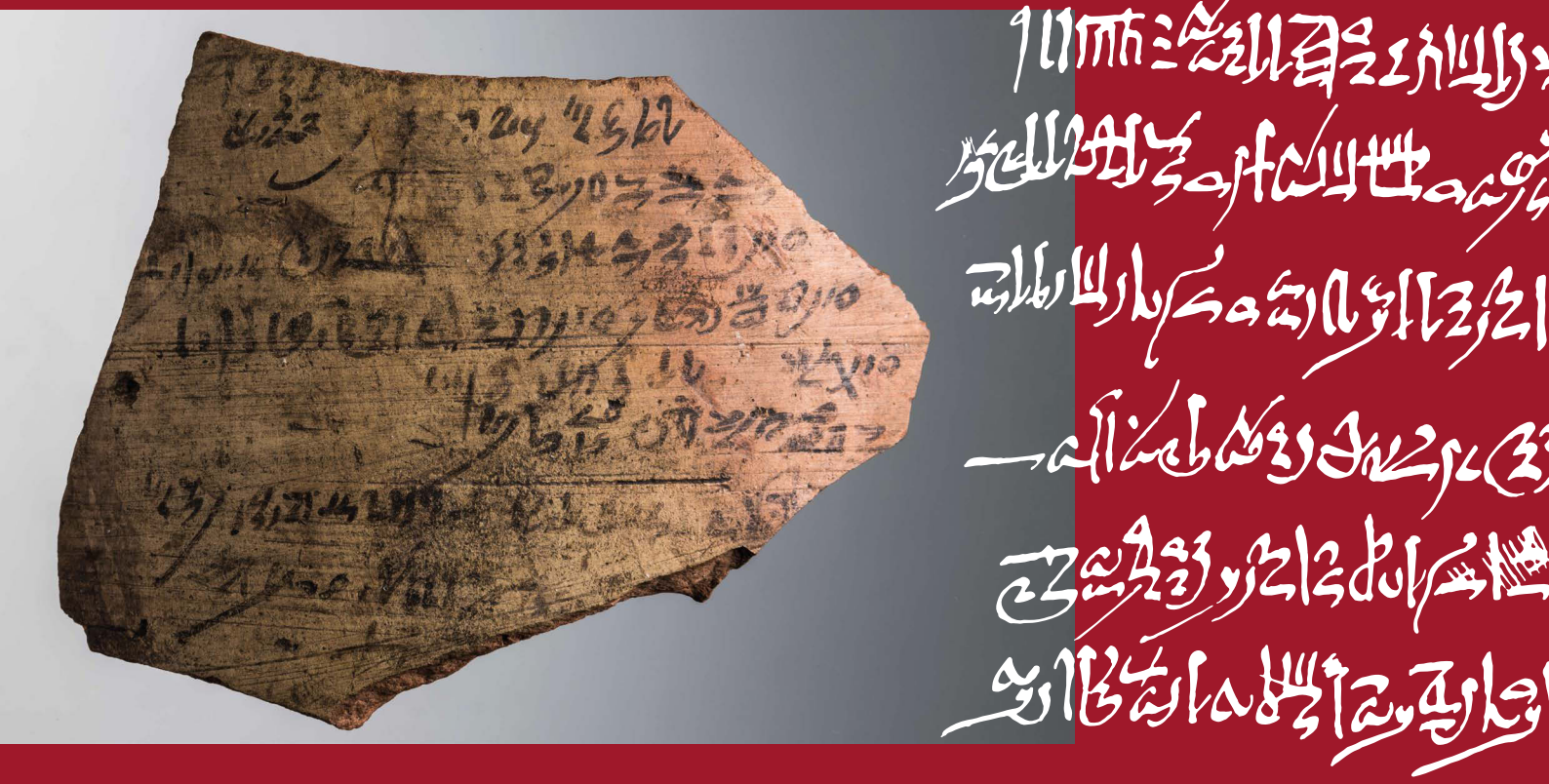
Hieratic Studies Online 4 | 2022



Kyra van der Moezel

Administrative Hieratic from dynasties 19 and 20

Case studies on selected groups of ostraca with necropolis administration

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Contents

1 Introduction

The project *Altägyptische Kursivschriften* (AKU), funded by the *Akademie der Wissenschaften und der Literatur Mainz* and carried out at the *Johannes Gutenberg-Universität* and the *Technische Universität Darmstadt*, was launched in the spring of 2015.[1] With a planned duration of 23 years, it aims to become a platform for the study of hieratic and cursive hieroglyphic scripts, first by developing a database that facilitates the hieratograms of an ever growing number of sources including their metadata[2], and second by carrying out systematic palaeographic analysis of these hieratograms in their co- and context. The current publication is part of the outcome of the first project phase and informs on the collection of hieratograms and their palaeographic analysis within the corpus module *Verwaltungshieratisch der 19. und 20. Dynastie*. It accompanies the ostraca of this module that were digitally drawn and imported into the database between 2017 and 2022.

The AKU palaeography database[3] is a dynamic archive that allows us to group and compare hieratograms in various ways. Via the search options we can cluster signs from the same time-frame, region, or from texts with the same genre, or we can cluster signs from completely different time-frames *etc.* but with similar forms.[4] This will help in studying various research themes that cover the entire project[5]:

- The development and formation of the cursive scripts, including identifying or verifying chronological phases;
- The combination of scripts and reciprocal influences, for instance cursive hieroglyphic and hieratic scripts, or the combination of hieratic script and notation systems;
- Economizing measures, including abbreviations, hybrid forms, and ligatures;
- Genre-specific features: adaptation of forms to specific needs, contexts, or layouts; the question of how do forms come about;

1 Project website: https://aku.uni-mainz.de/. See also the project description on the website of the *Akademie der Wissenschaften und der Literatur Mainz*: http://www.adwmainz.de/projekte/altaegyptische-kursivschriften/informationen.html. Updates on the AKU project are furthermore published through the project blog *Hieratisch AKUell*: https://aku.hypotheses.org/. Project leader is professor Dr. Ursula Verhoeven (JGU Mainz).

2 In cooperation with the project Trismegistos that provided metadata tables. The data are regularly synchronized.

3 The online version AKU-PAL was launched on May 20, 2022.

4 For this and the following, see Gülden 2016, 8-11; Gülden 2018, 88-90.

5 See also Gülden and Verhoeven 2017; Gülden, Krause, and Verhoeven 2017; Gülden, Krause, and Verhoeven 2020.

- The significance of handwriting for the assignment of texts to individuals, schools, traditions, regions, periods, or to social groups such as administrators, priests, and scholars;
- Material and practical aspects of writing; the influence of surface, material and writing utensils on form characteristics.

The idea to create a digital palaeography for hieratic is not new. It was discussed and even partly visualized in 2000 by Van den Berg and Donker van Heel.[6] Van den Berg remarked that their "time and space consuming way to proceed to attempt to demonstrate that a mere sixteen ostraca were all written by one scribe" would be much improved with new digital techniques to prepare and compare facsimiles of sign-forms.[7] He discussed several methods of approach for "digital palaeography" and explained the important technical aspects when scanning papyri and ostraca and making high resolution photographs. Also the importance of vector graphics was already emphasized and it was foretold that "It is certainly to be expected that the internet will allow for more original photo material to be published, and when it does the practice of digital palaeography will get the best out of it."[8] Perhaps one can doubt whether that time has come, but at least more photographic material is available and digital palaeography is hot. Where Van den Berg, however, described the extraction of facsimiles through the application of filters in *Adobe Photoshop* or *PaintShop Pro* (after which the resulting bitmapped images are converted to a vector-based format in *Adobe Illustrator*), we find that too often this way of creating facsimiles leads to unacceptable anomalies in the sign-forms.[9] The initial visualization by AKU of a digital database for hieratic and the technical process of extracting facsimiles have been published elsewhere.[10]

6 Van den Berg and Donker van Heel 2000, 39-42.
7 Idem, 39.
8 Idem, 42.
9 See Gülden 2018, 100-101.
10 The initial idea for a digital database is described in Gülden 2016 (http://doi.org/10.25358/openscience-811) [4.2.2022]. The technical process of extracting facsimiles will be described in Gülden, *Hieratisch der 18. Dynastie. Untersuchungen zur Schrift von Dipinti und Briefen auf Papyrus*, in preparation, and in the project blog *Hieratisch AKUell* (aku.hypotheses.org), series *Digitale Faksimiles oder: graphische Annotation*. Cf. also Gülden, Krause, and Verhoeven 2017; Gülden 2018; Gülden, Krause, and Verhoeven 2020.

2 The present study: composition, research questions

Administrative hieratic from dynasties 19 and 20 is an immense field. Thematically, a focus was needed that would ensure enough material for analysis and comparison, but that would also find connection to the material worked on by cooperation partners. Most evident was a focus on documentary administrative texts from the Theban area: they are many, accessible, and they are being actively worked on. Moreover, a first research question offered itself straightaway: many of the documentary administrative texts from the Theban Westbank have been defined as belonging to a group designated as "the necropolis journal", yet this modern term designates a very eclectic group of texts, which we find to have different topics, styles, layouts, and handwritings. They are everything but uniform. Moreover, the variation suggests a range of purposes for the texts that were clearly not all meant to be preserved and archived in a systematic and regularly updated journal. Recent works dealing with "necropolis journal" texts criticize the term[11], yet it remains in use. A focus on topics, text categories, layouts, and handwritings was deemed justified in search for an alternative.

Ostraca with administrative texts that carry the label "necropolis journal" are widely available: the British Museum in London, the *Museo Egizio* in Turin, the *Institut français d'archéologie orientale* in Cairo, and the *Ägyptisches Museum* in Berlin were very helpful in providing access to the sources.[12] The collected sources are all ostraca for a number of reasons, among which was the readily availability of ostraca in contrast to papyri. It was considered more useful to focus on comparison of writing practices and scribal habits in a large group of ostraca, which also better illustrate the actual village life and administration, rather than to include a handful of papyri that would hardly have sufficed for a thorough comparison of writing practices on different materials.[13]

[11] A selection of works that have focused on the "necropolis journal": Morfini 2019, Hassan and Polis 2018; McClain 2018; Haring 2014, 87-100; Eyre 2013; Donker van Heel and Haring 2003; Akiyama 1998, 30-47; Valbelle 1985; Gutgesell 1983; Helck 1982; Helck 1963.

[12] More specific information on the sources collected is given in section 3.

[13] See also Van der Moezel 2022. A further reason for not including papyri was the fact that a number of papyri was being worked on by colleagues with whom AKU is in contact. These are most importantly: Maren Goecke-Bauer (Ludwig Maximilians-Universität München), who works on a palaeography of scribes and scribal hands from Deir el-Medina, currently focusing mainly on 15 letters by *Mꜣꜣ-ny-nḫt≠f*. Letters on papyrus by *Jmn-ms* and *Nḫt-Sbk* form comparative palaeographies; and the project "Crossing boundaries. Understanding complex scribal practices in ancient Egypt", which was launched March 2019 as a collaborative effort between three institutions (*Universität Basel*, *Université de Liège*, *Museo Egizio* Turin: http://web.philo.ulg.ac.be/x-bound/ [26.7.2022]. A Memorandum of Understanding between AKU and the *Museo Egizio* with the relevant project partners was established in 2022.

The focus on ostraca with a "necropolis journal" label automatically led to a chronological focus on dynasty 20.[14] Considering the material that could eventually be collected and chronological limits of that corpus, the present study cannot offer a thorough or definitive and diachronic discussion of "the necropolis journal", and it was never meant to do that.[15] Neither does it offer a thorough or complete study of every single ostracon, not even of the group as a whole. The goal of the project is to make available an enormous amount of palaeographic data, which puts the focus on collecting and digitally drawing as many hieratograms as possible to create a corpus large enough to serve statistical analysis in a second phase. The data are offered as a point of departure for expansion and further studies. Yet of course, during this work, one notices mentionable aspects of the ostraca and their hieratograms. This publication should therefore rather be seen as a large compilation of footnotes that accompany the ostraca documented in the AKU database.

The question on the "necropolis journal" was not the only focus and the palaeographic processing and analysis of the corpus led to other research questions as well. The three main questions around which the publication is built are the following:

- In context of the term "necropolis journal": Which topics or categories of text are found in the corpus and do they show specific types of layout or genre-specific writing? Do an analysis of used formats and thoughts on the purposes of the texts allow for an alternative designation?
- Administrative hieratic is often thought to imply quickly written texts with many abbreviations: Which economizing measures do we find and how did they come about? Can they be explained in co- and context?
- Which palaeographic peculiarities do the texts reveal and (how) can they be explained in co- and context?

There is a question that has not been mentioned thus far, but that probably comes directly to mind in a study on *Verwaltungshieratisch*: What does *Verwaltungshieratisch* or *Verwaltungsschrift* entail, especially when opposed to *Buchhieratisch* or *Buchschrift*? These terms suggest that *Verwaltungshieratisch* was a special type of hieratic script used primarily for administrative ends, and *Buchhieratisch* was a special type used primarily for literary and religious texts. That hypothesis cannot be substantiated. There are large differences in style and writing in the documentary texts on the administration of the Tomb and there are cases in which one can

[14] For the chronological spread of the sources collected, see section 3A.
[15] See also Van der Moezel 2022.

doubt an allocation to *Verwaltungsschrift*.[16] The author certainly does not assume that the ancient scribes distinguished two such types of script for different texts. This conclusion was also reached by Stéphane Polis in his presentation on a variety of literary and non-literary texts produced by a 19th-dynasty Deir el-Medina scribe ("the messy polygraph") during the conference *Ägyptologische 'Binsen'-Weisheiten* IV in Mainz.[17] A further hypothesis reads that many documentary ostraca with administration of the Tomb were drafts, used to compose large, official reports, notably on papyrus, that were sent to the central administration in Thebes either in original form or in extract. The drafts would have been written by less skillful scribes or scribes in haste.[18] The term *Verwaltungsschrift* would then not only be linked to efficiency, but also to skill, which the author finds unlikely given the dispersal of topics written about and the number of ligatures used. In general, even though duplicating (selected) information from one text to another is certainly attested in the administrative records, the consistency of such a practice as well as the connection (if any!) to the use of a *Verwaltungsschrift* and a *Buchschrift* is far from clear.[19]

The point of departure in the current corpus module was therefore text-genre. The administrative texts were interpreted as having been written in a degree of what is generally understood as *Verwaltungsschrift*: some texts show a larger de-

[16] For instance the ostraca Turin CGT 57085 and 57366. Their topics are undoubtedly administrative, but both show a conspicuously neat writing and do not show the quick scribbling style of various other administrative texts.

[17] Polis 2022, 405-453.

[18] Černý 2004, 226-227; Černý 1931, 212-213; Janssen 1997, 94; Donker van Heel and Haring 2003, 1-38.

[19] For all the facets touching this topic, see Eyre 2013, 247-248, and Donker van Heel and Haring 2003, 1-38, 39-82. One of the most important cornerstones of the theory of ostraca having served as drafts to write reports on papyrus, that of the connection between ostracon DeM 39 + 174 and papyrus Turin Cat. 1946 + 1949, is dismantled as "something of a mystery" on pp. 35-37. Donker van Heel does show that (selected) information was copied from one ostracon to another, also shown by examples in Soliman 2018, 175-186, and Janssen 1997, 14-15. But in almost all cases, neither of the ostraca is complete or correct. Parts of ostraca were furthermore used as drafts by the scribe Hori (*Ḥr*), but with the aim of remembering and completing information in the next month, rather than duplicating these drafts into neatly written reports (Donker van Heel and Haring 2003, 76-80). It is certainly possible that several of our ostraca were used as drafts for larger, neater, and more complete accounts, for instance the name-lists (section 4D) or the lamp accounts that were written in a very quick hand and were discarded at the work-site (section 7A), but any consistent practice connected to the use of a *Verwaltungs-* and a *Buchschrift* cannot be evidenced. Another interesting hypothesis is that the ostraca with workmen's marks served as drafts for hieratic accounts on especially the duty roster (Soliman 2018, 172-186). There are cases in which selected information was copied from a marks' ostracon onto a purely hieratic ostracon. For example, O. DeM 142 includes data from the marks' ostracon IFAO 317+. Yet, whereas the writing of O. DeM 142 is quite neat, clear, and readable, it does not differ much from the other hieratic administrative documents in our corpus in its style of reporting deliveries and deficits, including the usual ligatures. It may be that such hieratic accounts in turn served as drafts for reports on papyri, at least in single cases (Soliman 2018, 186).

gree of efficiency in that words and hieratograms show few details, a fast *ductus*, many ligatures, and many abbreviations, whereas others are more elaborate on those points. *Verwaltungsschrift* is a degree, and this degree can, but is not necessarily connected to an official status of the texts. Future modules of the AKU Project concern *Buchschrift*; perhaps we can systematically analyze and compare degrees of *Verwaltungs-* and *Buchschrift* in a number of years.

The paper is divided into sections in which the research questions recur. Sections 1 to 3 concern general information on the AKU module and the collection and processing of sources:

- Section 1: introduction.
- Section 2: the composition of the study and its research questions.
- Section 3 sources and methods. Subsection A reports on the selection and collection of sources (which and why); subsection B explains the primary and secondary corpus (how and why); subsection C describes the digital processing of the sources and the creation of digital facsimiles.

Sections 4 to 7 contain content, palaeographical, and handwriting analyses.

- Section 4 is an updated version on the author's paper on the necropolis journal.[20] Text categories, layout, genre-specific writing habits, and the question whether there is a relation between categories of text and specific forms of layout are aspects in focus.
- Section 5 concerns the economy of the writing process and discusses economizing marks, forms of abbreviation in various contexts, and cotextual influence in the writing of hieratograms in words and personal names.
- Section 6 concerns the physical and cognitive writing processes with a number of palaeographic peculiarities that relate to the composition of hieratograms, adjustments made to hieratograms, color use, and text planning.
- Section 7 concerns analysis of individual handwritings and styles from the current corpus that have previously been identified.

Section 8 contains concluding notes with remarks on all sections above, the "necropolis journal", and on *Verwaltungshieratisch* from dynasties 19 and 20.

[20] Van der Moezel 2022.

3 Sources and Methods

This section explains the selection and collection of sources by AKU (subsection A); describes choices that were made in organizing the corpus (subsection B); and reports on how the sources were processed and the facsimiles made (subsection C). It illustrates questions and problems that were encountered in the process of producing facsimiles.

3A Selection and collection of sources

Work on the corpus module began with an orientational study for relevant text sources that would meet four criteria prescribed by the AKU Project. The texts that are selected must be:[21]

- securely dated: either a date must be mentioned, or a secure date must derive from prosopography, find context, or other contextual data;
- well-preserved: when a text can be read, but the paint is much effaced, an estimation or interpretation of the form of a hieratogram is not given;
- accessible: we must be able to obtain high resolution photos or scans without much delay;
- published: AKU documents hieratograms, their forms and metadata, but no transliterations, translations, lexical or grammatical discussions.

On the basis of these criteria lists of relevant texts were composed Since planning to collect sources and actually making or receiving (high resolution) photographs are two different steps and one cannot be certain about the exact outcome, further genres (letters and communications, private transactions, jurisdiction, miscellaneous) were included in the selection process before the focus could be placed exclusively on the "necropolis journal".[22] Contact was sought with the relevant institutions. The charts in figures 3.1-4 show the number and genre of texts collected from four institutions.

[21] See also the recently published post by Gülden: https://aku.hypotheses.org/3017.

[22] A small number of literary and religious texts were selected that could be of use to AKU colleagues in a later phase of the project.

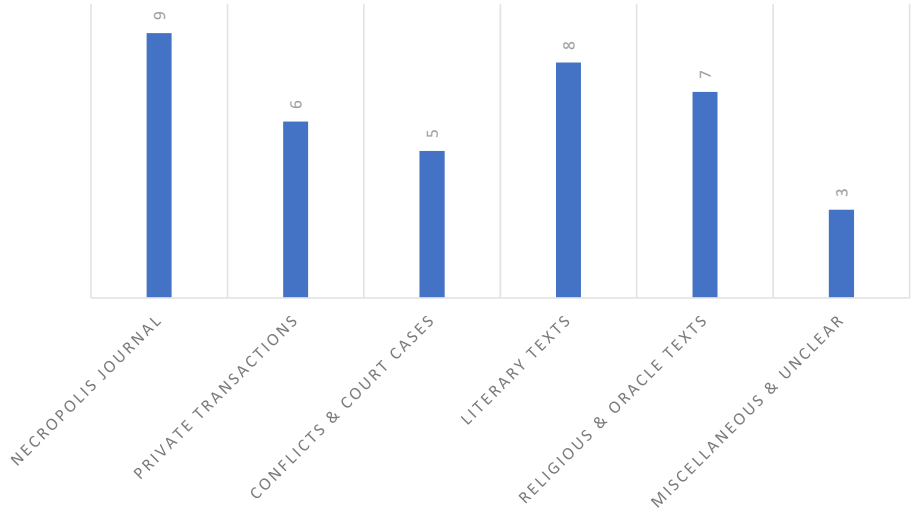


Figure 3.1: The number of texts collected from the British Museum in London and the spread of genres

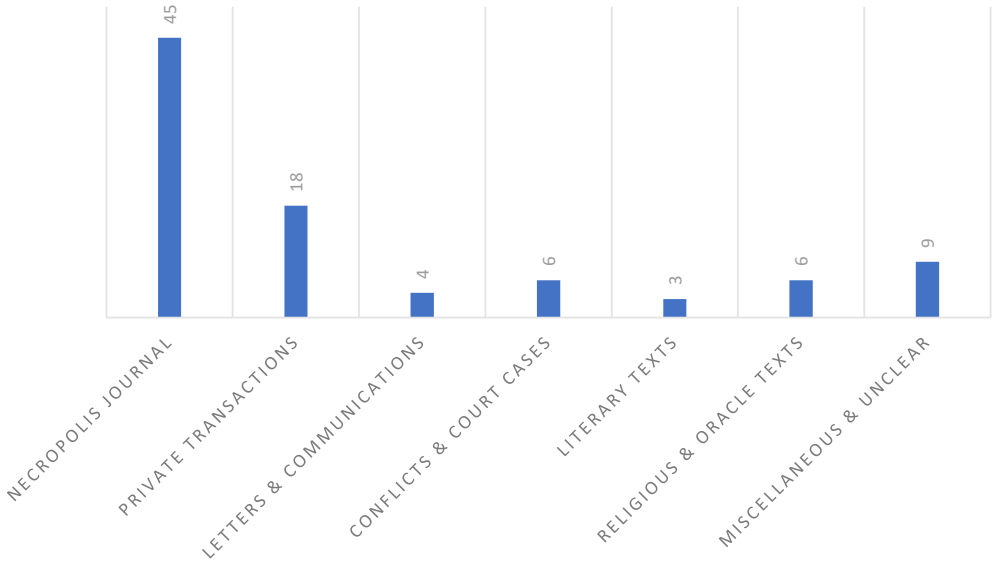


Figure 3.2: The number of texts collected from *Museo Egizio* in Turin and the spread of genres

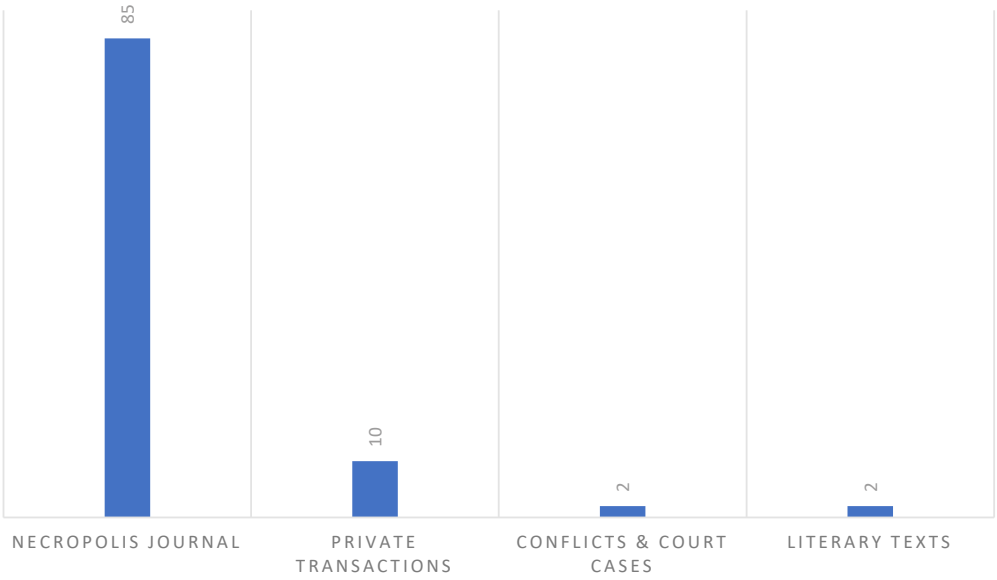


Figure 3.3: The number of texts collected from the IFAO in Cairo and the spread of genres

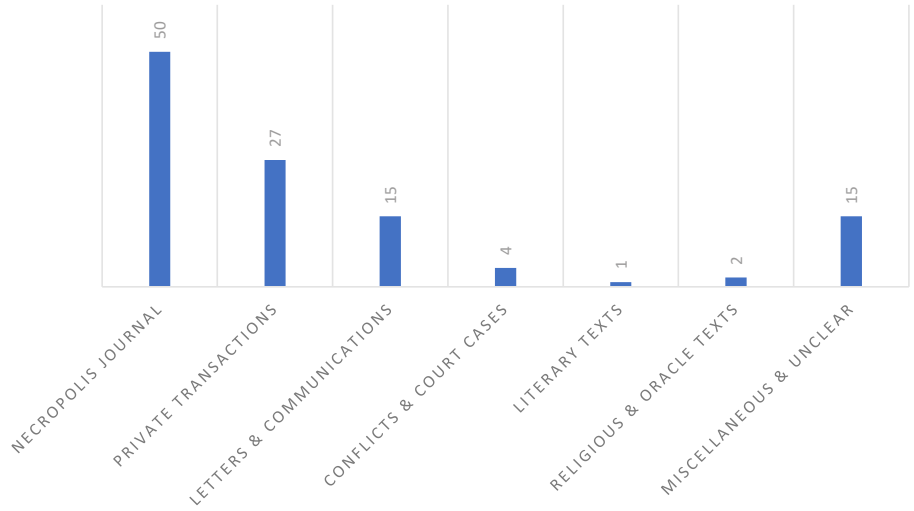


Figure 3.4: The number of texts collected from the *Ägyptisches Museum* in Berlin and the spread of genres

Due to the fact that not all ostraca from the French Institute in the older DFIFAO series are published with photo or facsimile, it was not in all cases possible to check criterium 2 prescribed by the project: the state of preservation of a text. The selection of texts therefore happened especially on the basis of topics that occur in the texts and notes by Černý and Sauneron.[23] Since the amount of ostraca *non-littéraires* in the French Institute is particularly immense, a stricter selection of topics was made with primary focus on the "necropolis journal". The two literary texts are due to the fact that in two cases the *verso* has literary contents, whereas the *recto* contains a text that belongs to the "necropolis journal" theme.

In total, the number of sources collected for the corpus module ran up to 342 texts on 325 ostraca, with 189 texts on 184 ostraca belonging to the "necropolis journal" theme. Certainly, there are many more sources that would be relevant for a palaeographic documentation and analysis of administrative hieratic script from the 19th and 20th dynasties, but the inclusion and processing of more texts was not realistic. Figure 3.5 shows the chronological spread of the incorporated texts with a "necropolis journal" theme.

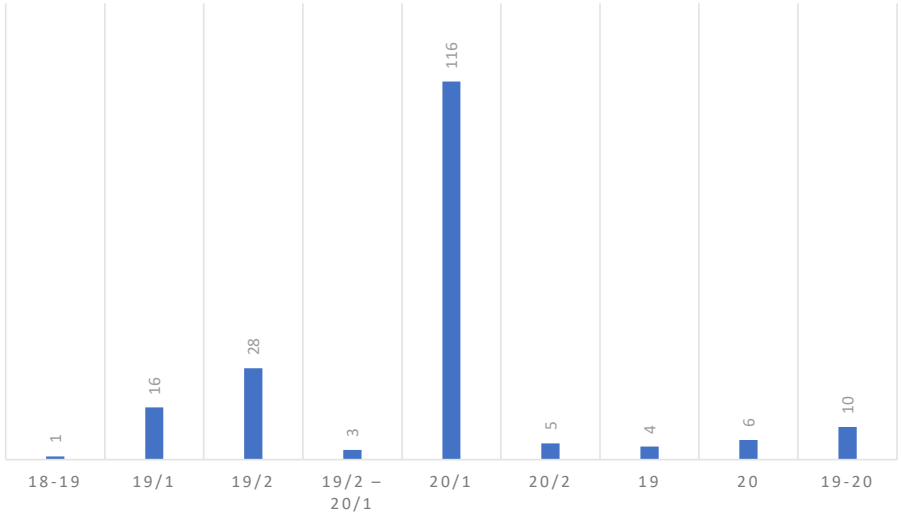


Figure 3.5: The chronological spread of the texts with "necropolis journal" theme. The periods are outlined according to Haring 2003, 252-253: /1 and /2 indicate the first and second halves of the respective dynasties

For each text, the date has been taken from the literature referred to in the Deir el-Medina Database and in Deir el-Medine Online: the two sources also referred to

[23] Černý 1935; Černý 1937a; Černý 1937b; Černý 1939; Černý 1951; Sauneron 1959; Černý 1970.

for further literature.[24] The chronological focus lies on dynasty 20 due to the well-known bias of texts from especially the reigns of Ramesses III and Ramesses IV.[25] The corpus does include a number of ostraca dated to dynasty 19 with relevant administrative topics, yet most lack a king's name and a year date. In many cases, a date at least in the first or second half of the 19th dynasty has been proposed on the basis of prosopography, find context, or events mentioned, in several cases in addition to palaeographic arguments. However, a small number of thematically interesting texts can only be given a general date "19th dynasty" or even "19th or 20th dynasty". On the other end of the spectrum, some ostraca date to the reigns of Ramesses IX to XI, but their exact date and archaeological context are often unclear.[26] Texts from the chronologically difficult transfer of dynasty 20 to dynasty 21, the period of abandonment of Deir el-Medina, are excluded altogether.

3B Delineation of a primary corpus

The collected 342 texts on 325 ostraca were too many and too varied to keep a focus for analysis, which is why a primary corpus for analysis and a secondary corpus for processing in the database, i.e. for future analytical studies, were delineated. For reasons already mentioned in section 2, the focus was, as planned, placed on texts with a "necropolis journal" theme. These texts are especially relevant to the analysis in section 4. The remaining texts form the secondary corpus. Although they are not considered as being directly relevant to the "necropolis journal" question, they do variously relate to administrative hieratic. Therefore, they may surface as examples in sections 5 to 7 when they show interesting or relevant features. Letters were initially a doubtful case, for they could concern the organization and progress of the work carried out in the necropoleis. However, there was eventually only a small number of letters among the received texts, most of which are rather private letters that may or may not collaterally mention work in the necropoleis, or brief communications between inhabitants of the village.[27] They therefore moved to the secondary corpus. Conflicts and court cases formed another doubtful category. Although they do not concern the organization

[24] https://dmd.wepwawet.nl/ [21.7.2022]; https://dem-online.gwi.uni-muenchen.de/ [21.7.2022]. No further references to, and literature concerning the ostraca will be given, unless it concerns a particularly relevant reference or discussion not found in the Deir el-Medina Database or in Deir el-Medine Online.

[25] For a discussion of the number of ostraca in relation to the increase of papyri, see also Haring 2018, especially 47-50.

[26] See Haring 2018, 49. The ostraca with workmen's marks form an exception: they were still produced at the site of Deir el-Medina into the late reign of Ramesses XI. See Haring 2018, 50; Soliman 2016, 331-341 (updated publication planned for 2023).

[27] Moreover, the style of these letters and communications was completely different from what was gathered in the primary corpus. See section 4; Donker van Heel and Haring 2003, 125.

and progress of the work, they do concern the workmen and the overall juridical administration of the village. Yet again, the corpus contained only very few such texts. They are mostly written in their own style with their own elements and formulae,[28] and often in a very neat script. They generally do not compare well with the administrative texts from the primary corpus and were therefore assigned to the secondary corpus. Transactions, inventories, bills, and receipts were considered to belong to the secondary corpus when they clearly relate to private transactions, for instance when the first person singular is used throughout,[29] when the actors are women or workmen acting individually, or when the lists contain rarely mentioned foods or goods such as shawls or bed linen or a much varied number of goods in small amounts. Such lists often appear to be linked to personal inventories or payments.[30] Inventories also occur in the context of the work carried out in the necropoleis, for instance when materials and tools are listed; in such cases, they have been included in the primary corpus.

Figure 3.6 shows the number of ostraca in the primary corpus, the secondary corpus as well as the number of ostraca that were excluded altogether (those belonging to the genres "literary texts", "religious and oracle texts", and "miscellaneous and unclear texts"). Table 3.1 in the back lists all ostraca that were collected.

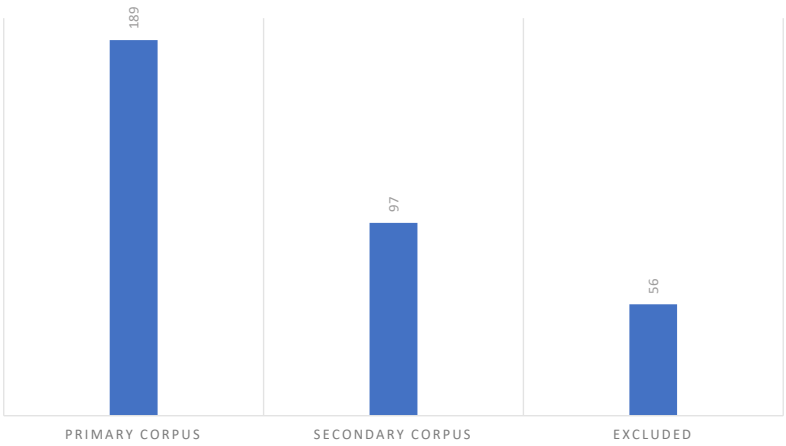


Figure 3.6: The number of texts assigned to the primary and the secondary corpora, and the number of texts excluded from the corpus module

[28] See also Donker van Heel and Haring 2003, 162-178.

[29] An exception is O. Turin CGT 57035: the author in first person is a scribe of the administration.

[30] An exception may be the ostraca listing (groups of) workmen associated with pieces of cloth. They may be textile lists, comparable to lists with other deliveries to the crew and the village. The same type of ostracon is also found among the ostraca with workmen's marks, which speaks in favor of a document relating to the crew rather than a private matter. The current corpus does not, however, contain such textile lists.

3C Methodology: drawing digital facsimiles

For the process of drawing digital facsimiles we need high resolution photos or scans with a scale. These are our *Digitalisate* onto which we draw facsimiles in *Adobe Illustrator*. The method of drawing used in the AKU project is based on Gülden, *Leitfaden zur Digitalisierung von Hieratogrammen im AKU-Projekt. Zeichnungen – Scans – Datenformate* (internal to the project). A detailed description of the method will be provided elsewhere.[31]

It is not always possible to draw every single hieratogram in a text, for instance when the text is damaged or the paint has effaced. An estimation of the form of a hieratogram would be of no use to a palaeographic study and hieratograms that show much damage are of no value for digital comparison. Therefore, only well-preserved hieratograms are drawn. This is, however, more easily said than done. When drawing facsimiles, a number of problems and questions relating to materiality rise to the surface and choices have to be made. What, for instance, is to be considered damage? When is a hieratogram too damaged for inclusion in the corpus? What about light forms of damage? When paint is lacking from the outline of a hieratogram as a result of a rough surface, and it was thus never there in the first place, does that count as damage? Do we draw what we see at 1200%, or do we straighten the lines as they seem to be at 100%, arguing that this is how the scribe saw and without doubt had meant to draw them? The first option can lead to problems regarding the digital evaluation of sign-forms, yet the second option neglects aspects of materiality. Examples are given in figures 3.7a to d.

Figure 3.7a: Facsimile of a detail from O. Turin CGT 57020. Facsimile: KvdM

Figure 3.7b: Detail from O. Turin CGT 57056. Photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni; facsimile: KvdM

[31] Gülden, in preparation. Step-by-step instructions are planned be published in the project blog *Hieratisch AKUell* (https://aku.hypotheses.org).

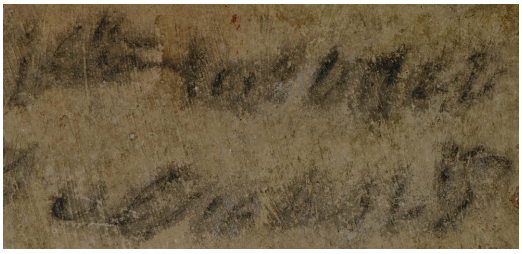


Figure 3.7c: Detail from O. Berlin P. 14156. © *Staatliche Museen zu Berlin – Ägyptisches Museum und Papyrussammlung*, photo: KvdM

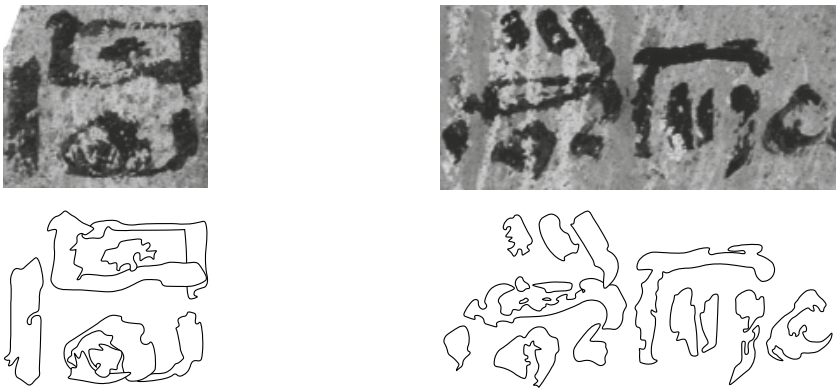
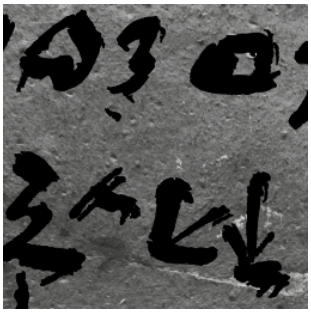


Figure 3.7d: Details from O. DeM 876 *verso* lines 2 (left) and 3 (right). Photo © Ifao; facsimile: KvdM

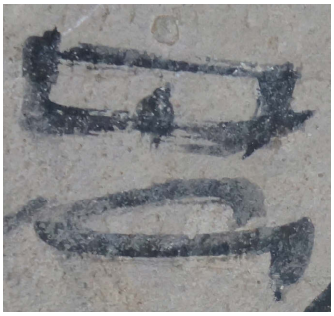
Figure 3.7a shows how the rough surface of ostracon Turin CGT 57020 causes the signs to have many breaks in their outlines. Figure 3.7b shows how an uneveness in the surface of ostracon Turin CGT 57056 causes a broken outline. By recording the outlines as such, we stay true to the material aspects of our palaeographic work, but the resulting facsimiles cannot be used in an assessment of the scribal hand or an automated analysis of sign-forms. Ostracon Berlin P. 141456 in figure 3.7c shows a writing that is heavily rubbed off. Some (parts of) strokes can still be traced, but they are interupted by blurred areas. Ostracon DeM 876 *verso* in figure 3.7d shows weathering. Whereas the remains of paint at 1200% would allow straightening the strokes in line 2 (left), the strokes in line 3 (right) have too many interruptions. The hieratograms on the right are not suited for a digital palaeography and systematic analysis, those on the left are doubtful. This last example is perhaps somewhat extreme, but if one starts to analyze the ostraca from so closeby, such problems arise in each and every case.

A similar question is how we deal with sign-forms that are clearly the result of a bad reed or brush, or the lack of sufficient paint on the brush. Again, this is a ques-

tion that rises precisely as a result of working with high resolution photographs that show every fibre and every stroke of the brush, also those that the scribe surely did not mean to draw. Examples are given in figures 3.8a-c.


a


b


c

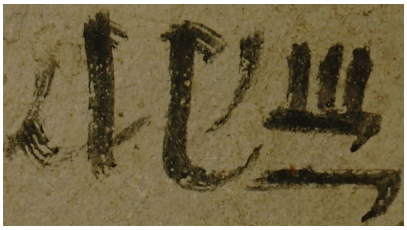

d

Figure 3.8a: Detail from O. Turin CGT 57055. Photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni; facsimile: KvdM; b: Detail from O. Turin CGT 57058. Photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni; facsimile: KvdM); c: Detail from O. BM EA 5624. Photo © The Trustees of the British Museum, KvdM; d: Detail from O. Berlin P. 10663. © *Staatliche Museen zu Berlin – Ägyptisches Museum und Papyrussammlung*, photo: KvdM

Figures 3.8a and b both show how a bad brush causes irrelevant strokes on ostraca Turin CGT 57055 and Turin CGT 57085. Figures 3.8c and d show places in the text where the brush became dryer and the scribes needed to dip anew: lack of paint causes frayed lines on ostraca BM EA 5624 and Berlin P. 10663. To draw every detail we see is interesting especially for a study on the materiality of writing, but including all this information leads again to problems: 1) the facsimiles become almost unreadable and hardly useful for a project that also includes a didactic aspect; 2) the resulting facsimiles are much less suited for digital processing and automated comparison. A search for scribal hands would be negatively influenced by all the extra information irrelevant to the question.

It was ultimately decided to include in the facsimiles not every single detail, but to weigh in each individual case which information would be relevant but not cumbersome in the digital processing of the resulting facsimile. In practice, this usually means that protuberances caused by a bad brush or rough surface are not

included in the outline and black facsimiles. Similarly, the extent to which damage is included in the outline and black facsimiles is weighed in each individual case: if it concerns a small break in the outline that is hardly seen on the photograph in ratio 1:1 we may choose to straighten the line. If it concerns larger breaks in the outline that can be seen, we may choose to follow the outline as it is and indicate the damage in a separate layer of *Adobe Illustrator*. When a stroke is completely interrupted by damage, we will initially not draw and include the hieratogram, for the SVG file would not calculate the number of strokes drawn by the scribe; it would calculate the interrupted line as two rather than one stroke. However, when it concerns a rare or interesting hieratogram, we may decide to include it anyway and indicate the number of strokes of which the sign consists in the database by hand. In sum, it is important to look at each individual case and decide on which information is relevant. This causes a degree of subjectivity in our facsimiles. Yet the possibility of documenting extra information in more layers of *Adobe Illustrator* reduces this subjectivity somewhat[32] and makes that the resulting facsimiles are well accounted for.

A question that may remain with the reader is why we go through the time-consuming process of drawing digital facsimiles of texts that have already appeared in editions that in many cases include photographs and/or facsimiles. This choice is accounted for with a number of arguments. First, the AKU methodology turns the facsimiles into vector graphics, which allow digital processing without quality loss and large-scale comparison and have a number of other advantages.[33] Second, new technology shows how older publications can lack in detail or even are misleading. This is no judgement, of course, for we did not always have the digital means we have now (and who knows what more will be possible in the future!). It is mind-blowing how much detail something simple as a better photograph can reveal and we hope to inspire colleagues from institutions and museums to update their photographic collections in a higher resolution. Examples of misinterpretations in older publications are numerous and concern the composition of single hieratograms, but especially also of ligatures, which in some cases appear upon closer examination to be no ligatures at all. Examples are elaborated upon in section 6B, but let one example suffice here. Figure 3.9 shows the facsimile of ostracon DeM 859 as it was published in 2003.[34] The first hieratogram in line 1 is the

[32] Not completely, because by default, every facsimile is an interpretation by its creator. Subjectivity in facsimiles is, however, not necessarily a bad thing. Computers can automatically, and objectively, create facsimiles, but the results are not (yet) satisfying to a study with palaeographic focus, and questions such as those asked here while making facsimiles are not considered by them. A recent discussion of machine learning in Egyptology is found in Unter 2021.

[33] Gülden 2018, 83-109; Gerhards and Konrad 2022. See also Van den Berg and Donker van Heel 2000, 39-42.

[34] Grandet 2003, 240-241.

rnp.t-sign, which in the facsimile looks like a vertical line with a hook on top. The detail to its right is given as a separate vertical stroke. Looking at the photo in figure 3.10a, however, one might already suspect that something is wrong, and having the photo enlarged to 1600% confirms this (fig. 3.10b). The small stroke to the right is in fact a hook that overlaps the vertical line. Moreover, we now see that the hook on top was an extra line as well, overlapping the vertical line. This information can be shown in our facsimile (fig. 3.10c). In figure 3.9 it also seems as if two vertical lines almost at the end of line 1 are damaged and miss their upper parts. In fact, this is not so, both are complete. Damage begins just above these signs, but leaves them intact. By drawing the signs anew we can include them in a digital analysis, whereas otherwise they would have been considered damaged. One may argue that these are just small details, but facsimiles are full with such small details. If we wish to make an inventory of hieratic script in order to digitally read or exchange the forms for several purposes (e.g. the comparison of scribal hands, the study of developments in hieratic script), we must document each hieratic form correctly. The AKU methodology of drawing digital facsimiles makes us look more carefully at the strokes and the composition of hieratograms, which allows us to provide better information on how signs were made. This helps in analyzing and trying to define what happens in the writing process, which is what AKU intends to do on a large scale: analyzing how hieratic writing developed, how the forms changed, adapted to co- and context, related to hieroglyphic script over the years, and how personal, regional, or chronological traits can be defined.

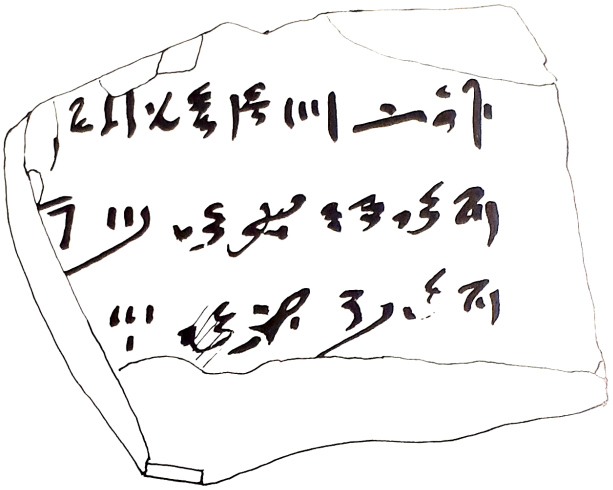


Figure 3.9: Facsimile of O. DeM 859. Grandet 2003, 240

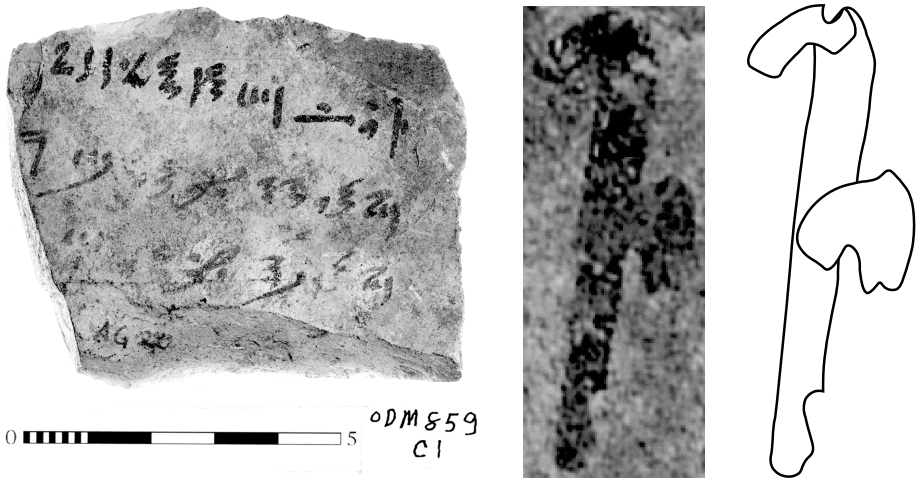


Figure 3.10a: Photo of O. DeM 859 (© Ifao); b: detail of the first hieratogram *rnp.t*; c: the new facsimile of the *rnp.t*-hieratogram (KvdM)

4 Genre-specific aspects: categories, layouts

The AKU project understands palaeographic analysis in a broad sense: the analysis of sign forms in co- and context. Questions on genre-specificity and the influence of layout on the writing are given thought in this chapter. subsection A reinterprets the term "necropolis journal". The topics that occur in the corpus are grouped into categories in subsection B. Subsection C looks at how scribes dealt with layout in their texts, in order to answer the question whether certain categories of text are related to specific types of layout in subsection D.

4A Reconsidering the "necropolis journal"[35]

The term "necropolis journal" was first coined in the first half of the 20th century by Botti and Peet in their publication *Il giornale della necropolis di Tebe* (1928).[36] In the context of this publication, the term referred to papyri that record dates, events, and activities related to the work on the tombs in the Valley of the Kings and the Valley of the Queens. Since then, many texts – papyri and ostraca – have been declared to belong to this "necropolis journal", which now generally indicates texts that record all sorts of notes, activities, and events related to the workmen and their work in, and the administration of, the tombs in the Theban necropoleis. These texts record in detail the progress of work, deliveries and rations to the workmen, absences from work, and important events, such as a visit by the vizier or the succession of a new king. Helck defined "Die sog. Journals" in "Wachhabenden/, Arbeitstage und Vorkommenslisten".[37] Overall, the grouping of texts with these topics under one term "necropolis journal" has served alright in setting them apart from the thousands of texts from the Theban region of different nature: literary, religious, funerary, juridical, private. Yet recent works that deal with the "necropolis journal" rightly criticize the term. It certainly does not function well in actually defining the texts that are being shoved under this heading. It does not clarify further the sorts of texts and what their purpose was, or how we must picture their role, meaning, and function within the administration of the Theban area. When Janssen wrote an appendix on the "necropolis journal" ostraca from the reign of Ramesses III in *Deir el-Medina in the Third Millennium AD* he stated: "The criterion to include an ostracon in the list was the possibility of dating it after the names, even when only two or three of them occurred – besides, of course,

[35] Several parts of the text, tables, and figures in subsections A to D were also published in Van der Moezel 2022. The present text contains updates and elaborations.
[36] Botti and Peet 1928. See also Helck 1982.
[37] Helck 1963, 604.

being a day-by-day record of deliveries to the workmen."[38] He thus defined the "necropolis journal" as consisting of documents with day-by-day deliveries. After a study of a group of ostraca from the *Museo Egizio*, Donker van Heel argued that a refinement of this statement was necessary. In *Writing in a Workmen's Village*[39] he showed that ostracon Turin CGT 57031 overlaps with ostracon Glasgow D. 1925.67 in recording days one to 19 of month two of *peret* in year 25 of Ramesses III, but both ostraca have different entries. He stated: "Clearly, the Glasgow ostracon records the duty roster and deliveries, while the Turin ostracon records the work in progress in the Valley of the Queens".[40] He argued that the "necropolis journal" of Deir el-Medina would be made up of two separate but equal parts, namely the labour journal made at the worksite, and the duty-roster and day-by-day deliveries to the workmen, probably at the administrative headquarters (also designated as gatehouse) designated as the *ḫtm n pȝ ḫr*, located on the way out of the wadi between Deir el-Medina and the Ramesseum.[41] Together, these two parts would cover the income and output of the entire crew. Yet, this definition is still not sufficient. A fair question is what the "labour journal" entails exactly. Ostracon Turin CGT 57031 records entries on the progress of work, events, and the handing out of braziers as lamps used for work (an account of materials and equipment used for work in the tombs). It is written by the same scribe who wrote many ostraca now in the *Museo Egizio* (section 7A) This scribe also wrote accounts on absences or presences during work as well as ostraca that only record the progress of work, or notes on the handing out of braziers in a particularly quick handwriting. We thus already have a number of topics that in some form (combined or single, elaborate or brief) relate to what is understood as the "necropolis journal". This appears from further statements by Donker van Heel as well. After a case study on a scribe who witnessed the death of Seti II and the rise of Siptah, and who wrote several of the ostraca in the *Catalogue general des antiquités égyptiennes du Musée du Caire*, he writes: "Obviously, this was a scribe who liked to duplicate his notes and keep his work on more than one ostracon at the same time. For instance, the two progress reports O. Cairo CG 25536 obverse and O. Cairo CG 25537 both seem to have been made specially for the visit by the vizier, but were brought up to date afterwards as well, in some cases on one and the same day. … Both ostraca relate to the work in the tomb, but deal with different aspects of this work".[42] And further: "The fact that this Deir el-Medina scribe kept his lamp administration (O. Cairo CG 25516 obv. 1 – rev. 2) apart from his daily labour journal (O. Cairo CG 25515) and his absence list of individual workmen (O. Cairo CG 25516 rev. 3-28) is by no means

38 Demarée and Janssen 2000, 91-94.
39 Donker van Heel and Haring 2003, 68-70.
40 Idem, 68-70.
41 Burkard 2006; Eyre 2009; Eyre 2013, 238-240.
42 Donker van Heel and Haring 2003, 55.

coincidence."[43] The reports and notes are multifaceted and do not allow easy assignment to one thematical format.

Several other colleagues have taken a closer look at the texts under discussion.[44] The consensus is that we cannot speak of an actual journal in the modern sense of that word. Yet, we do seem to be in need of some term to refer to the texts that specifically concern the administration and progress of the work on the tombs in the necropoleis. In contrast to an earlier publication[45], the alternative suggested here is a simple one: **necropolis administration**. Since ostraca in and around Deir el-Medina were not only used for drafts and *aides-mémoires*, but also for finished and one-of-a-kind texts, it is extremely difficult to distinguish between texts that would have served the purpose of a journal (what purpose would that have been?) and texts that served emphemeral functions.[46] Those texts that would apply to belong to a journal lack the systematicity and regularity in production, accumulation, and format that goes with that term. We are not dealing with a journal, but with administration in a general sense, with ostraca giving insight into different phases of administration and divergent administrative processes.

4B Categories of necropolis administration: a grouping of topics

Among the texts that belong to the necropolis administration, we find patterns and similarities, e.g. texts that record similar content, or show similar style and setup. A study was conducted to see which categories and which forms of layout are found in the corpus and whether relations could be seen. The categorization of texts offered below is not meant to define the corpus (let alone it is meant to define the necropolis administration!). Offered is simply a categorical list, showing which topics dealing with work on the tombs were encountered in the corpus. It shows the dimension of the necropolis administration in the corpus.

During the selection process commented upon in section 3, texts were included in the necropolis administration in the following cases:

[43] Donker van Heel and Haring 2003, 59.
[44] A selection of works was mentioned in footnote 11. To be noted especially is a doctoral thesis that was written on the "necropolis journal" by Morfini 2019.
[45] Van der Moezel 2022, 305-306.
[46] Eyre 2013, 13-14, 30, chapter 6.

- texts organized by calendar dates: the day-by-day records Janssen wrote about;[47]
- all texts that were collected from the four institutions that had been given the label "necropolis journal";
- texts with administration on the crew and (the progress of) their work;
- texts with administration of events that explicitly influenced the crew's work, such as visits by the vizier or commotion concerning the lack of rations;
- texts with administration (on the use) of materials and equipment;
- texts that concern rations given to the crew for their work.

Texts were excluded from belonging to the necropolis administration

- when they concern workmen or inhabitants of the village who speak about themselves in the first person singular. This is usually an indicator of private communication or private transactions (e.g. O. Berlin P. 11258). An exception is ostracon Turin CGT 57035, in which the author in first person is a scribe working for the administration;
- when they were lists with small amounts of rarely mentioned foods or objects without context;
- when they were lists of food and/or objects for feasts or activities purely related to offerings (e.g. O. Berlin P. 12286). Feasts are sometimes mentioned in the necropolis administration as events interrupting the crew's work, but those texts that primarily concern food and products particularly for such feasts are considered to rather relate to temple administration;
- when they were letters.[48] There is, however, one exception: ostracon BM EA 50734+[49] is a letter from the deputy *Jmn-ḫ*ʿ to "his lord" (presumably the vizier). *Jmn-ḫ*ʿ reports and complaints about inefficiency (*wjꜣwjꜣ*[50]) at the *ḫtm*. The reason for writing the letter in the first place is therefore connected to the crew and the administration of the work and as such this text has been included in the necropolis administration.

The necropolis administration in the current study includes 189 texts on 184 ostraca. Five ostraca have different texts on the *recto* and *verso*, which can be seen from dates, topics, and/or the handwriting, yet both texts are of administrative nature. However, as soon as the palaeographic work began, it became clear that 11 ostraca had to be excluded from being worked on altogether. Some were in a

47 Haring 2014, 88: "A relatively small group of ostraca is of the 'journal' type (i.e. organized by calendar dates), and presents different sorts of information for the days included. This format is very common with papyri, especially with the longer papyrus journals of the late Twentieth Dynasty".
48 Cf. Donker van Heel and Haring 2003, 125.
49 O. Ashmolean Museum 99 + O. BM EA 50734 + O. BM EA 50742 + O. Cairo CG 25673.
50 Erman and Grapow 1926–1931, Band I, 272.9: *ohnmächtig, erfolglos*. See also Gerhards 2021, 46.

very bad state: the paint had faded terribly or the text had been damaged since its publication (e.g. O. Turin CGT 57043, O. Turin CGT 57125, O. Turin CGT 57429). In other cases, the photographs were of a mediocre quality that was not usable for AKU goals. One further text appeared to date to dynasty 18 (O. Berlin P. 10666), instead of dynasties 19 and 20. This meant that **177 texts** of necropolis administration were left for digital processing.[51] Based on terminology and topics, the contents of the texts were assigned to one of the single categories in table 4.2 or to one of the combined categories in table 4.3 further below.

Table 4.2 Single categories of administrative text found in the primary corpus[52]

No.	Category	Texts
1	Deliveries/ deficits of products	O. Berlin P. 01122; O. Berlin P. 09897; O. Berlin P. 10632; O. Berlin P. 10654 *verso*; O. Berlin P. 10839; O. Berlin P. 10840; O. Berlin P. 11249; O. Berlin P. 11272; O. Berlin P. 12632 + O. DeM 150; O. Berlin P. 14149; O. Berlin P. 14156; O. Berlin P. 14210; O. Berlin P. 14213; O. Berlin P. 14218 *recto*; O. Berlin P. 14218 *verso*; O. Berlin P. 14264; O. Berlin P. 14302; O. Berlin P. 14614; O. Berlin P. 14657; O. Berlin P. 14666; O. BM EA 50728; O. BM EA 66412; O. DeM 1; O. DeM 3; O. DeM 4; O. DeM 10; O. DeM 15; O. DeM 20; O. DeM 26; O. DeM 48 *recto*; O. DeM 52; O. DeM 75; O. DeM 76; O. DeM 91; O. DeM 94; O. DeM 137; O. DeM 138; O. DeM 142; O. DeM 143; O. DeM 144; O. DeM 145; O. DeM 147; O. DeM 346; O. DeM 577; O. DeM 591; O. DeM 611; O. DeM 621 + O. DeM 829 *recto*; O. DeM 707; O. DeM 718; O. DeM 726; O. DeM 837; O. DeM 842; O. DeM 843; O. DeM 844; O. DeM 846; O. DeM 851; O. DeM 852; O. DeM 854; O. DeM 855; O. DeM 859 *recto*; O. DeM 859 *verso*; O. DeM 863; O. DeM 869; O. DeM 10299; O. DeM 10324; O. DeM 10339 *recto*; O. DeM 10339 *verso*; O. Turin CGT 57072; O. Turin CGT 57080; O. Turin CGT 57085 *recto*; O. Turin CGT 57085 *verso*; O. Turin CGT 57157; O. Turin CGT 57167; O. Turin CGT 57189; O. Turin CGT 57469 = O. DeM 7; O. Turin CGT 57470.
2	Acc. of absence/ presence	O. Berlin P. 11248; O. BM EA 5634; O. DeM 594; O. DeM 617; O. DeM 763; O. DeM 889; O. DeM 908; O. DeM 910; O. DeM 912 *recto*; O. DeM 913 *recto*; O. Turin CGT 57020; O. Turin CGT 57025; O. Turin CGT 57026; O. Turin CGT 57028; O. Turin CGT 57029; O. Turin CGT 57030; O. Turin CGT 57035; O. Turin CGT 57039; O. Turin CGT 57056; O. Turin CGT 57283; O. Turin CGT 57432.
3	Events	O. Berlin P. 10633; O. Berlin P. 12654; O. Berlin P. 14286; O. BM EA 50734 + O. BM EA 50742 + O. Ashmolean Museum 99 + O. CGC 25673; O. DeM 571; O. DeM 890; O. Turin CGT 57204.
4	Progress reports	O. Berlin P. 09906; O. Berlin P. 10622; O. Berlin P. 10663; O. Turin CGT 57036.

continued on next page

[51] The 11 texts that were excluded are labelled "not useable" in Table 3.1 in the back.

[52] On the basis of circa 400 texts, Morfini 2019, 196-197, distinguished four large categories of the "necropolis journal". They basically overlap categories 1, 2, 3 and 4 here.

No.	Category	Texts
5	Acc. of materials/ equipment	O. DeM 882; O. DeM 932; O. Turin CGT 57007 *recto*.
6	Name lists	O. Berlin P. 09901; O. Berlin P. 11289; O. Berlin P. 15292; O. DeM 262; O. DeM 565; O. DeM 598; O. DeM 612; O. DeM 706; O. DeM 914 *recto*; O. Turin CGT 57015; O. Turin CGT 57206; O. Turin CGT 57256; O. Turin CGT 57257; O. Turin CGT 57382; O. Turin CGT 57479.

Deliveries and/or deficits of products

Texts with deliveries and/or deficits of products (76 texts) usually concern products of the following kinds:

- grain rations (16 texts);[53]
- wood (9 texts);[54]
- fish (13 texts);[55]
- bread and cakes (1 text);[56]
- pottery (7 texts);[57]
- fat (1 text);[58]
- dates (1 text);[59]
- various, a combination of two or three of the aforementioned products (24 texts);[60]
- unclear (4 texts).[61]

[53] O. Berlin P. 11249; O. Berlin P. 14149; O. Berlin P. 14210; O. Berlin P. 14264; O. Berlin P. 14302; O. Berlin P. 14614; O. DeM 577; O. DeM 591; O. DeM 611; O. DeM 621 + O. DeM 829 *recto*; O. DeM 707; O. DeM 837; O. DeM 842; O. DeM 843; O. DeM 844; O. DeM 10339 *verso*.

[54] O. Berlin P. 10632; O. Berlin P. 12632; O. Berlin P. 14218 *recto*; O. DeM 144; O. DeM 145; O. DeM 147; O. DeM 859 *verso*; O. Turin CGT 57080; O. Turin CGT 57085 *verso*.

[55] O. Berlin P. 10839; O. Berlin P. 11272; O. Berlin P. 14156; O. Berlin P. 14657; O. Berlin P. 14666; O. DeM 75; O. DeM 76; O. DeM 137; O. DeM 142; O. DeM 718; O. DeM 854; O. DeM 855; O. DeM 859 *recto*.

[56] O. Turin CGT 57085 *recto*.

[57] O. Berlin P. 10654 *verso*; O. Berlin P. 10840; O. Berlin P. 14218 *verso*; O. BM EA 50728; O. DeM 91; O. DeM 346; O. DeM 869.

[58] O. Berlin P. 14213.

[59] O. DeM 852.

[60] O. Berlin P. 01122; O. BM EA 66412; O. DeM 1; O. DeM 3; O. DeM 4; O. DeM 10; O. DeM 15; O. DeM 20; O. DeM 26; O. DeM 48; O. DeM 52; O. DeM 94; O. DeM 138; O. DeM 143; O. DeM 726; O. DeM 10299; O. DeM 10324; O. DeM 10339 *recto*; O. Turin CGT 57072; O. Turin CGT 57157; O. Turin CGT 57167; O. Turin CGT 57189; O. Turin CGT 57469 = O. DeM 7; O. Turin CGT 57470.

[61] O. Berlin P. 09897; O. DeM 846; O. DeM 851; O. DeM 863. An example: for O. Berlin P. 09897 the online publication suggests *ḳḏ* '*Mörtel*', but adds "*Die Lesung ist allerdings fraglich*". Deir el-Medine Online, https://dem-online.gwi.uni-muenchen.de/show_anmerkung.php?id=184&inventar_nr=Berlin+P+ +09897#u4 (see u4) [7.2.2022].

Accounts of absence or presence

Accounts of absence or presence (20 texts) can be simple texts in which individual workmen are marked as being off work without reason. They can also be more elaborate accounts in which reasons of absence and further information on the return to work are given. There may only be a handful of names included, or the account may be as huge as ostracon BM EA 5634. As for the simpler texts, we usually see three blocks of information: 1) the day (*sw*) with day number, 2) the indication *wnm.y* "right side" with an enumeration of names, and 3) the indication *smḥ.y* "left side" with an enumeration of names. However, the indication *wnm.y* may be left out, as a result of which the personal names follow the day number directly. When the names for the left side start, we do consistently read the indication *smḥ.y*. In other words, *wnm.y* can be lacking, whereas *smḥ.y* was always written, which shows that the men from the right side were mentioned first and the fact that they belong to the right side should be clear from the layout and the position of the names. In anticipation of subsection C on layouts, we can furthermore note that some ostraca show a scheme in which the first and third blocks of information (the day entries and left-side members) were started in a new line. On ostracon Turin CGT 57028 *recto* the last block for the left side was forgotten and was squeezed in later. Could this suggest that the scribe was working with separate draft listings for the right and left sides, and that he added the right list, but skipped the left? It seems at least to suggest that he did not write the ostracon *ad hoc*, for instance while the crew-members clocked in or reported for work: the scribe could hardly have missed three men reporting in. Such a scenario is furthermore unlikely, since the crew-members would have had to clock in every day precisely in the same order. Clearly, the scribe wrote the ostracon later. Presumably he made drafts, dividing the absences to the respective sides, and then drew up the day entries on the ostracon, in the case of ostracon Turin CGT 57028 once forgetting the entry for the left side altogether.

Ostracon BM EA 5634 is a full report, which gives per workman several dates covering one or more months of absence including the reasons. Those reasons are given in lines of red ink written above the black lines that record the names and dates. Clearly, this is some sort of end-report written on the basis of drafts, but to what purpose? One cannot help thinking that such an end-report must have had an official aim, perhaps to be copied on papyrus or to be displayed during a visit of the authorities. Unfortunately, its find spot is unknown.

Events

The subcategory with events counts seven texts. The events mentioned may relate to the lack of rations, the accession of a new king, a court case concerning the crew, the arrival of the vizier or the enemy, or a number of other eventful happenings.

Progress reports

We currently have four texts identified as progress reports. They concern ongoing work or the start of a new project or assignment for which part of the crew was selected.

Accounts of materials and equipment

Three texts are assigned to the category with accounts of materials and equipment. They concern lamps, rope, and/or tools handed out to the crew for use during work and a calculation of the number of lamps or tools handed out or returned. The category is more often combined with other categories: ten further accounts of materials and equipment are found among the combined categories in table 4.3. At least six of those texts were written by the same scribe.[62] They are almost always a combination of extremely abbreviated lamp accounts interspersed with notes about the work done by the crew. They show narrow columns that give little information other than day-entry and a number, sometimes with a note. The abbreviated style and lack of contextual information makes it difficult in some cases to recognize the category. An example is ostracon Turin CGT 57025 (fig. 4.13), which was previously assigned to category 20 (unclear), but meanwhile to category 2 (absences/presences). The text is clearly a list, but of what is disputed. Due to its extremely abbreviated style, it is unclear what the numbers that follow the day-entries refer to. According to the Deir el-Medina Database and McClain 2018 (p. 339: "O. Turin N. 57025 records inactivity of both sides of the crew…") the text is a record of absences and presences and the numbers refer to "men on the right and left sides employed and idle during several days over several months".[63] However, Helck considered the ostracon to record a lamp account and the numbers to be amounts of braziers handed out to the workmen.[64] The only note that we read is *wsf* in a characteristic abbreviated style[65], which occurs both after days 3 and 4. This note *wsf* usually refers to workmen being idle. Would that imply that the other numbers refer to workmen being present? Or do they after all refer to braziers handed out, and the note *wsf* refers to all workmen being absent, which allows to conclude that no braziers were handed out on days 3 and 4? Helck's idea of braziers probably comes from documents that seem comparable in style at first and do record, among others, the handing out of braziers, such as the ostraca Turin CGT 57033 and 57034. However, in both those cases, the sign for "brazier" (Gardiner Q7) is explicitly used. In both the ostraca Turin CGT 57033 and 57034 we also see

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62 Ostraca Turin CGT 57031, 57033, 57034, 57044, 57047, and 57055, and in addition ostracon Turin CGT 57025. For the scribe, see section 7A. The scribe wrote many more texts and was the subject of study in McClain 2018, 337-339; Donker van Heel and Haring 2003, 65-71; Van den Berg and Donker van Heel 2000, 9-49.

63 https://dmd.wepwawet.nl/?id=O.%20Turin%20N.%2057025 [7.2.2022].

64 Helck 2002, 276-278, 281.

65 See section 5B below.

the note *wsf* in its abbreviated form, but we see other notes as well, such as *(m) s.t tn* ("(in) this place"), *mr* ("ill"), *ḳnb.t* ("court"), *grḥ mw* ("pouring water"), and *pꜣ ḏbꜣ* ("crossing"). On other days there are no notes, only a number is recorded after the day-entry. Overall, this suggests that these accounts concern a number of workmen present, with notes on their absence and even small events taking place. On those days where we find a brazier-sign, this may have meant that all men present were handed out a lamp. Due to the similarity in hand and style, we may then suggest that ostraca Turin CGT 57033 and 57034 include lamp accounts and can thus be ascribed to a combined category that includes accounts of materials and equipment, but ostracon Turin CGT 57025 can not.[66]

The brevity of such accounts of materials and equipment and the lack of context makes clear that these are drafts or *aides-mémoire*, notes related to the drawing up of more elaborate reports that were more likely checked or archived.

Name lists

Fifteen texts are assigned to the category name lists. They are simple listings of personal names of workmen. One text, ostracon DeM 914 *recto*, has dots that precede the names. These presumably represent a counting or control system. Again, the lack of any further information suggests that these are drafts or *aides-mémoire* used to compose more elaborate documents. Perhaps, the name lists were composed and checked on site and than taken to the village to be processed, since ostracon DeM 914 was found in the *grand puits*.[67]

A number of texts do not concern one of the categories above, but rather a combination of two or more of the single categories. Table 4.3 lists the combined categories that were found in the corpus. Clearly, most texts concern a single category: a total of 125 texts (categories 1 to 6) against a total of 45 texts (categories 7 to 19). The latter also have a larger spread with several categories represented by only one text. Table 4.3 shows that duty rosters are – logically – always combined with deliveries and deficits, but hardly ever with other categories, except for the mention of some absences and events. These absences and events are not given as list enumerations (which for absences at least is the case in single category 2 as well as in several of the combined texts). Rather, they are given as sporadic mentions in between the deliveries and deficits, that is, they were not a structural part of the duty rosters. Categories 18 and 19 present the most complete reports but leave out duty rosters. Whereas deliveries and deficits of products can be combined with all other single categories, the combination with duty rosters (categories 10 to 12)

[66] A closer examination of the dots used on ostraca Turin CGT 57025, 57033, 57034 and several others from the Turin group, all by the same scribe, clarifies the matter further in section 5A.

[67] See section 4D for more information on provenance of the ostraca.

appears as a separate subgroup with most texts assigned to it. Name lists as a category are in the corpus not combined with other categories of text.

Table 4.3: Combined categories of necropolis administration in the primary corpus

No.	Deliveries/deficits of products	Duty roster	Acc. of absence/ presence	Events	Progress reports	Acc. of materials/ equipment
7[68]	✓		✓			
8[69]	✓			✓		
9[70]	✓		✓	✓		
10[71]	✓	✓				
11[72]	✓	✓		✓		
12[73]	✓	✓	✓			
13[74]				✓		✓
14[75]			✓	✓		
15[76]			✓	✓		✓
16[77]					✓	✓
17[78]			✓		✓	
18[79]			✓	✓	✓	✓
19[80]	✓		✓	✓	✓	✓

One further group is category 20, which contains six texts of which the contents cannot be allocated to a specific category due to their fragmentary or faded state

68 Two texts: O. DeM 604; O. DeM 895.
69 Four texts: O. BM EA 50722 + O. CGC 25726 + O. BTdK 660; O. BM EA 50744; O. DeM 35; O. DeM 595.
70 Four texts: O. DeM 55; O. DeM 900; O. Turin CGT 57007 *verso*; O. Turin CGT 57153.
71 Nine texts: O. Berlin P. 12625 + O. IFAO ONL 300; O. Berlin P. 12627; O. Berlin P. 12628 + 12641; O. Berlin P. 12639 + 14696 + O. DeM 33; O. Berlin P. 12642 + O. DeM 160; O. BM EA 5635; O. DeM. 578; O. DeM 876; O. Turin CGT 57393.
72 Twelve texts: O. Berlin P. 12626 + O. DeM 41; O. Berlin P. 12629; O. Berlin P. 12631 a + b; O. Berlin P. 12633 a + b; O. Berlin P. 12640 + O. DeM 161 + O. Strasbourg H82; O. Berlin P. 12651 + O. DeM 45 + O. Vienna H. 4; O. DeM 32; O. DeM 40 + Strasbourg H42; O. DeM 42; O. DeM 44; O. DeM 46; O. DeM 148.
73 One text: O. Berlin P. 12384.
74 One text: O. Turin CGT 57034.
75 One text: O. Turin CGT 57156 *recto*.
76 Four texts: O. Turin CGT 57033; O. Turin CGT 57044; O. Turin CGT 57047; O. Turin CGT 57055.
77 Three texts: O. Berlin P. 14255; O. Turin CGT 57006; O. Turin CGT 57366.
78 Two texts: O. BM EA 50730 + 50745; O. DeM 899.
79 One text: O. Turin CGT 57031.
80 One text: O. BM EA 5672 + O. CGC 25649.

or due to discussion concerning their contents. They are O. Berlin P. 10842; O. Berlin P. 14233; O. DeM 759; O. DeM 776; O. DeM 893; and O. Turin CGT 57282.

Figure 4.11 shows the number of texts for each category (single and combined) in the primary corpus.

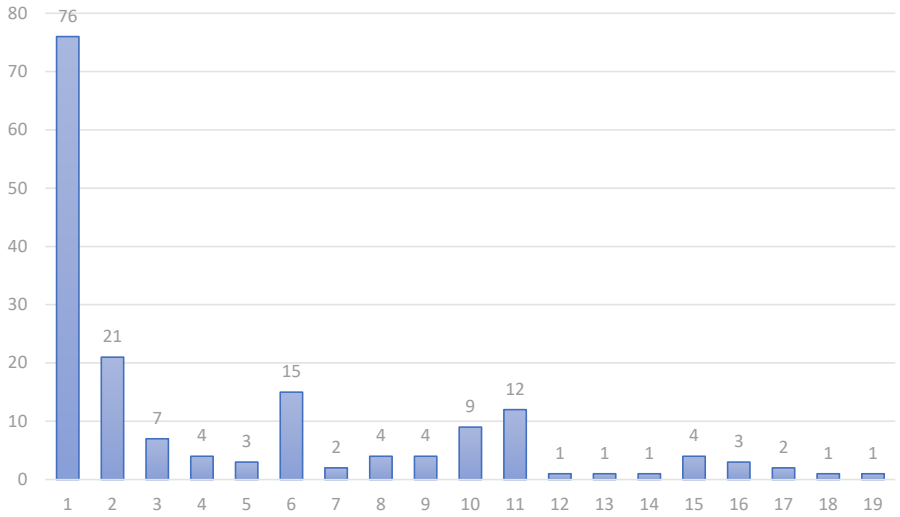

Figure 4.11: The number of texts per single and combined category. Total: 171 texts (category 20 “unclear” with six texts is left out)

Table 4.4 shows the chronological spread of all categories.[81]

Table 4.4: Chronological spread of the categories of text

No.	Text category	Chronological spread
1	Deliveries/deficits	Seti I – Ramesses XI
2	Acc. of absence/presence	Seti II – Ramesses IV
3	Events	Ramesses III, year 27 – Ramesses IX or XI
4	Progress reports	Ramesses III

continued on next page

[81] Only secure dates or those mentioning a king’s name are taken into account. Dates such as “dynasty 19 or 20” or “early dynasty 19?” were left out. For dating the ostraca, I followed the information and references in the *Deir el-Medina Database* and *Deir el-Medina Online*.

No.	Text category	Chronological spread
5	Acc. of materials/equipment	Siptah/Tausret – Ramesses III
6	Name lists	Ramesses II – Ramesses IV
7	Deliveries/deficits Acc. of absence/presence	Ramesses III – Ramesses IV or V
8	Deliveries/deficits Events	Seti II – Ramesses IV
9	Deliveries/deficits Acc. of absence/presence Events	Seti II/Siptah – Ramesses III
10	Deliveries/deficits Duty roster	Seti II/Siptah – Ramesses IV
11	Deliveries/deficits Duty roster Events	Ramesses III, year 25 – Ramesses IV, year 2
12	Deliveries/deficits Duty roster Acc. of absence/presence	Ramesses IV, year 2
13	Events Acc. of materials/equipment	Ramesses III, year 2
14	Acc. of absence/presence Events	Ramesses III
15	Acc. of absence/presence Events Acc. of materials/equipment	Ramesses III, years 22 – 26
16	Progress report Acc. of materials/equipment	Ramesses III – Ramesses IV or VII
17	Acc. of absence/presence Progress report	Siptah(?) – Ramesses VI
18	Acc. of absence/presence Events Progress report Acc. of materials/equipment	Ramesses III, year 25
19	Deliveries/deficits Acc. of absence/presence Events Progress report Acc. of materials/equipment	Ramesses IX, year 14
20	Unclear	Dynasty 19 – Ramesses IV or V

Although we must always keep in mind that the material is biased with a focus on the reigns of Ramesses III and IV, the table shows that the combined categories are generally dated somewhat later than the single categories, notably less often in the 19th dynasty. Where a date such as "Seti II" or "Siptah" has been given, it concerns only one or few texts from the category, the remaining texts having been dated to mainly the reigns of Ramesses III and IV.[82] For the single categories, the number of texts from the reigns of Seti I to Tausret is much higher (40[83] against 73 from the 20th dynasty, and 12 with an uncertain date in dynasty 19 or 20). Notably for the categories 1, 2, and 5 it seems that the administration started in dynasty 19 with single categories of text that were later combined into more elaborate reports.

4C Layouts of texts with necropolis administration

Christopher Eyre wrote: "The format in which a text was written is naturally a function of the purpose of the writer, the context in which he wrote, and the immediate use to which he put the text."[84] That is, if a scribe writing necropolis administration was doing this in the context of putting together a journal – with the purpose of writing a journal entry – we expect to see a degree of systematicity in his text setup. A systematic description of layout was needed to be able to allocate types of layout to the texts in order to later compare them to the categories of text. Several aspects of text setup that caught attention were selected to come to a classification of layouts:

- First, the distinction between texts with horizontal lines, texts with columns, and texts with a mix of horizontal lines and columns indicates the overall structure of a text.
- Second, the presence of a year date, a month and/or day date, or the absence of any date *at the start* of the text: was the text deliberately dated when the scribe started writing or not? When a timeframe is mentioned later in the

[82] They are O. BM EA 5635 (text category 10, Amenmesse-Siptah), O. DeM 595 (8, Seti II), O. DeM 899 (17, Siptah(?)), and O. DeM 900 (9, Seti II, Amenmesse, or Siptah).

[83] O. Berlin P. 10622 (text category 4), O. Berlin P. 10840 (1), O. Berlin P. 14213 (1), O. Berlin P. 14218 *recto* (1), O. Berlin P. 14218 *verso* (1), O. Berlin P. 14614 (1), O. Berlin P. 15292 (6), O. BM EA 50728 (1), O. DeM 1 (1), O. DeM 3 (1), O. DeM 4 (1), O. DeM 10 (1), O. DeM 15 (1), O. DeM 20 (1), O. DeM 26 (1), O. DeM 48 (1), O. DeM 75 (1), O. DeM 91 (1), O. DeM 346 (1), O. DeM 591 (1), O. DeM 594 (2), O. DeM 598 (6), O. DeM 611 (1), O. DeM 612 (6), O. DeM 621 + 829 *recto* (1), O. DeM 706 (6), O. DeM 837 (1), O. DeM 843 (1), O. DeM 846 (1), O. DeM 859 *recto* (1), O. DeM 859 *verso* (1), O. DeM 882 (5), O. DeM 889 (2), O. DeM 908 (2), O. DeM 910 (2), O. DeM 912 *recto* (2), O. DeM 913 *recto* (2), O. DeM 914 *recto* (6); O. Turin CGT 57080 (1), O. Turin CGT 57469 = O. DeM 7 (1).

[84] Eyre 2013, 52, see also p. 53.

text, but no date occurs at the beginning, the text is considered undated from the point of view of layout.

- Third, the placement of keywords and dates. Here, dates within the text are meant, which can be day dates or only the phrase *hrw pn* ("this day/today"), month dates, or a full regnal year date. Keywords can be:
  - *wnm.y* and *smḥ.y*: words for the right and left sides of the crew. In several texts, deliveries or information concerning the right side of the crew follow the date directly, whereas the word *smḥ.y* followed by deliveries or information concerning the left side of the crew is explicitly written in a new line, even when there is ample space left for writing in the previous line (e.g. O. Turin CGT 57026, O. Turin CGT 57029). In other texts, the right and left sides follow each other directly in running lines of text (e.g. O. Turin CGT 57007 *verso*, O. Turin CGT 57056);
  - words indicating totals, such as *dmḏ* and *jr(j).n*. These words can be deliberately written in a new line to put focus on the balance (e.g. O. Berlin P. 14614); in other cases, they simply follow directly in the middle or at the end of a running line of text (e.g. O. DeM 91);
  - personal names. Especially in name lists and accounts of absence or presence, names can be placed as keywords at the start of a new line (e.g. O. BM EA 5634, O. DeM 94, O. Turin CGT 57020), but there are also examples where they follow each other in running text (e.g. O. Turin CGT 57028);
  - groups of persons, such as men, servants, or chiefs. Especially in grain accounts, these groups are placed as keywords at the start of new entries (e.g. O. Berlin P. 11249, O. DeM 577);
  - deliverers, sometimes including the introduction *m ḏr.t* ("in/from the hand") or *jn.w m ḏr.t* ("delivered in/from the hand"), are in a few cases deliberately placed at the start of a new line (e.g. O. Berlin P. 14666);
  - words for products that have been delivered can, especially in the texts from category 1, act as keywords at the start of new entries. In these cases, the deliveries and/or deficits rather have the character of inventories of what has (not) been delivered (e.g. O. DeM 1, O. DeM 3, O. DeM 15).

The role such keywords or dates play in the way the text is built up was studied. Were they placed at the start of a new line to put them into focus, or are they simply enumerated in running lines of text? Here, the surface of the ostracon is taken into consideration, for the choice to start a new line or entry depends of course as

well on the space and quality of the surface available for writing.[85] These aspects of text setup let to a classification of layouts with codes presented in table 4.5.

Table 4.5: The components of which the layout-codes consist

A	Horizontal lines
B	Columns
C	Mix of horizontal lines and columns

1	Texts with a full year date
2	Texts with a full year date followed by the phrase *hrw pn*
3	Texts with only a month and/or day date
4	Texts with only a month and/or day date followed by the phrase *hrw pn*
5	Texts without date
6	Damaged: uncertain whether there originally was a date

a	No consideration for keywords and/or dates These texts have running lines of text that cover the entire surface of the ostracon.
b	Inconsistent consideration for keywords and/or dates These texts occasionally place keywords or dates at the start of a new line, even when there is space left to continue writing at the end of the previous line, but this is not consistently done.
c	Full consideration for keywords and/or dates These texts show list entries in which each keyword or date is a new entry.
d	Mix A number of lines and/or a number of columns consistently show different degrees of consideration for keywords and/or dates than other lines and/or columns in the text.
e	Unclear The text is fragmentary and the beginnings and ends of all or most lines are gone.
f	Oneliner The text has one line or entry only.

The following types of layout were identified (table 4.6 and figures 4.12a-c):

[85] A neural network designed to detect text lines in historical documents is ARU-Net. The network labels pixels to belong to one of three classes: baseline, separator, or other. The separator class marks the beginning and end of each text line. The approach could be useful in such a study on layouts, but the results are not yet sufficient to serve detailed comparison of the organization of text lines on the surface in combination with contents. Grüning [2017] 2022; Grüning et al. 2019. See also Unter 2021, 164 and fig. 2, with a first result on a piece of papyrus.

Table 4.6: Types of layout in the corpus and the texts allocated to them

A: Horizontal lines	
Code	**Texts**
A1a	O. Berlin P. 14213; O. BM EA 5672 + O. CGC 25649; O. BM EA 50730 + O. BM EA 50745; O. DeM 32; O. DeM 44; O. DeM 594; O. DeM 718; O. DeM 726; O. DeM 759; O. DeM 763; O. DeM 855; O. DeM 882; O. DeM 889; O. Turin CGT 57007 *verso*; O. Turin CGT 57028
A1b	O. Berlin P. 10840; O. Berlin P. 12626 + O. DeM 41; O. Berlin P. 12628 + O. Berlin P. 12641; O. Berlin P. 12631 a + b; O. Berlin P. 12639 + O. Berlin P. 14696 + O. DeM 33; O. Berlin P. 12651 + O. DeM 45 + O. Vienna H.4; O. Berlin P. 14302; O. Berlin P. 14666; O. DeM 40 + O. Str. H42; O. DeM 42; O. DeM 46; O. DeM 55; O. DeM 138; O. DeM 145; O. DeM 10299; O. DeM 10339 *recto*; O. Turin CGT 57007 *recto*; O. Turin CGT 57026; O. Turin CGT 57034; O. Turin CGT 57039; O. Turin CGT 57044; O. Turin CGT 57153
A1c	O. Berlin P. 12627; O. BM EA 5634; O. BM EA 5635; O. DeM 137; O. DeM 262; O. DeM 621 + O. DeM 829 *recto*; O. DeM 707; O. DeM 837; O. DeM 854; O. DeM 859 *recto*; O. Turin CGT 57029; O. Turin CGT 57031; O. Turin CGT 57035; O. Turin CGT 57047; O. Turin CGT 57055; O. Turin CGT 57469 = O. DeM 7
A1d	O. DeM 932
A1e	O. Berlin P. 09897; O. Berlin P. 14156; O. DeM 776; O. DeM 842; O. DeM 893; O. Turin CGT 57204
A2a	O. Berlin P. 09906; O. Berlin P. 10633; O. Berlin P. 10663; O. Berlin P. 12654; O. BM EA 50722 + O. CGC 25726 + BTdK 660; O. BM EA 50744; O. DeM 578; O. DeM 10324; O. Turin CGT 57366
A2b	O. DeM 899
A2c	O. DeM 76
A2e	O. Berlin P. 14657
A3a	O. Berlin P. 11272; O. Berlin P. 12633 a + b; O. DeM 595; O. DeM 604; O. DeM 890; O. Turin CGT 57432
A3b	O. DeM 35; O. DeM 346; O. DeM 900; O. Turin CGT 57025
A3c	O. Berlin P. 10654 *verso*; O. DeM 1; O. DeM 3; O. DeM 4; O. DeM 10; O. DeM 15; O. DeM 20; O. DeM 26; O. DeM 75; O. DeM 94; O. Turin CGT 57393.
A3d	O. DeM 617
A3e	O. Turin CGT 57085 *recto*
A4d	O. Berlin P. 14255
A5a	O. Berlin P. 10622; O. Berlin P. 10632; O. Berlin P. 10839; O. Berlin P. 10842; O. DeM 598; O. Turin CGT 57157; O. Turin CGT 57479

continued on next page

A5b	O. Turin CGT 57080
A5c	O. Berlin P. 11249; O. Berlin P. 14149; O. Berlin P. 14210; O. Berlin P. 14614; O. DeM 91; O. DeM 565; O. DeM 844; O. DeM 859 *verso*; O. Turin CGT 57167
A5e	O. Turin CGT 57036
A5f	O. Turin CGT 57015; O. Turin CGT 57206; O. Turin CGT 57256; O. Turin CGT 57257
A6a	O. Berlin P. 12629; O. Berlin P. 12640 + O. DeM 161 + O. Str. H82; O. Berlin P. 14286; O. BM EA 50734 + O. BM EA 50742 + O. Ashmolean Museum 99 + O. CGC 25673; O. DeM 571; O. DeM 851; O. DeM 876; O. DeM 10339 *verso*; O. Turin CGT 57030; O. Turin CGT 57056
A6b	O. Berlin P. 14264; O. DeM 148
A6c	O. Berlin P. 09901; O. DeM 869
A6e	O. Berlin P. 11248; O. Berlin P. 12384; O. Berlin P. 14218 *recto*; O. Berlin P. 14218 *verso*; O. Berlin P. 14233; O. Berlin P. 15292; O. BM EA 66412; O. DeM 591; O. DeM 846; O. DeM 908; O. DeM 910; O. Turin CGT 57085 *verso*; O. Turin CGT 57189; O. Turin CGT 57282; O. Turin CGT 57283; O. Turin CGT 57470

B: Columns

Code	Texts
B1c	O. Berlin P. 12632 + O. DeM 150; O. DeM 147; O. Turin CGT 57033
B1d	O. Turin CGT 57020
B3c	O. Berlin P. 01122; O. DeM 852
B5c	O. DeM 612; O. DeM 706; O. DeM 843; O. DeM 912 *recto*; O. DeM 914 *recto*; O. Turin CGT 57382
B6c	O. Berlin P. 11289; O. DeM 913 *recto*
B6e	O. DeM 895

C: Mix of lines and columns

Code	Texts
C1b	O. DeM 142
C1d	O. BM EA 50728; O. Turin CGT 57006
C2c	O. DeM 611; O. Turin CGT 57072
C5b	O. DeM 143; O. DeM 144
C5c	O. Berlin P. 12625 + O. IFAO ONL 300; O. DeM 48; O. DeM 577; O. DeM 863
C5d	O. DeM 52
C6a	O. Turin CGT 57156 *recto*
C6b	O. Berlin P. 12642 + O. DeM 160

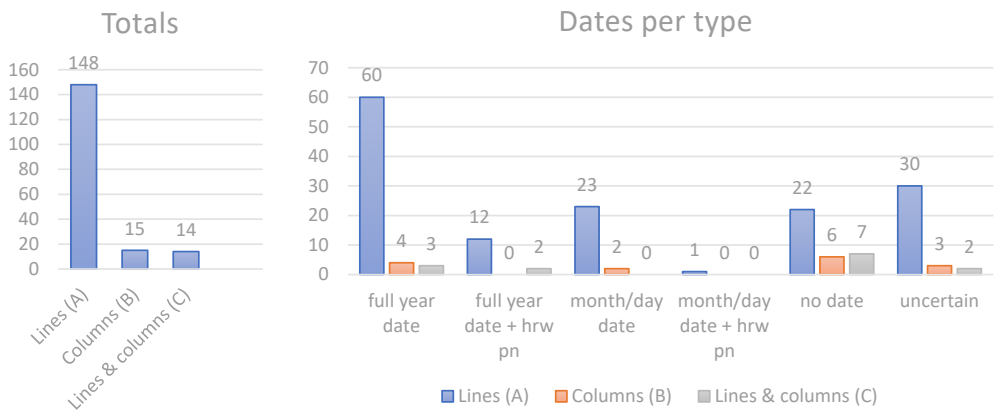

Figure 4.12a: Totals per type of layout; b: The presence of a date per type of layout

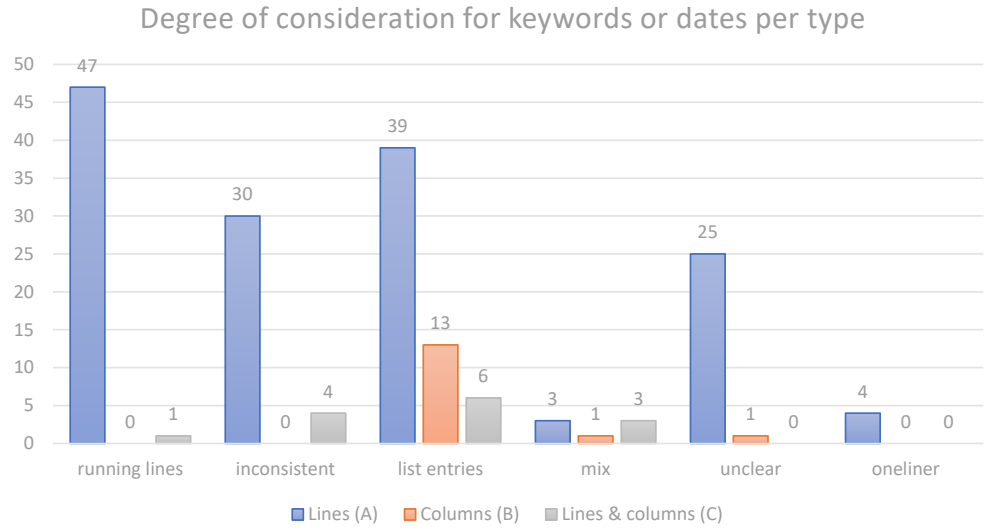

Figure 4.12c: The degree of consideration for keywords and/or dates per type of layout

A first thing that is noticed is the high degree of variation in layouts. One system behind writing up administration is not seen, which suggests that scribes did not work closely together on the same documents, but rather wrote up their notes and reports according to personal decisions and habits. Yet, table 4.6 and figures 4.12a to c do allow to draw some more conclusions. They clearly show that most texts with necropolis administration were written in horizontal lines (148). Only few are

in columns (15) or show a combination of lines and columns (14). For those texts that were written in horizontal lines, the majority has a full year date. The number of texts with a month and/or day date and texts without date is rather similar (23 and 22 respectively). Thirty texts are damaged or incomplete, that is, we cannot say whether they were dated or not. For those texts written in columns there is an equal amount of texts with a (year or month/day) date and texts without a date at the start. For those texts written in a mix of lines and columns there is even a slight preference for texts without a date (seven to five). The phrase *hrw pn* appears only in horizontal lines in types A and C.

For those texts written in horizontal lines, the focus lies on running lines without consideration for keywords and/or dates (47 texts), but a close runner up are texts with list entries (39 texts). Third come texts with an inconsistent consideration for keywords and/or dates (30 texts). In 25 cases the texts are damaged at crucial points (the ends and beginnings of lines), and the degree of consideration remains unclear. Four texts are one-liners. It will be no surprise that texts written in columns or in a mix of lines and columns have their focus on list entries. The columns mainly list persons, products, or dates in tabular form. For those texts written in a combination of lines and columns, one has running lines and four show inconsistent consideration for keywords and/or dates. This occurs mainly in the lines, but also in the columns where lack of space does not allow consistency and the entries do not fit (e.g. O. DeM 142, O. DeM 143, O. DeM 144, O. Turin CGT 57156 *recto*, O. Berlin P. 12642 + O. DeM 160). Texts written in columns or a combination of lines and columns with a mix in the degree of consideration have one or more columns with consistent entries and one column with lines, hence the designation “mix” rather than “inconsistent consideration”.

Examples of types of layout were presented in an earlier paper.[86] Figures 4.13 to 17 present several more. Figure 4.13 shows ostracon Turin CGT 57025 from year 26 of Ramesses III. The text was mentioned above for its lack of context and therefore unclear nature. The layout code is A3b: the text consists of horizontal lines, it has a month and/or day date, and shows inconsistent consideration for keywords. On the *recto*, several days can be written in one line. Yet the scribe started a new day in line 3 despite there being plenty of space left in the line above. Perhaps he did this, because lines 1 and 2 contain information for the right and left sides respectively, and the new day-entry in line 3 gives other information, namely that the crew was *wsf* (“free”). However, he continued line 3 with another *wsf*-day as well as a further day with numbers for the right and left sides; here, thus, not differentiating these sorts of information. On the *verso*, each day-entry starts a new line. Overall, with the exception of lines 2-3, it seems that the scribe did reckon with the space available in a line and did not want to break an entry (day + numbers) up.

[86] Van der Moezel 2022.

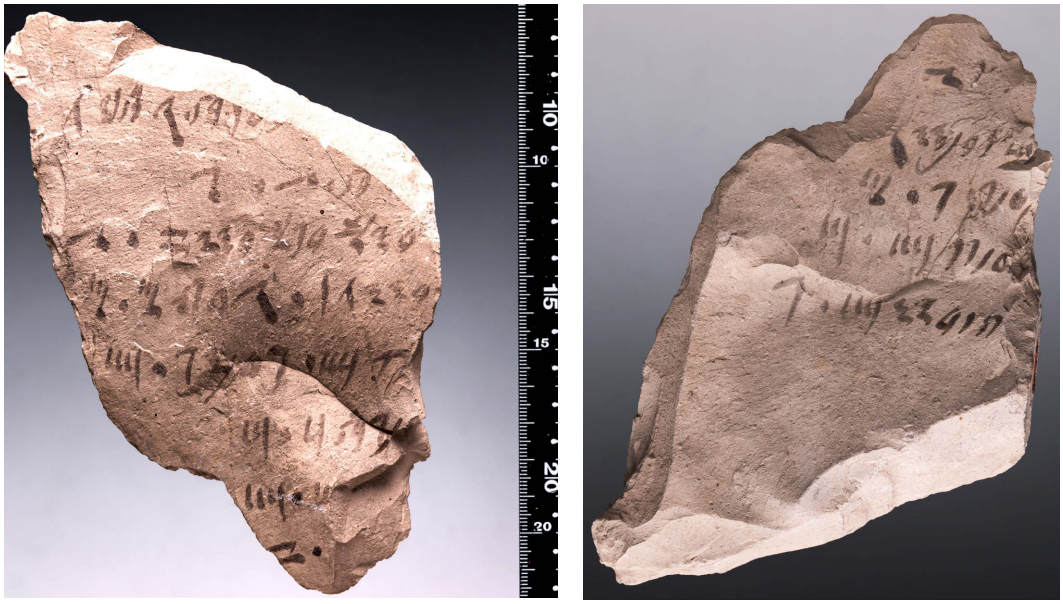

Figure 4.13: Ostracon Turin CGT 57025 *recto* (left) and *verso* (right). Photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni

Figure 4.14 shows ostracon DeM 1, which is part of a group of ostraca that were found together.[87] They are thematically connected and the group as a whole is dated to year 3 of Seti I.[88] The ostraca belong to text category 1 and concern the delivery and arrears of dung, wood, woodwork, and pottery in various combinations. Most ostraca from the group that are included in the corpus have been given the layout code A3c[89]: they have horizontal lines, bear a month and/or day date, and show full consideration for keywords, because each delivered product is placed at the start of a new line, even when there is enough space left to write in the previous line.

[87] The group comprises 30 ostraca and was found at the site 'K2', for which see Gasse 2000, 109-120. See also Donker van Heel and Haring 2003, 14-15.

[88] Several ostraca within the group bear the year number 3. Kitchen 1975, 364, dated this year to the reign of Seti I. Not all ostraca in the group have the year number; O. DeM 1 in fact only has a month and day date, as do all other ostraca from the group that are included in the corpus. The regnal year was not lost, it was simply not written. The subject-matter, layout, and handwriting of the ostraca in the group are, however, so similar, that the entire group is dated together. See Dorn 2011 and section 7B below.

[89] Ostraca DeM 1, 3, 4, 10, 15, 20, and 26. O. DeM 48, which also belongs to the group, has layout code C5c, because next to the six lines in a first column that is very comparable in handwriting and subject matter to the other ostraca from the group, there is a dividing line and a damaged column with at least two entries.

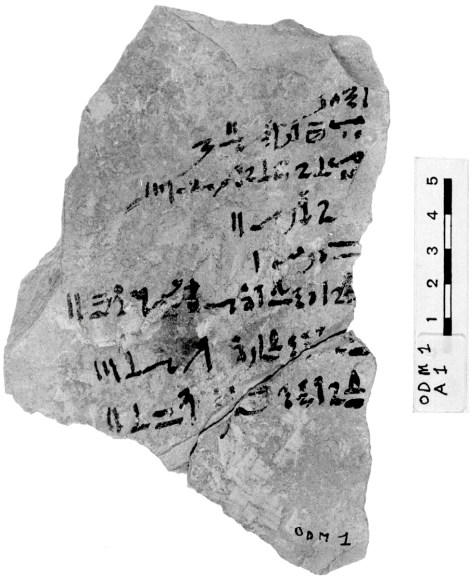

Figure 4.14: O. DeM 1. Photo © Ifao

Figure 4.15: O. DeM 35. Photo © Ifao

Figure 4.15 shows ostracon DeM 35 from the reign of Ramesses III, a text of a combined category recording deliveries and/or deficits of products and events. It has received the layout code A3b: it has horizontal lines and the text is dated with a month and/or day date. There is consideration for dates in the text, but this is inconsistent. From line 6 onwards, the lines become longer as events are mentioned. Here, we find day-entries also in the middle of the lines. It thus seems as if the text was set up in a format with list entries for the deliveries, but a more narrative style for the mention of events led to running lines. From line 11 onwards the focus lies again on day-to-day deliveries and there is more consideration for placing a new day at the start of a new line again, even when there is space left for writing in the previous line.

Figure 4.16 shows ostracon Berlin P. 01122, possibly from dynasty 19, although it would palaeographically also fit dynasty 20.[90] It records the delivery of bread and dates. The text has been given the layout code B3c: the layout consists of two columns, each one with a month date set apart to the right. There is a dividing line that separates the column on the left from the upper half of the column on the right. This dividing line shows that there is also a break between the upper and lower halves of the column on the right, and indeed, the first line below the di-

[90] Deir el-Medine Online: https://dem-online.gwi.uni-muenchen.de/show_beschreibung.php?id=142&beschreibung=%2Fproj%2FHODFG%2FOstrakaBerlinBeschr%2Fb01122-beschr.jpg&inventar_nr=Berlin+P+01122 [18.7.2022].

viding line is again a month date. It becomes clear that we have three day entries, each preceded by the month date 2 of *peret*. The upper half of the column on the right contains entries for day 6, the lower half of the column on the right contains entries for day 7, and the column on the left contains entries for day 10. The products delivered for each day are the focus of the entries in the list: each product is a new entry for that specific day. Inconsistent only is the fact that the date in the lower right column is not placed to the right as is done in the upper right and left columns.

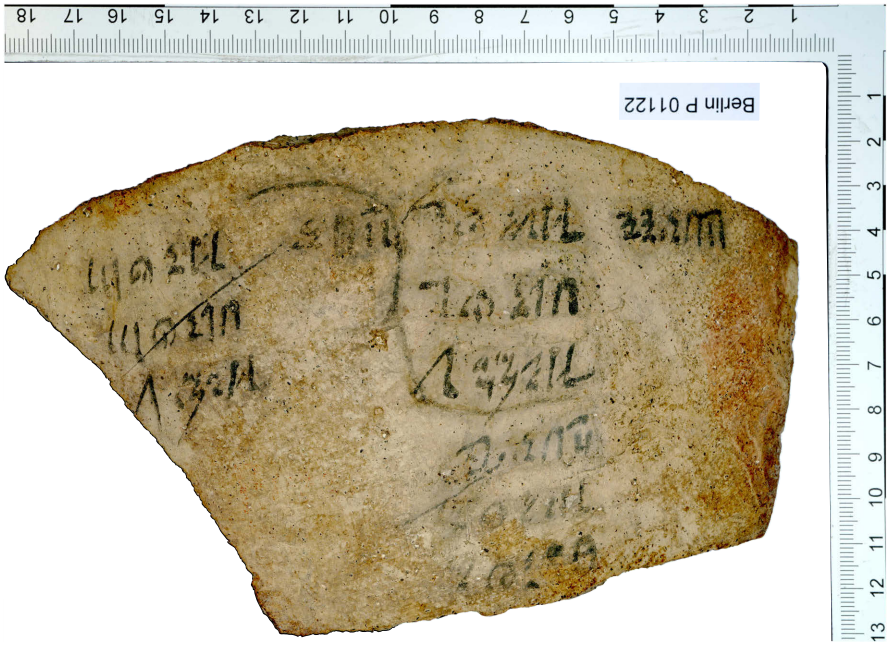

Figure 4.16: O. Berlin P. 01122. © *Staatliche Museen zu Berlin – Ägyptisches Museum und Papyrussammlung*, photo: KvdM

Figure 4.17 shows ostracon BM EA 50728 *recto* and *verso* from year 2 of Seti II. The text is an account of the delivery of pottery jars. It has the layout code C1d and shows a mix of horizontal lines and columns, a year date, and a mix in the degree of consideration for keywords and/or dates in the lines and columns. The first line of the *recto* is placed on the upper edge of the ostracon and bears the year date. Then lines 2, 3, and 4 are planned: they are single entries each in a new line, first the topic "memorandum", then the total amount of vessels, then the header of the list. The list records the workmen who all received one vessel. It is running text, not planned in the sense that each man is entered in a new line. Line 7 is again a subheader, after which the list continues in running lines. More subheaders with the same content are found in lines 8 and 9, but as the scribe presumably real-

ized he was running out of space, he continued with running lines.[91] On the *verso* we see the same text, but a different layout. The first two horizontal lines are the header of the list. The first small column to the right gives 6+x names with the numbers put neatly underneath one another. The second column gives a further short list, starting off with a brief header. Underneath are two names and a total, each in a new line. One line written on the side includes a further note on the stock of olive oil.

Figure 4.17: O. BM EA 50728 *recto* (left) and *verso* (right). Photos © The Trustees of the British Museum, KvdM

Dividing lines

Eleven texts show the use of dividing lines.[92] Dividing lines can have different functions and were applied in individual cases where the scribe deemed them necessary. A first function is to separate columns from each other. Ostracon Turin CGT 57072 *recto* (figure 4.18) has two introductory horizontal lines of text above two columns. The second entry in the first column on the right is rather long; the entry underneath is also a bit longer than the other entries in the column. As a

[91] See also section 6D.

[92] O. Berlin P. 01122; O. Berlin P. 09901; O. Berlin P. 12628 + 12641; P. Berlin P. 12632 + O. DeM 150; O. DeM 40 + O. Strasbourg H42; O. DeM 48; O. DeM 577; O. DeM 598; O. DeM 910; O. Turin CGT 57072.

result, the scribe had to start the second and third entries in the second column further to the right. The ligature for *ꜣbd 2* in the first entry of the second column touches the dividing line, but even on the high resolution photograph it is difficult to decide what was drawn first. However, it seems to be the case that at least the dividing line was there before the scribe finished writing column two: the ninth entry in column 2 overlaps with the dividing line, the preposition *m* clearly being drawn over the line because the scribe realized the entry would otherwise not fit.

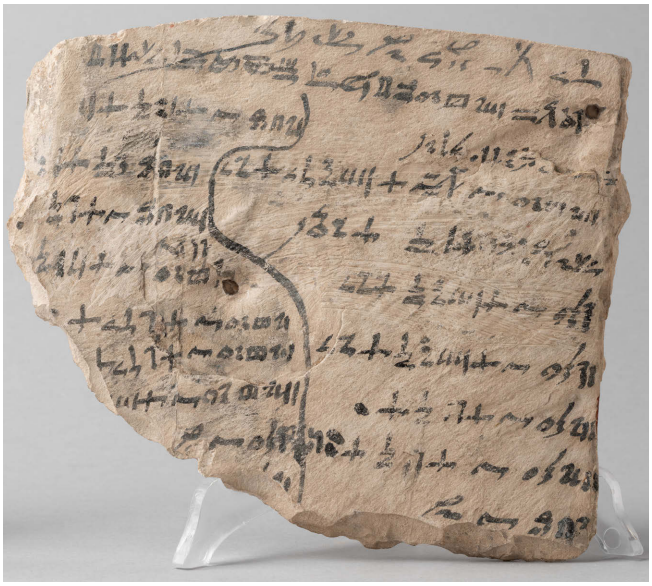

Figure 4.18: O. Turin CGT 57072 *recto*. Photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni

Dividing lines can also clarify the reading order. The example of ostracon Berlin P. 01122, in which the dividing line not only separates the columns, but also indicates the existence of a third block of information, was mentioned above (figure 4.16). Another case is ostracon Berlin P. 12628 + 12641 (figure 4.19). This text does not consist of columns, but of horizontal lines. The dividing line is an elliptic line, which clusters the first half of line 14 and line 15 together to indicate that line 15 must be read after the first half of line 14. A clustering of text also occurs on ostracon Berlin P. 12632 (+ DeM 150) in lines 6a and 7a until line 10 on ostracon DeM 150 (figure 4.20). Although the exact purpose of the dividing lines escapes me, it may be that the scribe meant to indicate that the total mentioned in lines 6a and 7a relates to the entries covering the period up until the end of month 3 of *akhet*. The entry underneath the dividing line that separates lines 10 and 11 on ostracon DeM 150 starts with the first data for month 4 of *akhet*.

Text may also be completely enclosed or separated from the main text by dividing lines. An interesting example is the text in the margin on ostracon DeM 40 +

Strasbourg H42 (figure 4.21). To the left of lines 5 and 6 on ostracon DeM 40 two entries are separated by a dividing line from the main text. They mention a deficit of the potter for the last five days of the year and a deficit of 690 units of wood. At first, the relation to the main text remains unclear. However, the scribe of this and several other ostraca with a DeM publication number is known to have copied some of the information from one administrative month onto the ostracon that was to be used for the next administrative month. Donker van Heel figured that "the reason for doing this was that the scribe felt the books on a particular month could not be closed, because deficits in the deliveries remained, which were then copied at the top of the ostracon covering the next administrative month."[93] Even though in the examples presented by Donker van Heel the scribe duplicated the information in his lines of text, in this case, he set them apart in the margin separated from the main text by a dividing line. Ostracon DeM 40 starts with data for day three of the first month of *akhet*, but the piece named Strasbourg H42, which fits the upper left of ostracon DeM 40, contains the entries from 1 *akhet* day 1. The information in the margin must thus contain the deficits from the last five days of the previous year, without which the scribe could not find closure.[94]

Figure 4.19: O. Berlin P. 12628 + 12641. © *Staatliche Museen zu Berlin – Ägyptisches Museum und Papyrussammlung*, photo: KvdM

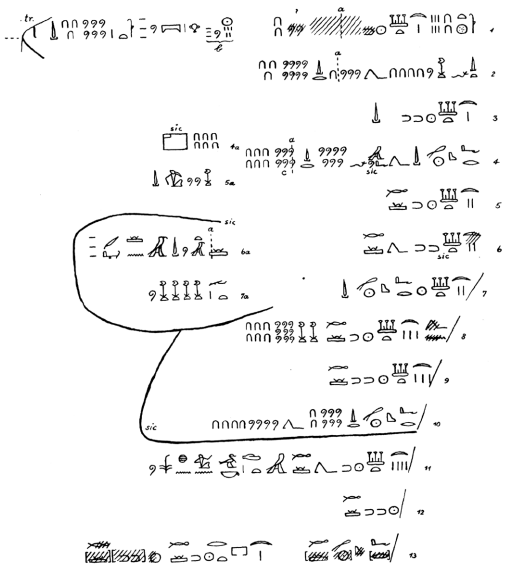

Figure 4.20: Transcription of O. Berlin P. 12632 + DeM 150 (in lack of a photo of both pieces together). Černý 1937a, pl. 24

93 Donker van Heel and Haring 2003, 76.

94 For the practice of writing monthly accounts, see Donker van Heel and Haring 2003, 67-82 and section 7B below.

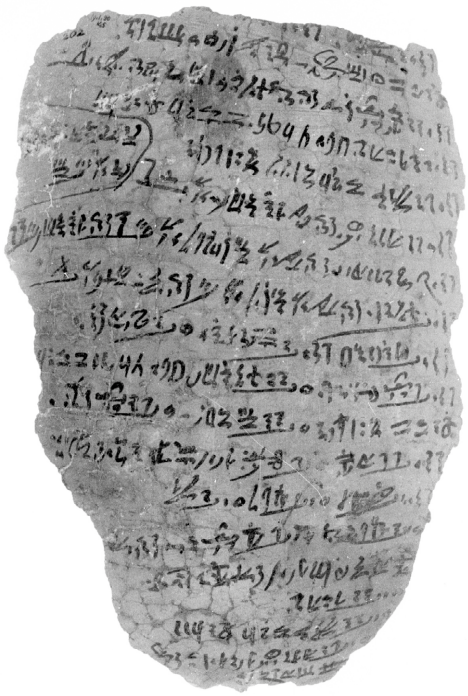

Figure 4.21: O. DeM 40 *recto* with the enclosing lines in the upper left. Photo © Ifao

Finally, few texts show a horizontal separation line between two lines of text. A first example is ostracon Berlin P. 09901 *recto* (figure 4.22). The text is fragmentary, but seems to contain a list of names. The horizontal line is drawn above line six over its entire length. The first line contains only traces, but the second to fourth lines contain the names *Rˁ-ms*, *Wnn-nfr*, and *Nb(?)-nfr*. The fifth line is unclear. The translation in *Deir el-Medine Online* suggests "[…]*Wꜣww*(?)/" but also notes that the sign 𓏤 (Y1) for "total" is perhaps to be read at the start of the line, after which would follow four strokes, perhaps a calculation relating to the four names mentioned in lines 1 to 4.[95] Even though the signs after the four strokes remain unclear in this case, that suggestion could serve as an explanation for the horizontal line, which would separate lines 1 to 5 (as list concluded with a total) from lines 6 and 7, which contain further names. Another text with a horizontal line is ostracon DeM 910 *recto* (figure 4.23). The ostracon is damaged on all sides, but the remaining text shows that we are dealing with an account of absences. The line was drawn in red ink, whereas the text is in black. If the line was already there before the scribe started writing the text, he reckoned with it and made sure

[95] https://dem-online.gwi.uni-muenchen.de/show_anmerkung.php?id=185&inventar_nr=Berlin+P+09901#u1 [14.7.2021].

his text would remain clearly visible by not overwriting the line: there is a relatively large amount of space left open above and below the red line. This would suggest he took some care in planning his text on the surface. This may also be the case at the end of the second line, where a crack hindered the writing of the name *Bꜣk.y*. The scribe consciously left some space open after having written *sꜣ*, "son", and added the name *Bꜣk.y* after the crack. However, care for the text does not appear from the third and fifth lines, both scribbled in between the other lines. The third line starts halfway to the left and may concern a forgotten note. As in line five, the writing is smaller than in the other lines. If we, then, assume that the line was not already present on the ostracon, and our scribe drew it consciously in another color of ink while writing the text, its purpose remains unclear. Although fragmentary, the second line mentions someone absent who is "in his feast", as well as "*Ḥr-m-wjꜣ*, son of *Bꜣk.y*". The third line contains a note on "*Kꜣsꜣ*, son of *Rʿ-ms*". The fourth to sixth lines all seem to mention *Pꜣ-nb*, although in lines five and six his name is not completely preserved. Line four contains a matter about his cow, line five mentions that "they were in this house". Line 6 seems to mention "[…*Pꜣ*-]*nb*" and the note that "*Ṯnr-Mnṯw* is absent". Line seven mentions that "*Nb-smn* [is absent], celebrating [his] feast". In other words, the contents of the text do not seem to demand or explain a horizontal line that separates lines six and seven.

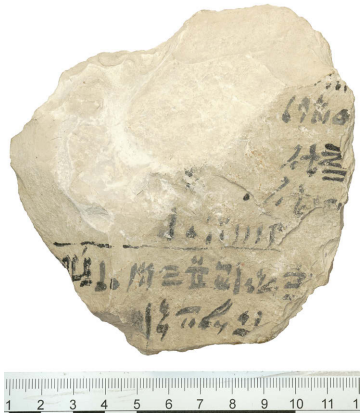

Figure 4.22: O. Berlin P. 09901 *recto*. © *Staatliche Museen zu Berlin – Ägyptisches Museum und Papyrussammlung*, photo: KvdM

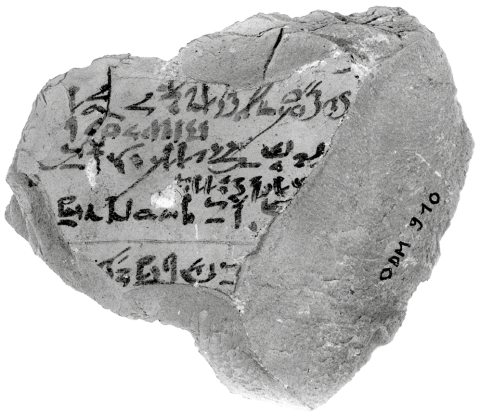

Figure 4.23: O. DeM 910 *recto*. Photo © Ifao

A brief summary from the classification of layouts now includes the following points:

- Most of the texts with necropolis administration in the corpus were written in horizontal lines, with only a small part including or consisting of columns.
- Horizontal lines are often running text.

- Where columns are included, these mainly consist of list entries built around persons (personal names or groups), products, or dates.
- There was no journal format with systematic use of raster or dividing lines.

Table 4.7 shows the chronological spread of the types of layout:

Table 4.7: Chronological spread of the types of layout

A: Horizontal lines	
Layout	**Chronological spread**
A1a	S. I (1), S. II (1), Mern. – Taus. (1), Sipt. – Taus. (1), R. III (5), R. IV (3), R. VI (1), R. IX (1), R. XI (1)
A1b	S. I – Mern. (1), R. III (11), R. IV (8), 20/1 (1), R. IX or XI (1)
A1c	S. I (1), R. II (3), Amen. – Sipt. (1), R. III (9), R. IV (1), R. IV or VI (1)
A1d	R. III (1)
A1e	R. III (1), R. IV (3)
A2a	R. III (4), R. IV (1), R. VI (1), R. IV – R. VII (2), dyn. 20 (1)
A2b	Siptah(?) (1)
A2c	R. IV (1)
A2e	R. IV (1)
A3a	S. II (1), R. III (5)
A3b	R. II (1), R. II – Sipt. (1), R. III (2)
A3c	S. I (7), dyn. 19 (1), R. IV (2), R. IX (1)
A3d	R. IV (1)
A3e	dyn. 19 – 20 (1)
A4d	R. III (1)
A5a	dyn. 19/1 (1), Sipt. – Taus. (1), <R. III (1), R. III (2), R. IV – V (1), dyn. 19 – 20 (1)
A5b	R. II (1)
A5c	< 19/2 (1), S. I – Mern. (1), R. II (1), R. III (2), R. III – R. IV (1), dyn. 19 – 20 (1), dyn. 20 (2)
A5e	R. III (1)
A5f	dyn. 19 – 20 (3), dyn. 20 (1)
A6a	S. II – Sipt. (1), <R. III (1), R. III (4), R. IV (2), R. IX – XI (1), dyn. 20 (1)
A6b	R. III (1), dyn. 20 (1)
A6c	R. IV (1), dyn. 20 (1)

continued on next page

A6e	R. II (1), Sipt. – Taus. (3), dyn. 19 (4), dyn. 19/2 – 20/1 (1), R. III (3), R. IV (2), dyn. 19 – 20 (2)

B: Columns

Layout	Chronological spread
B1c	R. III (3)
B1d	R. III (1)
B3c	<R. III (1), dyn. 19 – 20 (1)
B5c	R. II (2), Sipt. (2), Sipt. – Taus. (1), dyn. 19 – 20 (1)
B6c	Sipt. (1), dyn. 20 (1)
B6e	R. IV – V (1)

C: Mix of lines and columns

Layout	Chronological spread
C1b	R. III (1)
C1d	S. I (1), R. III – IV (1)
C2c	Sipt. (1), R. III (1)
C5b	20/1 (1)
C5c	S. II (1), R. III (3)
C5d	dyn. 19/2 – dyn. 20/1 (1)
C6a	R. III (1)
C6b	R. IV (1)

The table shows that layouts with horizontal lines (A), columns (B), and a combination of lines and columns (C) all occur throughout the 19th and 20th dynasties. To type A belong 37 texts that have been dated to dynasty 19 (not counting texts with a date within the range "dynasty 19 – 20"). For type B this number is six, and for type C it is three. In the 20th dynasty the numbers are 98 for type A, six for type B, and nine for type C. This means that almost 20% of the texts from the 19th dynasty include columns, whereas the percentage is almost 14% for dynasty 20. These numbers based on the present corpus are fairly close. The percentage of texts with running lines is 80% in dynasty 19 and 87% in dynasty 20. This suggest a slight preference for horizontal lines at the cost of columns in dynasty 20.

Texts with running lines occur throughout the 19th and 20th dynasties. If we compare all types of layout with "a" (no consideration for keywords and/or dates), they occur from Seti II to Ramesses IX or XI, but there clearly is a focus on the 20th dynasty, due, of course, to the bias of finds from that period: eight texts date to the 19th dynasty, three texts possibly date to the 19th dynasty, 36 date to the 20th dynasty from the reign of Ramesses III onwards, and one text is dated to dynasty 20 in general. Texts with "b" (inconsistent consideration for keywords and/or dates)

also occur throughout the 19th and 20th dynasties, from Ramesses II to Ramesses IX or XI, and their distribution is similar with five texts dated to the 19th dynasty and a clear focus on the reign of Ramesses III onwards. Texts with "c" (list entries) occur from Seti I to Ramesses IX, but in contrast to the texts with running lines and inconsistent consideration, texts with list entries are relatively frequent in dynasty 19, which is related to the use of columns at that time: 24 texts date to dynasty 19, four to dynasty 19 or 20, and the remaining 30 texts date to dynasty 20.

Of all 46 texts dated to dynasty 19 with certainty, 13 have a full year date ("1", "2") of which 11 belong to type A and two to type C. Eleven have a month and/or day date ("3", "4"; all type A), and 12 have no date ("5"; six belong to type A, five to type B, and one to type C). The remaining ten texts are damaged, which makes it uncertain whether a date was present. Of all 113 texts dated with certainty to dynasty 20, 66 have a full year date ("1", "2"; 59 belong to type A, four to type B, three to type C). Twelve have a month and/or day date ("3", "4"; all type A), and 14 have no date ("5"; 10 belong to type A, four to type C). These numbers suggest that it was more usual to date a text with a full year date in dynasty 20 than it was in dynasty 19: 28% in dynasty 19 against 58% in dynasty 20. Similarly, the presence of the phrase *hrw pn* is mainly found in dynasty 20: 13 texts with *hrw pn* date to this dynasty (12 texts with a full year date ("2"), one with only a month/day date ("4")), whereas two texts with *hrw pn* have been dated to dynasty 19. The latter concern ostracon DeM 611, which has been securely dated to year 1 of Siptah, and ostracon DeM 899, which was tentatively dated by Grandet to the reign of Siptah on the basis of palaeography.[96] The results naturally depend on the nature of the collected corpus, but if it would turn out to be a general observation, one could speculate whether the more frequent presence of full dates in dynasty 20 relates to a more embedded and perhaps more systematized organization of writing administration at that time. Or the result may have to do with certain categories of administration or with scribal hands; we will get back to this in sections 4D and 7.

The presence of dividing lines cannot be pinpointed to a specific period. Three texts date to dynasty 19 (Seti I – Siptah/Tausret), three texts to Ramesses III, two texts to Ramesses IV, one text to "dynasty 20" and one text to "dynasty 19 or 20". Of the three texts in which the dividing lines separate columns, two are dated to Ramesses III and one to Seti I. All three belong to text category 1 (deliveries/deficits). Of the two texts in which the dividing lines guide the reading direction, one is dated to Ramesses IV and belongs to text category 10 (O. Berlin P. 12628 + 12641: deliveries/deficits and duty roster), the other is dated to "dynasty 19/20" and belongs to text category 1 (O. Berlin P. 01122: deliveries/deficits). Clustering lines together to separate them from the main text happens in at least two cases, dated to year 26 of Ramesses III and year 1 of Ramesses IV. Both are larger reports

96 Grandet 2003, 3, 71-73.

in which the addition of notes that belong together may cause an unclear reading of the text, which is precisely why the scribes added the lines. The two examples in which horizontal lines occur are dated to "dynasty 20" and Siptah. The first belongs to text category 6 (O. Berlin P. 09901: name list), the second to category 2 (O. DeM 910: account of absence/presence). The numbers are small, and no regularity is found in the presence of dividing lines on ostraca with various dates and topics.

4D Relation between categories and layouts

Continuing on the link between layout and text category, the question is now: do specific categories of text show specific characteristics of layout or any consistent format? Table 4.8 (see below) lists the data on the basis of which we can say the following:

- Category 1 (deliveries and/or deficits of products) shows much variation in layout. The texts come in all formats: lines or columns, with date, without date, with running lines, list entries, *etc*. Yet, there seem to be two preferences: first, the inclusion of a full year date (30 texts) against only a month/day date (14 texts) or no date (18 texts); second, a preference for a focus on keywords and/or dates, either in the form of inconsistent consideration (13 texts) or list entries (37). Only ten texts show no consideration for keywords or dates at all. A diachronic perspective shows that texts with consideration for keywords or dates (either in the form of inconsistent consideration or list entries) start a bit earlier, whereas the running lines date predominantly, although certainly not exclusively, to the mid- and later 20th dynasty. The inclusion of a year date is also more common in dynasty 20, with 22 of 30 fully dated texts ascribed to that period. In contrast, only three of the 14 texts with a month/day date have a secure date in dynasty 20, against 19 that have a secure date in dynasty 19. Texts with deliveries and/or deficits thus more often show fully dated running reports in dynasty 20 than in dynasty 19. On the whole, however, the variation is such that there is not one clear format in any period, which – given the fact that it is the category of necropolis administration with most texts in it – does not speak for the existence of a systematically composed journal.
- Accounts of absence or presence are predominantly written in horizontal lines (18 texts). Four of those texts date to dynasty 19. Only three texts are in columns, two of them date to dynasty 19. Of those texts in horizontal lines, most show running lines (seven texts), of which two date to dynasty 19. Three texts in horizontal lines have inconsistent consideration for keywords and/or dates and three have list entries; all date to dynasty 20. In other words, the few texts from dynasty 19 show more variation in the overall structure of the text,

whereas the texts from dynasty 20 are predominantly written in horizontal lines, but show variation in the organisation of the lines of text. In ten out of the total of 21 cases the text has a year date, only two of them date to dynasty 19. Three texts (all from dynasty 20) have a month/day date and at least one text from dynasty 19 is without date.

- Events in the current corpus are exclusively written in horizontal lines and except for one unclear case always in running lines. Three of seven texts have a full year date, one text has a month/day date only. The number of fully dated texts perhaps seems small; this may be due to the fact that for three further texts we do not know whether and how they were dated. A diachronic perspective cannot be given, since most texts date to the reigns of Ramesses III to V or VI. One text dates to Ramesses IX or XI, but shows no differences in layout to texts dated to the aforementioned kings. The events show again the common format of horizontal (running) lines with a year date for dynasty 20.
- This is also seen in the four progress reports: they are written in horizontal running lines, except for one unclear case. Two texts have a full year date, they both date to dynasty 20. The other two texts have no date, one of them has been dated to dynasty 19 on the basis of palaeography.[97]
- The accounts of materials and equipment again exclusively show horizontal lines, but there is no predominance for running lines. In fact, the one text with running lines has an uncertain date: it was dated to the reigns of Siptah – Tausret by Helck, but to Ramesses IV by Grandet.[98] The two texts that include inconsistent consideration and list entries are both dated to dynasty 20. All three texts include a full year date. Also, when combined with other categories of text, accounts of materials and equipment are predominantly dated with a full year date, except for one case, which has a month/day date only (O. Berlin P. 14255 from the reign of Ramesses III, category 16). The presence of a full date is perhaps understandable in the context of keeping track of government materials.
- Name lists are predominantly written in horizontal lines, with five out of 15 texts written in columns. Lines and columns occur in both dynasties, with a slight preference for lines in dynasty 20: of those texts dated to dynasty 19, three were written in columns and two in horizontal lines; for dynasty 20 the numbers are one and four respectively. In eight out of 15 texts the names are given as list entries (four date to dynasty 20, three to dynasty 19, one text has an uncertain date). In two cases, the text is written in running lines (one dates to dynasty 19, one has an uncertain date), and in four cases we are dealing

[97] https://dem-online.gwi.uni-muenchen.de/show_beschreibung.php?id=187&beschreibung=%2Fproj%2FHODFG%2FOstrakaBerlinBeschr2%2Fb10622-beschr.jpg&inventar_nr=Berlin+P+10622 [19.8.2022].

[98] Helck 2000, 192; Grandet 2003, 3, 57, 281.

with one line or name only, which are name stones rather than lists. A difference with the foregoing categories is that most name lists are without date (11 out of 15 texts). This is perhaps related to the fact that relatively many texts in this category date to dynasty 19, yet at least two texts without precise date and perhaps up to five more date to dynasty 20. The one text with a date (a full year date) comes from the reign of Ramesses IV. The overall lack of a date in name lists suggests they were short-lived notes, *aides-mémoire*, or checklists to see who were present/absent at work. It is conceivable that the information in these name lists was used to compose the larger accounts of absence/presence, after which the notes themselves were discarded. This is precisely how Donker van Heel interpreted two ostraca from dynasty 19, which are both in our corpus: ostracon DeM 706 from category 6 (name lists) and ostracon BM EA 5634 from category 2 (account of absence/presence). The texts show, with only few exceptions, the same names in the same order for the right and left sides of the crew.[99] An account such as BM EA 5634 in all its detail without corrections and additions can hardly have been written without *aides-mémoire*, of which ostracon DeM 706 may well have been one. For the accounts of ostraca Turin CGT 57026, 57028, 57029, and 57030, all largely presenting the same men as absent or ill around year 24 of Ramesses III, there must have been (a) name list(s) that circulated as well. Unfortunately, no other combinations of name lists and accounts of absence/presence present themselves from the current corpus.

For the combined categories, the number of texts is too small to draw conclusions, but we can say the following:

- The texts in category 10 (duty rosters including deliveries and/or deficits of products) are predominantly written in horizontal lines. Two texts are a combination of lines and columns. There does not, however, seem to be a preference for either running lines or list entries. Four out of nine texts show list entries, two texts show running lines, and three texts show lines with inconsistent consideration for keywords and/or dates. A date (year or month/day date) is in most cases present, except for two texts that are damaged and one text that is without date. The latter is ostracon Berlin P. 12625 + IFAO ONL 300, which is written in identity marks with pseudo-hieratic numerals, which would at least not be part of an official report meant for officials outside of Deir el-Medina, but did play a role in the internal village administration.
- Category 11 (deliveries and/or deficits of products, duty rosters, and events) also includes a somewhat larger number of texts (12 in total). They are exclusively written in horizontal lines and preferably include a date: a year date in

[99] Donker van Heel and Haring 2003, 19-21.

eight cases, a month/day date in one case. In three cases the texts are damaged. Five texts show running lines, against seven texts that show some degree of consideration for keywords and/or dates, but list entries are thus far not encountered.

- Events, just as progress reports, were exclusively written in horizontal lines as single categories, but when combined with accounts of absence or presence and/or accounts of materials and equipment, columns do occur, albeit sparingly (see categories 14 and 16).
- In general, the fuller reports with combined categories make up 45 texts. They are generally dated somewhat later than the single categories, that is to the reign of Ramesses III and onwards, although five of the 45 texts have a 19th dynasty date. In total 29 texts are fully dated (with or without the phrase *hrw pn*), two of them date to dynasty 19. Seven texts have a month and/or day date (with or without *hrw pn*), again two date to dynasty 19. One text is without date (the marks' ostracon Berlin P. 12625+) and in eight cases there is damage and we cannot be certain about a date. Sixteen texts show running lines (two from dynasty 19), 17 show an inconsistent degree of consideration (two from dynasty 19), eight show list entries (one from dynasty 19), and two show a mix in the degree of consideration (with two texts remaining unclear). If these fuller reports were all part of an official journal, one would expect them to show more consistency in date and format.

An interesting, although not yet thoroughly studied aspect to involve in the analysis is the ostraca's provenance. Table 3.1 in the back lists the provenances for all ostraca. In quite a number of cases, the provenance is unknown or only a general "DeM" is given. This indication does not necessarily refer to (a location in or near) the village; it may also refer to a provenance from the community in general when the exact find spot remains unknown, but the contents and names mentioned in the text must relate to the workmen and their work. Nevertheless, when we compare the categories and layouts with the provenances of the texts, a few things can be said. Not surprisingly, several categories are focused in and around the village. First of all the texts from category 1 (deliveries and/or deficits): except for a number of unknown provenances, all texts were found in and around Deir el-Medina with as specific locations: *grand puits*, *kom de décombres au sud du village*, site K2 (*kom à l'est de la chapelle votive no. 1213*), *trou Schiaparelli*, Qurnet Murai North, pit 1069, and pit 1446. There are no noticeable differences between the types of layout, except that the texts from category 1 with layout code A3c were concentrated on the two adjacent sites K2 (*kom à l'est de la chapelle votive no. 1213*) and *trou Schiaparelli*. They belong to one archive or one scribe (section 7C).

The texts from category 3 (events) generally have the provenance "DeM", but only once we can specify the find spot further as the *grand puits* (O. DeM 571). The provenance of ostracon BM EA 50734+ is somewhat uncertain: the BM fragment

was purchased, the Cairo fragment CG 25673 was found in the Valley of the Kings among the workmen's huts.

Of the four progress reports, three have as provenance "DeM" and "Western Thebes"; one ostracon (O. Turin CGT 57036) was found in the Valley of the Queens. The latter gives quite specific measurements that must have been noted down at the worksite. The two texts from "DeM" will have been produced in the village: they record work and movements from the village (ostraca Berlin P. 09906 and 10663).

By far most texts from the combined categories 7, 8, 9, 10, 11, 12, 14, and 16 have as provenance "DeM". Most of these categories contain deliveries and deficits of products for the crew, for which a provenance from the village is not surprising. The categories including duty rosters are also bound to have been produced in the village. The combined categories 13, 15, and 18 all contain Turin ostraca from the Schiaparelli excavations and all have the Valley of the Queens as find spot. They do not include mention of deliveries and deficits, but rather focus on combinations of the four topics absences and/or presences, events, accounts of materials and equipment, and progress reports – topics one expects to find at the worksite. The same can be said for ostracon BM EA 5672+ (category 19) that was found in the Valley of the Kings: this ostracon from the reign of Ramesses IX does include deliveries and deficits among other topics, yet it concerns the delivery of pigments to the worksite. As for layouts, there is difference between the categories found in and around "DeM" and in the Valleys: the former include layouts A1a, A1b, A1c, A2a, A3a, A3b, A4d, A6a, A6b, A6e, B6e, C1d, C5c, C6a, and C6b; the latter, although including less texts, focus around layouts A1a, A1b, A1c, and B1c – they are almost all by the hand of one 20th dynasty scribe (section 7A).

More surprising are the results for single categories 2 (accounts of absences/presences) and 6 (name lists). It was said above that the texts from category 6 could have been used to compose the larger accounts of category 2. Specifically, we said that ostracon DeM 706 was used as a draft for ostracon BM EA 5634, and ostraca Turin CGT 57026, 57028, 57029, and 57030 could all be accounts based on drafts as well. Yet, without disproving this idea, the find spots show a puzzling image. Half of the texts from category 2, including the Turin accounts mentioned, were found in the Valley of the Queens. These are all in the handwriting of the scribe who had office at that worksite between years 10 of Ramesses III and year 1 of Ramesses IV (section 7A). The other texts are presumably from in and around Deir el-Medina. Despite the uncertainty inherent in the indication "DeM", five of the texts from category 2 were actually found in the *grand puits*, and one in Qurnet Murai North. An important difference between the groups from the Valley of the Queens and "DeM" is the date: the texts presumably from in and around the village are generally dated earlier than the texts by the hand of the scribe in the Valley of the Queens, although a few are contemporary to this scribe. Some of the

texts from in and around the village show a similar handwriting (e.g. ostraca DeM 908, 910, Berlin P. 11248). Texts from the Valley of the Queens use layouts A1a, A1b, A1c, A3b, A6a, B1d. Texts from "DeM" use layout codes A1a, A3a, A3d, A6e, B5c, B6c. There is not much difference, except for the fact that the texts from the Valley of the Queens more often record a full year date, which may be related to their 20th dynasty date.

All name lists from category 6 have as provenance "DeM". Three of the 15 texts were actually found in the *grand puits*, and two in Qurnet Murai North (ostraca DeM 565, 612, 914 *recto*; DeM 598, 706). One of these texts, ostracon DeM 914 *recto* from the *grand puits*, shows dots that were presumably check marks recording absence or presence. Were such name lists produced at the worksite and taken to the village to compose accounts, after which they were discarded? Had this changed by the time the scribe in the Valley of the Queens was active, since his accounts were left there?[100] What even was the purpose of the accounts: did those in the Valley have a (temporary) purpose only within the workflow of the scribe, and had the accounts in the village served a different, perhaps long-term purpose? These questions concerning accounts of absence and/or presence and name lists, their layouts, handwritings, and their provenances, have meanwhile formed a topic for a small, but more thorough case-study.

The overall conclusion of this section is that there is no systematic relation between categories of text and types of layout. This is in line with conclusions drawn by Eyre in a much broader study including the purposes of the texts: "The texts do not show the consistency of format over time that might be expected in an archive".[101] Yet there are a couple of noticeable features. There seems to have been a growing use of horizontal running lines in dynasty 20, whereas the texts from dynasty 19 show more variation in the overall structure of texts by more often including columns. This does not, however, lead to one uniform format in dynasty 20, since there is still much variation in the organization of the lines of text on the surface. In some cases, a relation to the nature of a category may be assumed: name lists relatively often show list entries, texts with events and progress reports have a more narrative style in running lines, and the more elaborate reports from the combined categories usually alternate between inconsistent consideration for keywords and/or dates and running lines. They hardly show true list entries,

[100] Eyre notes that basic absence registers were typically found among the workmen's huts, were kept in the scribe's hut and were left there when work moved to the next project (2013, 235). This would indeed be logical and is perhaps valid for the documents from the time of Ramesses III onwards. Our name lists generally date somewhat earlier.

[101] Eyre 2013, chapter 6, especially pp. 251-252. The note that "There can be no serious hope of trying to fit every text dealing with the business of the Tomb into a neat system, partly because it is evident that the system was constantly changing, and partly because of the unevenness of preservation, even for the best-documented period" together with the details shown in the current study means we must get rid of the term "journal" altogether.

which is probably due to their larger and more complex composition and the fact that list entries take up much more space; the reports often show lack of space and squeezed lines. Mentioned may also be the accounts of absence or presence, which mainly occur as running lines or with some consideration for keywords and/or dates. Only few are actual lists of absence or presence. The layouts of these accounts show them to be reports rather than quick checklists used in the field of who was there and who was not; that would rather be a function for the name lists of category 6. The lack of full year dates also speaks for this. The inclusion of a full year date is generally seen more often in dynasty 20, but not for one or more categories in particular. Conspicuous is only category 6, the category with the most early dates: it shows the lack of a full year date also for texts dated to dynasty 20, which may be related to the nature of the texts. When we involve provenance in the analysis, two examples show how layout can be connected to subgroups within a category, such as scribal hand or archive, rather than to an entire category of text: the texts from category 1 show a wide variety of layouts, but those with code A3c found at the sites K2 (*kom à l'est de la chapelle votive no. 1213*) and *trou Schiaparelli* are the product of one scribe or archive (section 7C); the accounts of absence and/or presence found in the Valley of the Queens show fairly consistent layouts (section 7A) in comparison to the wider range of layouts seen in these accounts from "DeM".

Despite some preferences and personal habits, the overall variation would not agree with a modern interpretation of a "journal". This is perfectly understandable and logical considering the variation in sherds available or suitable for writing. It seems that, instead of working with fixed formats, scribes were more concerned with the *Textträger* and adapted their texts to them. But even when we see no fixed formats, similar kinds of information were noted down over centuries. There must have been some notion about the documentation of information relevant to the workmen and the work on the tombs. Even when there was no centrally imposed format, there must have been oral agreements, common knowledge among the scribes, on what to record. That this practice was not systematized in a way that we, by using the term "journal", would expect it to be, shows how strongly oral practice dominated the village and its administration, with scribes nonetheless noting things down, but not making full use of the systemic aspects of written culture.

The results from this study must not be understood as definitive conclusions or an endpoint. One the one hand, the analyses can be taken further, not all facets have been touched upon, such as a more thorough study of the relation between category, layout, and provenance in the case of categories 2 and 6 and the inclusion of scribal hands and archives. On the other hand, we are well aware of the fact that 177 ostraca for both dynasties 19 and 20 is a small corpus. It is a starting point, one which we hope will be complemented by colleagues by uploading more sources in the AKU database. The AKU project is meant first of all to be a starting

point, but a collective effort in the end. When the data on administrative hieratic from dynasties 19 and 20 is complemented, the analysis of necropolis administration could be expanded. Then, data can be verified and further questions analyzed, such as what text categories, types of layout, and factors such as authorship and scribal habits can say about the purposes of the texts and the organization of the scribes.

Table 4.8: Types of layout per category, showing the texts and chronological spread per type of layout

No.	Category	Layout	Texts	Chronological spread
1	Deliveries/ deficits	A1a	O. Berlin P. 14213; O. DeM 718; O. DeM 726; O. DeM 855	S. I (1), R. III (1), R. IV (1), R. XI[102] (1)
		A1b	O. Berlin P. 10840; O. Berlin P. 14302; O. Berlin P. 14666; O. DeM 138; O. DeM 145; O. DeM 10299; O. DeM 10339 *recto*	S. I – Mern. (1), R. III (3), R. IV (1), dyn. 20/1 (1), R. IX or XI (1)
		A1c	O. DeM 137; O. DeM 621 + O. DeM 829 *recto*; O. DeM 707; O. DeM 837; O. DeM 854; O. DeM 859 *recto*; O. Turin CGT 57469 = O. DeM 7	S. I (1), R. II (3), R. III (2), R. IV or VI (1)
		A1e	O. Berlin P. 09897; O. Berlin P. 14156; O. DeM 842	R. III(?) (1), R. IV (2)
		A2a	O. DeM 10324	R. III (1)
		A2c	O. DeM 76	R. IV (1)
		A2e	O. Berlin P. 14657	R. IV (1)
		A3a	O. Berlin P. 11272	R. III (1)
		A3b	O. DeM 346	R. II (1)
		A3c	O. Berlin P. 10654 *verso*; O. DeM 1; O. DeM 3; O. DeM 4; O. DeM 10; O. DeM 15; O. DeM 20; O. DeM 26; O. DeM 75; O. DeM 94	S. I (7), dyn. 19 (1), R. IV (1), R. IX (1)
		A3e	O. Turin CGT 57085 *recto*	dyn. 19 – 20 (1)
		A5a	O. Berlin P. 10632; O. Berlin P. 10839; O. Turin CGT 57157	R. III (2), dyn. 19 – 20 (1)
		A5b	O. Turin CGT 57080	R. II (1)

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[102] Grandet 2000, 5, 21, 120.

No.	Category	Layout	Texts	Chronological spread
		A5c	O. Berlin P. 11249; O. Berlin P. 14149; O. Berlin P. 14210; O. Berlin P. 14614; O. DeM 91; O. DeM 844; O. DeM 859 *verso*; O. Turin CGT 57167	S. I – Mern. (1), R. II (1), < 19/2 (1), R. III (2), dyn. 20 (2), dyn. 19 – 20 (1)
		A6a	O. DeM 851; O. DeM 10339 *verso*	< R. III (1), dyn. 20 (1)
		A6b	O. Berlin P. 14264	dyn. 20 (1)
		A6c	O. DeM 869	R. IV (1)
		A6e	O. Berlin P. 14218 *recto*; O. Berlin P. 14218 *verso*; O. BM EA 66412; O. DeM 591; O. DeM 846; O. Turin CGT 57085 *verso*; O. Turin CGT 57189; O. Turin CGT 57470	R. II (1), Sipt. – Taus. (1), dyn. 19 (2), R. III (1), R. IV (1), dyn. 19 – 20 (2)
		B1c	O. Berlin P. 01122; O. Berlin P. 12632 + O. DeM 150; O. DeM 147	R. III (2), dyn. 19 – 20 (1)
		B3c	O. DeM 852	< R. III (1)
		B5c	O. DeM 843	R. II (1)
		C1b	O. DeM 142	R. III (1)
		C1d	O. BM EA 50728	S. I[103] (1)
		C2c	O. DeM 611; O. Turin CGT 57072	Sipt. (1), R. III (1)
		C5b	O. DeM 143; O. DeM 144	dyn. 20/1 (2)
		C5c	O. DeM 48; O. DeM 577; O. DeM 863	S. I (1), R. III (2)
		C5d	O. DeM 52	dyn. 19/2 – 20/1 (1)
2	Acc. of absence/ presence	A1a	O. DeM 594; O. DeM 763; O. DeM 889; O. Turin CGT 57028	Mern. – Taus. (1), S. II (1), R. III (1), R. IV (1)
		A1b	O. Turin CGT 57026; O. Turin CGT 57039	R. III (2)
		A1c	O. BM EA 5634; O. Turin CGT 57029; O. Turin CGT 57035	R. III (3)
		A3a	O. Turin CGT 57432	R. III (1)
		A3b	O. Turin CGT 57025	R. III (1)

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[103] Dorn 2011, 40 and footnote 76.

No.	Category	Layout	Texts	Chronological spread
		A3d	O. DeM 617	R. IV (1)
		A6a	O. Turin CGT 57030; O. Turin CGT 57056	R. III (2)
		A6e	O. Berlin P. 11248; O. DeM 908; O. DeM 910; O. Turin CGT 57283	Sipt. (2), dyn. 19/2 – 20/1 (1), R. III (1)
		B1d	O. Turin CGT 57020	R. III (1)
		B5c	O. DeM 912 *recto*	Sipt.[104] (1)
		B6c	O. DeM 913 *recto*	Sipt.[105] (1)
3	Events	A1e	O. Turin CGT 57204	R. III (1)
		A2a	O. Berlin P. 10633; O. Berlin P. 12654	R. III (1), R. V – VI (1)
		A3a	O. DeM 890	R. III (1)
		A6a	O. Berlin P. 14286; O. BM EA 50734 + O. BM EA 50742 + O. Ashmolean Museum 99 + O. CGC 25673; O. DeM 571	R. III (1), R. IV (1), R. IX – XI (1)
4	Progress reports	A2a	O. Berlin P. 09906; O. Berlin P. 10663	R. III (1), dyn. 20 (1)
		A5a	O. Berlin P. 10622	dyn. 19/1[106] (1)
		A5e	O. Turin CGT 57036	R. III (1)
5	Acc. of materials/ equipment	A1a	O. DeM 882	Sipt. – Taus.[107] or R. IV[108] (1)
		A1b	O. Turin CGT 57007 *recto*	R. III (1)
		A1d	O. DeM 932	R. III (1)
6	Name lists	A1c	O. DeM 262	R. IV (1)
		A5a	O. DeM 598; O. Turin CGT 57479	Sipt. – Taus. (1), < R. III (1)
		A5c	O. DeM 565	R. III (1)

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[104] Grandet 2003, xvii, 4, 88-89, 340-343.
[105] Grandet 2003, 4, 90, 344.
[106] https://dem-online.gwi.uni-muenchen.de/show_beschreibung.php?id=187&beschreibung=%2Fproj%2FHODFG%2FOstrakaBerlinBeschr2%2Fb10622-beschr.jpg&inventar_nr=Berlin+P+10622 [19.8.2022].
[107] Helck 2000, 192.
[108] Grandet 2003, 3, 57, 281.

No.	Category	Layout	Texts	Chronological spread
		A5f	O. Turin CGT 57015; O. Turin CGT 57206; O. Turin CGT 57256; O. Turin CGT 57257	dyn. 19 – 20 (3), dyn. 20 (1)
		A6c	O. Berlin P. 09901	dyn. 20 (1)
		A6e	O. Berlin P. 15292	dyn. 19/2 (1)
		B5c	O. DeM 612; O. DeM 706; O. DeM 914 *recto*; O. Turin CGT 57382	R. II (1), Sipt. (1), Sipt. – Taus. (1), dyn. 19 – 20 (1)
		B6c	O. Berlin P. 11289	dyn. 20 (1)
7	Deliveries/ deficits Acc. of absence/ presence	A3a	O. DeM 604	R. III (1)
		B6e	O. DeM 895	R. IV – V (1)
8	Deliveries/ deficits Events	A2a	O. BM EA 50722 + O. CGC 25726 + O. BTdK 660; O. BM EA 50744	R. IV (1), R. VI (1)
		A3a	O. DeM 595	S. II (1)
		A3b	O. DeM 35	R. III (1)
9	Deliveries/ deficits Acc. of absence/ presence Events	A1a	O. Turin CGT 57007 *verso*	R. III (1)
		A1b	O. DeM 55; O. Turin CGT 57153	R. III (2)
		A3b	O. DeM 900	S. II – Sipt. (1)
10	Deliveries/ deficits Duty roster	A1b	O. Berlin P. 12628 + O. Berlin P. 12641; O. Berlin P. 12639 + O. Berlin P. 14696 + O. DeM 33	R. III (1), R. IV (1)
		A1c	O. Berlin P. 12627; O. BM EA 5635	Amen. – Sipt. (1), R. III (1)
		A2a	O. DeM. 578	R. III (1)
		A3c	O. Turin CGT 57393	R. IV (1)
		A6a	O. DeM 876	S. II[109] or Sipt.[110] (1)
		C5c	O. Berlin P. 12625 + O. IFAO ONL 300	R. III (1)
		C6b	O. Berlin P. 12642 + O. DeM 160	R. IV (1)

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[109] Grandet 2003, 2, 51-53, 272-273.
[110] Collier 2004, 104-105, 158.

No.	Category	Layout	Texts	Chronological spread
11	Deliveries/ deficits Duty roster Events	A1a	O. DeM 32; O. DeM 44	R. III (1), R. IV (1)
		A1b	O. Berlin P. 12626 + O. DeM 41; O. Berlin P. 12631 a + b; O. Berlin P. 12651 + O. DeM 45 + O. Vienna H. 4; O. DeM 40 + Strasbourg H42; O. DeM 42; O. DeM 46	R. IV (6)
		A3a	O. Berlin P. 12633 a + b	R. III (1)
		A6a	O. Berlin P. 12629; O. Berlin P. 12640 + O. DeM 161 + O. Strasbourg H82	R. III (1), R. IV (1)
		A6b	O. DeM 148	R. III (1)
12	Deliveries/ deficits Duty roster Acc. of absence/ presence	A6e	O. Berlin P. 12384	R. IV (1)
13	Events Acc. of materials/ equipment	A1b	O. Turin CGT 57034	R. III (1)
14	Acc. of absence/ presence Events	C6a	O. Turin CGT 57156 *recto*	R. III (1)
15	Acc. of absence/ presence Events Acc. of materials/ equipment	A1b	O. Turin CGT 57044	R. III (1)
		A1c	O. Turin CGT 57047; O. Turin CGT 57055	R. III (2)
		B1c	O. Turin CGT 57033	R. III (1)
16	Progress reports Acc. of materials and equipment	A2a	O. Turin CGT 57366	R. IV or VII (1[111])
		A4d	O. Berlin P. 14255	R. III (1)
		C1d	O. Turin CGT 57006	R. III[112] or R. IV[113] (1)

continued on next page

[111] Janssen 1992, 107-122; Helck 2000, 455 suggests Ramesses VII.
[112] López 1978, 18-19.
[113] Helck 2000, 376-377.

No.	Category	Layout	Texts	Chronological spread
17	Acc. of absence/ presence Progress reports	A1a	O. BM EA 50730 + O. BM EA 50745	R. VI (1)
		A2b	O. DeM 899	Sipt.[114] (1)
18	Acc. of absence/ presence Events Progress reports Acc. of material/ equipment	A1c	O. Turin CGT 57031	R. III (1)
19	Deliveries/ deficits Acc. of absence/ presence Events Progress reports Acc. of materials/ equipment	A1a	O. BM EA 5672 + O. CGC 25649	R. IX (1)

[114] Grandet 2003, 3, 71-73, 314-315.

5 Economy of the writing process

Texts written in an administrative hieratic style are usually thought of as having been more or less quickly written and showing a number of economizing measures. This section focusses on the use of time and space efficient marks (section 6A) and on forms of abbreviation in words and personal names that repeatedly occur (section 6B).

5A Economizing marks

Dots

Dots in a text may have several meanings and functions. In administrative hieratic from the Ramesside period they can be extreme abbreviations, for instance for  or (examples in table 5.13 below). But they may also function as an indicator of repetition or as separation mark. As indicator of repetition, dots refer to a word or sign that was written earlier in the text; as separator they purely separate usually words or names from numbers in a list. Both are economizing measures, because both prevent writing explanatory words or phrases. In the lamp accounts of ostraca Turin CGT 57031, 57032, 57033, 57034, 57044, and 57047 dots seem in some cases to be repeater marks for the sign of the brazier with flame used as classifier for lamp (Gardiner Q7: ), indicating that the brazier-sign must be read just as in the entry above (figure 5.24). However, this was certainly not consistently done, and in several entries the brazier-sign is simply written anew. Ostracon Turin CGT 57033 (figure 5.25) shows a dot in column 1, line 5 that we interpret to be a repeater mark for  written at the same spot in line 4. In line 6, however, the brazier-sign is written out again. One might suggest that the scribe wrote the brazier-sign in lines 4 and 6, because both entries have an extra note added after the number of lamps. On day 3 in line 5, no such extra note had to be made, which is why the scribe perhaps turned the entry into a very brief one, giving only the day and number of lamps. Yet an extra note is not written in line 7 either, but the brazier-sign was written in full. In another lamp account, ostracon Turin CGT 57043 (figure 5.26), dots are not used at all and the sign for lamp is consistently written out for days 14 and 15 (line 8), 16 (line 9), and 18 and 21 (line 10). Ostraca Turin CGT 57031, 57032, 57033, 57034, 57043, 57044, and 57047 were all written by the same scribe.[115] The inconsistent use of the dot as repeater mark seems to be a habit connected to the cognitive writing process rather than part of a standard format.

[115] See section 7A.

Ostracon Turin CGT 57025 was also written by the same scribe. It was depicted above in figure 4.13, but for clarification the transcription by Lopèz is given in figure 5.27 below. Ostracon Turin CGT 57025 was discussed above as a text of previous unclear nature.[116] It is a list that refers either to absences and presences of workmen or to lamps being handed out. The dots play a role in the interpretation, and upon close examination, they actually clarify the nature of the text. If one follows Helck, one would have to interpret the dots as referring to the sign for lamp, which is nowhere written out. We have just seen that our scribe is very inconsistent in using dots as such repeater marks. But there is another difference between ostracon Turin CGT 57025 and the group just mentioned: the *recto* of ostracon Turin CGT 57025 shows the writing of *wnm.y* and *smḥ.y* in the first line as well as the writing of *wnm.y* in abbreviated form (after *m* follows a dot!) before the first number in line 2. From there on, lines 2 to 8 show entries in which after several days follow first a number, then a dot, then another number, whereas the dot as repeater mark for the sign for lamp followed directly after the day number. The dots in ostracon Turin CGT 57025 have either one of two functions: they can be purely separation marks, meant to keep the numbers for the right and left sides apart, or the dot should be understood as a repeater mark for the word *smḥ.y* written in the first line. Both options remain possible and the exact meaning of the dot will only have been clear to the scribe himself. The idea that ostracon Turin CGT 57025 would be a lamp account can, however, now be considered unlikely given the position of the dots within the entries, the complete lack of a sign for lamp, and the mention of *wnm.y* and *smḥ.y*; all aspects which differentiate it from the lamp accounts on ostraca Turin CGT 57031, 57032, 57033, 57034, 57043, 57044, and 57047.[117]

On ostracon BM EA 50728 (figure 5.28), an account of pottery jars given to members of the crew from the early dynasty 19, dots clearly occur as separator marks. Lines 6 and 8 on the *recto* enumerate men and the number of vessels they received in the pattern name – dot – number. Entry 11 in column 2 on the *verso* also clearly has a dot separating the name *Kꜣsꜣ* from the number 1. In entries 5 to 7 on the *verso*, however, the function of the dot is doubtful: the names are followed by a dot, after which some space is left open since all the vertical strokes for the number 1 are placed neatly underneath each other. A dot as a separator mark would thus not be necessary. The obvious interpretation would then be the hieratogram for  (Gardiner A1) as a classifier after the personal names. However, with one or two exceptions (*Jr.y-nfr* in *recto* line 10 and possibly *Jmn-ms* in *recto* line 11[118]), not one

[116] Section 4B: accounts of materials and equipment.

[117] Still, however, the nature of O. Turin CGT 57025 remains a bit unclear. The numbers certainly refer to the right and left sides, but do they indicate absences or presences? Then why are only numbers given, and not names, as is usually the case?

[118] Demarée 2002 transcribes A1 after *Jmn-ms*. The form is that of a dot, but this is a regular form for A1 in combination with the abbreviated sign for *ms* (Gardiner Z5).

of the names on this ostracon seems to have an A1-classifier.[119] The other names in both columns on the *verso* have no dot at all, nor as separator, nor as classifier.

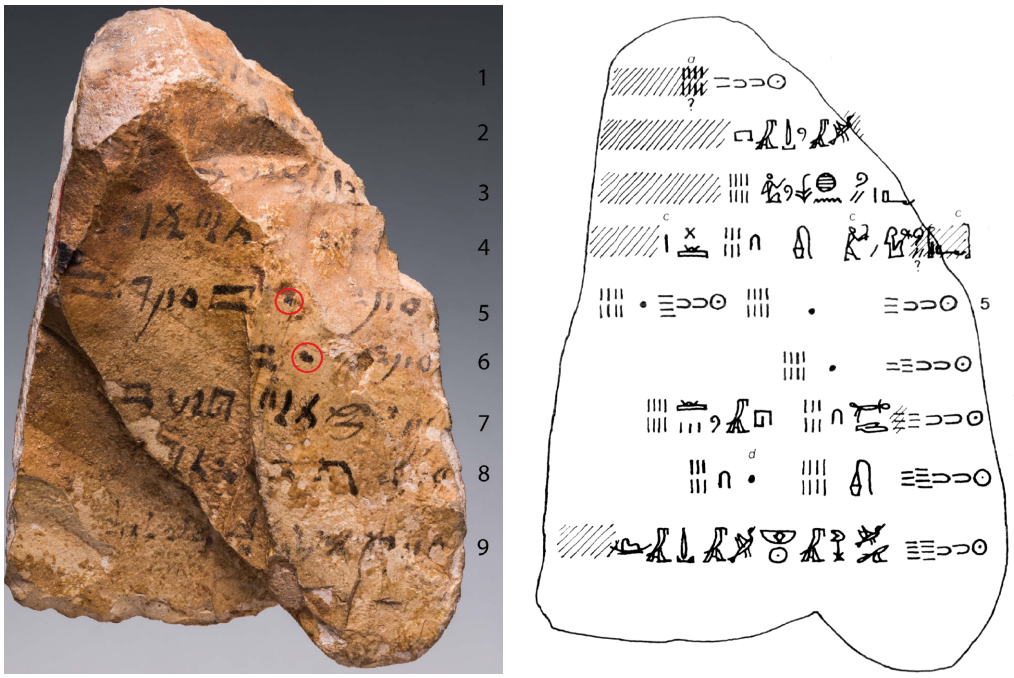


Figure 5.24a: O. Turin CGT 57044 *verso*. Photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni; b: transcription from López 1978, pl. 28a

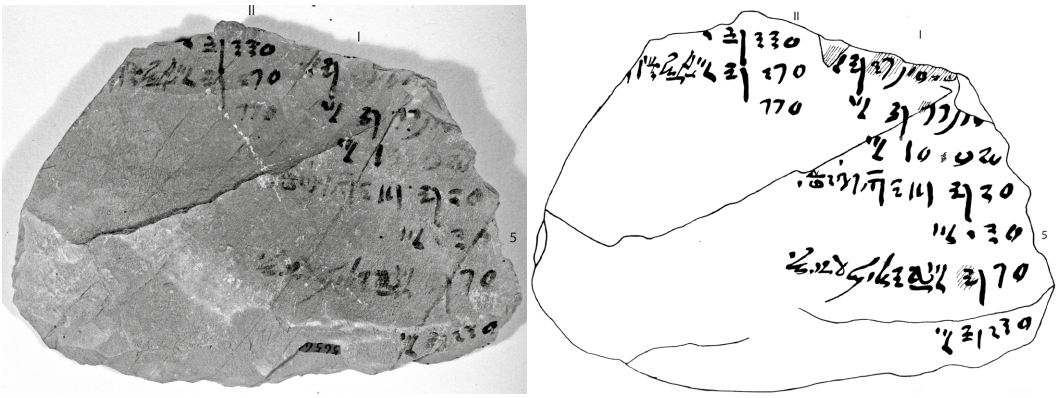


Figure 5.25a: O. Turin CGT 57033 *verso*. Photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni; b: transcription from López 1978, pl. 22a

[119] Demarée 2002, pl. 124, transcribes an A1-classifier in the reconstructions *Sn-nḏm* and *Rʿ-wbn* (end of the name not preserved), both in *recto* line 9.

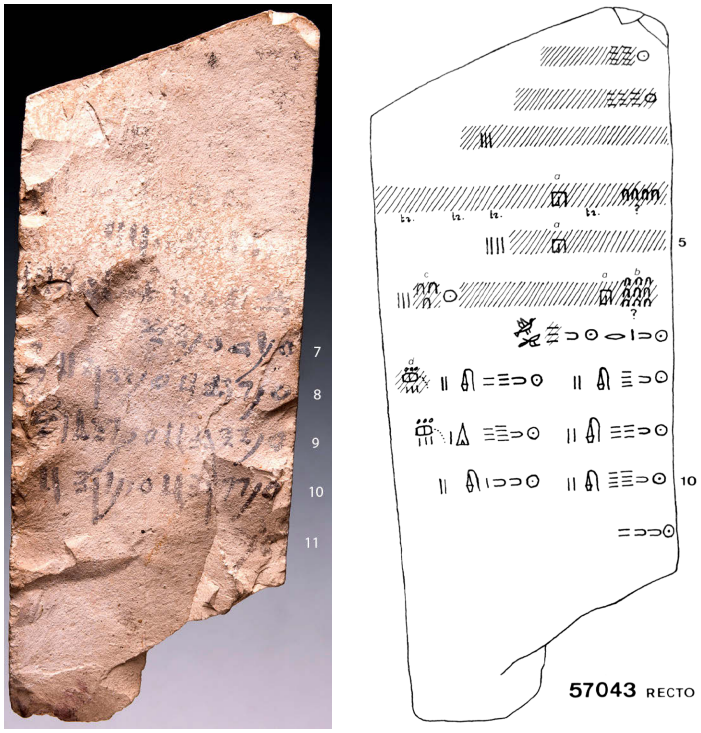


Figure 5.26a: O. Turin CGT 57043 *recto*. Photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni; b: transcription from López 1978, pl. 27a

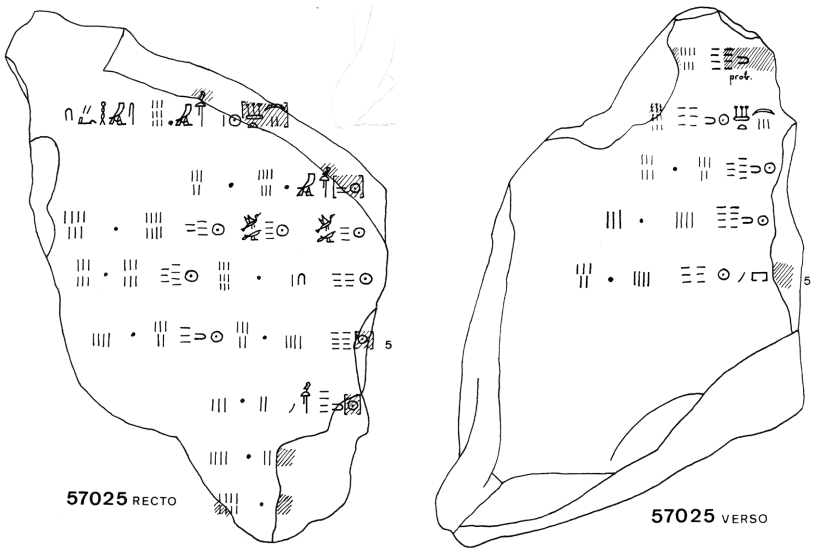


Figure 5.27: Transcription of O. Turin CGT 57025 *recto* (left) and *verso* (right). López 1978, pl. 14a

Figure 5.28: O. BM EA 50728 *recto* (left) and *verso* (right). Photos © The Trustees of the British Museum, KvdM

Using dots as an economizing measure does not make a text more understandable for others: there is inconsistency and context is lacking. In that respect the Turin examples seem to point to personal notes, perhaps *aides-mémoire* to set up larger reports, but not to journal-entries with a wider or more official aim. The pattern number – dot – name may, however, have had a broader accepted usage, already in dynasty 19, since the last example of ostracon BM EA 50728 at least shows signs of having been checked (see section 6C).

The *idem ditto* mark

The scribe of the Turin group mentioned above also used another mark to indicate repetition. Lines 5 to 7 on ostracon Turin CGT 57047 *verso* (figure 5.29) show the use of a stroke followed by a dot to repeat the word  *ḫbs*, "lamp-wicks", written out in line 4. In each line, the number 20 is written out after *ḫbs* (line 4, day 15) or this *idem ditto* mark (lines 5-7, days 16-18), thus we may assume that on each of these days 20 lamps were handed out. Regarding the previous paragraph on dots, one might perhaps consider the dot following the stroke to be a repeater for the sign Gardiner Q7  , acting as classifier in the word *ḫbs*. Yet other examples of the *idem ditto* mark show that it does not refer to one sign in particular. On ostracon Turin CGT 57035 the same scribe used the mark to report himself absent and ill on a number of days (figure 5. 30). Line 4 records the scribe "off work" on day 9, line 5 shows for day 10. Line 6 records the scribe "ill" on day 11, line

7 shows the *idem ditto* mark consisting of a stroke followed by a short line for day 12. Line 8 proves that the *idem ditto* mark must indeed be interpreted as indicating repetition of the previous entry: the total number of days on which the scribe was ill is given as three, a number only reached when one includes the entry in line 7. A last example by the hand of this scribe is ostracon Turin CGT 57156 (figure 5.31). On the *recto* the scribe uses the *idem ditto* mark twice in column 2, lines 10 and 11, to repeat the word *ṯzj*, "to go up". On day 16 (line 9), this word follows the note on the crew being "at work". On day 17 (line 10), the *idem ditto* mark follows the same note on the crew being "at work". On day 18 (line 11), the *idem ditto* mark follows a note on the crew being "at this place". This is strange: did they "go up", while "at this place"? It rather seems that we must read *ṯzj* here as *herabsteigen* (Erman and Grapow 1926–1931, V, 407.12), meaning that on day 18 the crew went to the village for the weekend. Day 19 records the crew as being off work, and on days 20 and 21 they were "at this place". Day 22 (line 15) records the crew as being "at work", again followed by the word *ṯzj*, "to go up".

Further examples of ostraca on which the *idem ditto* mark is used are ostraca Turin CGT 57006, DeM 844, and DeM 899. On ostracon Turin CGT 57006 the mark occurs twice on the *recto*: once in column 1, line 11 to repeat the word *ḥ·tj*, "bed", in line 10; and once in column 2, line 23 to repeat the word for *kbs*-basket in line 22. On ostracon DeM 899, the only example here with a suggested date in the 19th dynasty, the mark is used to repeat entire phrases among others on the absence of workman *Bꜣy*. Ostracon DeM 844 (figure 5.32) shows a listing of amounts of grain related to one man over a period of time. The first lines on the *recto* are unfortunately badly damaged as the piece is broken off at the top left. However, from line 4 on the *recto* continuing to line 3 on the *verso*, the entries consist of a month-day date, the *idem ditto* mark, and the number 1.

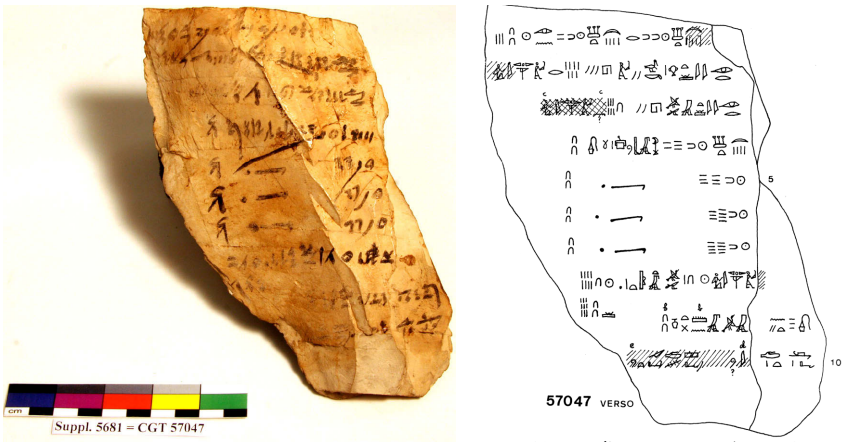


Figure 5.29a: O. Turin CGT 57047 *verso*. Photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni; b: transcription from López 1978, pl. 30a

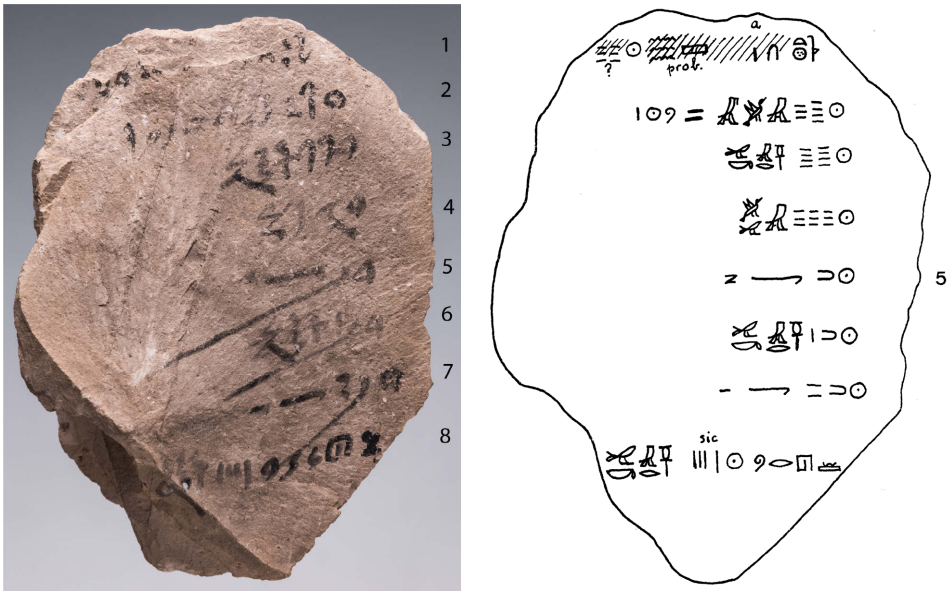


Figure 5.30a: O. Turin CGT 57035. Photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni; b: transcription from López 1978, pl. 19a

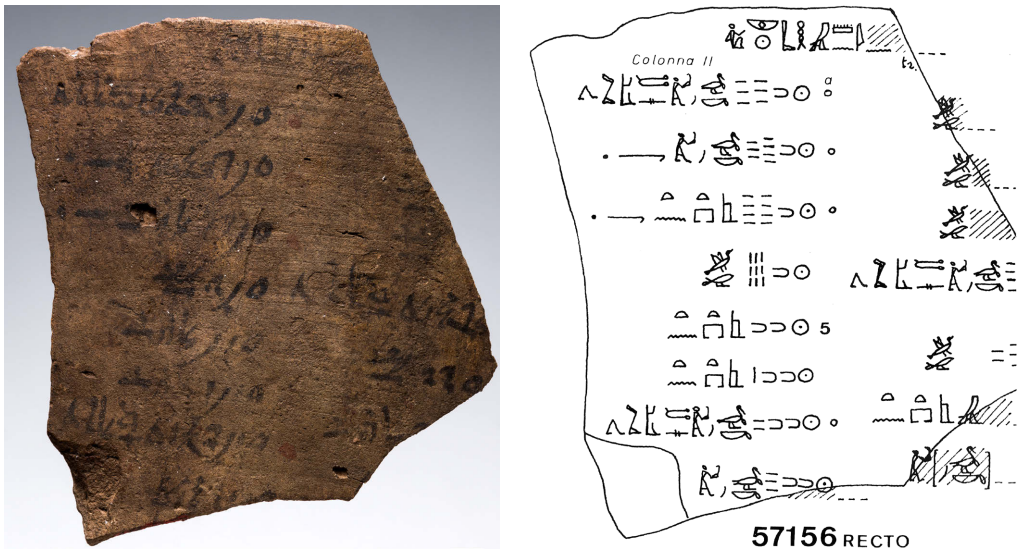


Figure 5.31a: O. Turin CGT 57156 *recto*. Photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni; b: transcription from López 1980, 70a

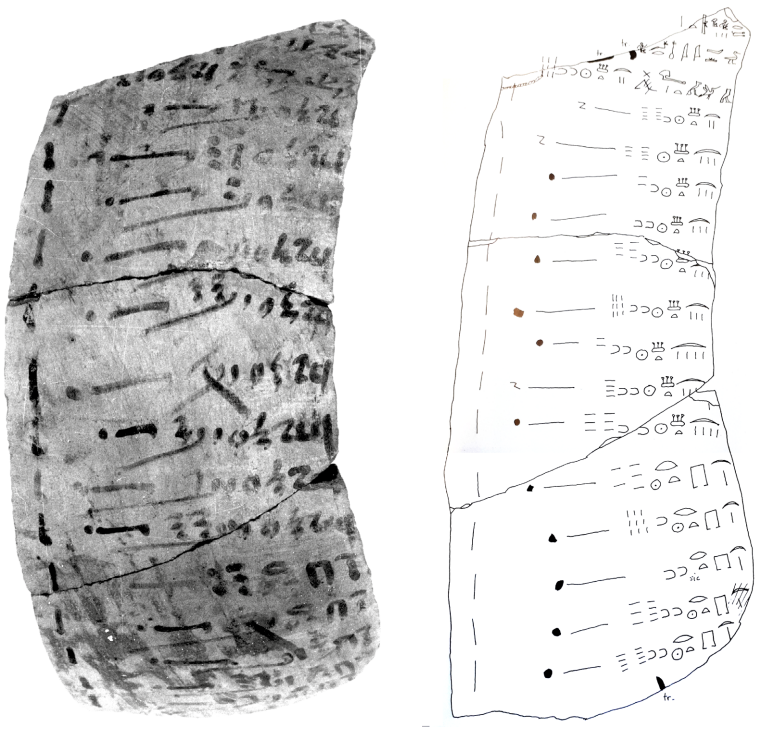


Figure 5.32a: O. DeM 844 *recto* (photo © Ifao (enhanced in Photoshop by KvdM); b: transcription from Grandet 2003, 217

5B Abbreviation

In addition to the use of marks, a clear sign of economic writing is of course abbreviation. Abbreviation occurs in various contexts, for instance in the context of repetition, in the context of materiality caused by availability and quality of the writing surface, or in the context of the cognitive writing process when the use of abbreviated forms is related to the mental state of the scribe. Abbreviation also occurs in various forms. Words can be abbreviated by leaving out non-essential hieratograms (e.g. *.w-* or *.y*-endings or classifiers that do not affect the phonetic reading): orthographic abbreviation. Single hieratograms or (semi-)ligatures can be abbreviated in their form or reduced to single strokes in the worst case: palaeographic abbreviation. Most radical is phonetic abbreviation, when phonetic elements such as prepositions or grammatical elements are left out. Several of these forms of abbreviation occur, separately or in combination, in our texts. In this section, we look at different writings in personal names and words that frequently

occur.[120] For both names and frequent words we look at how they are abbreviated: when, where in the text, and why? Does a specific element remain that is crucial to the identification of a sign, word, or name? What can only be extracted form context? We also look at the relation between writing long and short versions and the co- and context. Repetition of the same word or phrase may, for instance, provoke progressive abbreviation. Which choices do scribes make in such cases? We also look at how scribes deal with an ever greater lack of suitable writing space at the end of a line or towards the end of a text, as well as with additions and corrections.

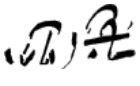
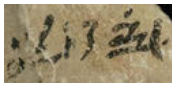
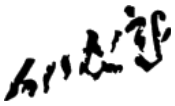
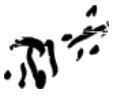
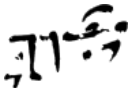
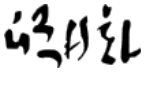
Abbreviation in personal names

Five names in particular lend themselves to a detailed analysis, because they often occur in the corpus, have the best preserved examples and/or show a range of variation: *Wsr-ḥ3.t*, *Ḫ*ˁ*-m-W3s.t*, *Ḫnmw-ms*, *Jmn-m-jn.t* and *Jmn-nḫt*[121]. Table 5.9 presents all the examples from the corpus. Facsimiles are not in each case available: the table also includes occurrences of names that are damaged or faded to such an extent that they were not digitally drawn. Photographs are included in those cases. Photographs were also included when only a selection of signs from the name was drawn; in these cases, the photographs include the outline facsimiles of the respective signs. When the photograph is not good or no photograph was available, a transcription from the respective edition is included with the addition (e), or when no transcription exists, only a hieroglyphic transliteration taken from the edition is included. To save space, the following abbreviations are used in the captions: B. for Berlin P.; BM for BM EA; T. for Turin CGT; *ro* for *recto*; *vo* for *verso*; + for additional fragments that can be found in section 4 or via the *Deir el-Medina Database* and *Deir el-Medine Online*. Photographs of the ostraca from Berlin and The British Museum were taken by the author, photographs from the DeM ostraca are the copyright of IFAO, photographs of the ostraca from Turin were taken by N. Dell'Acquila and F. Taverni. All facsimiles without the addition (e) are by the author. The photographs and facsimiles in this and following tables have all been scaled to the same size to keep overview and facilitate comparison. The actual sizes of the hieratograms are documented in the AKU database.

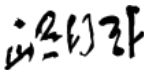
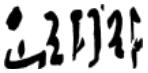
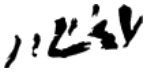
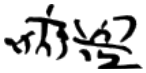
[120] The choice for personal names and frequent words was partly inspired by the method used by Van den Berg and Donker van Heel 2000, 9-49, who did this more thoroughly for a smaller group of ostraca from the *Museo Egizio* Turin, of which facsimiles were already at hand in López 1978. Also McClain 2018 used this method and partly analyzed the same words in her study on handwriting (more to this in section 7).

[121] The writings of *Jmn-nḫt* that were analyzed belong to a workman and a scribe of that name, i.e. they do not represent one man.

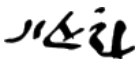
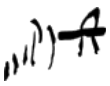
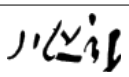
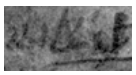
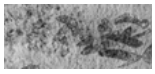
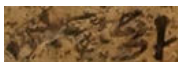
Table 5.9: The writings of the names *Jmn-nḫt, Ḫᶜ-m-Wȝs.t, Wsr-ḥȝ.t, Jmn-m-jn.t* and *Ḫnmw-ms* in the corpus

	Jmn-nḫt	*Ḫᶜ-m-Wȝs.t*	*Wsr-ḥȝ.t*	*Jmn-m-jn.t*	*Ḫnmw-ms*
1	 B. 10633 *ro* 1	 B. 9897 *ro* 4	 B. 12625+ *ro* 18	 B. 09901 *vo* 1	 T. 57026 *vo* 6
2	 B. 11289 *ro* 2,2	 B. 10663 *ro* 3	 B. 12626+ *ro* 14	 B. 12640+ *vo* 7	 T. 57028 *ro* 9
3	 B. 12384 *ro* 9	 B. 12625+ *vo* 1,10	 B. 12627 *ro* 2	 B. 12651+ *ro* 5	 T. 57028 *vo* 2
4	 B. 12384 *ro* 10	 B. 12625+ *vo* 2,2	 B. 12628+ *ro* 9	 B. 12651+ *ro* 11	 T. 57028 *vo* 6a
5	 B. 12384 *vo* 2	 B. 12626+ *ro* 9	 B. 12629 *ro* 3	 B. 12651+ *ro* 14	 T. 57029 *ro* 6
6	 B. 12384 *vo* 6	 B. 12628+ *ro* 4	 B. 12631a over *ro* 1	 B. 12651+ *vo* 19	 T. 57029 *ro* 9
7	 B. 12626+ *ro* 20	 B. 12631a *ro* 14	 B. 12642+ *vo* 8	 DeM 44 *ro* 4	 T. 57029 *ro* 11
8	 B. 12626+ *vo* 4	 B. 12631b *vo* 14	 B. 12651+ *ro* 5	 DeM 44 *ro* 17	 T. 57030 under *vo* 5
9	 B. 12626+ *vo* 5	 B. 12633a *ro* 3	 DeM 40 *ro* 1	 DeM 44 *ro* 26	 T. 57039 *ro* 7

continued on next page

	Jmn-nḫt	*Ḥ^{c}-m-W^{3}s.t*	*Wsr-ḥ^{3}.t*	*Jmn-m-jn.t*	*Ḫnmw-ms*
10	 B. 12626+ *vo* 8	 B. 12642+ *vo* 3	 DeM 40 *ro* 14	 DeM 44 *vo* 11	 T. 57039 *vo* 6
11	 B. 12626+ *vo* 9	B. 12651+ *vo* 8	 DeM 42 *vo* 2	 DeM 46 *ro* 6	
12	 B. 12626+ *vo* 11	 B. 12654 *ro* 6	 DeM 44 *ro* 7	 DeM 46 *ro* 12	
13	 B. 12628+ *ro* 11	 BM 50744 *ro* 10	 DeM 44 *vo* 7	 DeM 46 *vo* 6	
14	 B. 12628+ *ro* 17	 DeM 32 *ro* 10	 DeM 46 *ro* 7	 DeM 46 *vo* 11	
15	 B. 12628+ *ro* 18	 DeM 40 *ro* 11	 DeM 890 *ro* 4	 DeM 598 *ro* 2	
16	 B. 12640+ *ro* 3	 DeM 42 *ro* 6	 T. 57006 *vo* 3	 DeM 611 *ro* 2,13	
17	 B. 12640+ *ro* 9	 DeM 44 *ro* 3	 T. 57026 *ro* 12 (e)	 DeM 612 *ro* 1,4	
18	 B. 12640+ *vo* 3	 DeM 46 *vo* 12	 T. 57026 *vo* 6	 DeM 855 *ro* 3 (e)	
19	 B. 12640+ *vo* 4	 DeM 148 *ro* 8	 T. 57028 *ro* 3	 DeM 908 *ro* 2	

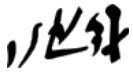
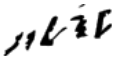
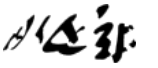
continued on next page

	Jmn-nḫt	*Ḥ^{c}-m-W^{3}s.t*	*Wsr-ḥ^{3}.t*	*Jmn-m-jn.t*	*Ḫnmw-ms*
20	 B. 12651+ *ro* 6	 DeM 604 *ro* 1	 T. 57029 *ro* 6	 [122] T. 57026 *ro* 6	
21	 B. 12651+ *ro* 11	 DeM 852 *ro* 1, 6	 T. 57030 *ro* 8 (e)	 T. 57028 *ro* 3	
22	 B. 12651+ *ro* 13	 DeM 852 *vo* 2,6	 T. 57030 *vo* 5	 T. 57028 *ro* 9 (e)	
23	 B. 12654 *ro* 3	 T. 57020 *ro* 1, 3	 T. 57039 *ro* 8[123]	 T. 57056 *ro* 7	
24	 B. 12654 *ro* 7	 T. 57028 *vo* 9	 T. 57206	 T. 57056 *vo* 3	
25	 B. 15292 *ro* 6	 T. 57029 *ro* 8			
26	 BM 5634 *ro* 6	 T. 57030 over *ro* 7			

continued on next page

[122] The text has completely faded away and it is unclear on what López's hieroglyphic reconstruction is based (López 1978, pls. 15-15a).

[123] The transcription by López also includes the name *Wsr-ḥ^{3}.t* at the end of line 7, but with the note given by Černý "hardly, cf. next line" (López 1978, pl. 19a note b-c). On several ostraca, among which Turin CGT 57026, 57028, 57029, and 57030 we find *Wsr-ḥ^{3}.t* on the left side of the crew, which explains at least the writing of that name at the start of line 8 on O. Turin CGT 57030 *recto*. If we compare sequences, there are a few names that would qualify the spot at the end of line 7: *Ḥ^{c}-m-nwn*, *Jy-r-nw.t-f* and *Nḫ.w-m-Mw.t*. But these names are too long to fit the spot. Other options would be *Jrsw* and *Ḥr*, but neither name fits the remains that can still be seen. These remains look most like a *nfr*-sign and perhaps, as in line 1, we must read another mention of *Nfr-ḥr* at the end of line 7.

Jmn-nḫt **(continuation)**				
27	28	29	30	31
				
BM 50730+ *vo* 4	BM 50730+ *vo* 6	DeM 32 *ro* 12	DeM 32 *ro* 13	DeM 32 *vo* 5
32	33	34	35	36
				
DeM 32 *vo* 6	DeM 42 *vo* 6	DeM 42 *vo* 12	DeM 44 *ro* 8	DeM 44 *ro* 14
37	38	39	40	
				
DeM 44 *vo* 14	DeM 46 *ro* 8	DeM 46 *vo* 2	T. 57007 *vo* 9	

Overall, there is much orthographic variation especially for the names *Wsr-ḥ3.t*, *Ḫ*-m-W3s.t*, and *Ḫnmw-ms*. The names *Jmn-m-jn.t* and *Jmn-nḫt* show more stability in this respect. In his publication *Die altägyptischen Personennamen*, Ranke listed several principles of abbreviation, such as the omittance of simple prepositions as in *Jmn<-m>-jp.t*, and the omittance of nouns and other grammatical elements as in *Mḥ* for *Jmn-m-ḥb* or *Ḥy* for *Jmn-ḥtp*.[124] Such extremely short (nick)names are known from Deir el-Medina. Although the question of who's who remains a difficult one, these short writings seem to be the regular form; we consistently encounter *Ḥy*, *Ms*, and *Jpwy* in the administrative documentation. When personal names that are regularly written in a long version are abbreviated in our texts, we do *not* see such radical phonetic abbreviation. We do see orthographic and palaeographic abbreviation, but notably the phonetics in the names remain intact. This is exemplified by the names *Ḫ*-m-W3s.t* and *Jmn-m-jn.t* in table 5.9: with one exception (ostracon Turin CGT 57020 *recto* 3), both are consistently written with the preposition *m*. Even the shortest form of the name *Ḫ*-m-W3s.t* on ostracon Turin CGT 57030 *recto*, which was forgotten and then squeezed in right above line 7, still has the preposition *m* (number 26 in table 5.9).[125]

[124] Ranke 1952, Kapitel II, pp. 95ff.

[125] Perhaps the lack of phonetic abbreviation is related to the manner in which apprentices learned to write names. See Fischer-Elfert 2021, 370-374, who presents several examples of ostraca on which apprentice scribes practiced the writing of names. "*Besonders interessant dabei ist die damalige Praxis, solche Namen nach Bildungsmustern, Wurzeln oder ‚Morphemen' einstudiert und kopiert zu haben.*" (370).

We do see orthographic abbreviation that does not affect the phonetics in the names to such an extent. First, phonetic complements may disappear, such as  *s* after  *ms* in *Ḫnmw-ms*, or *s* and/or  *r* in *Wsr-ḥ3.t*. Yet, in only one case, the sign  *ʿ* in the *ḫʿ*-group is missing in the name *Ḫʿ-m-W3s.t* (number 26 in table 5.9, just mentioned as a forgotten note). One could think that the *ḫʿ*-group with the arm (and book roll) formed a scribal unity that the scribes did not want to disturb or simply unconsciously kept together. However, would that also explain why the phonetic complement *m* after the *ḫnm*-sign  in the name *Ḫnmw-ms* is never missing? Even in the shortest versions of the name, *m* still follows this *ḫnm*-sign. The name *Jmn-m-jn.t* hardly shows loss of phonetic complements either. In one case, the sign  *j* preceding the *jn*-fish is lacking (number 17 in table 5.9), but not once the sign *n* that follows the *jn*-fish. Either this is coincidence in our far from complete data, or some signs were, (un)consciously, considered to belong together, a unity. It may also have been of influence that a sign such as *wsr* was well-known also from other contexts (e.g. as a symbol of power), which may have caused the scribes to think of them more flexibly, whereas the signs *ḫnm* and *jn* may have been known especially from linguistic contexts in which they were accompanied by their complements *m*, *j* and *n*.

A second form of orthographic abbreviation that we find is the disappearance of endings such as *.w*, *.t* or *.y*, when written at all. This is seen in most examples of the name *Ḫnmw-ms*. The *.t*-ending and the stroke (Gardiner Z1) that accompany the *ḥ3.t*-sign in the name *Wsr-ḥ3.t* are, however, relatively often present in long as well as in short writings. Short writings in which the *wsr*- and *ḥ3.t*-signs are combined show the *.t*-ending and stroke in six examples (), whereas the same compact form without the small signs () is seen in seven examples. This perhaps suggests that the block-writing including the *.t*-ending and stroke was not considered a fixed scribal unity per se.

The name *Jmn-nḫt* is usually written with two or three small signs following the first sign in the *nḫt*-group (Gardiner A24). They hardly show detail, which makes it difficult to decide whether *t*, the *.w*-ending, or the A1-classifier is missing. Conspicuously, it seems to be *t* that is missing rather than *.w* or A1 in example number 17 in table 5.9. In the majority of cases for this name, however, both *t* and the ending *.w* are present.

Third, classifiers inside a name may disappear. This happens especially with the striking arm (Gardiner D40) after *wsr* in *Wsr-ḥ3.t*, and to a lesser extent with the classifier in the name *Ḫʿ-m-W3s.t*. However, the book roll in the *ḫʿ*-group of that name seems to be present most of the time. In several cases a small hieratogram was written, but an identification as book roll is uncertain. The editors of the respective ostraca then chose to transcribe either (Z7), (Z5), or even a dot (). In three cases (numbers 21, 22, and 26 in table 5.9) the book roll was definitely not written. A clear exception is the classifier (Gardiner N25) in *Jmn-m-jn.t*. Wher-

ever we can identify the last hieratograms in that name with certainty, as well as in all transcriptions given by the respective editors, this classifier is present.

Finally, the classifier A1  after a personal name was regularly left out. Whether this is to be considered a (conscious) method of abbreviation is, however, unlikely: one does not win much space by leaving out the dot for A1. It rather seems to have been the case that the classifier was forgotten or was not considered necessary in these administrative documents that were full of personal names. If we look at table 5.9 the numbers for our names are as follows:

Wsr-ḥ3.t	10 examples (37,04%) lack A1	2 examples are uncertain[126]
Ḫ^{c}-m-W3s.t	5 examples (17,24%) lack A1	4 examples are uncertain
Ḫnmw-ms	0 examples (0%) lack A1	1 example is uncertain
Jmn-m-jn.t	11 examples (44%) lack A1	1 example is uncertain
Jmn-nḫt	8 examples (19,51%) lack A1	5 examples are uncertain

Notable is the number of cases in which the name *Jmn-m-jn.t* did not receive an A1-classifier. Yet, this is easily explained by the frequent occurrence of that name within the same texts: notably ostraca from the DeM-corpus that were written by the same scribe regularly lack A1-classifiers.[127] The name *Ḫnmw-ms*, in contrast, does not show one clear case in which A1 is lacking, but this is probably due to the fact that we have relatively few examples of the name, and not one of them in the DeM-corpus. Rather, all examples of the name *Ḫnmw-ms* come from the Turin-corpus, and table 5.9 shows that other names from that Turin-corpus, all written by the same scribe[128], usually do include the A1-classifier. We are thus dealing with an aspect that is linked to scribal hand: the scribe of the Turin-corpus seems to have regularly included A1, whereas the scribe of many of the DeM-ostraca more often left it out. This is confirmed when we look at the name *Wsr-ḥ3.t*: in ten cases (37 %) the name was written without A1. Two of these cases occur on the ostraca Berlin P. 12642+ and 12651+, the other eight cases all occur on ostraca from the DeM-corpus (DeM 40, 42, 44, 45, 46). The ten cases without A1 concern eight block-writings ( and ) and two long writings. The Turin scribe also used the combined writing of *wsr* and *ḥ3.t*, but with A1 as on ostracon Turin CGT 57026. Nonetheless, it is interesting to note how the scribe of the DeM-ostraca used the block-writing for *Wsr-ḥ3.t* almost like an identity mark. Identity marks are never accompanied

[126] Uncertain means either that the last hieratograms of a name are damaged, or that there are two small signs written, but it remains unclear whether we must identify A1 as one of them. The latter concerns especially the names *Ḫ^{c}-m-W3s.t* and *Jmn-nḫt*, where we cannot always decide.

[127] See section 7B. An example: the name *Jmn-m-jn.t* occurs eight times on the ostraca DeM 44 and DeM 46, in five cases without A1-classifier.

[128] Section 7A.

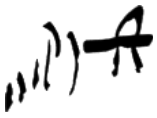
by A1-classifiers. The workmen's identity marks were used precisely at this period for precisely the same administration that our DeM scribe was working on. In some cases, we can even link his hieratic documents to ostraca with workmen's marks.[129] Workman *Wsr-ḥ3.t* also had a mark, which is the *wsr*-sign standing alone ( , number 1 in table 5.9). However, in dynasty 20 some workmen's marks sporadically gained phonetic complements or could be written in group-writing. The line between marks and such abbreviated writings as  and then becomes very fuzzy. Perhaps these compact forms for the writing of *Wsr-ḥ3.t* by this scribe, who was well aware of the marks, are examples of that fuzzy border.

The above shows that, whereas the multi-consonants are theoretically the orthographically stable signs, there are many exceptions in which phonetic complements, prepositions, and classifiers remain present as well where they could have been left out. The extent of orthographic abbreviation is thus limited. Turning to palaeography, and leaving differences in scribal hands aside, we do see that the multi-consonantal signs stand out in the names *Wsr-ḥ3.t*, *Ḫ'-m-W3s.t*, and *Ḫnmw-ms* as the largest hieratograms and/or the hieratograms with most detail (table 5.10). At least to our untrained hieratic eyes they come to function as anchors on which the recognition of the names depends. Given the instability in presence, form, and size of phonetic complements, prepositions, and classifiers, this must to some extent also have been the case in dynasty 20. An exception is the multi-consonantal sign  *ḥ3.t* when not combined with *wsr*. The flexibility in positioning this sign and in combining it with other signs also causes flexibility in its execution: in some cases it is rather small (e.g. ostracon Turin CGT 57026 *verso* 6, dimensions: 4.04 × 8.15 mm), whereas other examples show larger and more detailed executions (e.g. ostracon Turin CGT 57206, dimensions: 6,51 × 14,59 mm).[130] In contrast to the multi-consonants, the complements, prepositions, and classifiers may, but do not have to be, radically abbreviated to short strokes, hooks, dots, or blobs of ink and thus show more variation in form and dimension.

[129] Soliman 2018, 155-190. For a palaeographic and semiotic-cognitive interpretation of the workmen's marks, see Van der Moezel 2016.

[130] The dimensions of each hieratogram are automatically calculated on the basis of the SVG files and documented in the database.

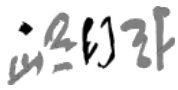
Table 5.10: Multi-consonants stand out in the names *Wsr-ḥ.t*, *Ḫ-m-Wꜣs.t*, and *Ḫnmw-ms*

Wsr-ḥ.t	*Ḫ-m-Wꜣs.t*		*Ḫnmw-ms*
 DeM 890 *ro* 4	 B. 9897 *ro* 4	 B. 12631a *ro* 14	 T. 57026 *vo* 6
 T. 57026 *vo* 6	 B. 12631b *vo* 14	 B. 12651+ *vo* 8	 T. 57028 *vo* 6a
 T. 57028 *ro* 3	 BM 50744 *ro* 10	 DeM 46 *vo* 12	 T. 57029 *ro* 6
 T. 57029 *ro* 6	 DeM 148 *ro* 8	 DeM 604 *ro* 1	 T. 57029 *ro* 9
 T. 57030 *vo* 5	 DeM 852 *ro* 1, 6	 T. 57028 *vo* 9	 T. 57029 *ro* 11
 T. 57206	 T. 57030 over *ro* 7		 T. 57039 *vo* 6

The case is somewhat different for the names *Jmn-nḫt* and *Jmn-m-jn.t* (table 5.11). Only the sign  (Gardiner A24) may be compared to the multi-consonants above in being relatively stable from an orthographic and palaeographic point of view: it is generally the largest hieratogram in the name *Jmn-nḫt* and with some exceptions (O. Berlin P. 12628+ *recto* 17; O. DeM 42 *verso* 12) it maintains its recognizable characteristics. Other orthographic stable signs in the names are the *jmn*-group  for both *Jmn-nḫt* and *Jmn-m-jn.t* and the *jn*-group plus the classifier  (Gardiner N25) for the latter. Palaeographically, these groups stand out less clearly than the multi-consonants in table 5.10. Even the sign  *jn* (Gardiner K1), a multi-consonant and fairly detailed sign, does not show the same characteristics of size and detail and rather shows a large palaeographic variety as a single sign or

in ligature with *n*. In both names, the *jmn*-group is palaeographically the strongest anchor. It roughly shows four forms represented on e.g. ostraca Berlin P. 12628+ *recto* 11 (*mn*-ligature with dot), DeM 46 *recto* 6 (*mn*-ligature without dot), DeM 611 *recto* col. 2,13 (square form for *mn*), and Berlin P. 12640+ *recto* 9 (ligature with *j*). Yet, due to the nature of these two names, their overall identification does not depend on single hieratograms or single groups, but much more on small groups in their co-text, which is presumably why no sign truly stands out.

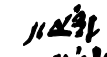
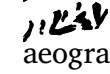
Table 5.11: Orthographically stable sign-groups in the names *Jmn-nḫt* and *Jmn-m-jn.t* show less palaeographic stability[131]

Jmn-nḫt		*Jmn-m-jn.t*
 B. 11289 *ro* 2,2	 B. 12384 *vo* 2	 DeM 44 *ro* 17
 B. 12626+ *ro* 20	 B. 12628+ *ro* 11	 DeM 44 *ro* 26
 B. 12628+ *ro* 17	 B. 12640+ *ro* 9	 DeM 46 *ro* 6
 B. 12651+ *ro* 6	 B. 12651+ *ro* 11	 DeM 46 *ro* 12
 DeM 32 *ro* 12	 DeM 32 *ro* 13	 DeM 611 *ro* 2,13
 DeM 42 *vo* 12	 DeM 44 *ro* 8	 T. 57028 *ro* 3
 DeM 44 *ro* 14		

[131] Again, only facsimiles without damage have been selected from table 5.9 to be represented here.

Cotextual influence on the writing of personal names

In trying to explain the use of long and short versions of the personal names, we looked at where in a text different versions occur and whether there are customs in using one versus the other. Admittedly, there is a large subjective element in considering one writing "long" and another "short", but generally, a writing is considered long when it is orthographically elaborate and the palaeography of the hieratograms shows characteristics of the signs. A writing is considered short when it is orthographically abbreviated and/or the hieratograms are reduced to mere dots and strokes. Long and short writings are also judged in relation to each other when several writings occur in the same text and one writing is longer or shorter than the other(s). An example:

 *Jmn-nḫt* in ostracon Berlin P. 12628+ *recto* 11 is considered long, whereas  on that same ostracon in *recto* 17 is considered short because of the palaeographic differences in the *mn*-ligature and the sign  (Gardiner A24), and the overall quicker writing of *j* and the last two small signs in the latter sample.

No systematicity was found in the influence of co-text. The first hypothesis that was reviewed stated that the amount of writing surface available on an ostracon or in a line is of primary influence in the use of long or short versions. Even when this may sound logical, the space available does generally not seem to play a very large role. Figure 5.33 shows the occurrences per name for which we can judge the writing in relation to space availability in the line of text on the ostracon.[132] We looked at whether a line contained enough space to comprehend the scribe's choice for a long or short version in relation to his habit of starting the next line with a keyword or not. The tag "enough space" thus means that there is space left for writing at the end of a line or that a long version nicely fits the line without causing problems towards the end. The tag "little space" means that there is no space left at the end of a line and the writing is already cramped, which may imply that the scribe had no other choice than to add an abbreviation in the case that he wanted to start the next line with a new entry.

[132] Unclear cases where we cannot judge the writing or the amount of space available because of damage or faded paint are left out. This also includes all cases for which we only have a transcription. Identity marks are left out as well.

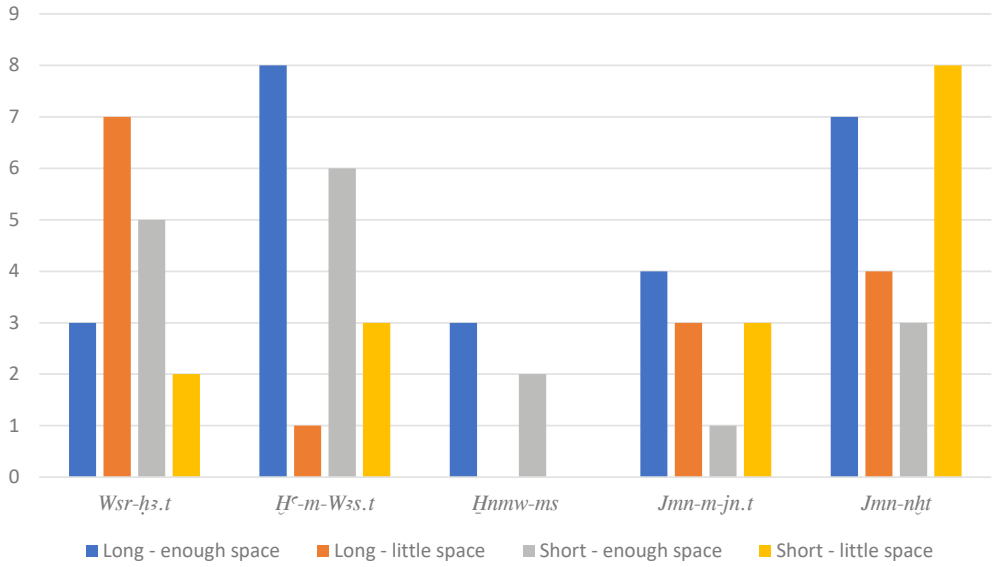


Figure 5.33: Chart comparing long and short writings to the amount of space left for writing within the line

If hypothesis 1 is correct, one would expect the blue and yellow bars (the first and last resp.) to be the tallest in every case, but there are differences between the names. The results for *Jmn-m-jn.t* and *Jmn-nḫt* are perhaps the most straightforward. Most long writings of *Jmn-m-jn.t* occur in lines with enough space, while short writings mainly occur in lines with little space. Yet three long writings occur in a line with little space as well: this happens once in the middle of the line, but twice at the end or in the second half of the line. However, the two latter cases both occur on ostracon DeM 44 (*recto* 4 and *verso* 11) and the scribe did not have to worry about the question whether his text would fit the line, since he did not start the next line with a keyword: a long or short version at the end of the line would thus be irrelevant. The same applies to the long writing in the middle of the line, which occurs on ostracon Turin CGT 57028 (*recto* 3). The results for *Jmn-nḫt* show that this name was written in a long version where space indeed allows this seven times and eight times in a short version where space indeed is cramp. Conspicuous is again the second bar that indicates long writings where space is cramp. This happens thrice at the beginning or in the first half of a line: ostraca Berlin P. 12628+ *recto* 17, BM EA 5634 *recto* 6, and DeM 44 *recto* 14. In the last two cases the scribes started the next line with a keyword, but they may not yet have been concerned with the space availability in the line while writing *Jmn-nḫt*. In one case, the long writing occurs at the end of a line with little space. Yet again,

this happens on ostracon DeM 44 (*recto* 8) and the scribe did not start the next line with a keyword.

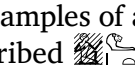
The name *Wsr-ḥ³.t* lends itself to a short writing with the combination  , which may explain the length of the third (grey) bar indicating short versions in lines with enough writing space. All the more conspicuous is, then, again the second, and in this case longest, bar, which indicates long writings where space is cramp. In five of total seven cases, the long writing occurs at the start or in the first half of the line. In two of those cases the scribes started the next line with a keyword and may thus have wished to fit a certain amount of text within the line (ostraca DeM 44 *verso* 7; Turin CGT 57026 *verso* 6). In the other three cases (ostraca DeM 40 *recto* 14; DeM 890 *recto* 4; Turin CGT 57028 *recto* 3) the scresstischibes wrote running lines. Two long writings of *Wsr-ḥ³.t* occur at the end of a line. One of those cases is the addition of the name on ostracon Berlin P. 12631a above *recto* line 1. The scribe may have wished to add the name in the little space above line 1, because it relates to day 1 mentioned there, but one may wonder why he did not use a shorter form. The second case occurs on ostracon Turin CGT 57026 *recto* 12: the scribe did use the combination . We will see in section 7A that he usually wrote the *wsr-* and *ḥ³.t*-signs separately, thus the choice for was probably a conscious one here. Yet he still added the signs . Either he considered the name otherwise incomplete, or he unconsciously followed the regular scribal format in which these signs are part of the writing of the name.

The name *Ḫnmw-ms* hardly provides interesting data: in all cases there is enough writing space in the line. Two occurrences are short writings of which one occurs in the first half of the line (ostracon Turin CGT 57029 *recto* 6) and the other in the second half of the line (ostracon Turin CGT 57028 *verso* 6a). The latter is part of a long addition above line 7. There is enough space available for writing, but the fact that it is an addition may explain the short writing. Three occurrences of the name *Ḫnmw-ms* are long writings of which two occur in the first half of the line (ostracon Turin CGT 57039 *recto* 7 and *verso* 6) and one in the second half of the line (ostracon Turin CGT 57026 *verso* 6).

The name *Ḫ*ᶜ*-m-W³s.t* can occur in long or short writings where there is enough space available: the numbers are eight (long) against six (short), which shows no clear preference. There is only one clear case in which we find a long writing in a somewhat cramped line. This occurs on ostracon Berlin P. 12654 in *recto* line 6. However, the next line does not start with a keyword and even continues a name that was started at the end of line 6. The question of the available writing space in line 6 and its influence on the writing of *Ḫ*ᶜ*-m-W³s.t* is thus irrelevant.

Generally, our data do not speak against hypothesis 1, yet they do not speak in favor of it either. We can merely conclude that much variation was possible and there is at least no straightforward link between short and long writings and the availability of writing space. There is no system or regularity and we must reckon

with a number of other factors having been of influence, if the choice for a long or short writing was indeed in all cases a conscious one.

The space available seems to play a more important role for additions or corrections of names. The examples from our corpus show that a (very) short form was used in such cases: *Ḫ-m-Wꜣs.t* on ostracon Turin CGT 57030 *recto* above line 7 (nr. 26 in table 5.9), *Ḫnmw-ms* in ostracon Turin CGT 57028 *verso* line 6a (nr. 4 in table 5.9), *Ḫnmw-ms* on ostracon Turin CGT 57030 *verso* underneath line 5 (nr. 8 in table 5.9). Such short writings show the signs that apparently were considered essential for the reading: the multi-consonants *ḫ-*, *wꜣs*, and *ḫnm* already identified above as orthographic and palaeographic stable signs. Any other hieratograms that may be present are reduced to dots and strokes. The addition of the name in ostracon Turin CGT 57028 *verso* line 6a is furthermore not the first mention of *Ḫnmw-ms* on the ostracon. It occurs in *recto* line 9 in full[133] as well as in *verso* line 2, where however only the hieratograms for *ḫnm* and *m* have been preserved. Does that play a role? Are the earlier occurrences of the name of influence on the choice for an abbreviation in *verso* line 6a? Ostracon Berlin P. 12631 *recto* above line 1 shows an addition of the name *Wsr-ḥꜣ.t*, which forms a conspicuous contrast to the above mentioned examples of additions in that it is written in a long version (nr. 6 in table 5.9, transcribed ), especially since the name lends itself so well for an abbreviation. Unfortunately, the name *Wsr-ḥꜣ.t* does not occur further on in the text, for it would have been interesting to see whether the scribe would have considered an abbreviation sufficient for further occurrences.

That is the second hypothesis that was reviewed: a long or full writing occurs at the start of a text, after which the scribe could change to a short writing. An example may be seen in two occurrences of the name *Ḫnmw-ms* on ostracon Turin CGT 57039:  () in *recto* line 7 and  () in *verso* line 6. A further example could be the name *Jmn-m-jn.t* on ostracon DeM 44 *recto*. The differences between long and short versions of this name are very small, but compare the occurrences in figure 5.34. The first occurrence in *recto* line 4 is orthographically complete with even the A1-classifier. Palaeographically it is relatively elaborate, especially when compared to the second occurrence in *recto* line 17: although both lines show a similar amount of space available, the *mn*- and *jn*-ligatures as well as the *ḫꜣs.t*-classifier have been palaeographically abbreviated in line 17. However, in *recto* line 26 we see again the elaborate version, with A1-classifier and palaeographically full hieratograms and ligatures. This may be due to the fact that there is plenty of space available for writing in this line.[134]

[133] According to López 1978, pls. 17-17a, for unfortunately, the recent photograph shows that much of the paint is now badly effaced.

[134] The start of line 27 is gone, therefore we do not know with what word the scribe started the new line, but considering the space left at the end of line 26, it must have been a keyword or new entry.

recto 4 *recto* 17 *recto* 26

Figure 5.34: Three occurrences of the name *Jmn-m-jn.t* on O. DeM 44. Photo © Ifao; facsimiles: KvdM

Generally, it appears that both long and short writings occur in the same texts at all possible locations. An orthographically or palaeographically short writing may also occur at the start of a text. Compare, for instance, the writings for *Ḫnmw-ms* on ostracon Turin CGT 57029, which was written by the same scribe as ostracon Turin CGT 57039 just mentioned above. The name *Ḫnmw-ms* occurs three times (figure 5.35). The shortest orthographic version indeed appears only in line 11, yet the first occurrence in line 6 is palaeographically not the most elaborate writing: all the hieratograms after the *ḥnm*-sign are reduced to strokes or dots and the *ḥnm*-sign itself misses the dot on top.

recto 6 *recto* 9 *recto* 11

Figure 5.35: Three occurrences of the name *Ḫnmw-ms* on O. Turin CGT 57029. Facsimiles: KvdM

A last example is the name *Ḫʿ-m-Wꜣs.t* twice on ostracon DeM 852 (nrs. 21 and 22 in table 5.9): both writings are orthographically and palaeographically short, that is, the scribe did not consider it necessary to provide an elaborate writing first. When we compare the locations of long and short writings per name in the texts, we see that there is no system or regularity, no rule of introducing a long version and continuing with abbreviations:[135]

[135] Only the cases in which we can clearly decide on a long or short writing are included. Admittedly, there are many cases in which this remains unknown due to damage or the fact that we have no further clues than a non-verifiable hieroglyphic transcription. A further aspect causing uncertainty is the fact that several ostraca are damaged and lines may be missing above the first occurrence of a name, in which case our first occurrence may not be the actual first occurrence. But we must work with what we have.

- *Wsr-ḥ3.t*: five long writings and no less than 12 abbreviations are first occurrences. Conspicuous are three cases in which a long writing is preceded by a short writing. These occur on ostraca DeM 40 *recto* 14 (short writing in *recto* 1), DeM 44 *verso* 7 (short writing in *recto* 7), and Turin CGT 57026 *verso* 6 (short writing in *recto* 12). In the case of ostracon DeM 40 the reason remains unclear. We do not know whether it was due to the amount of writing space in both lines, because the writing in line 1 has been hardly preserved and the end of the line is gone.[136] Line 14 has only little space left, but the scribe may not yet have realized this when he wrote the long version of *Wsr-ḥ3.t* at the beginning. On ostracon DeM 44 the first, short, writing in *recto* line 7 occurs in a line with much space available for writing. *Verso* line 7, which shows the second, long, writing, in contrast hardly has any space left. At least on ostracon Turin CGT 57026 the case is clear: *recto* line 12 shows the combined writing of the *wsr*- and *ḥ3.t*-signs probably because the writing space is rather cramped, whereas the scribe could be a bit more flexible in *verso* line 6.
- *Ḫnmw-ms*: three long writings and two short writings are first occurrences. In two cases a short writing is preceded by a long writing and in one case a long writing is preceded by a short writing.
- *Ḫ'-m-W3s.t*: 14 long writings and eight short writings are first occurrences. There is not one case where a short writing is preceded by a long writing, but there are two cases in which a short writing is preceded by a short writing and a long writing by a long writing respectively.
- *Jmn-m-jn.t*: two long writings, characterized by the inclusion of the A1-classifier and a relatively elaborate palaeography, are first occurrences against three short writings. In two cases, a long writing is preceded by a short writing, in once case *vice versa*. In six cases a writing is preceded by short as well as long writings.
- *Jmn-nḫt*: seven first occurrences are short writings, six first occurrences are long writings. On ostracon DeM 42 a long writing is preceded by a short writing. On both ostraca Berlin P. 12651+ and DeM 44 one short and one long writing are preceded by a short writing. On ostracon Berlin P. 12628+ one short and one long writing are preceded by a long writing, and on ostracon Berlin P. 12626+ one short writing and three long writings are preceded by a long writing.

A third hypothesis concerns the idea that the use of long and short versions is related to text-category or subgenre. We could ask, for instance, if long writings are more often used in name lists without further context, and short writings more often in elaborate reports, or *vice versa*. Clearly, this hypothesis can only be reviewed with a very critical eye, since we have just seen that long and short writings occur

[136] The few remains in line 1 may indeed represent a short writing as Černý 1935, pl. 22 identified.

within the same texts. If we compare our long and short writings to the text categories, these are the results:

- Texts from our corpus that belong to categories 4 (progress reports), 6 (name lists), and 8 (deliveries/deficits + events) only show long writings of the five analyzed names.
- Texts from our corpus that belong to category 12 (deliveries/deficits + duty roster + absences/presences) show two long writings and two unclear cases.
- Texts from our corpus that belong to categories 7 (deliveries/deficits + absences/presences), 9 (deliveries/deficits + absences/presences + events), 16 (progress report + materials/equipment), and 17 (progress report + absences/presences) only show short writings.
- Texts from our corpus that belong to categories 1 (deliveries/deficits), 2 (absences/presences), 3 (events), 10 (deliveries/deficits + duty roster), and 11 (deliveries/deficits + duty roster + events) show both long and short writings.

It must be mentioned that for each of the categories 4, 7, 8, 9, and 16 we only have one sample of a name, therefore, no serious conclusions can be attached to the above enumeration. Nonetheless, the data show that among the texts with long writings we find a larger range of single categories: long writings occur in single categories 1, 2, 3, 4 and 6 and in combined categories 10, 11, and 12. Short writings we find in single categories 1, 2, and 3 and in combined categories 7, 9, 10, 11, 16, and 17. With the exception of two long writings for *Jmn-nḫt* in texts in category 12 (O. Berlin P. 12384 *verso* 2 and 6), the combined categories thus show a preference for short forms, especially the elaborate reports of categories 10 and 11, in which the short forms far outrun the long writings. This seems to be due not (only) to text category, but rather to the fact that many of the combined reports from categories 10 and 11 were written by the same scribe (section 7B), who seems to have preferred a quick and short writing style.

In conclusion, where the choice for a long or short writing of a name may indeed have been a conscious one, there are a number of factors that could have been of influence. The amount of writing space available in combination with a preference for a layout that focuses on keywords may in individual cases have been of influence, although the overall image is that scribes were not too worried about this. The need to squeeze in a forgotten note is of some influence, yet ostracon Berlin P. 12631 *recto* shows that this is an individual choice as well. The text-category may be of some influence, but this cannot be seen apart from the scribe's personal habits and experience in writing administrative reports. There seems at least to be no rule or custom of introducing a name in full writing and continuing with an

abbreviation. There is no overall system or regularity in the use of long and short writings for personal names.

Abbreviation in frequent words

As was done for the personal names, a number of frequent words or short phrases was selected and the writings were analyzed in terms of orthographic and palaeographic abbreviation. Two criteria played a role in the selection:

- Most interesting are words or phrases that consist of a larger number of hieratograms. Many words in the administrative texts are written in a standard brief spelling ( *sw*, "day of the month";  *dmḏ*, "total";  *mr*, "ill";  *ḏ3.t*, "remainder"). They are already orthographic abbreviations and show that the multi-consonantal signs alone suffice to refer to the word in question.[137] Yet they are not informative in analyzing the choices made by the scribes in abbreviating words in context.
- The selected words and phrases must occur in as many texts as possible and ideally not be restricted to one of the text categories.

The following words and phrases were initially selected: *wnm.y*, *smḥ.y*, *pr.t*, *3ḫ.t*, *šm.w*, *m ḏr.t*, *psn*, *bj.t*, *bnr(.w)/bnj(.w)*, *js.t*, *rmṯ-js.t*, *ꜥ n js.t*, *p3 ḫtm (n p3 ḫr)*, *ꜥrḳ*, and *wsf*. The orthographic variation in several of these words and phrases appeared to be minimal or even non-existent (*m ḏr.t*) in our corpus. The variation affects classifiers or occasionally present phonetic complements. The names for the months, for instance, hardly show variant spellings. The month *akhet* (*3ḫ.t*) is written  in our corpus, but once we find the writing  (ostracon Berlin P. 09897 *recto* 1). For *peret* (*pr.t*), usually written  , we find the writing  on ostracon Turin CGT 57153 (*recto* 1 and *verso* 1). More radical are two writings for the month *shemu* (*šm.w*, normally written  in our corpus) on ostracon Turin CGT 57039 ( , *recto* 2) and ostracon Turin CGT 57044 ( , *recto* 1). Both writings lack the characterizing waterlines for the sound-value *mw*. No problems of interpretation arise due to the occurrence of the remaining hieratogram(s) within the date and the hieratogram following the month-name directly acting both as classifier and as logogram for the word *sw*, "day".

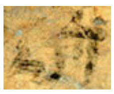
Other words or phrases show minimal orthographic variation or abbreviation as well, such as the word *js.t*, also as part of *rmṯ-js.t* ("workman") and *ꜥ n js.t* ("chief of the crew"). It is written either  or  . The classifiers can be left out or can be palaeographically reduced to a dot, but we do not find a writing with the multi-consonant *js* only. In both ostraca Berlin P. 12654 and BM EA 50730 *recto*

[137] Important references to "*Aktenvermerke*" are Helck 1974 and Jüngling 2021. Several of the signs discussed there occur as orthographically abbreviated writings in our texts (e.g. , ,).

and *verso* we see a frequent repetition of *rmṯ-js.t* several times in one line and over several lines. Yet this does not lead to progressive abbreviation: even the classifiers are written out every time. We merely find the exchange of and twice on ostracon Berlin P. 12654 *recto* 7. The phrase *pꜣ ḫtm (n pꜣ ḫr)* as designation for the administrative headquarters also shows minimal variation: only the occasional presence of the classifier and the sign after *ḫtm* differentiates the spellings.

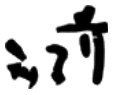
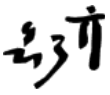
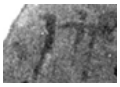
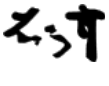
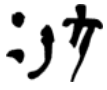
Frequent words with more interesting features of abbreviation are first of all *wnm.y* and *smḥ.y*, indicators for the right and left sides of the crew. The corpus contains 105 occurrences of *wnm.y* and 103 occurrences of *smḥ.y* (tables 5.12 and 5.13).[138] The writings demonstrate again the role of the multi-consonant. The orthographic stability in the word *smḥ.y* stands in sharp contrast to the writings of *wnm.y*. The latter shows a regular long writing as well as a number of abbreviations , , , , , . The orthographically stable factor is the sign (Gardiner R14). Whereas the word *smḥ.y* consists of mono-consonantal signs only, which are all needed in transferring the word, the sign *wnm* in itself transfers all the necessary information to identify the word *wnm.y*. In other words, the writing of *wnm.y* with allows to abbreviate or leave out completely the complement *m*. This leaves only the small signs , which in turn may have been considered redundant and could be left out as well. A reason for the fact that the signs are not lacking in *smḥ.y* is perhaps that scribes had to write all mono-consonantal signs and as such were (un)consciously more prone to keep the word intact.

Table 5.12: The writings of *wnm.y* in the corpus

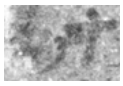
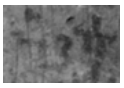
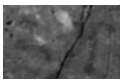
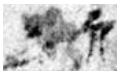
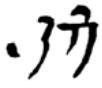
1	2	3	4	5	6	7
						
B. 11272 *ro* 4	B. 12626+ *ro* 2 (e)	B. 12626+ *ro* 6 (e)	B. 12626+ *ro* 10	B. 12626+ *ro* 21	B. 12626+ *ro* 21	B. 12627 *ro* 10
8	9	10	11	12	13	14
						
B. 12628+ *ro* 3	B. 12628+ *ro* 19	B. 12629 *ro* 3	B. 12629 *ro* 4	B. 12631a *ro* 2	B. 12631b *ro* 17	B. 12631b *ro* 19

continued on next page

[138] The tables contain all occurrences, also those where a facsimile or photo is unavailable. The hieroglyphic writings are based on the respective publications, but have been checked against (photos of) the original where possible. When "(e)" is added, the facsimile or transcription was taken from the edition. In these and following tables, the same abbreviations in the captions were used as in tables 5.9 and 5.10. The same source statement for the photographs and facsimiles is valid.

15	16	17	18	19	20	21
						
B. 12633a *ro* 1	B. 12633b *ro* 4	B. 12633b *ro* 7	B. 12633a *vo* 3	B. 12633a *vo* 5	B. 12633a *vo* 8	B. 12639+ *ro* 1
22	23	24	25	26	27	28
						
B. 12639+ *ro* 3	B. 12639+ *ro* 3	B. 12639+ *vo* 3	B. 12639+ *vo* 7	B. 12640+ *ro* 7 (e)	B. 12640+ *vo* 4 (e)	B. 12642 *vo* 1
29	30	31	32	33	34	35
						
B. 12642+ *vo* 6 (e	B. 12651+ *ro* 9	B. 12651+ *ro* 10	B. 12651+ *vo* 6	BM 66412 *ro* 1	DeM 32 *ro* 3	DeM 32 *ro* 4
36	37	38	39	40	41	42
						
DeM 32 *ro* 5	DeM 32 *ro* 6	DeM 32 *ro* 6	DeM 32 *ro* 7	DeM 32 *ro* 9	DeM 32 *ro* 9	DeM 32 *ro* 11
43	44	45	46	47	48	49
						
DeM 32 *ro* 11	DeM 32 *ro* 14	DeM 32 *ro* 16	DeM 40 *ro* 11	DeM 42 *ro* 4	DeM 42 *ro* 7	DeM 44 *ro* 17
50	51	52	53	54	55	56
						
DeM 44 *vo* 3	DeM 44 *vo* 7	DeM 44 *vo* 13	DeM 44 *vo* 15	DeM 46 *ro* 7	DeM 46 *ro* 12	DeM 46 *ro* 13
57	58	59	60	61	62	63
						
DeM 46 *vo* 6	DeM 46 *vo* 9	DeM 55 *ro* 2	DeM 142 *ro* 2	DeM 142 *ro* 4	DeM 142 *ro* 5	DeM 142 *ro* 7

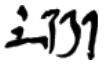
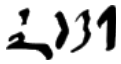
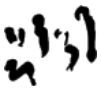
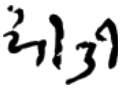
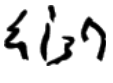
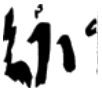
continued on next page

64	65	66	67	68	69	70
						
DeM 142 *ro* 8	DeM 142 *ro* 10	DeM 142 *ro* 13	DeM 142 *ro* 15	DeM 148 *ro* 9	DeM 148 *ro* 15	DeM 148 *ro* 17
71	72	73	74	75	76	77
						
DeM 148 *vo* 1	DeM 148 *vo* 1	DeM 591 *ro* 1	DeM 621+ *ro* 1	DeM 621+ *ro* 5	DeM 726 *ro* 6 (e)	DeM 855 *ro* 2 (e)
78	79	80	81	82	83	84
						
DeM 855 *ro* 3 (e)	DeM 869 *ro* 2	DeM 869 *ro* 3	DeM 869 *ro* 4	DeM 869 *ro* 5	DeM 882 *ro* 2	DeM 10299 *ro* 4
85	86	87	88	89	90	91
						
DeM 10299 over *ro* 5 (e)	DeM 10299 *ro* 8	DeM 10299 *ro* 12	T. 57007 *vo* 1 (e)	T. 57007 *vo* 4 (e)	T. 57025 *ro* 1	T. 57025 *ro* 2
92	93	94	95	96	97	98
						
T. 57025 *ro* 6	T. 57026 *ro* 4 (e)	T. 57026 *ro* 8	T. 57026 *vo* 1 (e)	T. 57026 *vo* 8	T. 57029 *ro* 10	T. 57039 *ro* 3 (e)
99	100	101	102	103	104	105
						
T. 57039 *vo* 1 (e)	T. 57072 *vo* 8 (e)	T. 57085 *vo* 4 (e)	T. 57153 *ro* 6	T. 57153 *vo* 1 (e)	T. 57153 *vo* 3 (e)	T. 57153 *vo* 7 (e)

Palaeographically, the *wnm*-sign 𓇋 is generally the tallest and most complex sign in the word and as such the sign to which most attention was paid. Leaving differences in scribal hands aside, it is relatively stable in form in that most examples without damage show all its details, including two vertical lines protruding from the horizontal line and a dot or stroke on top. The exception is ostracon DeM 10299 *recto* 12, which was clearly written without the dot on top. Yet, three fur-

ther examples on the same ostracon do have the dot. It must simply have been forgotten by the scribe in *recto* 12. The phonetic complement *m*, which may follow the *wnm*-sign, was either carefully drawn in its hieratic "3"-form, or was reduced to a hook or a mere stroke. The signs  , when present, are either written separately in clearly recognizable form, such as on ostracon DeM 142, or the word is closed by a single dot or short stroke, in which case we do not know whether both are present in ligature, or only one of both signs was written. One can imagine that this would have been irrelevant to the scribe.

Table 5.13: The writings of *smḥ.y* in the corpus

1	2	3	4	5	6	7
 B. 11272 *ro* 3	 B. 11272 *ro* 5	 B. 12626+ *ro* 6	 B. 12626+ *ro* 12	 B. 12627 *ro* 7	 B. 12628+ *ro* 5	 B. 12629 *ro* 3
8	9	10	11	12	13	14
 B. 12629 *ro* 4	 B. 12629 *ro* 9	 B. 12633a *ro* 7	 B. 12633b *ro* 5	 B. 12633b *vo* 2	 B. 12633b *vo* 4	 B. 12633b *vo* 5
15	16	17	18	19	20	21
 B. 12639+ *ro* 1	 B. 12639+ *ro* 2	 B. 12639+ *ro* 4	 B. 12639+ *ro* 5	 B. 12639+ *ro* 5	 B. 12639+ *vo* 2	 B. 12639+ *vo* 3
22	23	24	25	26	27	28
 B. 12639+ *vo* 4	 B. 12639+ *vo* 7	 B. 12642+ *ro* 4	 B. 12642+ *vo* 4	 B. 12642+ *vo* 7	 B. 12651+ *ro* 8	 DeM 32 *ro* 3
29	30	31	32	33	34	35
 DeM 32 *ro* 4	 DeM 32 *ro* 6	 DeM 32 *ro* 6	 DeM 32 *ro* 8	 DeM 32 *ro* 9	 DeM 32 *ro* 9	 DeM 32 *ro* 10

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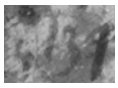
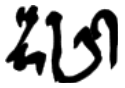
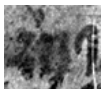
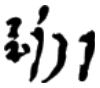
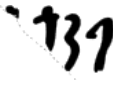
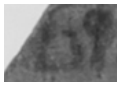
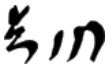
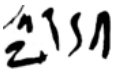
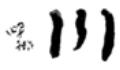
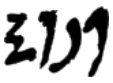
36	37	38	39	40	41	42
 DeM 32 *ro* 11	 DeM 32 *ro* 15	 DeM 35 *ro* 4	 DeM 35 *ro* 6	 DeM 35 *ro* 6	 DeM 40 *ro* 5	 DeM 40 *vo* 4
43	44	45	46	47	48	49
 DeM 42 *vo* 11	 DeM 44 *ro* 12	 DeM 44 *vo* 2	 DeM 44 *vo* 2	 DeM 44 *vo* 4	 DeM 44 *vo* 14	 DeM 44 *vo* 16
50	51	52	53	54	55	56
 DeM 46 *ro* 15	 DeM 142 *ro* 2	 DeM 142 *ro* 3	 DeM 142 *ro* 5	 DeM 142 *ro* 6	 DeM 142 *ro* 9	 DeM 142 *ro* 14
57	58	59	60	61	62	63
 DeM 148 *ro* 9	 DeM 148 *ro* 17	 DeM 148 *ro* 20	 DeM 148 *vo* 2	 DeM 148 *vo* 4	 DeM 577 *ro* 7	 DeM 598 *ro* 1
64	65	66	67	68	69	70
 DeM 604 *ro* 4	 DeM 621+ *ro* 6	 DeM 855 *ro* 1	 DeM 882 *ro* 3	 DeM 889 *vo* 1 (e)	 DeM 910 *vo* 1	 DeM 10299 *ro* 2
71	72	73	74	75	76	77
 DeM 10299 *ro* 6	 T. 57007 *vo* 2	 T. 57025 *ro* 1	 T. 57026 *ro* 6	 T. 57026 *ro* 9	 T. 57026 *ro* 12	 T. 57026 *vo* 5
78	79	80	81	82	83	84
 T. 57028 *ro* 2	 T. 57028 *ro* 9	 T. 57028 *ro* 10	 T. 57028 *vo* 2	 T. 57028 *vo* 5	 T. 57028 *vo* 6a	 T. 57028 *vo* 8

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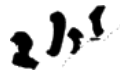
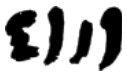
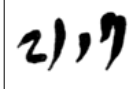
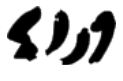
85	86	87	88	89	90	91
						
T. 57028 *vo* 10	T. 57028 *vo* 11	T. 57028 *vo* 12	T. 57029 *ro* 9	T. 57029 *ro* 11	T. 57030 *ro* 4	T. 57030 *ro* 8
92	93	94	95	96	97	98
						
T. 57030 *vo* 5	T. 57039 *ro* 6 (e)	T. 57039 *vo* 4	T. 57056 *ro* 5	T. 57056 *vo* 2	T. 57056 *vo* 7	T. 57072 *vo* 9 (e)
99	100	101	102	103		
						
T. 57085 *vo* 3 (e)	T. 57153 *vo* 7 (e)	T. 57189 *ro* 1 (e)	T. 57432 *vo* 1 (e)	T. 57432 *vo* 5 (e)		

Palaeographically, the word *smḥ.y* consists of three tall vertical signs for *s*, *m*, *ḥ* and the two small signs  as closure. Of the three vertical signs, the *s* remains the most recognizable in almost all cases: it keeps its form by showing the curve of the cloth. The other two vertical signs are not stable in form. They can be written elaborately in their recognizable hieratic forms, such as on ostracon DeM 142 in which *ḥ* even shows its elaborate top, or *m* may still have a recognizable "3"-form whereas *ḥ* has been reduced to a stroke with only a touch on the top, or both signs are reduced to mere strokes without further details, such as generally written by the Turin scribe. The two small signs are either reduced to one ligature (in which case, again, we can't decide whether both or only one of the signs was written), or they retain their still fairly recognizable form. It seems to be this palaeographic format of the word that leads to its identification: not a single sign, such as as the essential element in *wnm.y*, but the format of the word consisting of *s*, two vertical hieratograms, and the two small closing signs. Thus, rendered in an abstract format, the pattern for recognition would be  . Perhaps it was less important in this format which form the signs *m* and *ḥ* took and which details they showed, as long as *s* and the closing signs were there. This reminds of the popular, yet scientifically not quite correct, meme which says that "it deosn't mttaer in waht oredr the ltteers in a wrod are, the olny iprmoetnt thing is taht the frist and lsat ltteer

be at the rghit pclae".[139] This meme has been subject to scientific review and even though the matter is much more complicated than the meme suggests, there is a finding called "transposed-letter" (TL) effect in visual word recognition studies.[140] The TL effect suggests a dissociation between letter identity and letter position encoding and reveals that letters are not strictly bound to particular positions (especially when it concerns internal transpositions), at least at the early stages of visual word recognition. There are limitations to the TL effect, yet it is fun to speculate on a relation to the unstable palaeographic forms of both *m* and *ḥ* in the format of *smḥ.y*: both these signs are not the essential triggers for word-recognition and may therefore have been less relevant in writing the word as well.

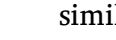
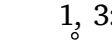
An explicit example of the transposed-letter effect may be the writing of *smḥ.y* on ostracon DeM 598 *recto* 1:  . One may not have noticed it in table 5.13, but the consonants *m* and *ḥ* have been switched. Conspicuously, they both have a clearly recognizable form, which suggests that the scribe knew what he was writing. There are several other conspicuous writings in this text, for instance the *y*.-ending of *smḥ.y* seems to be missing (if it is not included in a ligature with D41) and *ỉ js.t* is written without the genitival *n*. We can only speculate about the reasons.

Three other writings of *smḥ.y* deviate from the format: ostraca DeM 855 *recto* 1, DeM *recto* 3, and DeM 10299 *recto* 2. Ostracon DeM 855 dates to year 30 of Ramesses III and records fish deliveries to the crew. The scribe must have been in haste: most of his signs show much palaeographic abbreviation to the extent that they are reduced to mere strokes. As for *smḥ.y*, the scribe considered  *s* and two strokes as indicators of further vertical signs enough material for interpretation. Perhaps the text was meant for his eyes only? Additionally, the space available for writing may have played a role: even though there is some space left for writing at the end of line 1, the ostracon is relatively small and the first four lines precisely fit its length. The writing on ostracon DeM 10299 is a bit clearer and even though the word *smḥ.y* in *recto* 2 is damaged, we still recognize the lower parts of *m* and *ḥ*. After *ḥ*, however, follows only a dot. In *recto* 6 the scribe wrote *smḥ.y* again, this time with both the small signs following *ḥ*. He must thus have been aware of the writing  . The dot in *recto* 2 may have been meant as a ligature for both , or for or only, or this was simply irrelevant to the scribe; at least there was a closing sign. On ostracon DeM 882 *recto* 3 we do not have an abbreviated form of the word *smḥ.y*, but an elaboration. The scribe wrote , the hieratic abbreviation for

[139] https://www.mrc-cbu.cam.ac.uk/people/matt.davis/cmabridge/ [22.2.2022]. This review refers to a PhD thesis on the subject by Graham Rawlinson, *The Significance of Letter Position in Word Recognition* (1976) (for an abstract, see https://www.mrc-cbu.cam.ac.uk/people/matt.davis/Cmabridge/rawlinson/) [22.2.2022].

[140] Luke and Christianson 2011, 628-641.

m, the stroke for *ḥ*, and seems to have been so busy writing strokes that he drew another one before adding the closing signs .[141]

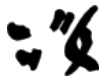
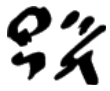
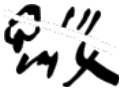
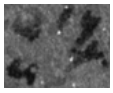
A somewhat comparable case to *wnm.y* is presented by the word *bnr(.w)/bnj(.w)*, "date(s)": it also contains a multi-consonant (Gardiner M30 for *bnr/bnj*) that carries all the necessary information to serve as abbreviation. The word occurs 93 times in our corpus, but table 5.14 only presents the cases where we have a facsimile or photograph.[142] We regularly see the short form , which includes the plural strokes, yet this same form of the word was used when only one date was referred to. Longer writings are found twice on ostracon Berlin P. 01122 (*recto* col. 1, 3:  ; *recto* col. 2, 3: ), twice on ostracon DeM 48 (*verso* 1 and 2:), once on ostracon Turin CGT 57167 (*recto* 4:), and once on ostracon Turin CGT 57189 (*recto* 3:). The scribe of ostracon Turin CGT 57007 wrote (*verso* 2, 3, 7, and 8), with an ideogram-stroke following the *bnr/bnj*-sign. Only once, the word is written with the *bnr/bnj*-sign only (ostracon DeM 44 *verso* 2). Perhaps this is due to the availability of writing surface: there is only little space left at the end of the line. Did the scribe foresee a problem and therefore choose a logographic writing? Adding the signs would, however, take up minimal space and in all other (12) cases on this ostracon he used the writing also where space was cramp. In general, the signs were considered together and this short writing represents by far the common way to write "date(s)" in our administrative texts. Within this group, the multi-consonant is the essential element for identification. Yet, at first sight, it does not seem to be palaeographically stable, which is due to the fact that *bnr/bnj* is a complex sign with quite some details. It was generally written with the elements and crossed (forming ) with two ticks on the top to the left. Much variation can be seen in design and styling. For instance, the element can be divided into two elements separated by as in ostracon DeM 46 *recto* line 12; and in both cases on ostracon DeM 48 the two elements are crossed a second time and the top is closed with a tick added on the right and to the left. Yet those basic elements and , and the two ticks, are always present; the hieratograms were not abbreviated to an extent that would cut or further abstract the basic form . Such a further abstraction we do see for the sign ○ (N33): it has sometimes been given quite some detail when drawn as circle even with inner detail (which is not present in the hieroglyph!), yet in other cases it is a mere stroke

[141] Grandet 2003, 281 interprets the writing as , with yet another stroke. However, I consider his last to be part of the writing of , since it seems to be the case that it is written over the horizontal line for . I must admit, however, that the photograph does not give a clear answer as to the precise order of the lines.

[142] Further occurrences for which we only have the transcription are found on ostraca Berlin P. 12626 + *recto* 2 and 6; Berlin P. 12639 + *recto* 2 and *verso* 3 and 7; Berlin P. 12640 + *recto* 7 and *verso* 4 and 8; Berlin P. 12642 *recto* 4 and *verso* 4, 6 and 9; Berlin P. 12651 *recto* 8, 9 and 10 and *verso* 6 and 17; DeM 32 *verso* 3; DeM 44 *recto* 24 and *verso* 4 and 13; DeM 46 *recto* 13.

or dot. As such, the multi-consonant, being the only phonetic sign, remains the most stable and recognizable sign palaeographically as well.

Table 5.14: The writings of *bnr(.w)/bnj(.w)* in the corpus

1	2	3	4	5	6	7
						
B. 01122 *ro* 1, 3	B. 01122 *ro* 2,3	B. 12626+ *ro* 10	B. 12626+ *ro* 12	B. 12626+ *ro* 14	B. 12626+ *ro* 21	B. 12628+ *ro* 12
8	9	10	11	12	13	14
						
B. 12628 *ro* 19	B. 12631 *ro* 2	B. 12631 *ro* 18	B. 12633a *ro* 1	B. 12633 *ro* 4	B. 12633 *ro* 7	B. 12633 *ro* 7
15	16	17	18	19	20	21
						
B. 12639+ *ro* 3	B. 12639+ *ro* 4	B. 12642+ *vo* 3	B. 12651+ *ro* 6	BM 50744 *ro* 7	BM 50744 *ro* 8	DeM 32 *ro* 3
22	23	24	25	26	27	28
						
DeM 32 *ro* 4	DeM 32 *ro* 5	DeM 32 *ro* 6	DeM 32 *ro* 6	DeM 32 *ro* 8	DeM 32 *ro* 9	DeM 32 *ro* 9
29	30	31	32	33	34	35
						
DeM 32 *ro* 10	DeM 32 *ro* 11	DeM 32 *ro* 14	DeM 35 *ro* 4	DeM 35 *ro* 6	DeM 35 *ro* 9	DeM 35 *ro* 14

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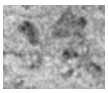
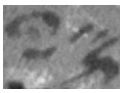
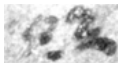
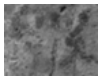
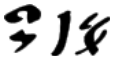
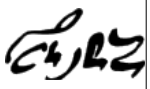
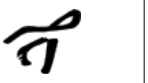
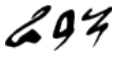
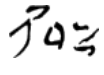
36	37	38	39	40	41	42
						
DeM 40 *ro* 5	DeM 40 *ro* 11	DeM 40 *vo* 4	DeM 42 *ro* 4	DeM 42 *ro* 7	DeM 42 *vo* 11	DeM 44 *ro* 12
43	44	45	46	47	48	49
						
DeM 44 *ro* 15	DeM 44 *ro* 17	DeM 44 *vo* 2	DeM 44 *vo* 3	DeM 44 *vo* 7	DeM 44 *vo* 14	DeM 44 *vo* 15
50	51	52	53	54	55	56
						
DeM 44 *vo* 16	DeM 44 *vo* 22	DeM 46 *ro* 5	DeM 46 *ro* 7	DeM 46 *ro* 12	DeM 46 *ro* 15	DeM 46 *vo* 6
57	58	59	60	61	62	63
						
DeM 46 *vo* 9	DeM 48 *vo* 1	DeM 48 *vo* 2	DeM 138 *ro* 1	DeM 138 *ro* 7	DeM 148 *ro* 9	DeM 148 *ro* 17
64	65	66	67	68	69	
						
T. 57007 *vo* 2 (e)	T. 57007 *vo* 3 (e)	T. 57007 *vo* 7 (e)	T. 57007 *vo* 8	T. 57167 *ro* 4 (e)	T. 57189 *ro* 3	

The word *ʿrḳ*, indicating the last day of the month, shows similarities to both *wnm.y* and *bnr(.w)/bnj(.w)*, but overall presents a different image (table 5.15[143]). The multi-consonantal sign *ʿrḳ* (Gardiner V12) is always present and can function by itself as a logographic abbreviation or as abbreviation in the combinations and . It is the orthographically stable factor comparable to the sign in *wmn.y*, but there is no further fixed pattern or regular writing as was seen with

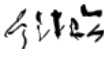
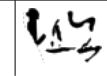
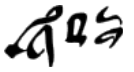
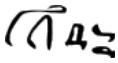
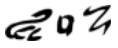
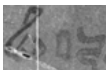
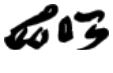
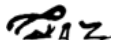
[143] Further occurrences without facsimile or clear photograph occur on ostraca Berlin P. 12626+ *recto* 3 and 8 (;); Berlin P. 12632+ *recto* 4, 7, 10 and 13 ((4, 7, 10); (13)); Berlin P. 12639+ *verso* 7 ( ); Berlin P. 12640+ *verso* 10 ( ); Berlin P. 12642 *recto* 8 ( ); Berlin P. 12651 *recto* 3 and 4 ( ) and *verso* 8 ( ); DeM 32 *verso* 4 ( ) and 7 ( ); Turin CGT 57028 *recto* 7 ( ); Turin CGT 57031 *recto* 6 ( ); Turin CGT 57432 *recto* 7 and *verso* 7 ( ); DeM 44 *verso* 20 ( ); DeM 145 *verso* 9 ( ); DeM 147 *recto* 13 ( ), 16 ( ) and 23 ( ); DeM 148 *verso* 5 ( ).

bnr(.w)/bnj(.w); there is much variation orthographically and palaeographically. In addition to the already mentioned abbreviations, the word can be written with the three mono-consonantal signs ꜥ (Gardiner D36), *r* (Gardiner D21), and *ḳ* (Gardiner N29) preceding  , or , but twice the consonant *ḳ* seems to be missing (numbers 7 and 42 in table 5.15). An ending *.w* () or *.y* () may appear in between *ḳ* and the classifier(s), as shown by the examples 1, 2, and 25. Palaeographically, the multi-consonant is often, but not always, the largest sign in the group. Other than always being diagonally outlined, it shows little stability in form. Where the examples of *bnr(.w)/bnj(.w)* still allowed to distinguish basic elements, we see variation in those elements here as well. Hieratograms of may show two lines for the lower right part (the "tail") as in number 5 in table 5.15 (in combination with Z1), but there may also be only one line as in numbers 10, 11, 12, and 17. These lines may be fairly short and straight (e.g. numbers 7, 10, 37) or long and curved (e.g. numbers 2, 4, 27). The upper part may be a closed or open circular form or a diagonal line as in number 41 and presumably also number 37. The variation, initially also seen with the sign *bnr/bnj*, is perhaps due to the round and complex forms of these signs, in contrast to the straight and geometric elements of which the hieratograms of consist. Due to the additional lack of a fixed and recognizable pattern for writing *ꜥrḳ*, this makes it difficult to recognize the word in some cases (e.g. nrs. 19, 25, 37 and 51); then, only context helps out.

Table 5.15: The writings of *ꜥrḳ* in the corpus

1	2	3	4	5	6	7
 B. 10632 *ro* 4	 B. 10632 *ro* 6	 B. 10654 *vo* 3	B. 10840 *ro* 2	 B. 12626+ *ro* 15	 B. 12631a *ro* 5	 B. 12631 *ro* 16
8	9	10	11	12	13	14
 B. 12633b *ro* 8	 B. 12651+ *vo* 13	 DeM 3 *ro* 1	 DeM 4 *ro* 1	 DeM 35 *ro* 13	 DeM 35 *ro* 15	 DeM 40 *vo* 9
15	16	17	18	19	20	21
 DeM 44 *ro* 5	 DeM 44 *ro* 23	 DeM 44 *vo* 18	 DeM 46 *ro* 1	 DeM 46 *ro* 3	 DeM 46 *ro* 4	 DeM 46 *ro* 5

continued on next page

22	23	24	25	26	27	28
						
DeM 46 *ro* 17	DeM 46 *ro* 18	DeM 46 *vo* 12	DeM 48 *ro* 1, 2	DeM 48 *ro* 1, 5	DeM 143 *ro* 1	DeM 143 *ro* 2
29	30	31	32	33	34	35
						
DeM 143 *ro* 3	DeM 143 *vo* 1	DeM 143 *vo* 4	DeM 144 *ro* 7	DeM 144 *ro* 8	DeM 144 *ro* 13	DeM 147 *ro* 3
36	37	38	39	40	41	42
						
DeM 147 *ro* 6	DeM 147 *ro* 9	DeM 147 *ro* 19	DeM 148 *vo* 6	DeM 578 *ro* 1 (e)	DeM 726 *ro* 3	DeM 726 *ro* 6
43	44	45	46	47	48	49
						
DeM 763 *ro* 5[144]	DeM 844 *vo* 4	DeM 859 *vo* 3	DeM 869 *vo* 5	DeM 10299 *ro* 5 (e)	T. 57007 *vo* 4	T. 57047 *ro* 6
50	51	52				
						
T. 57072 *ro* 2	T. 57080 *vo* 4	T. 57153 *ro* 6 (e)				

Tables 5.16 and 5.17 show the writings of the words for two products: *psn*-bread and *bj.t*-bread.[145] Both words show variation, but the orthographically stable signs are  for *psn* and for *bj.t*. Apparently, these signs, transferring in each case the first two sound-values *ps* and *bj*, were considered enough material to identify the words, with in most cases a classifier following in the form of a short stroke

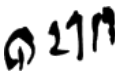
[144] The end of the previous line is broken off. Perhaps the start of  is missing?

[145] Again, only the specimens of which we have a facsimile or a photograph are included in the table. Further examples for *psn* are found on ostraca Berlin P. 12626+ *recto* 9 (); Berlin P. 12628+ *recto* 5 (); Berlin P. 12639+ *recto* 2 and *verso* 5 (both); Berlin P. 12642+ *recto* 4 and *verso* 4 (;); Berlin P. 12651+ *recto* 2 and 6 (both) and *verso* 16 (); DeM 32 *recto* 11 and *verso* 1 (;); DeM 46 *recto* 14 (). For *bj.t*: O. Berlin P. 12626+ *recto* 9 (); O. Berlin P. 12628+ *recto* 5 (); O. Berlin P. 12639+ *recto* 2 (); O. Berlin P. 12642+ *verso* 10 (); O. Berlin P. 12651+ *recto* 2 (); O. DeM 32 *recto* 11 and *verso* 2 (both).

or a dot. Palaeographically, the signs show more stability than the signs . Considering the idea just mentioned that hieratograms consisting of straight and geometric elements show less palaeographic variation than round and complex forms, one would expect all of these signs to remain stable, but the shapes for and seem to go wild. They are tall vertical signs with little detail, although in hieratic small details may be enlarged and emphasized, such as the foot of in many hieratograms, including several from table 5.17 (e.g. numbers 6, 8, 11, 20, 24, 27, 36). Perhaps the variation in and can be linked to the fact that here, they are the first and the essential signs and the scribes were concerned with writing specifically these signs to convey the word *bj.t*. In the writings for both *psn* and *bj.t*, a classifier is often present, but it does not have a characteristic form and in many cases it remains unclear whether we must read , , , or still something else. In fact, the classifier in many occurrences of both *psn* and *bj.t* is palaeographically reduced to such an extent, that the exact representation seems to have been irrelevant to the scribes. Perhaps this is due to the semantics of the classifiers and within the words and the context of our texts: they indicate bread or cake-like products, but that is not the essential information that is passed on. Rather, the scribes were concerned with the *difference* between *psn*-bread and *bj.t*-bread, for which the classifiers and were too general, therefore less relevant than the essential signs and .

In the case of *psn*, we find the hieratogram (Gardiner O1) alone twice on an ostracon with workmen's marks (ostracon Turin CGT 57393 *recto* 2 and 3). This -sign is among several other hieroglyphic and non-hieroglyphic markings used for commodities on the marks' ostraca. The origin of the mark for *psn* is, of course, the writing of the word *psn* with the -sign: the mark is an ultra-abbreviation deriving from linguistic writing, but used in the context of the marking system.

Table 5.16: The writings of *psn*-bread in the corpus

1	2	3	4	5	6	7
						
B. 01122 *ro* 1,2	B. 01122 *ro* 1,6	B. 01122 *ro* 2,2	B. 12384 *ro* 5	B. 12384 *ro* 10	B. 12384 *vo* 4	B. 12384 *vo* 10
8	9	10	11	12	13	14
						
B. 12384 *vo* 16	B. 12627 *ro* 8	B. 12631 *ro* 2	B. 12631a *ro* 8	B. 12631b *ro* 11	B. 12631b *ro* 1	B. 12631b *ro* 18

continued on next page

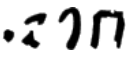
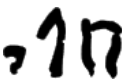
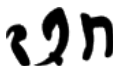
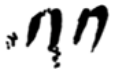
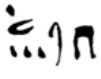
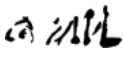
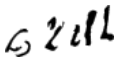
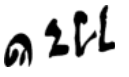
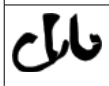
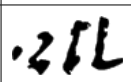
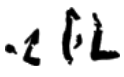
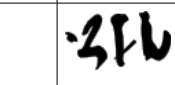
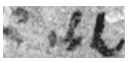
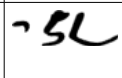
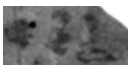
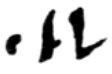
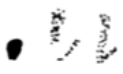
15	16	17	18	19	20	21
 B. 12633a *ro* 5	 B. 12633a *vo* 4	 B. 12633a *vo* 6	 B. 12640+ *vo* 5	 DeM 32 *ro* 4	 DeM 32 *ro* 8	 DeM 35 *ro* 5
22	23	24	25	26	27	28
 DeM 35 *ro* 11	 DeM 40 *ro* 4	 DeM 40 *ro* 10	 DeM 40 *vo* 7	 DeM 42 *ro* 7	 DeM 42 *vo* 8	 DeM 44 *ro* 11
29	30	31	32	33	34	35
 DeM 44 *ro* 15	 DeM 44 *ro* 24	 DeM 44 *vo* 9	 DeM 44 *vo* 16	 DeM 46 *ro* 4	 DeM 148 *ro* 5	 DeM 148 *ro* 18
36	37	38	39	40	41	42
 T. 57085 *ro* 1	 T. 57085 *ro* 2	 T. 57153 *ro* 5 (e)	 T. 57153 *vo* 3 (e)	 T. 57167 *ro* 2 (e)	 T. 57393 *ro* 2	 T. 57393 *ro* 3
43						
 T. 57470 *ro* 4 (e)						

Table 5.17: The writings of *bj.t*-bread in the corpus

1	2	3	4	5	6	7
 B. 01122 *ro* 1,1	 B. 01122 *ro* 1,5	 B. 01122 *ro* 2,1	 B. 12384 *ro* 5	 B. 12384 *vo* 11	 B. 12384 *vo* 16	 B. 12627 *ro* 8
8	9	10	11	12	13	14
 B. 12631 *ro* 2	 B. 12631 *ro* 8	 B. 12631 *ro* 11	 B. 12631 *ro* 14	 B. 12631 *ro* 5	 B. 12633a *ro* 5	 B. 12633 *vo* 4

continued on next page

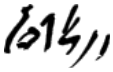
15	16	17	18	19	20	21
						
B. 12633a *vo* 6	B. 12640+ *ro* 4	B. 12640+ *vo* 5	B. 12651+ *ro* 6	BM 50744 *ro* 7	DeM 32 *ro* 4	DeM 32 *ro* 8
22	23	24	25	26	27	28
						
DeM 35 *ro* 5	DeM 35 *ro* 11	DeM 40 *ro* 4	DeM 40 *ro* 10	DeM 40 *vo* 7	DeM 42 *ro* 7	DeM 42 *vo* 8
29	30	31	32	33	34	35
						
DeM 44 *ro* 15	DeM 44 *ro* 24	DeM 44 *vo* 9	DeM 44 *vo* 16	DeM 46 *ro* 14	DeM 148 *ro* 5	DeM 148 *ro* 18
36	37	38	39	40	41	42
						
T. 57007 *vo* 2	T. 57007 *vo* 6 (e)	T. 57007 *vo* 7	T. 57085 *ro* 1	T. 57153 *ro* 5	T. 57153 *vo* 3 (e)	T. 57153 *vo* 8 (e)
43						
						
T. 57167 *ro* 3 (e)						

Another ultra-abbreviation, yet in the context of linguistic writing, is the writing for *wsf*, "absent". Table 5.18 shows the occurrences in our corpus. In nine cases the word has been written out with its three mono-consonantal signs *w*, *s* and *f*; in all other 56 cases the classifiers  apparently suffice. This stands in contrast to *smḥ.y*, for which we concluded that all mono-consonantal signs were necessary in order to identify the word. A reason is perhaps that the combination of classifiers in *wsf* is less general than the signs  (which can also refer to *wnm.y*) and thus more indicative within the context of our texts. Palaeographically, we are dealing with a complex combination of two signs. True ligatures we do not find, although one may doubt in cases such as numbers 7, 36[146], and 52 whether the details are not merely wings and the two birds are thus drawn in one hooked line. With the exceptions of the full writings and these doubtful cases, the same geometric pattern for

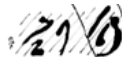
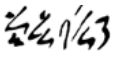
[146] It is very unlikely that the element in the upper left represents only wings, since none of the occurrences of *wsf* on this ostracon includes the wings. The smaller hook is therefore to be interpreted as G41 and the larger hook as G37.

writing the combination recurs. Leaving free variation in scribal hands aside, the combination  is reduced to a small hook in the upper left with or without a tick and a larger hook from the upper right downward, in abstract format:  .

Table 5.18: The writings of *wsf* in the corpus

1	2	3	4	5	6	7
						
B. 11248 *vo* 8	B. 12384 *vo* 3	B. 12384 vo 12	BM 50730+ *ro* 4	DeM 604 *ro* over 1	DeM 604 *ro* 3 (e)	DeM 617 *ro* 1 (e)
8	9	10	11	12	13	14
						
DeM 895 *ro* 1	DeM 899 *ro* 1	DeM 899 *ro* 5	T. 57007 *vo* 3	T. 57007 *vo* 6 (e)	T. 57007 *vo* 7	T. 57007 *vo* 8
15	16	17	18	19	20	21
						
T. 57020 *ro* 1,2	T. 57020 *ro* 1,3	T. 57020 *ro* 1,4	T. 57025 *ro* 3	T. 57025 *ro* 3	T. 57026 *ro* 2 (e)	T. 57026 *ro* 13 (e)
22	23	24	25	26	27	28
						
T. 57026 *vo* 7	T. 57028 *ro* 7 (e)	T. 57031 *ro* 6 (e)	T. 57031 *ro* 7 (e)	T. 57031 *vo* 4	T. 57033 *ro* 1,4	T. 57033 *ro* 1,5
29	30	31	32	33	34	35
						
T. 57033 *ro* 2,13 (e)	T. 57033 *ro* 2,17 (e)	T. 57033 *ro* 3,21	T. 57033 *ro* 3,24 (e)	T. 57034 *ro* 6	T. 57034 *ro* 7	T. 57034 *ro* 8
36	37	38	39	40	41	42
						
T. 57034 *ro* 10	T. 57035 *ro* 4	T. 57044 *ro* 5	T. 57044 *ro* 6	T. 57044 *ro* 6	T. 57044 *ro* 7	T. 57044 *vo* 9

continued on next page

43	44	45	46	47	48	49
 T. 57047 *ro* 6	 T. 57047 *ro* 6	 T. 57047 *ro* 7	 T. 57047 *ro* 10	 T. 57047 *ro* 10 (e)	 T. 57047 *vo* 3	 T. 57047 *vo* 8
50	51	52	53	54	55	56
 T. 57055 *ro* 3	 T. 57056 *ro* 1	 T. 57153 *ro* 5	 T. 57153 *ro* 6	 T. 57153 *vo* 7 (e)	 T. 57156 *ro* 1,2 (e)	 T. 57156 *ro* 1,3 (e)
57	58	59	60	61	62	63
 T. 57156 *ro* 1,4 (e)	 T. 57156 *ro* 1,6	 T. 57156 *ro* 2,12 (e)	 T. 57432 *ro* 2 (e)	 T. 57432 *ro* 5 (e)	 T. 57432 *vo* 2 (e)	 T. 57432 *vo* 5 (e)
64	65					
 T. 57432 *vo* 8 (e)	 T. 57432 *vo* 9 (e)					

In sum, several factors may (alone or in combination) be at the root of orthographic and palaeographic variation:

- First of all, the inherent nature of the names or words, rather than co- or context, is of influence. This was clearly seen in comparing the writings for *wnm.y* and *smḥ.y*: the writings for *smḥ.y* remain stable in different co- and contexts, whereas the writings of *wnm.y* show variation after the multi-consonant  .
- This presence of a multi-consonantal sign also plays a role in other names and words. It usually is the orthographically stable factor, but it is not always palaeographically stable: palaeographic stability can also be connected to several other factors that concern the nature and status of a sign.
- The format of a word may be a fixed and recurrent pattern, especially when no multi-consonant is present (*smḥ.y*), but also when this format simply seems to be the regular scribal unit (*bnr(.w)/bnj(.w)*).
- The graphic nature of the individual signs can play a role: round and complex signs can show a larger range of free variation than simple, straight, and geometric signs. In some cases, however, these round and complex signs show an underlying abstract format (*bnr(.w)/bnj(.w)*, *wsf*).
- The status of a sign may be of influence: even simple, straight, and geometric signs may show free variation when details are enlarged or emphasized, perhaps because the signs are orthographically essential (*j* and *b* as the essential

signs in *bj.t* as opposed to *m* and *ḥ* in *smḥ.y*, which may appear as mere vertical strokes in the format of that word).
- The semantic generality or particularity of a (combination of) sign(s) may play a role (the classifiers  as the orthographically stable signs with fixed underlying palaeographic pattern).

Cotextual influence on the writing of frequent words

Just as we did for the personal names, we looked at the usage of short and long versions of the words under discussion, that is, at the influence of cotext on the writing of long and short versions. We can state in advance that the conclusions are generally the same as they were for the personal names: the available writing space plays a minimal role (hypothesis 1); there is no practice of starting with a full writing and continuing with abbreviations (hypothesis 2); and there seems to be a relation to text category (hypothesis 3) only in that the combined categories 10 and 11 are often by the same scribal hand that preferred short versions. But a study of the words in their cotext revealed a couple of other factors as well in the choice for long or short writings. We confine ourselves to a discussion of the words that reveal those factors: *bnr(.w)/bnj(.w)*, *psn*, *bj.t*, and *ʿrḳ*.

We have seen that  was the preferred way to write *bnr(.w)/bnj(.w)*, "date(s)". This short writing occurs in 87 of 93 cases. Long writings were used in ostracon Berlin P. 01122 *recto* column 1, line 3 and column 2, line 3; ostracon Turin CGT 57167 *recto* 4; ostracon Turin CGT 57189 *recto* 3; and ostracon DeM 48 *verso* 1 and 2. They are all ostraca from text category 1 (deliveries/deficits). In each of these occurrences, except for ostracon Turin CGT 57189 *recto* 3, there was no need to include a short version: all show plenty of available writing surface. Ostracon Turin CGT 57189 is damaged and misses a part on the right side, thus we do not know the amount of writing space available. Yet, the text does not look cramped and the scribal hand seems confident in writing fairly large and elaborate signs, which may suggest that writing surface was not a problem here either. On ostracon Berlin P. 01122 the scribe furthermore had another reason to include an elaborate version: the words *psn* and *bj.t* in the lines above were written elaborately as well, as a result of which the long version of *bnr(.w)/bnj(.w)* nicely fits the width of the columns. Aesthetics may thus have played a role. In contrast to the four ostraca with long writings, most texts that show a short, or regular, writing for *bnr(.w)/bnj(.w)* are longer texts that include more data. They belong to text categories 1 (deliveries/deficits; four texts), 5 (account of materials and equipment; one text), 8 (deliveries/deficits + events; two texts), 10 (deliveries/deficits + duty roster; three texts) and especially 11 (deliveries/deficits + duty roster + events; 11 texts). The focus of the texts with the short writing thus clearly lies on longer reports with combined text categories. Ostracon DeM 35 *recto* is an example in which *bnr(.w)/bnj(.w)* occurs four times, each case in the short writing. Two occurrences

are found in lines 6 and 9, which are completely full covering the entire length of the available writing surface. Yet the first and last occurrences of *bnr(.w)/bnj(.w)* are found in lines 4 and 14, which both have plenty of space left for writing. This shows that the scribe did not have a long writing for *bnr(.w)/bnj(.w)* in mind, only shortening that to when need called for it. Rather, his point of departure was already . The choice for the short writing thus seems not to be related to the amount of writing surface available, but to the current orthographic practice.

The same can be said for *psn* and *bj.t*: both words are written in their brief versions independent of the amount of writing space available in the lines. At least in the duty rosters and the texts with deliveries and/or deficits of products, in which the words *bnr(.w)/bnj(.w)*, *psn* and *bj.t* occur most often, the short writings were the common writings. This is not the case for the word *ꜥrḳ*. That word has been written elaborately in 41 cases and with only the classifiers in 31 cases. Although the long writing with the mono-consonantal signs *ꜥ*, *r* and *ḳ* is the more common writing, there is no clear preference, which suggests that cotext and writing surface are more influential factors here. Two ostraca in particular illustrate reasons for choosing a long or short writing. On the mentioned ostracon DeM 35 *recto* *ꜥrḳ* occurs twice: at the beginning of line 13 in a long version  , and at the far end of line 15 in the abbreviated version  . Line 13 contains plenty of writing surface. Line 15 became cramped towards the end and instead of writing *ꜥrḳ* in full in the next line, therewith breaking up the date *ꜣbd 3 pr.t ꜥrḳ* (“last day of the third month of *peret*”) in line 15, the scribe decided to use the abbreviation. Available writing space and substantive coherence may thus have been reasons for choosing a short writing. Another reason for choosing a short over a long writing is found on ostracon DeM 46, written by the same scribe. The word *ꜥrḳ* appears seven times. The first occurrence is at the far end of *recto* line 1. There is only little writing surface left and the scribe may have felt more confident writing an abbreviation. The second occurrence is at the end of *recto* line 3. Here as well, there is little writing surface left to include the remaining signs for the phrase *n ꜣbd 2 ꜣḫ.t ꜥrḳ ḏꜣ.t≠f* 170 (“on/for the last day of the second month of *akhet*, his remainder was 170”). Yet at the end of *recto* line 4, where the same phrase is repeated, more writing surface is available and the scribe could have written *ꜥrḳ* in full. The same can be said for line 5, which has the partly similar phrase *n ꜣbd 2 ꜣḫ.t ꜥrḳ r mḥ≠f ḏꜣ.t* 4 (“on/for the last day of the second month of *akhet* to fill up a remainder of 4”). In both lines 4 and 5 the scribe could have written the full version for *ꜥrḳ*, but he did not do that presumably because of the repetitive character of the phrases and the choice for in line 3. Long versions of *ꜥrḳ* occur in *recto* lines 17 and 18 and on the *verso* in line 12. In the last case, the line only contains the words *ꜥrḳ* and *Ḥꜥ-m-Wꜣs.t* and there is plenty of space left for writing, thus a long variant is in order. In *recto* lines 17 and 18 the case is not so clear. Line 17 is completely full. As was the scribe’s custom, he started line 18 with a new day of the month; that is, he needed to fit a certain amount of data in line 17. The full version of *ꜥrḳ* appears in the middle of the line:

perhaps the scribe did not think so far ahead and included the long writing without being concerned about the end of his line? In line 18 *ꜥrḳ* appears toward the end of the line. Here as well, the scribe wrote the word in full. He seems to have added *n sw ///*, which may just have fitted the line, but unfortunately the paint is too faded in this place to see well.

In sum, the writing surface plays a minimal role in the choice for long or short writings for frequent words: only when a scribe noticed at the end of a line that his word would not fit, he could choose to include an abbreviation. Perhaps scribes did not need to plan further ahead, given the fact that Ancient Egyptian script is flexible enough to include a brief writing in the last minute. Other reasons that can play a role in the choice for long or short writings are substantive coherence of a phrase at the end of a line, aesthetics, and repetition of the same phrase over two or more lines, or simply the currency of a particular spelling in the time and genre under discussion.

Abbreviation in repetition

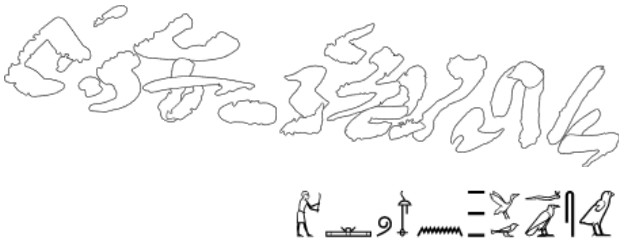
When words, sign-combinations or signs are regularly repeated over the course of a couple of lines, this may not only influence their orthography, but can also be seen in their palaeography. An example is the phrase *wsf n ḥmw.w* X, "absence of the carpenter X" in lines 2-4 on the *recto* of ostracon Turin CGT 57020 (table 5.19). It was not possible for every hieratogram to trace its individual strokes, but where this was possible, we generally see the following:

- Hieratograms may gradually come to consist of more, but shorter and thicker strokes and/or blobs of ink. This is especially seen in the *ḥm*-sign (Gardiner U24 ), but the quail-chick for *w* at the start also shows well the shorter and thicker elements.
- As a result, hieratograms may gradually come to look stocky. In the case of the classifier-group  , this stocky look is precisely the reason for not being able to see well the individual strokes in line 3, but especially in line 4. Except for the quail-chick and the hieratogram *w* following the *ḥm*-sign, the hieratograms do not actually become shorter, even though their stocky look may suggest this. The SVG-files, which automatically calculate the dimensions of the hieratograms in the AKU database, show that the quail-chick at the start shrinks from 8.31 mm in height in line 2 and 8.12 mm in height in line 3 to 7.33 mm in height in line 4, but the dimensions of the other hieratograms in the phrase vary and the second or third occurrence may even be larger.
- Hieratograms may show a loss of form in that rounded forms can become more angular and open forms can be closed. The hieratogram *s* (Gardiner S29 ) has lost its round form in line 4 due to the fact that its top was not drawn

as in lines 2 and 3. The shorter left-most stroke is also positioned closer to the vertical line, which gives the hieratogram a closed look. Both the *ḥm*-sign and the following *w* lose their round character in the repetition. In the case of the classifier Gardiner A24  at the end, the individual elements cannot be seen well, but instead of the overall form becoming more angular, it actually gains rounded forms, which must be due to the fact that the arms, back, and legs of the striking man are quicker drawn in a curved line than with single straight elements. The development towards an angular or rounder form is thus again connected to the graphic nature of the hieratic sign. The sign  does show well the gradual development towards a closed form.

Overall, we see an abstraction in line 4 when compared to line 2, with a simpler and less cramped appearance. An even further palaeographically simplified writing of the word *wsf* we find on the same ostracon in *recto* column 2 at the end of line 9. The writing is more spacious here, which is also seen in the calculated dimensions of the hieratograms in comparison to lines 2 to 4. The hieratograms in line 9 are drawn with less elements and their spacious writing gives them a simplified look: see especially the quail at the beginning. This is in fact what was expected to happen in the course of repetition: a palaeographically simplified writing with less elements. Instead, it can perhaps be suggested that the scribe was stuck in a certain pattern or mode when repeating the phrase in lines 2 to 4, whereas the different co-text and the availability of writing space allowed him to, consciously or unconsciously, deviate from that mode in line 9.

Table 5.19: Repetition of the phrase *wsf n ḥmw.w* on the *recto* of O. Turin CGT 57020. Facsimiles: KvdM

Line	**Outline facsimile**
2	

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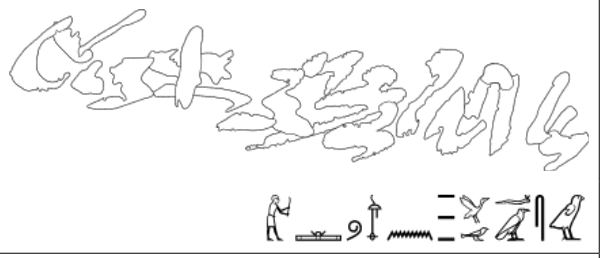
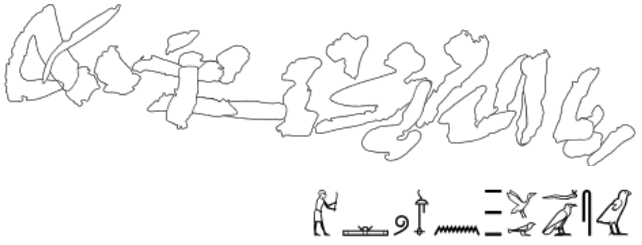
Line	Outline facsimile
3	
4	
9	

Ostracon Turin CGT 57034 *recto* is another example on which the word *wsf* is repeated several times, yet here in its characteristic abbreviated form  (figure 5.36). Although minimal, there is a gradual simplification, or abstraction. There is loss of form in that the lower horizontal line becomes shorter and the hieratogram  in line 10 in the upper left has lost even more of its detail in that head and paws are not represented.

recto 6 *recto* 7 *recto* 8 *recto* 10

Figure 5.36: Repetition of *wsf* on O. Turin CGT 57034. Facsimiles: KvdM

Figure 5.37 shows a gradually simpler execution of the sign Gardiner Q7  , "brazier" as classifier for the word "lamp", on ostracon Turin CGT 57033 *verso*. Rather than wobbly lines that form a closed upper part that represents the fire coming out of the brazier, the scribe merely drew three more or less horizontal lines. Together

with the straight vertical base-line, the hieratograms in lines 8 and 9 gain a rather geometric appearance when compared to the hieratograms in lines 1, 2, and 4. The representation becomes again more abstract.

verso 1 *verso* 2 *verso* 4 *verso* 8 *verso* 9

Figure 5.37: Hieratograms for the sign 𓇋 on O. Turin CGT 57033. Facsimiles: KvdM

The opposite is seen in figure 5.38 in the repetition of the sign 𓊃 on ostracon DeM 138. This sign with a geometric square form is drawn with straight lines in line 1, but the hieratograms in lines 3, 4, and 5 lose that straight geometric look and become rounder. The hieratogram in line 6 shows a return to a form that is again relatively straight and square. This is perhaps due to the fact that it is not, like the hieratograms in lines 3 to 5, repeated at the start of a new line immediately after the note introduced by *m-ḏr.t* in the previous line, but only after the scribe had written a further line of text in the first half of line 6; in other words, some more time and words had passed before he wrote 𓊃 in line 6. This, however, also happens between the hieratograms in lines 1 and 3, and the latter has clearly lost form.

recto 1 *recto* 3 *recto* 4 *recto* 5 *recto* 6

Figure 5.38: Hieratograms for the sign 𓊃 on O. DeM 138. Facsimiles: KvdM

In sum, repetition may lead to shorter and thicker elements, angular or geometric forms for round elements (abstraction), or precisely curved forms for straight elements, and to the closing of open forms. There are, however, also many cases in which the effect of frequent repetition of a word or (logographic) sign within one text is very minimal. Another frequent repetition of the sign for lamp is seen on ostracon Turin CGT 57047 *recto*. This text was written by the same scribe as ostracon Turin CGT 57033 *verso*, but the lamp-sign does not show the same, or any mentionable, abstractions as seen in figure 5.37. Ostracon DeM 142 *recto* shows frequent repetition of the words *wnm.y* and *smḥ.y* (table 5.20). Again, not for all hieratograms could the individual strokes be traced, which makes a detailed com-

parison impossible. Yet it is clear that the scribe had a neat handwriting and kept this over the entire surface of the ostracon. The frequent repetition of the words *wnm.y* and *smḥ.y* apparently did not affect this too much, especially not in the case of *wnm.y*. Only in line 8 we see a somewhat chaotic form for  , yet given the overall regularity in the writing of *wnm.y* this may be due to other reasons. The word *smḥ.y* shows a particular form for *s* in lines 5 and 9 with a circular and particularly short, closed top and some variation in the small signs  with a particularly short writing in line 14. Yet there is no clear overall abbreviation due to the repetition of *smḥ.y* either.

Table 5.20: Repetition of *wnm.y* and *smḥ.y* on O. DeM 142. Facsimiles: KvdM

Line	**Outline facsimile** *wnm.y*	**Line**	**Outline facsimile** *smḥ.y*
2		2	
4		3	
5		5	
7		6	
8		9	
13		14	
19			

Ostracon Turin CGT 57033 *recto* shows repetition of the logographically written word *sw* (Gardiner N5 ⊙) “day” (in a date) in every line of its three columns (figure 5.39). It does not show characteristics of abbreviation or sloppier writing: the sun

generally keeps the form of a closed donut. This may lead to thoughts on how the ostracon was prepared: whether all entries were written in one go or whether the scribe first prepared all columns by writing the date, after which he entered specific notes. In the latter case, he may have concentrated on writing dates including a proper ⊙-sign. Column 3 in particular suggests that the notes (*wsf*, *m s.t tn*; the number 6) were written only after the scribe prepared the column: there is a regular space left open between days and notes in especially lines 20 to 23. The fact that the note in line 20, and perhaps the note in line 22, and the date at the beginning of line 22 were written with a new dip of paint would strengthen this idea. Space between the day-entry and the note is also found in column 1 lines 2 and 3 where the number 6 follows day-entries. Again, the scribe may have written the notes with a new dip of paint, which is most clear from the different thickness of ink between day-number 27 and the following note "6" in line 3. In column 1 lines 4 to 6, however, as well as in column 3 lines 23 to 25, the ink shows that the notes were written in one go with the date: the scribe did not dip his brush before he started to write the notes. The same can be said for the lamp-sign in line 7, where again some space was left open before the number of lamps was noted down. Perhaps the scribe wrote his lines at the end of column 1 in one go out of fear for not having enough writing space before the start of column 2, in which case lines 4 to 6 would actually strengthen the idea of column 2 having been prepared before the notes were added in column 1. A workflow of preparing columns should not be ruled out, but we need texts with more and longer entries within the columns as well as a more elaborate study of dippings to better analyse the hypothesis.[147]

Whatever workflow the scribe of ostracon Turin CGT 57033 used, it cannot have been the only reason for preserving the circular, open form of the sign ⊙. This sign is frequently repeated on several more ostraca, some of which lend themselves to a workflow of preparing columns, while others were written in running lines and in one go. Examples of the latter are ostraca Turin CGT 57028 *recto*, Turin CGT 57038 *verso*[148], and Turin CGT 57153, all of which show no mentionable deviation from the form of ⊙ in the course of repetition.

In a few individual cases, the function of a hieratogram, and in relation to that its position in a line, seems to be of influence on its palaeographic form, but the extent in which this could be structural in a certain time, category, or handwriting was

[147] The idea of the scribe having prepared columns also arose with other ostraca from especially the Turin corpus. E.g. O. Turin CGT 57034 also shows a fairly regular column with day-entries and notes that especially in lines 3-5 are separated from their day-number by a considerable blank space. Yet here, the entries are too short to be certain as well: it is a fair question whether it would not be more troublesome from a cognitive point of view to first prepare the column and then add that minimal note, than to write that note in one go. See also Eyre 2013, 236.

[148] Not included in the current corpus, but the facsimile by López 1978, pl. 25, is included in the comparison.

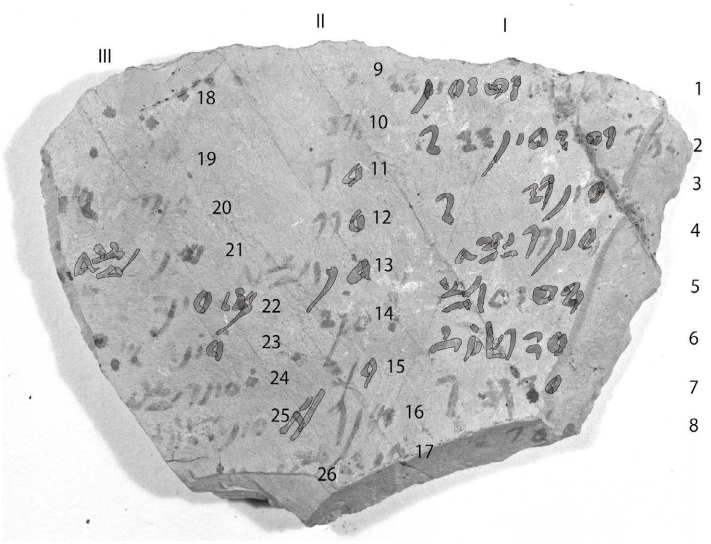


Figure 5.39: Repetition of ⊙ on O. Turin CGT 57033 *recto*. Photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni with line numbers added by KvdM. Facsimile: KvdM

not analyzed. The *recto* of ostracon DeM 577 shows a difference in the writing of  (Y1) as classifier in *ꜣ n js.t* ("chief of the crew") and as logogram for *dmḏ*, "total". In column 1 line 1 it is a stroke with a tick on top; in column 2 line 9 it is a small hook in (semi-)ligature[149] with *ꜣ* and *n*. The forms in column 1 line 5 and column 2 line 12, both logograms for *dmḏ*, are more alike in that both have the form of a pronounced hook with a tick or stroke in the upper right; only the "tail" of the second form is longer. The *verso*, however, does not confirm this form for the logogram: it appears in line 5 in exactly the same construction as the logogram on the *recto*, but an explanation for its form escapes me (table 5.21).

Table 5.21: The sign on O. DeM 577. Photo © Ifao; facsimiles: KvdM

Classifiers		**Logograms**		
				
recto col. 1,1	*recto* col. 2,9	*recto* col. 1,5	*recto* col. 2,12	*verso* 5

[149] The individual strokes cannot at all places be traced, but the scribe seems to have lifted his brush after having finished and before starting .

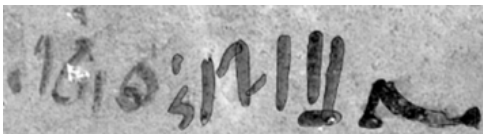
The fragment Berlin P. 12626 shows a difference in writing ⊙ as logogram for *sw*, "day", and as part of a month-date acting both as the classifier following the month *akhet* and as logogram for *sw* (table 5.22). The exception is line 20, in which we find the donut-form for ⊙ following the month-date.

Table 5.22: The sign ⊙ as classifier and logogram on the fragment O. Berlin P. 12626. Photo © *Staatliche Museen zu Berlin – Ägyptisches Museum und Papyrussammlung*, KvdM; facsimiles: KvdM

Classifiers/logograms								
 *recto* 13	 *recto* 14	 *recto* 15	 *recto* 16	 *recto* 19	 *recto* 20			
Logograms								
 *recto* 17	 *recto* 18	 *verso* 1	 *verso* 2	 *verso* 5	 *verso* 6	 *verso* 8	 *verso* 9	 *verso* 10

The sign ⊙ is also found on the *recto* of ostracon DeM 912 in two names, *Rᶜ-wbn* and *Rᶜ-ms*. As a consonant, it has an elaborate form: a closed donut with inner detail. Yet it also occurs as classifier in the name *Rᶜ-wbn*, here again in a smaller and less elaborate form: half a circle with a tick downward for the inner detail in semi-ligature (figure 5.40). Certainly, the classifier is included in a block-writing 𓇋⊙ and as such it is bound to be smaller. Unfortunately, the ostracon shows no other examples of ⊙, thus we do not know whether the scribe consistently differentiated the forms.

recto col. 2,5: *[Ḥs.y-sw-]nb≠f jw Rᶜ-wbn*



recto col. 2,6: *jw Kꜣsꜣ sꜣ Rᶜ-ms*

Figure 5.40: The sign ⊙ in the names *Rᶜ-wbn* and *Rᶜ-ms* on O. DeM 912. Photo © Ifao; facsimiles: KvdM

A run through the AKU database shows that difference in form is not generally valid for ⊙ as logogram and classifier in the New Kingdom, although half a circle, hooks, strokes, or dots as palaeographic abbreviations are clearly more common

among the classifiers than among the logograms (table 5.23). The analysis of palaeographic forms for logograms, classifiers, and other sign functions should become an aspect of further study.

Table 5.23: Hieratograms of ⊙ from dynasties 19 and 20 that have been labelled with a function as logogram or classifier in the AKU database [status May 2022]

Logogram						**Classifier**	
HT-ID	**Facsimile**	**HT-ID**	**Facsimile**	**HT-ID**	**Facsimile**	**HT-ID**	**Facsimile**
Dynasty 19		Dynasty 20 (continuation)				Dynasty 19	
14678		15011		28861		14885	
14734		15032		28914		15377	
14772		15412		28915		15378	
14801		16928		28916		22680	
14886		16931		28981		22681	
15054		17001		29397		22682	
15412		17002		29398		22683	
24945		17086		29399		22684	
27743		23188		29400		22685	
27825		23222		29401		22686	
27826		23268		29402		22687	
29508		23445		29403		22688	
29509		23446		29404		22689	

continued on next page

Logogram						Classifier	
HT-ID	Facsimile	HT-ID	Facsimile	HT-ID	Facsimile	HT-ID	Facsimile
29525		24108		29405		22691	
29528		24109		29406		23063	
29577		24110		29407		24946	
29685		24111		29408		27725	
29849		24112		29409		27742	
29870		24113		29410		29059	
Dynasty 20		24114		29433		29526	
8419		24115		29434		29527	
9009		24116		29435		Dynasty 20	
9010		24117		29436		8409	
9011		24118		29437		15456	
9012		24119		29438		16929	
9013		24406		29508		16930	
9014		24874		29509		17087	
9031		24894		29767		17088	
9032		24895		29780		27371	
9093		24896		29781		28896	

continued on next page

Logogram						Classifier	
HT-ID	Facsimile	HT-ID	Facsimile	HT-ID	Facsimile	HT-ID	Facsimile
9127		24897		29782		29439	
9162		24898		29783			
9163		27342		29880			
9164		27343		29881			
14599		27344		29882			
14600		27345		31381			
14601		27346		31382			
14602		27370		31383			
14603		27934		31384			
14604		27935		31385			
14657		27988					

6 Palaeographic peculiarities and the cognitive writing process

In the process of drawing facsimiles from high resolution photographs, palaeographic peculiarities were seen that would perhaps not have attracted attention without that meticulous work. Some of these peculiarities can be explained in co- and context, others will have to do with a hypothetical explanation. The current section discusses adjustments made to hieratograms (6A); the composition of hieratograms, including the number and order of strokes, double lines, and so-called "finishing" dots (6B); numbers, totals, check marks, and the use of red ink (6C); and text planning (6D).

6A Adjustments to hieratograms

Adjustments to hieratograms can be made consciously or unconsciously at the same time as writing the hieratogram or at a later moment. Unconscious adjustments are related to the scribe's mental state: he may have been disturbed or unconcentrated. Such cases are hard to identify. We can at least identify conscious adjustments when they were made as a correction or, presumably, out of aesthetic reasons. Corrections are usually clearly recognizable, because the hieratogram is thicker where the correction occurs or the first trial was wiped out and the correction written over it. Such adjustments may have been made immediately while writing the hieratogram or at a slightly later moment. An example is found on ostracon Turin CGT 57029 *recto* in line 9, where the scribe wrote the personal name *Sbꜣ* (figure 6.41). The form of the hieratogram for the sign Gardiner N14 ⋆ (*sbꜣ*) suggests that the scribe was confused with a seated man 𓀀, having drawn it as a hook just as he did for the A1-classifier 𓀀 following the name. He realized his mistake and drew a thick and rather long oblique line downwards, which is part of the actual hieratic form for ⋆.

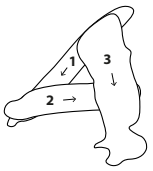
a)  b) 

Figure 6.41a: Snippet from O. Turin CGT 57029 *recto* 9 reading *smḥ.y Sbꜣ*. Photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni with line number added by KvdM; b: facsimile of the hieratogram *sbꜣ* (KvdM)

A similar confusion of the *sbꜣ*-sign ✶ with the seated man 𓀀 may occur on ostracon Turin CGT 57028 *verso* in line 8, yet here the (same) scribe did not include a correction. Less conspicuous are adjustments that may have been made out of aesthetic reasons, but they occur more often than one might expect. They are part of the process of writing the hieratogram, that is, they were generally made while writing the hieratogram and are thus part of its first composition. Sometimes they are made due to unevenness in the surface. An example is ostracon BM EA 5624 *recto* 3 where a ridge runs through the line of text (figure 6.42). The scribe, however, took care in properly finishing the bottoms of the hieratograms, as is seen for instance in the name of the workman *Ḥꜣy*.

a)  b) 

Figure 6.42a: Snippet from O. BM EA 5624 *recto* 3 reading 𓀀𓏏𓄿𓇋 *Ḥꜣy* (photo © The Trustees of the British Museum, KvdM); b: facsimile of the hieratograms 𓏏𓄿𓇋 in the name *Ḥꜣy* (KvdM)

Where the surface is not an issue, scribes may have made aesthetic adjustments perhaps simply because they were dissatisfied with their first strokes. Examples are given in figures 6.43–47. Figure 6.43 shows a snippet from ostracon Turin CGT 57030 *recto* 4 where the sign of the lion (Gardiner E23 𓃭) in the workman's name *Rwtꜣ* shows signs of extension. The scribe first drew the horizontal base line, then the first diagonal, which he apparently did not consider long enough, because he extended it with a second line. In figure 6.44 we see a snippet from ostracon DeM 73 *recto* 1. The hieratogram for 𓂝 *d* (Gardiner D46) in the word 𓂝 *ḏd*, ("contention", "speech") was made by first drawing the hand and thumb. The scribe may not have been happy with the hook where the thumb touches the hand, for he drew another line that extends the hieratogram to more or less the same length as the hieratogram for 𓂋 *ḏ* above. He drew another curved line from the hand leftwards down. This curved line has two extensions. Perhaps the brush stuttered while making the turn leftwards down and the scribe therefore had to lift it, resulting in two extra strokes. Figure 6.45 shows something that occurs quite a lot in day-dates in which the number 10 occurs, especially when the number 20 is written. We see the date 1 *šm.w sw* 26 ("first month of *shemu*, day 26") in ostracon Turin CGT 57033 *recto* line 2. The number 20 is written with a small stroke for 10 and a long stroke to make 20, the usual way. But the scribe may have considered the second number 10 too short, because he extended it with a second stroke downwards. The extensions seem to have been a habit of the scribe of many Turin

ostraca (section 7A), but they also occur elsewhere. Another example is shown in figure 6.46, where *sw* 21 ("day 21") is written in line 11 on ostracon BM EA 5635 *recto*. The first-drawn line in the second 10 in the number 20 is a nicely curved line and in fact perfectly readable. Yet the scribe apparently considered it necessary to extend it with two diagonal lines downwards. The reasons escape me, for in fact the extension causes a bit of a strange curved hook. A final example of a presumably aesthetic adjustment is seen in figure 6.47, which shows ostracon BM EA 50728 *recto* line 2. The form of the hieratogram for  (D36) in the word  *ʿḥʿ* is complete and perfectly readable. Still, the scribe added a short, but very confident stroke at the place where the hand is attached, perhaps to extend it and as such emphasize the hand. In other lines of text where  is written (lines 6 and 8) as well as in line 1 where  (D41) is written as classifier in *smḥ.y*, strokes at the point where the hand is attached to the arm are quite explicitly drawn as well. Although strokes for the hand are part of the regular hieratic writing of and , the extensions on ostracon BM EA 50728 *recto* perhaps show that (for this scribe or in this period) the hand was an explicit element of the sign to be represented in the hieratogram.

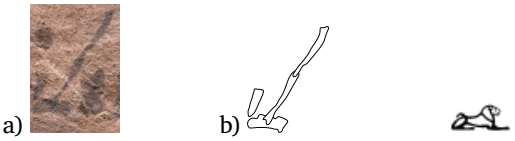


Figure 6.43a: Snippet from O. Turin CGT 57030 *recto* 4. Photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni; b: facsimile of the hieratogram *rw* (KvdM)

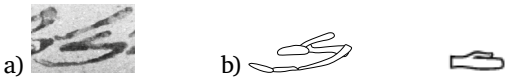


Figure 6.44a: Snippet from O. DeM 73 *recto* 1. Photo © Ifao; b: facsimile of the hieratogram *d* (KvdM)

Figure 6.45a: Snippet from O. Turin CGT 57033 *recto* 2. Photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni; b: facsimile of *sw 20* (KvdM)

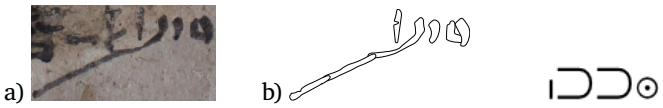


Figure 6.46a: Snippet from O. BM EA 5635 *recto* 11. Photo © The Trustees of the British Museum, KvdM; b: facsimile of *sw* 21 (KvdM)

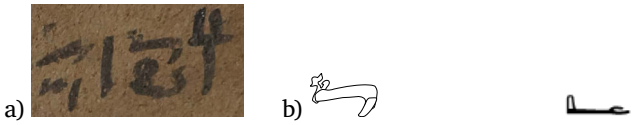


Figure 6.47a: Snippet from O. BM EA 50728 *recto* 2. Photo © The Trustees of the British Museum, KvdM; b: facsimile of the hieratogram ˁ (KvdM)

A particularly interesting case of an adjustment we find on ostracon Turin CGT 57034 *recto* line 2 (figure 6.48). We read *ꜣbd 2 šm.w sw 4* (“month 2 of *shemu*, day 4”). The ligature *ꜣbd 2* was written as follows: first the lower line, then the stroke upwards and the stroke downwards. But the scribe seems not to have been happy with the top: he extended it with a short stroke, but perhaps still considered it too short, because he drew another, longer line partly over it. This is interesting not only for the adjustments, but, anticipating the next subsection, precisely for the order in which the strokes were drawn: the scribe did not first draw *ꜣbd* and then the number 2; instead, he started with the horizontal base line. This is a strange way to start the ligature, which may explain all the adjustments. But it also suggests that the scribe may have considered the ligature an actual grapheme, a unity instead of consisting of two separate parts. The scribe of this and many other Turin ostraca is the scribe who is discussed in section 7A. Looking at other ostraca by his hand, we must conclude that he did not do this every time. There is another strange ligature for *ꜣbd 2* in ostracon Turin CGT 57056 *verso* line 1 that was produced in a similar way (figure 6.49), yet in other cases, including one on ostracon Turin CGT 57034 in *verso* line 2, we seem to find the ligature in regular writing, starting with *ꜣbd* in the top left and then adding lines for the number 2.

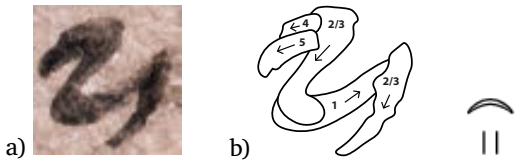


Figure 6.48a: Snippet from O. Turin CGT 57034 *recto* 2. Photo © *Museo Egizio*, N. Dell’Acquila, F. Taverni; b: facsimile of *ꜣbd 2* (KvdM)

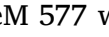
a)  b) 

Figure 6.49a: Snippet from O. Turin CGT 57056 *verso* 1. Photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni; b: facsimile of *ꜣbd 2* (KvdM)

6B The composition of hieratograms

The order and number of strokes

Published palaeographies, among which Möller's *Paläographie* is still the most important and the one most used in teaching hieratic, give a sense of the forms of hieratograms. To these forms we unconsciously connect an idea of how they must have been drawn. Yet the last two examples show that ligatures and hieratograms were not always composed in a way we thought they were. This can usually not be seen even on photographs, which often appear deceitful. If one has no access to the originals, one needs high resolution photographs or scans to zoom in far enough to be able to detect the brush strokes all the way. A number of examples is given here to show how digital facsimiles can provide more information on the composition of hieratograms and on the mind of the scribe, and how they can clarify our reading.

The first examples might suggest some planning ahead in writing hieratograms. Figure 6.50 shows the word  *ḥm.w.t*, "female servants", written on the *recto* of ostracon DeM 577 in column 1, line 5. The stroke Z1 and the hieratogram for  *t* were written from left to right. This is most probably due to the fact that both are short strokes and were written as two ticks, yet they were still two different graphemes that were not drawn up in their reading order. Also on the *recto* of ostracon DeM 577 we find the phrase  *jr(j).n ḫꜣr* 1, "makes 1 *khar*", at the far end of line 11 in column 2 (figure 6.51): the vertical stroke of the hieratogram for  *ḫꜣr* and the vertical stroke for 1 were drawn first, after which the hieratogram *ḫꜣr* was finished by drawing the horizontal stroke over both vertical lines. A possible third example is the preposition  *ḥr*, "concerning", on ostracon DeM 859 *recto* line 1 (figure 6.52): the vertical stroke appears to have been drawn before the *ḥr*-face, although precisely here the paint is damaged, which causes some uncertainty. A microscopic study of the remains of paint would be necessary to provide a more definitive answer. Even though it concerns details, the examples show that hieratograms were not always (fully) written in their reading order; rather, the scribe knew what was coming and drew up blocks or words instead of individual signs.

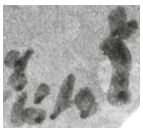
a)  b) 

Figure 6.50a: Snippet from O. DeM 577 *recto*, col. 1,5 reading *ḥm.w.t*. Photo © Ifao; b: facsimile of the stroke Z1 and hieratogram *t* (KvdM)

a)  b) 

Figure 6.51a: Snippet from O. DeM 577 *recto*, col. 2,11 reading *jr(j).n ḫ3r* 1. Photo © Ifao; b: facsimile of *ḫ3r 1* (KvdM)

a)  b) 

Figure 6.52a: Snippet from O. DeM 859 *recto* 1 reading *ḥr*. Photo © Ifao; b: facsimile of *ḥr* (KvdM)

Looking at the order and number of strokes may complicate our understanding of ligatures. Figure 6.53 shows ostracon Turin CGT 57030 *verso* line 3 in which we read the name *Ḫnsw*. The facsimile in López 1978 pl. 19 suggests that the ligature  *ḫn* was composed as follows: first an open, circular form that consists of at least two strokes and runs from the upper left to the upper right; then either one or two vertical strokes downward that end in the form of a lightning bolt. The new facsimile, which shows the outlines of the brush strokes, now clarifies that first the hieratogram for  *ḫ* was drawn as an open circular form, which is touched by the upper vertical line, which forms a sharp hook with the thin stroke towards the upper right. This hook represents the inner detail of *ḫ*. The hieratogram for *n* was then drawn as a separate and only slightly overlapping sign. This leads to thoughts on the question of what a ligature actually is, because from the point of view of sign composition, this example cannot be considered as such.

a)  b)  c) 

Figure 6.53a: Snippet from O. Turin CGT 57030 *verso* 3. PPhoto © *Museo Egizio*, N. Dell'Acquila, F. Taverni; b: facsimile of *ḫn* (López 1978 pl. 19); c: outline facsimile of *ḫn* (KvdM)

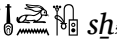
Figure 6.54 illustrates, and complicates, the matter further. We see the title and name  *sḫ; W(n)n-nfr* in ostracon Turin CGT 57028 *recto* line 5. The hieratogram for *nfr* is very complex and consists of a large number of strokes that cannot all be traced. Luckily, we are concerned with the combination that follows: that of *f* and *r*. The facsimile in López 1978 pl. 17 presents what seems to be a single line for both hieratograms, but the outline facsimile shows that we are dealing with two lines. The upper part of *r* starts oblique to the lower part of *f*, which suggests that the two lines were separately started rather than that they would be the result of an unconscious lifting of the brush while drawing one line. As such, *f* and *r* are not physically a ligature, yet their forms have completely adapted from being separate hieratograms to being part of a mental ligature in the mind of the scribe. This is not just a matter of definition; it shows the process of signs becoming a ligature, a process that can be expressed in different degrees, that is, there can be different forms of semi-ligatures. The mental degree does not have to fully coincide with the physical degree.

Figure 6.54a: Snippet from O. Turin CGT 57028 *recto* 5. Photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni with outline facsimile (KvdM); b: facsimile of *sḫ; W(n)n-nfr* (López 1978 pl. 17)

This may also be exemplified with a small detail from ostracon BM EA 5624 *recto* line 3, in which the hieratogram for  *ḥꜥ* as represented in figure 6.55 occurs. This hieratogram has a scribble on top that was started in the upper left. A first hook was drawn, after which the reed brush was lifted and the stroke downwards was drawn. The two strokes were drawn in one fluent movement of the hand and they may or may not have been separate strokes in the scribe's mind.

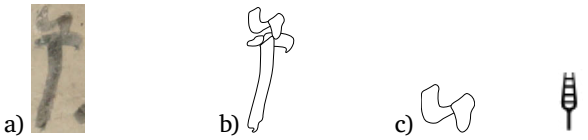


Figure 6.55a: Snippet from O. BM EA 5624 *recto* 3. Photo © The Trustees of the British Museum, KvdM; b: outline facsimile of *ḥꜥ* (KvdM); c: enlarged (150%) detail of the scribble forming the upper part of *ḥꜥ*

Rather well known are examples of hieratograms of  (Gardiner D2) that look like  . Two cases are found on ostracon BM EA 5624 *recto* in line 5 (figures 6.56-57).

In both cases, grammar dictates a writing  (so transcribed also by the editor[150]). But even though the two cases in line 5 differ much in their representation, they both seem to hint at an image of  in the scribe's mind. Regarding the first occurrence (figure 6.56), one could again ask the question to what extent this is a ligature if in fact the scribe meant to write *ḥr*+*r*. The *r* overlaps, but is not drawn in one line or movement of the hand with *ḥr* above. We could encounter this form for *r* as a separate sign as well. Physically, the form is not a ligature, yet its usage here might indicate that the hieratogram for *ḥr* with something underneath had become a mental ligature, a unity, for *ḥr* generally. The second occurrence in line 5 (figure 6.57) is, then, all the more strange, since it is clearly no ligature, but the *r* underneath *ḥr* (if we may identify the horizontal line as such) is not of a form usually encountered for the sign *r an sich*. Both the forms for *ḥr* and *r* do here clearly point to a combination that belongs together, whether the scribe had *ḥr* or *ḥr*+*r* in mind.[151]

a)  b)  

Figure 6.56a: Snippet of O. BM EA 5624 *recto* 5, first *ḥr*. Photo © The Trustees of the British Museum, KvdM; b: facsimile of *ḥr* (KvdM)

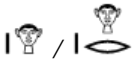
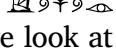
a)  b)  

Figure 6.57a: Snippet of O. BM EA 5624 *recto* 5, second *ḥr*. Photo © The Trustees of the British Museum, KvdM; b: facsimile of *ḥr* (KvdM)

Apart from degrees of (semi-)ligatures and mental unities, a close look at the composition of hieratograms may also reveal further aspects concerning the mental state of the scribe. Figure 6.58a shows ostracon Turin CGT 57028 *recto* line 10. The paint in the line is almost gone, but we still read the workman's name  *Jrsw* at the end of the line, and there is no problem reading this when we look at the facsimile in López 1978 pl. 17 (figure 6.58b). But the photograph and the new facsimile that includes the outlines of the brush strokes show a different form for *jr* and the following hieratogram for  (figure 6.58c). The name *Jrsw* occurs two more times on this ostracon, but is only still visible on the *verso* in line 7 where it occurs in its normal form (figure 6.59). Especially compared to that regular form,

[150] Demarée 2002, pl. 7.
[151] See also Fischer-Elfert 2021, 349-350.

it is clear that something else happens on the *recto* in line 10: we have a confusion of the sign 𓇋 *jr* with the sign 𓄡 *ḫʿ*, which occurs earlier in the same line. The *ḫʿ*-sign does not occur in *verso* line 7.

a) 

Figure 6.58a: Snippet from O. Turin CGT 57028 *recto* 10. Photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni

b)  c) 

Figure 6.58b: Facsimile of *Jrsw* from López 1978, pl. 17; c: Outline facsimiles of *jr.w* and *ḫʿ* (KvdM)

Figure 6.59: Snippet from O. Turin CGT 57028 *verso* 7. Photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni; facsimile: KvdM

Digital enhancing of photographs and digital drawing of the number and order of strokes may help to clarify our reading. Figure 6.60 shows a facsimile of ostracon DeM 882, which is published in Grandet 2003, 281. Line 3 appears to start with a *pr*-sign 𓉐 or perhaps a combination or ligature of two or more signs. Yet instead, we are dealing with two clearly separate signs: the hieratogram *s* (𓋴) consists of two strokes (one large slightly curved vertical line and one short stroke for the upper left part) and is clearly detached from the hieratogram *m* (𓅓), a rather small tick of the brush. The word reads *smḥ.y*.

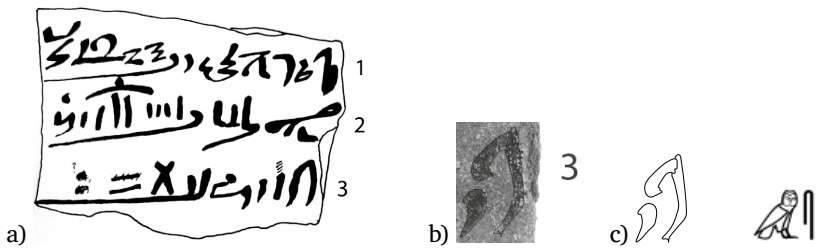


Figure 6.60a: Facsimile of O. DeM 882 from Grandet 2003, 281; b: photo (© Ifao) digitally enhanced in Photoshop, with outline facsimile of the hieratograms *s* and *m* (KvdM); c: outline facsimile of the hieratograms *s* and *m* (KvdM)

Another case where two signs may have melted together in the facsimile is ostracon DeM 718 line 2, published in Grandet 2000, 120 (figure 6.61). The facsimile shows a somewhat peculiar lower part of the striking man (Gardiner A24) as classifier in the word *wḥˁ*, "fisherman". The new outline facsimile shows that instead a small "z"-like hieratogram can be identified between and , which may be the hieratogram for in *wḥˁ*, "fisherman".

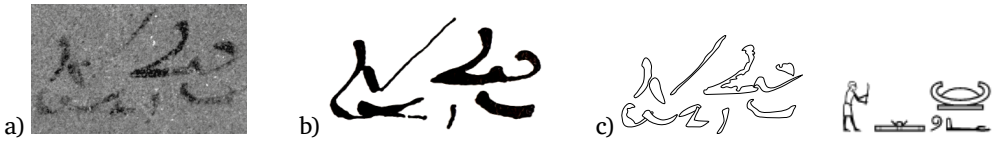


Figure 6.61a: Snippet from O. DeM 718 *recto* 2 (photo © Ifao); b: facsimile of *wḥˁ* (Grandet 2000, 120); c: facsimile of *wḥˁ* (KvdM)

The above examples show how digital (outline) facsimiles can clarify our understanding of the texts, including tiny aspects concerning the mental state of the scribe.

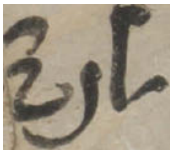
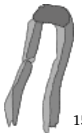
Double strokes

Double strokes in hieratograms, both the same color, are a peculiarity that cannot in all cases be explained. They may be the result of material factors, such as a bad brush and/or an unevenness in the writing surface. Ostracon BM EA 5624, for instance, shows many examples of double strokes in especially vertical (parts of) hieratograms over the entire ostracon (table 6.24). They seem to be the result of the brush splitting due to ridges in the surface, with darker and lighter sections of the lines as a result.[152] Many other hieratograms on this ostracon have ragged ends, which also points towards a bad brush or one that is close to the end of its

[152] Both the hieratogram *ms* in *recto* line 2 and the hieratogram *pr* in *recto* line 6 start showing double strokes exactly from the point where a ridge runs through the line of text.

usage life. Other explanations for double strokes concern the scribe, who may actually have drawn (parts of) a hieratogram twice. When the first-drawn version is very light, one may speculate that he ran out of paint and considered the result too light, unclear, or unreadable, therefore he drew the stroke(s) anew with a new dip of paint. Another idea that is hardly possible to prove is that he was disturbed and after a short break picked up drawing the last-drawn stroke(s) anew. Or perhaps he was pondering and, while in thought, repeated the stroke(s) he just drew. In that case, a big difference between the two versions in the thickness of their ink is not to be expected. In some cases, one of the double strokes ends earlier while the other continues. That these are not examples of adjustments in the sense of extending the lines (section 6A above) is clear from the fact that the longer stroke is often the first-drawn stroke. It is furthermore conspicuous that double drawings in the current corpus occur especially with diagonal or vertical (strokes in) hieratograms, e.g. in *pr* or many cases of Gardiner Z1 (including hieratograms of which Z1 is part, such as Z2 and Z3), as well as the number 1 or all numbers constructed with the number 1. In other words, it concerns simple strokes downwards and only rarely horizontal lines. This could perhaps be due to the force with which the hand draws a vertical line.

Table 6.24: Examples of double drawings or split lines on O. BM EA 5624. Photo © The Trustees of the British Museum, KvdM; facimiles: KvdM

			
recto 2	*recto* 2	*recto* 4	*recto* 6
 153	 154  155	 156	 157

153 Outline facsimile of the right-most vertical stroke of *ms*. Double lines may be the result of a split brush on rough surface.

154 Outline facsimile of (Z1) after *pr* (1st occurrence). Double lines may be due to a split brush.

155 Outline facsimile of *pr* (2nd occurrence). Double lines are the result of a split brush on rough surface.

156 Outline facsimile of *w* in *jw*. The double lines do not seem to be the result of a split brush and the surface is smooth. The first-drawn version is lighter than the upper version.

157 Facsimile of *pr*. The number and order of strokes is not clear and may not be represented correctly. The double lines may be the result of the brush splitting on rough surface.

Figure 6.62 shows ostracon BM EA 5672 *recto*. Many hieratograms show differences in the thickness of the paint, which is a normal result from writing with a brush and ink on stone; it is seen on all ostraca. But sometimes hieratograms stand out because the transition from light to dark ink is not smooth and sharp lines can be seen. In line 7 on ostracon BM EA 5672 we read the hieratogram for  *nḏ* (Gardiner Aa27). Its vertical base-line seems to consist of a long line of which the ink is much lighter than that of a short stroke that seems to partly cover the upper half. If this is not a delusion and the difference in the thickness of the ink is not to be ascribed to the brush or a barely visible roughness in the surface, the question arises why the scribe would have drawn the hieratogram anew. He appears to have dipped his brush before writing the hieratogram for  *r*, which directly precedes  *nḏ*. This would not have made it necessary to dip anew for *nḏ*. Moreover, the paint in the first-drawn vertical line is definitely not that light to consider it unclear. The dippings in this lower part of the ostracon are fairly well visible and occur every six to eight hieratograms. In line 7, we see the paint running out with  (JSesh Z3A) six hieratograms after *nḏ*, and a new dip of paint for the start of  *nty*. The paint in the upper part of the *nḏ*-hieratogram is too thick to be able to trace possible earlier versions underneath. Therefore, it remains unclear whether the difference in thickness of the ink is here to be ascribed to material factors or a double drawing by the scribe. A somewhat similar case is seen with the hieratogram for *n* in  *nꜣ* in line 6 above. Here, the scribe probably did dip his brush anew and he may have redone part of the horizontal line for *n* with new ink.

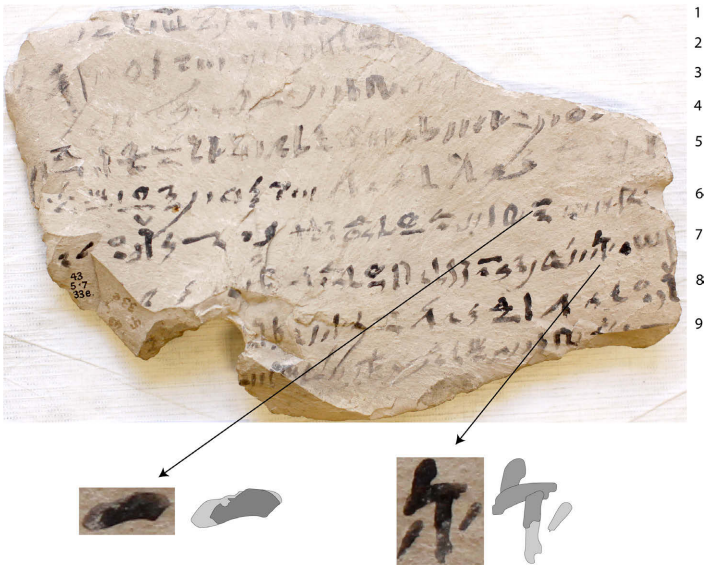


Figure 6.62: O. BM EA 5672 *recto* with details of the hieratograms for *n* and *nḏ* from lines 6 and 7. Photo © The Trustees of the British Museum, KvdM; facsimiles: KvdM

The examples in table 6.25 are from ostraca written by one scribe (section 7A). His hand shows double strokes particularly with simple vertical lines. The double strokes cannot always be traced and it is often unclear whether they are the result of material factors or whether the scribe actually drew two lines. The latter option may be less likely, since there are hardly differences in the thickness of the ink. Therefore, if the scribe drew a stroke or line anew, he must have done this almost immediately after the first line.

Table 6.25: Double drawings or split lines on Turin ostraca by one scribe. Photos © *Museo Egizio*, N. Dell'Acquila, F. Taverni; facsimiles: KvdM

			
57028 *recto* 1	57028 *verso* 1	57030 *recto* 7	57056 *recto* 3
 158	 159	 160	 161

"Finishing" dots

"Finishing" dots sporadically occur in several handwritings: they are dots or short strokes at the end of straight line(s) of a hieratogram. Figure 6.63 shows ostracon DeM 142, which is full of hieratograms with such "finishing" dots, although they do not occur with every hieratogram and not consistently with all hieratograms of the same sign (see the example in line 6 in figure 6.63). In all cases, the dots were drawn last. Molinero-Polo and Rodríguez Valls have written about similar short strokes seen at the end of straight lines of the cursive hieroglyphs in TT 223. They speak about stylistic features that they call "serifs" and state that "a well visible serif might be understood as an aesthetical decision of the scribe".[162] A point of criticism is that it is not clear in the article whether these short strokes were drawn last – a condition for being able to serve as serif. Similar short strokes are found

[158] Hieratogram in the number 4
[159] Hieratogram for Gardiner G1  . The order of the strokes is unclear.
[160] Hieratograms for *sw* 11.
[161] Hieratogram in the number 2.
[162] Molinero-Polo and Rodríguez Valls 2018, 87-88.

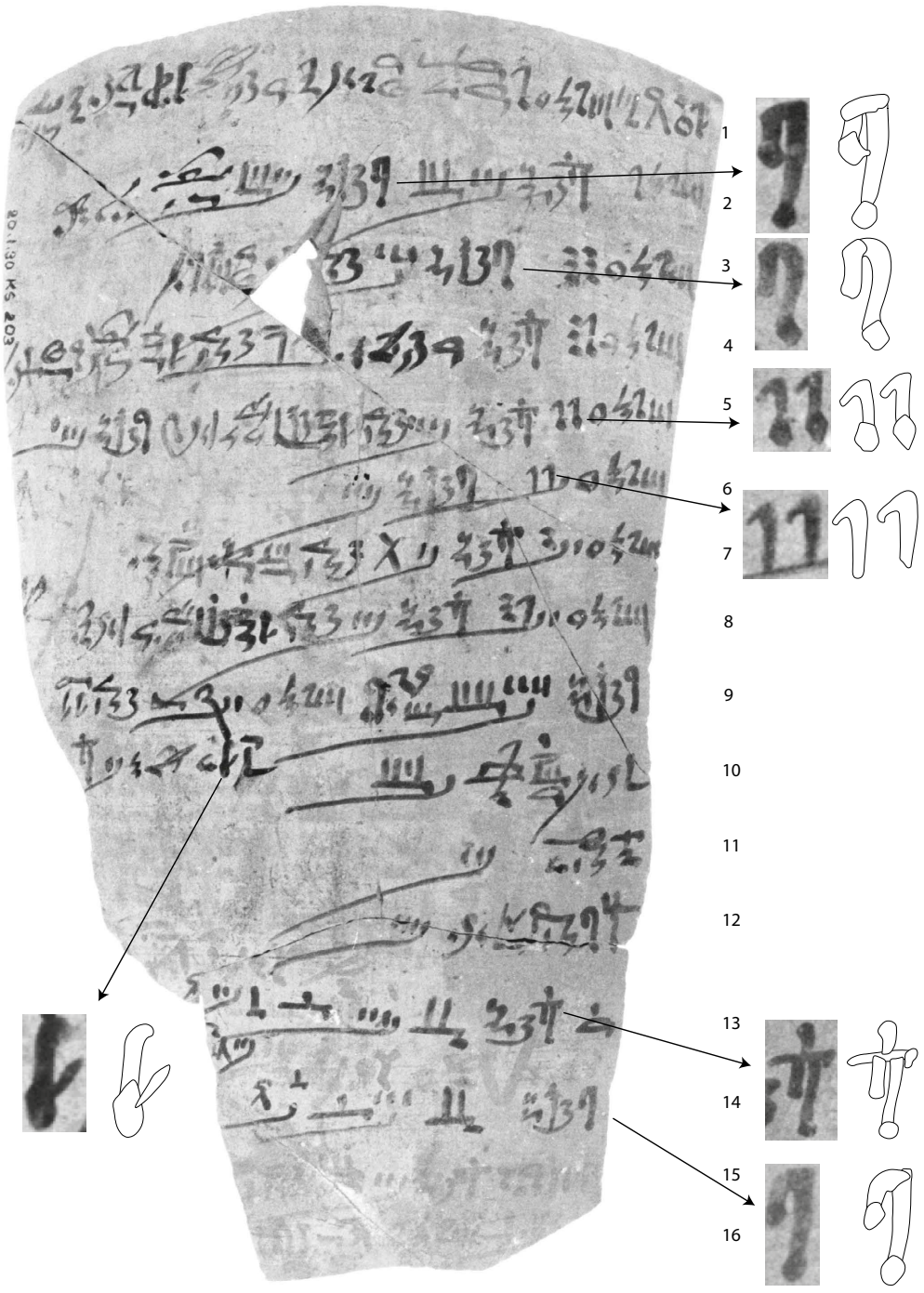
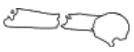


Figure 6.63: O. DeM 142 with examples of hieratograms that show “finishing” dots or strokes, and one example that does not. Photo © Ifao; facsimiles: KvdM

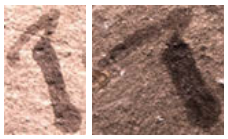
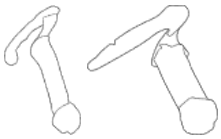
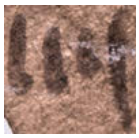
in TT 359, but these were drawn first, before the signs themselves were drawn.[163] Notwithstanding, the explanation would fit ostracon DeM 142 quite well, for the handwriting is neat and many hieratograms were clearly, even carefully drawn. The dots occur most consistently at the bottom of vertical lines and were drawn last; they do not represent any concrete part of the sign, but are a feature through which the scribe physically and/or mentally finished the line, perhaps indeed because he thought it was aesthetically pleasing (an actual finishing touch), or simply because there was too much ink on his reed. On other ostraca, also those with quick and brief handwritings, the dots and short strokes are sporadically seen as well; a few examples are given in table 6.26. They occur especially at the bottom of individual occurrences of the hieratograms for *s* and *j* or numbers. This arbitrariness in occurrence and the presence in neat as well as very quick administrative hands do not speak for serifs and the aesthetic function inherent to them.

Table 6.26: Selection of hieratograms that show a "finishing" dot or stroke. Facsimiles: KvdM

		O. Berlin P. 10622 *recto* 2 (photo: KvdM). The dot is part of all the hieratograms for the sign *j* on this ostracon. Other hieratograms, however, show no "finishing" dots or strokes at all.
		O. Berlin P. 10840 *recto* 1 (photo: KvdM). Example of a dot at the end of a horizontal line for *n*.
		O. Berlin P. 10633 *recto* 5 (photo: KvdM). A small dot occurs at the bottom of the hieratogram for *j* at the start of the line. Again, on this ostracon the dots occur only very sporadically, in addition to this example notably with the two hieratograms for *j* at the start of lines 6 and 7.
		O. BM EA 5672 *recto* 2 (photo © The Trustees of the British Museum, KvdM). There is a clear dot at the bottom of the vertical line in the hieratogram for the sign *šw*.
		O. BM EA 5672 *recto* 5 (photo © The Trustees of the British Museum, KvdM). There is a dot at the bottom of the hieratogram for the sign *j*.

continued on next page

[163] Personal communication with Elizabeth Bettles, who conducts palaeographic research in TT 359. She thinks the strokes may have functioned to delimit either the height or the width of signs.

		O. DeM 32 *recto* 10 (photo © Ifao). The second stroke in the number 2 shows finishing dots in the upper and lower part. Conspicuously, the first stroke has no dots at all. The text was presumably written by the same scribe as O. DeM 142 (section 7B), but the dots occur less often on O. DeM 32.
		O. Turin CGT 57153 *recto* 4 (photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni). A short stroke occurs at the bottom of the number 1. The scribe (section 7A) wrote many other ostraca now in the *Museo Egizio*. His writing presents a quick administrative hand with many abbreviations.
		O. Turin CGT 57025 *recto* 1 and 4 respectively (photos © *Museo Egizio*, N. Dell'Acquila, F. Taverni). Dots occur at the bottoms of both numbers 9. The ostracon was written by the same scribe as O. Turin CGT 57153 above, but in an even quicker and briefer handwriting.
		O. Turin CGT 57025 *recto* 7 (photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni). The dots occur at the bottoms of the last three vertical lines in the number 4.

The examples come from different time-frames covering the early dynasty 19[164] to Ramesses VI. Perhaps the inconsistency and occurrence in neat as well as brief handwritings points to the dots and short strokes being a cognitive feature, a point where the scribe was perhaps mentally finishing a hieratogram, word, line, or piece of text, and had a moment of pondering or mental preparation for the next part? It may have been a feature that (some) scribes learned in their education, not as a feature with special aesthetic function (which is an interpretation from our Western scribal culture), but they may simply have learned it as part of the sign. It may also concern a feature that is purely related to materiality, the amount of ink on the reed, and the practical use of the ink: the scribes may have ended the flow of ink by holding the brush in a more vertical position or by pressing it down. Adding or leaving out the dots or strokes may have happened quite unconsciously and/or as mentioned in a moment of pondering. There may not be one function behind the "finishing" dots, and without ruling out a function as serifs, we do not consider this the interpretation for all occurrences.

[164] Early dynasty 19 at the latest: O. Berlin P. 10622 is dated to the early dynasty 19 or even dynasty 18, in which case it would probably be related to the ostraca from Deir el-Bahari. https://dem-online.gwi.uni-muenchen.de/fragment.php?id=187 [25.2.2022]. A further 19th dynasty example is O. Berlin P. 10840.

6C Numbers, totals, checkmarks, and the use of red ink

Red ink occurs on 37 of the ostraca from the corpus. Most of them belong to text categories 1 (12), 11 (8), and 2 (6). The other texts belong to categories 4, 5, 6, 10, 12, 14, and 15. Different usages of red ink can be discerned:

- some signs or numbers within black lines are red;
- certain parts within lines are red;
- entire lines within an otherwise black text are red;
- a large part (e.g. half of the text) is red;
- the entire text is red (O. DeM 138, category 1; O. Turin CGT 57055, category 15);
- notations are in red, e.g. reasons for absence (O. BM EA 5634), the notes  *n* or  *jw* in front of workmen's names (ostraca DeM 912 *recto* and 913 *recto*, category 2), or checkmarks (ostraca Turin CGT 57007 and 57156);
- two ostraca include a horizontal separation line in red ink between two black lines of text (ostraca DeM 910 *recto* (see fig. 4.23) and 914 *recto*).

It is not always clear why specific parts were written in red ink. It may be that red ink does not in all cases have a special meaning. Yet in some cases, the use of red ink is very specific and may reveal special emphasis on numbers, totals, check marks, or still other signs. An example is ostracon BM EA 50728 (figure 6.64). The vertically outlined numbers on the *recto* are redone in red ink, yet notably not the tens. It seems to be a check round where the relevant scribe was not concerned with redrawing all numbers *perse*, but perhaps rather with marking places where numbers occur, simply checking off the vertically outlined numbers; these are the easiest and quickest to check off in such a motory task. In line 9, red ink is used to draw lines partly through the personal name *Sn-nḏm*, which also seems to be crossed out with a black line already underneath the red lines. We do not know what the red lines represent; the transcription in Demarée 2002, pl. 124, gives a square, but the upper right detail in figure 6.64 shows something else. Like the numbers, the hieratogram for  *wḏꜣ.t* is redone in red ink as well, but all three hieratograms in lines 11 and 12 were crossed out with black lines, here, however, clearly drawn over the red ink. There are small traces of red ink on the left edge of the ostracon, which bears further lines of text, but it is effaced to a large extent and unreadable. The *verso* shows no use of red ink nor of cancellations with black lines. All in all, there seem to have been at least two check rounds on the *recto*: a first check with red ink marking the places where numbers were written (presumably to (prepare for a) recount) and marking the spot where *Sn-nḏm* was crossed out; and a second check in black ink with which the *wḏꜣ.t*-hieratograms were crossed out.

Figure 6.64: O. BM EA 50728 *recto* (left) and *verso* (lower right), with a detail showing red lines in *recto* line 9 (upper right; enhanced with DStretch). Photos © The Trustees of the British Museum, KvdM; line numbers: KvdM

Ostracon Turin CGT 57007 *recto* (figure 6.65) also shows use of red ink. The start of line 4, reading *pꜣ ms.w-nsw* 2 *r* ("the two King's Sons, at [the storehouse]") was first drawn in red ink and redone in black.[165] The reason escapes me. Perhaps, the scribe simply ran out of black ink and started the line in red – marking the text where he left of – and when he got a new supply of black ink rewrote the line. Or was there something special about the mention of two princes (to whom apparently four chapels belonged where according to the text materials were collected)? If so, the spot was marked in red first, before the scribe started to write the text in black (note how he did not dip his brush anew after the end of the red section; he dipped while overwriting the red section and continued in black). Yet how would he have known where exactly to mark the spot for the two princes? Lines 6 and 7 also show use of red ink, yet here in several dots that were placed above each set of hieratograms. Only the last two blocks of hieratograms in line 7 lack such a dot, yet a further dot occurs in line 8 above the hieratogram for the sign 𓎛 *ḥ*. These red dots were redone in black. Although there are many numbers involved in these

[165] López 1978, pl. 8a, noted that red remains were only seen in the hieratograms for *ms.w* 2 *r*, but zooming in and enhancement in DStretch show that the entire first half of line 4 was first written in red ink.

lines, the dots do not seem to be related to a calculation in the first place. It rather seems as if the text here was meticulously checked, word for word, perhaps in the context of education.

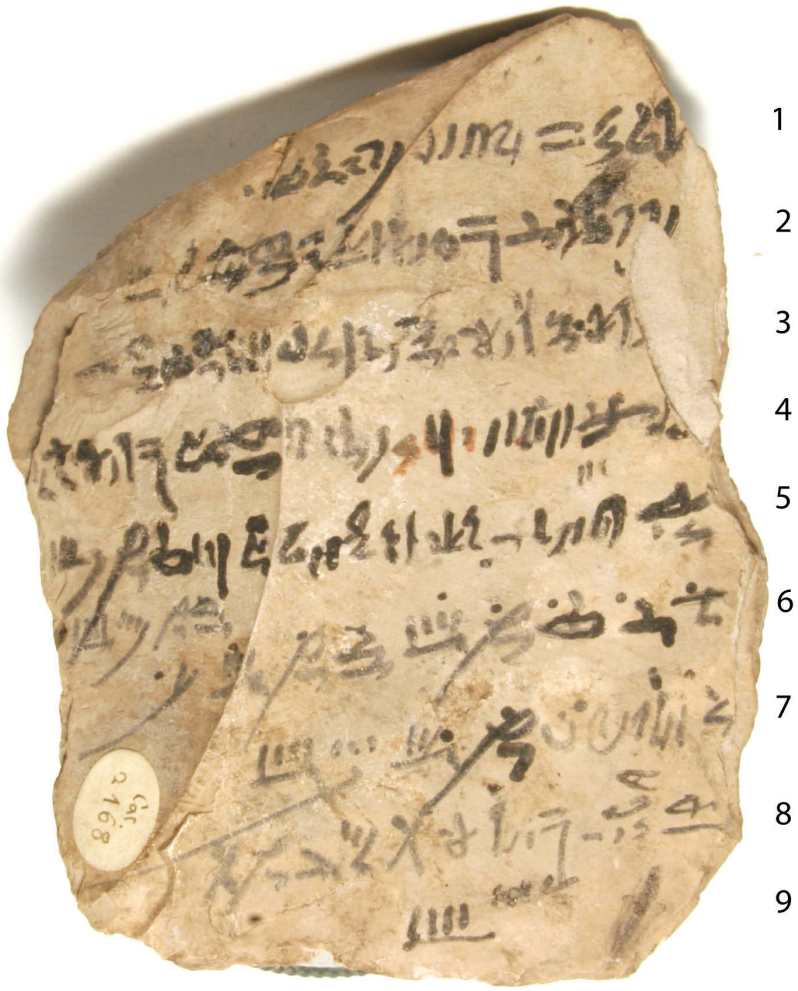


Figure 6.65: O. Turin CGT 57007 *recto*. Photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni; line numbers by KvdM

Figures 6.66-67 show ostraca DeM 912 *recto* and 913 *recto*. The photographs are, unfortunately, in black and white, but the lighter (red) ink can still be seen and can be checked against the information in the publication.[166] Both ostraca are perhaps part of the same text and show a list of workmen's names preceded by, first, the

[166] Grandet 2003, 88-90, 340-341, 344.

sign 𓈖 *n* in red ink and, drawn over it, the sign 𓄡 *jw* in black ink. Only twice (O. DeM 912, col. 2,3; O. DeM 913, 3) another hieratogram of 𓈖 *n* was drawn in black over the earlier hieratogram 𓈖 *n* in red. This must represent a check as well, but we do not know how much time passed in between the red and black marks: either the men were all absent one day and showed up the next day (or after the weekend, for instance), and the list was thus reused over at least two days; or the men were late, yet after a while still checked in (except for *Ḥr-m-wjꜣ* (O. DeM 912) and *Ṯnr-Mnṯw* (O. DeM 913). It is conspicuous that the scribe initially wrote the marks of absence in red. Did he expect to use the list again? Did he plan to make a second round later that day to update the list? The red color is at least not connected to the semantics of 𓈖 *n* indicating absence, since the second round includes black versions of 𓈖 *n* for the two men who did not show up.

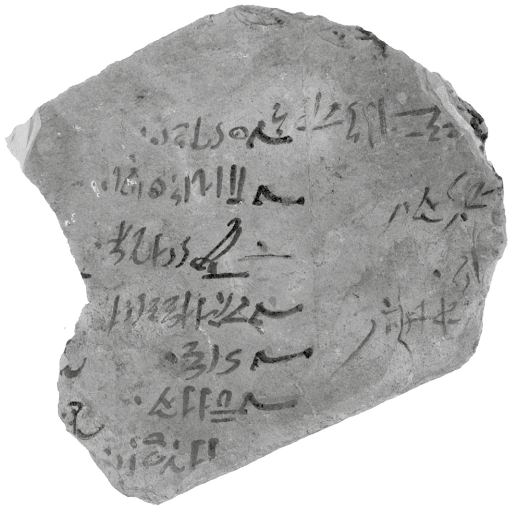


Figure 6.66: O. DeM 912 *recto*.
Photo © Ifao

Figure 6.67: O. DeM 913 *recto*.
Photo © Ifao

6D Textplanning

Planning has already passed the revue in different facets. In the current section we have seen details that could point to planning ahead while writing a group of hieratograms, and perhaps the use of red color in anticipation of a further check round in black. In section 4 we saw that the available writing surface seems to have been of (minimal) influence in individual cases concerning the choice for a full writing or an abbreviation of words or personal names, and we sporadically saw that a scribe reckoned with disturbances in the surface. Generally, it may be expected that the scribe chose a sherd which he thought fitting for his text before he started

writing, and in most cases this turned out well. But altogether there is no proof of careful text planning and foresight regarding the writing space and the use of abbreviations. Such planning ahead may not have been necessary: there was no fixed format that dictated specific entries, and the writing system allowed to be flexible. Nevertheless, some ostraca show that scribes got into trouble while writing a text.

An example is ostracon BM EA 50728 (figure 6.64 above) that was just mentioned with regard to the use of red ink and check marks. The upper half of the text on the *recto* is clearly neater than the lower half, where the scribe presumably realized that he was running out of space. The text is a memorandum and records deliveries of vessels (text category 1). The layout is a mix in the degree of consideration for keywords and/or dates (C1d). The first line was written on the upper edge of the ostracon and bears the year date. Lines 2, 3, and 4 are planned: they are single entries each in one line – first the topic ("memorandum"), then the total amount of vessels, then the header of the list. In line 5 follows a sub-header, and the contents of the list including the total are enumerated in line 6. This is running text in that each workman and the total amount are not separate entries. At least the first three names in line 6 are followed by a dot, which may represent the A1-classifier 𓀀 or may rather be a divider between name and number, a function we see more often for dots when names and numbers are enumerated. Line 7 is again a sub-header, after which the list continues in running layout in line 8. More of such sub-headers with the same content are found in lines 9 and 10, but here they occur together with the personal names forming the list in lines of running text, which continues to the end of the *recto* in line 12. There are also several mistakes and additions in the lower lines: it looks as if the scribe lost concentration, or got hasty, or panicked due to the amount of writing space left. The upper half of the text is neat, the lower half is a mess.

On the *verso* the same text continues, but with a different layout. Here, the scribe perhaps realized he had more space. The first two horizontal lines are the header of the list. The first small column to the right then gives 6+x names with the numbers put neatly underneath each other. In some cases, a dot still follows the name, perhaps as a (superfluous) divider between name and number, perhaps as A1-classifier 𓀀. The second column gives a further short list, starting off with a brief header underneath which two names and a total follow, each in a new line.

Less conspicuous are adjustments made to the layout due to, probably, the shape of the stone on ostracon DeM 142 *recto* (figure 6.63 above). The text records deliveries and/or deficits of fish (text category 1). The writing remains consistent, but the upper half shows a neater and more regular layout than the lower half. After the year date and heading in line 1, lines 2 to 8 all start with month and day dates. These dates are written very regularly (except for line 2, which records "day 4" where this should be "day 5" and the logogram ⊙ is missing). In each case, some space is left open after the day-number, which may even lead one to think that the dates were written first, after which the entries were added. Alternatively, the

dates and entries were written in one go, but the scribe had a column-like layout in mind: a first mental column with dates, and a second mental column with the details. The last day-number is recorded in line 8, and this is also where the regularity ends: the entry for day 8 did not fit and continues in line 9. From line 10 onwards follow (sub-)totals, first for three persons (lines 10-12), then for the right side (13: *dmḏ wnm.y*) and the left side (14: *smḥ.y*). Lines 13 and 14 both contain additions in red ink. A new month begins in line 15 and month-dates are also recorded in lines 16 and 17 following each other in running lines of text. The hieratograms in these three bottom lines are somewhat smaller than in the lines above. There are two further entries (lines 18 and 19) placed next to lines 9 and 10; they are running text. Thus, the scribe started out with a neat and regular layout in which, first, day-entries acted as keywords until lines 8–9, after which he turned the names of three individuals into key-entries in lines 10–12. Perhaps from line 13 onwards, he may have realized that there was not much space left. He may have had to adjust his layout to fit all information and as such may have entered numbers and month dates in somewhat cramped, running lines at the bottom, as well as a final note in two lines in the space left behind the entries in lines 9 and 10.

A case where the writing surface of the ostracon does not cause problems, but where we do see a difference in writing style between the first two lines and the rest of the text, is ostracon Turin CGT 57366 (figure 6.68). *Recto* line 1 starts off with a date in a quite linear style with square and compact hieratograms. This style is still seen in line 2, but gradually becomes looser. In lines 3 to 5 the writing is more spacious. On the *verso*, there is hardly anything left of the linear style. The combination of  *mn* with  *n* () in *recto* lines 1 and 5, and *verso* line 1 shows well how the *ductus* becomes less linear and more rounded (figure 6.69). It seems as if the scribe started off carefully noting down the words, but gradually started to actually write; lines 3 and further suggest he was in a more fluent writing mode than he was in lines 1 and 2.

A somewhat similar, and final, example is ostracon DeM 26 (figure 6.70). It records deliveries of beer, cakes, and vegetables and was found together with ostraca DeM 19, 20, and 25, which record similar deliveries, and with a group of ostraca that records deliveries of dung, wood, woodwork, and/or pottery.[167] All were found at the site K2 (*kom à l'est de la chapelle votive no. 1213*) and the adjacent *trou Schiaparelli*, and all are dated to year 3 of Seti I; although only some ostraca actually bear a year date, all show the same text setup and use the same introductory formula.[168] Ostraca DeM 19, 20, 25, and 26 are considered together, although they may not all

[167] For the latter group, see section 7C.

[168] Dorn 2011; Donker van Heel and Haring 2003, 14-15, 89 note 22, 129. For topic and text setup, see also section 4. For the site K2, see Gasse 2000, 109-120.

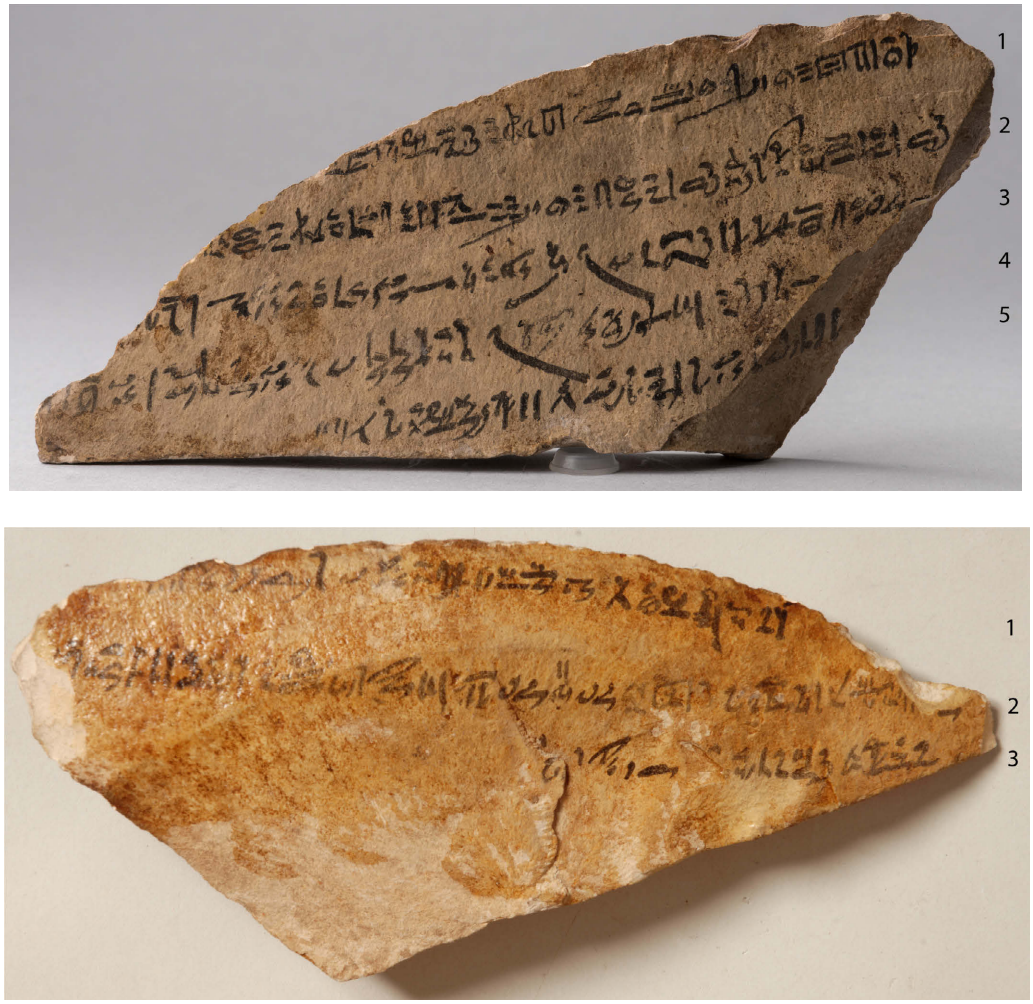


Figure 6.68: O. Turin CGT 57366 *recto* (upper photo) and *verso* (lower photo). Photos © *Museo Egizio*, N. Dell'Acquila, F. Taverni. Line numbers added by KvdM

recto 1 *recto* 5 *verso* 1

Figure 6.69: The combinations of *mn* with *n* on O. Turin CGT 57366. Facsimiles: KvdM

be products of the same scribe, since "There are differences in the style of hand-writing between O. DeM 19 and O. DeM 20 on the one hand, and O. DeM 25 and O. DeM 26 on the other, the characters in the latter two having much more linear

shapes."[169] I partly agree. Indeed, ostracon DeM 26 starts off relatively neat with linear shapes in the date, especially seen in the nicely curved line for 𓂋 *ꜣbd*, the two separate strokes indicating the month-number, and the three separate horizontal strokes for 𓈖 *mw*. But lines 2 to 5, in which the events for this date are recorded, show a much less linear style. It looks as if the scribe actually started *writing* here. We may ask the question: to what extend is writing a date actually *writing*? We see similarities in the style of writing the dates on ostraca DeM 12 and 19, yet clearly, the latter was written in the less linear style hinted at in Donker van Heel and Haring, and ostracon DeM 12 belongs to the group written by Scribe C discussed in section 7. Ostracon DeM 26 may be a case where the scribe entered a date (for filing?) and then (at a later moment?) mentally moved to writing the contents. Alternatively, the ostracon (and possibly others from the collective O. DeM 1-26) is the product of two scribes working together: one scribe with a linear style entering the date, another with a more hieratic *ductus* adding the contents.

A small note may be placed with lines 3 and 5, which continue around the corner on the left side of the stone. There would have been enough space on the front, but it seems that the scribe wanted to keep his entries together. This may help us realize that the ancient scribes were not stuck in the book-culture we know, but even in the administrative realm had a more dimensional perspective to writing.

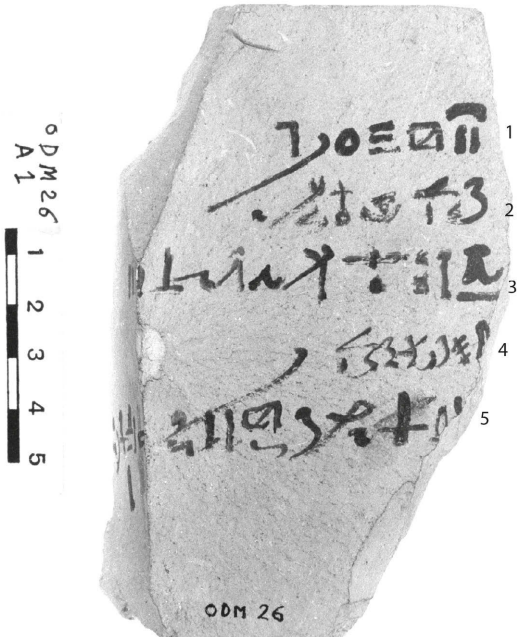


Figure 6.70: O. DeM 26. Photo © Ifao

[169] Donker van Heel and Haring 2003, 129.

7 Individual handwritings

The current analysis of administrative hieratic from dynasties 19 and 20 did not include an extracting and comparing of individual handwritings. This decision was made mainly because a systematic analysis with clear parameters was not yet possible, but also because such a systematic analysis can provide only part of the information needed. One scribe can have a multitude of scribal hands that show free variations and one needs to know a scribe beyond his forms to be able to identify him.[170] Several colleagues are focusing on handwritings and idiosyncrasies especially from the New Kingdom Theban area[171] and instead of adding another *Bauchgefühl*, it was decided to leave it to the experts who have been working thoroughly on the subject for many years. The AKU database may offer systematic support for future studies on scribal hands.

Notwithstanding, the current corpus does include a number of already identified handwritings and they have been mentioned above more than once. This section therefore clusters the texts written by Scribe A, Scribe B, and Scribe C and remarks on styles, habits, and particularities.

7A Scribe A

The first group of texts was written by an anonymous scribe, who wrote many of the texts found by Schiaparelli in the Valley of the Queens, now in the *Museo Egizio* Turin, as well as a small number of other ostraca. He worked during the second part of the reign of Ramesses III, between years 10 of Ramesses III and year 1 of Ramesses IV. The group was first identified by Donker van Heel and reviewed and enlarged with two ostraca by McClain and includes the following texts (table 7.27):[172]

[170] Eyre 1979, 86-87; Van den Berg and Donker van Heel 2000, 15-16; McClain 2018, 336.

[171] Notably McClain 2018, who uses palaeographic analysis to isolate and discuss different handwritings precisely in the ostraca with “necropolis journal” theme. See also Polis 2022; Dorn and Polis 2019; Kamal and Sojic 2019; Demarée 2018; Hassan and Polis 2018; Polis 2017; Hassan 2017; Dorn and Polis 2017; Dorn 2015; Ragazzoli 2012; Donker van Heel and Haring 2003, 39-82; Van den Berg and Donker van Heel 2000; Sweeney 1998; and Maren Goecke-Bauer, who composes a palaeography of Deir el-Medina scribes.

[172] Van den Berg and Donker van Heel 2000, 9-49; Donker van Heel and Haring 2003, 65-71; McClain 2018, 337-339. The numbers with * are not included in the current corpus because of damage of the ostraca or difficulties regarding their accessibility.

Table 7.27: Ostraca by the hand of Scribe A.
Based on Donker van Heel and Haring 2003, 65-66; McClain 2018, 337-339

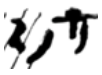
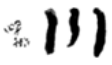
Ostracon	Date		Text category	Text layout
Ashmolean Museum 48 (HO 26,1)*	-		-	-
Ashmolean Museum 295*	-		-	-
Cairo CG 25635*	Ramesses III	31	-	-
MMA 09.184.702*	Ramesses IV	1	-	-
Strasbourgh H136*	Ramesses III	24	-	-
Turin CGT 57025	Ramesses III	26	2	A3b
Turin CGT 57026	Ramesses III	23/24	2	A1b
Turin CGT 57028	Ramesses III	24	2	A1a
Turin CGT 57029	Ramesses III	24	2	A1c
Turin CGT 57030	Ramesses III	24?	2	A6a
Turin CGT 57031	Ramesses III	25	18	A1c
Turin CGT 57032*	Ramesses III	24?	-	-
Turin CGT 57033	Ramesses III	24-25	15	B1c
Turin CGT 57034	Ramesses III	22	13	A1b
Turin CGT 57035	Ramesses III	11	2	A1c
Turin CGT 57038*	Ramesses III	23?	-	-
Turin CGT 57039	Ramesses III	24	2	A1b
Turin CGT 57043	Ramesses III	25?	18	A3c
Turin CGT 57044	Ramesses III	26	15	A1b
Turin CGT 57046*	Ramesses III	24?	-	-
Turin CGT 57047	Ramesses III	22	15	A1c
Turin CGT 57055	Ramesses III	24	15	A1c
Turin CGT 57056	Ramesses III	24	2	A6a
Turin CGT 57153	Ramesses III	26	9	A1b
Turin CGT 57156	Ramesses III		14	C6a
Turin CGT 57432	Ramesses III	10-20	2	A3a
Valley of Queens 3*	Ramesses III		-	-
Valley of Queens 6*	Ramesses III	22	-	-

Generally, Scribe A wrote reports that include absences/presences, events, progress reports, accounts of materials and equipment, and brief mention of sporadic deliveries. Some of the ostraca are large and the texts fairly elaborate. These con-

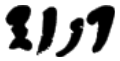
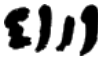
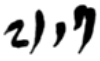
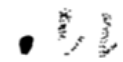
tain names of workmen absent or present on the right and left sides of the crew (text category 2). They are usually written in running lines occasionally showing consistency for names or dates in new entries. These lists of absences and/or presences (ostraca Turin CGT 57026, 57028-57030) clearly differ from another group of reports in a very brief style, giving only day numbers and an occasional note on inactivity, events, and lamps taken from storage. These texts show more variation in layout in that columns occur more often and there is a larger degree of consideration for keywords: new lines often start with new day-entries (ostraca Turin CGT 57025, 57031-57034, 57043-57044, 57047, 57055). These differences suggest two different tasks: keeping record of the workmen on the one hand, and of the work and materials on the other. This observation is even more interesting in the light of a remark by Donker van Heel relating to ostracon Turin CGT 57031 and the overlap it shows with ostracon Glasgow D. 1925.67 (not by Scribe A, but by Scribe B!) for days 1-19 of month II of *peret*: "Clearly, the Glasgow ostracon records the duty-roster and deliveries, while the Turin ostracon records the work in progress in the Valley of the Queens". He argues that "the" necropolis journal would be made up of two separate but equal parts, "namely the labour journal made at the worksite and the duty-roster and day-to-day deliveries to the workmen, probably at the *ḫtm*. Together, these cover the income and output of the entire crew."[173] This means that our Scribe A must have worked at the worksite in the Valley of the Queens rather than in the village. However, this "labour journal at the worksite" would thus have to be divided into at least two separate parts and it is doubtful to what extent they would be serving an official necropolis journal. Notably, Scribe A often dated his texts with a full year date, not only his accounts of absence or presence, but also texts from his other categories. Yet this habit may not be related to the production of official journal entries, but rather to his peronsal workflow or a more frequent custom of adding year dates in dynasty 20. Donker van Heel suggested that the briefness of especially the ostraca that include notes on inactivity and lamp accounts points to a usage as drafts or mother copies.[174] This coincides with our conclusion in section 4B, namely that these texts cannot have been formal reports serving a "necropolis" or a "labour journal". The scribal hand in this set of texts shows "a brevity not often encountered".[175] Indeed, this was noted above in the abundant use of abbreviatory and repetitive dots and *idem ditto*-strokes in these Turin texts as well as in the orthographic and palaeographic abbreviation of names and words and in the repetition of hieratograms. Table 7.28 below includes all personal names and frequent words from section 5 that belong to this scribe's hand.

[173] Donker van Heel and Haring 2003, 68-70.
[174] Idem, 70-71.
[175] Idem, 71. Donker van Heel makes this remark as opposed to the lamp accounts from dynasty 19 and links this to Černý's statement that this suggests less value was attached to them than in earlier periods.

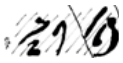
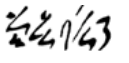
Table 7.28: Personal names and frequent words written by Scribe A

Wsr-ḥ3.t					
					
T. 57026 *ro* 12	T. 57026 *vo* 6	T. 57028 *ro* 3	T. 57029 *ro* 6	T. 57030 *ro* 8	T. 57030 *vo* 5
Ḫ^{c}-m-W3s.t					
					
T. 57028 *vo* 9	T. 57029 *ro* 8	T. 57030 over *ro* 7			
Ḫnmw-ms					
					
T. 57026 *vo* 6	T. 57028 *vo* 2	T. 57028 *vo* 6a	T. 57029 *ro* 6	T. 57029 *ro* 11	T. 57030 u. *vo* 5
					
T. 57039 *vo* 6					
Jmn-m-jn.t					
					
T. 57028 *ro* 3	T. 57028 *ro* 9 (e)	T. 57056 *ro* 7	T. 57056 *vo* 3		
wnm.y					
					
T. 57026 *ro* 4 (e)	T. 57026 *vo* 8	T. 57029 *ro* 10	T. 57039 *ro* 3 (e)	T. 57039 *vo* 1 (e)	T. 57153 *ro* 6
					
T. 57153 *vo* 1 (e)	T. 57153 *vo* 3 (e)	T. 57153 *vo* 7 (e)			
smḥ.y					
					
T .57026 *ro* 6	T. 57026 *ro* 12	T. 57026 *vo* 5	T. 57028 *ro* 2	T. 57028 *ro* 10	T. 57028 *vo* 2

continued on next page

					
T. 57028 *vo* 5	T. 57028 *vo* 6a	T. 57028 *vo* 8	T. 57028 *vo* 10	T. 57028 *vo* 11	T. 57028 *vo* 12
					
T. 57029 *ro* 9	T. 57029 *ro* 11	T. 57030 *ro* 4	T. 57030 *ro* 8	T. 57030 *vo* 5	T. 57039 *ro* 6
					
T. 57039 *vo* 4	T. 57056 *ro* 5	T. 57056 *vo* 2	T. 57153 *vo* 7 (e)	T. 57432 *vo* 1 (e)	T. 57432 *vo* 5 (e)
ꜥrḳ					
					
T. 57153 ro 6					
psn					
					
T. 57153 *ro* 5 (e)	T. 57153 *vo* 3 (e)				
bj.t					
					
T. 57153 *ro* 5	T. 57153 *vo* 3 (e)	T. 57153 *vo* 8 (e)			
wsf					
					
T. 57026 *ro* 2 (e)	T. 57026 *ro* 13 (e)	T. 57026 *vo* 7	T. 57028 *ro* 7 (e)	T. 57031 *ro* 6 (e)	T. 57031 *ro* 7 (e)
					
T. 57031 *vo* 4	T. 57033 *ro* 1,4	T. 57033 *ro* 1,5	T. 57033 *ro* 2,13 (e)	T. 57033 *ro* 2,17 (e)	T. 57033 *ro* 3,21
					
T. 57033 *ro* 3,24 (e)	T. 57034 *ro* 6	T. 57034 *ro* 7	T. 57034 *ro* 10	T. 57035 *ro* 4	T. 57044 *ro* 5
					
T. 57044 *ro* 6	T. 57044 *ro* 6	T. 57044 *ro* 7	T. 57044 *vo* 9	T. 57047 *ro* 6	T. 57047 *ro* 6

continued on next page

					
T. 57047 *ro* 7	T. 57047 *ro* 10	T. 57047 *ro* 10 (e)	T. 57047 *vo* 3	T. 57047 *vo* 8	T. 57055 *ro* 3
					
T. 57056 *ro* 1	T. 57153 *ro* 5	T. 57153 *ro* 6	T. 57153 *vo* 7 (e)	T. 57156 *ro* 1,2 (e)	T. 57156 *ro* 1,3 (e)
					
T. 57156 *ro* 1,4 (e)	T. 57156 *ro* 1,6	T. 57156 *ro* 2,12 (e)	T. 57432 *ro* 2 (e)	T. 57432 *ro* 5 (e)	T. 57432 *vo* 2 (e)
					
T. 57432 *vo* 5 (e)	T. 57432 *vo* 8 (e)	T. 57432 *vo* 9 (e)			

Based on a palaeographic study of the names and words above as well as on notes taken during the study of the ostraca and the process of making facsimiles, the following characteristics of Scribe A can be summarized. General observations:

- The hieratogram for the A1-classifier has often been reduced to a dot, yet a neat little hook may also occur in the same texts. In a few cases, A1 is missing, not, however, as often as can be seen for Scribe B below. One explanation for leaving A1 out may be that the previous sign in a name resembles A1 in being a dot or a little stroke, causing the scribe to think that either he had already written A1, or a further dot would not be necessary (e.g. *Ḥnsw* in ostracon Turin CGT 57028 *verso* 5, end of line).
- Scribe A used many strokes and blobs where one single, smooth line would be expected. In other words, hieratograms consist of more elements than expected. This is not represented in the facsimiles by López, for it can only be seen by magnifying high resolution photographs.
- The texts by Scribe A show a lot of the double strokes discussed above in section 6B. Especially in vertical lines there are often two, partly overlapping, strokes. This is sometimes seen in curved lines as well, but much less in horizontal lines. In some cases, the scribe appears to have drawn a second line because the first line was not well visible (because of the paint or an unevenness in the surface of the stone); in other cases, the brush may have split, leaving the impression of two lines. Yet not all cases can be explained.

Particular observations:

- The scribe's hand includes two variations for the sign (Gardiner W9): one with and one without dot.

- Similarly, it includes two variations for the sign  (Gardiner S40): one with an elaborate lower part, and one in the form of a mere T.
- Donker van Heel noted two forms for the sign-combination *mn* + *n*  in the name *Jmn-m-jn.t*.[176] Indeed, the form on ostracon Turin CGT 57028 *recto* 9 is a further abstraction of the combination in *recto* 3, and resembles more the true ligature on ostracon Turin CGT 57056 *verso* 3. In each case, however, Scribe A included the dot, which was not included by López in the facsimile of ostracon Turin CGT 57028 *recto* 3, and thus not in Donker van Heel's study.
- The sign  (Gardiner R14) is always written with the dot on top, a horizontal line and two protruding lines downwards. Still, however, there is much palaeographic variation. This sign in fact exemplifies my own skepticism in comparing forms and ascribing them to different scribes. The variation in the signs that follow is also large enough to lead one astray and ascribe several of these forms to different scribes.
- The word *wsf* also shows much variation. In a study that did not yet include ostraca Turin CGT 57035, 57153, 57156, and 57432, Donker van Heel already concluded that "apparently considerable variation is allowed".[177] Conspicuously, Scribe A wrote *wsf* with its mono-consonantal signs *w*, *s* and *f* on ostracon Turin CGT 57432. This is an elaborate list of absences/presences on the right and left sides, but so is ostracon Turin CGT 57026 where he used the abbreviation. Perhaps the reason must be sought in the date: ostracon Turin CGT 57432 is generally dated somewhat earlier than the other elaborate accounts with absences and presences. López suggested a date between years 10 and 20 of Ramesses III, Helck proposed year 20 of that king.[178] In several other cases the abbreviation *wsf* is followed by the walking legs, presumably as (another) classifier. Finally, in some cases scribe A wrote *m wsf*, with *wsf* written out on ostracon Turin CGT 57432, or with *wsf* following in abbreviation. There are two different forms for the lower bird  (Gardiner G37): an open form, very clearly seen on among others ostracon Turin CGT 57031, and a closed form seen on ostracon Turin CGT 57033. The upper bird  (Gardiner G47) generally consists of a little hook with a tick in the upper left, but occasionally is abbreviated to one or two dots as in ostraca Turin CGT 57034 *recto* 10 and 57153 *recto* 5. In ostracon Turin CGT 57034 *recto* 6 and 7, the bird is drawn as a little hook, but the tick is missing.

[176] Van den Berg and Donker van Heel 2000, 16.
[177] Idem, 29.
[178] López 1982, 41-42; Deir el-Medina Database: https://dmd.wepwawet.nl/?id=O.%20Turin%20N.%2057432 [22.9.2022].

7B Scribe B

Scribe B worked more or less during the same years as Scribe A, that is between year 25 of Ramesses III and year 3 of Ramesses IV. The group of texts was initially identified by Donker van Heel, but enlarged by McClain (table 7.29).[179]

Table 7.29: Texts by the hand of Scribe B.
Based on Donker van Heel and Haring 2003, 72-82; McClain 2018, 339-344

Ostracon	Date		Text category	Text layout
Ashmolean HO 113*	Ramesses IV	2	-	-
Berlin P. 12627	Ramesses III	27	10	A1c
Berlin P. 12628 + Berlin P. 12641	Ramesses IV	1	10	A1b
Berlin P. 12629	Ramesses III	26	11	A6a
Berlin P. 12631	Ramesses IV	1	11	A1b
Berlin P. 12633	Ramesses III	25	11	A3a
Cairo CG 25533*	Ramesses IV	3	-	-
DeM 32	Ramesses III	25	11	A1a
DeM 33 + Berlin P. 12639 + 14696	Ramesses III	27	10	A1b
DeM 34* + Heidelberg inv. nr. 567*	Ramesses III	<27>	-	-
DeM 35	Ramesses III	<28>	8	A3b
DeM 36*	Ramesses III	31	-	-
DeM 37*	Ramesses III	31	-	-
DeM 38*	Ramesses III	32	-	-
DeM 39* + DeM 174*	Ramesses III	32	-	-
DeM 40 + Strasbourg H42*	Ramesses IV	1	11	A1b
DeM 41 + Berlin P. 12626	Ramesses IV	1	11	A1b
DeM 42	Ramesses IV	1	11	A1b
DeM 43*	Ramesses IV	1	-	-
DeM 44	Ramesses IV	1-2	11	A1a
DeM 45 + Berlin P. 12651 + Vienna H. 4*	Ramesses IV	2	11	A1b
DeM 46	Ramesses IV	2	11	A1b
DeM 47 + Vienna H. 5*	Ramesses IV	1	-	-

[179] McClain 2018, 339-344. The numbers with * are not included in the corpus because of damage of the ostraca or difficulties regarding their accessibility.

Ostracon	Date	Text category	Text layout
DeM 142	Ramesses III 26	1	C1b
DeM 148	Ramesses III 26/27	11	A6b
DeM 155*	Ramesses III 31	-	-
DeM 156*	Ramesses III 28	-	-
DeM 157*	Ramesses III 31	-	-
DeM 427*	Ramesses III 28	-	-
DeM 653*	Ramesses III 27	-	-
DeM 659*	Ramesses III 27	-	-
Glasgow D. 1925.67*	Ramesses III 25	-	-
Glasgow D. 1925.76 + Ashmolean HO 52*	Ramesses III 25	-	-
London UC 39648*	Ramesses III 25	-	-
Prague H. 14*	Ramesses III 31	-	-
Strasbourg H82*	Ramesses IV 1	-	-

Scribe B was responsible for the bulk of the texts recording deliveries and duty rosters in this period. He will have worked at the administrative headquarters or gatehouse (*ḫtm n pꜣ ḫr*) and indeed, the findspots of the ostraca by his hand seem to be concentrated in and around the village (*kom de décombres au sud du village*). McClain additionally mentions that, in contrast to the predominantly limestone ostraca by the hand of Scribe A, Scribe B's texts were written on pottery, a material more readily available in domestic context than at the necropolis worksites.[180] Donker van Heel showed that Scribe B worked in "administrative months":[181] he started day 1 of a new administrative month on a new piece of pottery. Sometimes he added notes from the previous month in the margin or in the first lines of text. This indicates that the ostraca were his working books rather than finished reports.[182] Yet Scribe B worked with a very consistent layout: horizontal running lines with consideration for keywords when possible. Again, like Scribe A, he usually dated his texts with a full year date. Since Scribe B predominantly wrote texts from categories 10 and 11, we cannot say whether including a full date was related to category or personal habit. At any rate, in the case of Scribe B, scribal hand, text category, and layout all fit well together. Table 7.30 includes the personal names and frequent words from section 5 that belong to Scribe B's handwriting.[183]

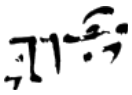
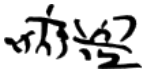
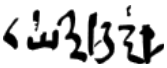
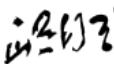
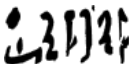
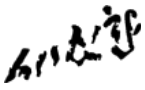
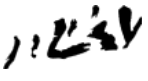
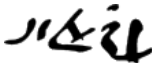
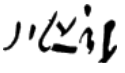
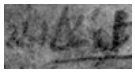
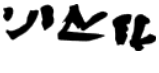
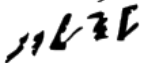
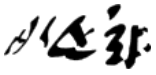
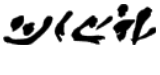
[180] McClain 2018, 341.

[181] A feature not exclusive to Scribe B, for it is also seen in documents by Scribe A. See also Donker van Heel and Haring 2003, 68-71.

[182] See also Eyre 2013, 241. See page 246-247 for possible identifications of Scribe B.

[183] Hieroglyphic transcription and a few faint photographs that were included in section 5 have been excluded here, for the handwriting cannot be seen well on them.

Table 7.30: Personal names and frequent words written by Scribe B

Wsr-ḥ3.t					
					
B. 12626+ *ro* 14	B. 12627 *ro* 2	B. 12628+ *ro* 9	B. 12629 *ro* 3	B. 12631a over *ro* 1	B .12651+ *ro* 5
					
DeM 40 *ro* 14	DeM 42 *vo* 2	DeM 44 *ro* 7	DeM 46 *ro* 7		
Ḫ^ʿ-m-W3s.t					
					
B. 12631a *ro* 14	B. 12631b *vo* 14	B. 12633a *ro* 3	B. 12651+ *vo* 8	DeM 32 *ro* 10	DeM 40 *ro* 11
					
DeM 42 *ro* 6	DeM 44 *ro* 3	DeM 46 *vo* 12	DeM 148 *ro* 8		
Jmn-m-jn.t					
					
DeM 44 *ro* 4	DeM 44 *ro* 17	DeM 44 *ro* 26	DeM 46 *ro* 6	DeM 46 *ro* 12	DeM 46 *vo* 6
Jmn-nḫt					
					
B. 12626+ *ro* 20	B. 12626+ *vo* 5	B. 12626+ *vo* 8	B. 12626+ *vo* 9	B. 12628+ *ro* 11	B. 12628+ *ro* 17
					
B. 12628+ *ro* 18	B. 12651+ *ro* 6	B. 12651+ *ro* 11	B. 12651+ *ro* 13	DeM 32 *ro* 12	DeM 32 *ro* 13
					
DeM 42 *vo* 12	DeM 44 *ro* 8	DeM 44 *ro* 14			

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wnm.y


B. 12626+ *ro* 10


B. 12626+ *ro* 21


B. 12626+ *ro* 21

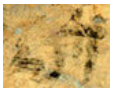

B. 12627 *ro* 10


B. 12628+ *ro* 3


B. 12628+ *ro* 19


B. 12629 *ro* 3


B. 12629 *ro* 4


B. 12631a *ro* 2


B. 12631b *ro* 17

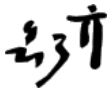

B. 12631b *ro* 19


B. 12633a *ro* 1


B. 12633b *ro* 4


B. 12633b *ro* 7

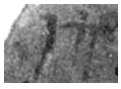

B. 12633a *vo* 3


B. 12633a *vo* 5

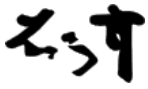

B. 12633a *vo* 8


B. 12639+ *ro* 1


B. 12639+ *ro* 3


B. 12651+ *ro* 9


B. 12651+ *ro* 10


DeM 32 *ro* 3


DeM 32 *ro* 4


DeM 32 *ro* 5


DeM 32 *ro* 6


DeM 32 *ro* 6


DeM 32 *ro* 11


DeM 32 *ro* 14


DeM 40 *ro* 11


DeM 42 *ro* 4


DeM 44 *ro* 17


DeM 44 *vo* 3


DeM 44 *vo* 7


DeM 44 *vo* 13


DeM 44 *vo* 15


DeM 46 *vo* 9


DeM 142 *ro* 2


DeM 142 *ro* 4

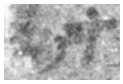

DeM 142 *ro* 5

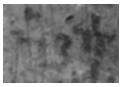

DeM 142 *ro* 7

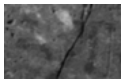

DeM 142 *ro* 8


DeM 142 *ro* 10


DeM 142 *ro* 13


DeM 142 *ro* 15


DeM 148 *ro* 9


DeM 148 *ro* 15


DeM 148 *vo* 1

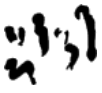
smḥ.y


B. 12626+ *ro* 12


B. 12627 *ro* 7


B. 12628+ *ro* 5


B. 12629 *ro* 3


B. 12629 *ro* 4


B. 12629 *ro* 9

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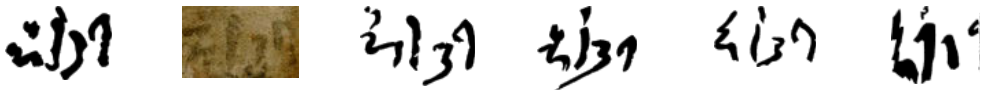
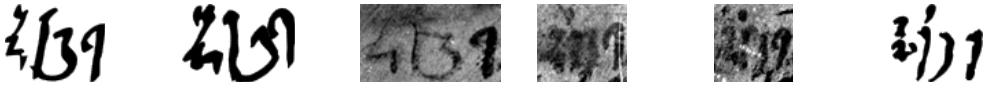


B. 12633a *ro* 7 | B. 12633b *ro* 5 | B. 12633b *vo* 2 | B. 12633b *vo* 4 | B. 12633b *vo* 5 | B. 12639+ *ro* 4

B. 12639+ *ro* 5 | B. 12639+ *ro* 5 | B. 12651+ *ro* 8 | DeM 32 *ro* 6 | DeM 32 *ro* 8 | DeM 32 *ro* 9



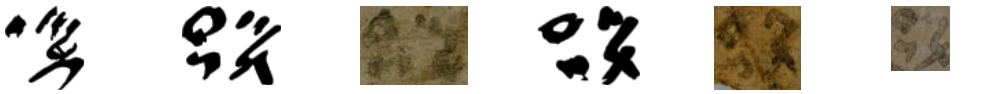
DeM 32 *ro* 10 | DeM 32 *ro* 15 | DeM 35 *ro* 4 | DeM 35 *ro* 6 | DeM 35 *ro* 6 | DeM 40 *ro* 5

DeM 44 *ro* 12 | DeM 44 *vo* 2 | DeM 44 *vo* 14 | DeM 44 *vo* 16 | DeM 142 *ro* 2 | DeM 142 *ro* 3

DeM 142 *ro* 5 | DeM 142 *ro* 6 | DeM 142 *ro* 9 | DeM 142 *ro* 14 | DeM 148 *ro* 9

bnr(.w)/bnj(.w)

B. 12626+ *ro* 10 | B. 12626+ *ro* 14 | B. 12626+ *ro* 21 | B. 12628+ *ro* 12 | B. 12628 *ro* 19 | B. 12631 *ro* 2



B. 12631 *ro* 18 | B. 12633a *ro* 1 | B. 12633 *ro* 4 | B. 12633 *ro* 7 | B. 12633 *ro* 7 | B. 12639+ *ro* 3

B. 12651 *ro* 6 | DeM 32 *ro* 4 | DeM 32 *ro* 5 | DeM 32 *ro* 6 | DeM 32 *ro* 8 | DeM 32 *ro* 9

DeM 32 *ro* 10 | DeM 32 *ro* 11 | DeM 35 *ro* 4 | DeM 35 *ro* 6 | DeM 35 *ro* 9 | DeM 35 *ro* 14

DeM 40 *ro* 5 | DeM 40 *ro* 11 | DeM 42 *ro* 7 | DeM 44 *ro* 12 | DeM 44 *ro* 17 | DeM 44 *vo* 2

continued on next page


DeM 44 *vo* 3


DeM 44 *vo* 7


DeM 44 *vo* 14


DeM 44 *vo* 15


DeM 44 *vo* 16


DeM 44 *vo* 22

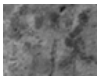

DeM 46 *ro* 5


DeM 46 *ro* 12


DeM 46 *ro* 15


DeM 46 *vo* 6


DeM 148 *ro* 9


DeM 148 *ro* 17

rḫ


B. 12626+ *ro* 15


B. 12631a *ro* 5

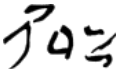

B. 12631 *ro* 16


B. 12633b *ro* 8


B. 12651+ *vo* 13


DeM 35 *ro* 13


DeM 35 *ro* 15


DeM 40 *vo* 9


DeM 44 *ro* 5


DeM 44 *vo* 18

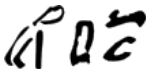

DeM 46 *ro* 3


DeM 46 *ro* 4


DeM 46 *ro* 5


DeM 46 *ro* 17


DeM 46 *ro* 18


DeM 46 *vo* 12


DeM 148 *vo* 6

psn


B. 12627 *ro* 8


B. 12631 *ro* 2

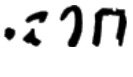

B. 12631a *ro* 8


B. 12631b *ro* 11


B. 12631b *ro* 14


B. 12631b *ro* 18


B. 12633a *ro* 5


B. 12633a *vo* 4


B. 12633a *vo* 6


DeM 32 *ro* 8


DeM 35 *ro* 5


DeM 35 *ro* 11


DeM 40 *ro* 4


DeM 40 *ro* 10


DeM 40 *vo* 7


DeM 42 *ro* 7


DeM 42 *vo* 8


DeM 44 *ro* 11


DeM 44 *ro* 15


DeM 44 *ro* 24


DeM 44 *vo* 9


DeM 44 *vo* 16


DeM 46 *ro* 4


DeM 148 *ro* 5


DeM 148 *ro* 18

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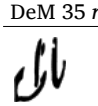
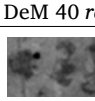
bj.t					
					
B. 12627 *ro* 8	B. 12631 *ro* 2	B. 12631 *ro* 8	B. 12631 *ro* 11	B. 12631 *ro* 14	B. 12631 *ro* 5
					
B. 12633a *ro* 5	B. 12633 *vo* 4	B. 12633a *vo* 6	B. 12651+ *ro* 6	DeM 32 *ro* 4	DeM 32 *ro* 8
					
DeM 35 *ro* 5	DeM 40 *ro* 4	DeM 40 *vo* 7	DeM 42 *ro* 7	DeM 44 *ro* 15	DeM 44 *ro* 24
					
DeM 46 *ro* 14	DeM 148 *ro* 5	DeM 148 *ro* 18			

McClain 2018, page 341, provided a brief summary of the different style of Scribe B as opposed to that of Scribe A. Three additions are given here:

- McClain notes that Scribe B shows an exceptional rendering of the multi-consonant 𓊪 (Gardiner M30) “with a four-stroke sign”. It is not entirely clear to us what is meant with a “four-stroke sign”: some hieratograms seem indeed to consist of four strokes, but most show more elements. What all hieratograms by Scribe B have in common are the two ticks in the upper left. This is a fairly regular pattern for Scribe B, yet it also occurs in texts not (yet) ascribed to him (e.g. ostraca BM EA 50744 *recto* 7 and Turin CGT 57189 *recto* 3 in table 5.14). It would thus be interesting to see whether the corpus by Scribe B could be enlarged, or whether this is not a distinctive feature of his hand.
- McClain notes that the hand of Scribe B is less cursive than that of Scribe A, “with words and individual signs written out in full”. We generally agree, with, however, a note. Scribe A had a short and a more elaborate style. This is seen well in the personal names, where he used orthographically and palaeographically short and long versions, whereas Scribe B was more consistent, but definitely used a shorter style for *Wsr-ḥꜣ.t*. Two forms of the name *Ḫˁ-m-Wꜣs.t* by the hand of Scribe A may be considered palaeographically abbreviated as opposed to examples by the hand of Scribe B, but the example on ostracon Turin CGT 57028 *verso* 9 is again more elaborate. We consider the consistency of Scribe B’s hand to be caused by the fact that the ostraca in his corpus are all much alike, all part of the same administrative books, whereas the corpus of Scribe A includes more variation in brief notes and larger reports.
- Having said that, the orthographic and palaeographic inconsistency in the writing of *ˁrḳ* in texts by Scribe B is remarkable. We have noted the large de-

gree of variation in general in section 5B, which is thus not due to different scribes. The execution of the *ꜥrḳ*-classifier differs notably in ostracon DeM 35 *recto* 13 and in ostraca DeM 44 *recto* 5 and 46 *verso* 12, where the loop is directed to the lower right or "hanging" underneath the diagonal line. Scribe B furthermore used full versions of the word as well as abbreviations. Notable is the fact that ostracon DeM 46 *recto* lines 3–5 contain abbreviations, whereas lines 17 and 18 suddenly show full versions in lines of red ink. The *verso*, however, contains another long version in a line of black ink. The use of short and long versions may thus be related to other factors as mentioned in section 5B.

7C Scribe(s?) C

There is one further (anonymous) scribe to whom a number of texts from our corpus has been ascribed. In contrast to Scribes A and B he lived in dynasty 19. It concerns the group of texts that has been mentioned several times: 30 ostraca (table 7.31[184]) from year 3 of Seti I that were found together at the site K2 (*kom à l'est de la chapelle votive no. 1213*) and the adjacent *trou Schiaparelli*. The texts are thematically connected. They belong to text category 1 and mention deliveries and deficits of dung, wood, woodwork, and/or pottery, not all necessarily in the same texts. Together, they represent deliveries for almost an entire year.[185]

Table 7.31: Texts by the hand of Scribe C.
Based on Donker van Heel (2003), p. 14-15; Dorn 2011

Ostracon	Date		Text category	Text layout
Ashmolean Museum 43*	Seti I	3	-	-
DeM 1	Seti I	-	1	A3c
DeM 2*	Seti I	-	-	-
DeM 3	Seti I	-	1	A3c
DeM 4	Seti I	-	1	A3c
DeM 5*	Seti I	3	-	-
DeM 6*	Seti I	-	-	-
DeM 7 = Turin CGT 57469	Seti I	3	1	A1c
DeM 8*	Seti I	3	-	-
DeM 9*	Seti I	3	-	-

[184] The numbers with * are not included in the corpus because of damage of the ostraca or difficulties regarding their accessibility.
[185] Dorn 2011, 32.

Ostracon	Date		Text category	Text layout
DeM 10	Seti I	-	1	A3c
DeM 11*	Seti I	-	-	-
DeM 12*	Seti I	-	-	-
DeM 13*	Seti I	3	-	-
DeM 14*	Seti I	-	-	-
DeM 15	Seti I	-	1	A3c
DeM 16*	Seti I	-	-	-
DeM 17*	Seti I	-	-	-
DeM 18*	Seti I	3	-	-
DeM 22*	Seti I	-	-	-
DeM 23*	Seti I	3	-	-
DeM 24*	Seti I	3	-	-
DeM 28*	Seti I	-	-	-
DeM 48	Seti I	-	1	C5c
Demarée H. 5*	Seti I	3	-	-
Demarée H. 6*	Seti I	-	-	-
Demarée H. 7*	Seti I	-	-	-
Demarée H. 8 + OIM 18880*	Seti I	3	-	-
OIM 18878*	Seti I	-	-	-
Toronto ROM 906.23*[186]	Seti I	?	-	-

Unfortunately, only few ostraca from the corpus of Scribe C are included in our present study. Those that are included show a layout that is quite uniform. Even though not all are dated by the regnal year and some only mention month, season, and day, they generally consist of horizontal lines[187] with entries focused on keywords (usually the products, or the mention of *wḏ.t* on O. DeM 48). Where we could check, this also applies to the texts that are not in the current corpus: they would also receive the layout code A1c (with regnal year) or A3c (with month only), with entries built around the products mentioned. Dorn 2011 (p. 32) notes that *„Bei den Ostraka, auf welchen eine Jahresangabe vorhanden ist, fällt auf, dass diese nicht rechts bündig als Zeile 1 des Textes notiert wurde, sondern links oberhalb*

[186] This ostracon is mentioned by Donker van Heel and Haring 2003, 15, and by Dorn 2011, 32 (who notes "*non vidi*") but I was not able to find it.

[187] The one exception, O. DeM 48, has entries in horizontal lines, but in the top left corner are remains of what seems to be a second column.

der ‚ersten' Zeile (Ausnahme O. Ashm. Mus. 43). Diese Positionierung weist auf ein Postskriptum hin, das bei der Archivierung (?) durch einen anderen Schreiber angebracht wurde." The only text with a year date from the corpus of Scribe C that is included in our study is ostracon DeM 7 = Turin CGT 57469 (figure 7.71) and it shows well what Dorn means with the placement of the date. It may not immediately be clear why this date would have been added by a different scribe. Leafing through Černý 1935 one finds the example of ostracon DeM 5 (figure 7.72), which clearly shows that the year date was added in an *"encre moins force que le reste"*.[188] This indeed suggests that the date was added at a different moment (postscript or prescript?). The remark is, however, interesting with regard to what has been said in section 6D on a small group of very similar ostraca also dated to year 3 of Seti I and also belonging to text category 1, of which especially ostracon DeM 26 shows a difference in the style of writing the month date and the style of writing the text. These ostraca (DeM 19, 20, 25, and 26) present differences in the style of handwriting, but the more cursive style shows similarities to the corpus by Scribe C. The entire group together might, then, have been the product of two scribes, or a scribe and an apprentice, working in an archive together, one responsible for filing, the other for adding the contents. It may be, then, that some of these ostraca changed in layout from A3c to A1c after the year date was added.

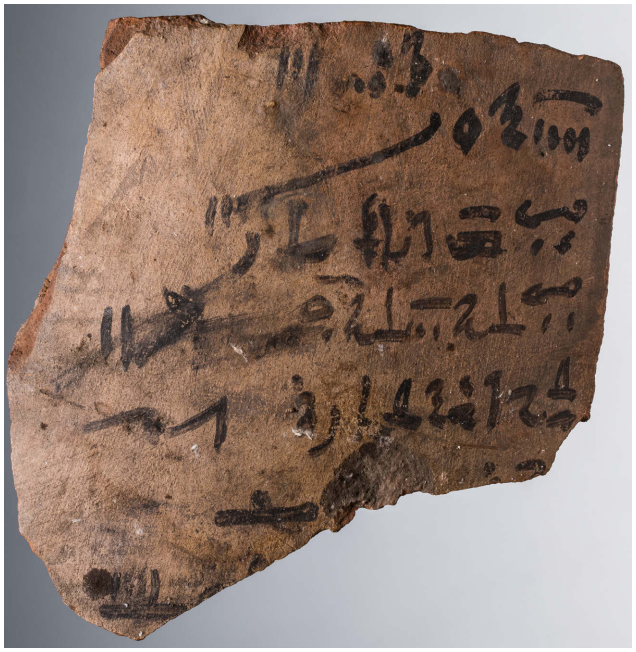


Figure 7.71: O. DeM 7=O. Turin CGT 57469. Photo © *Museo Egizio*, N. Dell'Acquila, F. Taverni

[188] Černý 1935, pl. 2 nr. 5 note a.

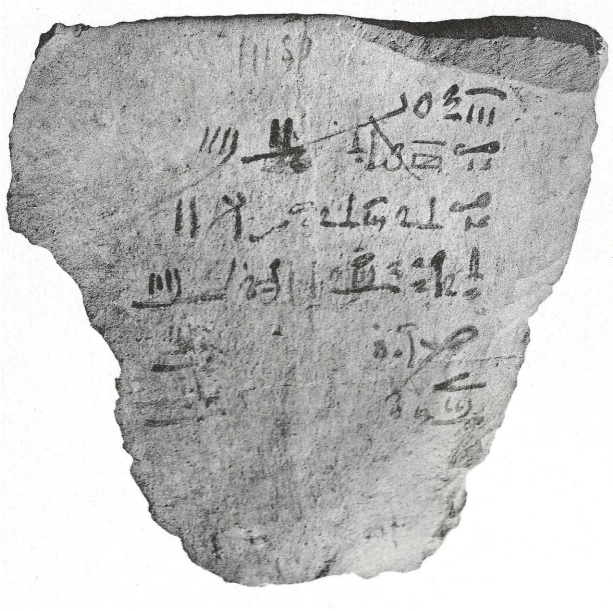


Figure 7.72: O. DeM 5 from Černý 1935, pl. 2A

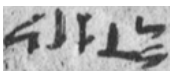
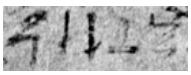
However, an important difference between the ostraca from table 7.31 and the group DeM 19-20 and DeM 25-26, is the fact that the former present an administrative method that coincides with the decades of a month, whereas the latter may show any day-date.[189] The days mentioned in the former group are always 10, 20, and 30. Donker van Heel considers their subject matter, handwriting, and their find spots evidence for archive building in Deir el-Medina and the hypothesis that ostraca were filed away, and dumped, together according to subject matter.[190] He furthermore states that the "only purpose" of this corpus by Scribe C "evidently was to compile a yearly account or a *Sammelbericht* of some sort".[191] I am not certain whether this means that the texts in table 7.31 are considered "merely" drafts used to compose such a *Sammelbericht* (which, then, we do not have), or whether they are considered to represent the *Sammelbericht*. The former idea is, however, unlikely. The writing of the texts is fairly neat and elaborate, nothing like the notes of Scribe A above. If indeed they were filed away together in an archive, then it is precisely the question whether a *Sammelbericht* would still be necessary. Perhaps more importantly, since the texts mention only monthly decades and products with numbers that reach into the thousand, one supposes that the scribe composed precisely these texts on the basis of other notes or drafts that did not make it into

189 Donker van Heel and Haring 2003, 15.
190 Idem, 15.
191 Idem, 32 with note 182.

the archive or *Sammelbericht*. Thus, one must at least suggest the possibility that the texts from table 7.31 represent, in fact, a branch of some sort of local and temporary journal: the regularity in their production and their filing would speak in favor of this. Thus far, however, it remains an administrative workflow only connected to Scribe(s) C.

Table 7.32 includes the frequent words from section 5 that belong to Scribe(s) C's handwriting. Samples from the ostraca with * in table 7.31 have been taken from Černý 1935 and included in table 7.32 in an attempt to increase the material for comparison.

Table 7.32: Frequent words written by Scribe C

bnr(.w)/bnj(.w)				
				
DeM 48 *vo* 1	DeM 48 *vo* 2			
ʿrḳ				
				
DeM 3 *ro* 1	DeM 4 *ro* 1	DeM 9* *ro* 2	DeM 11* *ro* 1	DeM 14* *ro* 1
				
DeM 18* *ro* 2	DeM 48 *ro* 1, 2	DeM 48 *ro* 1, 5		

On the basis of these few samples, the following characteristics of the handwriting of Scribe C (i.e. the scribe who wrote the notes) can be summarized:

- He did not use orthographic abbreviations in this corpus of texts: *bnr(.w)/bnj(.w)* is written in full *bn(r)j.w.t* and *ʿrḳ* is consistently written out as *ʿrḳ.y*;
- he wrote the multi-consonant with two ticks on top on the right and left sides;
- his hieratic form of the sign  *ḳ* can be palaeographically abbreviated to a form resembling an upside-down T;
- his ligature for the *ʿrḳ*-classifier and (Z1) can be palaeographically abbreviated to a hook with downward stroke;
- his second in *ʿrḳ.y* is palaeographically abbreviated in that it can be a mere stroke or a stroke with the diagonal line crossing. The first still shows a dot or stroke serving as the top, which is not seen in the second (apart from O. DeM 4 *recto* 1). This seems to be palaeographic abbreviation due to repetition of the sign, where the second did not need to be as recognizable as the first.

8 Concluding notes

Three main questions were set out in section 2. The first question concerned the "necropolis journal" theme. Throughout the text, this term was critiqued: the modern term "journal" suggests a regular and systematic format, but here designates a very eclectic group of texts with different topics, styles, layouts, and handwritings. The variation in the texts suggests a range of purposes, yet it is hardly possible to distinguish between texts that would have served the purpose of a journal and texts that had more ephemeral functions. Texts that could apply to belong to a journal generally lack the systematicity and regularity in production, accumulation, and format that goes with the term. Eyre's conclusions that "There can be no serious hope of trying to fit every text dealing with the business of the Tomb into a neat system, partly because it is evident that the system was constantly changing, and partly because of the unevenness of preservation, even for the best-documented period" (2013, 252) together with the details shown in this study means we must get rid of the term "journal" altogether. It was suggested to speak of necropolis administration in a more general sense instead: its texts give insight into different phases of administration and divergent administrative processes.

A systematic relation between text category and type of layout in the necropolis administration was not found. There was no format that was imposed from above and that was valid or had to be used for (categories within) the necropolis administration. There are, however, some relations to be seen between format on the one hand and the combination category, period, scribe, and material aspects of the *Textträger* on the other hand. Slight preferences were found, in some cases relating to the period in which a text was produced, in other cases to the nature (category) of a text: a growing use of horizontal running lines in dynasty 20 against more variation in the overall structure of texts through the more frequent inclusion of columns in dynasty 19; the more frequent habit of including a full year date in dynasty 20, seen both with Scribes A and B and in all categories, except category 6 (name lists); the preference of name lists for list entries; the running lines in the accounts of absence and/or presence, giving them the character of reports; the preference for a more narrative style in running lines in events and progress reports; and the avoidance of columns and list entries in the more elaborate reports of the combined categories. Yet much variation remains in the organization of lines of text on the surface, both among the different categories as well as within the categories themselves. This was explained in the context of the *Textträger*: scribes had to work with a variation in sherds available and suitable for writing and had to consider the possibilities for fitting their text on the surface every time anew. Where this was possible or desired by the scribe, he did consider keywords for new entries or precisely chose to keep entries together, even if he quite literally had to twist in turns (O. DeM 26). Generally, however, the larger reports show running

lines and inconsistent consideration for keywords, presumably because they are rather elaborate and the scribe had to make *ad hoc* choices to adapt his text to the writing surface. Materiality was thus a more important factor than a consistent journal format. Having said that, we did find temporary and personal corpora that show regularity and consistency: they could be designated as individual and ephemeral journals. This may especially be said of the 19th dynasty corpus found at the sites K2 (*kom à l'est de la chapelle votive no. 1213*) and *trou Schiaparelli* written by Scribe(s) C: text category, layouts, scribal hand, dates of text production in decades, and provenance all speak in favour of a small archive that was regularly complemented with texts all in a similar setup. The corpus of duty rosters and deliveries to the village by Scribe B shows regularity in administrative months and a fairly consistent text setup as well. Moreover, his writing style with a preference for short forms is coherent in these texts. The workflow of Scribes C and B will have differed: the dates and numbers mentioned in the texts suggest that Scribe(s) C must have made use of drafts that contained numbers and calculations, whereas the inclusion of notes in the first lines of the text or in the margin by Scribe B suggests that his reports were his working books. The corpus of Scribe A shows more variation overall: in categories, text setup, and scribal hand. Together, the corpora of the three scribes all show precisely different phases of administration and divergent administrative processes inherent in the necropolis administration.

The second question concerned economizing measures. We found the use of dots in different functions, the mark that expresses *idem ditto*, and orthographic and palaeographic abbreviations in names and words. Both the dots and the mark for *idem ditto* are encountered in texts from dynasties 19 and 20 and are thus not the product of one scribe or time frame. The choice for a long or short version of a word or name was not prescribed by a rule or systematic use. Where the choice for abbreviation could have been a conscious one, we saw a number of factors that could alone or in combination have been of influence: the amount of writing space available in combination with a preference for a layout that focuses on keywords; substantive coherence of a phrase at the end of a line; the need to squeeze in a forgotten note; aesthetics; repetition of the same sign or phrase; the currency of a particular spelling in the time and text-genre under discussion; and the text category, which, however, could not be seen apart from Scribe B's personal habits and experience in writing administrative reports. There seemed at least to be no rule or custom of introducing a name in full writing and continuing with an abbreviation.

From a purely palaeographic perspective, it appeared that round and complex signs such as  (V12) and  (M30) show a larger range of variation in form and execution than a sign such as (R14), which in hieratic consists of simple straight lines. Yet a blueprint, an underlying pattern as seen among the hieratograms for , reduces this variation somewhat. Repetition of signs or words may lead to shorter and thicker elements, angular or geometric forms for round elements (abstraction),

or precisely curved forms for straight elements, and to the closing of open forms. Yet there are also cases in which the effect of frequent repetition of a word or sign is minimal, for which perhaps, in some cases, the method of drawing up a text is responsible. There furthermore seemed to be no prescribed, yet a noticeable difference in form between the sign ⊙ as logogram and classifier.

The final main question concerned palaeographic peculiarities. We saw that some care was spend by the scribes: they could carry through adjustments of hieratograms or extensions of strokes, in some cases presumably in an aesthetic context; there are some hints that suggest ((un)conscious) planning in writing a block or group of hieratograms; scribes used "finishing" dots that in some cases may perhaps be considered stylistic serifs. Furthermore, red ink was used in neater and/or elaborate reports, but also in simple name lists for a check round. A look at the order and number of strokes of which a hieratogram consists and its execution gave insight into the writing process and could even reveal tiny aspects of the mental state of the scribe. It also led to questions about the extent to which a sign-combination can be considered a ligature: the process of signs becoming a ligature can be expressed in different degrees, resulting in various forms of (semi-)ligatures expressed in various forms of the hieratograms included in the combination. The forms of these hieratograms may suggest that a combination of signs was a mental ligature in the mind of the scribe, but this mental image can differ from the physical result due to material factors.

In a reflexion on the necropolis administration and the *Verwaltungsschrift* in which the texts were written, it is considered unlikely that most texts were drafts or mother copies that were processed into *Sammelberichte*, or at least that this was done systematically. In accordance with Eyre, the overall image rather appears to be that the scribe kept his books and he did this himself or perhaps in accordance with other scribes or apprentices who worked on building an archive at a certain time. As Donker van Heel noted, the use of drafts may have differed from scribe to scribe and may also have depended on the scribal environment he worked in, which is clearly seen in the products of Scribes A and B. Unfortunately, much of this scribal environment remains unclear especially for the earlier periods. We must, at least in the years from the second half of the reign of Ramesses III to the beginning of the reign of Ramesses IV reckon with Scribe A having office at the work site(s) and Scribe B having office at the administrative headquarters (*ḫtm n pꜣ ḫr*). Scribe A kept track of absences on the one hand and of progress, materials, and equipment on the other, that is, of business directly related to the crew's work; Scribe B administered the duty roster and deliveries to the village. The former produced reports, notes, and lists that differ considerably in scribal hand, category, organization of text of the surface, briefness (lack of context), and scribal hand (inconsistent use of economizing marks, palaeographic abbreviations); his corpus

must contain drafts or *aides-mémoires* as well as perhaps more official overviews with information collected from drafts. In the case of Scribe B, scribal hand, writing style, text category, and text setup all fit well together. Many of the records of Scribe A, including the larger accounts of absences and presences were found in the Valley of the Queens, that is, they were not brought to the headquarters to be archived together with the records of Scribe B. The scribes worked on different branches of administration that were apparently kept separate, which is seen in the example of ostraca Turin CGT 57031 (Scribe A) and Glasgow D. 1925.67 (Scribe B). They do not seem to have worked together to produce a journal, certainly not one that was imposed from above in an expected format that was to be delivered to the vizier. They carried out their work in their own workflow and with their own habits.

The study of different hands and idiosyncracies is valuable, but especially in combination with a study of other factors that influence text setup, orthography and palaeography, the use of abbreviations, the composition of hieratograms, and other palaeographic peculiarities. Instead of asking "Who wrote this?", the question in the first place is "Why, when and in which context did someone write this?".

Just as the necropolis administration itself, the overall image of *Verwaltungsschrift* remains somewhat ambiguous. On the one hand, this administrative writing contains many abbreviations, quick cursive writing, lack of contextual information, and almost no concrete signs of text planning. On the other hand, we enumerated several details that expose care spend on the texts and its hieratograms and even some reflection on the part of the scribe. It will have depended on the scribe, the time he lived in, the place he worked at, the sort of text he wrote, the moment he wrote it, and the mental state he was in at that moment. Yet overall, it is clear that scribes could be flexible in adjusting their texts to the writing surface and in using orthographic and palaeographic variations. This flexibility could perhaps be understood as "economic flexibility" that lies at the core of the *Verwaltungsschrift* seen in the ostraca: a variability that served to economize the writing process when this was demanded by material factors or desired on the part of the scribe.

Certainly, this study does not cover a detailed analysis of the diachronic perspective nor does it offer a characterization of 19th dynasty *Verwaltungsschrift* as opposed to 20th dynasty *Verwaltungsschrift*. Several aspects could not be addressed. It would, for instance, be interesting to conduct a systematic study of dippings. The amount of dippings could provide further information on how a text was written (e.g. all entries, notes, lines, phrases in one go?) or how red ink was used (e.g. was space left open to include a note in red, after which the black text continued with a new dipping?). Furthermore, more attention must be paid to the writing of logograms versus classifiers or other sign functions. It would also be interesting to take the study of formats or blue prints in words further, especially when no (multi-)consonants can be assigned as anchor for recognition. Finally, the overall

analysis of categories, layouts, scribal hands, archives, and provenances could be deepened, ideally when more palaeographic data are available. We hope to make achieving all of this possible by asking colleagues to help complement the sources and palaeographic data in the AKU database: an updated palaeography including an understanding of the writing processes and diachronic developments can only be a collective achievement.

Table 3.1: List of ostraca collected

List of ostraca collected and those documentary texts included in the primary corpus ("Doc."). Dates come from the Deir el-Medina Database and Deir el-Medina online, or from literature when indicated in the sections.

Ostracon	Doc.	Date	Remarks	ancient provenance
O. Berlin P. 01121				
O. Berlin P. 01122	✓	dyn. 19 – 20		DeM
O. Berlin P. 01268 *recto*				
O. Berlin P. 01268 *verso*	✓	R. III, year 14	not useable	
O. Berlin P. 06025 *recto*				
O. Berlin P. 06025 *verso*	✓	R. II, year 54	not useable	
O. Berlin P. 09895				
O. Berlin P. 09897	✓	dyn. 20, ca. R. IV, year 5		DeM
O. Berlin P. 09901	✓	dyn. 20		DeM
O. Berlin P. 09906	✓	dyn. 20, year 6		DeM
O. Berlin P. 10610				
O. Berlin P. 10616				
O. Berlin P. 10622	✓	dyn. 19/1		Western Thebes
O. Berlin P. 10628				
O. Berlin P. 10629				
O. Berlin P. 10630				
O. Berlin P. 10632	✓	R. III		DeM
O. Berlin P. 10633	✓	R. III, year 29		DeM
O. Berlin P. 10634	✓	R. III – R. IV	not useable	
O. Berlin P. 10635				
O. Berlin P. 10637				
O. Berlin P. 10645 + O. Berlin P. 10646				
O. Berlin P. 10647				
O. Berlin P. 10654 *recto*				
O. Berlin P. 10654 *verso*	✓	R. IX, around year 17		DeM
O. Berlin P. 10655				
O. Berlin P. 10656				
O. Berlin P. 10663	✓	R. III, year 28		DeM

continued on next page

Ostracon	Doc.	Date	Remarks	ancient provenance
O. Berlin P. 10664				
O. Berlin P. 10665				
O. Berlin P. 10666	✓	dyn. 18		Deir el-Bahari(?)
O. Berlin P. 10667				
O. Berlin P. 10839	✓	R. III, year 9		DeM
O. Berlin P. 10840	✓	S. I – Mern., year 9		DeM
O. Berlin P. 10842	✓	R. IV – V		unknown
O. Berlin P. 11241				
O. Berlin P. 11247				
O. Berlin P. 11248	✓	dyn. 19/1 – dyn. 20/1		DeM
O. Berlin P. 11249	✓	dyn. 20		DeM
O. Berlin P. 11251				
O. Berlin P. 11258				
O. Berlin P. 11259				
O. Berlin P. 11260				
O. Berlin P. 11272	✓	R. III		DeM
O. Berlin P. 11289	✓	mid-dyn. 20		DeM
O. Berlin P. 11290				
O. Berlin P. 11292				
O. Berlin P. 12283				
O. Berlin P. 12286				
O. Berlin P. 12291				
O. Berlin P. 12295	✓	R. IV, year 2	not useable	
O. Berlin P. 12297				
O. Berlin P. 12343				
O. Berlin P. 12376				
O. Berlin P. 12381				
O. Berlin P. 12384	✓	R. IV, year 2		DeM
O. Berlin P. 12398				
O. Berlin P. 12403				
O. Berlin P. 12406				
O. Berlin P. 12625 + O. IFAO ONL 300	✓	R. III, year 31		DeM
O. Berlin P. 12626 + O. DeM 41	✓	R. IV, year 1		DeM
O. Berlin P. 12627	✓	R. III, year 27		DeM

continued on next page

Ostracon	Doc.	Date	Remarks	ancient provenance
O. Berlin P. 12628 + 12641	✓	R. IV, year 1		DeM
O. Berlin P. 12629	✓	R. III, year 26		DeM
O. Berlin P. 12630				
O. Berlin P. 12631a + b	✓	R. IV, year 1		DeM
O. Berlin P. 12632 + O. DeM 150	✓	R. III, year 26		DeM
O. Berlin P. 12633a + b	✓	R. III, year 25		DeM
O. Berlin P. 12635				
O. Berlin P. 12636				
O. Berlin P. 12639 + 14696 + O. DeM 33	✓	R. III, year 27		DeM
O. Berlin P. 12640 + O. DeM 161 + O. Strasbourg H82	✓	R. IV, year 1		DeM
O. Berlin P. 12642	✓	R. IV, year 1		DeM
O. Berlin P. 12643				
O. Berlin P. 12649				
O. Berlin P. 12650				
O. Berlin P. 12651 + O. Vienna H. 4	✓	R. IV, year 2		DeM
O. Berlin P. 12652				
O. Berlin P. 12654	✓	R. V-VI, year 2		DeM, house IX NE
O. Berlin P. 14123				
O. Berlin P. 14149	✓	R. III, year 17 – R. IV, year 7		DeM
O. Berlin P. 14152				
O. Berlin P. 14156	✓	R. IV, year 5		DeM
O. Berlin P. 14210	✓	dyn. 20		DeM
O. Berlin P. 14213	✓	S. I		DeM
O. Berlin P. 14214				
O. Berlin P. 14215				
O. Berlin P. 14217				
O. Berlin P. 14218 *recto*	✓	dyn. 19		DeM
O. Berlin P. 14218 *verso*	✓	dyn. 19		DeM
O. Berlin P. 14222				
O. Berlin P. 14233	✓	dyn. 19		DeM

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Ostracon	Doc.	Date	Remarks	ancient provenance
O. Berlin P. 14255	✓	R. III		DeM
O. Berlin P. 14260				
O. Berlin P. 14262				
O. Berlin P. 14264	✓	mid-dyn. 20		DeM
O. Berlin P. 14286	✓	R. IV		DeM
O. Berlin P. 14302	✓	R. IV, year 3		DeM, village
O. Berlin P. 14328				
O. Berlin P. 14353				
O. Berlin P. 14357				
O. Berlin P. 14365				
O. Berlin P. 14366				
O. Berlin P. 14372				
O. Berlin P. 14373				
O. Berlin P. 14614	✓	< dyn. 19/2		DeM, village
O. Berlin P. 14654				
O. Berlin P. 14657	✓	R. IV, year 1		DeM
O. Berlin P. 14666	✓	R. III, year 31		DeM, *grand puits*
O. Berlin P. 14683				
O. Berlin P. 14684				
O. Berlin P. 14689				
O. Berlin P. 15292	✓	dyn. 19/2		DeM
O. Berlin P. 15295				
O. BM EA 5624				
O. BM EA 5625				
O. BM EA 5629				
O. BM EA 5631				
O. BM EA 5634	✓	R. III, year 40	not useable	
O. BM EA 5635	✓	Amen. – Sipt.		DeM
O. BM EA 5644				
O. BM EA 5672 + Cairo CG 25649	✓	R. IX, year 14		Valley of the Kings
O. BM EA 21282 *recto*				
O. BM EA 21282 *verso*				
O. BM EA 29511				
O. BM EA 29550				

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Ostracon	Doc.	Date	Remarks	ancient provenance
O. BM EA 29555				
O. BM EA 29559				
O. BM EA 29560				
O. BM EA 41542 *recto*				
O. BM EA 41542 *verso*				
O. BM EA 41543 *recto*				
O. BM EA 41543 *verso*				
O. BM EA 50719 + 50732				
O. BM EA 50721				
O. BM EA 50722 + Cairo GC 25726 + BTdK 660	✓	R. VI, year 1		Valley of the Kings, workmen's huts
O. BM EA 50727				
O. BM EA 50728	✓	S. I, year 2		unknown
O. BM EA 50730 + 50745	✓	R. VI, year 1		unknown
O. BM EA 50734 + 50742 + O. Ashmolean Mus. 99 + O. Cairo CG 25673	✓	R. III	Documentary letter	unknown (purchased); Cairo piece: Valley of the Kings, workmen's huts
O. BM EA 50736				
O. BM EA 50743				
O. BM EA 50744	✓	R. IV, year 5		unknown
O. BM EA 51842				
O. BM EA 65930				
O. BM EA 65935				
O. BM EA 65938				
O. BM EA 65956				
O. BM EA 66302				
O. BM EA 66410				
O. BM EA 66411				
O. BM EA 66412	✓	R. IV		unknown
O. DeM 1	✓	S. I, year 3		DeM, site K2
O. DeM 3	✓	S. I, year 3		DeM, *trou Schiaparelli*
O. DeM 4	✓	S. I, year 3		DeM, site K2
O. DeM 10	✓	S. I, year 3		DeM, *trou Schiaparelli*
O. DeM 15	✓	S. I, year 3		DeM, *trou Schiaparelli*
O. DeM 20	✓	S. I, year 3		DeM, site K2

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Ostracon	Doc.	Date	Remarks	ancient provenance
O. DeM 26	✓	S. I, year 3		DeM, *trou Schiaparelli*
O. DeM 30	✓	S. I, year 1	not useable	
O. DeM 31				
O. DeM 32	✓	R. III, year 25		unknown
O. DeM 35	✓	R. III		DeM, *kom de décombres au sud du village*
O. DeM 40 + Strasbourg H42	✓	R. IV, year 1		DeM, *kom de décombres au sud du village*
O. DeM 42	✓	R. IV, year 1		DeM, *kom de décombres au sud du village*
O. DeM 44	✓	R. IV, years 1 – 2		DeM, *kom de décombres au sud du village*
O. DeM 45 = part of O. Berlin 12651+	✓	R. IV, year 2		DeM, *kom de décombres au sud du village*
O. DeM 46	✓	R. IV, year 2		DeM, *kom de décombres au sud du village*
O. DeM 48 *recto*	✓	S. I, year 3		DeM, site K2
O. DeM 49				
O. DeM 50				
O. DeM 51				
O. DeM 52	✓	dyn. 19/2 – dyn. 20/1		DeM, pit 1069
O. DeM 55	✓	R. III, year 31		DeM, site K2
O. DeM 73 *recto*				
O. DeM 73 *verso*				
O. DeM 75	✓	dyn. 19		DeM
O. DeM 76	✓	R. IV, year 4		DeM, *region basse au sud du temple*
O. DeM 91	✓	S. I – Mern., year 7		DeM
O. DeM 94	✓	R. IV, year 3		DeM, *kom de décombres au sud du village*
O. DeM 137	✓	R. III, year 24		DeM
O. DeM 138	✓	dyn. 20/1, year 28		DeM, *kom de décombres au sud du village*
O. DeM 142	✓	R. III, year 26		DeM, *kom de décombres au sud du village*
O. DeM 143	✓	dyn. 20/1		DeM, *kom de décombres au sud du village*
O. DeM 144	✓	dyn. 20/1		DeM, *kom de décombres au sud du village*

continued on next page

Ostracon	Doc.	Date	Remarks	ancient provenance
O. DeM 145	✓	R. III, year 30		DeM, *kom de décombres au sud du village*
O. DeM 146				
O. DeM 147	✓	R. III, year 29		DeM, *kom de décombres au sud du village*
O. DeM 148	✓	R. III		DeM, *kom de décombres au sud du village*
O. DeM 262	✓	R. IV, year 2		unknown
O. DeM 346	✓	R. II		DeM
O. DeM 553				
O. DeM 554	✓	dyn. 20/1	not useable	DeM, *grand puits*
O. DeM 565	✓	R. III		DeM, *grand puits*
O. DeM 571	✓	R. IX – XI, year 9		DeM, *grand puits*
O. DeM 577	✓	R. III		DeM, pit 1446
O. DeM 578	✓	R. III, year 31		DeM, *grand puits*
O. DeM 579				
O. DeM 591	✓	Sipt. - Taus.		DeM, *grand puits*
O. DeM 594	✓	Mern. – Taus., year 8		Qurnet Murai North
O. DeM 595	✓	S. II		DeM, *grand puits*
O. DeM 598	✓	Sipt. – Taus.		Qurnet Murai North
O. DeM 602				
O. DeM 604	✓	R. III		DeM, *grand puits*
O. DeM 611	✓	Sipt., year 1		Qurnet Murai North
O. DeM 612	✓	Sipt. – Taus.		DeM, *grand puits*
O. DeM 617	✓	R. IV		DeM, *grand puits*
O. DeM 621 + 829 *recto*	✓	R. II, years 63 – 64		DeM: 621 *grand puits*; 829 north of temple precinct
O. DeM 621 + 829 *verso*				
O. DeM 706	✓	R. II, years 40 – 64		Qurnet Murai North
O. DeM 707	✓	R. IV or VI, year 6		DeM, *grand puits*
O. DeM 718	✓	R. XI(?), year 3		DeM, *grand puits*
O. DeM 726	✓	R. IV, year 1		DeM, *grand puits*
O. DeM 759	✓	R. IV, year 6(?)		unknown
O. DeM 763	✓	R. III(?), year 17		unknown
O. DeM 776	✓	R. III, year 19		DeM, *grand puits*

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Ostracon	Doc.	Date	Remarks	ancient provenance
O. DeM 837	✓	R. II, year 56		unknown
O. DeM 842	✓	R. III(?), year 24		DeM, *grand puits*
O. DeM 843	✓	early R. II		unknown
O. DeM 844	✓	R. III, years 26 – 27		DeM, *kom sud*
O. DeM 846	✓	R. II, year 40 – S. II, year 2		unknown
O. DeM 851	✓	< R. III, year 39		unknown
O. DeM 852	✓	< R. III, year 39		DeM, *grand puits*
O. DeM 854	✓	R. III, year 21		unknown
O. DeM 855	✓	R. III, year 30		DeM, *grand puits*
O. DeM 859 *recto*	✓	R. II, year 44		unknown
O. DeM 859 *verso*	✓	R. II(?), year 44		unknown
O. DeM 863	✓	late R. III		DeM, *grand puits*
O. DeM 868	✓	R. IV, year 6	not useable	
O. DeM 869	✓	R. IV, year 6		DeM, *grand puits*
O. DeM 876	✓	S. II – Sipt., between years 3 – 5		DeM, *grand puits*
O. DeM 882	✓	Sipt. – Taus., year 5 or 7; < R. IV, year 5		unknown
O. DeM 889	✓	S. II, year 4		DeM, *grand puits*
O. DeM 890	✓	R. III, year 29		unknown
O. DeM 893	✓	R. IV(?), year 2		DeM, *grand puits*
O. DeM 895	✓	R. IV or V, year 2		DeM, *grand puits*
O. DeM 899	✓	Sipt.(?)		unknown
O. DeM 900	✓	S. II – Sipt.		DeM, *grand puits*
O. DeM 908	✓	Sipt.(?), year 1		DeM, *grand puits*
O. DeM 910	✓	Sipt.		unknown
O. DeM 912 *recto*	✓	Sipt.(?), year 1 or 2		DeM, *grand puits*
O. DeM 912 *verso*				
O. DeM 913 *recto*	✓	Sipt.(?), year 1 or 2		DeM, *grand puits*
O. DeM 913 *verso*				
O. DeM 914 *recto*	✓	Sipt.		DeM, *grand puits*
O. DeM 914 *verso*				
O. DeM 932	✓	R. III(?), year 29		DeM, *grand puits*
O. DeM 10299	✓	R. III, year 28		DeM, *grand puits*
O. DeM 10324	✓	R. III, year 25		DeM, *grand puits*

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Ostracon	Doc.	Date	Remarks	ancient provenance
O. DeM 10339 *recto*	✓	R. IX or XI, year 17; start dynasty 21		unknown
O. DeM 10339 *verso*	✓	dyn. 20		unknown
O. Turin CGT 57006	✓	R. III or IV, year 2(?)		unknown
O. Turin CGT 57007 *recto*	✓	R. III, year 28		unknown
O. Turin CGT 57007 *verso*	✓	R. III, year 29		unknown
O. Turin CGT 57010				
O. Turin CGT 57015	✓	dyn. 19 – 20		DeM
O. Turin CGT 57020	✓	R. III, year 16		Valley of the Queens
O. Turin CGT 57025	✓	R. III, year 26(?)		Valley of the Queens
O. Turin CGT 57026	✓	R. III, year 23–24		Valley of the Queens
O. Turin CGT 57028	✓	R. III, year 24		Valley of the Queens
O. Turin CGT 57029	✓	R. III, year 24		Valley of the Queens
O. Turin CGT 57030	✓	R. III, year 24(?)		Valley of the Queens
O. Turin CGT 57031	✓	R. III, year 25		Valley of the Queens
O. Turin CGT 57033	✓	R. III, years 24–25		Valley of the Queens
O. Turin CGT 57034	✓	R. III, year 2		Valley of the Queens
O. Turin CGT 57035	✓	R. III		Valley of the Queens
O. Turin CGT 57036	✓	R. III, year 24		Valley of the Queens
O. Turin CGT 57039	✓	R. III, year 24		Valley of the Queens
O. Turin CGT 57040				
O. Turin CGT 57043	✓	R. III	not useable	
O. Turin CGT 57044	✓	R. III, year 26		Valley of the Queens
O. Turin CGT 57047	✓	R. III, year 24		Valley of the Queens
O. Turin CGT 57049				
O. Turin CGT 57055	✓	R. III, year 24		Valley of the Queens
O. Turin CGT 57056	✓	R. III, year 24		Valley of the Queens
O. Turin CGT 57058				
O. Turin CGT 57061				
O. Turin CGT 57062				
O. Turin CGT 57072	✓	R. III, years 28–29		DeM
O. Turin CGT 57080	✓	R. II		DeM
O. Turin CGT 57081				
O. Turin CGT 57085 *recto*	✓	dyn. 19 – 20		DeM
O. Turin CGT 57085 *verso*	✓	dyn. 19 – 20		DeM

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Ostracon	Doc.	Date	Remarks	ancient provenance
O. Turin CGT 57088				
O. Turin CGT 57089				
O. Turin CGT 57090				
O. Turin CGT 57093				
O. Turin CGT 57125	✓	R. III or R. IV, year 2	not useable	
O. Turin CGT 57137				
O. Turin CGT 57150				
O. Turin CGT 57151				
O. Turin CGT 57153	✓	R. III, year 26		DeM
O. Turin CGT 57156 *recto*	✓	R. III		DeM
O. Turin CGT 57156 *verso*				
O. Turin CGT 57157	✓	dyn. 19 – 20		DeM
O. Turin CGT 57167	✓	dyn. 19 – 20		DeM
O. Turin CGT 57170				
O. Turin CGT 57176				
O. Turin CGT 57189	✓	R. III		DeM
O. Turin CGT 57191				
O. Turin CGT 57204	✓	R. III, year 27		DeM
O. Turin CGT 57206	✓	dyn. 19 – 20		DeM
O. Turin CGT 57227				
O. Turin CGT 57248				
O. Turin CGT 57250				
O. Turin CGT 57256	✓	dyn. 20		DeM
O. Turin CGT 57257	✓	dyn. 19 – 20		DeM
O. Turin CGT 57282	✓	R. III, year 24(?)		DeM
O. Turin CGT 57283	✓	R. III, year 24(?)		DeM
O. Turin CGT 57304				
O. Turin CGT 57349				
O. Turin CGT 57361				
O. Turin CGT 57362				
O. Turin CGT 57365				
O. Turin CGT 57366	✓	R. IV or VII, year 1		DeM
O. Turin CGT 57368				
O. Turin CGT 57378				
O. Turin CGT 57381				

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Ostracon	Doc.	Date	Remarks	ancient provenance
O. Turin CGT 57382	✓	dyn. 19 – 20		DeM
O. Turin CGT 57386				
O. Turin CGT 57387				
O. Turin CGT 57389				
O. Turin CGT 57393	✓	R. IV, year 2		DeM
O. Turin CGT 57394				
O. Turin CGT 57402				
O. Turin CGT 57429	✓	R. II, year 7	not useable	
O. Turin CGT 57432	✓	R. III		DeM
O. Turin CGT 57435				
O. Turin CGT 57436				
O. Turin CGT 57440				
O. Turin CGT 57455				
O. Turin CGT 57456				
O. Turin CGT 57457				
O. Turin CGT 57458				
O. Turin CGT 57467 = O. DeM 105				
O. Turin CGT 57468				
O. Turin CGT 57469 = O. DeM 7	✓	S. I, year 3		DeM
O. Turin CGT 57470	✓	dyn. 19 – 20		DeM
O. Turin CGT 57479	✓	< R. III		DeM
O. Turin CGT 57480				
O. Turin CGT 57556				

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