SILVERMAN 1989, pp. 269–277; and O'CONNOR 2009, p. 125; EFFLAND, EFFLAND 2013.

formalized secondary inscriptions—i.e. those mostly longer hieroglyphic texts and larger, often carefully executed relief scenes²⁸—from the more private or cursory graffiti and dipinti.²⁹ The community serving in a temple thus made its sacred spaces serve their own interests, while, at the same time, they created sacred images outside the shrines, which could then become center points of more localised, limited, cultic practices. A strong motivation for the making of those images lies probably within a practice of serving personal commemoration or commemoration of a personal devotional act within the temple walls.³⁰ Therefore, it is entirely possible that the divine images in Court A also became contact points with the sacred for those who were not allowed near the divine images located further inside the temple.³¹ These graffiti might have been commissioned in the same manner as more official work, which would explain both the quality and the use of hieroglyphic script, which was not the prerogative of every literate person.³²

It might be suggested that such formal graffiti capture a moment in which a sacred space has been appropriated for purposes of a more personalised cult, and thus they were intended to lure the deities inherent in the divine images out of their officially restricted shrines and into their unofficial counterparts in the colonnades of the court. At the same time, their presence probably mirrors circulation of temple personnel, who set up places of devotional interest in places where its members possibly congregated during specific moments in the official cult performance. Their dating ranges probably from the New Kingdom to the Third Intermediate Period. Similar characteristics can be detected in Thebes.

The writers of hieratic dipinti deeper in the inner shrines might have emphasized the importance of their writing by using rubrics, rather than the more formal hieroglyphic script, but that interpretation is open to further investigation. They were also engaged in a wider range of contents pointing then to a possible range of practices, including personal piety focused on the eternal gain of the writer (n k x) or perhaps to oracular practices, or even to personal performative aspects leaving one's name and appropriating a sacred space in a more personal dimension.³³ A diversity of concerns is reflected also in diversity of cultural texts used, possibly including complex spells as well as an instruction text. This diversity invites questions as to who were the writers—and if they could possibly have been involved in later Ramesside operations in the temple.

There was apparently a certain flexibility allowed to those who were part of the inner world of the temple.³⁴ This feature sets the Abydene hieroglyphic and particularly hieratic graffiti and dipinti apart from later examples, especially texts dating to the Greco-Roman or even Coptic Periods, which indicate changes in the understanding and ultimately in the use of the temple rooms.³⁵

28. Seidlmayer 2012, pp. 220–236.

29. As some of the Khonsu temple graffiti may be classified, compare, JASNOW, DI CERBO 2013, pp. 33-44.

30. Frood 2013, p. 289.

32. Seidlmayer 2012, p. 235.

33. Appropriation of divine images for a priestly group is shown at Luxor, see FROOD 2013, pp. 292–293. There

is also a similar dense accumulation of hieratic graffiti in the temple of Ptah in Karnak, FROOD 2013, pp. 295–297. 34. FROOD 2010.

35. CRUZ-URIBE 2008, which also considers the exceptions.

^{31.} Brand 2004.
CONCLUSION

It seems likely that the temple of Ramesses II was not only part of a sacred landscape of Abydos, but it was more specifically connected to the group of other Ramesside temples—the temple and cenotaph built by Seti I and the so-called portal temple of Ramesses II. Ramesses II probably intended this system of related temples to form a functional unity, and indeed they survived as such into the Late and Greco-Roman Periods. However, the relative role of the components of this sacred landscape changed over time.³⁶

Summing up, the graffiti of Abydos, including those in the temple of Ramesses II, reflected historical developments in the area. The secondary epigraphy production seems to run alongside the lines of the institutional and staff context, reflecting presence and roles of those who worked within the sacred space, but who had their own agenda of piety, performance, and personalized interpretation of temple rooms. Graffiti and dipinti in the temple of Ramesses II attest to late 19th to 20th Dynasty and Third Intermediate Period activities in the sacred spaces of a temple that was still in operation, but allowed for certain appropriation of its spaces by privileged staff, or possibly even privileged visitors. Literacy and piety reflected in the secondary epigraphy have parallels in ostraca finds in Abydos, both from the current excavations and previous work.³⁷

Finally, the lively cults that continued into the Third Intermediate Period, especially during the Libyan and Kushite era and then transformed and developed further in the Greco-Roman period, had found one of their enduring expressions in the secondary epigraphy production. The continued importance of the temple of Ramesses II³⁸ later on also called for both opportunistic and pilgrimage-like visits.

36. Effland 2014, pp. 6-8.

37. SIMPSON 1995, pp. 13-25.

38. Compare Rutherford 2003.

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Fig. 1. Location of secondary epigraphy in Ramesside temples at Abydos, based on PM V and Rutherford 2003.



Unicode Control Characters for Ancient Egyptian

THE UNICODE STANDARD

Unicode offers a universal solution to text encoding.¹ As of version 13 (2020), the Unicode standard comprises 143,859 characters in altogether 154 modern and ancient scripts. Different scripts can be alternated within a single document by assigning a unique number, or *code point*, to each character. Unicode characters are "abstract" in the sense that their exact appearance is not fixed: an italic "A" in Helvetica and a bold "A" in Times Roman correspond to the same code point. Font families, font styles and font weights are determined by higher-level protocols that are used in combination with Unicode, such as HTML and CSS for web pages or RTF for word processors.

Some Unicode characters do not result in a visual appearance on their own, but control the formatting or modify the rendering of other characters. These are known as *control characters*. The most common examples are the line feed and the horizontal tab. A very different kind of control character, which allows hieroglyphic signs to be positioned in relation to each other, is the topic of this article.

Thanks to Unicode, a large number of fonts can be used for a wide range of applications. Copy-and-paste functionality allows transfer of text between applications, including web pages and documents prepared using common word processors. Web search engines and search functionality in word processors and databases such as Word and Framemaker rely on Unicode.

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I.

The ongoing work reported here involves many other colleagues, most notably Andrew Glass, Jorke Grotenhuis, and Daniel Werning. Pivotal has been the assistance of Deborah Anderson. 1. KORPELA 2006.

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DIGITAL ENCODING OF EGYPTIAN TEXTS

A popular format to encode ancient Egyptian texts is the *Manuel de Codage* (MdC),² most notably in the JSesh implementation.³ Another such encoding format is PLOTTEXT.⁴ The initial motivation for the MdC and PLOTTEXT was to prepare printed publications. The former is now widely used for text corpora as well, such as *Ramses Online⁵* and the *Thesaurus Linguae Aegyptiae*.⁶ However, electronic corpora and interchange of textual resources between different projects have requirements that diverge quite significantly from those of printed editions.⁷ Moreover, with current technical solutions, common word processors need to be used in combination with tools such as JSesh in order to incorporate hieroglyphic texts as images within documents.

Conversely, Unicode has a number of inherent limitations that seem to preclude its use in some areas of Egyptology. For example, the notion of *abstract* character implies that details of appearance cannot be part of the encoding, which hinders applications in palaeography. Moreover, arbitrary fine-tuning in terms of scaling and positioning, as is often done in the publication of Egyptian texts, is beyond the capabilities of common font technologies such as OpenType. Nonetheless, there are many potential applications of Unicode in the fields of lexical and morpho-syntactic studies, for instance, as well as in the transfer of textual resources between different individuals, projects, and tools.

3.

2.

CONTROL CHARACTERS FOR EGYPTIAN

Since Unicode 5.2 (2009), there are 1071 code points of ancient Egyptian hieroglyphs. These code points in themselves have been of limited use, as until recently no mechanism was available to compose signs into the actual hieroglyphic text as it appears in the original inscriptions, with signs next to one another, above one another, or in other spatial arrangements.

An early Unicode proposal to add control characters for ancient Egyptian took three primitives from the MdC tradition.⁸ These were the *horizontal joiner* "*", which arranges signs next to one another, the *vertical joiner* ":", which arranges signs (or horizontally joined groups) above one another, and a *ligature joiner* "+" for any other arrangements of signs. The latter was not in the original MdC, but in the form of "&" has been widely used since the release of WinGlyph.⁹

The proposal has been criticised for several reasons.¹⁰ First, different users can very well attribute different meanings to "+". This violates the main aim of Unicode, which is the interchange of encodings without introducing ambiguity. Second, vertical groups of signs could not be combined

- 3. http://jseshdoc.qenherkhopeshef.org.
- 4. Stief 1985a; Stief 1985b; Stief 1988; Stief 2001.
- 5. http://ramses.ulg.ac.be/.
- 6. http://aaew.bbaw.de/tla/index.html.
- 7. Nederhof 2013.
- 8. Richmond, Glass 2016.
- 9. van den Berg 1993; van den Berg 1997.
- 10. Nederhof et al. 2016a.

^{2.} BUURMAN et al. 1988.

into a larger group using the horizontal joiner, which meant that many common groups could not be encoded, unless the catch-all "+" was used, which is problematic as it is. Lastly, there was an implicit assumption that all valid/attested groups of signs could be enumerated and stored in precomposed form in a font.

Subsequent proposals addressed these issues.¹¹ To find an alternative to "+", ideas were taken from PLOTTEXT, which has six primitives that allow a (group of) sign(s) to be "inserted" at empty spaces in or around a bigger sign. Four of these primitives, henceforth called "corner insertions", insert a group within one of four corners of the bigger sign. A fifth primitive inserts a group just above the feet of the bigger sign, assuming this is a bird. A sixth primitive, a "central insertion", inserts a group within another sign. This was specifically intended for *bw.t* enclosures.

Primitives akin to the corner insertion exist in other types of encoding next to PLOTTEXT. For example, MacScribe¹² added two binary operators to the MdC tradition, each of which inserts a group of signs into a particular *zone* immediately next to a base sign. Such a zone is typically an empty corner of the base sign, or the empty space above a bird's feet. A limitation is that each sign can have a maximum of two zones, and these zones must be specified individually for each sign.

A more general and precisely defined solution is offered by RES.¹³ It allows insertion into one of the four corners, into one of the four sides, or in the middle of a bigger sign. It is also possible to insert a group within a group. Furthermore, one may manually adjust the (x, y) coordinates where the insertion is to take place. Another innovative feature is that the rendering of the insertion depends on the exact contours of the signs: the inserted group is gradually scaled up from 0 until a given minimal distance is reached between it and the larger sign. This distance is the default distance between signs and groups, but it can also be manually adjusted. If the distance is set to 0, then the inserted group is scaled up (and where applicable moved up/down or left/right) until it fits snugly between the larger sign and the bounding box around it.

PLOTTEXT's four corner insertions have been adopted in Unicode. If the base sign is a bird, then the lower left corner insertion places the inserted group above its feet, and thereby fulfils the role of the fifth insertion primitive of PLOTTEXT. An "overlay" control character was also adopted, which renders one sign, or one group of signs, on top of another. Lastly, a pair of control characters was introduced that act as parentheses. This allows nesting of horizontal and vertical groupings, as well as corner insertions, in principle to an arbitrary depth, although in practice the maximum nesting depth may be limited by the font. Efforts were initiated to design OpenType fonts that do not rely on enumerating groups of signs, but that interpret control characters dynamically. In this way, fonts will be able to render groups of signs that were not seen before.

Examples of groups in Unicode (all taken from Section 4) are presented in fig. 1: (a) the horizontal joiner binds more tightly than the vertical joiner; (b) a pair of parentheses is required for vertical groups that are combined with the horizontal joiner; (c-f) there can be insertions in

^{11.} Nederhof et al. 2016b; Nederhof et al. 2017; Glass et al. 2017.

^{12.} Gozzoli 2013.

^{13.} http://mjn.host.cs.st-andrews.ac.uk/egyptian/res/.

multiple corners; (g) corner insertions bind more tightly than the horizontal and vertical joiners; (h-i) a pair of parentheses is required for vertical or horizontal groups or other corner insertions that are themselves inserted in a corner; (j) there can be corner insertions in an overlay.

The Unicode repertoire of nine control characters for Ancient Egyptian was informed by studies of signs composition¹⁴ and was chosen specifically to satisfy the following requirements:

- 1. The meaning of each control character must be simple, well-defined and stable. This ensures that encodings preserve their validity over time and can be transferred between projects and tools without introducing ambiguity. However, there is some freedom in how a font could realize the scaling and positioning of signs. For example, the exact distance between signs in a horizontal or vertical group is not specified.
- 2. The repertoire of control characters must cover the main types of spatial arrangements observed in hieroglyphic and hieratic texts from different periods. To be more exact, the appearance of an original inscription and the appearance obtained by rendering its encoding must be similar enough that most users agree that it is the same text. In Section 4 we assess the extent to which this requirement is currently fulfilled.
- 3. The control characters can be implemented in modern font technology, in particular OpenType. This is discussed further in Section 5.
- 4. Encodings can be effectively searched for patterns of signs and specific spatial arrangements. It should be noted that if atomic code points were introduced for complex groups of signs, it would become easy to achieve an encoding for each known text with few or no control characters, as implementation of additional code points in itself is straightforward. However, the whole encoding standard would then become unwieldy and unstable as more such code points are added for newly considered texts, and the search functionality becomes close to impossible to implement. The best compromise therefore appears to be a small repertoire of powerful control characters, reducing the need for atomic encoding of composed and transformed signs to a minimum.

4. ADEQUACY

To critically assess the coverage of the control characters currently available in Unicode, monumental inscriptions from the Old Kingdom,¹⁵ the New Kingdom,¹⁶ and the Ptolemaic era¹⁷ were investigated, with texts written in lines and in columns, and left-to-right or right-to-left.

Fig. 2 exemplifies all the types of encodings discussed in Section 3. Groups such as (q) and (z) abound and illustrate that vertical groups can occur inside horizontal groups, which can themselves be part of vertical groups, etc. Examples such as (v) further show that there is no obvious limitation to the number of signs that can be grouped using the horizontal and vertical joiners.

- 14. Fischer 1977; Meeks 2017; Polis 2018.
- 15. Lloyd et al. 2008; JAMES 1961.
- 16. Iskander, Goelet 2015.
- 17. BISTON-MOULIN, THIERS 2016.

Examples of corner insertion are widespread and include those discussed before, viz. (g), (m-p) and (r-s), as well as (h) and (w). In (t), a group with bottom-right corner insertion is inserted in the bottom-left corner of another sign. Groups such as (j) and (k) can also be analysed as corner insertions.

Unicode currently lacks a central insertion, which would be required for groups such as (e) and (y). It is further common for low/wide signs and high/narrow signs to be rotated by a quarter turn if that makes them fit better in the composition of a group. Some signs may also be rotated by half a turn without this changing their meaning, as for example the crescent moon in (n). In addition, signs may be mirrored horizontally, sometimes in order to create meaningful visual interactions with other signs, and sometimes because they have no clear front or back, as in (l). Hence, both rotation and mirroring would be desiderata among further Unicode controls.

Finally, a frequent phenomenon in ancient Egyptian inscriptions is that neighbouring groups are squeezed together to reduce the amount of empty space, as for example in (a), (b), (d), (f), (i), (u) and (x). This may be called *kerning*, by analogy with the concept of this name in modern typography. What is different here is that this squeezing together generally involves a pair of neighbouring groups, rather than a pair of neighbouring characters. As a consequence, this form of kerning is beyond the capabilities of modern font technology, and a solution is not likely to be found within the framework of Unicode. If kerning encoding is required, then a more specialised technology such as RES needs to be used, which realizes kerning dynamically by analysing the contours of signs.

5. IMPLEMENTATION

The signs within a group are scaled and positioned depending on the sizes of the other signs. Ideally, this involves arithmetic and dynamic scaling, which are outside the capabilities of OpenType. However, arithmetic can to some extent be simulated by OpenType's features, and a font may contain several precompiled scaled copies of each sign.¹⁸ Recently, much progress along these lines has been made by Andrew Glass.¹⁹

In addition, open-source code is available to automatically construct a font that can handle all the groups within a given corpus.²⁰ Fig. 3 demonstrates such a font in a web page. The disadvantage of this approach is that the font needs to be regenerated each time the corpus is extended.

Lastly, there is open-source code to render encodings in webpages in terms of HTML canvas, implemented using an existing framework for RES, whose functionality subsumes that of the Unicode control characters.²¹ This also includes an online graphical editor.²²

- 19. GLASS 2020.
- 20. https://github.com/nederhof/opentypehiero.
- 21. https://github.com/nederhof/resjs.

^{18.} Nederhof et al. 2017.

^{22.} https://mjn.host.cs.st-andrews.ac.uk/egyptian/res/js/edit_uni.html.

6. OUTLOOK

As stated above, it is our hope that future versions of Unicode will include central insertion, rotation, and mirroring. Furthermore, encoding of cartouches and other enclosures still awaits a permanent solution. As complete and undamaged texts are the exception in ancient inscription corpora, further desiderata are primitives for lacunas and shading.

The work reported here on the control characters should be envisioned as complementary to the extension of the hieroglyphic signs repertoire in Unicode. We advocate a drastic change of direction here: the actual attestations of signs (with an analysis of their iconic features and functions in context) should be at the centre of the definition of any new code points. Such an endeavour can be supported by the *Thot Sign List*,²³ an open digital repertoire of hieroglyphic signs.²⁴

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24. POLIS et al. 2021.

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Fig. 1. Encodings of hieroglyphic text in Unicode.



Fig. 2. Groups of signs from a diachronic sample of texts.



Fig. 3. OpenType font for hieroglyphic text rendered in Firefox.

Investigations into Ancient Egyptian Concepts of the Dead Body

A Case Study on the Lexemes <u>b3.t</u> ('corpse') and s'<u>b</u> ('mummy')

WTIL TODAY, the various ancient Egyptian methods of mummification in terms of the external shape of a body, its modification and optimization, are the topic of many scientific essays in Egyptology. However, the question of which ancient Egyptian lexemes can refer to a 'dead body' is often neglected. So far, there has been no detailed examination of how a dead body could be thought of, described and explicated in ancient Egyptian texts. Since such a comprehensive philological study is a desideratum in Egyptology, I examine ancient Egyptian textual sources for statements on the dead body in my research project.¹ The aim is furthermore to uncover the concepts of the corpse from an emic perspective. In order to achieve this, methods were chosen that allow a direct and unbiased work with ancient Egyptian texts. These are, on the one hand, the identification of significant collocations (historical semantics) and, on the other, the study of classifiers (prototype theory).² While part of the research project is dedicated to overarching perceptions on the corpse, there will also be a lexicography of ancient Egyptian lexemes that may carry the meaning 'dead body'.

MODERN PERCEPTIONS ON THE CORPSE

I.

In general, a distinction can be made between an untreated and preserved dead body. While an untreated corpse shows various stages of decay over time, the decomposition process of a treated body has been stopped (naturally or artificially) at a certain point. Thus, dead bodies can be divided into different categories, which can also be found in linguistic usage. In English, the word 'corpse' initially referred to the human and animal body, whether living or dead. Nowadays, only the mortal shells of humans and animal cadavers are called 'corpses'. However, the term 'corpse' mainly refers to the dead body of a human and is thus close to the German word '*Leichnam*' which exclusively

The title of my dissertation project is 'The Dead Body: Studies on Concepts of the Corpse in Ancient Egypt', which is founded by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation)—215342465 / GRK 1876.
 For these already quite established methods see, for example, GOLDWASSER 2002; GOLDWASSER, GRINEVALD 2012, pp. 55–112; POMMERENING, BISANG 2017; FRITZ 2005; and ALLAN 2012. An introduction of these methods and their modification will be given in the publication of my research project.

describes the mortal shell of a human being.³ Currently, a corpse seems to be usually associated with putrefaction, as long as no appropriate countermeasures are taken or natural conditions stop the decay process.⁴ On the other hand, a corpse that has been preserved in a natural or artificial way is generally referred to as 'mummy'.⁵ It should be examined whether a corresponding typification of dead bodies can also be found in ancient Egyptian textual sources. Therefore, the lexemes <u>b</u>.*t* and *s*^c/*p* are examined in the following, which are translated as 'corpse' and 'mummy' and thus imply that they refer to two different types of dead bodies.⁶

2. CASE STUDY: <u>H</u>3.T AND S'<u>H</u> – TWO LEXEMES USED SYNONYMOUSLY?

According to the *Wörterbuch der aegyptischen Sprache*, the lexeme <u>h</u>3.*t* is translated as 'corpse' while the word *s*¹/₁ describes a 'mummy' or 'figure'.⁷ Despite these different translations, both lexemes can sometimes refer to the same dead body, as shown, for example, in a passage from the TB 89 spell:⁸

r' n r <u>d</u> ỉ.t ḥtp b3 <u>h</u> 3.t≠f	Spell for making the ba rest on his 'corpse':	
[]	[]	
m3n=f <u>h</u> 3.t=f ḥtp=f s´ḥ=f	May he see his 'corpse' and come to rest on his 'mummy'	

The spell itself has the purpose to reconnect the ba with the body of the deceased. Often, TB 89 is accompanied by a vignette showing the exact moment of the ba's return.⁹ The text and the vignette thus refer to the same event. However, the body which the ba does approach is named $\underline{h}_{J.t}$ ('corpse') as well as s' \underline{h} ('mummy') in the spell. This leads to the question of whether the two lexemes $\underline{h}_{J.t}$ and s' \underline{h} should generally be regarded as synonyms from an emic point of view and therefore translated identically. To answer this, a closer look to the most specific classifiers as well as an analysis of the most significant collocations of both lexemes is needed.

^{3.} For the meaning of corpse, see www./oxfordlearnersdictionaries.com/defintion/english/corpse. For the meaning of *Leichnam*, see www.duden.de/rechtschreibung/Leichnam.

^{4.} For an overview of various stages of decay and the natural conditions that enable the body to be preserved, see Wieczorek et al. (eds.) 2007, pp. 3–68.

^{5.} For the meaning of mummy, see www./oxfordlearnersdictionaries.com/defintion/english/mummy.

^{6.} Within the scope of this article, of course, only part of the observations on the lexicographic study on the lexemes $\underline{b}_{3.t}$ and $\underline{s}'\underline{b}$ can be discussed. A more detailed consideration will be given in my thesis.

^{7.} Wb III, 359; Wb IV, 51–52.

^{8.} pLondon BM EA 10477 [1, 7]; LAPP 1997, pl. 51.

^{9.} Taylor 2001, p. 21, fig. 8.

CLASSIFIERS OF H3.T (🗇) AND S'H (🕮 🖞) IN COMPARISON

The lexeme hJ.t is documented since the appearance of the pyramid texts and used throughout ancient Egyptian history. However, it is not before the Middle Kingdom that a uniform spelling and classification is established. From this point on, the lexeme hJ.t is classified with the hieroglyphs Aa2 (\bigcirc) or Aa3 (\bigcirc).¹⁰ In general, these signs seem to classify words like *wbn.w* ('wound'), *šf.wt* ('swelling'), *hJ.t* ('disease') or *hwJ* ('to decompose, rot'), which have rather pejorative meanings. It is also striking that Aa2 (\bigcirc) and Aa3 (\bigcirc) are used as classifiers for words such as *wt.j* ('embalmer') or *srwh* ('embalm'), which are directly related to mummification.¹¹ Thus, Aa2 (\bigcirc) and Aa3 (\bigcirc) seem mainly to classify things, people and activities that have the potential to be perceived as bad, unpleasant or dangerous, but can also be averted or dealt with (fig. 1).¹²

In the meaning as 'mummy', the lexeme *s'*h is documented since the early New Kingdom and is used until the Graeco-Roman period. The lexeme is usually classified with the hieroglyph A53 ($\frac{1}{2}$), which shows an upright figure. With regard to its shape, the sign can be compared with an anthropomorphic mummy or an inner coffin, as they are created from the Middle Kingdom period onwards. As such, the hieroglyph A53 ($\frac{1}{2}$) is already interpreted in Gardiners' signs list.¹³ In this form, the body has already undergone some sort of treatment. As a classifier, the sign A53 ($\frac{1}{2}$) appears in words such as *3b.wt* ('appearance'), *bpr.w* ('transformation'), *smb* ('image'), *snn* ('likeness'), *kd* ('form') or *twt* ('statue') (fig. 2).¹⁴ In general, these lexemes mostly refer to statues of deities as well as deceased and living persons, which are depicted in an upright position and can be perceived as an image of its owner. Furthermore, a certain degree of reverence is paid to them. This aspect also seems to be important for the conceptualization of the lexeme *s'b*.

The lexemes $\underline{h}_{3,t}$ and $s'\underline{h}$ can both describe a dead body. However, from the emic perspective, they are assigned to two different categories according to their most relevant classifiers Aa2 (\square) and A53 ($\frac{1}{2}$). While the lexeme $\underline{h}_{3,t}$ is classified as something potentially unpleasant or bad, the lexeme $s'\underline{h}$ is associated with a specific anthropomorphic shape and furthermore with something dignified.

10. So far, it has not been conclusively clarified what these hieroglyphs could represent. Therefore, a detailed examination of Aa2 (\bigcirc) und Aa3 (\bigcirc) will be given in my thesis.

13. GARDINER 1927 (ed. 1994), p. 447.

2.1.

14. Wb I, 8; Wb III, 265–266, 460; Wb IV, 141; Wb V, 75–77, 255–256.

^{11.} Wb I, 379; Wb III, 50, 224; Wb IV, 368, 455.

^{12.} See also Pommerening's remarks on the specific choice of classifiers in medical texts, POMMERENING 2016, pp. 191–194.

2.2. ANALYSIS OF SIGNIFICANT COLLOCATIONS FOR THE LEXEME $H3.T(\bigcirc \circ)$

The collocation of the lexeme <u>h</u>3.t with verbs of decay is frequently documented. A particularly illustrative textual source for this is the spell TB 154:¹⁵

r' n tm rḏỉ.t sbỉ.w <u>þ</u> 3.t	Spell to prevent the <i>b3.t</i> from perishing:
[]	[]
sbi.ty=fy pri b3=f m-bt mt=f	He, who will pass away, whose ba goes out after he dies.
h3i=f m-þt sbi=f	He descends after he has passed away.
swt pw bnn=f	That he is, by decaying:
ķs.w=f tm.w ḥw3=sn	All his bones, they rot,
sm3.w ḥ ^c .w=f	slaughtered is his body,
sgnn.w ks.w	the bones are weakened,
jrỉ.w jwf m <u>đ</u> w	the flesh has become (something) bad.
snsn=f ḥw3=f	That he stinks is by rotting.
b̥pr≠f m fnṯ.w 'š3.w tm.w fnṯ.w	He turns completely into numerous maggots, completely maggots!

tm.w

In this spell, the process of decomposition is described quite vividly and detailed, which is rather unusual for ancient Egyptian texts. According to the spell, the decay begins directly after the ba has left the body of the deceased.¹⁶ For instance, it is said that the bones (ks.w) of the deceased begin to rot (hw3) and that the body ($h^c.w$) itself is slaughtered (sm3), which might refer to the fact that the limbs separate from the body during decay. The decomposition process is furthermore described as something unpleasant, since the slowly rotting flesh (jwf) develops a bad smell (dw, snsn)

15. pLondon BM EA 10477 [1, 7–9]; LAPP 1997, pl. 51–52.

^{16.} The separation of the ba from the body of the newly deceased is first addressed here, because as long as a person lives, body and ba do not separate. But through the disappearance of the soul, the dead body is conceptualized as a lifeless shell or at least as soulless.

and maggots (fnt.w) begin to disintegrate the corpse until it finally becomes a formless mass consisting entirely of worms. Comparing this description with the most typical stages of decay, it can be said that at least certain stages are described quite accurately, since the spell mentions the putrefaction of the flesh, bones decomposition and insect infestation.¹⁷ From an emic perspective, however, this natural process is not desirable. This can already be inferred from the title of TB 154, which says that the purpose of the spell is, that the *b3.t* does not perish. At a later point of the spell, the deceased himself mentions that his *b3.t* will not be affected by the decay process:¹⁸

n ḥw3=j	I have not rotted!
n <u>h</u> nn≠j	I have not decayed!
n jmk≠j	I have not decomposed!
nn þpr=j m fn <u>t</u> .w	I shall not turn into maggots!
[]	[]
<u>h</u> 3.t≠j mn.tj	My <u>b</u> 3.t is permanent!
n ski=s	It does not perish!
n ḥtm≤s m t3 pn <u>d</u> .t	It will not be destroyed in this land forever!

Interestingly, this passage predominantly uses the lexemes that have already described the decay process before (hw3, hnn, fnt.w). However, they are now packed into negation sentences, which thus makes it clear that the natural process of decay does not affect the h3.t. The opposite is the case, as it is mentioned that the h3.t does not perish (ski) and exists for all eternity (mn, d.t).

As the textual sources show, the <u>*h*</u>3.*t* is a kind of dead body which is potentially always threatened by decay, but should ideally be preserved.¹⁹ This aspect fits the categorization of the lexeme by its classifier Aa2 (\square). Overall, the modern translation of <u>*h*</u>3.*t* as 'corpse' thus also corresponds to the emic perception.

^{17.} WIECZOREK et al. (eds.) 2007, pp. 3–68.

^{18.} pLondon BM EA 10477 [17, 20–21]; LAPP 1997, pl. 51–52.

^{19.} For this ideal state of the corpse, however, appropriate measures must be taken, for example through manual actions (embalming) or ritual activities (recitation of funerary texts).

2.3. ANALYSIS OF SIGNIFICANT COLLOCATIONS FOR THE LEXEME $S'H([] = \S])$

Collocations of the lexeme *s'*h with verbs of decay are not significantly documented. However, the textual sources often mention that specific treatments have already been carried out on the *s'*h:²⁰

s.jk. h^c.w=f hntt s^ch=f hn^c šms.w After his body was put back together, his s^ch passed upstream together Hr.w with the entourage of Horus.

The example text given above refers to the dead body of Osiris. According to legend, the god was murdered by Seth, who afterwards dismembered his brother's corpse. However, the goddesses Isis and Nephthys collected all the body parts and put the Osiris' corpse back together. The 'putting together' (s'k) of a corpse is in my opinion a reference to the embalming, since this action reverses the natural decay process. The once again put together (s'k) body (h'.w) of Osiris is then transported in a barque on the the Nile to be buried on the west bank. It is particularly noteworthy here that the body of the God is only called s'h after this treatment. Thus, it can be implied that the body of a deceased has to undergo a certain treatment before it can be described as s'h. Furthermore, the into a s'h transformed body seems to hold a certain kind of dignity, as the following text example shows:²¹

s'h'.tw s'h.w=sn m-b3h R' jw rmt=sn Their s'h.w are placed in front of Re, while their people are in lamentation.

As the document shows, the *s*'*h* is illuminated one last time by the sun or sun god (R') before the actual burial. The aspect of the setting up (*s*'*h*') of the *s*'*h*, which is mentioned in several textual sources, should be emphasized. According to this remark, the *s*'*h* seems to have been placed in an upright position before the burial. This circumstance can be compared with the representation of the sign A53 ($\frac{1}{2}$), which classifies the lexeme *s*'*h*. In addition, the source given above can be compared with many iconographic representations:

Fig. 3 shows a scene from the *Book of the Dead* of Hunefer. The transformed anthropomorphic corpse of Hunefer is shown in an upright position in front of his tomb. Two mourning women are in front of the corpse. Depiction (fig. 3) and textual source thus refer to the same event. In this position, the mouth opening ceremony could be performed on the corpse of the deceased, as it is shown in fig. 3.²² It is known that this ritual was firstly performed on the statues of gods, kings and deceased persons. By touching the sensory organs (mouth, eyes, nose, etc.), the statue was enabled to use all bodily functions. Later, the opening of the mouth ritual was also performed on the transformed corpse. Through the ritual, the mortal shell of the deceased should be revived.²³

^{20.} pBrooklyn 47.218.84 [x+16,3]; MEEKS 2006, pp. 35-36.

^{21.} Hari 1985, pp. 36–40, pl. 26, 68–69.

^{22.} For further corresponding representations see Assmann 2001, pp. 140, 187.

^{23.} Отто 1960, pp. 1–10.

The mouth opening ritual is closely related to the *s*h, since the lexeme designates both the externally transformed corpse and correspondingly shaped statues.²⁴ Moreover, the classifier A53 ($\frac{1}{2}$) places the lexeme *s*h precisely in this category.

In general, the lexeme *s*⁽*h*) refers to a transformed body. However, since the modern meaning of 'mummy' was unknown in ancient Egypt, I would like to suggest to translate the lexeme *s*⁽*h*) as 'figure' or 'image' in the sense of an externally transformed (anthropomorphic) manifestation of the deceased.

While the classifiers and significant collocations of *b.3.t* show that this lexeme refers to a kind of dead body potentially threatened by decomposition, the classifiers and significant collocations of the lexeme *s*^c*b* indicate that lexeme describes a dead body which can no longer decay because it has already undergone a certain stage of (an external) transformation. Both lexemes thus describe different types of dead bodies and are therefore not usually used as synonyms.²⁵

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24. The corpse transformed into a *s*^c*h* is ultimately an image of the deceased. A similar view is described in Assmann 2000, pp. 99–105.

25. Other significant classifiers and collocations as well as their significance for the conception of the lexemes $\underline{b}_{3,t}$ and s'b are presented and discussed in my thesis.

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Fig. 1. Words classified by sign Aa2.



Fig. 2. Words classified by sign A53.



Fig. 3. Scene from the Book of the Dead of Hunefer, New Kingdom, 19th Dynasty (after Taylor 2001, p. 190, fig. 133).

Sophie Richardson

Lost in Metaphor MIPVU and its Benefits for Translating Ancient Texts

The MAXIMS OF PTAHHOTEP have earnt a reputation amongst scholars as one of the most difficult ancient Egyptian texts to translate,¹ a notoriety compounded by its heavy use of figurative language. To date, only a handful of scholars, most recently Stephen Vinson in his article intitled "Go Figure: Metaphor, Metonymy and the Practice of Translation in the 'First Tale of Setne Khaemwas'",² have initiated the much-needed dialogue on the intersection between translation and metaphor, discussing how metaphor in the source language should be most appropriately translated into the target language. S. Vinson suggests a predisposition within Egyptology to favour the translation strategy of transparency, namely to privilege the grammar, syntax and vocabulary of the target language (i.e. English, German, French, etc.) over the source language (i.e. Middle Egyptian). Admitting his own susceptibility to transparency, S. Vinson remarks he unconsciously overlooked key metaphors in his initial translation of the text, simply because he had "rendered a figural expression by some banal English construction that had bleached away the colour of the Egyptian original".³ It is in this statement that S. Vinson aptly observes the grave issue arising from the application of transparency during translation: the erasure or idiomatisation of the source language's metaphors in the target language.

As recent text-based approaches to metaphor demonstrate,⁴ figurative language is often strategically selected and utilised at important junctions throughout a text by the author to persuasively illuminate, expand, and reinforce particular ideas, values, and behaviours to the intended audience. This is essential since texts belonging to the didactic genre, such as *The Maxims of Ptahhotep*, seek to persuasively instruct the audience on how to a) live a virtuous life; and b) execute their office through proper behaviour. If we understand figurative language as serving a communicative function within discourse and not as mere decorative flourish, it is imperative that metaphorical language is accurately identified and transmitted in translation to preserve an ancient text's rhetorical force and meaning.

- 2. VINSON 2014.
- 3. VINSON 2014, p. 306.

^{1.} HAGEN 2012.

^{4.} Steynor 2011; DI Biase-Dyson 2016; DI Biase-Dyson 2017.

S. Vinson thus advocates fidelity as the optimal strategy for accurately translating metaphoric language, and producing a faithful translation of the original text's meaning. For S. Vinson, fidelity corresponds with a literal translation,⁵ namely remaining as close as possible to the source language (i.e. its grammar, syntax, and vocabulary), which is achieved by a close reading of the text. However, a close reading does not provide translators or metaphor scholars with a comprehensive, consistent criteria or method for identifying and validating metaphoric language, thus complicating any subsequent evaluation relating to its interpretation and interfering with the text's meaning in translation. To address this issue, the *Metaphor Identification Procedure*, *Vrije Universiteit* (MIPVU) was developed by Gerard Steen and his colleagues (2010) to aid researchers with accurately identifying metaphors. In this paper, I will explain the MIPVU process before applying it to line 292 from *Ptahhotep's* eighteenth maxim to demonstrate how it functions and its efficacy in identifying and translating metaphoric language.

I.

THE METAPHOR IDENTIFICATION PROCEDURE, VRIJE UNIVERSITEIT (MIPVU)

The Metaphor Identification Procedure (MIP or MIPVU)⁶ was created by the Pragglejaz group, and later refined by G. Steen and his colleagues to provide "an explicit, reliable, and flexible method for identifying metaphorically used words in spoken and written language".⁷ The object of the procedure is "to establish for each lexical unit in a stretch of discourse, whether its use in the particular context can be described as metaphorical",⁸ namely when the socalled contextual meaning of a given lexical unit deviates from its basic meaning. MIP consists of the following four steps:

- 1. Thoroughly read the entire text.
- 2. Determine the lexical units in the text.
- 3. Analyse each lexical unit sequentially from the beginning:
 - a. Determine the contextual meaning of each lexical unit.
 - **b.** Using a dictionary, check for a more basic contemporary meaning than the meaning in the given context. Basic meanings are usually more concrete, embodied and/or precise.
 - c. Determine if the contextual meaning differs from basic meaning.
- 4. If yes, mark the lexical item as a metaphor.9

While the earlier MIP understood metaphor in language as a result of indirectness,¹⁰ MIPVU discerned metaphor as also being articulated through directness (the use of simile or analogy, signalled by lexical markers: like, as, more, less, more/less ... than, etc.), or implicitness (by means of pronouns, which act as substitutes for the metaphoric expression).¹¹ Another limitation of MIP was

6. PRAGGLEJAZ 2007; STEEN et. al 2010.

- 8. Pragglejaz 2007, p. 2.
- **9.** Pragglejaz 2007, p. 3.
- 10. Steen et. al 2010, p. 6.
- 11. Steen et. al 2010, pp. 10–11.

^{5.} VINSON 2014, p. 305.

^{7.} PRAGGLEJAZ 2007, p. 2.

its singular focus on the linguistic characteristic of metaphor to the disadvantage other salient and inherent qualities of metaphor, namely its cognitive orientation.¹² In this area, MIPVU improved upon its predecessor MIP by assessing the cognitive cross-domain mappings occurring between the source and target domains; the basic sense of a lexical unit corresponds to the source domain, whilst its contextual sense corresponds to the target domain.¹³ Both the basic and contextual senses are interpreted with reference to a corpus-based dictionary. If an appropriate contextual sense is found within the dictionary, the lexical entity is interpreted as a conventional metaphor;¹⁴ however, if no appropriate contextual sense is recorded within the dictionary, this raises the possibility that the lexical unit is a novel metaphor,¹⁵ and/or it is not yet attested in the textual record.¹⁶

MIP and MIPVU have traditionally been conducted with dictionaries that are synchronic and corpus-based; however, as Camilla Di Biase-Dyson correctly identifies, no lexicographic tool currently fits this exact description for Egyptologists.¹⁷ The *Wörterbuch der ägyptischen Sprache*,¹⁸ which will be used in the following explanation, is a corpus-based, but diachronic dictionary. The *Wörterbuch*, moreover, is only a bilingual 'translation' dictionary, which focuses on providing words that are adequate substitutes in another language, rather than a monolingual dictionary, providing definitions and usages for each word.

2. CASE STUDY

To demonstrate how the *Metaphor Identification Procedure* functions, it will now be applied to line 292 from *Ptahhotep*'s eighteenth maxim:

ts pw hs sti hft(.y)

It is a wretched entanglement (lit. knot), when the enemy shoots (p.Prisse 292).

In accordance with step 1 of MIPVU, maxim eighteen counsels a male audience, when in the situation as a houseguest, to refrain from engaging in a forbidden relationship with the women of the host's household as it breaches appropriate social conduct. Line 292 specifically labels the relationship negatively ("wretched"). In accordance with step 2, the individual lexical units from the example are separated with slashes indicating the boundaries between them:

/ ts / pw / bs / sti / bft(.y) /

- 12. PRAGGLEJAZ 2007, p. 2; STEEN et al. 2010, pp. 7–10.
- 13. Steen et al. 2010, pp. 11–12.
- 14. Charteris-Black 2004, p. 17; Kövecses 2010, p. 34.
- 15. Charteris-Black 2004, p. 18; Kövecses 2010, p. 35.
- 16. DI BIASE-DYSON 2016, p. 48.
- 17. DI BIASE-DYSON 2017, p. 168.
- 18. Erman, Grapow 1926–1931 (ed. 1971), cited as Wb.

At step 3, the contextual and basic meanings conveyed by each lexical unit are checked in reference to the *Wörterbuch*, and if the contextual sense of the lexical unit differs from its basic sense, the lexical unit is marked as metaphoric—step 4.

ţs

Contextual Meaning: ts generates a contextual meaning akin to "entanglement" (i.e. to become twisted together or caught in), in reference to a complicated or forbidden relationship.

Basic Meaning: As a nominalised form of <u>ts</u> "to knot, tie, weave, join together,"¹⁹ <u>ts</u> literally means "a knot."²⁰

Contextual vs. Basic: The contextual meaning contrasts with the basic meaning but can be understood in comparison to it; the abstraction of a forbidden relationship can be understood in terms of a knotted object (e.g. a rope, net, etc.).

Metaphoric? Yes.

pw

Contextual Meaning: In this context, the demonstrative pronoun *pw* grammatically functions as the logical subject of the bipartite *pw* sentence, which is invariable in number and gender.²¹

Basic Meaning: pw does not have a more basic meaning.

Contextual vs. Basic: The contextual meaning is the same as the basic meaning. *Metaphoric?* No.

₫s

Contextual Meaning: In this context, the adjective <u>*hs*</u> has the meaning "unfortunate, unworthy, miserable, vile" to describe <u>*ts*</u>.²²

Basic Meaning: <u>hs</u> has no more basic meaning.

Contextual vs. Basic: The contextual meaning is the same as the basic meaning. *Metaphoric?* No.

sti

Contextual Meaning: In this context, the verb *sti* means "to ejaculate, impregnate, have sexual intercourse,"²³ but also has another concurrent contextual sense, "to betray."

Basic Meaning: sti has the literal meaning "to shoot, throw."24

Contextual vs. Basic: Both contextual meanings contrast with the basic meaning but can both be understood in comparison to it. The abstraction of engaging in and climaxing during sexual

20. Wb V, 396.17.

^{19.} *Wb* V, 396.12–399.3.

^{21.} Wb I, 505.5–7.

^{22.} Wb III, 399.11–19.

^{23.} Wb IV, 329.

^{24.} Wb IV, 326.1–327.14.

intercourse (from a male perspective) can be understood in terms of shooting (i.e. ejaculating semen). The abstraction of betraying someone can be understood in terms of physical violence (i.e. shooting); this concept is reminiscent of the English idiom "to stab someone in the back" to connote betrayal. Metaphoric? Yes—double entendre.

hft(.y)

Contextual Meaning: In this context, $\underline{bft}(.y)$ means "an enemy, opponent," someone who is actively opposed or hostile to someone or something else and is used in reference to the houseguest.²⁵ Basic Meaning: $\underline{bft}(.y)$ has no more basic meaning.

Contextual vs. Basic: The contextual meaning is the same as the basic meaning. *Metaphoric?* No.

In summary, two out of the five lexical units in this single sentence—<u>t</u>s and sti—were identified as metaphoric, and were both used in a previously undocumented, novel manner. Applying MIPVU to the lexical units in line 292 illustrates the decisionmaking process researchers undertake when assessing the metaphoricity of a word in discourse.

3. DISCUSSION

Other translators have offered an array of translations and analyses for *Ptahhotep* 292. Five seminal translations (Table 1) are cited by way of example; it is of interest that one can discern a marked difference amongst their translations of the metaphoric words <u>t</u>s and sti.

Translators	Translations
Parkinson (1998, p. 256)	It is a vile <u>matter</u> , <u>conceived</u> by an enemy.
Moers (2001, p. 216)	Eine unselige <u>Verstrickung</u> ist es, die ein Feind <u>geknüpft</u> hat.
Junge (2003, p. 196)	Es ist eine schlimme Entscheidung, die der Widersacher einschießt.
Quirke (2004, p. 94)	It is a vile $\underline{\text{twist}}$ to $\underline{\text{shoot}}$ the enemy.
Allen (2015, p. 192)	It is a wretched <u>liaison</u> , an inimical <u>shooting</u> .

 Table 1.
 Seminal translations of Line 292 from The Instructions of Ptahhotep.

In terms of \underline{ts} , its truncated writing within Papyrus Prisse, determined solely with the book roll, has created doubt as to its exact meaning. One option, which Friedrich Junge favours, is to recognise it as the substantive $\underline{ts}/\underline{ts}$, meaning "a saying, sentence; judgement, decision; maxim, proverb."²⁶

25. Wb III, 276.12–277.5.
26. Wb V, 403.10–21.

The preferred alternative is to interpret *ts* as literally meaning "a knot." Stephen Quirke's translation as "twist" is the closest to expressing this literal meaning. On the other hand, Gerald Moers' and James Peter Allen's respective translations, "*Verstrickung*" and "liaison", duly recognise the contextual sense of *ts* as "entanglement" (i.e. to become twisted together or caught in) to denote a forbidden or complicated sexual relationship, which is not found in the *Wörterbuch*. It is from this contextual usage of *ts* as "an entanglement" that Richard Parkinson possibly arrives at his idiomatic translation "matter". In English, the word "matter" is synonymous and interchangeable with the word "affair", which has the overt connotative meaning "a romantic or sexual relationship [...] one that is carried on illicitly, one or both partners being involved in a relationship with another person."²⁷ However, this idiomatic translation does not effectively capture the contextual sense evoked by the metaphoric use of *ts*; therefore, it is an unsuitable translation of *ts*.

Regarding the translation of sti, F. Junge and S. Quirke give no indication that the lexical unit is recognised as having a metaphoric meaning. In contrast, R. Parkinson, G. Moers, and J.P. Allen identify sti as having the conventional contextual sense "to ejaculate, impregnate, have sexual intercourse."28 However, R. Parkinson's translation "conceived" is an outlier amongst the five translations. Whilst this particular word choice tries to evoke *sti*'s metaphoric meaning "to ejaculate, impregnate," it also strongly implies the mental formulation of an idea or plan; a modern nuance that poorly reflects the contextual sense of sti. J.P. Allen, moreover, acknowledges sti as possessing an additional meaning, namely the novel sense "to betray," which is not recorded in the dictionary. Consequently, J.P. Allen interprets sti as a double entendre, which plays on the social and sexual relations between the guest, the host and the host's female kin. Interestingly, as G. Moers' translation suggests, the theme of entanglement is perhaps not solely restricted to the image evoked by ts but is also brought to mind by sti. Although no such association between sti and the meaning of "knot" is recorded in the *Wörterbuch*, a correlation is substantiated by R. Hannig's eighth dictionary entry for sti: "knüpfen, knoten".29 If the image of the knot does indeed pertain to sti as well as ts, this connection adds another subtle level to the metaphoricity of the passage, which has been deliberately implemented to reinforce the veracity of the maxim; engaging in an illicit sexual relationship with the women of the host's household negatively complicates your own relationship with the host.

Although these five translators were not using MIPVU, some were still able to identify the metaphors in *Ptahhotep*'s line 292; however, the identification rate was neither high nor consistent. Missing the identification of the text's metaphors has significant unforeseen consequences for its translation. Metaphor research, both inside and outside Egyptology, has, until recently, underestimated the serious rhetorical importance of metaphor, a position undoubtedly originating from the cognitive paradigm of equating the rhetorical function of metaphor to mere 'ornament'.³⁰ In contrast to this assertion, it is important to understand that metaphors reflect "the linguistic choices that realise particular rhetorical intentions within a particular context".³¹ That is to say, metaphors are

- **29.** Hannig 1995, p. 777b.
- **30.** Lakoff, Johnson 1980, p. 3.
- 31. Charteris-Black 2004, p. 8.

^{27.} The Oxford English Dictionary, s.v. "Affair".

^{28.} Wb IV, 329.

strategically chosen and used by the author in order to reveal, reinforce, and endorse particular ideas and objectives. In *Ptahhotep* 292, the deliberate metaphoric use of <u>ts</u> and <u>sti</u> reinforces to the audience that, if in the position of a houseguest, one should not engage in an illicit sexual relationship with the host's female kin, as it will place the houseguest in an awkward, 'knotty' situation with the host. The line reflects a deliberate doubling up and intensification of a metaphoric image in the selection of words. Yet, the fullness of the meaning created has been lost when translators do not have the means to identify metaphoric language and instead offer idiomatic translations. As a result, this reduces and erases any evidence that passages were originally metaphoric, as well as depletes the ancient author's rhetorical force communicated through deliberately chosen figurative language.

CONCLUSION

Egyptologists need a method that enables the accurate identification and transmission of metaphoric content in ancient texts, which can be achieved through the use of MIPVU. As the case study of *Ptahhotep* 292 demonstrates, in proscribing a set of explicit steps, MIPVU is an adaptable tool for identifying words that are used metaphorically, and more significantly, provides the translator a sound foundation for justifying their intuitions relating to figurative language. Due to its explicitness, MIPVU allows scholars to pinpoint the locus of their disagreements regarding the identification and translation of metaphor.

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The Ancient Egyptian Aetiological Model st.t

H Ow CAN we re-access Egyptian perspectives of inner-body "physiology" and healing? In the field of Ethnomedicine—"an area of anthropology that studies different societies' notions of health and illness"¹—the principle of "explanatory models" (EMs) developed in the 1970s continues to be used. As "bad health leads people to speculate how they got sick, how it will affect them, and what they can do to make it better," it is speculated that EMs are formed by "integrating idiosyncratic thoughts and circumstances with the popular illness ideologies of their culture."² Although—as Ulrike Steinert³ points out—contemporary medical anthropology has moved away from identifying EMs,⁴ they "may still provide a framework for the medical historian to describe different disease aetiologies in the textual sources."

A well-known model of the inner body can be found in Ebers Papyrus⁵ (Eb.) $854-5^6$ —"knowing the goings of the heart-*h3tj*." This maps the "conduits" (*mt.w*) of the body and their functions.⁷ However, that this was the only pervasive model governing healing techniques should be considered unlikely. This short paper summarises selected results gained from a re-investigation of the related classifications *r3-jb* and *st.t* to highlight this point.⁸

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- 1. QUINLAN 2016.
- 2. Kleinman et al 1978; Kleinman 1980; Quinlan 2016.
- 3. Steinert 2021, p. 6.
- 4. See Hsu 2012, pp. 52–53.
- 5. Dated to ca. 1550 BCE.
- 6. Cf. Eb. 856 and p. Berlin 3038 163.
- 7. For a recent translation, see POPKO 2021.

8. This presentation was originally given by the author at the ICE XII, Cairo under the title: "Ethnomedical Theory in Ancient Egypt: Explanatory Models and Their Historical Contextualisation—a Case Study of r3-jb and st.t", (07/11/2019). It included a fuller discussion of r3-jb, a partial summary of which can now be found in RUSSELL et al. 2021. It also included translations and a discussion of tablets from ancient Mesopotamia. The comparative aspect of the discussion has been left out of this paper and will be published with the PhD dissertation. For this reason, the current title better fits the scope of this paper.

R3-JB – THE THOROUGHFARE OF THE *JB*(-METAPHORICAL)-HEART

In the introduction to an edited volume from 2010, Annette Imhausen and Tania Pommerening⁹ drew attention to the challenges faced when translating ancient scientific texts. Making reference to the popular translation of *r3-jb* as "stomach," they argue that this was "a translation which was established based on the symptoms of some diseases," which "does not adequately express the Egyptian concept anatomically or physiologically." They further state that "the literal translation, 'opening (mouth) of the *jb*-heart' will mislead a modern reader if it is not explained what it is that happened from the ancient Egyptian point of view." The translation "stomach" was adopted in most translations of the Egyptian healing papyri in many Western languages.¹⁰ Attempts to move away from this translation were posited by both James H. Walker¹¹ who identified it as the "thorax" or "chest," and Thierry Bardinet, who chose the aforementioned literal determination "l'entrée de l'intérieur-*ib*."¹² Despite these attempted departures, the new translations of ancient Egyptian scientific texts appearing online on the *Science in Ancient Egypt* website of the Sächsische Akademie der Wissenschaften zu Leipzig retain the translation "*Magen*," with a footnote stating the website follows the "Communis opinion."¹³

The term $r_{J}jb$ itself is a compound-noun, composed of two elements: r_{J} "mouth, opening,"¹⁴ and jb"(metaphorical)-heart."¹⁵ As noted by J.H. Walker, in Egyptian, "a mouth (r_{J}) comprises not only its opening (the lips) but, much more importantly, the entire oral cavity."¹⁶ It is from this that he extracts his more literal translation "cave (or room) of the heart." However, when we explore other compound nouns in which r_{J} is the first component, the notion of an enclosed entity as coded in the term "cave" becomes less evident. In topographical classifications such as r_{J} -hnw "Wadi Hammamat"¹⁷—a corridor of over 200km connecting the Nile Valley to the Red Sea, or r_{J} - s_{LJ} .w "Rosetau"¹⁸—the region of the netherworld through which the solar barque of the sun god Re is dragged, it becomes apparent that the " r_{J} -X paradigm" of classification is less spatially-restricted than the English "cave." For this reason—among others—¹⁹ the translation "thoroughfare of the jb" is deemed more fitting.

When one examines the contents of the r3-jb textual unit within the Ebers Papyrus (Eb. 188–220),²⁰ it can be noted that the titles of the *Lehrtexte* (Eb. 188–207) are variants of the formula *jr* b3i-k *sj* br *mn* sn^c r3-jb-f "if you examine a man suffering from an obstruction of his r3-jb." In the diagnostic clauses of these texts the obstruction or cause thereof is specified, ranging from food inertia to

- 10. Examples include: Ebbell 1937; Von Deines, Westendorf 1961; Westendorf 1999; Radestock 2015.
- 11. Walker 1996, p. 127.
- 12. BARDINET 1995, passim.
- 13. Рорко 2021.
- 14. Wb 2, 389.1–391.13.
- 15. This paper follows the most recent thorough evaluation of this term, in NYORD 2009, pp. 57-61.
- 16. WALKER 1996, p. 129.
- 17. Wb 2, 398.1.
- 18. Wb 2, 398.9–399.1
- 19. See Russell et al. 2021; Russell 2019.

20. A 'unit' of text is here defined by the application of heading markers, such as *h.3.t-' m* 'here begins' within the Ebers Papyrus, see POMMERENING 2017 for a detailed overview of the units of texts within the Ebers Papyrus.

^{9.} Imhausen, Pommerening 2010, p. 3.

"knottings" (\underline{ts}) of various substances such as blood. This theme continues in the recipe section where conditional symptom and diagnosis clauses are not present (Eb. 208–220). Despite previous translations and interpretations of these as references to constipation (or *Verstopfung*),²¹ the texts indicate instead a model more complex, in which a plethora of symptoms—ranging from pain in the shoulder (Eb. 191, 194), inflamed eyes and running noses (Eb. 192, 195, translated below), and back pain (Eb. 200) to discomfort in the legs (Eb. 206) and digestive problems in the lower body (Eb. 207)—²² were seen as being caused by an obstruction. Several *Lehrtexte* imply that making the obstruction "descend" (*hsi*) would restore health (Eb. 188, 191, 192, 194, 195, 198, 203, and 207).²³

2.

THE ANCIENT EGYPTIAN AETIOLOGICAL PRINCIPLE ST.T

One of the causal agents mentioned in these texts is $f_{a_1+1}^{\circ}$, $f_{a_2}^{\circ}$, $f_{a_3}^{\circ}$, $f_{a_4}^{$

TEXT 1: EB. 192 (COLS. 37, 17-38, 3)30



- 21. E.g. RADESTOCK 2015.
- 22. See Russell et al. 2021; Russell 2019.
- 23. See RUSSELL et al. 2021.
- 24. Dawson 1934, pp. 185–186.
- 25. Von Deines, Westendorf 1961-1962, pp. 812–814.
- **26.** Nunn 1996, pp. 62–63.
- 27. Ebbell 1937.
- 28. For a more recent summary of past scholarship, see RADESTOCK 2015, pp. 165–169.
- 29. Рорко 2021.
- 30. Cf. Eb. 195, cols. 38, 17–39, 2.

jr bji*k sj hr mn r3-jb*f jw*f q3s*f 'š3 jr gm*k st hntj r h3.t*f jw jr.ty*fy šsm.tj jw fnd*f thb*f dd.hr*k r*f shw3.w pw n.w st.t*f nj h3i.n<*f> r nph.w*f m st.t *f jri.hr*k n*f šns n sw.t s'm r '3.t wr.t rdi dbh hr*f mh(.w) m hd.w hn' sj3rr*f m hnq.t jwf dd3 n jh wnm.jn sj s'm.w m hnq.t n.t h'w h.t r wn jr.ty*fy r sb hnt(.y)*f h3<.y> m st.t

If you examine a man suffering from his *r3-jb* and he vomits a lot, should you find it a catarrh(?) (*bntj*) at his face, his two eyes inflamed, and his nose running, then you have to say: it is what causes the rotting of his *st.t*; it cannot descend to his groin in his *st.t*. You have to make for him: *šns*-cake of wheat, wormwood to great amounts, place a *dbb*-vessel with it, fill with onion, and weaken(?) (*sj3rr*) with beer, and the fatty flesh of a cow, then the man eats; to be swallowed with *b3w-bt* beer so that his eyes open and so that his catarrh(?) goes, descended with the *st.t*-bodily-fluid.

In this text, the notion that *st.t* could refer to mucus is perhaps most evident; while the translation of *bntj* as catarrh is by no means certain, its association with inflamed eyes and a running nose could be argued as suggestive of symptoms where excess "mucus" is observable. Regardless of any identification, *st.t* is the causal agent. While not evidently malignant on its own, the text suggests that *st.t* becomes so when something causes it to "rot," implicitly during stagnation. Ultimately, this passage suggests that were the decay able to descend towards the *nph.w* "groin(?)"³¹ "in his *st.t*," the patient would not be suffering. A treatment is prescribed³² for this very specific circumstance, to be administered "so that his eyes open and his catarrh(?) goes, descended in his *st.t.*" While it is not impossible to imagine that the Egyptian perspective was grounded in embodied cognition—for example, the sensation of phlegm being driven up toward the throat and triggering the swallow reflex, which the Egyptians could have seen as then needing to be driven downwards in the body (towards the *nph.w*) without hindrance—this speculative association between human reality and the symptoms listed becomes less pronounced in other texts. For example, in Eb. 206 we read:

31. *Wb* 2, 249.13–17.

32. Discussed in RUSSELL et al. 2021.

TEXT 2: EB. 206 (COLS. 41, 21-42, 8)

jr $b_{ji} k_{jj} pr(.y) sn'n r_{jj} b_{fj} y b_{f'} w_{fq} sn$ 'q n=f wnm.n=f t nb jw bns sw3(.w) br r_{jb=f} jw mn=f w'r.ty=fy dbb.w<=f> nn mn.ty=fy jr b_{ji} k sw gmm=k r_{jb=f} db3(.w) mj sj.t bwi.n=s wnn.w jw br=f bm33(.w) dd.br=k r=f sn' pw n st.t 'q r=f m bt sw jri.br=k n=f sp.w n.w s(š)t3 r-br(.w) swnw wp.t(w) s_{J}t=k ds=k: jt w_{3}d nn w_{3}i.t=f psi.w br mw nn rdi.t 3fry=f prr=f m b.t r 3mj=f br jny.t n.t bnr 'tb.w swr.w r brw 4 r snb=f br '.wy

If you examine a man who has an obstruction of his r3-jb and his metaphorical heart flutters(?); (it is) difficult to approach him after he has eaten any food (lit.: bread), as the narrowing has passed upon his r3-jb and he suffers from both of his legs and the *dbb.w*-body-part, (though) not his thighs. When you examine him and find his r3-jb clogged like a woman who has struck a child (in the womb) and his face convulses(?), then you have to say: It is an obstruction of *st.t*—compete (lit.: enter) against it! Do not abandon him! You have to make for him a "secret means of (going) downward"(?) of physician that will open (even?) your own daughter: fresh barley; without drying it, heat it with water without letting it boil; it will emerge from the fire, so that it is mixed with date kernels;³³ to be strained and drunk for four days, so that he recovers swiftly.

This text exhibits another kind of condition which can arise from the *r3-jb* being obstructed by *st.t.* The severity of the patient's condition is expressed in both the comparative and imperative clauses.

33. For a discussion of this processing method, see RUSSELL et al. 2021.
Though the precise nature of this condition is again obscure for a modern audience, it is clear that the symptoms bear very little semblance with those of Eb. 192 and 195, and in extension, any potential physical observation of phlegm/mucus in the symptoms described is less evident.

Further on in the internal conditions section of the Eber Papyrus, another unit of texts is identified as consisting of recipes for treating *st.t* (Eb. 294–304): *b.t.c m pbr.t n.t sh3y.t st.t m npb.w* "starting with a remedy of causing that *st.t* descend from the *npb.w*-("groin?"). This first text is more descriptive of the ingredient used rather than the condition itself; the user is instructed to rub a plant on the groin(?) (*npb.w*) to encourage *st.t* to descend (Eb. 294). This passage reads as though it were extracted from an herbal.³⁴ The second text in the unit describes a suffering of the arms, the neck, and the head – the *st.t* is stated to have knotted in the patient's neck, and a make-up (*sdm*) is prescribed for recovery (Eb. 295). The third is somewhat different altogether:

TEXT 3: EB. 296 (COLS. 51, 19-52, 1)35



k.t jr

mJJ=k hr.y st.t m nqw nht h.t=f hr=s jw=f mn=f rJjb=f wnn st.t=f m h.t=f n gm.n=s wJ.t n.t pri.t n gr.t wJ.t pri.t jyi(.t)=s jm=s hwJ.hr=s m h.t=f n pri.n=s hpr(.y)=sy m hsb.t tm.hr=s hpr m hbs.t r hpr=s m wnn m.t wšš jn=f sy ndm.{t}jn=f hr-c jr tm=f wšš s.t m hsb.t jri.hr=k n=f sp.w n.w wšš r ndm=f hr-c

Another: if you observe that someone with *st.t* (which) is painful(?) (lit.: "cutting") and his abdomen is (particularly?) strong with it, he suffers from his *r3-jb* as his *st.t* is in his abdomen. It cannot find an exit (lit.: "coming forth") path. Moreover, (when) there isn't an exit path coming from him, it inevitably rots in his abdomen. After it cannot exit, it turns into *hsb.t*-worms, and has to complete

34. See Betrò 1988.

^{35.} See also Eb. 102, col. 25, 3–8.

the transition into *hsb.t*-worms so that it becomes something which is dead. He then excretes it and then he is soon comfortable. If he does not excrete it as *hsb.t*-worms, you have to make for him a means of excreting, so that he is soon comfortable.

This text is unusual as it does not contain a remedy. It instead explains a particular pathogenesis from an Egyptian perspective. In this text, we again see that *st.t* is perceived as something which needs to run downward through the body and exit without hindrance. The patient suffers if this is not the case, as the *st.t* rots and the rotting *st.t* then becomes worms—it is during this transitional period that the patient is said to suffer. If the transition completes and he excretes the dead worms, he recovers; if he does not excrete the dead worms, he presumably continues to suffer until the worms are removed. This exhibits a clear model, in which the perceived transformative process is used to explain the phenomena of suffering, the visible "pathogen" (likely worms in excrement), and the purpose of the treatment.

The text which follows (Eb. 297) contains a simple recipe instruction headed by: *k.t n.t dr st.t m <u>b.t</u>* "another of removing *st.t* from the abdomen." From its contextual placement, this may have been used to treat the condition described in Eb. 296; however, were Eb. 296 not to immediately precede this text, any underlying model would be far harder to extract, if not impossible.

CONCLUSION

From this limited selection of passages, it is evident that *st.t* represents an explanatory model of illnesses which is more complex than the modern terms "mucus," "phlegm," or "secretion" betray without explanation; it is best translated "*st.t*-fluid." The texts discussed in this paper show that *st.t* represents a perception of bodily processes, characterised as a substance which typically flows through the body unhindered—here the *r3-jb*, or "inner thoroughfare." The symptoms described in these excerpts are thus said to be caused by a disruption of a bodily process. In the first example (Eb. 192), this is initiated by "something which causes *st.t* to rot;" in the second, an obstruction of *st.t* is responsible for discomfort in the lower body; and in the third, an obstruction and subsequent transformative process explain the genesis of worms and discomfort in the abdomen. In these three examples, a principle emerges in which the mitigation or eradication of afflictions are achieved via recipes which are thought to promote the regular flow of *st.t* through and out of the body. The examples studied here shed further light on an Egyptian perspective of "pathogenesis," contributing to the plethora of motivators for the ancient selection of treatment strategies.

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The God Anubis The Keeper of Medical Papyri Concerning the *whd.w*

THE ROLE OF DEITIES has been investigated through many sources, mainly religious, ritual, mythological, and cosmological. Sometimes, this analysis entails a banalization of the role of divinities, especially when it relies on medical texts. In fact, these sources are primarily studied in order to understand, on a philological and medical basis, remedies and illnesses quoted therein, and not for their magical aspects.¹ Instead, further information can be extrapolated about supernatural beings and the role that magic had in supplementing medicine (particularly, when the nature of illnesses was not completely understood by the ancient Egyptians).

This paper specifically aims at re-examining the figure of the god Anubis in light of medical texts, along with his specific role associated to the demonic 'entities' called *whd.w*.

I. DEITIES IN MEDICAL TEXTS

Since a specific border between medical and magical texts is not clear, understanding the medical sources is complex. Usually, scholars established a clear separation, given by the presence of peculiar sentences, e.g. instructions of the physician to treat the patient, such as "If you treat/examine a man..." (in diagnoses)² or "you shall do for him" (to prescribe remedies or provide the physician with therapeutic indications).³ In addition to these expressions, some passages show the presence of several deities, invoked to help the physician and his assistants;⁴ this feature makes these documents very close to magical texts. In general, it looks like scribes were using adapted or local versions of

3. The two forms *sdm.hr=f* and *sdm.in=f* are attested.

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^{1.} A comprehensive study about the role of deities and demons in medical texts will be presented in the forthcoming publication of my PhD thesis: To Fight the Supernatural, Between Drugs and Ritual Practice: A New Approach in Understanding New Kingdom Medical Papyri ("Sapienza", University of Rome).

^{2.} This sentence is widely attested in the *incipit* of many treatments, specifically in Pap. Edwin Smith to explain peculiar symptomatology, for example on r 2,2–11 (ALLEN 2005, p. 74).

^{4.} Medical texts quote also other figures, such as the exorcist (Pap. Louvre E 32847—henceforth Pap. Louvre—, vs 18,6–10), the magician (Pap. Ebers 854a; Pap. Louvre vs 18,6–10), the lector priest (Pap. London BM EA 10059 no. 60, according to Leitz's edition; Pap. Louvre r x+15,2–5), the pure priest of Sekhmet (Pap. Ebers 854; Pap. Ebers 855h; Pap. Smith r 1,1–12), and the *sem*-priest (Pap. Hearst 216 = Pap. Louvre vs 23,4–7). Nevertheless, the collaboration between these experts is vaguely explained only in Pap. Louvre.

myths to bring back illnesses into the divine sphere;⁵ since humankind suffers the same illnesses as the divinities, it can therefore use similar remedies. Quotations of deities in medical texts do not follow a specific scheme: divinities can appear at the beginning, in the middle, or at the end of a spell. Nevertheless, it is important to consider that they are called to act when the danger is particularly noxious. Therefore, the presence of deities is strictly linked to the context of each formula, which must be analysed singularly.

ANUBIS: ONLY THE GOD OF MUMMIFICATION AND PUTREFACTION, OR SOMETHING ELSE?

The god Anubis is quoted six times in medical texts: 1) once in Pap. Ebers; 2) once in Pap. Berlin 3038; 3) four times in Pap. London BM EA 10059. According to some scholars, such as John F. Nunn and Carol Andrews,⁶ his presence would be generally linked to the concept of putrefaction and mummification,⁷ especially referring to the two parallel texts in Pap. Ebers no. 856a and Pap. Berlin 3038 no. 163a:⁸

Pap. Ebers no. 856a (103,I-2): The beginning of the manuscript concerning the peregrination of *whd.w* in each part of a man, as found in texts under the feet of Anubis in Letopolis. It was delivered to the Majesty of the King of Upper and Lower Egypt Usuphais, justified.

Pap. Berlin 3038 no. 163a (15,1-5): The beginning of the manuscript collection about the peregrination of *whd.w*, found in ancient texts in a box carrying texts under the feet of Anubis in Letopolis at the time of the Majesty of the Upper and Lower Egypt Usaphais, justified, after he became weak. (This book) was delivered to the Majesty of the King of the Upper and Lower Egypt Sendi, justified, for its excellence [...].

These two spells tell about the *incipit* of a manuscript related to *whd.w*, a kind of pain, not welldefined, but clearly causing decay in the sick person.⁹ These manuscripts are reported to have been found under the feet of Anubis in Letopolis. Even if the passage in Pap. Berlin is more detailed, the content is almost the same: medical texts are uncovered under Anubis' feet in Letopolis. As suggested by Wolfhart Westendorf, this indication does not refer to the actual legs of the god

^{5.} Maybe in the case of Pap. Ebers 811 = Pap. Louvre r x+10,5-11.

^{6.} Nunn 1996, pp. 61–62; Andrews 1984 (ed. 1998), p. 16.

^{7.} The etymological connection of the god's name with the verb *inp*, "to putrefy" (attested on a 12th Dynasty coffin from Bersha), would strengthen this interpretation (LACAU 1907, p. 157, côté 4, l. 87; the text reads: *m inp* $m rn^{2}k pw n inp.w$).

^{8.} Following translations by the present author.

^{9.} According to Robert O. Steuer (1948), the idea of putrefaction and embalming is related to whd.w because of the determinative Aa2; from this hypothesis, scholars such as J.F. Nunn have linked whd.w to this meaning. Nevertheless, Kamal Sabri Kolta and Heinrich Tessenow (2000, p. 42) explain that the determinative cannot exactly describe the meaning of a word, but only point out a possible category it may belong to. Thus, it would be preferable to connect the term whd.w to the idea of pain, based on the other occurrences of the word (and the verb which it derives from) outside the medical sphere.

but to the feet of a statue,¹⁰ maybe in a temple dedicated to Anubis or in a shrine of the same god within the temple of another deity.¹¹ According to the royal names reported in these two passages, namely Usaphais and Sendi, these medical texts would be more ancient than the extant version of Pap. Ebers and Pap. Berlin 3038.

As for the *whd.w*,¹² this word is never clarified in ancient *glossae*, neither do textual references allow us to definitely understand the actual nature of these entities. Thus, scholars have advanced many interpretations: *"syphilis"*,¹³ *"Eiterkrankheit"*,¹⁴ *"gonflement douloureux"*,¹⁵ an "aetiological principle",¹⁶ *"Schmerzstoffe"*,¹⁷ "pain",¹⁸ "tossiemia",¹⁹ "pathogenic" *whd.w*,²⁰ a disease (maybe atherosclerosis),²¹ until the more recent interpretation as *"Leidensmacher"*.²² Anyhow, this entity is clearly linked to the idea of pain in the body. As mentioned above, J.F. Nunn suggested that *whd.w* should be recognised as a morbid principle, related to the idea of putrefaction and the embalming process guarded by Anubis. Nevertheless, this hypothesis is only partially complete, because there are medical/magical spells directly linked to Anubis and the embalming sphere, clarifying exactly the role of the god in these texts.

In particular, Pap. London BM EA 10059 mentions Anubis four times: three of them (nos. 27, 29, and 30) help in preventing female bleeding,²³ which might cause miscarriage; these passages specifically quote bandages:²⁴

L. 27 (IX, 7–9): I am that Anubis, who dams a dam. [I] am Anubis, through me is Isis released, my arms [...] my bandages. Turn back! Isis comes forth, to shoot with (?) you. This incantation is to be spoken over a bandage [of] fine linen. This incantation is to be written on it in its entirety, and given to the woman $\langle at \rangle$ her abdomen (*phwy*).

- **13.** Richter 1909, pp. 78–83.
- 14. Ebbell 1938, pp. 16–18.
- 15. Jonckheere 1944.
- 16. Steuer 1948, p. 21.

17. Deines, Westendorf 1961, pp. 207–215; Ghalioungui 1966, pp. 44–45; Ghalioungui 1987, p. 278; Westendorf 1999, p. 329.

- 18. FAULKNER 1991, p. 68.
- **19.** Cosmacini 2015, pp. 28–29.
- 20. Estes 1989, pp. 82–83.

- 22. Kolta, Tessenow 2000, pp. 38–52.
- 23. Numeration according to LEITZ 1999.
- 24. Following translations as in LEITZ 1999, pp. 68-70.

^{10.} Westendorf 1999, p. 125.

II. In Porter-Moss, there is no archaeological evidence about the presence of Anubis' cult at Letopolis. Nevertheless, GOMAA 1980 states that such a cult would have existed; Joachim Friedrich Quack argues only for the presence of a statue in this city (personal communication).

^{12.} Wb I, 356. 9–12.

^{21.} I acknowledge Hedvig Győry who, during the "3rd International Conference on Pharmacy and Medicine in Ancient Egypt" (Barcelona, 25th–26th October 2018), presented her thesis about *whd.w* and allowed me to add unpublished information in my PhD thesis.

L. 29 (IX, 14–X, I): Another incantation to repel bleeding: Anubis comes forth, to drive back the Nile flood from treading the sanctuary of Tait. What is in it is protected. This incantation is to be spoken over linen of r_3 - i_{33} .t-weave, made into an amuletic knot and placed into the inside of her vulva.

L. 30 (X, I-2): To repel (evil) activity (?) of a dead person or of a god [by] the magic power of Anubis. The Nile flood encroaches on the sandal of Tait. There will be left (intact?) what lies within. Words to be spoken, when you have placed two knots of linen of *r3-i33.t*-weave at the opening of the inside of her vulva, to drive away the deeds against her.

Tait, the goddess of embalming bandages, is mentioned here to reinforce the association between Anubis and the mummification. Furthermore, L. 30 refers to the evil action of a dead person fought by Anubis with his 'magic power'. The last spell in Pap. London no. 22, against night blindness, shows a renovated correlation between Anubis and dead people, 'found' by this god:

L. 22 (VII, 8–VIII, 1): Incantation for night blindness: O dead male and female, who cause the night blindness and veiling of my eyes: you should not cause me night blindness, veiling and poor sight. Anubis [...] when he had found there a dead male or female, etc. as [...] he [...] *d.3.t* of Osiris, who swallows [...] *wry.t*-canal (?). That night of [...] dead male or female, etc. [...] saying [...] delay. May you place yourself before me [...] Indeed, Thot is beside [...] They see this your name [...] you are there and you shall see. [This incantation is to be] spoken [four times over] a jackal and a *wedjat*-eye, drawn in... [...] To be added to it in beer and [...] or ... To be rubbed into his eyes with the hand of the one suffering night blindness. Then he will see at once.²⁵

Besides the *lacunae* in previous passages, Anubis is clearly linked to his role of guardian of the Netherworld,²⁶ in leading dead/damned people back to the *Duat*.

2.

WHD.W AND WHD.T: REAL ILLNESSES OR DEMONIC PRESENCE?

Pap. Ebers presents three incantations (nos. 131, 242, and 385) to chase away the evil action (*s.t-*^c) of deities, male and female dead, *whd.w* and *whd.t*. The presence of *whd.w* among other supernatural beings suggests that the ancient Egyptians perceived them as entities of similar nature, maybe demonic beings causing pain. This idea is openly showed in Eb. 131, an incantation specifically addressed against *whd.w*²⁷

Eb. 131 (30,6–17): Spell (for) the *whd.w*. Really, there are the *whd.w* that come out from *bhn* (*sp* 2). A papyrus book, not written by my hands. I destroy Busiris, I demolish Mendes. I will go out towards the sky and I will see what is going on there. Something will not be done in Abydos to fight

^{25.} Leitz 1999, pp. 64–65.

^{26.} Goedicke 1993, pp. 67–69; Newell 2015, pp. 22–25.

^{27.} Translation by the present author.

the malefic action of a male deity, the malefic action of a female deity, the malefic action of a *whd.w*, the malefic action of a *whd.t*, the malefic action of a damned man, the malefic action of a damned woman, <u>continue as you wish</u>, the malefic action of all bad things that are in this my body, in this my flesh, in these my limbs. But if it fights against the malefic action of a male deity, the malefic action of a *whd.w*, the malefic action of a *whd.t*, the malefic action of a damned man, the malefic action of a *whd.w*, the malefic action of a *whd.t*, the malefic action of a female deity, the malefic action of a *whd.w*, the malefic action of a *whd.t*, the malefic action of a damned man, the malefic action of a *damned* woman, <u>continue as you wish</u>, the malefic action of a damned man, the malefic action of a damned woman, <u>continue as you wish</u>, the malefic action of all bad things which are in this my flesh, in this my body, in these my limbs, I will not say, I will not repeat (the spell), I say: "Spit! Vomit! Die!" <u>Words to be said four times while you spit on the</u> ill part of the man. Really excellent, a million times.

In this passage, there is the need to spit on the ill part of the body to make the spell effective; in popular belief, this practise has two goals: 1) if the spit is not on the person, it is a good *omen*, helping in chasing away the evil eye from an unlucky man;²⁸ 2) on the other hand, if someone spits directly onto a person, this shows his disdain.²⁹ In Eb. 131, the latter aim seems more suitable. There are no other passages describing the physician, or the person in charge of the treatment, spitting on someone. This entails noteworthy doubts: if *whd.w* are real illnesses, why cure the patient by spitting? And why did the ancient Egyptians distinguished between male and female *whd.w*? In my opinion, it is not a coincidence that these beings are quoted among the dead and deities provoking a *s.t-^c*.³⁰ Instead of considering *whd.w* as illnesses (not identified with a specific ailment), I understand them as a supernatural evil to be chased away through a purification ritual.³¹ Further remedies and spells of Pap. Louvre E 32847,³² hint at a strict correlation between *whd.w* and under-skin ulcers: this equivalence could explain how the ancient Egyptians considered the *whd.w*: a pain matter lying under the skin of the sick person. Notwithstanding this, from an emic point of view, *whd.w* and *whd.t* were evidently equated to deities and dead people.

3. WHO WAS THE SICK PERSON?

According to Hans-Werner Fischer-Elfert,³³ the physician needed to immunise himself before the therapy, to avoid supernatural evil actions. This immunisation suggests that the patient, when sick, became a gate to the Netherworld; for this reason, the therapy specifically aims at closing this

^{28.} This practice is even today spread in Sicilian or Calabrian hamlets. It is also attested in Greece, Romania, Moldova, India and Pakistan.

^{29.} In the *Tale of Sinuhe*, this practice is attested too: when the main character meets Ammunanši, he reassures him that nobody had spitted on his face, proving to be a good person, not disdained by people (ALLEN 2015, p. 78, B40-4).

^{30.} E.g. Eb. 385.

^{31.} BARDINET 1995, p. 128, based on other scholars such as Robert O. Steuer and John B. de C.M. Saunders (1959, p. 4), defines *whd.w* as *materia peccans*, which can be connected to purification rituals.

^{32.} In particular, r x+25,3-8; r x+31,21-vs 1,2; vs 1,2-7; vs 2,21-3,11; vs 4,1-4; vs 4,6-11; vs 5,1-8; vs 8,1-6 (according to BARDINET 2018). A comprehensive study about these texts will be presented in the forthcoming publication of my PhD thesis.

^{33.} FISCHER-ELFERT 2005, p. 138.

gate opened by the disease. As Anubis is the protector of the Duat, and taking into account the spells of Pap. London BM EA 10059 showing him chasing away dead people, it is possible that Anubis was the keeper of texts about *whd.w* because they fit his peculiar jurisdiction.

CONCLUSIONS

To sum up, a sick person would be transformed into a gate between the Duat and the living world. For this reason (beyond the actual illnesses affecting him), many deities, dead people and demons attacked the patient; as a consequence, the physician had to immunise himself with protective spells before the therapy. Further, *whd.w* and *whd.t*, felt by ancient Egyptians to be a demonic presence coming from the Underworld, afflicted the sick person; Anubis, the protector of the Duat and more generally the god of the dead and mummification, was consequently also the keeper of medical texts concerning *whd.w* and entities coming from the realm he was concerned with; this connection definitely helps to clarify the peculiar role of Anubis within the medical sphere, and his relation to *whd.w* and entities of the Duat.

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The Second Half of the "Teaching of Hardjedef" in Fact Well Known

I.

CURRENT STATUS OF THE "TEACHING OF HARDJEDEF"

Until recently, the teaching assigned to Kheops's son Hardjedef (or Djedefhor) was known only from 20 ostraca of the Ramesside period and a wooden tablet from the Late Period.¹ Its origin is supposed to go back to the end of the 11th Dynasty² or the late Middle Kingdom/ Second Intermediate Period.³ The text was reconstructed with eight paragraphs and 75 verses.⁴ The end of this teaching was not easy to establish from the poor sources, as the list of researchers and text reconstructions can demonstrate.⁵ Until now, it is believed that the second part of Hardjedef has not been found yet or that this teaching was much shorter than comparable wisdom texts.

2. THE COLLECTION OF WITNESSES FOR LITERARY TEXTS FROM ASYUT

The Asyutian rock tomb N13.1, discovered in 2005, has become well known for its many inked visitors' texts, including many copies of literary works.⁶ The total number of ink graffiti (*dipinti*)

* Mainz.

2. RITTER 1999, p. 46. Vanessa Ritter is going to publish a new edition of this teaching.

3. QUIRKE 2004, p. 171. Cf. also VERNUS 2010, p. 78.

- 4. PARKINSON 2002, p. 313.
- 5. Cf. Verhoeven 2020, vol. I, pp. 57–67, 247–255.

6. The documentation and analysis were part of the cooperative "Asyut Project" (https://www.aegyptologie.unimainz.de/the-asyut-project-feldarbeiten-in-mittelaegyptenfieldwork-in-middle-egypt/). Many thanks go to the German Research Foundation, the Egyptian Ministry of State for Antiquities, our colleagues from Sohag University, and especially to Jochem Kahl from Free University Berlin for their cooperation and support.

The collaborative publication of these graffiti (better called "*dipinti*") with documentation, transliteration, translation, and an overall analysis of the entire material until Islamic times has taken place shortly before the deadline for this paper: VERHOEVEN (ed.) 2020.

^{1.} Synoptic text edition by HELCK 1984; history of earlier research and remarks about the reconstruction of the fragmentary sources by BLUMENTHAL 1992, p. 234; recent list of sources in PARKINSON 2002, p. 314, n. 21. Cf. also BURKARD, THISSEN 2003 (ed. 2015), pp. 81–82. Eight ostraca and the late tablet were translated with commentaries by Peter Dils, in *Thesaurus Linguae Aegyptiae*.

is 214: 58 show sketches of men and women, gods, animals, and some objects⁷, 156 items are texts, which can be dated mainly to the 18th Dynasty, one is a bit older and dated from the 17th Dynasty, 26 texts are from Ramesside times to the very end of the 20th Dynasty.⁸

The tomb itself is situated in the western necropolis of Asyut/Middle Egypt, namely in the upper part of the Gebel Asyut al-gharbi, on its geological step 7. The tomb owner was the nomarch Iti-ibi(-iqer), also chief of the priests of the local canid gods Wepwawet and Anubis, and "general of the army of the 13th Upper Egyptian nome". Jochem Kahl dated the tomb to the time just before the reunification by Mentuhotep II, before 1996 BC.⁹

The hieratic literary *dipinti* inside this tomb are a treasure for the history of Egyptian literature and its significance in Asyut, because the famous teachings and hymns were mostly known from sources in the regions of Memphis and Thebes so far. Some of the *dipinti* could furthermore clarify questions of authors' names (Kaïrsu for the so-called "Loyalistic Teaching", Khety instead of Dua-Khety as the agent in the "Teaching of Khety") or otherwise poorly transmitted phrases, or they constitute very early text witnesses compared to the overall mostly Ramesside text tradition.¹⁰ The following range of works was written, recited, or practised within this tomb by copying not only the beginnings but also the middle or final parts of the texts spread over different *dipinti* by the same scribe or by different scribes:¹¹

- Kemyt: §1a; §1a-§1c; §1a-§1c with extra column;
- Words of Neferty: §1a-§3i; §6a-g[-7d?]; §8a-f;
- Teaching of Hardjedef: [§1?-]§5,1-§8,6+§8,6-§17 (new, see below);
- Teaching of Kaïrsu: §1,1-§1,2; §1,1-§3,4ff.; §1,1-§4,9; §5,1-§11,12; §12,1-§14,12;
- Teaching of Amenemhat: \$1a; \$1a-\$2e; \$1a-\$3d; \$[1a-]\$2b-\$10c[-\$11c?];
- Teaching of Khety: §1,1-§6,3; §30,1-§30,6;
- Teaching of a man for his son: \$1,1-\$1,3; \$1,1-\$1,6; \$1,1-\$6,1; \$1,1-\$7,4?; all with title and prologue;
- Praise of Hapy: §1,1-\$5,8[-\$5,10?]; §8,1-\$8,9+\$8,3-\$8,4; \$9,1-\$14,7;
- Praise of Amun: title.

3.

THE NEW SOURCE FOR THE "TEACHING OF HARDJEDEF"

The "Teaching of Hardjedef" was copied in only one *dipinto* (TN21), which poses a particular problem, not only because many parts of the ink have vanished or the surface of the tomb wall is destroyed, but also because of its layout. It starts on the middle of the northern wall, having 7 lines of different lengths: line 6 is more than 2,60m long. Below, the last line, line 7, can be traced over 11m running until the western end of the northern wall, continuing on the western wall, including the walls of the niche in the western wall.¹² The *dipinto* starts between visitors' texts, which could

^{7.} Gervers 2020.

^{8.} Verhoeven 2020, vol. I, pp. 217–220, 267–280.

^{9.} KAHL 2019, p. 36. Cf. also the final publication of the tomb decoration by EL-KHADRAGY 2022, pp. 10-13.

^{10.} Verhoeven 2020, vol. I, pp. 240–264, 316–317.

II. Cf. VERHOEVEN 2020, vol. I, chapter 5.2 and the detailed list on pp. 241–242.

^{12.} Verhoeven 2020, vol. II, pls. 7–11, 19.

be dated to the 18th Dynasty by palaeography and by titularies and dates under Amenhotep III. Therefore, the *dipinto* could also have been written during the second half of the 18th Dynasty rather than in the Ramesside period.

THE LINK TO THE SECOND HALF OF THE "TEACHING OF HARDJEDEF"

During the study of the text in the course of several field campaigns and research phases in front of the screen resp. in the library, the first step was to identify the passages from line 5 onwards from the "Teaching of a man for his son" after its §15. The text in the first lines of the *dipinto* did not correspond to the preceding parts of this teaching. Anyway, the end of §14 and the beginning of §15 are not well evidenced in the "Teaching of a man", due to few or badly preserved sources.¹³ Suddenly, in the end, it became clear that there were words belonging to the "Teaching of Hardjedef" in its text of §5–8. A synopsis of the Asyut *dipinto* with the main sources, especially the ostraca from Cairo (OG 98, OG 337) and Chicago (OIC 16999),¹⁴ made clear that the *dipinto* on the wall in Tomb N13.1 is significantly the missing link between the current end of the "Teaching of Hardjedef" (§8) and the broken beginning of §15 of that text, which was supposed to be the later part of the "Teaching of a man". It is to be kept in mind that there is no direct link to the preceding §14 in the existing sources. Therefore, this entire part from §15 until the end of the "Teaching of a man" seems to belong in fact to the "Teaching of Hardjedef". The crucial passage with the link is as follows (Tomb N13.1, *dipinto* TN21, line 6):

[wbj p]w m3^c n rmt[.w] tm jr(.w) n=f sb3 m bnms br.j-b(3)b(.t) [m] s[m3.y] [btm.t ...] srb.yt b3[.yt] drdr.jt dr-ntj [w]nn=f [r=f m sbwn(?)]

4.

[The one] who is [looking] for justice among the people (alternatively: A real [foolish one] of the people)is the one who does not make himself the scribe as friend and the lector priest [as] all[y].[The removal ...] of the accusation is when a stranger (alternatively: an outsider) opposes, because he can belong [to him in the dispute (take sides)].

Some sources contain paragraphs from the part up to §14 of the "Teaching of a man" as well as with paragraphs after §15—a finding which has been interpreted as meaning that the paragraphs belong to the same teaching. This is given with eight sources, but the later parts, which are now identified as parts of the "Teaching of Hardjedef", are always on the opposite side of the ostracon

^{13.} FISCHER-ELFERT 1999, passim.

^{14.} Verhoeven 2020, vol. I, pp. 63–64, vol. II, pl. 207.

or papyrus with the "Teaching of a man" (§§1–14).¹⁵ Apart from this, there are also ostraca, which have different teachings on the same writing surface, e.g. oDeM 1734 with three different texts. This shows that coexistence need not be an indication for the identification of the text.

5. IMPLICATIONS FOR THE HISTORY OF EGYPTIAN WISDOM LITERATURE

5.I. LENGTH OF THE "TEACHING OF HARDJEDEF" AND THE "TEACHING OF A MAN"

The "Teaching of a man", in its composition as reconstructed by former colleagues, was extremely long with a complex structure. Now, the two teachings correspond in their more or less equal length with each other as well as with other teachings (compare e.g. the "Teaching of Kaïrsu" with 140 verses in 14 paragraphs):¹⁶

- The "Teaching of Hardjedef" gets the double number of verses, now having about 147–165 verses in 17 paragraphs instead of 75 verses in 8 paragraphs.
- The "Teaching of a man" loses 72 of its former 199 verses and gets a normal length of at least 127 verses in 14 paragraphs.

5.2. PROTAGONISTS AND TOPICS OF BOTH TEACHINGS

The ostensible author, prince Hardjedef, living in the royal court, deals with fundamental aspects of life and death in its well known first part of his teaching, and with social behaviour within normal households in his "new" second part. To sum up, he explains human life and death in general and gives advice and suggestions for the coexistence of normal people with mutual responsibility. He does not focus on special situations and challenges within higher administration or the circumstances of a royal palace because it was not necessary to teach this in his setting.

On the contrary, the "Teaching of a man for his son", which now consists only the first part up to §14, aims at explaining to the son of a middle class man how to become a member or an official of the court: it describes the rules of royal ideology, loyalism and work in higher institutes, and promises, among other things, a career through education, speaking with *medet nefret* and good arguments in a jurisdiction.

The new assignment of paragraphs fits thematically better to both teachings: the author of the first one, Hardjedef, is coming from the upper class of society and speaks about basic human behaviour, while the author of the second one, a no-name man from the country, aims at success at court and improvement the social status.

- 15. See the details in Verhoeven 2020, vol. I, pp. 250–251.
- 16. Cf. Verhoeven 2020, vol. I, p. 253.

Now, the "Teaching of Hardjedef" is attested not only during the 20th Dynasty (and Late Period), as it was before, but already earlier due to the supposed dating of the *dipinto* in the 18th Dynasty.

If one counts not only the 20 sources with the first half of this teaching but also those with the so-called second part of the "Teaching of a man", the text tradition is enlarged up to 71 sources all in all including the new one from Asyut.

Finally, it becomes more plausible that the reputation of the protagonist prince Hardjedef was extremely high, because now the teaching he is said to have been responsible for is recognized as more extensive and richer in content than previously assumed. Thus, P. Chester Beatty IV's famous phrase is all the more appropriate to the importance of his wisdom as it asks at the top of the list of well known authors: "Is there anyone here like Hardjedef?"¹⁷

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17. Papyrus London BM EA 10684, vso. 3, 5–7.

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How Text Registers Influence the Readings of jt(j), 'to take'

An Insight into the Applicability of Corpus-based Studies on Egyptian Lexemes

HIS PAPER deals with the application of corpus linguistic methods in the study of the Egyptian language. It provides a case study of the lexical semantics of Ancient Egyptian $j\underline{t}(j)$, 'to take'. First, I will give an overview of the current state of research and investigate the theoretical framework of the chosen corpus linguistic method. It is necessary to problematise the Ancient Egyptian corpus in respect to representativeness and limitations of a digital corpus. The second part of the paper will consider a case study of the word field of 'take' and will address research questions as the influence of the most frequently lexemes on the reading of the case study.

THE DIVERSE MEANINGS OF DIFFERENT LEXEMES OF THE WORD FIELD OF 'TAKE'

According to the Wörterbuch der ägyptischen Sprache, the lexemes $j\underline{t}(j)$, $\underline{sd}(j)$, \underline{nhm} and \underline{szp} are to be read as "to take" and "to take possession of".¹ A study by Ingelore Hafemann, gives us a broader impression of the diverse meanings of these different lexemes of the word field of 'take': she identified the reading of $\underline{jt}(j)$ as 'to inherit', 'to seize' and 'to transport', $\underline{sd}(j)$ as 'to rescue', 'to remove' and 'to transport', \underline{nhm} as 'to rescue' and \underline{szp} as 'to receive'.² In her case study, I. Hafemann examined the argument structure of these lexemes by identifying their semantic roles and selection restrictions to differentiate their readings from a semantic point of view.³ This structural and semantic approach to the sources seems to give us a better understanding of their contexts and was the starting point of the following pilot study.⁴ Besides the semantic viewpoint of Egyptian word meaning,⁵ the study of word meaning must consider "the semasiological and onomasiological viewpoint [...]."⁶ Every study of word meaning must also consider all accessible information in a "multilevel approach,"⁷ for example extralinguistic factors as time periods and the context of the text registers. To this end,

- 1. Erman, Grapow (eds.) 1926–1963, vol. VI, p. 110.
- 2. Hafemann 2006, p. 367.

τ.

- 3. Hafemann 2006, pp. 354-355.
- 4. Hafemann 2006, p. 373.
- 5. Hafemann 2002, p. 153; Hafemann 2006, p. 349.
- 6. Polis, Winand 2015, pp. 1506, 1510.
- 7. Polis, Winand 2015, pp. 1505-1506.

in I. Hafemanns' study, jt(j) seems to be the only lexeme, which provides remarkable attributes like the occurrence of an adverbial addition with a so-called SOURCE as well as without.⁸ Regarding these results of Hafemann's onomasiological perspective, this paper examines jt(j) and the relationship between its readings and the text registers of its sources.

2.

APPROACHING A CORPUS-BASED FRAMEWORK: FROM FIRST IDEAS TO A THEORETICAL BACKGROUND AND METHODOLOGY

As stated *supra*, the (restricted and not representative) onomasiological overview of the word field of 'take' by I. Hafemann shows its diverse usages. This paper focuses on the lexical semantics of $j\underline{t}(j)$, 'to take something', 'to seize',⁹ from a semasiological viewpoint, to see if the remarkable attributes noticed could be more specified. To approach a multilevel perspective, this pilot study considers sources of $j\underline{t}(j)$ from different time periods and interprets them in the context of their text registers. This leads us to the following research questions to identify the meaning of $j\underline{t}(j)$ in relation to relevant text registers in Ancient Egyptian:

- 1. Which lexemes occur most frequently with 'to take'? Do these lexemes influence the reading of the case study?
- 2. Is it possible to identify a most dominant reading? What influence does a text register have on this assumed reading?
- 3. And what influence do synchrony and diachrony have on the reading?

Concerning the relationship between the sources of the case study and time period, I. Hafemann mentions the corpus-based analysis of Michael Stubbs, who deals with delexicalization in context of the literal meaning of 'take.'¹⁰ His method bases on word combinations 'across time.'¹¹ He uses the identification procedure of collocations via quantification and describes them as the syntagmatic relationship between two lexemes and as cooccurrences, so their frequency emphasises remarkable word pairs.¹² The concept of collocation is part of the discourse in Egyptology: Pascal Vernus, Gaëlle Chantrain, Eitan Grossman and Stéphane Polis use collocational restriction in a more idiomatic definition.¹³ G. Chantrain also analyses the "co-textual environment" of her sources (extra-linguistic factors as register and time period).¹⁴ M. Stubbs developed a model of extended lexical units, which combines the examination of the syntagmatic relationship, word meaning and distribution in different text types. As the method does not focus on the time period of the sources but on text types, in this study synchrony and diachrony will be considered during the interpretation of the sources, but not as the main focus of the analysis.

- 13. Vernus 2012, p. 432; Chantrain 2015, p. 9; Grossman, Polis 2012, p. 12.
- 14. Chantrain 2015, p. 7.

^{8.} Hafemann 2006, p. 367.

^{9.} Erman, Grapow (eds.) 1926–1963, vol. I, p. 149.3-4.

^{10.} Hafemann 2006, p. 369; Stubbs 2001, p. 32.

^{11.} Stubbs 2001, p. 242.

^{12.} Stubbs 2001, p. 32.

On this basis the methodological steps of this study are developed, concerning the framework that S. Polis and Jean Winand propose for the study of word meaning in Ancient Egyptian.¹⁵ So the quantitative analysis established by M. Stubbs should be combined with a qualitative approach to support the interpretation of the results, especially with regard to text registers:

- **a.** Quantitative analysis/syntagmatic axis This part focuses on the relation between jt(j) and its so-called collocates. These are individual word forms or lemmata, which often occur with jt(j).
- **b.** Qualitative interpretation/semantic axis

This axis entails the categories colligation (grammatical category of the collocation), semantic preference (semantic class), discourse prosody (keyword to express the speaker's intuition or discourse function), strength of attraction (occurrence of the collocation), position and mobility (fixed or variable syntagmatic position) and distribution in text types (general occurrence or occurrence in certain registers).

3. THE DISTRIBUTION OF SOURCES ACROSS TIME AND THE REPRESENTATIVENESS OF THE EGYPTIAN CORPUS

The *Thesaurus Linguae Aegyptiae* (TLA) is an online platform of the Berlin-Brandenburgische Akademie der Wissenschaften. It offers the most comprehensive diachronic corpus in Ancient Egyptian across several text registers and contains about 1,200,000 tokens.¹⁶ It is a database combined with a 'lexical word thesaurus.'¹⁷ It also offers the possibility to generate collocations for lexemes and to access the concordances of the results, sorting the collocations by their co-text. The TLA offers 780 sources of *jt(j)*, including its sub-lexemes (fig. 1).¹⁸

As fig. 1 shows, the study on Egyptian language faces two opposites: from a philological point of view, a huge number of sources must be considered manually. Especially from a diachronic perspective, it has to deal with the restricted representativeness of the Ancient Egyptian corpus. For example, in Rainer Hannig's lexicon on Middle Kingdom, 70,000 sources are derived from the coffin texts, which are about 38% of all sources he and his team considered.¹⁹ Another important point is the texts, which are preserved on several textual witnesses, probably from different linguistic stages.

19. Hannig 2006, p. x.

^{15.} Stubbs 2001, pp. 87-88; Polis, Winand 2015, p. 1507.

^{16.} TLA, version 31 October 2014.

^{17.} Seidlmayer, Hafemann 2011, p. 3.

^{18.} Old Kingdom: 304 sources, about 39% of the corpus; First Intermediate Period: 3 sources, about 0.4% of the corpus; Middle Kingdom: 67 sources, about 8,6% of the corpus; Second Intermediate Period: 26 sources, about 3.3% of the corpus; New Kingdom: 203 sources, about 26% of the corpus; Third Intermediate Period: 44 sources, about 5.6%; Late Period: 6 sources, about 0.9%; Ptolemaic: 6 sources, about 0,7% and Ptolemaic-Roman: 120 sources, about 15.4%. For time periods, see BECKERATH 1997, pp. 187-192.

PROBLEMATISATION OF THE LIMITATIONS OF THE ANALYSIS TOOL

Stephan Seidlmayer and I. Hafemann stated that the TLA tool which derives collocations is not appropriate for an analysis in a statistical understanding, but is a possibility to identify remarkable word pairs, the results of which should be examined from a philological point of view.²⁰ The corpus tool itself is very restricted in the measurements it provides. The MI-score measures the strength of attraction between two words, regardless of the size of the corpus.²¹ The tscore measures highly frequent word combinations regarding the size of the corpus and asks how much evidence is there for a positive association.²² From a corpus linguistics point of view, the MIscore and tscore do not seem to be transferable to the Egyptian corpus. The first prefers not-frequently occurring word pairs (which is problematic in a small corpus). The second presupposes a normal distribution, which is also discussed in relation to modern (and therefore larger) corpora.²³ The qualitative steps of the analysis are therefore important to check if the results of the collocational analysis are evaluable.

5.

4.

PREPARATION OF THE ANALYSIS AND IDENTIFICATION OF THE COLLOCATIONS

As a "right-branching language in which word order is primarily determined grammatically"²⁴ the word distance measuring of Egyptian in this study focuses on N+X word distances (the node word plus X words on the right).²⁵ M. Stubbs mentions a regular distance of N+X (the node word plus X word on the right) and N-X (the node word plus X word on the left). The collocations are identified by their frequency, focusing on the numbers, in order to consider the measurements and their problematics. The collocations are summarised in Excel to compare if some collocations occur several times (for example several text witnesses). To be sure that no source is counted twice, I extracted the 780 sources of *jt*(*j*) from the TLA and gave each an individual number. From 400 collocations in total, 309 lexemes occur as collocates of *jt*(*j*). As M. Stubbs supposed, I analysed the 20 collocates with the highest frequency and identified them via a formatting tool of Microsoft Excel 2016.²⁶

- 20. Seidlmayer, Hafemann 2011, p. 38.
- 21. McEnery, X1AO, Tono 2008, p. 56.
- **22.** McEnery, Xiao, Tono 2008, p. 56.
- 23. Kilgarriff 2005, pp. 269-273.
- 24. Haspelmath 2015, pp. 104-105.
- 25. STUBBS 2001, p. 29. It also takes the regular distances into account: N+1, N+/-1, N+2, N+/-2, N+3, N+/-3,
- N+4 and N+/-4.
- 26. Stubbs 2001, p. 89.

ANALYSIS OF THE MOST FREQUENT COLLOCATIONS AND THEIR DISTRIBUTION ACROSS TIME

Due to the selection of the most frequent collocations, 122 sources of the 780 sources were cross-checked in total, which are about 15.6% of all available sources in the corpus. The analysis of the readings of jt(j) includes the following steps:

- The identified collocations were sorted by the most frequent word distances (and by MI-score to cross check the word pairs, starting with the highest score) and transferred to a Microsoft Excel table (version 2016);
- 2. The categories of the methodological steps of the analyses, described *supra*, were added to this table;
- 3. The collocations were checked via the methodology steps and the TLA concordances.

The concordances of all occasions of a collocation were cross-checked (exp. tJ.wj occurs 28 times with $j\underline{t}(j)$). Depending on how many readings were identified for one collocation, one or more typical examples were analysed in detail. The results were proofed via the state of research and the lexica.²⁷ According to the categories of the methodology, the example tJ.wj, the Two-Lands,²⁸ is a noun (colligation), occurs in context of (military) takeover (semantic preference), emphasises the legitimation of this takeover, legitimises the leader (discourse prosody), occurs 28 times with $j\underline{t}(j)$ (strength of attraction), occurs in the distances of N+2 in the Middle Kingdom and N+1 in the New Kingdom (position and mobility) and occurs in all times periods, for example in the *Pyramid Texts*, in the *Book of the Dead* and in the Middle Kingdom on stelae and in hymns (distribution in text types).

This result already illustrates that the dominant text registers, such as the *Pyramid Texts* and the *Book of the Dead*, will presumably affect the results of the reading of jt(j) (see fig. 2).²⁹

7.

THE READINGS OF $J\underline{T}(J)$ AND THE INFLUENCE OF THE TEXT REGISTERS

This leads us back to the research questions stated *supra* to identify the meaning of $j\underline{t}(j)$. The first question was about the lexemes occurring most frequently with $j\underline{t}(j)$ and if these lexemes influence the reading of the case study. The lexeme $j\underline{t}(j)$ seems to occur with prepositions, substantives, verbs as well as adverbs or adverbial addition, even with a word distance of N+1. The collocations of $j\underline{t}(j)$ do not seem to influence its reading. It depends on the context of its use (for example, 'to take possession of in context of the legitimation of the ruler).

The second question was the possibility to identify a most dominant reading and the presumable influence the text register could have on the reading. As expected, the limitations of the corpus

6.

^{27.} See Erman, Grapow (eds.) 1926–1963, vols. I-VI; TLA, DZA; Hannig 2006; and Lüscher 2020.

^{28.} TLA lemma 168970; Erman, Grapow (eds.) 1926–1963, vol. V, pp. 217.1–219.3.

^{29.} 46.7% sources of the Old Kingdom (57 sources), 3.2% of Middle Kingdom (4 sources), 4.9% of the Second Intermediate Period (6 sources), 18.8% of the New Kingdom (23 sources), 1.6% of Late Period (2 sources) and 24.5% of Ptolemaic-Roman (30 sources).

emphasised the dominant text registers as the funerary texts (*Pyramid Texts, Book of the Dead*), but it was possible to identify some dominant readings of the case study: the readings are (1) 'to take (over)', in military and funerary contexts, also in relation to possessions; (2) 'to take (away)', 'to remove', in funerary and religious contexts, even in a metaphoric sense; (3) 'to seize', in religious and funerary contexts, but also wisdom teachings and (4) 'to transport', 'to deliver', in ritual and funerary contexts. The reading of jt(j) as 'to take' did not seem to be dominant in the analysed 20 most frequent collocations.

The third question was not the main focus of the analysis but concerns the presumable influence of synchrony and diachrony on reading. The periphrases of Late Egyptian seem to have an influence on the results. Although different time periods have been considered, the pronominal subjects are not included into the analysis. This approach focuses more on the $j\underline{t}(j)$ objects. This could also emphasise the reading of $j\underline{t}(j)$ as 'to seize', regarding to the dominant imperative structure of the *Pyramid texts*.

CONCLUSION

We saw the development from a semantic viewpoint of meaning to a corpus-based approach to examining the lexical semantics of the case study jt(j), derived from the word field search of 'take'. This pilot study attempted to include text register and, in part, time in the study of word meaning in Ancient Egyptian, by adopting a multilevel approach. The chosen tool was a reliable aid to sort and access the sources. The measuring tool of the collocational analysis seems to be quite problematic for the Ancient Egyptian corpus, but the results of this study reflected the limitation of the Ancient Egyptian corpus, as shown in fig. 1 and fig. 2. Therefore, the qualitative steps of the analysis helped to gain an insight into the text registers of the sources and their weighting in the corpus. Even if the approach of this pilot study was quite problematic for the study of time period, the philological analogue and digital aids helped to approach the meaning of the case study jt(j). Probably a different method of quantification could be examined for the requirements of Ancient Egyptian language in future research approaches, especially to focus on diachronic developments.

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Fig. 1. Distribution of the 780 sources of case study jt(j).



Fig. 2. Distribution of the 122 checked sources of jt(j).

Mareike Wagner*

The Coffins of Imeni and Geheset

Sources of the Transition Period Between Coffin Texts and Book of the Dead^{**}

URING THE UNEARTHING of a zone of the necropolis of Dra' Abu el-Naga called 'Area H', the German Archaeological Institute in Cairo, under the direction of Daniel Polz, discovered in 2003/2004 a small group of Middle Kingdom tombs.¹ Shaft K03.4, which is of interest here, shows two chambers at the bottom.² In the second chamber, a set of two coffins still containing the remains of a mummified woman, were found *in situ* under the same conditions as they were left 3,700 years before.³ The outer coffin was designed for a man called Imeni and the inner coffin, on the contrary, was made for a woman called Geheset. In an inscription added on the outside of Imeni's outer coffin, she is called Imeni's beloved wife and it is stated that he left his coffin for her funeral. Based on an analysis of the pottery found with the coffins, they date to the end of the 12th Dynasty or the first third of the 13th Dynasty. The general style of the coffin equally alludes to the late 12th Dynasty.

What stands out the most in this discovery is not the fact that both coffins are in exceptionally good condition—the broadest damage occurred in the first half of the 19th century, when tomb robbers broke a part of the foot end of both coffins—,⁴ but it is the fact that the coffin of Imeni is a fully decorated masterpiece of craftsmanship, which is absolutely outstanding by the composition and the choice of texts. They include considerable amounts of new spells, later known as chapters from the *Book of the Dead*. The coffin is thus one of the earliest sources for the development of the *Book of the Dead*, and that on a Middle Kingdom coffin from Thebes.

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1. For details on the excavation at the site, see POLZ 2007a, pp. 14–24 and POLZ et al. 2012, pp. 115–134.

2. Polz 2007b, pp. 25–42.

3. See the preview in Seiler 2007, pp. 91–99.

4. Apart from that, there is only minor damage, which probably occurred when the coffins were inserted into the cave, as the outer coffin was too large for the small chamber. Most of the parts of the foot-ends of the coffins could be found in the debris and are rearranged today. Only some parts are missing, the lid of the interior coffin being the biggest loss.

THE COFFIN OF GEHESET

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The decoration of the inner coffin of Geheset only consists of the pair of eyes above the false door on the front wall, together with the ornamental texts (fig. 1), one horizontal line on top, four columns on the long sides and two on the short ends.⁵ The insides have been left without decoration. This kind of outer decoration is well known based on other coffins and is to be interpreted as a reproduction of the nightly wake or the hourly vigil, the so-called '*Stundenwachen*'.⁶

2. THE COFFIN OF IMENI

The outer sides of the coffin of Imeni have a horizontal line across the top of each wall, but with only two vertical columns at the corners (fig. 2). The inscriptions are incised on a raised background and not painted. The entire outside is painted white, which is likely to be oriented to the appearance of a stone sarcophagus.⁷

Stylistically, the interior seems to follow the usual decoration scheme known from other coffins of the 12th and late 12th Dynasty (fig. 3). All sides are surrounded by an ornamental frame, followed by an ornamental text. Beneath that text line, one register with an object frieze follows, and only the north wall shows two rows. The lowest part of all three sides is covered with text blocks. The layout of the east wall is different because in the upper corner a large representation of the eyes over a false door was painted directly below the ornamental text. Here, the object frieze starts after the false door. The rest of the wall is occupied by the image of an offering table and aside an extensive offering list.

All these layouts are already known and classified,⁸ but not only are the sidewalls decorated, the lid and the bottom have been inscribed as well. Both are divided into two blocks of texts, separated on the lid by a frame and a central ornamental text and on the bottom by blue stripes with zig-zag lines, clearly denoting water. The inscriptions run through all sides, from head to feet, and on the short ends from left to right. Only the inscriptions on the bottom seem to present a circle and are oriented from the exterior to the middle. The hieroglyphs of the eastern part seem to run from feet to head but both blocks are to be read from head to foot because the eastern part is written in retrograde writing.

8. WILLEMS 1988, pp. 182–183 (H 4; FR 7; F 3 and B 2).

^{5.} For this kind of decoration scheme, see LAPP 1993, pp. 170–171, § 396 and WILLEMS 1988, pp. 136–141 (type IV).

^{6.} Willems 1988, pp. 141–147; Willems 1997, pp. 355–358; Assmann 1973, pp. 127–130.

^{7.} The original intention might have been to achieve the appearance of a granite sarcophagus, and later a limestone sarcophagus. The sarcophagus of Imeni-seneb in Florence (Inv.-Nr. 2181) might be comparable, see IKRAM, DODSON 1998, p. 252.

The texts are as follows:

Head (H)	CT 530 ⁹
Front (FR)	Offering list type A; ¹⁰ CT 831; ¹¹ CT 923/924/831
Foot (F)	No parallel, extracts from PT 667B, PT 199 or CT 926
Back (B)	PT 213-217 ¹²
Lid	CT 335; CT 338/BD 20; CT 340/BD 13/121/122; CT 272+304+272; CT 273; CT 468; CT 307/BD 85.
Bottom	CT 160/BD 108; CT 885; CT 378, CT 435, CT 377/Tb 35; no parallel, CT 380, CT 381, BD 33; BD 40; CT 813; BD 99; BD 7, BD 138, BD 102; BD 124

If one considers not only the text but also the object frieze, the combination on the head wall with the seven oils, the great sieve and CT 530, which is known later in scene 47/61 from the ritual of opening the mouth, forms a coherent setting. The main subject is the purification. The front wall with the false door, the eyes, the offering table, the offering list and the accompanying texts¹³ is devoted to the general motif of the equipment of the deceased with food in general and the purity of the offering table. On the foot wall, the text touches upon the topics of purification, the offering and the participation of the deceased at different feasts. Now the focus shifts towards the theme of sitting down to receive the actual offerings.

PT 213–217, on the back wall, forms a popular liturgy of the Middle Kingdom. The major deities named in the texts are Atum, Re, Osiris and Horus. The deceased wishes to travel through the netherworld in the role of Horus, the son and heir of Osiris. Simultaneously, an identification with Atum is sought. This might be explained by the father-son relationship between Osiris and Horus on the one hand and Atum and Schu on the other hand, like in the Shu-Spells.¹⁴ The movements of the son towards his father and the different phases of the identity of the deceased are embedded in the greater frame of the rituals during the nightly wake and the ritual of embalming.¹⁵

The lid is divided into two text blocks running from head to feet. The first block to be read is the one on the left or the east side and the western part follows as the second. This is quite clear because the complete left or upper part is taken by CT 335,¹⁶ which is to be continued in the first third of the

^{9.} WILLEMS 1996a, pp. 202, 221, and for the ritual, pp. 210–211. For the ritual background, cf. WILLEMS 1997, pp. 343–372 and WILLEMS 2016, pp. 159–170.

^{10.} BARTA 1963, pp. 47–50. Imeni shows the gifts No. 26 up to No. 93 in three registers.

II. FRANKE 1994, pp. 235–240.

^{12.} See Altenmüller 1972, pp. 46–47 (Spruchfolge A I). For the Middle Kingdom sources, see Allen 2006, pp. 46–145.

^{13.} These text blocks appear in different CT Spells (CT 831, CT 923/924), as well as on other Middle Kingdom sources or in the ritual of opening the mouth (scene 65B), see OTTO 1960, vol. I, pp. 174–175.

^{14.} The father-son motif is explained in WILLEMS 1997, pp. 360–364 and WILLEMS 1996b, pp. 199–203, 208.
15. WILLEMS 1997, pp. 360–364; WILLEMS 2018, pp. 7–8.

^{16.} For CT 335, it is quite clear that the version on Imeni's coffin is the older one from the CT. The version of the BD 17 shows some additions and variations that do not appear here. For one of the first versions of BD 17, which is quite different, see GEISEN 2004, pp. 32–37, 55–78.

second block. For the following chapters, however, it is difficult to decide whether we are dealing with CT or BD as the differences between both versions are not apparent, or the number of sources is too low to form a reliable basis. This is the case with BD 20, for which only three sources from the Second Intermediate Period and the New Kingdom exist.¹⁷ The sequence CT 335 + 338 + 340 is found on four other coffins, which are at the same time the only known attestations of CT 338. These are the twin-coffins M7C + M8C and T1Be+T2Be. Later, the same BD sequence is to be found on the Nebseni papyrus, the only source for BD 20 from the New Kingdom.¹⁸

It is therefore to be recorded that with CT 335 a popular spell is to be found at a common position. Subsequently, some other texts have been overworked, organized into new sequences, and are later also known from the *Book of the Dead*. At the same time, some older and popular texts from the Middle Kingdom are present. This picture will be extended by a closer look at the bottom of the coffin.

The bottom is also sectioned into two blocks surrounded and divided by water lines. The depiction might represent a map of a special watery region in the underworld.¹⁹ The right or western side of the bottom shows a normal orientation of hieroglyphs. It begins with CT 160/BD 108, which belongs to a phase of intense text work. Whole sentences or even bigger parts of the spell are arranged in a different way, even some new information not known from other CT or BD versions are present. Therefore, Imeni's version belongs neither to the CT nor to the BD. The next chapter, CT 885, is known just from three other Middle Kingdom sources, but revives in the Saitic period tombs. It belongs to a group of Coffin Texts for which Harco Willems could demonstrate that several of these spells were used on the same places as other 'new texts', which he could identify as chapters of the BD.²⁰ The left or eastern part of the bottom begins with BD 99, a ferryman spell. The fact that BD 99 is the later overworked and extended version of CT 397, which shows up with an unknown introduction from CT 397, is remarkable. On Imeni's coffin, only the first part of the chapter is repeated five times, replacing the names of the god. In the later BD version, these names are presented in one sequence but with the indicator $ky \, dd$. Moreover, it is quite interesting to keep in mind that the former ferryman spell, CT 397, composed together with CT 335, the former version of BD 17, is a well-known combination, with the first one on the bottom and the second one on the lid. Both spells seem to be passed down even in one sequence.²¹ The last texts on the eastern side of the bottom following BD 99 are all abstracts from the Book of the Dead and are mostly also known from other early sources of the Book of the Dead. The general motif of

19. For similar waterlines, see MILei in WILLEMS 1988, pp. 235–236, fig. 30.

20. For this 'Gestermann-group', see WILLEMS 2018, pp. 8–9, and for the texts in general, GESTERMANN 2005, pp. 335–347. Later on, these spells were not used for the BD but by the time of the Late Middle Kingdom, they seem to have been understood as a group of new texts. Whereby, it should be noted that CT 885 is not directly new, because it was compiled from different sequences of different PT Spells.

21. A short mention of this combination is already to be found in JÜRGENS 1995, pp. 85–86. For more details and the ideological background, see WILLEMS 1997, pp. 356, 360–364.

^{17.} LAPP 2009, pp. 1X-X.

^{18.} LAPP 2004, pl. 33–34. Here, it is interesting to note that these four coffins were not put in the same stemma-line by Rössler-Köhler 1998, pp. 92–93, Abb. 1a–b, so that just one model for this special sequence cannot be assumed at the moment. See, further, JÜRGENS 1999, pp. 29–42; JÜRGENS 1995, pp. 85–86.

the bottom is the protection against snakes, reptiles and other small amphibious animals. If we note that the bottom is illustrated as a watery region, it is not surprising to find the ferry and the ferryman as a dominant motif.

CONCLUSION

What makes Imeni's coffin extremely interesting and outstanding is the fact that a stylistically normal 12th Dynasty coffin, in very good condition, showing a superb mode of conservation, was equipped with new text not very known at that early time. Therefore, it is one of the first confirmations of the later known composition of the *Book of the Dead*, although the identification of the texts is sometimes difficult. For some chapters, the older versions of the *Coffin Texts* attested (CT 335), it is definitely the new version of the *Book of the Dead* (BD 99). But for other spells right now, there is no final classification, also it is quite clear where they are coming from. They show such intense work along with the text that they hardly belong to either version, but rather seem to form a stage in between (CT 160/BD 108). Furthermore, there are some texts with no parallels. Ultimately, one thought seems to be manifest: these texts were invented or overworked during this transition period, but failed to be incorporated into the *Book of the Dead*.

Some coffins from the Middle Kingdom belong to a late group of coffins that contain early versions of the Book of the Dead.²² These are e.g. the coffin of another man called Imeni from Asiut²³ or the coffin of Sesenenebef (L1Li).²⁴ They show 'new' texts and texts also known from the later Book of the Dead, but these are mostly chapters with forerunner spells in the CT. The first coffin that shows a BD sequence known from later papyri is the coffin of queen Mentuhotep, which has therefore been seen as the earliest source of the Book of the Dead.²⁵ In this line of development, the coffin of Imeni forms an important complement. The decoration underlying the arrangement of the texts and illustrations on Imeni's coffin is well known from Middle Kingdom coffins and exactly the one that H. Willems has analysed. This includes the outer decoration, the object frieze, the offerings, the texts and especially CT 335 and CT 397. The Imeni coffin shows up with a modernization of the scheme: CT 335 on the lid and already BD 99 on the bottom. Thus, on the Imeni coffin, one can witness a process in which older texts were reworked and new texts were created or compiled. The Imeni coffin makes it quite clear that this process was based on already known text combinations and that at this point the general layout of coffin decoration was still one of the Middle Kingdom. Furthermore, with its provenance from Thebes, it is a source from the new capital that will hopefully shed new light on the question of how, when and where the Book of the Dead was created and the already known material overworked.²⁶

26. Gestermann 1998.

^{22.} Gestermann 2006, pp. 102–103; Grajetzki 2010, pp. 103–104.

^{23.} LAPP 1986.

^{24.} Willems 2018.

^{25.} Geisen 2004.

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Fig. 1. The coffin of Geheset (FR).



Fig. 2. The coffin of Imeni, exterior (H).



Fig. 3. The coffin of Imeni, interior.