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Pottery Sherds for Writing: An Overview of the Practice

Two materially oriented revolutions have transformed the study of ancient documents in recent decades: first, a new interest in the ancient production of written artifacts; and second, the concern with the archaeological contexts [...]. Interest has undeniably shifted in the direction of the broader cultural horizons of the ancient world in their embodied form, and away from disembodied canonical texts.¹

In 2016, Roger S. Bagnall used these words to acknowledge the growing interest in the ancient production of written artifacts. Ostraca provide us with two sets of information: first, the written record which changes a common sherd into an ostrakon; second, the material record which inform us on the technical process of production and the support's previous life. We should never forget that the environment in which texts are produced is a vital factor in influencing the use of material on which scribes wrote. An equally important role is played by the available technological knowledge and the degree to which this permeated the communities producing the ostraca.

It is unquestionable that for a long time the complex nature of the ostraca has not been fully appreciated in scholarship. Philologists, mostly concerned with the written texts, did not always reached out to ceramologists and archaeologists who, in turn, showed some degree of interest in such a complex topic only in the last few decades.² I fully agree with Bagnall when he affirms that we should recognize that we are witnessing not a “neutral and accidental” revolution but a gradual development: the process is neither linear nor sudden.³ This was triggered by circumstances in which, at the ‘signals’ emitted by someone, the others were tuned to the same frequency, creating a resonance phenomenon.

Ostrakon, like any other artifact, must be considered as a *memory storage tool*.⁴ It represents the materialization of the way of thinking and communicating of an

1 Bagnall 2016, 79 and 87.

2 Caputo 2019a.

3 Bagnall 2016, 86.

4 Pollock 2016, 282.

This publication originated in the Collaborative Research Centre 933 “Material Text Cultures. Materiality and Presence of Writing in Non-Typographic Societies” (subproject A09 “Writing on Ostraca in the Inner and Outer Mediterranean”). The CRC 933 is funded by the German Research Foundation (DFG). I would like to acknowledge Dr. Roberta Casagrande-Kim’s assistance in the copyediting of this article. Ostraca and papyri published in corpora are cited in accordance with the *Checklist of Editions of Greek, Latin, Demotic, and Coptic Papyri, Ostraca, and Tablets*, <http://papyri.info/docs/checklist> (last accessed: 30.1.2020).

individual or a group of individuals at a specific time and place. The writer has used a precise technology and practice to create it, choosing among those at his or her disposal, and applying it to the ostraca. This action created an entanglement between producer and product which was maintained throughout the life of the artifact, and many more connections were established as more individuals came into contact with it. Keeping in mind that the final goal of our studies is to reconstruct history,⁵ every artifact must be considered not as a mere object but as an agent, a small, single unit or 'node' inside a big network, a dynamic entity capable of influencing and be influenced in turn.⁶

The vast majority of ostraca were produced on ceramic. This is not surprising because ceramic was one of the most commonly used, recycled, and reused materials in the ancient world, so much so that it appears to be omnipresent, inexpensive, and always available.⁷ Because of this view of the ceramic material, scholars often consider it superfluous to investigate the reasons for the ancients' choice of ceramic as an alternative writing support. Although the data collected systematically from the archaeological excavations, combined with the study of different corpora of ostraca, reveals a much more nuanced picture, many publications still state that the use of sherds for producing ostraca is always accidental, that the fragments come almost exclusively from amphorae, and that ostraca are always small sherds used for short texts. These assumptions may have been valid, had they been scientifically demonstrated, but this is not the case. Until a few decades ago, systematic study of the materiality of ostraca had been sporadic and ostraca had been hardly considered an important part of the contexts and place in which they had been found or produced. Therefore, it is ultimately impossible to prove that containers such as amphorae were used more commonly than other ceramic forms, or that the fragments chosen to be written upon were randomly picked up. Furthermore, were ostraca consistently in the shape of small sherds or is this only a commonly held belief derived from the lack of systematic investigations for different places and periods?

I believe it is necessary to provide and discuss a few case-studies which might help answer some of these questions. Although the following examples cannot be considered as illustrative for the whole ostraca production in the ancient world, they are among the best documented to date and they are based upon systematic ceramological classifications of the ostraca as well as an extensive study of the site's ceramic productions. This precision of documentation allows one to draw meaningful comparisons between the frequency of text-bearing fragments and that of uninscribed sherds.

5 Cuvigny 2018.

6 Olsen 2003, 96.

7 Peña 2007, 160; Bülow-Jacobsen 2009, 15.

1 Counting Sherds: Some Key Case Studies from Egypt

When examining the main settlements of Greco-Roman and Late Antique Egypt that have yielded large numbers of texts on potsherds, we immediately turn our attention to regions such as the Fayum (Table 1),⁸ the Eastern and Western Deserts,⁹ the Theban area, and the Aswan region in Upper Egypt.

One of the most representative examples from the Fayum is the Greco-Roman site of Soknopaiou Nesos, modern Dime, located at the northern border of the lake Qarun. It functioned as a religious center around the oracle temple of the god Soknopaios.¹⁰ Papyrological evidence attests to the foundation of the *kōmē* in the third century BCE, and suggests that the site was abandoned in the third century CE.¹¹ The Soknopaiou Nesos Project (SNP), directed by Mario Capasso and Paola Davoli, began excavations in 2003, and by the 2014 season had uncovered the area of the main temple (known as ST20) and completed the topographical and ceramological surveys of the settlement and the surrounding territory.¹²

I have been working as the site ceramologist since 2006. The research conducted in the field and the ceramological survey have resulted in a chrono-typological catalogue of the main ceramic types and in a classification of the petro-fabrics associated with these types. The ceramological repertory for the site extends chronologically from the Ptolemaic period through the seventh–early eighth century CE.¹³ According to the type and fabric/ware classification system,¹⁴ the morphological repertoire consists mainly of Egyptian productions utilized in religious practices and for daily life.

8 For most of the sites mentioned in the table, the figures do not include the unpublished results of recently resumed excavations. See also Bagnall 2011, 119, Table 6.

9 For the updated number of texts inventoried by site, see Cuvigny 2018, 195. The numbers indicated in the table comprise both ostraca and *dipinti*. See also Brun et al. 2018.

10 Capasso 2015. See also Chaufray et al. 2018.

11 In general, the excavations of the last 14 years produced a lot of material dating to the earlier phases, i. e., third century BCE to third century CE ceramics, objects and texts. However, there is also evidence of activities beyond this period, at least from the fourth to the early eighth centuries CE. See Davoli 2015; Caputo/Davoli (forthcoming).

12 Marchand 2012. See also Chiesi et al. 2012. A detailed and complete analysis of the archaeological contexts and a report on the quantities and types of written materials found in the excavated areas was published in the 2012 volume *Soknopaiou Nesos Project I*, see Capasso/Davoli 2012.

13 See Dixneuf 2012.

14 The term ‘fabric’ is employed for the basic clay body with inclusions, either naturally occurred or intentionally added by the potters, and characteristics of the fired product, such as hardness, degree of porosity, and color. The term ‘ware’ identifies a specific combination of one fabric with one surface treatment or combination of treatments, such as pale surface coating, or pale surface coating with polish, etc. For the preliminary fabric classification system for the site, see Dixneuf 2012, 317–318. For more detailed descriptions and comparisons with other Greco-Roman Egyptian productions see The Levantine Ceramic Project, <https://www.levantineceramics.org> (last accessed: 29.1.2020).

The categories of transport containers are the most attested in Soknopaiou Nesos' assemblages (19.7%), together with bowls (21.3%), cooking pots (13.5%), and jars (13.3%). These forms are largely made of alluvial Nile clay (F1). The recognized imports represent a small percentage and they consist mostly of amphorae coming from the Mediterranean basin and the Aegean area, dated between the third century BCE and the seventh century CE. The closest parallels for Soknopaiou Nesos' ceramic comes from the corpora of other sites in the Fayum, such as Tebtynis,¹⁵ Bakchias,¹⁶ Medinet Madi,¹⁷ Karanis,¹⁸ and Hawara.¹⁹

The ceramic field catalogue is used to identify all ceramic fragments found at the site as well as to classify the inscribed sherds. Around 600 ostraca were found by the SNP during the 2003 to 2017 stratigraphic excavation seasons.²⁰ Most of the ostraca, dated to the Roman period and mainly written in Egyptian Demotic (91.7%),²¹ come from inside the *temenos*, where they were concentrated at the east and west ends of the courtyard (C1), between the Ptolemaic Temple ST18 and the Roman Temple ST20, in two dump layers. Additionally, 28 ostraca were found in modern dumps, resulting from the 1910 excavation by Friedrich Zucker and Wilhelm Schubart, and located at the *temenos*'s western outer side.²² Before the 2000s excavations, the most significant discovery of ostraca (228 in total) was made during the expedition of the Königliche Museen of Berlin directed by Zucker and Schubart and carried out in 1909–1910 (O. Dime I).²³ The corpus of ostraca found to date at Soknopaiou Nesos comprises mainly documentary texts, such as accounts related to the economic activities of the temple, and various lists (lists of names, *Phylai* lists, and food provisions). Most common are name-ostraca, recording one or two personal male names, possibly related to the priests at Soknopaiou Nesos.²⁴ These short texts are written on rather small, roughly quadrangular, sherds (ranging from 3.5 to 8 cm in width, from 3.5 to 9 cm in

15 Ballet/Pohudnikiewicz 2012.

16 Gasperini 2014.

17 Bartoli 2006. For the report of the ceramic materials found during the several years of excavation (1984–2005), see also Bresciani et al. 2006.

18 Johnson 1981.

19 Marchand 2009.

20 All the ostraca are kept in the general storehouse for the Fayum in Kom Aushim, ancient Karanis.

21 A limited number of ostraca are written in Greek (3.7%), Greek/Demotic (0.2%), Demotic/Greek (0.5%) and Coptic (0.8%). The rest are pictorial (1.7%) and unknown texts (1.5%).

22 On Zucker's excavation, see Zucker/Schubart 1971, 5–55, especially 14. All the ostraca found during the 2003–2014 Soknopaiou Nesos excavations are at present under study by M. Capasso (Università del Salento-Lecce), M. A. Stadler, and C. Arlt (Würzburg University). A comprehensive study of all the written materials from the recent excavations, including the ostraca, will appear in the volume *Soknopaiou Nesos Project II* (forthcoming). For a preliminary study, see Capasso 2012; Stadler 2012. See also Arlt 2013.

23 These ostraca were published in 2006 by Sandra Lippert and Maren Schentuleit (O. Dime I), see Lippert/Schentuleit 2006. See also Lippert/Schentuleit in this volume.

24 Arlt 2013.

length, and from 0.6 to 1.6 cm in thickness), whereas lists and accounts are generally written on large potsherds or even almost complete containers.²⁵ In order to integrate the ostraca's textual information with their physical properties, the entire corpus from Soknopaiou Nesos has been analyzed according to the newly compiled ceramological data for the site.²⁶ The great majority of the ostraca are from Egyptian early-Roman amphorae AE 2/3 and AE 3 (96.2%), while the rest is divided among bowls, pots, jars, and unclassified forms. So far, no ostraca in calcareous clay have been found.

Although I compared the data from the analysis of the fragments used as writing supports at Soknopaiou Nesos with the results available for the published groups of ostraca from other sites located in the Fayum,²⁷ the research has encountered significant difficulties. For most ostraca, it is possible to deduce from the photos, often in black and white, or from basic published information that amphorae fragments were used as writing supports. However, in these publications the descriptions of the vessel types to which the inscribed sherds belong are often not specific enough for a more precise identification, and, most importantly, the data coming from the ostraca study are almost never compared to a systematic quantification of the ceramics available from the sites where they were found. Therefore, it is evident that without in-depth analyses of large assemblages of ostraca (containing the largest possible number of statistical units) and ceramic materials from various archaeological sites it is impossible to determine the trends that favored the choice of a specific vessel for writing a specific type of text or if this was ever considered important. Furthermore, apart from the accurate study and classification conducted on ceramic materials for some of the abovementioned settlements, there are no systematic studies of pottery from many other excavated sites: in most instances, it is impossible to compare the frequency of text-bearing fragments to that of uninscribed sherds.

25 The study of the Berlin pieces, conducted in 2016, revealed that for certain types of texts, such as name lists and accounts, large parts or even almost complete amphorae were used. This is the first attestation of this practice at the site. A detailed description of the reassembled fragments and re-edition of their texts can be found in Caputo/Cowey 2018.

26 A detailed study of the materiality of the ostraca found during the SNP recent excavations will be published in the volume *Soknopaiou Nesos Project II*, cf. Capasso/Davoli (forthcoming).

27 For an overview of the publications concerning the ostraca from Bakchias/Kom Umm el-Atl, visit the page <http://papyri.info/bibliosearch> and search for 'Bakchias' and 'ostraca' (last accessed: 24.1.2020); Reiter 2007; Caputo 2018, 687, fn. 59. For an overview of the published ostraca from Karanis/Kom Aushim, visit the page <http://papyri.info/bibliosearch> and search for 'Karanis' and 'ostraca' (last accessed: 24.1.2020). The edition of the ostraca from Narmouthis/Kom Medinet Madi (O.Medin.Madi, O.Narm. I–II, and O.Narm. Dem. I–III) was the goal of a research program developed by the Department of Egyptology at Pisa University under the direction of Edda Bresciani. A digital photographic archive of the ostraca was created for the originals kept in the Egyptian Museum in Cairo; see Bresciani et al. 2002; <http://www.egittologia.unipi.it/pisaegypt/BibMedinet.htm> (last accessed: 4.2.2020). For the ostraca from Philadelphia/Kom el-Kharaba el-Kebir (Darb Gerza) see also Caputo 2018, 2019; Lougovaya 2018. For the ostraca from Tebtynis/Kom Umm el-Boreigat, see Gallazzi 1998, 185–207; Litinas 2008b; Gallazzi 2018; consult <http://papyri.info/bibliosearch> with the search terms 'Tebtynis' and 'ostraca' (last accessed: 24.1.2020).

Tab. 1: Ostraca from Fayum. Source: Trismegistos Database, <https://www.trismegistos.org>, searched on February 4, 2020.

Place	Ostraca (TM)
Bakchias	39
Dionysias	30
Euhemeria	31
Karanis	1058
Krokodilopolis	29
Magdola	4
Naqlun	2
Narmouthis	708
Philadelphia	137
Philoteris	3
Soknopaiou Nesos	252
Tebtynis	140
Theadelphia	68

If we turn to the sites of the Eastern Desert, remarkable case studies are presented by the ostraca from the Roman *praesidia* of Krokodilô, on the Koptos to Myos Hormos road, and from Didymoi, located on the Koptos to Berenike road.²⁸

The stratigraphic excavations at Krokodilô/Al-Muwayh carried out by the team of the *Institute français d'archéologie orientale* (Ifao) in 1996–1997 yielded 772 ostraca (O.Krok. I–II).²⁹ All of them were found in the southwest dump, near the fortress's southern gate. This dump was formed by the discarded materials produced by the renovation of the camp during the reign of Trajan.³⁰

According to the ceramic analysis made by Jean-Pierre Brun,³¹ among the materials recovered in the ancient dump of Krokodilô, amphorae came from a context positively

²⁸ Another *praesidium* with well-preserved dumps rich in ostraca is Maximianon, see Cuvigny 2005, 1; Brun 2007, 505; Cuvigny 2018. On some ostraca and ceramics from Maximianon, see Bülow-Jacobsen/Cuvigny/Fournet 1994, 27–42; Brun 1994, 7–26. Furthermore, over 9.000 ostraca, mostly Greek, were found during the excavations carried out at Mons Claudianus, see Bingen et al. 1992; Bingen et al. 1997; Cuvigny 2000; Bülow-Jacobsen 2009. See also Bingen 1996, 29–38; Maxfield/Peacock 2006.

²⁹ Cuvigny 2018, 195. Not all ostraca have been published yet. The first volume of ostraca from Krokodilô (O.Krok. I), published by Hélène Cuvigny in 2005, consists of the editions of 151 Greek and Latin texts, mainly military correspondence; the second volume (O.Krok. II), published by Adam Bülow-Jacobsen, Jean-Luc Fournet, and Bérange Redon in 2019, contains the edition of further 189 texts, which are private letters exchanged between the inhabitants of Krokodilô and the neighboring forts, Phoinikon and Persou.

³⁰ Both stratigraphical and textual data indicate that ostraca found in the early layers of the dump date to the beginning of Trajan's reign, while the foundation of the *praesidium* probably goes back to at least the Flavian period. The documents are associated with the military presence in the camp and in the Eastern Desert in general, and date to the early second century CE, see Cuvigny 2003, 83–90; Cuvigny 2005, 2.

³¹ Brun 2003, 503–513; Brun 2007, 505–523, especially 516–517.

dated to the first quarter of the second century CE. 2048 amphorae were found in this dump, which was in use for about twenty years. Of these, 95.6 % (1957 out of 2048) are Egyptian amphorae, mainly wine Egyptian amphorae-type 3 (AE 3-Form 1);³² while 47 are Dressel 2/4 amphorae from the Mariout (2.3 %). Among the imports there are 20 Dressel 2/4 from Laodicea in Syria (1 %, and 51 % of imports attested in the dump), 8 Dressel 2/4 from Italy (0.4 %, and 20 % of imports attested in the dump), 6 flat-bottomed amphorae from Campania Type *Formiche* (0.3 %), 2 examples of Galois 4 amphora (0.1 %), one Cretan amphora, and 7 unknown eastern amphorae (0.3 %).³³ Other 1572 vessels found in this dump are common ware, produced either in Tôd-Koptos calcareous clay (35 %), alluvial clay (mainly cooking pots, 24 %), Aswan ceramic (16 %),³⁴ thin-walled vessels from Aswan (5 %), or Early Egyptian Ware (0.5 %).

Among the fragments that were used as ostraca, at least three different typologies of vessels were identified.³⁵ The first group includes fragments from the AE 3-Form 1 (66.4 %). Among the texts inscribed on these fragments is the dossier of Capito, the curator of Krokodilô during the prefecture of Cosconius, which comprises private documents and copies of official correspondence.³⁶ Large fragments or even entire AE 3 amphorae had been also used for the so-called Amphora of the Barbarians, other ostraca inscribed with related documents, and some *dipinti*.³⁷ The second group comprises fragments of Aswan amphorae (28.6 %). Inscribed on these large fragments are postal daybooks on couriers who left Krokodilô for nearby *praesidia* and copies of circulars sent by the Prefect of Berenike (Artorius Priscillus) to various curators of the Myos Hormos road during his prefecture.³⁸ Two hands, one of which has been called ‘hand Ehiph’, because of the writer’s propensity to misspell the name of the month Epeiph, are responsible for most documents in this group.³⁹ The third and the least attested type, comprised fragments of calcareous clay, with yellow or white slipped surfaces (5 %), inscribed mostly with letters.⁴⁰

The archaeological methodology used in the study of the inscribed materials from Krokodilô has been applied for another *praesidium* of the Eastern Desert, Didymoi/

³² They are made of alluvial clay, with an average height of 90 cm. This type of AE 3, classified by Dixneuf as variant 5.2 – C, was produced in the area between el-Kab and Koptos between the late first–early third centuries CE and spread mainly in the Eastern Desert and the Theban region, see Dixneuf 2011, 128 and 340, fig. 111. See also Lawall 2003, 172–177; Brun 2007, 507–508, Fig. 3.1 and Fig. 4.

³³ Brun 2003, 508; Brun 2007, 516–517.

³⁴ On the *ateliers* and the productions of the amphorae from Aswan, see Ballet/Vichy 1992, 113–116.

³⁵ Cuvigny 2005, 8. The percentage is based only on the data published in the first volume of the ostraca from Krokodilô.

³⁶ Cuvigny 2005, 9–32 and 33–52.

³⁷ Cuvigny uses the term *dipinto* to indicate a jar label, see Cuvigny 2005, 135–158 and 173–175.

³⁸ Cuvigny 2005, 53–75 and 77–112.

³⁹ The second hand is characterized by a bilinear script, which is described as regular but without elegance; see Cuvigny 2005, 99.

⁴⁰ Cuvigny 2005, 114–115 and 132–133.

Khashm al-Minayah.⁴¹ According to Brun's ceramic analysis,⁴² the outer dump (Phases 1–11) has yielded Egyptian and imported amphorae (57.6 % in total),⁴³ and other vessels (42.4 %). In particular, 2954 are Egyptian amphorae AE 3-Form 1 in alluvial clay (55.58 %), 54 are amphorae from Aswan (1.19 %), 9 are Egyptian amphorae AE 4 from Mariout (0.17 %), and 41 are imported amphorae (0.79 %). To this are added the containers in calcareous clay (12.49 %); common wares and thin walled wares from Aswan (12.30 %); cooking pots (9.39 %); Eastern *Sigillata* A productions (around 0.9 %); and the rest are other vessels (7.27 %). These percentages are consistent with those from the ceramic materials found inside the fort (Phase 12).⁴⁴

The ostraca (O. Did.), mostly in Greek, but also some in Latin, form the largest part of the written material (970 pieces).⁴⁵ The texts are mainly daily journals, messages, accounts, orders of delivery of goods transported through the Desert of Berenike, and texts on the organization and life within the fort.⁴⁶ The ostraca were found in the fort's inner and outer dumps. The dating of the texts shows that the occupants of the *praesidium* after its reconstruction in 176/177 CE continued to dispose of their waste both inside and outside the fort at least until 210–220 CE.⁴⁷ After this period, the external dump ceased to be used in favor of the intramural one. This interpretation is supported by the different ceramic types used for writing during the two periods,⁴⁸ such as fragments of Aswan amphorae for the ostraca dated to 76/77–150 CE (13 %) as opposed to fragments of bottles from Aswan (*gourde*) for those dated to 176/177–250 CE (0.7 %).⁴⁹ In general, the great majority of the ostraca are from Egyptian amphorae-type 3 (AE 3-Form 1, 76.6 %); 5.7 % are on calcareous clay sherds; 2.3 % are on thick pink unpitched fragments; 13.7 % are on Aswan clay (of which 0.7 % are

⁴¹ The *praesidium* of Didymoi is one of the main fortresses on the road from Koptos to Berenike. The two volumes devoted to the site, published by Cuvigny in 2011 and 2012, contain the results of the archaeological excavations and the study of objects (vol. I) and the editions of the texts (vol. II), see Cuvigny 2011, 2012. See also Brun et al. 2018.

⁴² Brun 2011, 115–119, 2007, 505–516.

⁴³ 3,058 amphorae have been counted in this dump.

⁴⁴ Cuvigny 2011, 54. This is detectable also for the ostraca from Mons Claudianus and Maximianus, see Brun 2007, 517–521.

⁴⁵ 510 ostraca out of 970 are published in volume II, Cuvigny 2012. For the images of the ostraca from Didymoi, cf. <http://www.ifao.egnet.net/bases/publications/fifao67> (last accessed: 24.1.2020).

⁴⁶ Cuvigny 2012, 2–3.

⁴⁷ In particular, the ostraca dated to the *Première période* were in the earliest layers of the external dump, while those of the *Seconde période* were all concentrated in the internal landfill and, in smaller quantities, in the later layers of the outer dump. The dates of the ostraca found within the fort are all after 176 CE, Cuvigny 2012, 2–3.

⁴⁸ This is also supported by the hands of the scribes that are different for the two periods and by the terminology used in the texts, see Cuvigny 2012, 4.

⁴⁹ Among the Egyptian productions, the Aswan wine amphorae disappeared from the reign of Marcus Aurelius on, to be replaced by the *gourdes*, which had the same function (possibly for *passum*), see Brun 2007, 513; Brun 2011, 115–129. See also Ballet 2001, 120–122.

gourdes); 1% are on Eastern amphorae. The remaining 0.6% is divided between light unpitched and calcareous amphorae fragments.

In the sites examined above, both from the Fayum and the Eastern Desert, an extensive use of amphorae is evident. However, when looking carefully at the percentages of containers for each site, amphorae do not show an overwhelming frequency when compared to other vessels. On the contrary, it is undeniable that amphora fragments are the most common sherd/support in the production of ostraca, and therefore it can be concluded that in these areas during the Roman period there was a deliberate choice of amphora fragments as a writing support.

A different picture arises from the analysis of some ostraca-groups found in the Western Desert. I will focus my attention on two sites located in the Dakhla oasis: Trimithis/Amheida and Kellis/Ismant el-Kharab.

In 2015, I completed the study of the sherds used as ostraca that were discovered at the site of Amheida.⁵⁰ Nearly 900 inscribed fragments (O. Trim.)⁵¹ were found during the 2004–2013 stratigraphic excavations conducted by “The Amheida Project”, under the general direction of Roger S. Bagnall and the field direction of Paola Davoli. The contexts in which the ostraca were found are for the most part consistent with dump layers and occupational deposits (75%).⁵² The Greek texts, dated to the fourth century CE, form the largest part of the corpus (91.5%). The remaining sherds are inscribed with Egyptian Demotic (2.8%) and Hieratic texts (1.5%); there also 12 pictorial ostraca (1.3%) and 26 unidentified pieces (2.9%). The subjects covered by the Greek texts include distributions of food, administration of wells, the commercial life of the oasis and its inhabitants’ education, and other aspects of everyday life. The most common category of texts is that of little labels or tags (344 examples, or 36% of the total). Generally, the tags provide us with three pieces of information: a year; the name of the place from which the product comes (usually a well name); and the name of an individual. In a few cases, the name of a vineyard replaces the personal name.⁵³ The ostraca used as tags are rather consistent in shape and size, with rectangular and triangular outlines that range from 1.4 to 6.1 cm in width and 1.9 to 7.1 cm in height. The remaining texts (i. e., letters, accounts, etc.) are written on fragments of irregular quadrangular shapes, at most 6 cm in width and 18.5 cm in height. The thickness of these sherds is between 0.5 and 1 cm.

⁵⁰ The results of this work have been published in Caputo 2016; see also Bagnall 2016, 81.

⁵¹ See Bagnall/Ruffini 2012 (O. Trim. I) and Ast/Bagnall 2016 (O. Trim. II); Hope 2004, 5–28 (O. Kellis).

⁵² The dump layers are primarily foundation fills or dumped waste, but ostraca were also found on the surface or embedded in the walls as building material, see Ast/Davoli 2016.

⁵³ The use of these ostraca has been clarified thanks to the excavation of the house B10, in which R1 yielded eighty-one ostraca, all of them small tags or labels. Some of these were found still inserted into the top of a mud jar stopper, and a few of these stoppers were still in situ on top of their jars, showing exactly how the tags were used, see Bagnall et al. 2017. See also Bagnall/Ruffini 2012, 120–143; Ast/Bagnall 2016, 89–91; Ast/Davoli 2016, 1458–1467.

Most of the ostraca from Amheida are from locally produced vessels (common wares): 604 from jars (65.3%), 43 from kegs (4.6%), 35 from jugs (3.8%), 28 from basins, craters, and large bowls (3.0%), 17 from small bowls (1.8%), 10 from cooking pots (1.1%), and 6 from lids (0.6%).⁵⁴ An additional 182 ostraca are made from locally produced vessels, for which it was not possible to define the shape. The analysis of main fabrics of the ostraca is based primarily on the *Dakhleh Oasis Fabric System* classification by Colin Hope.⁵⁵ The highest percentage (96.5%) belongs to fragments in iron-rich clay body Group A fabrics (i. e., A1a/A2a fired red-brown, A1b/A2b fired grey, and A5), the same used in the production of the majority of containers found at the site. 1.6% is fine iron-rich, dense-bodied, brittle fabric (A11 fired light grey), used in the production of containers known as Christian Brittle Ware. 1.04% is in open-textured calcareous local clay (B10 fired pale green) used mainly for jugs. Only 0.86% is in B3, a medium- to dense-bodied fabric, fired orange/pink or yellow/brown, associated with the yellow slipped productions from Kharga Oasis. There are no ostraca in Fine Oasis Red Slip Ware (A27), amphorae, or imports from other areas of Egypt and the Mediterranean.

A similar situation emerges from Kellis/Ismant el-Kharab, a site in the Dakhla oasis. The volume edited by Klaas A. Worp contains the edition and study of 293 Greek texts of which 234 are ostraca (O.Kellis).⁵⁶ The ostraca were recovered during excavations directed by Colin A. Hope over a period of fifteen years.⁵⁷ They comprise a variety of text types, including tax and other receipts, orders for deliveries of various commodities, accounts, private letters, lists of names, contracts, memoranda, school and astrological texts, and jar docketts. Chronologically, they range from the second to the fourth centuries CE.⁵⁸

Most of the texts are written in black ink on quite small ceramic fragments that were reused from the vessels' bodies. Hope's ceramological study of the O.Kellis ostraca is based on the surface color (ware) of the sherd/support. According to his results, the most common wares used for inscribing are P1a (27.98%) and P1b (31.65%) that correspond to fabrics A1a and A1b. Sherds from other wares were rarely used. The percentages calculated on the basis of wares show that *Reddish-brown uncoated*

⁵⁴ See Caputo 2016.

⁵⁵ For the fabric description, see Hope et al. 2000; Hope 2004, 7–9; Gill 2016, 49–51. The characteristic of the clays and the classification of the main oasis fabrics and wares have been the subject of a number of studies. For the clays and ceramic materials of the oasis, see Soukiassian et al. 1990, 75–85; Marchand/Tallet 1999; Hope 1999; Patten 2000, 87–104; Eccleston 2006.

⁵⁶ Worp 2004, 1–4 and 169–178. For the edition of the Coptic ostraca, see Gardner/Alcock/Funk 1999, 280–281 (= P.Kellis V, O.KellisCopt. 1–2); Gardner 1999.

⁵⁷ Excavation reports can be accessed at <https://www.monash.edu/arts/philosophical-historical-international-studies/dakhleh-oasis-project/excavations> (last accessed: 31.1.2020). See also Bagnall/Davoli 2011, 140 fn. 270–273.

⁵⁸ The latest date so far attested by texts either on ostraca or on papyri from Kellis is the fourth century CE; see Worp 2004, 1 and 220–226.

surfaces (33.486 %) and *Grey uncoated* surfaces (39.449 %) were used more frequently than *Cream-coated* surfaces (17.890 %), *Greenish uncoated* surfaces (8.256 %), and *Red-coated* surfaces (0.917 %).⁵⁹

This confirms the data obtained from the Amheida ostraca, where fabrics A1a/b (ware P1a/b) and A2a/b (ware P2a/b) were recognized in 85 % of ceramics produced locally. The containers made of these fabrics are mainly bowls, basins, craters, cooking vessels, jars, and kegs. In both sites, and in the Great Oasis in general, the transport containers used for the trade of local products were mostly of local production, such as jars, kegs,⁶⁰ and flasks/bottles⁶¹: the presence of amphorae—not only from the Nile Valley, but also from the Mediterranean basin—is quite rare.⁶²

That the use of ostraca was not confined to Greco-Roman period is evidenced by a large number of Byzantine/early Islamic Coptic examples.⁶³ In particular, several thousand of Coptic ostraca were found during the archaeological campaigns carried out in the Theban area of Upper Egypt from the late nineteenth century to the present.⁶⁴ There, ostraca both in limestone and pottery were used from the Pharaonic through Byzantine period.⁶⁵ Since I am interested in case studies with good documentation of both ostraca and ceramic production, I will focus just on one such site, that of the Theban Tomb (TT) 29 at Sheikh Abd el-Gurna.⁶⁶

Over 800 ostraca (O.Frange) from TT29 were published by Anne Boud'hors and Chantal Heurtel in 2010.⁶⁷ The monk Frange settled in tomb TT29, originally the Eighteenth Dynasty tomb of Amenemope, during the first half of the eighth century CE. Frange is the main protagonist of this corpus, as the majority of ostraca were either written by him (86.1 %) or to him (13.9 %).⁶⁸ Texts related to the previous occupants of the cell and dated to the seventh century are also included among the published material

59 Hope 2004, 7–9.

60 On the kegs in the Great Oasis, see Henein 1997, 161–166; Hope 2000; Marchand 2000; Rougeulle/Marchand 2011, 443, fn. 13. See also Ballet 2019, 155–160; Soto Marín 2019, 192–200; Chevalier 2019, 203–206, Figures 12.1–12.2.

61 Ballet/Vichy 1992, 119; Ballet 2004, 221–225.

62 Hope/Ross 2007. See also Ballet 2019, 162–165; Caputo 2019b; Chevalier 2019.

63 Brooks Hedstrom 2017, 25, fig. 7; Wipszycka 2009, 2018.

64 Krause 2010.

65 For the use and distribution of ostraca in Late Antique Western Thebes and updated bibliography, see Cromwell in this volume.

66 The archaeological mission of the Université Libre of Bruxelles (ULB) in the Theban necropolis was directed by Roland Tefnin from 1999 to 2006, and later by Laurent Bavay, see Boud'hors/Heurtel 2010, 7.

67 Boud'hors/Heurtel 2010. According to Bavay, a group of more than 1200 ostraca on ceramic and limestone fragments was found in TT 29, see Bavay 2007, 389.

68 Letters written in the hand of Frange have been found also at Djeme, MMA 1152, Monastery of Epiphanius, Ramesseum, Topos of Saint Mark, and TT 85.

(53 ostraca).⁶⁹ All the texts, mainly letters and exercises or drafts, are written primarily on potsherds (85.1%), while a smaller number is on limestone flakes (14.9%).⁷⁰

According to Laurent Bavay's preliminary study of the ceramic material found in TT29,⁷¹ the assemblage consisted mostly of complete vessels (ca. 80 complete profiles where initially counted), consistent with ceramic types generally used in a two-to-three person household.⁷² Fine tableware is largely attested by red slip productions of the Aswan workshops (*Egyptian Red Slip A*), while the Nile clay imitations (*Egyptian Red Slip B*) are very poorly represented. Among the regional productions, flasks decorated with spiral patterns and pots with white/brown painted decorations, probably from the workshops installed in the funerary temple of Seti I in Gournah, have been found. Cooking ware made of alluvial clay includes various plates and thin-walled pots (all handleless), as well as curved bowls used in food preparation. While storage jars are very rare, at least five *qawadis* (pots used for water wheels) have been identified as part of Frange's assemblage.⁷³

The most common Egyptian amphorae identified in this assemblage are the Late Roman Amphora 7 type. At least five main different types are reported, all dated to the first half of the eighth century and probably reflecting the use of different supply sources.⁷⁴ Aswan wine amphorae made of kaolinitic clay are particularly rare: only two diagnostic fragments have been attributed to this production.⁷⁵ The Egyptian brown amphorae, characterized by a thick red/pink slip covering the outer surface and called 'pseudo-Aswan' amphorae because they imitate those of Aswan, are attested only by a single diagnostic fragment.⁷⁶ Finally, Bavay describes at least six examples of North African amphora.⁷⁷ The dating of the ceramic materials confirms the assignment of the presence and activity of Frange in TT29 to the second half of the seventh century—first half of the eighth century.

69 Heurtel 2008; Boud'hors/Heurtel 2010, 397–432 (O.Frange 752–805).

70 According to Boud'hors and Heurtel, some of the limestone ostraca can be dated to the first half of the seventh century, thus belonging to the predecessors of Frange, see Heurtel 2008; Boud'hors/Heurtel 2010, 22–23. For the different use of the writing support see Boud'hors/Heurtel 2010, 15.

71 Bavay 2007, 2008.

72 Because of the preliminary nature of the study, precise numbers of vessels and amphorae which constitute the assemblage are only seldom provided in Bavay's article.

73 According to Bavay it is unlikely that a *saqqiyeh* was installed in the Theban mountain in the immediate vicinity of the TT 29, so possibly these containers were used as storage jars.

74 Bavay 2007, 391–393.

75 The fragments correspond to Gempeler K715 type, with narrow and elongated shape and pitched internal surface. Gempeler 1992, 191–192; Bavay 2007, 394–395.

76 They are identical in shape to Gempeler K715 type. A dump of these amphorae was identified during the survey carried out by P. Ballet near a workshop installed on the west side of the settlement of Edfu, see Ballet et al. 1991, 140.

77 Bavay 2007, 393–394.

Among the ceramic ostraca found in TT29, 89.7 %, there are texts inscribed on fragments of Egyptian amphorae: 8.2 % are sherds from other vessels, 1.8 % are sherds from table wares, and only 0.3 % are fragments from imported amphora.⁷⁸ If we look only at the ostraca written by Frange, 58.2 % are from LRA 7, 22.1 % are from ‘pseudo-Aswan’ amphora, 8.4 % are on common wares in Marl and Nile clays, 7.5 % are on Aswan amphora, 2 % are on Egyptian Red Slip A, 1.5 % are on other vessels, and 0.4 % are on LRA 1. It should be noted that among the ostraca addressed to Frange, 76 ostraca are written by his sister Tsié. Tsié used mainly two types of supports: 37 of the ostraca are from LRA 7, 31 are from ‘pseudo-Aswan’ amphora, 7 are from Aswan, and only one is on common Nile clay ware. Therefore, both Frange and Tsié seemed to favor sherds from the same categories of vessels, mostly LRA 7 and ‘pseudo-Aswan’ amphorae. However, while the use of fragments from LRA 7 is understandable, since these containers were the commonest containers during this period and most prominent in Frange’s ceramic assemblage (nothing can be speculated about Tsié’s), the use of ‘pseudo-Aswan’ amphora fragments seems to be less instinctive and more deliberate. As stated by Bavay, the small number of written fragments from Aswan amphora compared to the ‘pseudo-Aswan’ productions could be due to the fact that while the Aswan amphorae were hardly distributed in the north of the country, the ‘pseudo-Aswan’ amphorae from Edfu may have covered the whole Theban region, extending northward as far as Medamoud, where Tsié lived. This could reflect Tsié’s preference for these red/pink sherds which, when not available from the Aswan amphora, were replaced by fragments of amphora imitating them.⁷⁹

Lastly, I would like to turn my attention to another group of Coptic ostraca (65 in total) found at the beginning of the twentieth century at Elephantine and now in the Louvre Collection in Paris.⁸⁰ This small group of ostraca, dated between the sixth and seventh centuries CE, comprises mostly incomplete texts (only 1 out of 65 is complete). They are debt recognition, military accounts, texts related to the economic and commercial activities, and name lists.⁸¹ During a visit to the Collection in September 2018, I had the opportunity to analyze and draw all 65 fragments.⁸² The great majority of the texts are written on originally complete large plates and bowls (72.3 %), 21.6 % are fragments from lids and casseroles, and only 6.1 % are on undefinable sherds from closed forms. Generally, the texts cover the inner and outer surfaces and are arranged

⁷⁸ The percentages have been calculated on the basis of Bavay’s ostraca description made in Boud’hors/Heurtel 2010. Similar proportions are reported for the ceramic ostraca on pottery discovered in the MMA 1152, another Coptic hermitage at Sheikh Abd el-Gurna, see Górecki/Lajtar 2012, 138 fn. 5.

⁷⁹ Bavay 2007, 396.

⁸⁰ Bacot/Heurtel 2000, 17–45.

⁸¹ Bacot/Heurtel 2000, 41–43.

⁸² I would like to thank Dr. Marc Etienne, Curator of the collection in the Département des Antiquités Égyptiennes du Musée du Louvre, for allowing me to study these ostraca.

according to a circular layout, following the vessel's shape. The identified types are made in Pink Aswan clay and can be dated to the sixth–seventh century CE.⁸³

The data collected from analysis of the written sherds from Trimithis and Kellis, on the one side, and Elephantine, on the other, clearly shows that in all three cases fragments from the containers available on the sites are used (which, as we have seen, are not necessarily amphorae).⁸⁴ However, it is extremely interesting that although, in contrast to the Great Oasis, amphorae were produced in Elephantine and consequently their fragments should have been easily available for writing there, complete open shapes belonging to table ware were evidently preferred as writing supports.

2 Possible Criteria of Selection

All the examined case-studies indicate that while the choice of writing materials was generally dictated by practical needs, including the immediate availability of certain ceramic types versus others, it is evident that specific selection criteria were also at play. Indeed, even when amphorae were not the most commonly used containers, still their fragments could be preferred as writing supports (e. g., in the Fayum, Eastern Desert, or Theban area). On the other hand, it is clear that in other areas (e. g., in the Dakhla oasis) amphora fragments were far from ubiquitous and thus the choice of supports was made among other categories of containers, which were also selected to respond to specific needs (e. g., in Elephantine). Thus, the use of certain sherds or shapes as writing supports may have depended not only on the availability of certain ceramic types but also on the intentions and experience of each writer. In this section I examine possible criteria which may have influenced the selection of a sherd for writing, while refraining from translating modern perceptions into ancient practices.

For example, one might wonder if the fragments were chosen because of the color or treatment of their surfaces or if they were selected according to their sizes or shapes.

Regarding the issue of surface color, light-colored surfaces seem a logical choice, as the ink would have been easier to read. However, this criterion does not seem to have played a consistent role in the supports' selection. Indeed, while for the Greek documents written by the 'hand Ehiph' in Krokodilô, for the Coptic letters between

83 I am very grateful to Nicole High-Steskal, Denise Katzjäger, and Laura Rembart for their precious advice and for sharing with me the results of their work on Elephantine's ceramic materials. Denise Katzjäger, and Laura Rembart have just completed their dissertations on the Hellenistic, Roman, Byzantine, and early Islamic pottery from Aswan and Elephantine (around 250,000 pottery fragments from the recent German-Austrian-Swiss excavations both on Elephantine and in Syene) and completely revised Gempeler 1992. Furthermore, Lisa Peloschek studied the petro-fabrics of the Syene/Elephantine material for her dissertation (completed in 2015), see Katzjäger/Peloschek/Rembart 2016.

84 The assemblage is small and is not representative of all the contemporaneous ostraca production in the area.

Tsié and Frange, and the Coptic ostraca from Elephantine the red/pink color of the Aswan or ‘pseudo-Aswan’ ceramics was favored, at Trimithis and Kellis darker surfaces were preferred over lighter ones, which were completely ignored. Where available, amphora fragments characterized by brown surfaces were normally used for ostraca and were chosen over other common vessels with red or orange surfaces such as bowls, dishes, basins, etc. In all these instances, surface color does not seem to constitute a main determinant in the selection process.

When looking at some categories of ostraca, one detects the systematic use of fragments from a specific category of vessels, the consistency in shape, and overall similarities in dimensions. This is true particularly for groups of ostraca that were meant to be serial rather than isolated or occasional, such as receipts, tags, name-ostraca, and most of the administrative or documentary ostraca. It seems logical to assume that any individual who had the necessity to produce dozens of ostraca, all similar in size and content, would have secured the fragments in advance possibly by drawing them from private or public landfills that could have been located in the proximity, both *intra* or *extra moenia*.⁸⁵

For example, during labeling in Trimithis or balloting in Soknopaiou Nesos,⁸⁶ scribes would have needed, for practical reasons, to keep all the fragments ready for use. This does not imply that scribes were routinely or personally surveying the grounds to find the most appropriate fragments to write on. The process of obtaining writing supports must have started with the breaking of a ceramic vessel, a common occurrence due to high daily usage. The larger-bodied sherds were selected and collected for reuse as ostraca; this selection could have taken place immediately after a vessel broke within the house, or later on, once the sherds had been discarded in an open dump. At present, it is impossible to ascertain if one of these two practices was favored over the other. Possible attendants or the writer himself may have broken larger fragments into smaller ones by using a sharp tool to hit their surfaces, most likely a flint or a hammer. Such a blunt stroke would have produced a group of smaller and differently shaped sherds. Only those of a predetermined size would be kept, and the rest would be discarded.

In January–February 2014, I conducted a series of experiments using ceramics from Trimithis/Amheida to test my theory (Table 2). Large-sized, flat-walled sherds of the most common fabrics, which were used in antiquity as writing supports for the ostraca, were collected on site.

85 Anyone who knows an ancient Egyptian trash dump, regardless of the time of formation and its size, is well aware of the quantity and variety of ceramic materials that can be found there. For an overview of the Egyptian dumps during the Roman period, see Ballet/Cordier/Dieudonné-Glad 2003. See also Dupré Raventós/Remolà 2000.

86 Name-ostraca, close in shape and layout to those found in Soknopaiou Nesos, and generally attested in Fayum, have been also found at Tel Arad. Only eight ostraca can be ascribed to this category of texts. They are dated to the 8th century BCE, see Aharoni 1968, 29, Figure 17.

Tab. 2: Characteristics of the fabrics and sherds used for the experiment.

Fabric	A1a	A1b	A5	A11	B10
Description	Medium to coarse textured ferruginous fabric. It is fired red to brown/orange.	Medium to coarse ferruginous fabric. It is fired grey to dark grey.	Medium to coarse ferruginous fabric (quartz/sand-rich variant of A1). It is fired over-fired purple-brown to grey in color.	Fine dense-bodied mudstone/shale fabric. It is fired light grey to grey, with grey core and orange/pink zones.	Open-bodied, medium to coarse quartz marl fabric. It is fired to cream to pale green.
Ware	Uncoated	Uncoated	Cream coated	Uncoated	Cream coated
Shape	Storage jar; Keg	Storage jar; Keg	Storage jar; Jug	Thin-walled cooking pot	Filter jug
Wall thickness	0.7–1 cm	0.7–1 cm	0.5–0.8 cm	0.5–0.7 cm	0.5–0.9 cm

For these experiments, I utilized tools that were common in Roman house building, carpentry, or other daily tasks, such as small picks and pounders, as well as unworked stones and flints, available and in use in ancient times (Fig. 1). The sherds of different fabrics were tested with each tool, and the results of how the tools affected the ways in which the sherds broke were recorded (Table 3).

**Fig. 1:** Tools used during the experiment (from left to right): Small Pick, Flint, Stone, Pounder.

Tab. 3: Test results with the different tools on the different fabrics.

Tools	A1a	A1b	A5	A11	B10
Small pick	<i>Regular break, defined edges.</i>	<i>Regular break, defined edges.</i>	Irregular break, indented edges.	<i>Regular break, defined edges.</i>	Irregular break, indented edges. The hits damage the surface of the ceramic material.
Flint	<i>Regular break, defined edges. Not effective on thicker wall fragments (0.9–1 cm); more suitable for breaking walls with a thickness between 0.7–0.9 cm.</i>	<i>Regular break, defined edges.</i>	Irregular break, indented edges.	<i>Regular break, defined edges.</i>	Irregular break, indented edges. The hits damage the surface of the ceramic material.
Stone	Regular break, indented edges. The tool damages the surface of the ceramic material.	Regular break, indented edges.	Irregular break, indented edges.	Irregular break, indented edges. The hits damage the surface of the ceramic material.	Irregular break, indented edges. The hits damage the surface of the ceramic material.
Pounder	Regular break, indented edges. The hits damage the surface of the ceramic material.	Regular break, indented edges.	Irregular break, indented edges.	Irregular break, indented edges. The hits damage the surface of the ceramic material.	Irregular break, indented edges. The hits damage the surface of the ceramic material.

The experiment demonstrated that, when hit with sharp tools such as small picks and flints, sherds in A1a and A1b fabrics, as well as half of the A11 samples, had a better resistance to the impact: the breaks were more regular and the newly cut sherds were characterized by defined edges (indicated in the Table 3 in *italics*) (Fig. 2). Tools with flatter surfaces broke the sherds very irregularly and made them unusable. The thickness of the sherds turned out to be a very important requisite (< 0.9 cm), since thicker walls did not break easily. Finally, body sherds were preferable to rims, bases, or handles, as these three parts of a vessel, with their thicker sections, did not result in regularly-shaped cuts. Also in antiquity, at Trimithis/Amheida, sherds from Group A vessels were preferred in ostraca making. While it is true that this ceramic type was

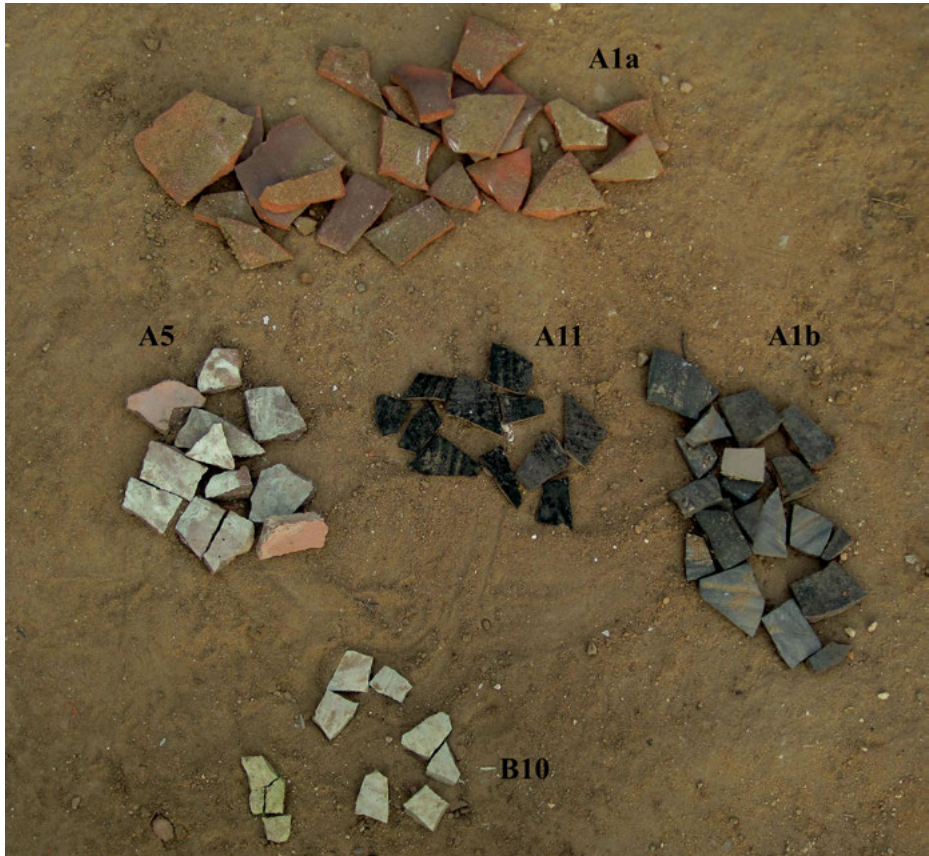


Fig. 2: Sherds resulting from the experiment.

the most common at the site and thus readily available, the choice of these fragments for ostraca was possibly also influenced by the intrinsic qualities of the fabric. Indeed, Group A sherds are characterized by a crystallized fabric that facilitates sharp breaks. This is, in contrast, not true for B10 and A11 fabrics: during the experiment, B10 sherds were almost completely pulverized when hit by any of the available tools, while A11 sherds shattered when hit by flat surface tools such as stone and poulder. In these instances, the ceramic fragments could not be reused as writing surfaces.

These experiments gave insights on the process of creation of specific types of ostraca such as well tags. These tags were produced in the hundreds from common wares and they needed to be roughly similar in shapes and sizes as they had to be fitted on the top of mud stoppers.⁸⁷ It is highly improbable that scribes would scout the open dumps to find hundreds of small sherds of the same size and fabric when they could have easily made them out of larger fragments readily available in the

⁸⁷ Bagnall et al. 2017.

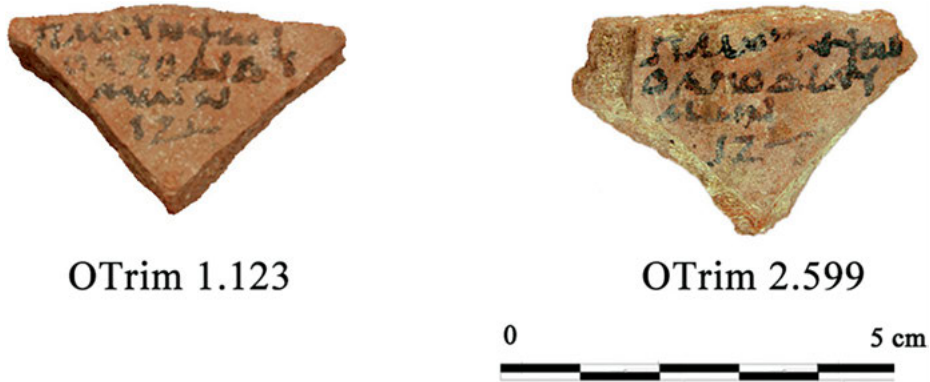


Fig. 3: Two identical Well Tags with Pmoun Formula.

households. The suggested scenario is also corroborated by the well-attested ancient practice of reuse of ceramics through cutting, drilling, and reshaping.⁸⁸

Two ostraca (O.Trim. I 123 and O.Trim. II 599) found at the site confirm this argument in that they share fabric, size, shape, and identical text, both in words and layout (Fig. 3).⁸⁹ While this theory currently lacks systematic study and comprehensive archaeological data, its preliminary results are promising and could indicate a way forward in the investigation of the practice of producing ostraca in series.

In the case of longer texts, such as letters, lists, and memoranda, the writing support needed to be bigger, in order to accommodate more lines of writing, and flatter, in order to facilitate the process of writing. Large-bodied containers and vessels, like amphorae, jars, basins, and *sigas* seem to have been preferred since they provided a wider field to fit one or multiple texts.⁹⁰

The results of my experiments suggest that scribes were probably keeping at hand large pieces of broken pots to use as writing material; pieces of the same pot, once broken in smaller fragments, could have been used on different days and by different scribes, for multiple messages. This is confirmed by two ostraca from Amheida that could be joined together: for example, two Greek ostraca (O.Trim. II 806+807) dated to the second half of the fourth century CE with two separate texts written at different angles by the same hand, were clearly cut out from the same container.⁹¹ Both texts are memoranda for delivery of hay, and they were written on two joining sherds with part of the rim (diameter 25.6 cm) of a large bowl (Fig. 4). The same practice has been recognized for two Greek ostraca, dated to the third century CE, from Chersonesos on the northern coast of Crete (O.Cret. Chers. 4+71 and O.Cret. Chers. 7+61),⁹² and at least

⁸⁸ Peña 2007.

⁸⁹ Ast/Davoli 2016; Caputo 2016, 83, Figure 17.

⁹⁰ Peña 2007, 162.

⁹¹ Ast/Bagnall 2016, 250–251.

⁹² Litinas 2008a, 10, 41–42, 61 and 63, Plate XLV.

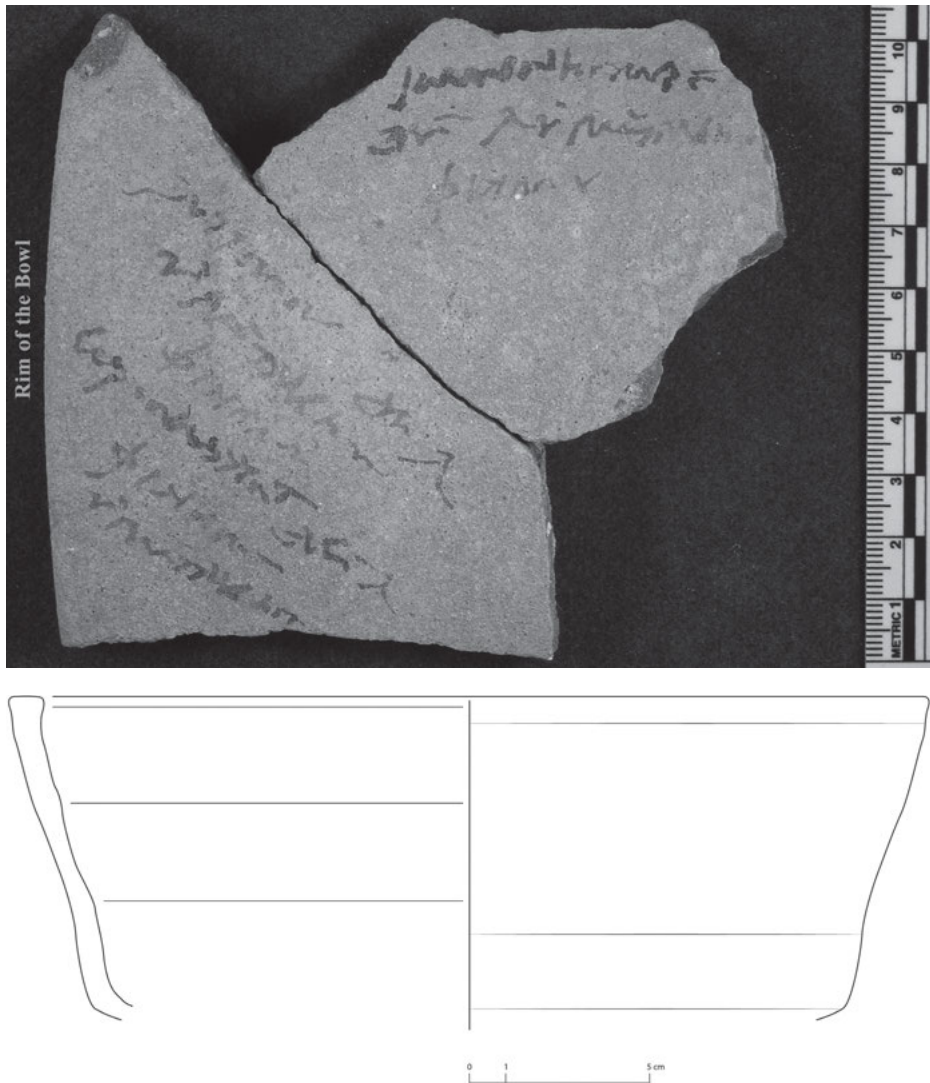


Fig. 4: Two separate texts, written at a different angle on the same broken large bowl (O.Trim. II 806+807).

for one Hebrew ostrakon from the Israelite Samaria, dated to the eighth century BCE.⁹³ It is also worth mentioning some examples from the Athenian Agora and the Kerameikos.⁹⁴ It has been argued that these ostraca, among which scholars recognized

⁹³ Tappy 2016, 198, Plate IV (Nos. 45+46). See also Niemann 2008.

⁹⁴ For the ostraca from the Agora, see Giugni 2001, 66–70, Figures 5–8. For the ostraca from the Kerameikos, see Brenne 2018.

several written sherds as coming from the same broken vessel, were ‘prefabricated’ by the scribes to have them on the ready during the ostracism votes.

The practice of reshaping ceramic fragments is well attested in other groups of ostraca in Egypt, such as Greek ostraca from Philadelphia in the Fayum,⁹⁵ Greek ostraca from Mons Claudianus in the Eastern Desert,⁹⁶ as well as in other regions, e. g. in Latin ostraca from Carthage in North Africa⁹⁷ or in the Hebrew ostraca from Tel Arad in the Negev.⁹⁸ The standardized, roughly rectangular, shapes, with long, straight sides and short, curved ends, was evidently suitable in that they could easily fit in one hand and could be efficiently archived in the manner of card files. Their overall appearance indicates an obvious attention in their production and suggests the existence of a manufacturing process that preceded the actual writing on the support. Furthermore, scribes or their attendants cut the sherds not only in rectangular shapes, a rather demanding task, but also as rounds.⁹⁹ At Mons Claudianus, in the Eastern Desert, where stonemasons were at work, these cutting techniques resulted in oval or round ostraca.¹⁰⁰ The same practice, this time not directly related to stonemasons, has also been found at Trimithis, where some sherds were first cut as circular stoppers to seal containers, and only after the containers were opened and the lids disposed of, they were repurposed as writing supports (O. Trim. I 287 and O. Trim. I 300). The opposite process is also attested: a sherd could first be used as an ostrakon and only later be recut, partially obliterating the written text, to become a stopper (O. Trim. I 60).¹⁰¹

It is important to mention here the recent lithic analysis performed on a group of Hieratic and pictorial limestone ostraca from Deir el-Medina, dated to the New Kingdom and now in the Collection of the Département des Antiquités égyptiennes in the Louvre. These Pharaonic limestone ostraca have been studied and restored by a team of specialists in 2012–2013. The autoptical examination of the pieces has allowed the scholars to identify and distinguish between natural flakes and reshaped exemplars and to highlight the phases of preparation of the limestone that preceded the actual tracing and writing.¹⁰²

All these instances show that the technique of reshaping can be connected with the ability of the ancients to work and rework materials according to their needs.

95 See Lougovaya 2018, 55–61; Caputo/Cowey 2018, 62–65.

96 Bülow-Jacobsen 2009, 15–16.

97 Peña 1998 and 2007, 162–163.

98 Aharoni 1966, Plate 1, 1968.

99 Even if it is not an ostrakon, an interesting example of a round-shaped cut of a sherd is attested at Berenike on the Red Sea Coast of Egypt. It is a circular lid found during the 2019 excavation season. It was cut from the body of a Cypriot LRA 1 amphora, and the working marks are still perfectly visible.

100 Bülow-Jacobsen 2009, 15–16, Figure 1.8.

101 Circular ostraca are in any case very rare. Caputo 2016, 75 and 81, Figures 15–16.

102 Pelegrin/Andreu-Lanoë/Pariselle 2015. See also Haring in this volume.

3 Conclusions

As I hope to have demonstrated in this paper, scholars should implement a more systematic study of the material, where each pottery or limestone ostrakon is checked and compared against others in the same corpus, in order to be able to understand the practice of producing ostraca. For ceramic ostraca in particular, one should also focus on the classification of the supports according to their morphology, fabrics, and surface treatments. This is only possible when examining the ostraca in the light of the material culture and the ceramic production of the sites where they were produced. The study and analysis of ceramics constitutes a fundamental step in this process, starting from the classification of thousands of excavated ceramic fragments and the selection of those that could contribute to the refinement of a catalogue of forms, functions, and chronologies, while also providing data for the reconstruction of the historical sequence of a site and/or culture.¹⁰³ Generally, scholars use ‘diagnostic’ parts of the vessel, such as rims, handles, and bases to identify the original form of a container. Unfortunately, but (as we have seen) for good reasons, most of the texts on ostraca were written on non-diagnostic, body fragments. However, the classification of ceramic shapes and their associated fabrics, and areas of production and distribution have allowed researchers to identify certain types of containers even in the absence of diagnostic sherds. Roberta Tomber writes:

Source identification of pottery can be determined in a number of ways, with the best results through the combination of vessel form and clay fabric. The study of the clay fabrics, borrowed from geology, is based on the identification of aplastic inclusions in the clay, either by eye or using a binocular or petrological microscope. Especially, the last enables the most precise classification of rocks and minerals. Sometimes sources can be assigned by matching the fabric with geological deposits, for which a geological map is invaluable. However, many mineral inclusions—such as quartz—are ubiquitous. In these cases, typology is essential, for source areas can be suggested through distribution, with the greatest concentration likely to be in the home area. Nevertheless, pottery shapes are imitated outside their region for a variety of reasons, and detection of this relies on fabric analysis.¹⁰⁴

As for the examples mentioned in this article, I would like to emphasize that considering the production of these artifacts as merely the result of chance and contingency would be misleading.¹⁰⁵ The real goal is to understand the technology that was behind the production of ostraca as artifacts, and to define its evolution and characteristics.¹⁰⁶

103 Orton et al. 1993; Marchand 2013.

104 Tomber 2008, 38–39.

105 The present article addresses a series of issues related to the practice of writing on ostraca in the ancient world. These issues will be further explored in an upcoming monograph that will summarize the results of my research.

106 Giannichedda 2006.

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