Bulletin de liaison de la Céramique Égyptienne

30

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Sommaire

Avant-propos

Cette nouvelle livraison du *Bulletin de liaison de la céramique égyptienne* (*BCE* 30) aura connu les aléas de la situation sanitaire mondiale en 2020, qui expliquent un nombre d'articles moins important qu'à l'ordinaire et une date de parution décalée de plusieurs mois. Merci à M. Burt Kasparian (Adjoint aux publications de l'Ifao) pour avoir accepté, nonobstant un planning chargé, de le traiter dans les meilleurs délais, malgré un dépôt très tardif des articles.

Le volume présente dans une première partie l'actualité de la recherche dans le domaine des études céramiques avec son « Parcours régional ». Il s'enrichit cette année encore de l'apport de travaux archéologiques récents comme ceux réalisés à Ermant dans la région thébaine, avec un focus sur la céramique de l'Ancien Empire du site (cf. Marchand, Thiers). Toujours en suivant notre logique régionale, plusieurs contributions présentent un mobilier céramique spécifique : une étude technique des productions céramiques « Blue Painted » emblématiques du Nouvel Empire avec le mobilier des fouilles de Saqqara et de Dachour Nord (cf. Takahashi), la publication d'une partie du mobilier amphorique des époques ptolémaïque, romaine et byzantine mis au jour à Kiman Faris, l'antique Krokodilopolis, au Fayoum (cf. Mahmoud). Un article interroge sur les phénomènes toujours fort stimulants de transposition des matériaux (céramique, verre et bois) pour la vaisselle de table romaine du site de Berenike dans le désert Oriental (cf. Geerts). La Nubie est une nouvelle fois présente dans ce volume avec l'étude d'une technique décorative spécifique mise en évidence sur les céramiques Méroïtiques de Faras (cf. Kilroe).

La seconde partie de l'ouvrage comprend deux études qui abordent des thèmes très différents. La première étude est un article salutaire qui propose un parcours régional, raisonnablement illustré par des photos couleurs des pâtes céramiques des productions Prédynastiques de la Vallée du Nil (cf. Di Pietro, Friedman). La deuxième étude est la présentation des archives des fouilles de David George Hogarth entre

1906 et 1907 dans la nécropole d'Assiout par le British Museum. Il s'agit d'exposer la méthode d'analyse systématique des céramiques mise en oeuvre au moment de la fouille par Hogarth (cf. Pethen).

Enfin une brève présentation d'un ouvrage en devenir clôt ce volume. Il s'agit d'un manuel bilingue anglais-arabe qui s'intitule : *Ceramic Manual for Ceramic Sudies. From the Nile Valley to the Arab Middle East*. Il est destiné à accompagner la formation des futurs céramologues du monde arabe, au Soudan, en Égypte, au Proche-Orient et dans la péninsule arabique (cf. David).

Je remercie pour sa collaboration Mohamed Gaber (service topographique de l'Ifao) qui a réalisé les cartes qui accompagnent ce volume.

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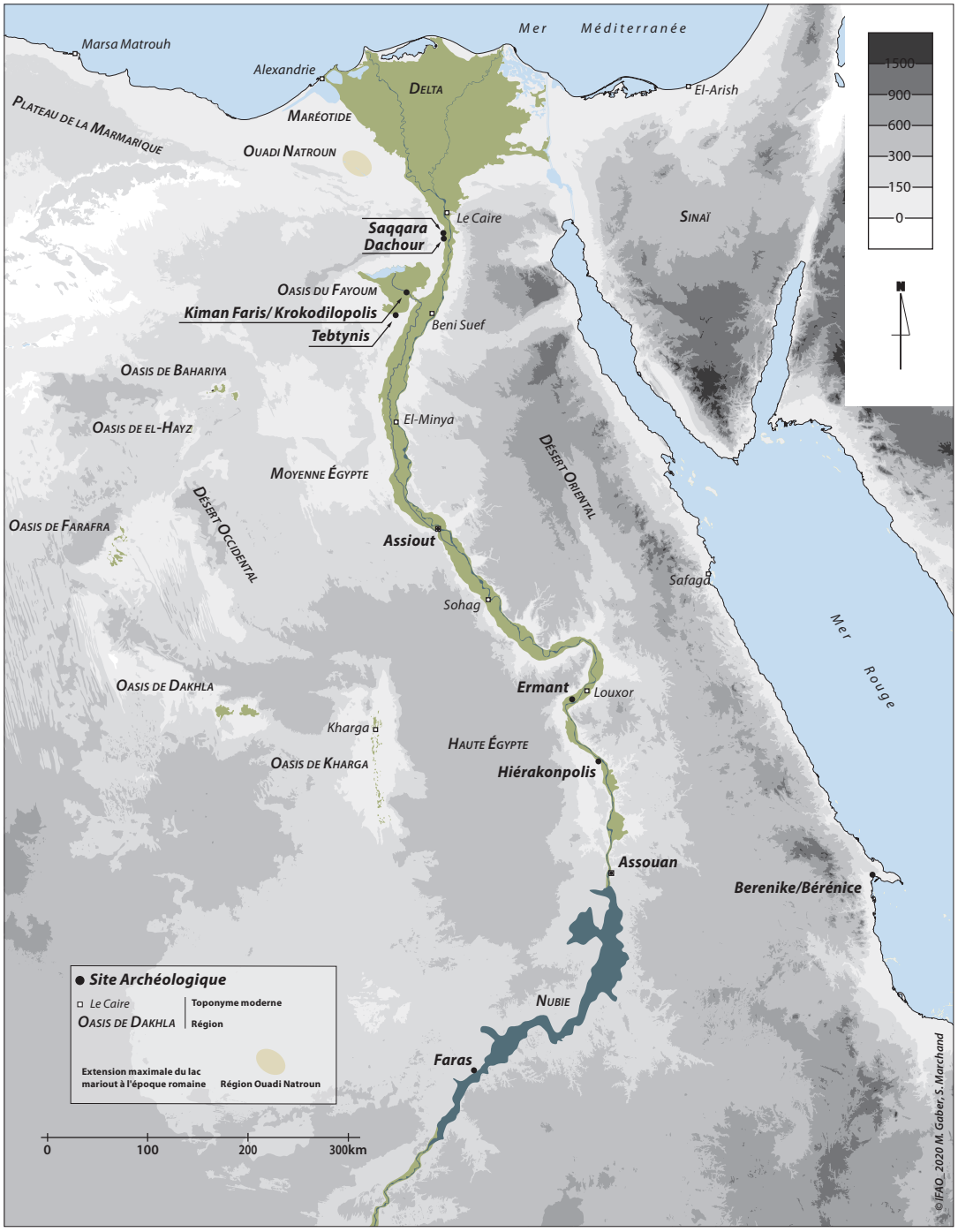
Mer Méditerranée
Marsa Matrouh
Alexandrie
Delta
El-Arish
Plateau de la Marmarique
Maréotide
Ouadi Natroun
Le Caire
Saqqara
Dachour
Sinaï
Oasis du Fayoum
Kiman Faris/ Krokodilopolis
Tebtynis
Beni Suef
Oasis de Bahariya
Oasis de el-Hayz
El-Minya
Désert Oriental
Moyenne Égypte
Désert Occidental
Oasis de Farafra
Assiout
Safaga
Sohag
Mer Rouge
Oasis de Dakhla
Ermant
Louxor
Kharga
Haute Égypte
Oasis de Kharga
Hiérakonpolis
Assouan
Berenike/Bérénice
Nubie
Faras
1500
900
600
300
150
0
N
Site Archéologique
Le Caire
Oasis de Dakhla
Toponyme moderne
Région
Extension maximale du lac mariout à l'époque romaine
Région Ouadi Natroun
0
100
200
300km
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Repères chronologiques

D'après les chronologies établies par N. Grimal, *Histoire de l'Égypte ancienne*, Paris, 1988 ; I. Shaw (éd.), *The Oxford History of Ancient Egypt*, Oxford, 2000.

Époque néolithique **vers 8800-3800 av. J.-C.**	Néolithique ancien, moyen, récent Vers 4800 av. J.-C. Néolithique final (cultures Tasienne puis Badarienne)
Époque prédynastique **vers 3800-3300 av. J.-C.**	Basse Égypte : Culture Maadi-Bouto I/Haute Égypte : Nagada I (3800-3500) Basse Égypte : Culture Maadi-Bouto II/Haute Égypte : Nagada II (3500-3300)
Époque protodynastique et **les premières dynasties** **vers 3300-2686 av. J.-C.**	Nagada IIIA-B/«Dynastie 0» (3300-3000) Nagada IIIC-D/I^{e} - II^{e} dynasties (3000-2896)
Ancien Empire **2686-2160 av. J.-C.**	III^{e} dynastie (2686-2613) IV^{e} dynastie (2613-2494) V^{e} dynastie (2345-2181) VI^{e} dynastie (2345-2181) VII^{e}-VIII^{e} dynasties (2181-2160)
Première Période intermédiaire **2160-2055 av. J.-C.**	IX^{e}-X^{e} dynasties (2160-2025) – Héracléopolis XI^{e} dynastie (2125-2055) – Thèbes
Moyen Empire **2055-1773 av. J.-C.**	XI^{e} dynastie (2055-1985) – Thèbes XII^{e} dynastie (1985-1773) – Licht
Deuxième Période intermédiaire **1773-1550 av. J.-C.**	XIV^{e} dynastie ? (1773-1650) – Delta oriental, XV^{e} dynastie (1660-1550) dite «Hyksôs» – Avaris XIII^{e} dynastie (1773-1650) – Licht XVI^{e}-XVII^{e} dynasties (1650-1550) – Thèbes
Nouvel Empire **1550-1069 av. J.-C.**	XVIII^{e} dynastie (1550-1295) XIX^{e} dynastie (1295-1186) dite période ramesside XX^{e} dynastie (1186-1069) dite période ramesside
Troisième Période intermédiaire **1069-664 av. J.-C.**	XXI^{e} dynastie (1069-944) – Tanis et Thèbes XXII^{e} dynastie (944-736) – Boubastis et Thèbes XXIII^{e} dynastie (736-713) – Tanis XXIV^{e} dynastie (725-720) – Saïs XXV^{e} dynastie (ca 780-736) dite «kouchite» ou «éthiopienne»
Basse Époque **664-332 av. J.-C.**	XXVI^{e} dynastie (685-525) – Saïs XXVII^{e} dynastie (525-401) – Première domination perse XXVIII^{e} dynastie (405-399) XXIX ^{e} dynastie (399-380) XXX^{e} dynastie (380-342) Seconde domination perse (342-332)
Époque grecque **332-30 av. J.-C.**	Époque macédonienne (332-309) Époque ptolémaïque (304-30)
Époque romaine **30 av. J.-C - 395 apr. J.-C.**	
Époque byzantine **395 - 642 apr. J.-C.**	
Époque islamique **depuis 642 apr. J.-C.**	Époques omeyyade (661-750), abbasside (750-868), toulounide et ikhshidide (868-905), fatimide (969-1171), ayyoubide (1171-1250), mamelouke (1250-1517), ottomane (1517 - fin XVIII^{e} s.)

1. PARCOURS RÉGIONAL

– RÉGION MEMPHITE, LE CAIRE

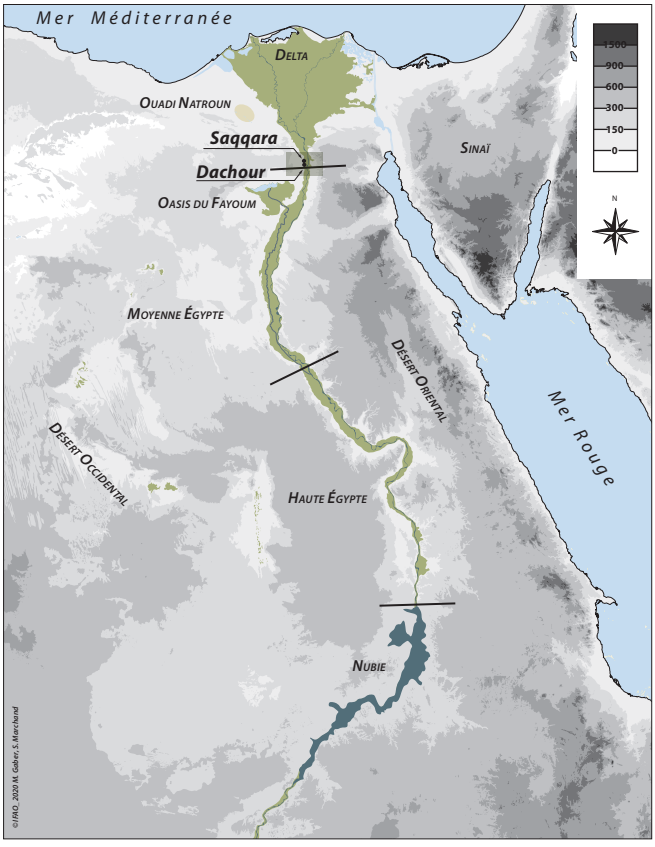
– FAYOUM

– HAUTE ÉGYPTE

– DÉSERT ORIENTAL

– NUBIE

Région Memphite, Le Caire



Kazumitsu Takahashi

Simplification in Production Technology of Blue-Painted Pottery in New Kingdom Egypt

Introduction

Blue-painted pottery is perhaps the most characteristic ceramic ware from New Kingdom Egypt, dating from the mid-18th Dynasty, beginning in the reign of Amenophis II, to the early 20th Dynasty, ceasing production during the reign of Ramesses IV. The pottery is painted predominantly in blue, supplemented by red and black, with floral and faunal motifs.[1]

The Japanese mission's excavations in Egypt over the past 50 years, directed by Dr. Sakuji Yoshimura and Jiro Kondo, have revealed several groups of blue-painted pottery vessels dating from the reigns of Amenophis II to that of Ramesses II at four sites, namely Northwest Saqqara, Dahshur North, the tomb of Amenophis III (KV 22), and the tomb of Userhat (TT 47). The materials from these sites demonstrate changes in the production technology of blue-painted pottery over time. The author assumes that such changes indicate a simplification in the production technology of blue-painted pottery.

1. For previous studies and reports about blue-painted pottery, see Hope 1987b; Hope 1989; Hope 1991; Hope 1997; D. Aston 1998; Bourriau et al. 2005; Shortland, Hope, Tite 2006; Rose 2007; D. Aston 2011; Hope 2016.

This paper aims to present diachronic changes in production technology of blue-painted pottery in terms of "clays", "motifs", and "decoration process", and how the simplification of production technology had occurred over time. Finally, the author will discuss what happened as a result of this simplification of production technology.[2]

Overview of the blue-painted pottery from Northwest Saqqara, Dahshur North, the royal tomb of Amenophis III, and the tomb of Userhat

Northwest Saqqara

The excavation site in Northwest Saqqara is located on a prominent rocky outcrop in the desert area, approximately 1.5 km northwest of Djoser's step pyramid. The excavations at the summit of this outcrop revealed a royal mud-brick structure dating to the reigns of Amenophis II and Tuthmosis IV, where those pharaohs conducted cultic activities to the gods. Another structure at the summit of the outcrop is the monument of Khaemwaset, the fourth prince of Ramesses II. It was here that he also presented offerings to the gods. The find-spots, stratigraphic observations, and parallels indicate that the blue-painted pottery vessels could be divided into four periods: the reign of Amenophis II (fig. 1), that of Tuthmosis IV (fig. 2), the Amarna period (fig. 4.1, 4.2),[3] and the reign of Ramesses II (fig. 6.1, 6.2).[4]

2. I would like to express my appreciation to Dr. Sakuji Yoshimura, general director of Higashinippon International University's Egyptian expedition; Jiro Kondo, director of the Institute of Egyptology, Waseda University; Dr. Nozomu Kawai, field director of the Abusir-Saqqara Project; Dr. Masahiro Baba, former field director of Dahshur North Project; Ken Yazawa, present field director of Dahshur North Project, for permission to publish the materials. I deeply appreciate the feedback and English language editing by Dr. David Aston. I also would like to thank the Ministry of Antiquities in Egypt for their cooperation in every possible way. The research was supported by a grant from Japan Society for the Promotion of Science. Finally, I would like to thank Editage (www.editage.jp) for English language editing.

3. Although any names of Amarna pharaohs have not yet been uncovered from Northwest Saqqara, the find context and parallels show that they could be dated to the Amarna period.

4. For preliminary reports on the blue-painted pottery from Northwest Saqqara, see Takamiya 2007; Abe et al. 2009; Takahashi, Takamiya 2011; Takahashi 2014; Takahashi 2017; Takahashi 2019.

Dahshur North

The Middle and New Kingdom cemetery in Dahshur North is situated approximately 2 km northwest of the red pyramid. The excavation has so far revealed over 150 tombs, including simple burials, shaft tombs, and tomb chapels. The blue-painted pottery vessels were uncovered in the tomb chapel of Ipay, originally dating to the Amarna and post-Amarna period, and then reused by Mes during the reign of Ramesses II, and in its surrounding shaft tombs, which are also dated to these periods. The find contexts and parallels show that they could be dated to the Amarna period (fig. 4.3, 4.4), post-Amarna period (fig. 5), and the reign of Ramesses II (fig. 6.3–6.7).

Royal tomb of Amenophis III (KV 22)

The royal tomb of Amenophis III is located in the western Valley of the Kings. The blue-painted pottery vessels dating to this pharaoh were found by excavation at the tomb and its vicinity (fig. 3.1, 3.2, 3.4, 3.5).[5]

Tomb of Userhat (TT 47)

The tomb of the "Overseer of King's private apartments" Userhat (TT 47) is situated in the al-Khokha area of the Theban necropolis, and is dated to the reign of Amenophis III. The tomb is one of the large-scale tombs with elaborate reliefs and columned halls, typical of the Theban necropolis during the reign of Amenophis III, with good parallels being found in the tombs of Ramose (TT 55) and Kheruef (TT 192).

Pottery vessels—including blue-painted pottery—were found among the huge accumulation of limestone chips, located above the tomb of Userhat, which were divided into two major layers. Both layers contained tomb construction tools, such as wooden mallets, organic paintbrushes, plaster containers, and palettes. Therefore, it is assumed that the layers derived from the construction debris of surrounding rock-cut tombs. The stratigraphic observations and parallels show that the vessels found could be dated to the reign of Amenophis III (fig. 3.3) and that of Ramesses II (fig. 6.8–6.11).

5. For previous reports about blue-painted pottery from the royal tomb of Amenophis III, see Takahashi 2016a; Takahashi 2016b.

Diachronic changes in the production technology of blue-painted pottery

In this paper, the author will describe features of blue-painted pottery, with regard to "clays", "motifs", and "decoration process" from the above-mentioned sites. The description will be divided into the following six periods: the reigns of Amenophis II, Tuthmosis IV, Amenophis III, the Amarna period, the post-Amarna period, and the reign of Ramesses II, so as to show the changes in production technology over time. Then, the author will discuss how such diachronic changes indicate the simplification of production technology.

Clays

The clays used in blue-painted pottery vessels are Marl clays originating from the low desert and Nile silt clay deriving from Nile alluvium. The gradual change from the predominant use of Marl clay to that of Nile silt clay is recognised over time.

The reign of Amenophis II

Twenty-three blue-painted pottery vessels were uncovered from Northwest Saqqara. Seventeen of them were made from Marl clay and six of them were manufactured from Nile silt clay.[6] Marl clay is also the clay of choice in the production of the two-colour and blue-painted pottery vessels found at Saqqara, and these are similar to contemporary vessels found in the Theban necropolis; they consist of 11 Marl clay and four Nile silt clay pottery vessels.[7]

The reign of Tuthmosis IV

Sixty-three blue-painted pottery vessels were found in Northwest Saqqara. Sixty-one of these were made from Marl clay, and two of them were produced from

6. The white wash or cream-slip was applied to Nile silt clay vessels to obtain a similar background colour to Marl clay vessels. The author assumes that perhaps the blue-painted pottery in this period must have been made from Marl clay—which is white or cream-coloured surface after firing—so that potters tried to imitate a Marl clay surface by applying a white or cream-slip on red-brown coloured pottery from Nile silt clay. A similar example is reported from the early 18th Dynasty tombs at Dra' Abu el-Naga, Thebes: see Seiler 1995, p. 187.
7. Hope 1987b, p. 105.

Nile silt clay.[8] It is notable that 23 blue-painted pottery vessels from Giza dating to the reigns of Amenophis II and Tuthmosis IV are also manufactured from Marl clay.[9]

The reign of Amenophis III

Eight blue-painted pottery vessels were found in the royal tomb of Amenophis III (KV 22) and its vicinity. There were one Marl clay and seven Nile silt clay vessels. One Nile silt clay vessel was unearthed above the tomb of Userhat (TT 47). Blue-painted pottery in Nile silt clay seems to be common during this period. Although the exact ratio of Marl clay to Nile silt clay has not been reported, blue-painted pottery vessels from Malkata are made from both clays.[10]

The Amarna period

Sixteen blue-painted pottery vessels were uncovered from Northwest Saqqara. Four vessels were from Dahshur North and all of them are made from Nile silt clay. As yet no Marl clay blue-painted pottery is known from this period at either site. A similar situation is also recognisable at Amarna. Pamela Rose mentioned that most of the blue-painted pottery vessels from Amarna are made out of Nile silt clay, and that Marl clay blue-painted pottery is very rare, represented only by isolated sherds.[11]

Post-Amarna period

Ten blue-painted pottery vessels made of Nile silt clay were found in Dahshur North. Hitherto, there is no Marl clay blue-painted pottery from the site. The contemporary blue-painted pottery vessels from the tomb of Horemheb[12] and the tomb of Maya and Merit at Saqqara[13] were also made from Nile silt clay.[14]

8. White wash or cream-slip was applied to Nile silt clay vessels as well.
9. Hope 1997, p. 252.
10. Hope 1989, p. 11.
11. Rose 2007, p. 19.
12. Bourriau et al. 2005, figs 21–28, 29.149–29.151; B. Aston 2011, figs VI.7.67, VI.8.68–77, VI.13.116–117, VI.14.132–133, VI.15.135, VI.16.143, VI.17.150, VI.20.176, VI.24.212, VI.25–28, VI.29.233.
13. D. Aston 2011.
14. Actually, only one fragment of a Marl clay blue-painted vessel was found in the tomb of Horemheb. However, it was from surface debris and a precise date for this vessel was not given; see Bourriau et al. 2005, pp. 67–68, no. 181.

The reign of Ramesses II

So far, 37 blue-painted pottery vessels were uncovered from Northwest Saqqara, seven vessels from Dahshur North, and seven vessels were found above the tomb of Userhat (TT 47). All of them are made from Nile silt clay, and there are no Marl clay blue-painted pottery vessels from these sites. It is worth mentioning that all blue-painted pottery vessels from Qantir dating to the Ramesside period are also made from Nile silt clay.[15]

The simplification of obtaining clay and firing

Marl clay was used predominantly for the production of blue-painted pottery during the reigns of Amenophis II and Tuthmosis IV, while from the reign of Amenophis III, Nile silt clay blue-painted pottery was becoming popular. During subsequent periods, only Nile silt clay was used for blue-painted pottery vessels.

Previous studies of ancient Egyptian pottery clays showed that obtaining Marl clay was both complicated and time consuming, since the clay must be extracted from low deserts by a particular mining group, and then brought for some distance to the workshop. Since Nile silt clay originated from Nile alluvium and was available everywhere along the Nile, it was easy to obtain materials.[16] In addition, the firing temperature of Marl clay vessels is relatively higher than that of Nile silt; that is, it takes more fuel costs for firing.[17]

Motifs[18]

The change from what I term "graphic" (which includes what Colin Hope terms "faunal", "humans and divinities", "hieroglyphic", and most of his "floral") to what I call "stylised" (which includes C. Hope's "abstract", but, in my case, also includes simplified floral) motifs occurred midway through the late 18th Dynasty.[19] In the 19th Dynasty, decoration became more stylised and simpler.

15. D. Aston 1998, pp. 114–117, 132–133, 146–147, 354–421, 430–431.
16. Bourriau, Smith, Nicholson 2000, p. 122.
17. For previous studies of firing temperature, see Bourriau 1981, p. 17; Hope 1987a, p. 19; Nordström, Bourriau 1993, p. 157.
18. The decorative motif terminology follows C. Hope's classifications; see Hope 1987b, pp. 66–84; Hope 1997, pp. 282–286; Hope 2016, pp. 123–159.
19. Hope 1987b, pp. 66–84; Hope 2016, pp. 123–159. By simplified floral motifs, I include downward tapering lotus petals, overlapping lotus petals, and Colin Hope's group AIo of which, as he admits, the identification as floral motifs is uncertain.

The reign of Amenophis II

The decorations were applied on a jar from top to bottom as follows: horizontally blue, red, and black bands, and upward tapering petals are placed on the neck (fig. 1.1–1.4); contiguous black V-shapes (fig. 1.2) or black V-shapes featuring a central vertical line with horizontal lines on the shoulder (fig. 1.1, 1.3, 1.4); the graphic faunal and floral motifs, for instance, galloping cows among lotus flowers (fig. 1.1), flying birds among lotus flowers (fig. 1.2), and lotus flowers (fig. 1.3) on the body. Hieroglyphic motifs, such as the *ʿnḫ* and *wȝs*-sceptres with lotus flowers, are also drawn (fig. 1.4). Similar graphic motifs, such as gazelles, lilies, lotus flowers, and *ʿnḫ* with *wȝs*-sceptres, are known from the Theban necropolis.[20]

The reign of Tuthmosis IV

Stylised motifs appeared in the reign of Tuthmosis IV along with pictorial floral motifs, such as lotus flowers (fig. 2.4), and hieroglyphic signs, such as *ʿnḫ* (fig. 2.4), anthropomorphic *ʿnḫ* holding *nbw* with *ʿnḫ* flanked by *wȝs*-sceptres (fig. 2.5). The stylised motifs comprise, principally, geometric flowers, such as chrysanthemum flowers (fig. 2.1, 2.2, 2.6–2.8), bead-nets (fig. 2.2, 2.8), zigzags (fig. 2.2, 2.8), cornflowers, and fruits (fig. 2.2, 2.8). Other stylised motifs comprise downward tapering petals (fig. 2.2, 2.5, 2.8) and overlapping petals (fig. 2.2, 2.6, 2.8). The blue-painted pottery vessels from Giza dating to the reigns of Amenophis II and Tuthmosis IV have similar elements, such as chrysanthemum flowers, bead-nets, and downward tapering petals.[21]

The reign of Amenophis III

The stylised decorations, such as overlapping petals (fig. 3.2–3.4), downward tapering petals flanked by red stamens (fig. 3.3) or red and black stamens (fig. 3.2, 3.5), and buds (fig. 3.2, 3.5), become popular in this period. Similar stylised decorations are also common in Malkata.[22] In addition, at Malkata, there are a few blue-painted pottery vessels with pictorial designs, such as flying birds among lotus flowers.[23]

20. Petrie 1897, pl. V.7–11; Hope 1987b; Sesana 2002, photo 26; Sesana 2008, fig. 25.
21. Hope 1997, figs 1–21.
22. Hope 1989, figs 9–12, 13.a–c.
23. Hayes 1959, fig. 150.

The Amarna period

The decorations become more stylised than in previous periods. In cases from Northwest Saqqara and Dahshur North, the decoration is divided into two registers on a white wash or a cream-slip background (fig. 4). In the first register on the shoulder, overlapping petals were drawn. On the body downwards tapering petals with red and black horizontal lines are applied in a second register. Similar designs are also known from Amarna.[24] Additionally, at Amarna, there are pictorial decorations, such as a riverbank scene.[25]

Post-Amarna period

The designs are similar to those from the Amarna period. They are overlapping petals (fig. 5.1, 5.5), downward tapering petals (fig. 5.1–5.3, 5.5), upward tapering petals (fig. 5.4), red dots (fig. 5.1, 5.3, 5.5), and red vertical short-lines (fig. 5.4). Similar stylised petal designs are known from tombs at Saqqara, such as the tomb of Horemheb[26] and the tomb of Maya and Merit.[27] Moreover, graphic elements are known from these tombs.[28]

The reign of Ramesses II

The decorations became very simple. Lines and dots in red or black are painted on broad blue bands (fig. 6). There are no graphic representations in this period from Northwest Saqqara, Dahshur North, and over the tomb of Userhat (TT 47). Similar simple decorations are known from other 19th Dynasty sites such as Qantir.[29]

The simplification of motifs

The graphic floral and faunal decorations found during the reign of Amenophis II seem restricted to marsh and riverine scenes. C. Hope has already pointed out the similarity between marsh and riverine scenes on blue-painted pottery vessels in the

24. Rose 2007, nos. 422, 425.
25. Rose 2007, no. 389; Hope 1991, pl. 1, 6.d, 7.c–d, 8–13, 15.a–b, 15.d, 16.a–d.
26. Bourriau et al. 2005, figs 21–28, 29.149–29.151; B. Aston 2011, figs VI.7.67, VI.8.68–77, VI.13.116–117, VI.14.132–133, VI.15.135, VI.16.143, VI.17.150, VI.20.176, VI.24.212, VI.25–28, VI.29.233.
27. D. Aston 2011.
28. Bourriau et al. 2005, fig. 24.127; D. Aston 2011, nos. 23, 46–51, 86.
29. D. Aston 1998, pp. 114–117, 132–133, 146–147, 354–423, 430–431.

late 18th Dynasty and wall paintings in the palaces of Malkata and Amarna.[30] Therefore, it is presumed that mid-18th Dynasty examples also had a relationship with the palace wall paintings. Likewise, in the reign of Tuthmosis IV, even though the decorations became stylised, they are very elaborate and complicated. These features imply that, until the reign of Tuthmosis IV, the blue-painted pottery was decorated by highly skilled artisans who could draw palace wall paintings—they were probably related to the royal workshops.

During the time of Amenophis III, the Amarna period, and the post-Amarna period, although pictorial motifs and elaborate designs were still present, the stylised elements came to be common. The main elements are petal decorations consisting of simple narrow vertical lines and horizontal crescents.

In the 19th Dynasty, decorative elements became very simple and easy to draw; thus, it is assumed that any painter could decorate the blue-painted pottery vessels. It is possible that such decoration was added by the potters themselves.

Decoration process

The close observations of the three colours—red, black, and blue—on blue-painted pottery indicate the decorative process of vessels. Until the reign of Tuthmosis IV, many different decorative processes were utilised, and the order for red, black, and blue differed for each motif or vessel. The decorative processes decreased during the reign of Amenophis III, and subsequently, decorating was conducted in less time. The sequence of colours is basically the same in most cases.

The reign of Amenophis II

Many decorative processes were undertaken during this period. The decoration of the blue-painted jar with a galloping cow among lotus flowers was achieved through at least 13 decorative processes (fig. 7). First, red, blue, and black horizontal lines were drawn in order to divide them into three registers, and then decorations were added for each register.[31]

The application order of the three colours is different for each register. For instance, upward tapering petals on the shoulder were painted in the order of red, blue, and black (fig. 7.4–7.6), while lotus flowers on the body were applied in the order of

30. Hope 1982, p. 94.

31. In Figure 7, it is tentatively indicated that the decorations of each register were conducted from top to bottom. However, since each register does not overlap, we do not know which register had been decorated first.

blue, black, and red (fig. 7.8–7.10). Furthermore, a pictorial cow on the body was applied in the order of black, red, and blue (fig. 7.11–7.13). Moreover, in the case of a blue-painted jar with a flying bird (fig. 1.2), the sequence of colours differs from the cases above-mentioned. The motif was painted in the order of red, black, and blue.

The reign of Tuthmosis IV

Decorative processes were practiced widely. The decoration of a thin-walled lid was effected through at least 21 decorative processes (fig. 8). First, narrow horizontal lines in red, blue, and black were decorated to divide the registers. Then, the decorations were executed on these registers, in firstly blue, then black, then red.

The application order of the three colours is complicated and has many varieties. It differs depending on the vessel. For example, in the case of chrysanthemum flowers on the thin-walled lid, which is shown in Figure 8, the elements were drawn in the order of blue, black, and red (fig. 8.4–8.21). While the same motif on other vessels, as shown in Figure 2.7, was drawn in the order of red, blue, and black. Moreover, some sequences differ within the same vessel. In the case of the long-necked jar (fig. 2.7), chrysanthemum flowers are decorated in the order of red, blue, and black. However, other elements, such as triangles and rhombi among chrysanthemum flowers, were painted black and red at first, and then blue was added at last.

The reign of Amenophis III

Decorative processes decreased during the reign of Amenophis III. The decoration of the jar shown in Figure 9 was carried out through ten processes. In this case, the cream-slip was applied first, since the pottery was made from Nile silt (fig. 9.1). Then, after the rim was painted black (fig. 9.2), blue horizontal broad bands were applied (fig. 9.3). The red and black narrow lines were applied over the blue bands (fig. 9.4, 9.5). The next step was to apply blue vertical streaks and reverse drop shapes among streaks and circles, which form the background of the petals and buds, respectively (fig. 9.6). The outlines of the elements in black were painted over a blue background (fig. 9.7). After the addition of red and black stamens decorated with downwards tapering petals (fig. 9.8, 9.9), blue dots were added to these stamens (fig. 9.10).

In this period, the blue in each element was usually painted first, although in some cases blue was added at the final stage. Red and black were added to outline and detail the elements. It is notable that the sequence of colours is structurally the same in most cases.

The Amarna period

At least seven decoration processes were undertaken for the vessel shown in Figure 10. On the cream-slip background (fig. 10.1), blue broad horizontal bands were applied (fig. 10.2), and narrow horizontal lines in black and red were added (fig. 10.3, 10.4). The blue vertical petal elements were executed (fig. 10.5), and narrow vertical lines with horizontal crescents in black were added at the shoulder, and black vertical lines were painted on the body to outline the petal motifs in the final stage (fig. 10.6). A black "pot mark"[32] was sometimes painted onto the shoulder at the end (fig. 10.7).[33]

The sequence of colours is similar to that from the reign of Amenophis III. The blue is always painted first, and then red and black are applied.

The Post-Amarna period

Four decorative processes were undertaken (fig. 11). After applying a cream-slip as a background (fig. 11.1), narrow black horizontal lines and black vertical lines with, or without, horizontal crescents that express overlapping petals and downwards tapering petals were applied (fig. 11.2). Then, broad horizontal blue bands were applied over the black decorations (fig. 11.3), and finally, red horizontal lines and dots were added (fig. 11.4).

It is noteworthy that the application order of the colours is opposite to that current during the reign of Amenophis III and the Amarna period, that is, the narrow black lines that outlined and detailed the elements came first. Then, the blue roughly covered these elements.

32. In particular on a group of short-necked jars and funnel-necked jars, like that shown in Figures 3.2, 4.1–4.3, a mark was sometimes painted between the first and second registers on the shoulder. For instance, on the vessel shown in Figure 3.2, an *ʿnḫ* was painted, and *nfr* was painted on the vessel in Figure 4.2. C. Hope (1999, pp. 122–133) reported similar painted marks on blue-painted pottery from Memphis, Amarna, Karnak North, and Malkata, and suggested some possibilities about the function of such marks on blue-painted pottery. P. Rose (2007, pp. 24–25) also mentioned such a mark as a "painter's mark". Black painted marks on similar blue-painted pottery vessels are also known from KV 63; see Schaden 2010, p. 48.
33. A similar decorative process is recognised at Amarna; see Rose 2007, p. 19.

The reign of Ramesses II

The decoration was conducted in four stages (fig. 12). The horizontal lines in red and then black were applied on a cream-slip background (fig. 12.1–12.3). The broad horizontal blue bands were then applied over these lines (fig. 12.4).

The application order of the three colours was similar to that of the post-Amarna period. The blue bands are usually painted over narrow red and black lines.

Simplified decorative process

In the reigns of Amenophis II and Tuthmosis IV, the decoration was carried out in many stages, and the order of colour application was different for each motif or vessel. Thus, it is assumed that the artisans carefully decorated the vessels one by one.

During the next period, the decorations tended to be effected in fewer processes, and the application order of the colours was basically fixed. In other words, decoration was carried out on an assembly line without great care. It is worth mentioning that there were still some graphic designs in this period; however, the decorative procedures became simpler and easier than those of the mid-18th Dynasty. P. Rose describes the decorative procedures of blue-painted pottery with a pictorial riverbank scene from Amarna as follows: the figures are outlined in black at first, and then the outlined figures were sparsely filled with blue.[34]

Discussion: What had occurred by the simplification of the production technology of blue-painted pottery?

As mentioned above, it is presumed that the production technology of blue-painted pottery gradually became simpler and easier over time. In other words, vessels had become manufactured anywhere, and not only in royal workshops.[35] The author considers that this phenomenon resulted in an increase in the number of manufacturing places.[36]

34. Rose 2007, p. 19.
35. The author's observation of the blue colour with a 10x hand lens revealed that the thickness of the paint becomes thinner as time passed. This is further evidence of simplification relating to the painting technique.
36. It is assumed that as a result of simplification, production quantity had also increased. A similar possibility has already been pointed out by P. Rose (2007, p. 19) who suggests that careless decoration of Amarna blue-painted pottery is suggestive of mass-production.

As C. Hope suggested,[37] if the provenances of blue-painted pottery vessels indicate the place of manufacture, then until the Amarna period, the production was essentially limited to royal residential cities, such as Memphis, Amarna and Thebes. In the post-Amarna period, the provenances increased over the previous periods. Blue-painted pottery was found not only in royal residences but also in local administrative centres, such as Gurob, Asyut, Abydos, and Elephantine. In the 19th Dynasty, the provenance of blue-painted pottery spread further. They are Qantir, Memphis, Gurob, Asyut, Abydos, Thebes, and Elephantine. The vessels were uncovered even from outside the Nile Valley, for instance, Zawiyet Umm el-Rakham near the Libyan border[38] and Syro-Palestinian sites, such as Hazor.[39] It is notable that the fabrics and/or the forms of blue-painted pottery in the 19th Dynasty from these sites are different from each other, and thus, they were presumably manufactured locally at each site. For example, at Qantir, blue-painted pottery vessels were made from a local fabric,[40] while in Northwest Saqqara, they were made from a different fabric. Julia Budka pointed out that some of the blue-painted pottery vessels from Abydos were made locally.[41] The fabric analysis showed that the blue-painted pottery vessels from Hazor were made from local clay. In the Theban area, blue was painted on wavy-necked jars (figs 6.9–6.11) for which the author could, so far, not find any exact parallels outside the Theban area.

Furthermore, as a result of the increase in manufacturing places, more people came to be able to access blue-painted pottery; however, access was limited to the pharaoh or persons who had a connection to the royal court until the Amarna period. Until the Amarna period, vessels were mainly limited to the royal palaces, temples, and tombs. On the other hand, from the post-Amarna period, blue-painted pottery vessels were found not only in structures related to the royal court, but also in tombs of high officials.[42] It is notable that they are also known even from simple burials of ordinary people,[43] although the quality of such vessels is relatively low.

37. Shortland, Hope, Tite 2006, p. 93.
38. Nielsen 2016, pp. 67–68.
39. Nataf 2014, fig. 3.
40. D. Aston 1998, pp. 354–355.
41. Budka 2006, p. 113.
42. D. Aston 1997; D. Aston 2011.
43. At Dahshur North, one blue-painted pottery (fig. 6.7) was found *in situ* at the foot of a child's simple burial. The other simple burials with blue-painted pottery are known from Saqqara; see B. Aston 2011, p. 252, fig. VI.29.233; Sowada, Callaghan, Bentley 1999, pp. 84, 87, pls. 50.TNE94:1, TNE95:179, 52.TNE94:30, 53.TNE94:29.

Conclusion

In conclusion, the present study of blue-painted pottery from four different sites has demonstrated that the changes in production technology, in terms of "clays", "motifs", and "decoration process", had gradually occurred through the mid- to late-18th Dynasty. The transitions are as follows: Marl clay, which is relatively difficult to obtain and fired at a higher temperature, to Nile silt clay, which is easier to acquire and fired at a lower temperature; graphic, elaborate and complicated motifs, to stylised and simple motifs; careful decorations conducted by skilled artisans to careless decorations by unskilled artisans or potters themselves. The author assumes that these transitions indicate the simplification of production technology. Due to this simplification, especially in the 19th Dynasty, the production of blue-painted pottery became easier and it seems that, in addition to royal residential sites, the manufacturing places had spread to regional cities, including those outside of the Nile Valley.

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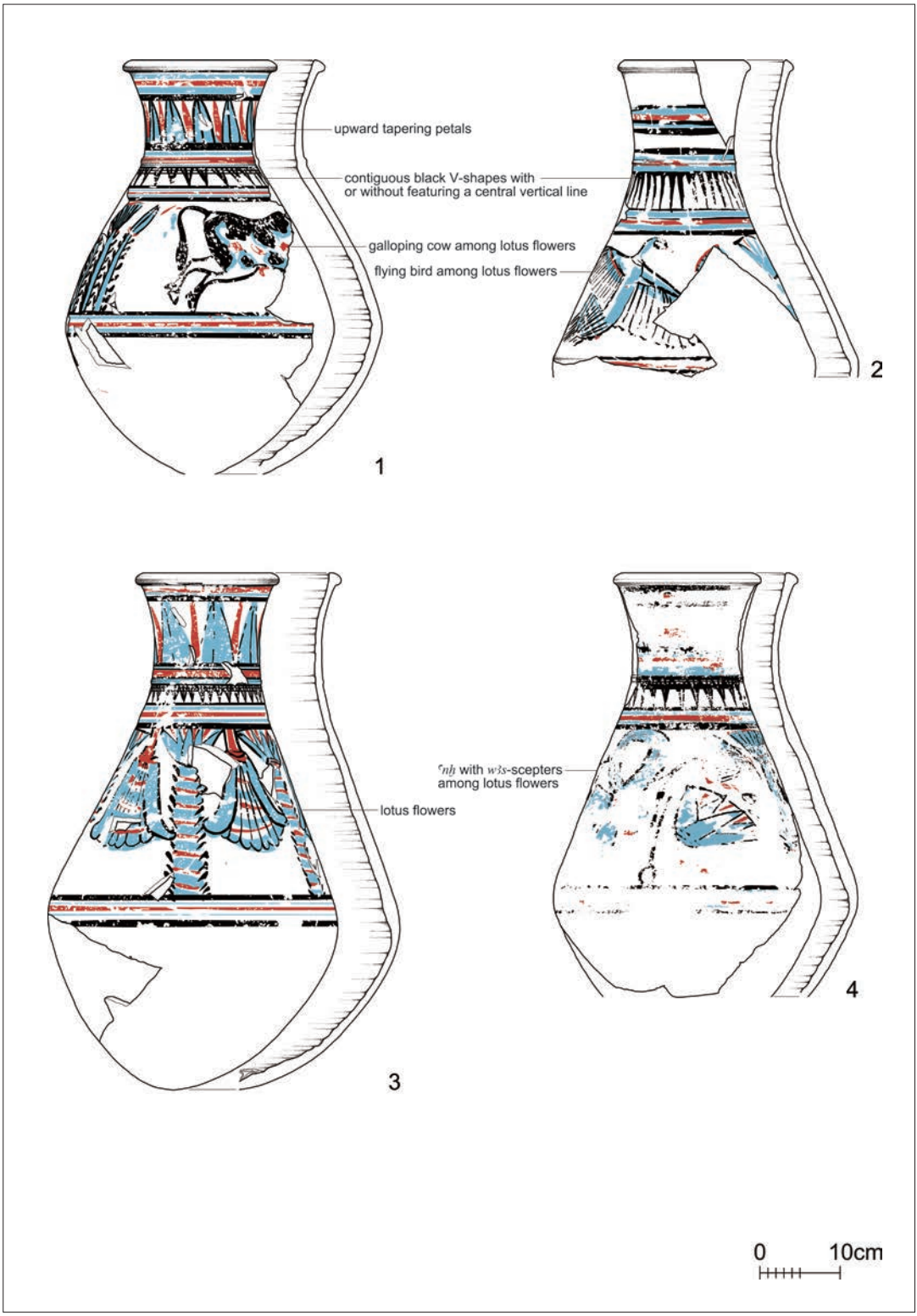


Fig. 1. *The representative blue-painted pottery vessels dating to the reign of Amenophis II from Northwest Saqqara.*

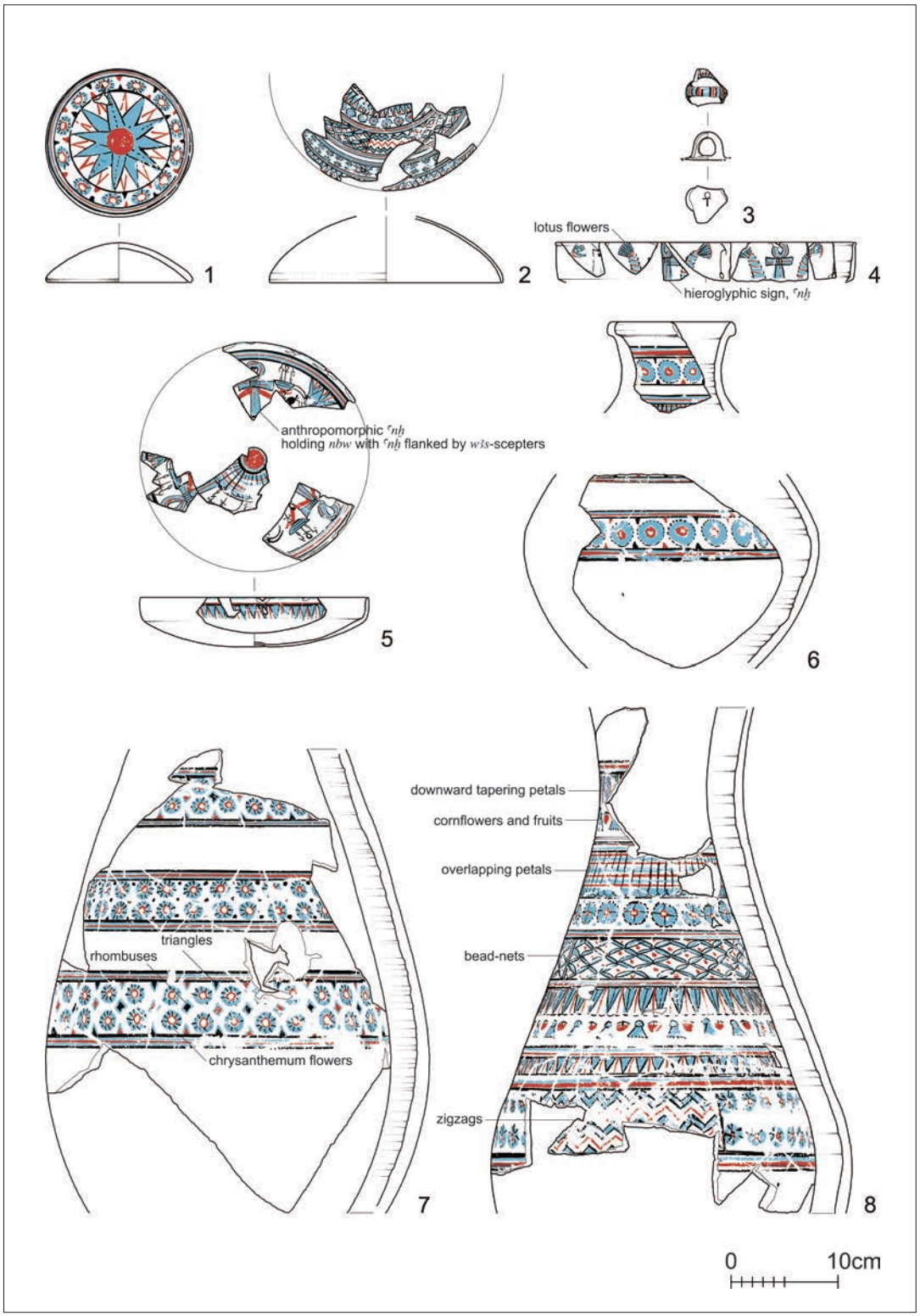


Fig. 2. *The representative blue-painted pottery vessels dating to the reign of Tuthmosis IV from Northwest Saqqara.*

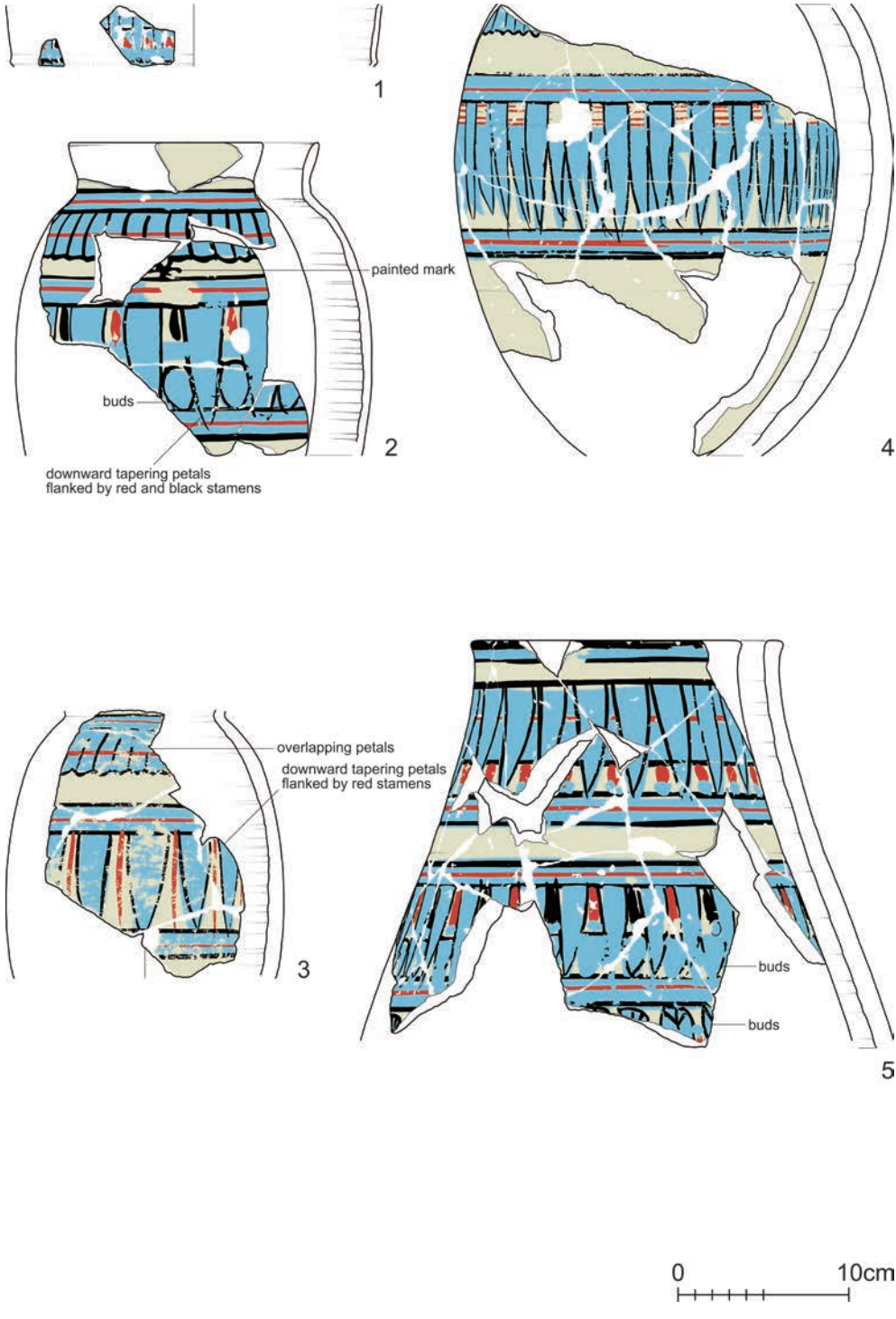


Fig. 3. *The representative blue-painted pottery vessels dating to the reign of Amenophis III from the royal tomb of Amenophis III (nos. 1–2, 4–5) and the tomb of Userhat (TT 47) (no. 3).*

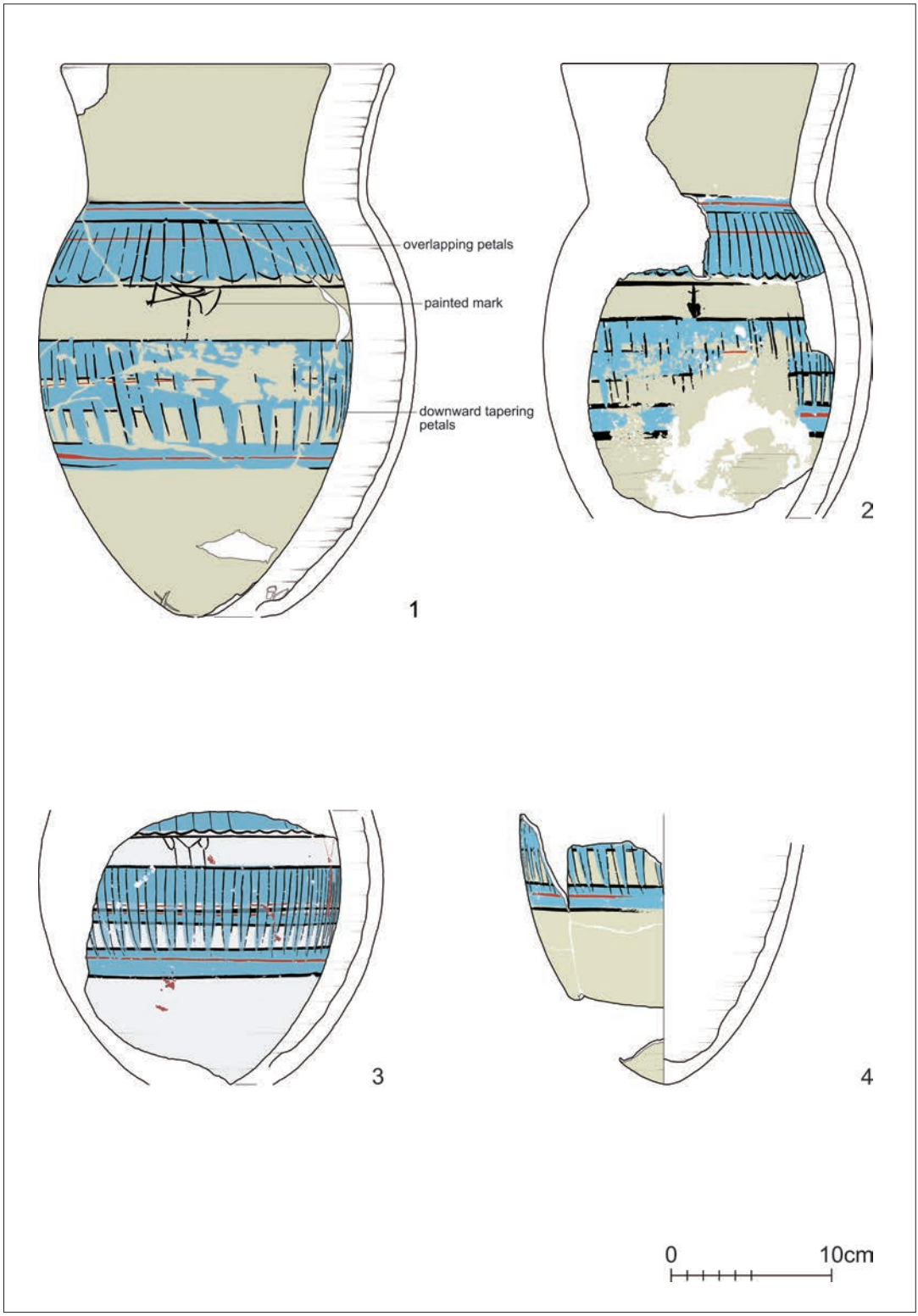


Fig. 4. *The representative blue-painted pottery vessels dating to the Amarna period from Northwest Saqqara (nos. 1–2) and Dahshur North (nos. 3–4).*

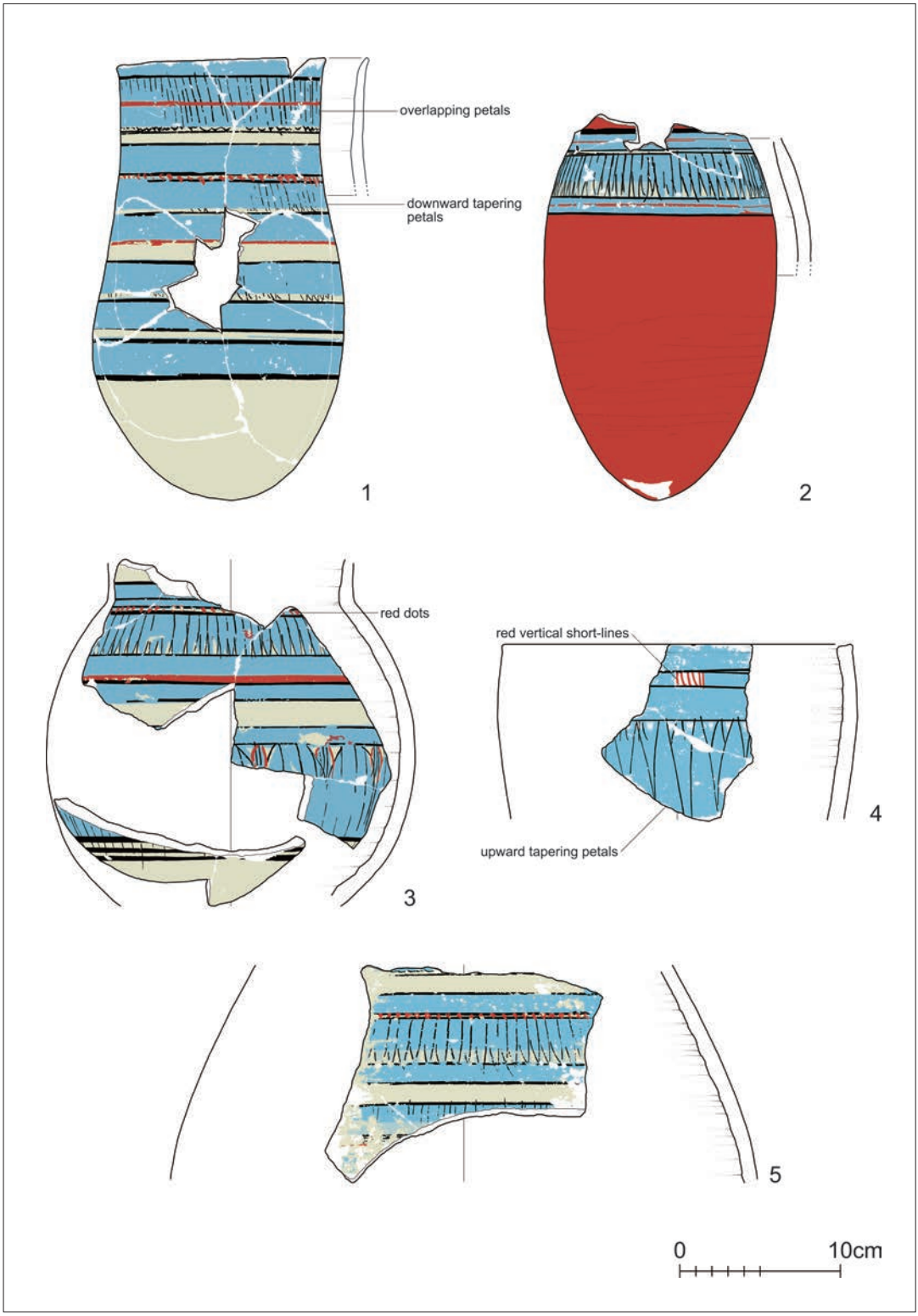


Fig. 5. *The representative blue-painted pottery vessels dating to the post-Amarna period from Dahshur North.*

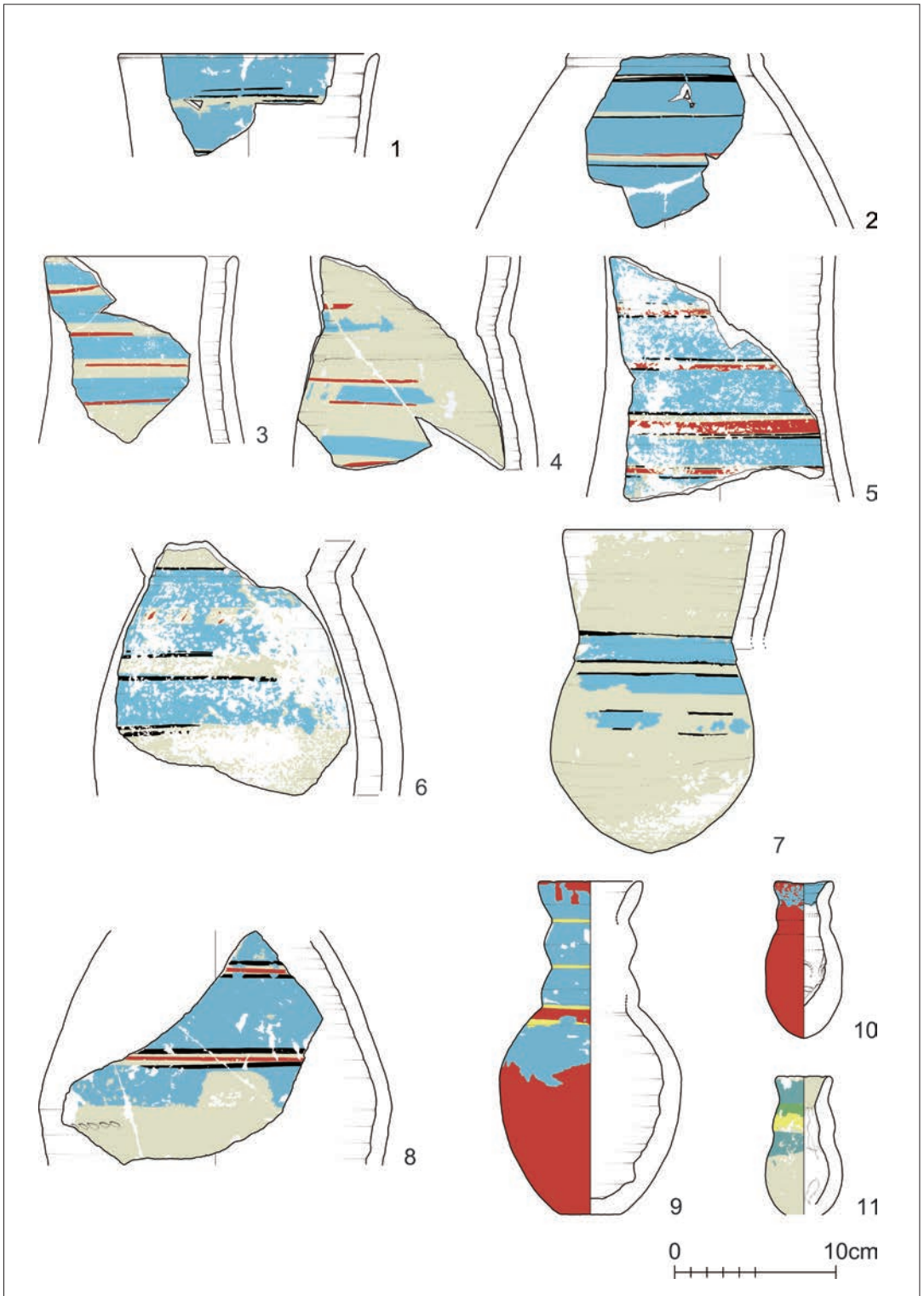


Fig. 6. *The representative blue-painted pottery vessels dating to the reign of Ramesses II from Northwest Saqqara (nos. 1–2), Dahshur North (nos. 3–7), and the tomb of Userhat (TT 47) (nos. 8–11).*

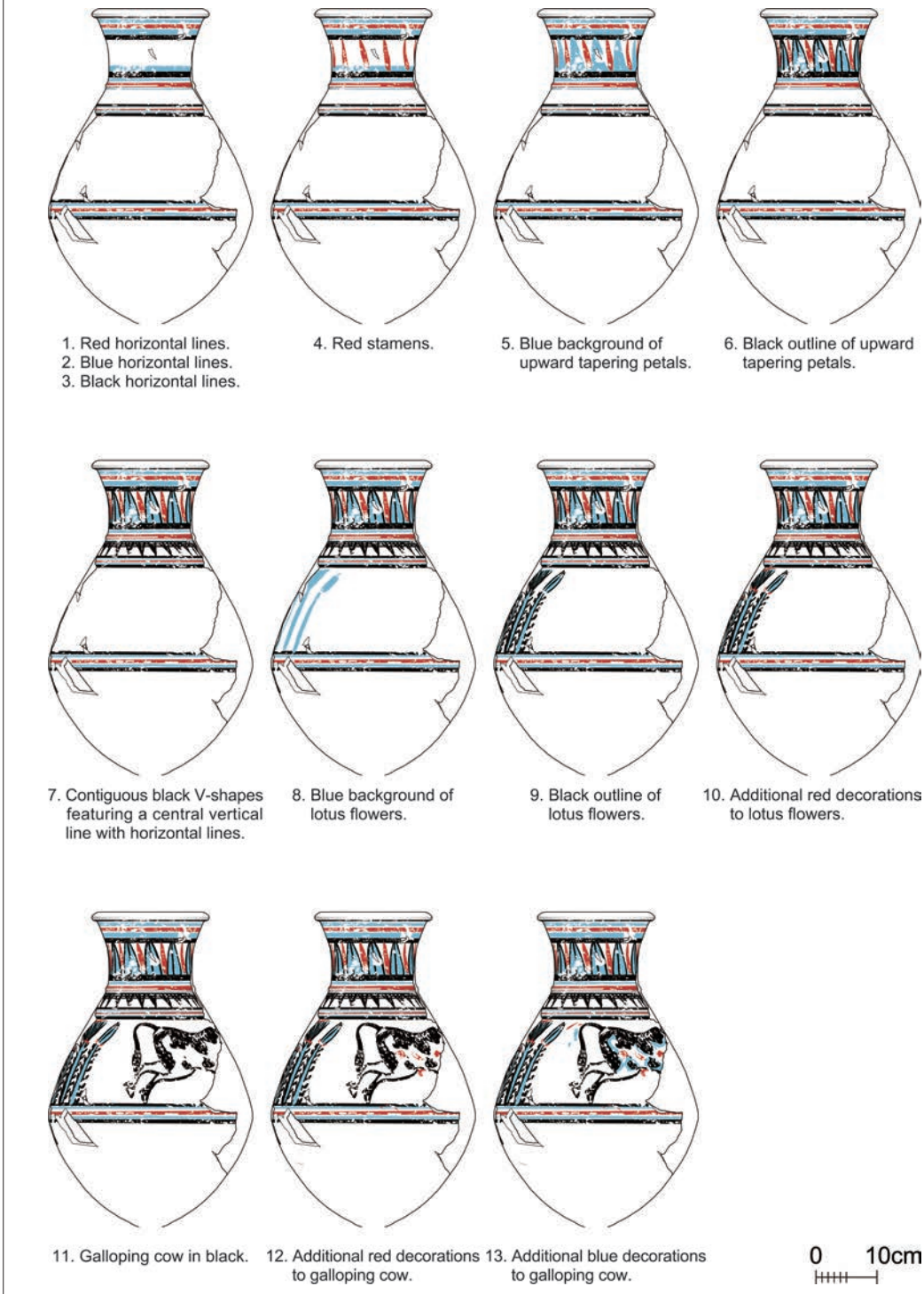


Fig. 7. *The decoration process of blue-painted pottery vessels in the reign of Amenophis II.*

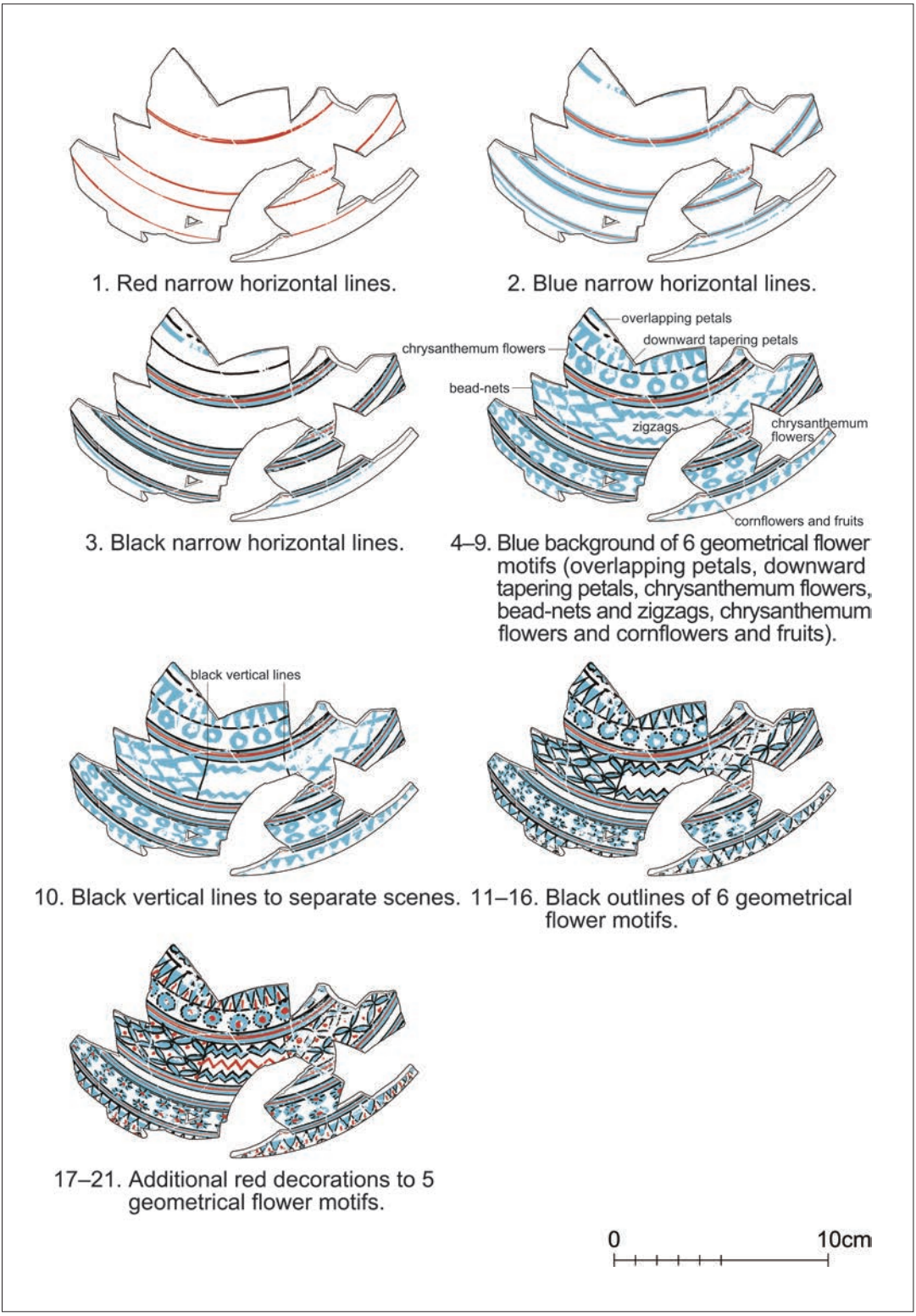


Fig. 8. *The decoration process of blue-painted pottery vessels in the reign of Tuthmosis IV.*

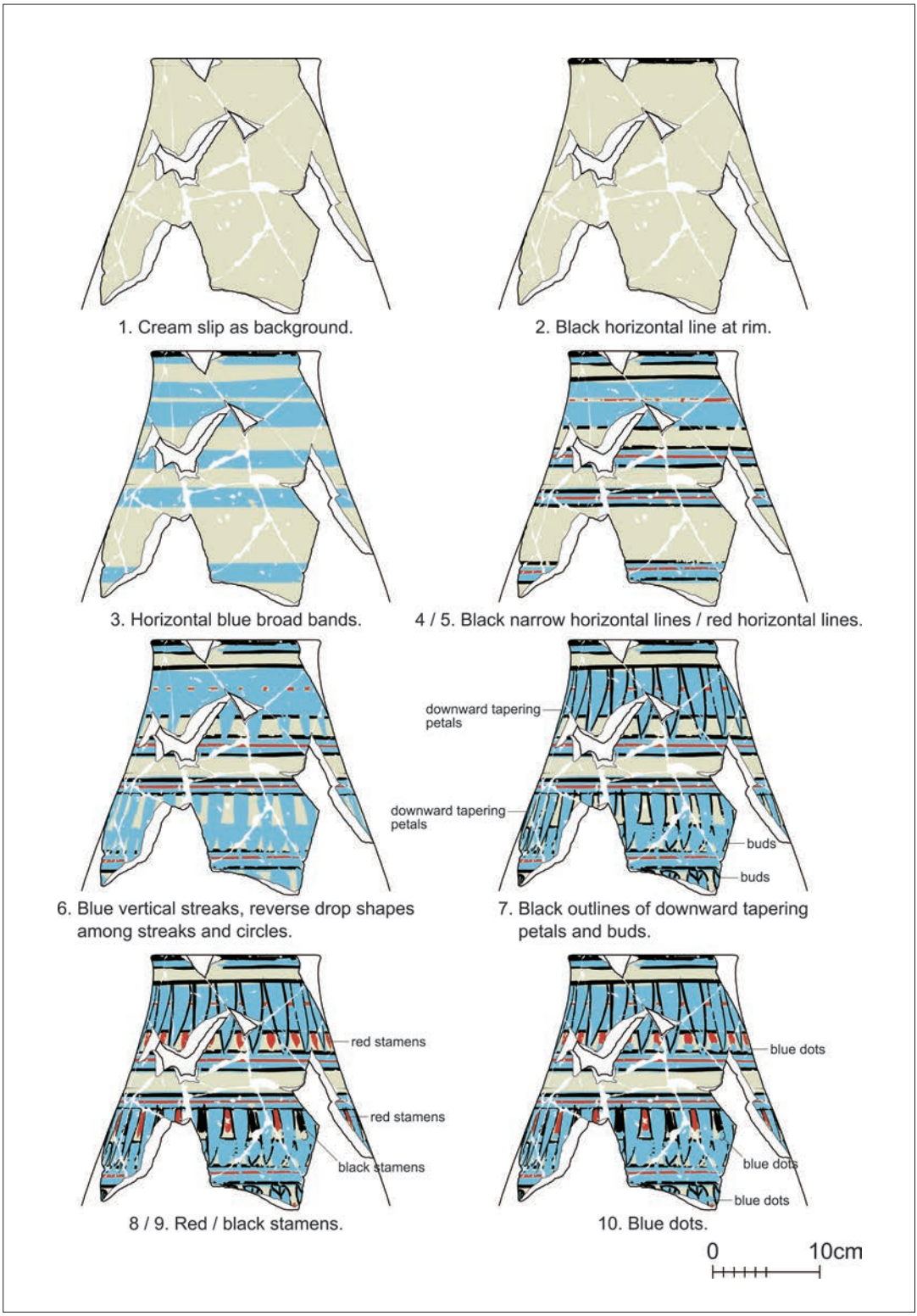


Fig. 9. *The decoration process of a blue-painted pottery vessel in the reign of Amenophis III.*

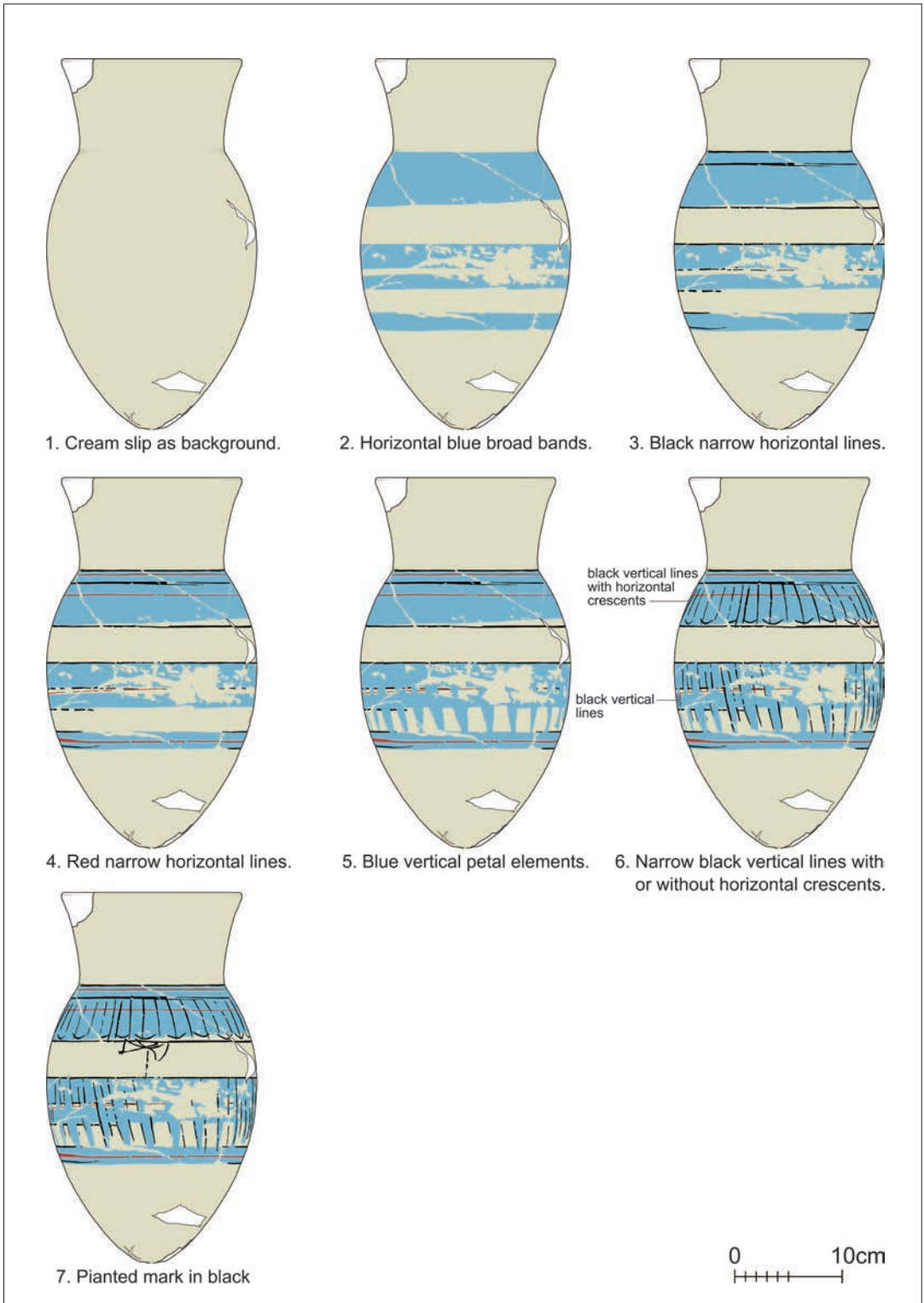


Fig. 10. *The decoration process of blue-painted pottery vessels in the Amarna period.*

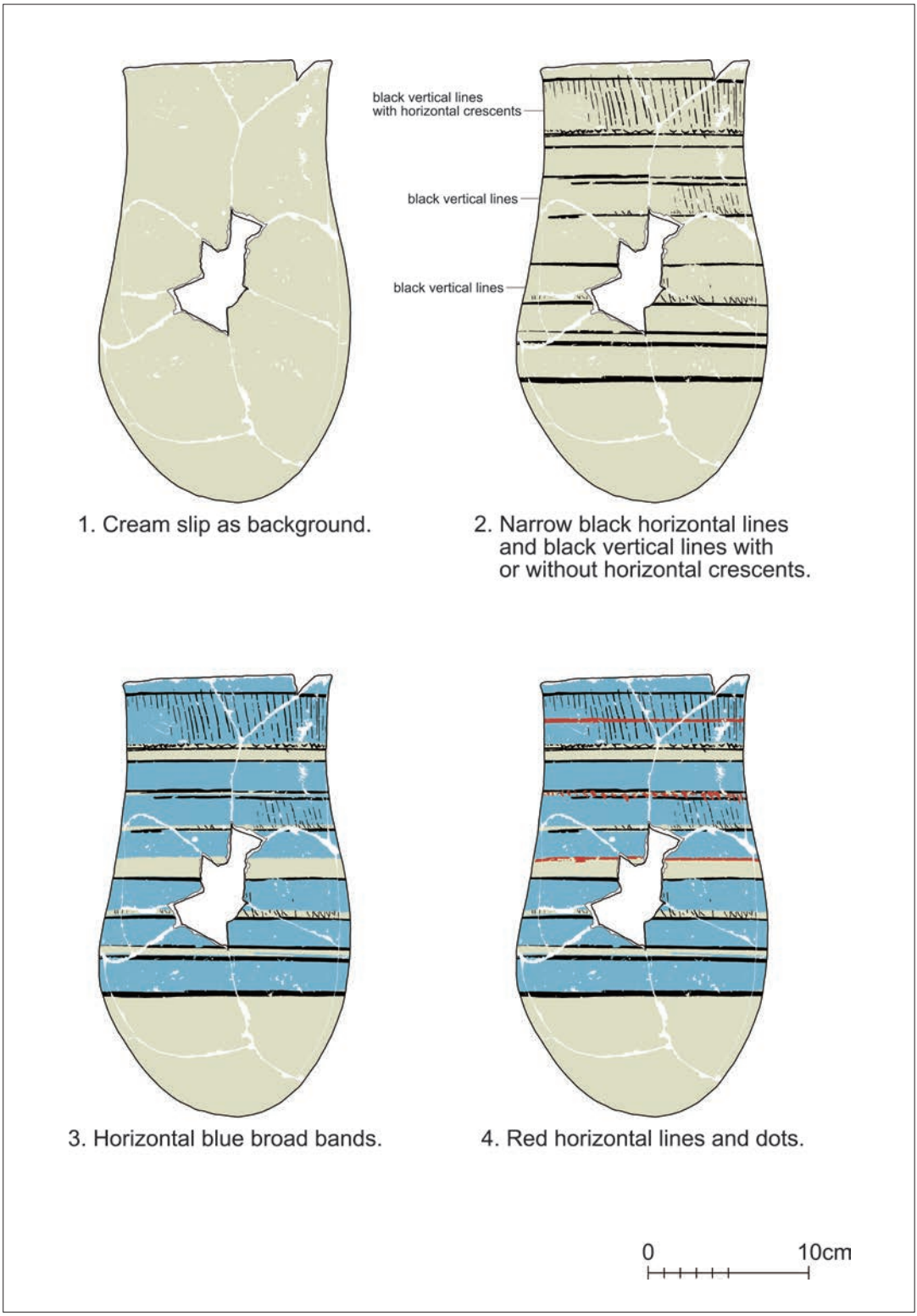


Fig. 11. *The decoration process of blue-painted pottery vessels in the post-Amarna period.*

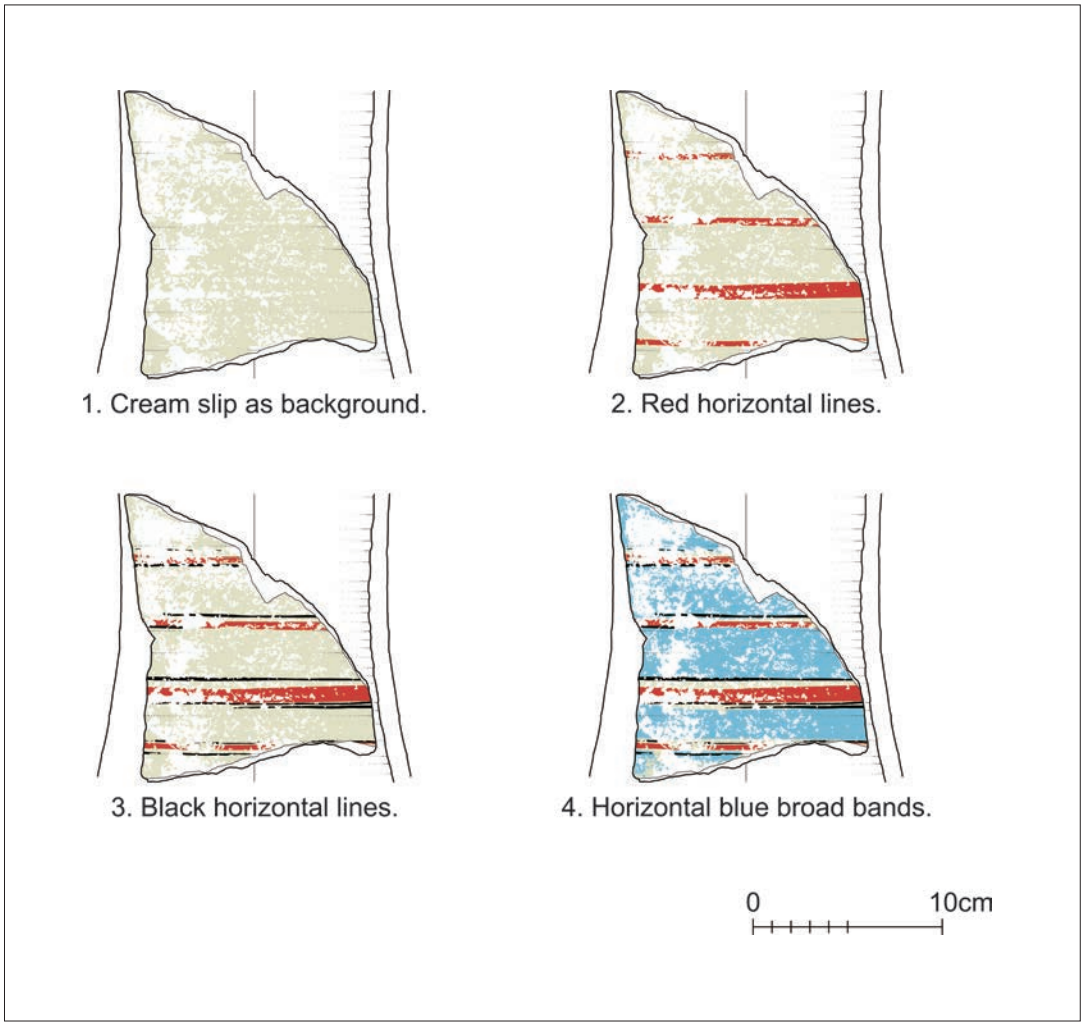
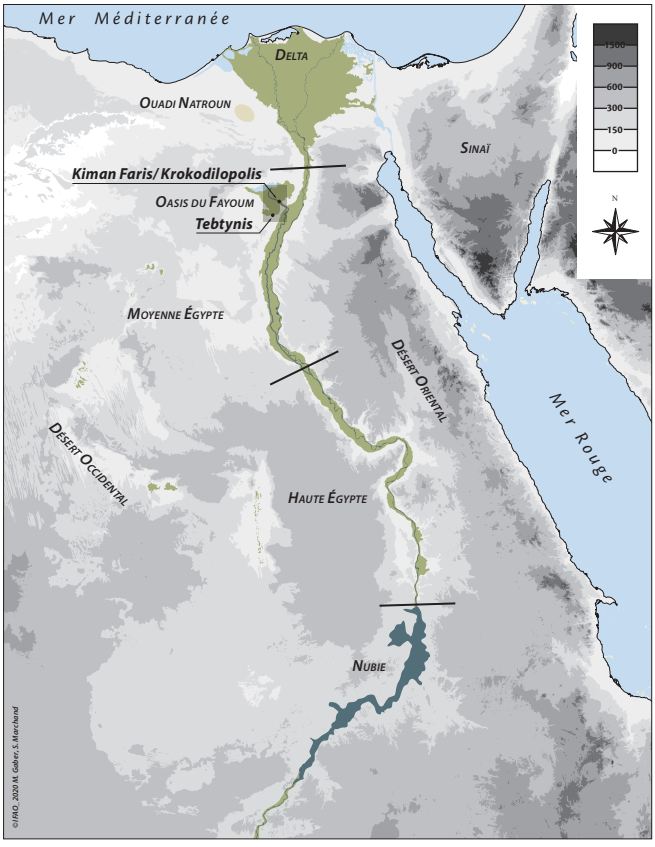


Fig. 12. *The decoration process of blue-painted pottery vessels in the reign of Ramesses II.*

Fayoum


Mer Méditerranée
Delta
Ouadi Natroun
Sinaï
Kiman Faris/Krokodilopolis
Oasis du Fayoum
Tebtynis
Moyenne Égypte
Désert Oriental
Mer Rouge
Désert Occidental
Haute Égypte
Nubie
1500
900
600
300
150
0
N
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Yahya E.M. Mahmoud
Sylvie Marchand

Amphorae of Kiman Faris/Krokodilopolis (Fayum) from Ptolemaic to Late Roman Period

The Fayum and Krokodilopolis

The Fayum region is a depression, which is located to the west of the area of Kafr el-Ayat to Al-Fashn in the Nile Valley. It is located in the heart of the western desert, about 90 km south-west of Cairo, and is adjacent to Beni Suef Governorate. It is considered one of the semi oases of this desert with an area of about 2,200 km^2. This semi oasis is connected with the Nile Valley via the lowland that represents a valley linking it with Beni Suef Governorate to the east. This valley is known as Wadi al-Yousifi or "Al-Lahun Corridor", where only water channel, the Bahr Yussef, which supplies the region with water, passes to reach Medinet el-Fayum, where it splits into many canals to supply the whole region with Nile water.[1] The region differs concerning the altitude from + 26 m to – 55 m to the sea level. A lake occupies the lowest point, now salty, called "Birket Qarun", the Moeris Lake of Herodotus, in which flows the water of the region.[2]

The Egyptian texts started to mention the Fayum during the Old Kingdom as *Sy-rsy*, "the Southern Lake".[3] The archaeological survey of the regions to the north of Lake Qarun attested pottery from the Old Kingdom period in the area near a road leading to a quarrying zone called Widan el-Faras.[4] The Middle Kingdom is regarded as the golden age of the Fayum during the ancient Egyptian history; the region has received special attention from the rulers of the 12th Dynasty, especially King

1. Römer 2017, p. 171; Davoli 2012, p. 152.
2. Davoli 2008, p. 105.
3. Abd El-Sattar, Ibrahim 2013, pp. 27–28.
4. Marchand, Davoli 2012, pp. 64–66.

Amenemhat III, who organised the region and created many irrigation and drainage projects. He managed to set the water level in Lake Qarun at the level of 17–20 m above sea level in the 19th c. BC.[5]

By the last quarter of the 4th c. BC, Ptolemy I (Soter I) started the drainage and reclamation project of Lake Moeris (Lake Qarun). He cultivated about 1,200 km² of Fayum marshy and deserted lands. This project was continued by Ptolemy II (Philadelphus), who gave plots of the new land to his Greek and Macedonian veterans to be settled in large numbers in the province.[6] The majority of the settlers were Greeks, Macedonians, and Egyptians. There were also some Jews, Persians, Arabs, Syrians, Thracians, and Samaritans.[7] Many missions are conducting excavations and surveys at several sites all over the Fayum; this increases the number of publications about the Fayum archaeology and improves the knowledge of the ancient Fayum from historical, economical, religious, and social perspectives.[8]

The regional capital of Fayum since the Old Kingdom was Shedet (*Šdt*) that was known in Greek as "Krokodilon Polis" (Κροκοδίλων πόλις), "Ptolemais Euyergetis" (Πτολεμαὶς Εὐεργέτις), "Arsinoiton Polis" (Ἀρσινοιτῶν πόλις), and "Arsinoe" (Ἀρσινόη).[9] The town was a centre for the cult of Sobek, the crocodile god.[10]

The location of ancient Krokodilopolis is identified with the north-western part of Medinet el-Fayum, the Kiman Faris district. It is about 90 km south-west of Cairo, situated on the main water stream in the region, the Bahr Yussef, and at the beginning of its delta.[11] The original extension of the archaeological area was about 2.4 × 1.2 km, with a total area of about 2.8 km² in 1887 (fig. 1).[12]

The exploration history of Krokodilopolis

European travelers visited Kiman Faris in the 17th c. AD.[13] During the French occupation (1798–1801), French scholars surveyed the Fayum region and wrote some comments on the state of the site and identified it with the ancient town of

5. Römer 2017, p. 172; Thompson 1999, p. 124.
6. Hewison 2008, p. 20.
7. Hewison 2008, p. 20.
8. Bagnall, Davoli 2011, pp. 114–121.
9. Davoli 1998, p. 149; Hewison 2008, p. 19; all the names are according to Trismegistos database, TM Geo 327 (www.trismegistos.org/place/327 accessed on March 28, 2020).
10. Hewison 2008, p. 18.
11. Beadnell 1905, p. 11; Hewison 2008, p. 20.
12. Davoli 1998, p. 149.
13. Vansleb 1678, pp. 153–155; Pococke 1743, pp. 58–59.

Arsinoe/Krokodilopolis,[14] but the site was first explored in 1823–1824 by Jean-Jacques Rifaud, who was searching for artifacts for European museums. In 1843, Karl Lepsius spent about 24 days on the site during his expedition to document the Egyptian antiquities. Luigi Vassalli led an excavation in 1862 on behalf of Auguste Mariette to find the "Labyrinth", which was recorded by the classical writers; after a short time, he moved his excavations to Hawara.[15] Georg Schweinfurth published a report on the state of Kiman Faris in 1887. This report included the first topographic map of the area.[16] The year after, William Flinders Petrie carried out some excavations inside the area of the Middle Kingdom and stopped quickly after a few weeks.[17]

In 1908–1909, some epigraphic materials were found and sent to Cairo and Alexandria museums. In the early 1950s, the *sebbakhin* working on the site discovered some statues which were dated to the Ptolemaic period, while figurines of crocodile and hippopotamus were dated to the Middle Kingdom, and some other monuments from the reign of King Ramesses II.[18]

By the 1960s, the area was a playground for the *sebbakhin*, local building contractors. The governorate used large amounts of the soils and pottery dumps to fill and raise the level of large swampy areas to the south of the site. In 1963 the governorate decided to use the land of the site for developing a new residential district of Medinet el-Fayum. The governorate relied on the students of the secondary schools to carry out a kind of rescue excavations under the supervision of the inspectorate of antiquities and to locate the free areas of the archaeological buildings. In 1964 an Italian mission worked at the site to search for papyri, and during the next two years, the Fayum inspectorate continued its excavations by making test trenches (fig. 5). After that, a large part of the archaeological area of Kiman Faris was used for urban development, and more of these rescue excavations were conducted to make more parts of the site available for building projects; the latest was in 2018 (fig. 3).[19]

14. Jomard 1821, pp. 439-445.
15. Davoli 2012, p. 156.
16. Schweinfurth 1887; Davoli 2012, p. 156.
17. Petrie 1889, pp. 439-445.
18. Davoli 1998, pp. 149–152.
19. Davoli, Ahmed 2007, pp. 85–87; Davoli 2011, pp. 70–72; Davoli 2012, pp. 153–155; and personal study of the official documents of Fayum inspectorate archive of Kiman Faris.

Exploring activities in 2016–2019

In 2016–2017, a Fayum University mission made excavations at one of the visible areas of the ruins of Kiman Faris, Ptolemy's temple area (fig. 3). The mission aimed mainly to clean and to complete the excavation of the Ptolemaic eastern bath (fig. 3.A); it discovered part of a massive building of limestone blocks, which could be a part of a theater's auditoria (fig. 3.B).

The inspection of another area did not reveal any architectural remains, but accumulations of previous excavations mixed with a lot of pottery (fig. 3.C).

In 2018, the authors surveyed all the visible parts of Kiman Faris (four areas) to document any architectural remains and to collect pottery material for the study. The pottery was collected from only two areas, "the Small Bath" and "Ptolemy's temple". The other areas did not reveal any pottery on the surface (fig. 1).

In April 2019, the Fayum University conducted a short excavation season (three weeks) as part of a training program for the students. No architectural remains were discovered (fig. 3.D) but the pottery revealed during this process added some new types to the typology, especially the imported amphorae.

Study of the pottery from Kiman Faris

The excavations at Kiman Faris has a long history, but only three papers addressed portions of the stamped amphora handles; they were published by Jean Bingen,[20] Jean-Yves Empereur,[21] and Virginia Grace and J.-Y. Empereur.[22]

The Fayum inspectorate rescue excavations (1963–2005) revealed about 280 vessels and 140 stamped handles of Aegean amphorae. All of them are kept in the Kom Aushim store of antiquities. Nearly the entire collection is yet unpublished.[23] In addition, during the field activities of the last three years, much pottery was collected. This pottery presents a variety of forms covering many aspects of ancient pottery uses, e.g. tableware, cooking wares, and a large variety of utilitarian wares. The assemblage had a long chronological range, running from the early Ptolemaic to the late Roman periods. A few sherds could be dated to the Islamic period (9th–10th c. AD) (fig. 6).

20. Bingen 1955.
21. Empereur 1977.
22. Grace, Empereur 1981.
23. These numbers are based on the register book of Kiman Faris at Kom Aushim Museum store.

Amphorae are one of the main categories of pottery. They give information on the economy and local production transformations. They also offer information on the circulation of foreign goods in the local market. So the study of the Kiman Faris amphorae increases our knowledge about the ancient metropolis economy, as one can build a broad historical network of trade routes both inside and outside Egypt. These pieces of information with the previous studies of amphora stamps from the site and the textual evidence are supposed to give a complete view of the amphora production and importations at Krokodilopolis and in the Fayum region in general from Ptolemaic to late Roman times.

In the absence of stratigraphic records, the amphorae discovered at Kiman Faris are going to be compared with relevant materials from numerous archaeological sites in the Fayum region, outside Fayum, and abroad to get precise dating and place on the origin.

Egyptian amphorae from Krokodilopolis

Fabrics

Alluvial fabrics

[fig. 7]

The majority of the Egyptian amphorae from Kiman Faris are made of alluvial clay. Only a few sherds are of marl. This scarcity of marl amphorae supports the possibility of local (at, or near, Krokodilopolis) or regional production (in the Fayum depression areas of alluvial sedimentations). Four different alluvial fabrics were identified to be in use for amphorae production.

- NA I

Texture of the clay: medium to fine medium dense past.
Nature, size, and repartition of inclusions: there are a few scattered mica spikes, very few fine vegetal inclusions, and few fine white particles.
The colour of the fresh break is between red (10R 4) and reddish-brown (5YR 5/4).
The pottery forms are imitations of Basket-Handled Amphorae during the early Ptolemaic period, AE 3 during the Roman period, and AE 7 during the late Roman period (fig. 7).

- NA II

Texture of the clay: medium to coarse medium dense past.
Nature, size, and repartition of inclusions: there are few scattered mica spikes, very few fine vegetal inclusions, and few fine white particles.

The colour of the fresh break is reddish-brown (5YR 5/4), while the core is in very dark grey (5Y 3/1).
The pottery forms are AE 2, AE 2–3, and AE 3 during the Ptolemaic and Roman periods (fig. 7).

- NC I

Texture of clay: medium to fine medium dense.
Nature, size, and repartition of inclusions: it has well-sorted inclusions of many medium-size sand particles, many coarse vegetal inclusions, a few mica, and little fine white particles.
The colour of the fresh break is between greenish-black (10G 2.5/1) and greenish-grey (5GY 6/1); the colour of the edges, or the whole break if there is no core, is between light red (2.5YR 6/6) and reddish-brown (5YR 5/3). This fabric is relevant to the F11 fabric of the Roman amphorae from Tebtynis. The pottery forms are Roman, e.g. AE 3, and Late Roman, e.g. AE 7 and AE 8 (fig. 7).

- NC II

Texture of clay: medium to coarse medium dense.
Nature, size, and repartition of inclusions: there are many composite particles in the medium size of sand, vegetal residue, and few particles of mica.
The colour of the new break is between dark red (10R 3/6) and dark reddish grey (2.5YR 4/1). The pottery forms are AE 2 for the Ptolemaic period, AE 3 in the Roman period, and Egyptian imitations of *LRA* 4 in the late Roman period (fig. 7).

Calcareous fabrics [fig. 8]

Though marl amphorae were in production in Philadelphia since the second half of the 3rd c. BC, the quantity of marl amphorae sherds revealed in Kiman Faris is very low and the only marl example of AE 1 is not in the local marl of Philadelphia.

- M I

Texture of the clay: fine sandy past (marine).
Nature, size, and repartition of inclusions: it has few fine white particles and little quartz.

The colour of the fresh break is brown (7.5YR 5/3) and the edges are in light brown (7.5YR 4/7).
The pottery forms are AE 3 for the late Roman period (fig. 8).

- **M II**

Texture of the clay: medium to coarse sandy past.
Nature, size, and repartition of inclusions: it has many fine grogs, few medium-size white particles, some quartz, and very few mica spikes.
The colour of the fresh break is brown (7.5YR 5/3) with edges in light brown (7.5YR 4/7).
The pottery forms are AE 1 for the Ptolemaic period (fig. 8).

- **M III**

Texture of the clay: fine, medium dense, hard sandy past.
Nature, size, and repartition of inclusions: it has a few scattered inclusions of fine limestone particles and grogs. There are a few irregular large voids.
The colour of the fresh break is light reddish-brown (2.5YR 6/4).
The pottery forms are AE 5/6 for the late Roman period (fig. 8).

Amphorae from the Ptolemaic period

The Macedonian invasion opened Egypt to the Greeks to settle in high numbers. Greeks and other Hellenised ethnic groups worked as soldiers in the army, officials in the civil administration, artists, scholars, and many other professionals.[24] These Hellenic and Hellenised groups lived in a high economic level. They were in need of some essential goods for the Greek lifestyle, e.g. wine and olive oil. These goods were supplied by import, mainly from the eastern Mediterranean, and by investment in local production.[25]

The early Ptolemies launched a program of land reclamation and agriculture investment to reduce the import and secure the local needs. Wine production increased and, by the 2nd c. BC, raised to unprecedented levels. The new Greek residents controlled viticulture, at least in the Fayum, as 50% of the production was the

24. Veïsse 2011, p. 125.
25. Şenol 2018, p. 27.

property of cleruchs, who privileged tax reduction. Viticulture was a central portion of the Greek economy in the Fayum. Egyptian temples gained revenues from their vineyards.[26] Olive was cultivated in the Fayum during the Ptolemaic period, and by the beginning of the Roman period it became the main production of the region after a long period of investment. Other oil plants, e.g. castor and sesame, were cultivated in marginal lands and as cash corps since the mid-3rd c. BC.[27]

The increase of Egyptian wine and oils productions resulted in increasing demand for local production of amphorae, so by the mid-3rd c. BC, a new local Egyptian type of amphora was introduced. This type is known as AE 1, which is an imitation of the late 4th c. BC Aegean amphorae.[28] By the time, new types of Egyptian amphorae were developed like the Ptolemaic AE 2.[29]

There are general similarities in the amphora types and their distribution inside the Fayum during the Ptolemaic period at many archaeological sites. Egyptian production usually starts with imitations of Syro-Palestinian and Cypriote jars from the Late Period onwards.[30] They are attested at Tebtynis[31] and Kiman Faris. The next step of the development of the Egyptian amphorae was the transition to imitating Aegean amphorae since the mid-3rd c. BC, which started with AE 1 followed by AE 2. This stage is represented all over the sites of the region that have publications of pottery dated to this period, e.g. Tebtynis,[32] Hawara,[33] Bakchias,[34] Soknopaiou Nesos,[35] and Philadelphia.[36] Local production centres were discovered at Philadelphia and Kom el-Khamseen,[37] but the later has not been published yet. The latest change of the Egyptian production during the Ptolemaic and early Roman periods was the introduction of the AE 2/3, which was a transitional form from precise imitation of Aegean amphorae to a more clear Egyptian form of amphora. The AE 2/3 was found at Kiman Faris, Tebtynis,[38] Soknopaiou Nesos,[39] and Bakchias.[40]

26. Manning 2007, p. 438.
27. Thompson 1999, p. 131-132.
28. Şenol 2018, p. 27.
29. Dixneuf 2011, p. 87; Majcherek, Shennawi 1992; Grace, Empereur 1981, p. 426, pl. 58–62.
30. Defernez, Marchand 2006, p. 66, fig. 2; Cankardeş-Şenol, Şenol 2013, p. 56; Defernez, Marchand 2016, p. 141.
31. Marangou, Marchand 2007, pp. 252–253, figs 65–75; Ballet, Południkiewicz 2012, pp. 173–175.
32. Marangou, Marchand 2007, pp. 258–263; Ballet, Południkiewicz 2012, pp. 175–178.
33. Marchand 2009, p. 799, fig. 122.b.
34. Gasperini 2014, p. 317, pl. 44, nos. 540–541.
35. Dixneuf 2012, pp. 326, 344, fig. 24.
36. Marchand, Chang, Nannucci 2018, pp. 127–129.
37. Personal communication with the Fayum inspector Sayed Awad who excavated the site in 2018.
38. Ballet, Południkiewicz 2012, pp. 178–179.
39. Dixneuf 2012, pp. 326-327, 342, figs 27–28.
40. Gasperini 2014, p. 317, pl. 44, nos. 540–541.

Egyptian imitations of Basket-Handled Amphorae [fig. 9]

Before the Saite period, the primary resources of the Egyptian importations was the triangle Cyprus/Syria/Palestine and a portion of the Aegean Sea, but by that period, the Egyptian commercial relations expanded to include the whole Aegean basin and the Levant.[41] Cyprus was a production centre of wine and olive oil, which were exported to various consumption regions in the Mediterranean basin, like Egypt, which has received these commodities since the 8th c. BC. The presence of the Cypriot containers of olive oil known as the "Basket-Handled Amphorae" since the end of the 7th c. BC until the middle of the Ptolemaic period is highly remarked on Egyptian sites.[42] It is possible that these amphorae were also produced in the Levant since the beginning of the 4th c. BC.[43] The increase of the foreign materials on the Egyptian territory encouraged the practice of imitating the ceramic containers of these goods and the Basket-Handled Amphora was one of these containers imitated since the mid-4th c. BC.[44]

In the Fayum region, the presence of Egyptian imitations of the Basket-Handled Amphora is well documented at Tebtynis from the second half of the 4th c. BC. Besides the presence of original Cypriot specimens,[45] but at Kiman Faris, only one small rim sherd of alluvial clay was discovered; it is about 10 cm in diameter (fig. 9). Relevant examples dated to the Saite period down to the early Ptolemaic period are well documented on several Egyptian sites: Tell el-Herr in north Sinai,[46] Karnak temples,[47] and Tell Bella near Mansoura have imported containers and Egyptian copies in alluvial clay.[48]

Egyptian amphorae AE 1 [figs 10–11]

The expansion of the production of wine and oils, because of the Ptolemaic large projects of reclamation in the Fayum and other areas of Egypt, meant an increase in demand for local containers. In response, the Egyptian potters imitated the Aegean

41. Defernez, Marchand 2006, p. 63.
42. Defernez, Marchand 2006, p. 66, fig. 2; Cankardeş-Şenol, Şenol 2013, p. 56; Defernez, Marchand 2016, p. 141.
43. Marangou, Marchand 2007, p. 252.
44. Defernez, Marchand 2006, pp. 63, 66; Marchand 2013, p. 243.
45. Marangou, Marchand 2007, pp. 252–253, figs 65–75.
46. Defernez 2007, pp. 566–568, figs 8–24.
47. Masson 2007, p. 364, fig. 1, no. 2.
48. Personal notice during the visit of excavations on the site by the mission of Mansoura University during December 2018.

amphorae of the 4th c. BC. This phenomenon has marked the late 4th and early 3rd c. BC, and is considered as a transitional period of Hellenising of the Egyptian corpus of pottery—not only the amphorae but all the types of the ceramic repertoire—where the new Greek forms (the imitations) were produced and distributed beside the old Egyptian ones.[49]

However, it is an imitation or at least a production highly inspired by Aegean amphorae, especially the Rhodean, Knidian, and Chian amphorae.[50] Scholars consider AE 1 as the first type of Egyptian amphorae of the Ptolemaic period. It had a large capacity of up to 44 litres and was used mainly for domestic commerce to distribute Egyptian commodities in the Egyptian regions, but evidence of export to eastern Mediterranean centres on a small scale is attested.[51]

The production centres of AE 1 are situated in the Mareotis region, the Delta, and Sheikh Abada/Antinoopolis, according to the fabrics.[52] A new production centre was discovered recently at Philadelphia in the Fayum, where remains of workshops and kilns of local Greek style AE 1 and various types of domestic pottery were found. These local imitations are in local marl fabric and date to the second half of the 3rd c. BC. This discovery at Philadelphia is strong evidence that explains the nature of the process of Hellenising of the Egyptian pottery industry in a newly reclaimed area that had both Greek and Egyptian settlers. It also was an essential part of the sizeable Ptolemaic project of agricultural investment during the reign of Ptolemy II.[53]

The presence of AE 1/Egyptian imitations of the Aegean amphorae is attested in two other sites of the Fayum region: Tebtynis and Hawara. The material in both sites is dated to the mid- or second half of the 3rd c. BC.[54]

At Kiman Faris, AE 1 amphorae sherds of marl and alluvial clays were found. The neck sherd (fig. 10.a) of M I fabric is an imitation of Aegean amphorae from the mid-3rd c. BC, according to examples from Hawara,[55] the Karnak temples,[56] the Ramesseum,[57] and Beni Salama, dated to the 2nd c. BC.[58] There is an alluvial specimen comparable to alluvial examples from Tebtynis (fig. 10.b).[59]

49. Marchand 2013, p. 243; Defernez, Marchand 2016, p. 141.
50. Ballet, Południkiewicz 2012, p. 175.
51. Şenol 2018, pp. 23–24.
52. Defernez, Marchand 2006, p. 88; Şenol 2018, p. 28.
53. Marchand, Chang, Nannucci 2018, pp. 127–129.
54. Marangou, Marchand 2007, pp. 258–263; Marchand 2009, p. 799, fig. 122.b.
55. Marchand 2009, p. 799, fig. 122.b.
56. Marchand 2007a, pp. 369, 373, fig. 1, no. 1.
57. Lecuyot 2007b, pp. 381, 386, fig. 4, no. 2.
58. Marquié 2007, p. 105, fig. 25.
59. Marangou, Marchand 2007, p. 263, figs 117–119.

There are also two toes of amphorae (fig. 11), which imitate Aegean amphorae of the "Nikandros group" in alluvial clay.[60] These imitations were also identified at Tebtynis in the south-eastern area of the Fayum depression. They are dated from the end of the 1st c. BC to the 1st c. AD.[61] This shows that the production of the imitation of the original Aegean amphorae went on until the early years of the Roman period.

Egyptian amphorae AE 2 [figs 12–13]

By the end of the 3rd c. BC., Egyptian workshops in the Marmarika plateau, the Mareotis region, and the Delta produced new amphora type inspired by the Aegean amphorae in general as it is hard to consider one specific origin of the Egyptian new series of amphorae. There is more variety of forms than before, which reflects the diversity of the sources of the original imported containers. This new type, AE 2, became the dominant container of Egyptian wine during the 2nd and 1st c. BC. Moreover, it was used mainly for local distribution, with a few quantities exported to eastern Mediterranean consumption centres.[62]

The AE 2 is characterised by long necks end with short high, slightly thickened rims, and handles with irregular oval sections. These handles are attached to the neck lower of the rim and the upper shoulder of the vessel. The body has a rounded shoulder and reduced diameter from the shoulder down to a conical bottom and a toe base. Three main production centres of this type have been identified: Tell el-Haraby,[63] Kom ed-Dahab,[64] and the Fayum (Krokodilopolis).[65]

The AE 2 sherds from Kiman Faris belong to various subgroups, mainly from alluvial clay and by comparison with examples from sites in the Fayum,[66] the Mareotis region, and the Delta.[67] They are dated from the second to the first half of the 1st c. BC.

The typology of Delphine Dixneuf is very useful for the classification of this group, so it is applied here. Three subtypes of AE 2 were identified at Kiman Faris: AE 2-1, AE 2-2.1, and AE 2-2.2.[68]

60. The importations of the Nikandros group is discussed below.
61. Marangou, Marchand 2007, pp. 268, 292, figs 155–156.
62. Dixneuf 2011, p. 60; Şenol 2018, pp. 32–33.
63. Majcherek, Shennawi 1992.
64. Dixneuf 2011, p. 87.
65. Grace, Empereur 1981, p. 426, pl. 58–62.
66. Gasperini 2014, pp. 316–317, pl. 46, no. 536.
67. Berlin 2001, pp. 44, 160–161, fig. 2.56, no. 3.
68. Dixneuf 2011, pp. 90–93.

The amphora toe (fig. 12.b) parallels an example from Tell el-Timai[69] and is found within D. Dixneuf's typology as AE 2-1. She dated it from the second half of the 3rd c. to the mid-2nd c. BC.[70]

D. Dixneuf highlighted that the AE 2-2.1 subtype was found in many sites in Lower Egypt, e.g. Bouto, Kom Barsiq, Wadi el-Natrun, San el-Hagar. She dated it to 150–75 BC.[71] At Kiman Faris, three forms of this subtype were discovered; their rim diameters are about 14–15 cm and they are made from NC II alluvial fabric (fig. 12.a–c). Similar amphorae were found at Soknopaiou Nesos[72] and Naukratis, which are dated to the 2nd c. BC.[73]

An example of alluvial clay belongs to the AE 2-2.2 subtype (fig. 12.d). Its rim diameter is about 14 cm and it has a flaring outside thickened lip with a groove on its top. It is marked from the lower neck with a high rib. The inner and external surfaces are smoothed. D. Dixneuf dated AE 2-2.2 to 150–100 BC.[74] Comparable examples from Bakchias are dated to 150–100 BC[75] but examples from Soknopaiou Nesos,[76] Tebtynis,[77] and Naukratis are dated to 175–50 BC.[78]

There are also three toe bases of AE 2 of alluvial clay (fig. 13.a–c). They have parallels from Soknopaiou Nesos,[79] Hawara,[80] and Tebtynis.[81] The form b is comparable to previously published amphora from Kiman Faris itself.[82]

Transitional Egyptian amphorae AE 2/3 [fig. 14]

This type includes several containers whose general shape shows the transition from AE 2 to AE 3 amphorae. Some complete forms from the last quarter of the 1st c. BC have been identified at Tell el-Haraby, Alexandria, and especially on the site of Tebtynis. As for the Fayum, a group of amphorae is characterised by the

69. Hudson 2016, p. 227, fig. 22, no. C27.
70. Dixneuf 2011, pp. 87–92.
71. Dixneuf 2011, pp. 91–92, 313, fig. 67.
72. Dixneuf 2012, pp. 326, 344, fig. 25.
73. Berlin 2001, pp. 44, 160–161, fig. 2.56, no. 5.
74. Dixneuf 2011, pp. 34, 93, fig. 69.
75. Gasperini 2014, pp. 316–317, pl. 46, no. 536.
76. Dixneuf 2012, pp. 326, 344, fig. 24.
77. Ballet, Południkiewicz 2012, p. 177, pl. 84, fig. 759.
78. Thomas 2018, p. 5, fig. 6.
79. Dixneuf 2012, pp. 326, 342, fig. 26.
80. Marchand 2009, p. 763, fig. 77.a.
81. Ballet, Południkiewicz 2012, p. 180, pl. 86, no. 780.
82. Grace, Empereur 1981, pl. 62, figs 24, 26.

appearance of a bulge at the shoulder and is dated from the end of the 1st c. BC to the beginning of the 1st c. AD.[83]

Two forms of AE 2/3 were found at Kiman Faris (fig. 14.a–b), both being made of NC II alluvial clay. Parallel examples were identified at Tebtynis,[84] Soknopaiou Nesos,[85] and Bakchias.[86]

Amphorae from the Roman period: Egyptian amphorae AE 3 [figs 15–17]

The Roman government encouraged the agriculture investment in Egypt as in other provinces to secure enough supplies of food for growing towns all over the empire and especially Rome, the capital. Therefore, they maintained the watering systems and supplied producers with suitable tools to increase their productivity. In response to the increase of agricultural production, the need for more amphorae was also increased. After developing the AE 2/3 amphorae during the late Ptolemaic period, the next step for the Egyptian potters was to introduce an entirely Egyptian amphora type. They started mass production of a new type that scholars call "AE 3".[87]

The distribution of AE 3 in the Fayum confirms its intensive production in the region, as it was found on many sites.[88] There are many suggested production centres in the south-western area of the Fayum, the supposed area of Magdola type of AE 3. Surveys confirm the presence of accumulations of wasters on various sites,[89] but no kilns or workshops of AE 3 were excavated in the Fayum. AE 3 sherds were found on every site from the Roman period.

The AE 3 amphorae are not copies of Aegean amphorae. J.-Y. Empereur classified it as "Amphora 3" in his typology of the amphorae of Mareotis region, while it is called "Hermopolite A amphora" in the typology of El-Ashmunein in Middle Egypt by D. Bailey.[90] The AE 3 amphorae have new characteristics, like the long cylindrical

83. Marangou, Marchand 2007, p. 267, fig. 141; Dixneuf 2011, p. 93, fig. 70; Marchand 2011, p. 250; Ballet, Południkiewicz 2012, p. 178, pl. 85, no. 766.
84. Marchand 2011, pp. 216, 218, 220, 228, 249–250, figs G.18, G.18 (suite); Ballet, Południkiewicz 2012, p. 178, pl. 85, nos. 768–770.
85. Dixneuf 2012, pp. 326–327, 342, figs 27–28.
86. Gasperini 2014, p. 317, pl. 44, nos. 540–541.
87. Empereur, Picon 1998, pp. 75–78, figs 2–6; Şenol 2018, p. 61.
88. Pollard 1998, p. 155, fig. 4.a, p. 155, fig. 4.a; Marangou, Marchand 2007, pp. 267, 291, fig. 146; Bailey 2007, pp. 233, 235, fig. 1, nos. 3–4; Marchand 2009, pp. 743, 749, figs 51.a, 57.a; Marchand 2011, p. 249, no. 2777-2; Dixneuf 2012, pp. 114–119, fig. 101.c; Ballet, Południkiewicz 2012, p. 181, pl. 87, no. 788; Gasperini 2014, pp. 318, 365, pl. 44, nos. 546–548.
89. Bailey 2007.
90. Bailey 1998, pp. 125–129.

neck, two short handles attached to the upper part of the neck, and a wide range of different shapes of rims.[91] The potters created varied local forms resulting from a long process of development and changing of the previously local imitations (AE 1 and AE 2). The production of this type started in the 1st c. AD and went on for a long time. D. Bailey gives it, as his Egyptian Amphora Type A, a late date in the 5th c. AD.[92]

The AE 3 containers were intensively used for the commerce of local wine. The dealers developed a regional model of distribution from rural production areas to the nearest towns to economise the cost of transport. This model of regional marketing also helps in identifying regional production areas. Six production regions were located depending on the study of the regional distribution: the Marmarika plateau, the Mareotis region[93], the Delta, the Fayum, the Middle Egypt, and the Upper Egypt. As for the calcareous AE 3 amphorae, which were produced in the workshops of the Marmarika plateau and Lake Mareotis, they were abundantly exported to Mediterranean centres and Alexandria.[94] In general, the exportation of this type was limited before the 4th c. AD.[95]

The AE 3 amphorae from Kiman Faris reflect the variety of rim forms of the type. The fabrics are mainly medium-fine alluvial rich clay with medium-size vegetal inclusions and only one example in marl clay. Five forms have black resin coating on the inner surfaces (figs 16.e, 16.h, 17.a, 17.c, 17.e–f, 19.d), and one has a white coating on the external surface (fig. 17.a). The forms are, for most of them, ribbed on both surfaces. The rim diameters are about 10–15 cm.

In the following lines, the amphorae found at Kiman Faris are classified according to D. Dixneuf's typology of AE 3.

AE 3-1.4 is one of the variants of the AE 3-1 of the Mareotis region productions,[96] but the examples from Kiman Faris (fig. 15.a–b) are in alluvial fabric (NA I), not in calcareous like D. Dixneuf's examples. They could be local production from the Fayum or import from the Mareotis of alluvial clay as it was available in the eastern portion of the region. These forms were also found at Mons Claudianus[97] and Beni Salama, dating from the 1st to the 2nd/3rd c. AD.[98]

91. Dixneuf 2011, p. 97.
92. Bailey 1998, p. 125.
93. Pichot, Şenol 2014, p. 225.
94. Dixneuf 2011, pp. 98–128; Şenol 2018, p. 63.
95. Bailey 1998, p. 128.
96. Dixneuf 2011, pp. 109, 322, fig. 87.
97. Tomber 2006, pp. 145–146, fig. 1.56, no. 7-850.
98. Marquié 2007, p. 106, fig. 31.

AE 3-2 could be a production from the Nile Delta, especially the area of Bouto, but no workshops have been discovered yet. This type is divided in four subtypes (A–D) and has a chronological range from the 1st to the 3rd c. AD. There are examples from Kiman Faris comparable to the A, B, and C subtypes of D. Dixneuf's typology.[99] The widespread of this variant in the region reflects the possibility of local production in the Fayum.

AE 3-2.A is dated from the end of the 1st to the 2nd c. AD.[100] Kiman Faris examples (fig. 15.c–d) are parallels as they are made from alluvial clays NA II and NC II. There is also a parallel to the form (fig. 15.b) from Soknopaiou Nesos.[101]

– AE 3-2.B is represented by one form (fig. 16.a) at Kiman Faris. It is of alluvial clay NC II and dated from the end of the 1st to the 2nd c. AD.[102]
– AE 3-2.C examples from Kiman Faris (fig. 16.b–e) are in alluvial fabrics, e.g. NC I and NC II. They are dated from the end of the 1st to the 3rd c. AD.[103] The forms (fig. 16.c–e) have many parallels from the Fayum region, e.g. Hawara,[104] Tebtynis,[105] Bakchias,[106] Tell Talit, Medinet Ghoran, Theadelphia, and Philoteris.[107]

AE 3-3 is considered as a product of the Fayum and Middle Egypt of the 1st and 2nd c. AD.[108] Three subtypes were identified at Kiman Faris as follows:

– AE 3-3.1 is proposed to be a Fayum region production of the 1st–3rd c. AD.[109] There are two examples from Kiman Faris (fig. 16.f), which have other parallels from sites in the Fayum, e.g. Tebtynis, Hawara, Deir el-Tin,[110] and Bakchias from the 2nd c. AD.[111] A relevant example was also found at Mons Claudianus, dating back to the Trajanic period and after.[112] The form (fig. 16.g) has parallels from

99. Dixneuf 2011, pp. 112–114.
100. Dixneuf 2011, pp. 112, 331, fig. 97, nos. 166–167.
101. Dixneuf 2012, pp. 327, 342, fig. 32.
102. Dixneuf 2011, pp. 112–113, 331, fig. 97, no. 168.
103. Dixneuf 2011, pp. 113, 332, fig. 98.
104. Marchand 2009, p. 749, fig. 57.a.
105. Marchand 2011, p. 249, no. 2777-2; Ballet, Południkiewicz 2012, p. 181, pl. 87, no. 788.
106. Gasperini 2014, pp. 318, 365, pl. 44, nos. 546–547.
107. Bailey 2007, pp. 233, 235, fig. 1, no 4.
108. Dixneuf 2012, pp. 114–119.
109. Dixneuf 2011, pp. 117–118, 334, fig. 101.c.
110. Bailey 2007, pp. 233, 235, figs 1, 3.
111. Marchand 2009, p. 743, fig. 51.a; Gasperini 2014, pp. 318, 365, pl. 44, no. 548.
112. Tomber 2006, pp. 147–148, fig. 1.57, no. 11-858.

Tebtynis[113] and Abu Rawash.[114]AE 3-3.2 could be a Middle Egypt Nile Valley production of the 1st–2nd c. AD. Only one example of this type is identified at Kiman Faris (fig. 16.h).[115]

– AE 3-3.3.b could be a Middle Egypt production of the mid-1st–2nd c. AD. The form (fig. 16.i) of alluvial clay NC II with an inner coating of black resin is a comparable example from Kiman Faris.

AE 3-4 is a subtype of AE 3 which origin is unidentified, but large amounts of it were discovered at Bouto in the Delta, so that it may come from a production centre in the Delta from the 2nd–3rd c. AD.[116] At Kiman Faris two forms were identified (figs 16.j, 16.l). They have parallel forms from Soknopaiou Nesos.[117]

Various forms of AE 3 bases were discovered at Kiman Faris (fig. 17.a–e). They have equivalents from Hawara[118] and Soknopaiou Nesos.[119] In general, these bases have several shapes as that of the rims.

Amphorae from the late Roman period

By the end of the 4th and the beginning of the 5th c. AD, many changes happened in the production of the Egyptian amphorae. The production of AE 3 and AE 4 amphorae from Mareotis ceased and these types were replaced with the AE 3tr and AE 7 that had emerged as a new amphora type. The AE 5/6 and AE 8 were manufactured as parallels of imported *LRA* types. These are *LRA* 5/6 and AE 8, which are copies of *LRA* I.[120]

In the Fayum, by the 4th c. AD, administrative problems and inadequate management of the hydraulic system, which had organised the irrigation of the region, resulted in a progressive depopulation of settlements. The settlements declined in size and in number. At least those situated along the desert margins of the region were entirely abandoned.[121] Many of the lands in the Fayum that were irrigated

113. Marangou, Marchand 2007, pp. 267, 291, fig. 146.
114. Marchand 2007b, p. 187, fig. 6.a.
115. Dixneuf 2011, p. 334, fig. 101.b.
116. Dixneuf 2011, pp. 120, 335, figs 103–104.
117. Dixneuf 2012, pp. 327, 343, figs 36, 43.
118. Marchand 2009, p. 749, fig. 57.c.
119. Dixneuf 2012, pp. 327, 343, figs 38–39.
120. Dixneuf 2011, p. 244.
121. Davoli 2012, p. 155.

and cultivated during the Ptolemaic and Roman periods have never been cultivated since. The Islamic period in the Fayum witnessed a wide range of the carelessness of irrigation management.[122]

Excavations on various sites provided scholars with valuable pottery evidence of the late Roman period, especially amphorae, e.g. AE 3tr, AE 5/6, and AE 7, which were discovered at Kiman Faris and other archaeological sites in the region, e.g. Tebtynis,[123] Hawara,[124] Karanis,[125] Bakchias,[126] Soknopaiou Nesos,[127] and Deir el-Naqlun.[128]

The majority of the imported amphorae came from eastern Mediterranean basin centres, e.g. Cyprus, Cilicia, and the Levant. Many of North African amphora types were revealed, but the Egyptian potters copied only amphorae of eastern origin, e.g. *LRA* I (AE 8) in alluvial clay, which was found at Soknopaiou Nesos,[129] Bakchias,[130] and Kiman Faris, and *LRA* 4 in alluvial clay, discovered at Kiman Faris.

It is clear that during this period of decline of large areas of the Fayum region, many other areas were flourishing, but in general, the Fayum continued to be a production centre for wines and oils.[131]

Late Egyptian amphorae AE 3tr [fig. 18]

By the end of the 3rd c. AD, the workshops of amphorae around the Lake Mareotis were stopped or reduced their production of AE 3 amphorae of alluvial fabrics, and the same happened for the calcareous AE 4 amphorae. At this time, AE 3tr was produced as a continuation for the typology and chronology of AE 3 during the early late Roman period, from the second half of the 3rd to the 5th c. AD. The conical toe bases characterise the late AE 3, and two handles are attached to the upper part

122. Price 1993, p. 180.
123. Rousset, Marchand 2001, pp. 438, 440, 443, figs 22, 28; Marangou, Marchand 2007, p. 293, figs 161–165.
124. Marchand 2009, p. 695.
125. Pollard 1998, pp. 153–159.
126. Gasperini 2014, pp. 318.
127. Dixneuf 2012, pp. 328, 344, fig. 56.
128. Gorecki 1993, p. 59, fig. 5; Danys-Lasek 2012, pp. 227–228, fig. 4, no. 08.668.
129. Dixneuf 2012, pp. 238, 344, fig. 55.
130. Gasperini 2014, pp. 318–319.
131. The Fayum continued as a centre of wine production even during the Islamic period. It was famous for its vineyards and orchards until the Ottoman period, according to reports of European travellers since the 17th century onwards. See Vansleb 1678, pp. 154–155.

of the neck or the rim. The height is about 85–99 cm, but the later specimens from the 5th–7th c. AD are about 64–107 cm high.[132]

One rim sherd of late AE 3 amphorae was discovered at Kiman Faris (fig. 18). The form is a rim sherd of AE 3t-2.B amphora in marl fabric similar to an example from Tell Makhzan, which is dated to the mid-4th–5th c. AD.[133]

Egyptian amphorae AE 5/6 [fig. 19]

The term "bag-shaped amphora" is generally used to indicate a variety of amphorae produced in the eastern Mediterranean basin from the 4th to the 10th c. AD, which is also called "*Late Roman Amphora* 5/6" (*LRA* 5/6).[134]

The first identification of this type in Egypt was at Kellia in 1972 and termed as "Egloff 186–190". Production workshops were discovered near Abu Mina, Kom Abu Billou, and Ain Musa, so it is also called "AE 5/6". There are two Egyptian fabrics of AE 5/6: the first is calcareous, which was used in Abu Mina and the Mareotis region, while the other is red brick Nile clay, which was used in Middle Egypt.[135]

There are two examples of AE 5/6 from Kiman Faris (fig. 19.a–b). They belong to type 4 of Dominique Pieri and to *LRA* 5 of John Riley, with a long chronological range as the type appeared in the 7th c. AD and went on without any significant changes.[136] The form (fig. 19.a) is in marl clay, while form b is in alluvial clay and has a similar example from Soknopaiou Nesos.[137]

Egyptian amphorae AE 7 [fig. 20]

During the late Roman and early Arab periods, the AE 7 of Middle and Upper Egypt workshops was the most common amphora circulating in the Egyptian territory. The archaeological studies indicate it under various designations, e.g. Ribbed-amphora, Egloff 173–177, Hermopolite B,[138] Class 52, and Carthage *LRA* 7.[139] The AE 7 has many variants and subtypes because many workshops practiced its production for an extended period (from the end of the 4th to the 10th c. AD),

132. Dixneuf 2011, p. 138.
133. Dixneuf 2011, pp. 139–140, 350, figs 126–247.
134. Pieri 2005, p. 114.
135. Şenol 2018, p. 138.
136. Pieri 2005, pp. 121–122, fig. 79.
137. Dixneuf 2012, pp. 328, 344, fig. 56.
138. Dixneuf 2011, p. 14.
139. Peacock, Williams 1986, p. 204.

but the production started to decline at the end of the 9th c. AD.[140] At Kiman Faris, many sherds of AE 7 bodies were scattered on the surface and some quantities were revealed from mixed layers of previous excavations or *sebbakhin* activities. One rim form and two different base spikes were identified (fig. 20.a–d). The form (fig. 20.a) is a rim of alluvial clay. It has parallels from El-Ashmunein.[141] The base (fig. 20.b) has an example from Soknopaiou Nesos, which is dated to the second half of the 4th or 5th c. AD.[142] The form (fig. 20.c) has an equivalent example that is "type 5" from Kom el-Nana. It is dated from the mid-5th to the early 7th c. AD.[143] The form d is the latest as it is dated from the mid-7th to the 10th c. AD by comparison with similar examples from Tebtynis[144] and Deir el-Naqlun dating from the 8th to the early 9th c. AD.[145]

Egyptian amphorae AE 8 [fig. 21]

The *LRA* I is one of the most common importations during the late Roman period[146] and its imitation was practiced in several areas in Egypt, like Saqqara[147] and Oyun Musa.[148] These imitations and other similar Egyptian amphorae, like the amphora Egloff 167, are considered as the eighth group of the Egyptian amphorae typology of D. Dixneuf.[149]

At Kiman Faris, two rim sherds of AE 8 amphorae were discovered (fig. 21.a–b). They were made from alluvial clay (NC II), which is rich with vegetal inclusions, and have parallels from Elephantine. They are dated from the 6th or 7th to the 8th c. AD.[150] More parallels from Fayum were found at Soknopaiou Nesos,[151] Bakchias,[152] and Deir el-Naqlun.[153]

140. Dixneuf 2011, p. 145.
141. Dixneuf 2011, p. 362, fig. 145, nos. 87.5.
142. Dixneuf 2012, pp. 328, 344, fig. 52.
143. Pyke 2005, pp. 219, 243, fig. 4.13.
144. Rousset, Marchand 2001, pp. 438, 440, 443, figs 22, 28 ; Marangou, Marchand 2007, p. 293, figs 161–165.
145. Gorecki 1993, p. 59, fig. 5.
146. Dixneuf 2011, pp. 224–227; Dixneuf 2012, p. 320.
147. Ghaly 1992, pp. 168–169, fig. 16. a–b.
148. Ballet 2007, pp. 622–624.
149. Dixneuf 2011, p. 174.
150. Gempeler 1992, p. 191, K 715, fig. 121, no. 12.
151. Dixneuf 2012, pp. 328, 344, fig. 55.
152. Gasperini 2014, pp. 318–319.
153. Danys-Lasek 2014, p. 548.

Egyptian imitations of *LRA* 4 [fig. 22]

Producing copies of the Levantine jars was regular in ancient Egypt, like the Canaanite jars during the New Kingdom and the late Dynastic and early Ptolemaic periods. The Torpedo Jars became familiar in Egypt with many Egyptian copies discovered in various sites all over the country, both in miniature and standard size.[154]

Likewise, during the late Roman period, the *LRA* 4 amphorae were produced in Egypt, particularly in eastern areas, e.g. Sinai and eastern Delta sites.[155]

At Kiman Faris, two sherds of two different amphorae were discovered (fig. 22.a–b). They were made from medium-coarse alluvial rich clay with vegetal and sand inclusions (NA II). The form (fig. 22.a) is a rim with 14 cm in diameter, and the form (fig. 22.b) is a base. Both of these sherds belong to copies of the late series of *LRA* 4 dating to the 7th c. AD.[156]

Imported amphorae at Kiman Faris

As mentioned above, there were many goods and commodities to be imported, as the Egyptian territory was not suitable for planting some corps in some cases, and in others, the local production was limited and was not sufficient for local consumption. Foreign amphorae are attested in archaeological sites all over Egypt. This help to trace the ancient routes of trade.[157]

At Kiman Faris, a variety of imported amphorae was identified. They gave a general idea about the commercial relations of Krokodilopolis from the late 4th c. BC to the 7th c. AD. These materials, in comparison with other sites of the Fayum, could help in understanding the foreign commercial relations of the region and tracking the changes of these relations during a long period that extends from the late 4th c. BC to the 7th c. AD.

154. Defernez, Marchand 2006, p. 83; Marangou, Marchand 2007, p. 284, fig. 93; Dixneuf 2011, p. 77.
155. Keay, Williams 2014, Almagro 54.
156. Keay, Williams 2014, Almagro 54.
157. Bailey 1998, p. 118.

Imported amphorae from the Ptolemaic period

The primary source of imported goods during the Ptolemaic period was the eastern Mediterranean, especially the Aegean Sea production centres that exported olive oil and wine to Egypt since the Late Period onwards. Additionally, the Syro-Palestinian area was a primary source of imported commodities during the earlyPtolemaic period. From the other side, the importations from central and western Mediterranean basin, like Cretan, Punic, and Greek-Italic centres, were lesser in quantity and distribution in the Fayum.[158]

It was said above that copies of Cypriot amphorae in alluvial clay dating to the late 4th or the early 3rd c. BC were identified at Kiman Faris. The original containers were not found at the site yet. These types of Cypriote and Levantine containers were present at Tebtynis[159] and Soknopaiou Nesos[160] since the early 3rd c. BC. Some Punic ones were also found at Tebtynis nearly relevant to the same date.[161]

The Aegean amphorae were the most common foreign containers in the Fayum and Egypt in general. The study of stamps of amphorae from Kiman Faris shows that 94% of the stamps were Rhodian[162] and about 2.15% were Knidian.[163] From the Italian Peninsula, only one handle of Brindisian amphora is attested.[164] These numbers, even if resamples portion of the stamps, reflect the economic exchange scale of these regions in general. The available evidence from the Fayum confirms the popularity of the Aegean commodities during the Ptolemaic period and the minority of the imports from the western Mediterranean, which were attested during the second half of this period onwards.[165]

At Tebtynis, according to Antigone Marangou and Sylvie Marchand's quantification of the amphorae dated from the mid-4th to the 2nd c. BC, the majority of the containers (68 individuals) were Egyptian productions. The Phoenician-Punic traditional containers were the most common single group of the imports (24 individuals). The Levantine Torpedo Jars were the most common eastern Mediterranean

158. Marangou, Marchand 2007, pp. 240–241; Marchand 2009, pp. 697–699.
159. Ballet, Południkiewicz 2012, pp. 158–159.
160. Dixneuf 2012, pp. 325, 341, fig. 1.
161. Ballet, Południkiewicz 2012, p. 158.
162. Empereur 1977, p. 198.
163. Empereur 1977, p. 198.
164. Empereur 1977, p. 231.
165. Dixneuf 2012, p. 318-319; Ballet, Południkiewicz 2012, pp. 161–170; Gasperini 2014, pp. 319–320.

container (14 individuals). This statistic also states that the containers of the eastern Mediterranean were standard and the primary source of imported commodities at Tebtynis; their total number is about 52 containers.[166]

Aegean amphorae

- **The Nikandros group** [fig. 23]

In 1951, V. Grace identified the Nikandros group for the first time in the publication of her study on the amphora stamps from Delos. She noticed the frequency of Nikandros' name on these handles and used it to designate this group. Kos is considered as a possible production centre because of many similarities with Koan amphora fabrics and handle stamps. Ephesus and Metropolis on the western coast of Asia Minor are also possible production centres.[167] These amphorae were produced from the 3rd to the 1st c. BC.[168]

The Nikandros group amphorae were discovered in various sites of Egypt, e.g. Alexandria, Beni Salama,[169] Abu Mina,[170] and in the Fayum region, including Tebtynis[171] and Bakchias.[172]

At Kiman Faris, two rim sherds were discovered (fig. 23.a–b), with diameters between 12 and 13 cm.[173] Their fabric is fine to medium-fine dense, hard sandy calcareous past with a few fine particles of limestone, grog, and many mica specks. The fresh break has a core in pale olive (5Y 4/4) and edges in yellowish red (5YR 5/6). It is close enough to the reported fabrics of this group.[174]

- **Rhodian amphorae** [fig. 24]

Rhodes Island was a critical state during the late 4th c. BC and through the Hellenistic period. It had a major share of the wine market of the Mediterranean. This was an outcome of agriculture investment on the southern Anatolian coast

166. Marangou, Marchand 2007, pp. 240–241.
167. Cankardeş-Şenol 2010, p. 126.
168. Marangou, Marchand 2007, p. 245; Ballet, Południkiewicz 2012, p. 162.
169. Marquié 2007, pp. 82, 103, fig. 12.
170. Engemann 2016, p. 24, pl. 6, no. A51.
171. Marangou, Marchand 2007, p. 245; Ballet, Południkiewicz 2012, p. 163, pl. 77, nos. 703–704.
172. Gasperini 2014, p. 319, pl. 46, no. 560.
173. Ballet, Południkiewicz 2012, pp. 163, 316, pl. 78, no. 710; Engemann 2016, p. 24, pl. 6, no. A51.
174. Cankardeş-Şenol 2010, p. 127.

and good relations with many states. The island preferred to be a neutral state out of the conflicts between the tremendous Hellenistic kingdoms.[175]

According to the studies of amphora stamps discovered in Alexandria, Egypt has been a main consumption centre of the Rhodian wine through a long period expending from the late 4th to the 1st c. BC.[176] The presence of Rhodian amphorae is well attested in many sites of the Fayum region, e.g. Tebtynis,[177] Hawara,[178] and Bakchias.[179]

The situation at Kiman Faris is similar to Alexandria. The studies of the Aegean amphora stamps by J. Bingen[180] and J.-Y. Empereur[181] show that more than 94% (91 out of 95) of the stamps had Rhodian origins. This percentage is not final as there are about 140 stamps revealed from various Egyptian rescue excavations, which have not been published yet.[182]

Although a large number of previously revealed Rhodian stamps, only two rim sherds (fig. 24.a–b) and three other handles with stamps were discovered during the recent excavations and survey. Their fabric is very fine dense hard sandy calcareous past containing very few fine inclusions of limestone, black particles, and quartz. It breaks in light brown (7.5 6/4). Some parallel amphorae were discovered at Tebtynis [183] and Bakchias[184], and are dated to the second half of the 3rd c. BC.

The form (fig. 24.c) is an amphora toe base, which was identified at Luxor as Rhodian, dating to the 2nd c. BC at a site called Al-Madrassa[185] and at Abu Mina.[186]

- **Knidian amphorae** [fig. 25]

Knidos was one of the leading Aegean city-states, which produced and exported wine since the 7th c. BC. By the Hellenistic period, the agricultural production of the island was improved and the Knidian wine exportation increased.[187]

175. Gabrielsen 2013, pp. 67–69.
176. Cankardeş-Şenol, Canoğlu 2009, p. 109.
177. Marangou, Marchand 2007, p. 246.
178. Marchand 2009, p. 697.
179. Gasperini 2014, p. 255.
180. Bingen 1955.
181. Empereur 1977, p. 198.
182. Personal examination of the Kom Aushim Museum store registers at Kiman Faris.
183. Marangou, Marchand 2007, p. 246; Ballet, Południkiewicz 2012, p. 161, pl. 76, no. 698.
184. Gasperini 2014, p. 319, pl. 46, no. 559.
185. Marangou 2016, pp. 290, 304, fig. 5, no. A21.
186. Engemann 2016, p. 24, pl. 6, no. A49.
187. Şenol 2018, pp. 395–396.

As for the Egyptian market, the Knidian amphorae were common finds from the Ptolemaic levels, second in quantity to the Rhodian amphorae.[188] For example, at Alexandria, the Knidian amphorae are about 9% of the datable stamped amphorae from the excavations of the Centre d'études alexandrines (CEAlex).[189] They were also present at Abu Rawash from the late 4th to the 3rd c. BC[190] and at Marina el-Alamein.[191]

The amount of Knidian amphora stamps discovered at Kiman Faris is less than usual. Only two stamps out of the 95 studied stamps (about 2.15%) are Knidian.[192] Four new sherds of Knidian amphorae were discovered in 2017 during the excavations of the Fayum University: one rim and three base toes (fig. 25.a–d). Their fabric is fine to medium-fine dense, hard sandy calcareous past, with many well-sorted medium-fine granular inclusions and some limestone particles. It has a few amounts of grogs, fine black stone particles, and mica spikes. The colour of the fresh break varies between yellowish red tones (5YR 5/6–5YR 4/6).

- **Mendean amphorae** [fig. 26]

The quantities of Mendean amphorae revealed from the Egyptian sites are limited, as the Black Sea area was the major destination for the Mendean wine, which was not exported in large quantities to Egypt.[193]

Three Mendean amphora sherds are identified from Kiman Faris. Two of them have the same fabric (fig. 26.b–c); they have a fine, dense sandy calcareous past that contains a few limestone particles and mica flecks. The form (fig. 26.b) breaks in yellowish red (5YR 5/6), and the form (fig. 26.c) has an olive core (5Y 5/4) and brown edges (7.5YR 5/4). These two sherds are similar to material from Gordion, an ancient town in central Anatolia that was the capital of the Phrygian kingdom. They are dated to the early Hellenistic period. Mark Lawall attributed them to Mende or to a centre around the Chalkidike.[194]

The fabric form (fig. 26.a) is a fine dense, hard sandy calcareous past, with many fine inclusions of grog, black particles, and a few quartzes. The new break is light yellowish brown (10YR 6/4) or light brown (7.5YR 6/4) and has a whitish coating. Similar sherds were discovered in the temple of Amenhotep II at Luxor. They are attributed to Mendian origin and are dated to the Ptolemaic period.[195]

188. Şenol 2018, pp. 395–396.
189. Cankardeş-Şenol 2015, pp. 168–170.
190. Marchand 2007b, p. 181.
191. Majcherek 2007, p. 28, fig. 3, nos. 13–14.
192. Empereur 1977, p. 198.
193. Şenol 2018, p. 363.
194. Lawall 2010, pp. 161–162, pl. 94, nos. 2–4.
195. Marangou 2016, pp. 291, 305, fig. 5, no. A26.

- **Koan amphorae** [fig. 27]

The beginning of wine production at Kos dates to the late 6th or the early 5th c. BC. They did not export their products in large quantities before the Hellenistic period, as the Koan producers re-organised their agricultural production to be able to increase their share of the Mediterranean market. They did not stamp their amphorae systematically compared to the Rhodians and the Knidians, but they regularly stamped a portion of the production.[196]

The Koan wine was popular in Egypt during the Ptolemaic period, and Koan amphorae were discovered in many centres all over Egypt.[197]

At Kiman Faris, six different rim sherds and bases of Koan amphorae were discovered. All of them are dated to the Ptolemaic period (fig. 27.a–f). The form (fig. 27.c) has parallels at Tebtynis[198] and Abu Mina.[199] The base (fig. 27.e) has an equivalent example from western Delta.[200]

These amphorae have similar fabrics: a fine to medium-fine dense, hard sandy calcareous past, rich with fine sand, some fine black particles, and many quartz specks. The colour of fresh break is between reddish yellow (5YR 7/8) and yellowish red (5YR 5/6). The fabric of (fig. 27.e) is very hard, dense sandy, with the same inclusions as the other specimens. The fresh break has pale yellow edges (2.5Y 8/3) and light olive brown core (2.5Y 5/4).

- **Amphorae from Smyrna or Eritrea** [fig. 28]

This type was discovered at Tebtynis from contexts dated from the first half of the 2nd to the beginning of the 1st c. BC. Pascale Ballet and Anna Południkiewicz identified it as a production from Smyrna or Eritrea in western Asia Minor, according to suggestions of Ahmet Şenol and Gonca Cancardeş-Şenol for Smyrna and Gérald Finkielsztejn for Eritrea.[201]

The only discovered rim sherd of this type at Kiman Faris is 14 cm in diameter. Its fabric is fine-medium dense, hard sandy calcareous past, containing a few mica spikes and a few minimal voids. The break has a reddish yellow core (5YR 6/6) and yellowish red edges (5YR 5/6), and its surface is covered with a creamy pink coating (7.5YR 8/3).

196. Şenol 2018, p. 408.
197. Şenol 2018, p. 408.
198. Marangou, Marchand 2007, p. 244.
199. Engemann 2016, p. 24, pl. 6, no. A48.
200. Grigoropoulos 2009, p. 344–345, fig. 122, no. KDBS.P1.
201. Ballet, Południkiewicz 2012, pp. 166, 317, pl. 79, no. 718.

- **Cypriot amphorae** [fig. 29]

Cyprus was mentioned above as a significant source of imported commodities. Here the oldest sherd of original Cypriot amphora, which was found at Kiman Faris, is presented. The form (fig. 29) is close to Cypriot amphora sherds discovered at Alexandria. The fabric also is comparable to Cypriot Fabric 1 of G. Cankardeş-Şenol and A. Şenol of the Cypriot amphorae from salvage excavations at Alexandria.[202]

This form is a sherd of a neck having a thick rounded rim about 11–12 cm in diameter. It was revealed from a mixed layer of the excavations of 2019. The fabric is medium-fine dense past, rich with a few small-size granular inclusions of limestone, many black stone particles, and many particles of quartz. The colour of the fresh break is red (2.5YR 5/8).

Western Mediterranean amphorae

- **Brindisian amphorae** [fig. 30]

Scholars sometimes refer to this type as "Ostia 66" or "Peacock & Williams 1". Brindisi in Italy is considered to be the centre of production for this type. A kiln site was discovered in its vicinity. These amphorae were manufactured from the late 2nd to the late 1st c. BC. Generally, they were used for the transportation of olive oil and probably wine. They were exported to western Mediterranean centres but the eastern Mediterranean was the main consuming area.

The main characteristics of this type are the cylindrical neck with a thickened plain rim, handles with round sections joining from below the rim to the shoulder, and oval body with a knobbed base. The handles often have Latin stamps and sometimes Greek characters. Sometimes one handle holds a stamp with the name of the factory while the other bears the stamp of the concerned potter.[203]

One handle of Brindisian amphora holding a Latin stamp ("L. LVCI") and dated to the 2nd–1st c. BC was revealed from Kiman Faris.[204]

Two rim sherds of Brindisian amphorae were discovered at Kiman Faris during the recent excavations (fig. 30.a–b). Some similar examples from the 2nd–1st c. BC were discovered at Tebtynis.[205]

202. Cankardeş-Şenol, Şenol 2013, pp. 58, 64, figs 2.a, 13.a.
203. Keay, Williams 2014, Brindisian amphora.
204. Empereur 1977, p. 231.
205. Ballet, Południkiewicz 2012, pp. 169, 319, pl. 81, no. 727.

The fabric of the form (fig. 30.a) is fine, dense, hard sandy calcareous past, with many fine limestone particles, a few medium-size grogs, and some particles of quartz. The fresh break is reddish yellow (7.5YR 6/6). While the fabric of form (fig. 30.b) is fine/medium dense hard sandy calcareous past with some coarse granular grogs, a few medium-size limestone particles, some small-size black particles, and some elongated voids (about 1–3 mm long). The break is in very pale brown (10YR 7/4).

- **Cyrenaica Amphora 2** [fig. 31]

The fabric is fine, dense sandy calcareous past with few small-size limestone particles inclusions and a few quartzes. The fresh break is light reddish brown (2.5YR 6/4). Similar examples dated from the 2nd to the end of the 1st c. BC were discovered at Tebtynis.[206]

Imported amphorae from the Roman period

The eastern Mediterranean continued to be the primary source of imported commodities at Krokodilopolis and in the Fayum in general, but the most active centres were Cilicia and Cyprus, not the Aegean Sea basin. These centres exported amphorae, e.g. Pompeii V and Pinched-handle Amphorae, which were identified at Kiman Faris, Bakchias, and Hawara. Central Mediterranean centres, e.g. Crete and Tripolitania, were involved in the Egyptian market. Tripolitanian amphorae were discovered at Tebtynis, Hawara,[207] Bakchias,[208] and Philadelphia in the Fayum.[209] Cretan amphorae were identified at Tebtynis.[210] Both Tripolitanian and Cretan amphorae were found at Kiman Faris. The published materials from Tebtynis and Bakchias give more types of North African and Italian amphorae, which reflect the growing popularity of African commodities in the Fayum and the increasing commercial relations.[211]

206. Gasperini 2014, p. 321, pl. 46, no. 580; Marangou, Marchand 2007, p. 282, fig. 52.
207. Ballet, Bonifay, Marchand 2012, p. 100.
208. Gasperini 2014, p. 320.
209. The authors identified it at Philadelphia during 2019 excavation season.
210. Ballet, Południkiewicz 2012, p. 168.
211. Ballet, Południkiewicz 2012, pp. 168–172; Gasperini 2014, pp. 260–261.

Eastern Mediterranean amphorae

- **Amphorae Dressel 5** [fig. 32]

No production centres of Dressel 5 were discovered, but the similarity with the fabric of Hellenistic vessels and the form suggest Kos as a place of origin.[212] Some Dressel 5 amphorae from the mid-1st to the late 2nd c. AD were discovered at Marina el-Alamein.[213]

From Kiman Faris, only one rim sherd of Dressel amphora was identified (fig. 32). Its fabric is medium-fine hard past, with some medium-coarse white elements (crushed stone), some medium-size black granular spots, little fine grogs, and many quartz spots. The fresh break is in intense brown colour (7.5YR 4/4).

- **Amphorae Pompeii V** [fig. 33]

Pompeii V is one of the new types attested in Cilicia during the early Roman period, around the 1st c. AD, to supply the need of flourishing agricultural investment.[214]

Pompeii V was produced during the mid-1st and the 2nd c. AD with many variations in fabrics. This fact suggests that there were many other centres of production, e.g. north-western Syria (the area around Antioch). Its production was attested at a kiln, which produced *LRA* I in a later period.[215] These amphorae are small containers about 50 cm tall; their main characteristics are narrow compacted rims, tall conical necks, rounded shoulders, and long turned "strap" handles.[216]

The chronology of Pompeii V was extended to the 3rd c. AD as a result of the excavations at Berytus and Alexandria. The similarity of its fabric with *LRA* I from the workshops of Aegeai in Cilicia suggests some relation between them.[217]

One amphora Pompeii V.36-M (fig. 33) was revealed from the salvage excavations of the Fayum inspectorate in 1963. Similar amphorae from the 1st–2nd c. AD were discovered at Marina el-Alamein.[218]

212. Majcherek 2007, pp. 18–19.
213. Majcherek 2007, pp. 19, 29, fig. 4, no. 23.
214. Şenol 2018, p. 493.
215. Majcherek 2007, pp. 21, 29, figs 4–5, nos. 28–30.
216. Autret 2012, p. 258.
217. Şenol 2018, p. 493.
218. Majcherek 2007, pp. 21, 29, figs 4–5, nos. 28–30.

- **Pinched-handle Amphorae** [fig. 34.a–b]

The Pinched-handle Amphora was the most common type of amphora produced in Rough Cilicia and Cyprus between the 1st and the 4th c. AD. Their main features are pseudo-double-rolled handles, cylindrical bodies with ridges and simple or mushroom-shaped toes. The handle is pinched at the angular turn near the shoulder, giving the type its name.[219] It is also known as Mid-Roman Amphora 4,[220] Agora G 199, Dyczek 2001, Nea Paphos 3, Ostia 631, and Zemer 41 according to different typologies.[221] There are two periods of production: from the 1st to the early 3rd c. AD, and from the late 3rd to the 4th c. AD. The amphorae of the second period are smaller, their necks are shorter, and their handles are reduced.[222]

Two sherds of Pinched-handle Amphorae (fig. 34.a–b) were collected during the 2018 survey of the small bath area, with many AE 3 amphora sherds. Several parallels were discovered in various sites: Marina el-Alamein (2nd–early 3rd c. AD),[223] Bouto (base and toe, 1st–2nd c. AD)[224] and Mons Claudianus (Antoninan period).[225] The two examples from Kiman Faris fit to the early production of this type (1st–3rd c. AD).

Some scholars propose that the Cilician amphorae of this type are micaceous in fabric, the other fabrics being Cypriot.[226] The fabric of the examples from Kiman Faris is not micaceous. It is a fine-medium dense, hard calcareous past with few moderate fine inclusions of grogs, black particles, quartz specks, and a few small-size voids. The colour of the fresh break is between very pale brown (10YR 8/4) and reddish yellow (7.5YR 6/6), so it is closer to the Cypriot fabrics.

- **New Cilician type** [fig. 34.b]

A. Şenol, in his study on the commercial amphorae in the Graeco-Roman Museum of Alexandria, identified a similar amphora to (fig. 34.b) as a new Cilician amphora type.[227]

219. Autret 2012, p. 255.
220. Bourriau, French 2007, p. 126.
221. Keay, Williams 2014, Agora G 199.
222. Lund 2000, pp. 565–566.
223. Majcherek 2007, pp. 22–23, 30, figs 5–6, nos. 32–34.
224. Bourriau, French 2007, p. 126, figs 3–4.
225. Tomber 2006, pp. 170–171, fig. 1.66, no. 60-981.
226. Autret 2012, p. 256.
227. Şenol 2018, p. 506, fig. 428.

The revealed example from Kiman Faris is a sherd of amphora neck. The placement of the handle is lower the rim, thickened rim, 14 cm in diameter. The fabric is very close to that of the Pinched-handle Amphorae. Fine, medium dense, hard sandy calcareous past, with very few grogs and quartz, and tiny voids. The fresh break is pale yellow (2.5Y 8/4).

- **Cretan amphorae** [fig. 35]

The presence of Cretan amphorae at the Egyptian sites is rare in general, but the site of Marina el-Alamein is an exceptional case. The Polish excavations revealed many Cretan amphorae, about 10–15% of the total number of the amphorae discovered there. Some examples were discovered at Alexandria, Mons Claudianus, Berenike on the Red Sea, and Tebtynis in the Fayum.[228]

Two Cretan amphora sherds were discovered at Kiman Faris. The form (fig. 35.a) is a sherd of AC1d, which has similar examples from Marina el-Alamein. These are dated to the 1st–4th c. AD.[229] The form (fig. 35.b) is dated to the 1st–mid-2nd c. AD.[230] Many examples of Cretan amphorae were found at Alexandria.[231]

The fabric of these amphorae is fine, dense, hard calcareous past, with few fine granular limestone particles, many quartz particles, and a few medium-large irregular voids. The colour of the fresh break is light red (2.5YR 7/6).

African amphorae: Tripolitania I [fig. 36]

This type is also known as Class 36 and Ostia LXI V. According to finds from Ostia, Pompeii, and North Africa, it was produced and circulated between the 1st and the 4th c. AD.[232] Production sites were identified in the region of Tripolitania in Libya, e.g. the workshop of Zitha/Zian. It was used to transport olive oil.[233]

The essential features of this type are the thickened rim and the high, slightly conical neck. It has two short thick handles and a long cylindrical body ending in a hollow conical toe. These amphorae rarely bear stamps on the rim and the handle.[234]

228. Majcherek 2007, pp. 11–13.
229. Majcherek 2007, pp. 11–13, 27, fig. 2, no. 7.
230. Majcherek 2007, pp. 11, 13, 26, fig. 1, no. 6.
231. Bonifay et al. 2002, p. 56, fig. 68.
232. Peacock, Williams 1986, pp. 166–167.
233. Bonifay 2004, p. 29.
234. Peacock, Williams 1986, pp. 166–167.

Tripolitania amphora was the first North African container to be circulated in the eastern Mediterranean basin. In Egypt, Tripolitania I of the 1st–2nd c. AD was identified in Alexandria, Taposiris Magna, Tanis, Tebtynis, Hawara,[235] Bahariya, on the road between Coptos and Myos Hormos, Mons Claudianus, Berenike, Abu Mina,[236] and Philadelphia in the Fayum during recent excavations.[237]

One sherd of a rim was identified at Kiman Faris (fig. 36). The fabric is comparable to the fine fabric of Tripolitania I, which was described by D.P.S. Peacock and D.F. Williams: "Hard, with rough surfaces and a hackly fracture in which some quartz grains can be seen, pinkish-red (10YR 6/6) in color." There are also many fine particles of limestone. The external surface is covered with pale yellow coating (5Y 8/3) left by using saltwater during manufacture.[238]

Imported amphorae from the late Roman period

During the late Roman period, Cilicia, Cyprus, and the Levant were the major sources of imported amphorae, specially *LRA* I and *LRA* 4, that were distributed all over the Mediterranean basin. Many forms of various fabrics were found at Kiman Faris, Karanis,[239] Hawara,[240] Soknopaiou Nesos,[241] and Deir el-Naqlun.[242] From the other side, the African containers were found at the same sites, but in lesser quantities than *LRA* I and *LRA* 4. This justification is based upon the statistics of Deir el-Naqlun[243] and the amount of *LRA* I at Kiman Faris, as they are more numerous than all the African amphorae.

Amphorae of the eastern Mediterranean

- ***Late Roman Amphora* I (*LRA* I)** [fig. 37]

The *LRA* I is the most common and vital amphora type of the late Roman period from the commercial point of view.[244] It was used for transporting oils and wines, which were produced in Cilicia and Cyprus from the early 5th to the 7th c. AD.

235. Marchand 2009, p. 789, fig. 110.a; Ballet, Bonifay, Marchand 2012, p. 100.
236. Engemann 2016, p. 25, pl. 6, no. A59.
237. Personal notice during Philadelphia excavations 2019
238. Peacock, Williams 1986, pp. 166–167.
239. Pollard 1998, pp. 154–155.
240. Marchand 2009, p. 725, fig. 22.a.
241. Dixneuf 2012, pp. 325, 341, figs 8–9.
242. Danys-Lasek 2012, p. 226; Danys-Lasek 2014, pp. 546–547.
243. Danys-Lasek 2014, pp. 609–639.
244. Pieri 2005, p. 69.

It has a large distribution area.[245] J. Riley called this type "*Late Roman Amphora* 1" for the first time in his publication of Benghazi in Libya in 1979. He defined tow variants, *LRA* IA and *LRA* IB.[246] Reynolds, in his study on the linear typologies of the pottery of Beirut, thinks that it was developed from Pompeii V amphora. Additionally, he suggests that its date is up to the mid-3rd c. AD. The examples from Kiman Faris belong to the last two phases of its development: phase "n" that is dated to 460–475 AD, and phase "o", which continued to the 7th c. AD.[247]

The *LRA* I was imported to Egypt since the mid-4th c. AD. Many examples from the late 6th–7th c. AD were discovered in various sites of the Fayum (Hawara,[248] Soknopaiou Nesos,[249] Karanis,[250] and Deir el-Naqlun[251]) and Egypt (the Mastaba of Akhethetep at Saqqara,[252] Kom el-Mahar in east Mareotis region,[253] Kom Sidi Uqba,[254] El-Qabari cemetery at Alexandria from the 5th–7th c. AD,[255] and Abu Rawash from the 7th c. AD[256]).

Four rim sherds of different amphorae (fig. 37.a–d) were discovered at Kiman Faris. Their diameters are between 9 and 11 cm. They are made of two various fabrics comparable to the P3 and P4 fabrics of D. Pieri.[257]

The fabric of the forms (fig. 37.b–d) is medium-fine dense, hard sandy calcareous past, with a small number of fine grogs, black particles, limestone particles, and mica flecks. The colour of the fresh break is very pale brown (10YR 7/4). It equals the P4 fabric of D. Pieri. The fabric of the form (fig. 37.a) is a medium-fine medium dense, hard sandy calcareous past, with numerous fine red and black particles, limestone grains, rare quartz particles, and a few small voids. The colour of the fresh break is pale yellow (5Y 8/2). It is comparable to the P3 fabric of D. Pieri. Typologically, all the sherds discovered at Kiman Faris belong to the second generation, *LRA* 1B, which is dated to the 5th–7th c. AD.[258]

245. Gascoigne 2007, p. 164.
246. Demesticha 2014, p. 600.
247. Reynolds 2009, pp. 70–72, fig. 3.
248. Marchand 2009, p. 725, fig. 22.a.
249. Dixneuf 2012, pp. 320, 325, 341, figs 8–9.
250. Pollard 1998, pp. 154–155, fig. 3.a–b.
251. Danys-Lasek 2012, p. 226, fig. 3, no. 08.450.
252. Lecuyot 2007a, pp. 201, 205, fig. 3, no. 8.
253. Grigoropoulos 2009, pp. 299, 301, fig. 106, no. Tm. P11.
254. Grigoropoulos 2009, p. 388, fig. 140, no. Ks*. P1.
255. Şenol 2007, pp. 72, 74, fig. 1.
256. Marchand 2007b, pp. 183, 188, fig. 19.a–b.
257. Pieri 2005, p. 81.
258. Peacock, Williams 1986, p. 185; Pieri 2005, pp. 76–77.

- ***Late Roman Amphora* 4 (*LRA* 4)** [fig. 38]

W. Flinders Petrie discovered this amphora type for the first time during his excavations at Ehnasya in Middle Egypt. It is well attested in many sites all over the Mediterranean and is considered the second crucial commercial amphora of the late Roman period. It is also known as Almagro 54, Keay 54, Kusmanov 14, Peacock & Williams 48, Peacock & Williams 49, Pieri *LRA* 4A/B, and Zemer 53.[259] The production centres of *LRA* 4 were attested in various sites on the southern coast of Palestine. Negev and Sinai (around Pelusium) are also other suggested production areas.[260]

LRA 4 has a long production history and has different forms. There were early prototypes, since the 1st c. AD, that had short wide bodies and thick walls.[261] The productions of the 4th–mid-5th c. AD are relatively short with thin walls. The example of Kiman Faris belongs to this stage, corresponding to the *LRA* 4A 1 of D. Pieri's typology.[262] Late examples, dating from the 5th to the early 7th c. AD, are longer with narrow bodies, like the Egyptian imitations, which have been discussed previously (fig. 22).[263]

Only one upper part sherd was revealed in Kiman Faris (fig. 38). Its rim is 12 cm in diameter. The fabric is medium-coarse dense, hard calcareous sandy past that includes a few medium-size grogs, many coarse white particles of limestone, and some large elongated voids. The colour of the fresh break has a dark brown core and light reddish-brown edges.

African amphorae [fig. 39]

African amphorae were less in Egypt than the *African Sigillata*, in quantity and distribution, but discoveries indicate that they were not rare. They were found in various sites all over the Egyptian territory, e.g. Alexandria, Taposiris Magna, Bouto, Wadi Natrun, Siwa, the road from Coptos to Myos Hormos,[264] Bakchias,[265] Hawara,[266] Old Cairo,[267] and Baharya Oases.[268]

259. Keay, Williams 2014, Almagro 54.
260. Keay, Williams 2014, Almagro 54.
261. Pieri 2005, pp. 101–103.
262. Pieri 2005, p. 103.
263. Keay, Williams 2014, Almagro 54.
264. Ballet, Bonifay, Marchand 2012, pp. 99–106.
265. Gasperini 2014, p. 321, pl. 46, no. 576.
266. Marchand 2009, p. 724, fig. 21.a.
267. Gascoigne 2007, p. 165, fig. 10.
268. Bonifay 2007, p. 461, fig. 3, no. 17.

- **Keay 55** [fig. 39.a]

Keay 55 is a Tunisian amphora that was produced from the end of the 5th to the first half of the 6th c. AD. Its capacity is around 67 litres. It was used probably to transport olive oil from Africa to many areas around the Mediterranean Sea, as it was discovered in Spain, southern France, Italy, some places in the eastern Mediterranean, and Romania.[269] The production of Keay 55 was attested in the workshop of Sidi Zahruni, which was active between the 5th and the 7th c. AD.[270]

One rim sherd of this type was found at Kiman Faris. It is 11 cm in diameter. The fabric is fine, medium dense, hard calcareous past, with a few medium-size particles of limestone and fine-coarse grogs. The external and inner surfaces have a white coating. It breaks in orange. Parallels were discovered in the Baharya Oases.[271]

- **Keay 26 (Spatheion)** [fig. 39.b]

The amphora Keay 26 is also known as Spatheion I, Benghazi *LRA* 8, and Class 51.[272] The North African origin was confirmed by the discovery of the Ariana workshop at Carthage and other workshops in the region of Nabeul at Sidi Zahruni.[273] This type was the most common used for distributing the agricultural productions of North Africa all over the Mediterranean basin during the 6th–7th c. AD.[274] Cartagena, in Spain, is another production centre. The period of production of Keay 26 was from the late 4th to the 7th c. AD.[275] The main characteristic features of Keay 26 are the long slim body, the long spike, the high neck that ends with a flaring rim. It has two short handles, which were attached to the neck.[276]

At Kiman Faris, a sherd of Keay 26 rim was found (fig. 39.b). It belongs to an early production phase of Keay 26, which is dated to the first half of the 5th c. AD.[277] The fabric is fine, medium dense, hard reddish past, with a few small-size particles of limestone, uncommon black particles, limited quartz spots, rare small spots of grey and red colours, and a small number of medium-size elongated voids. The colour

269. Keay, Williams 2014, Keay 55.
270. Bonifay 2004, pp. 37, 135–137.
271. Bonifay 2007, p. 462, fig. 4, no. 26.
272. Peacock, Williams 1986, pp. 202–203.
273. Keay, Williams 2014, Spatheion 1; Gascoigne 2007, p. 165.
274. Şenol 2018, p. 236.
275. Peacock, Williams 1986, pp. 202–203.
276. Keay, Williams 2014, Spatheion 1; Gascoigne 2007, p. 165.
277. Şenol 2018, pp. 236–251, figs 194–213.

of the fresh break is red (2.5YR 5/8). Some equivalent examples were discovered at Hawara in the Fayum, which are dated from the late 6th to the early 7th c. AD.[278] Other examples from the 5th c. AD were found at Old Cairo [279] and Baharya Oases.[280]

- **Keay 56** [fig. 39.c]

The amphora Keay 56 has three subtypes labelled alphabetically as "A–C". The most common subtype is B, which has a more tall tubular form comparing to the amphora Keay 55. Manufacture is proven to be in Zeugitana at Nabeul (workshop of Sidi Zahruni), from the end of the 5th to the mid-8th c. AD.[281] Keay 56 is about 112 cm in height and 35 cm in diameter.[282]

One rim sherd was identified in Kiman Faris (fig. 39.c). It is 14 cm in diameter. The fabric is a very hard, medium-coarse, medium dense sandy calcareous past, with many granular small black particles, some medium-size grogs, and some mica particles. There are also some small to medium-size irregular voids. The fresh break has a reddish yellow core (5YR 6/6) and pink edges (5YR 7/4). There are some parallels from Bakchias, dated from the end of the 5th to the beginning of the 6th c. AD.[283]

Unidentified imported amphorae [fig. 40]

Fig. 40.a. Rim of an amphora. The fabric is fine, dense, hard sandy calcareous past, with many fine inclusions of grog, black particles, and few particles of quartzes. The fresh break is light yellowish brown (10YR 6/4) or light brown (7.5YR 6/4). Its fabric is similar to that of the Menedean amphora (fig. 26.a).

Fig. 40.b–c. Rims of two different amphorae. The fabric is fine, dense sandy calcareous past, with few well-sorted inclusions of fine to medium-size limestone particles and grogs, and a few elongated voids. The fresh breaks are light red (10YR 6/6) and the external surfaces have a pale yellow coating (5Y 8/2).

278. Marchand 2009, p. 724, fig. 21.a.
279. Gascoigne 2007, p. 165, fig. 10.
280. Bonifay 2007, p. 461, fig. 3, no. 17.
281. Keay, Williams 2014, Keay 56.
282. Bonifay 2004, pp. 135–136.
283. Gasperini 2014, p. 321, pl. 46, no. 576.

Fig. 40.d. Base of an amphora. Its fabric is medium-fine, medium dense sandy calcareous past, with a few fine limestone particles, many fine grogs, and few large irregular voids. The fresh break is light reddish brown (5YR 6/4) and the external surface has a very pale brown coating (10YR 8/3).

Fig. 40.e. Base of an amphora. The fabric is medium-coarse, medium dense calcareous past, with many medium-size inclusions of limestone particles, coarse sands, grogs, and many irregular voids. The fresh break is red (2.5YR 4/8).

Fig. 40.f. Spick of an amphora, revealed from a mixed layer during the 2019 excavations. Its fabric is fine, dense sandy calcareous past, with few inclusions of fine limestone, grog, and quartz. The colour of the fresh break is light red (2.5YR 6/6).

Fig. 40.g. Base of an amphora. Fabric and surface treatment are comparable to that of the Tripolitania I amphora, which was mentioned above. No parallel amphora of this type has a similar base.

Conclusion

Kiman Faris, at Medinet el-Fayum, the location of the ancient town of Krokodilopolis, has high historical and archaeological values. It was a famous town in Ancient Egypt. During the Ptolemaic and Roman periods, the importance of the town increased because of the large projects of land reclamation in the Fayum. Large numbers of Hellenic and Hellenised ethnic groups were housed in the town and in many other settlements in the region. The town benefited from a strategic position in the middle of the Fayum depression. Additionally, it was situated at the controlling point of the hydraulic system that distributed water into the majority of the region.

Kiman Faris has a long history of exploration. The first excavation took place 200 years ago. The site suffered from extensive activities of looting and quarrying. The Egyptian authorities have conducted salvage excavations on the site since the 1960s. Because of these activities, the area of the site decreased; only five small plots of land are still under the authority of the SCA.The excavations of the Fayum University (2016–2019) revealed many pottery materials. The full corpus is being studied. This paper discusses the amphorae from these excavations and one amphora from the salvage excavations of 1964. Previously published materials of local and imported

stamps of amphorae discovered at Kiman Faris were also included in this discussion; 140 stamped handles of amphorae were not studied.

The study of the amphorae from Kiman Faris shows the general developments of the Egyptian amphorae circulation in the metropolis and the Fayum region from the 3rd c. BC to the 10th c. AD. These developments follow the general model of imitating foreign containers and in the next steps developing complete Egyptian forms.

The Egyptian potters imitated imported amphorae from the centres of Aegean Sea during the Ptolemaic period (AE 1, AE 2). By the beginning of the Roman period, a new specific Egyptian type emerged (AE 3) and during the late Roman period, the AE 3tr appeared as a continuation of AE 3 tradition in Lower Egypt. From the other side, the potters of Middle and Upper Egypt produced AE 7 for a long period (4th–10th c. AD). Some other types were also produced, e.g. AE 5/6, which is a local edition of the bag-shape amphora *LRA* 5/6, and AE 8 that is an imitation of *LRA* I. Local copies of *LRA* 4 were also attested at Kiman Faris. This typological and chronological development is attested elsewhere in Egypt. In other words, Krokodilopolis and the Fayum in general followed the general line of development of the Egyptian amphorae.

The Egyptian amphorae were the absolute majority of the containers circulating in the Fayum. There were centres of production at Krokodilopolis, Philadelphia, and Kom el-Khamseen from the Ptolemaic period. During the Roman period, many centres of production are suggested in the south-western portion of the region. The Egyptian amphorae were more than 70% of the late Roman period amphorae discovered from the Deir el-Naqlun excavation.

The majority of the Egyptian amphorae are in alluvial clay, so the production centres cannot be precisely identified. Additionally, the area around the metropolis was, as it is now, rich with alluvial clay that came with the water of inundation through the Bahr Yussef. Some types, especially of AE 3, are also linked to some production sites in the Fayum (Magdola type). For this, the Fayum region is the expected production area of the majority of the Egyptian amphorae revealed at Kiman Faris.

Imported amphorae demonstrate that Krokodilopolis had a wide range of commercial relations. It is also remarkable that the foreign markets of the metropolis were principally located in the eastern Mediterranean from the Ptolemaic to the late Roman period. During the late Roman period, the importance of the African commodities increased, as there are three different North African amphora types identified. Some African table wares were also revealed. This increase of the African amphorae did not surpass the eastern Mediterranean amphorae from Cilicia, Cyprus, and the Levant (fig. 4).

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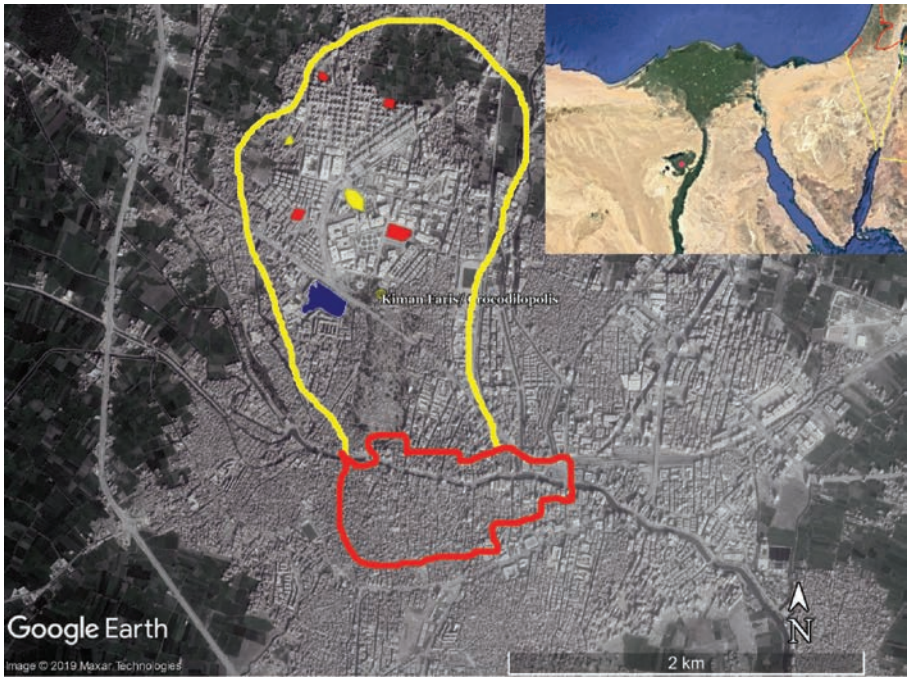


Fig. 1. *Google Earth view of Medinet el-Fayum, the yellow line is Kiman Faris limits and red is the limits of Medinet el-Fayoum in 1887. © Yahya E.M. Mahmoud.*

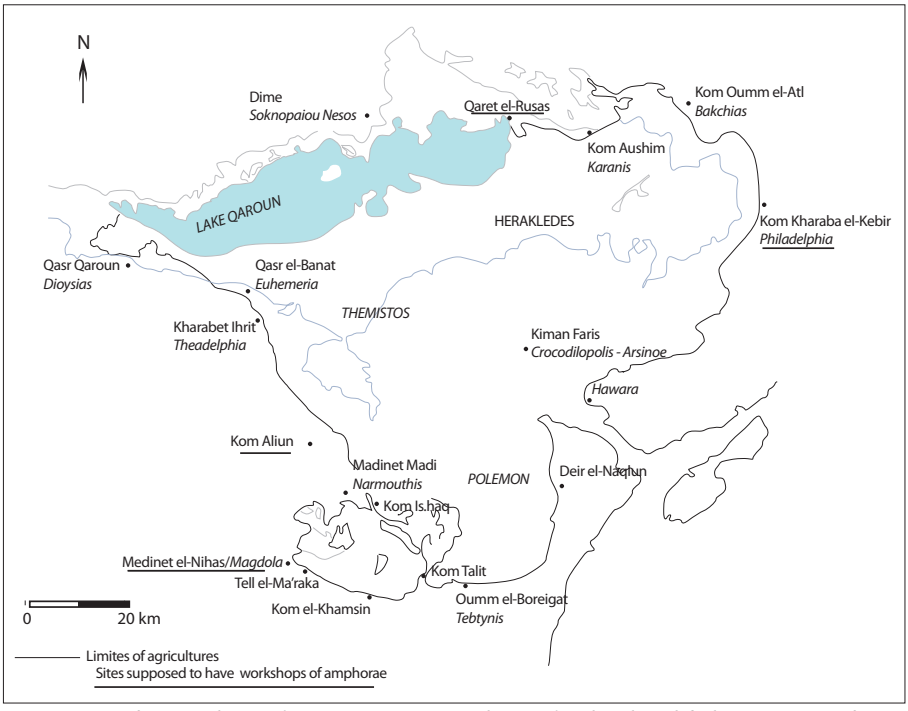


Fig. 2. *Map of Fayum during the Greco-Roman Period. Translated and modified From: Dixneuf 2011, p. 115, fig. 100.*

Fig. 3. *Aerial view of the "Ptolemy temple" area of Kiman Faris. A–D are four excavation trenches of the Fayum University accompanied by photos of their results. © Yahya E.M. Mahmoud.*

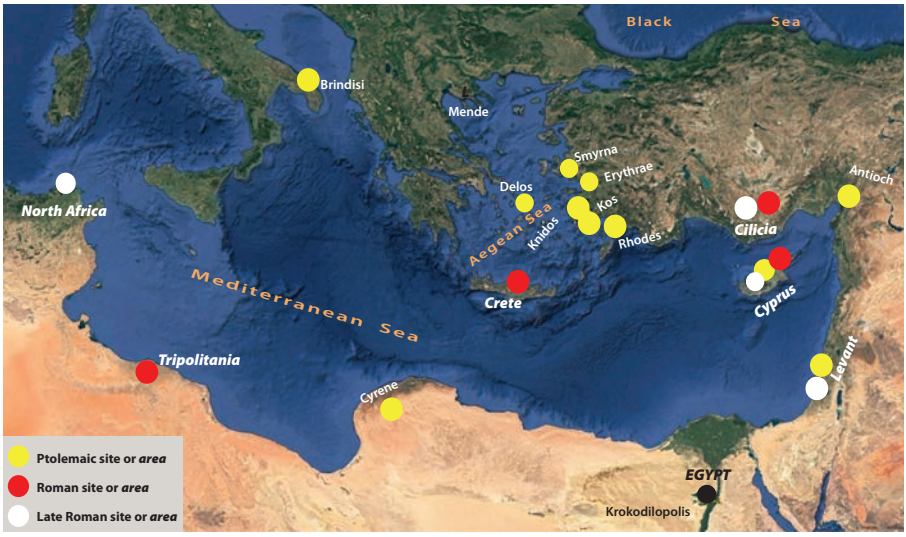


Fig. 4. *Map showing the origins of the imported amphorae discovered at Kiman Faris. © Yahya E.M. Mahmoud.*

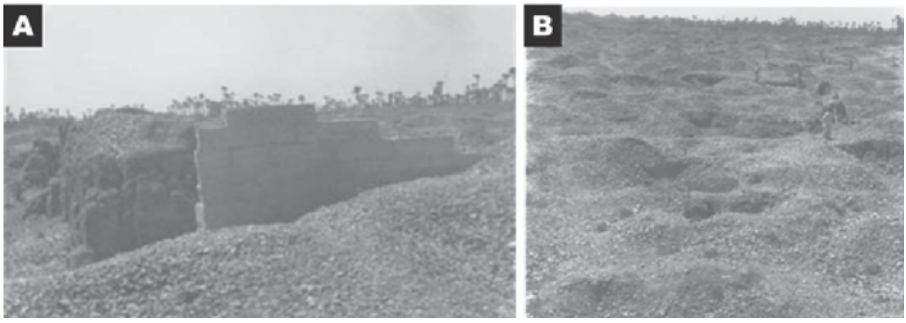


Fig. 5. *Two photos of Kiman Faris in 1964:*
A. Wall of limestone presenting remains of an inscription referring to Ptolemy.
B. Many pits of salvage excavations and *sebbakhin* activities. © SCA Fayum.

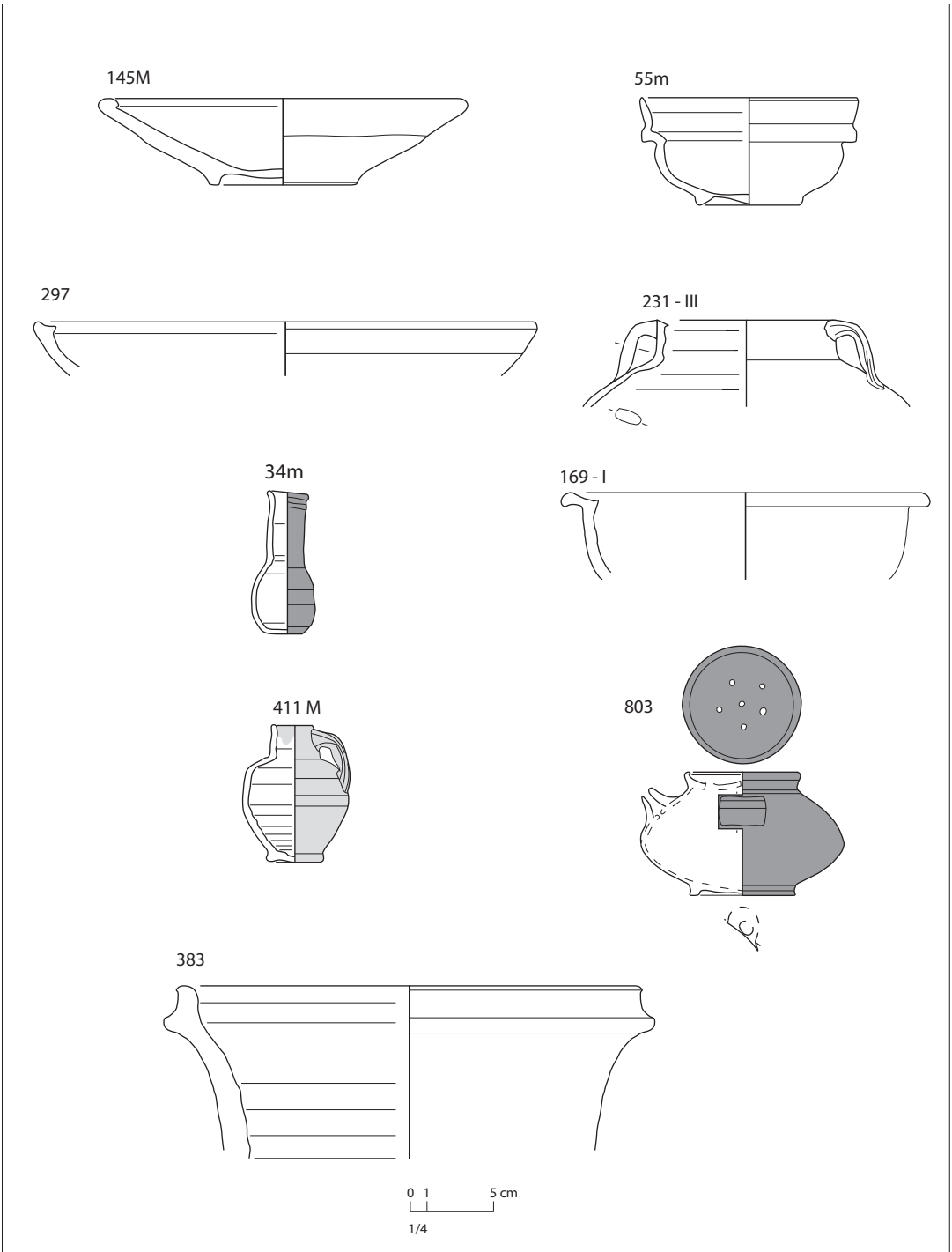


Fig. 6. *Different types of vessels from Kiman Faris dating to the Graeco-Roman period.*

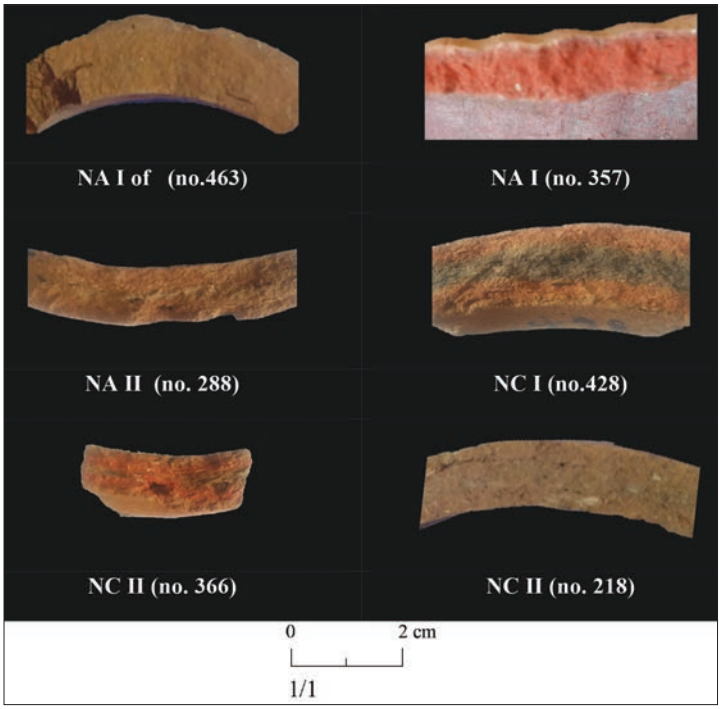


Fig. 7. *Alluvial fabrics of Kiman Faris amphorae.*

Fig. 8. *Calcareous fabrics of Kiman Faris amphorae.*

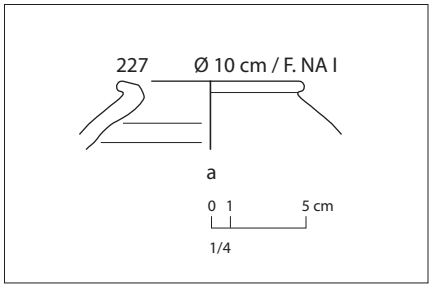


Fig. 9. *Imitation of Basket-Handled Amphorae from the Ptolemaic period.*

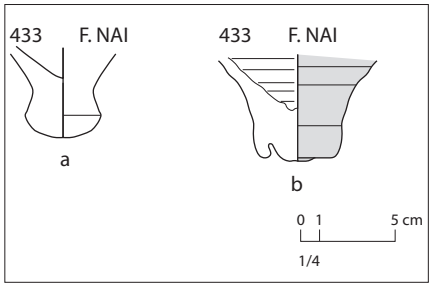


Fig. 11. *Egyptian imitation of "Nikandros group" amphorae in alluvia clay (AE 1).*

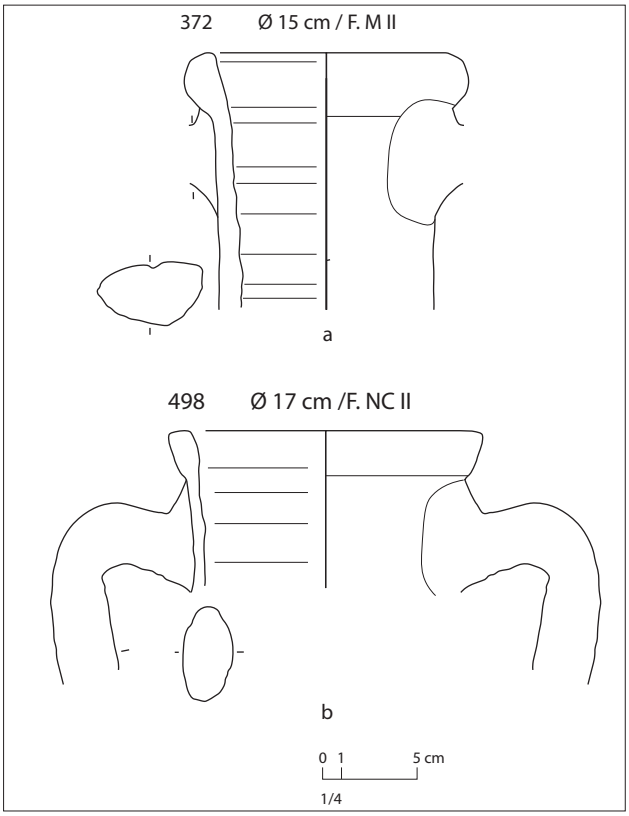


Fig. 10. *Egyptian amphorae AE 1 from the Ptolemaic period.*

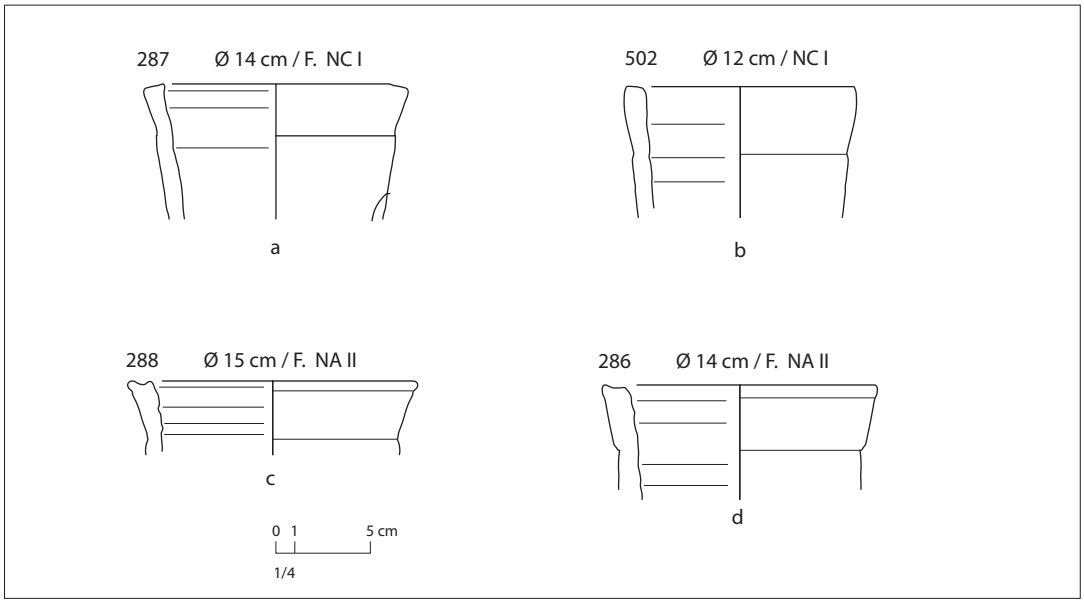


Fig. 12. *Egyptian amphorae AE 2 from the Ptolemaic period.*

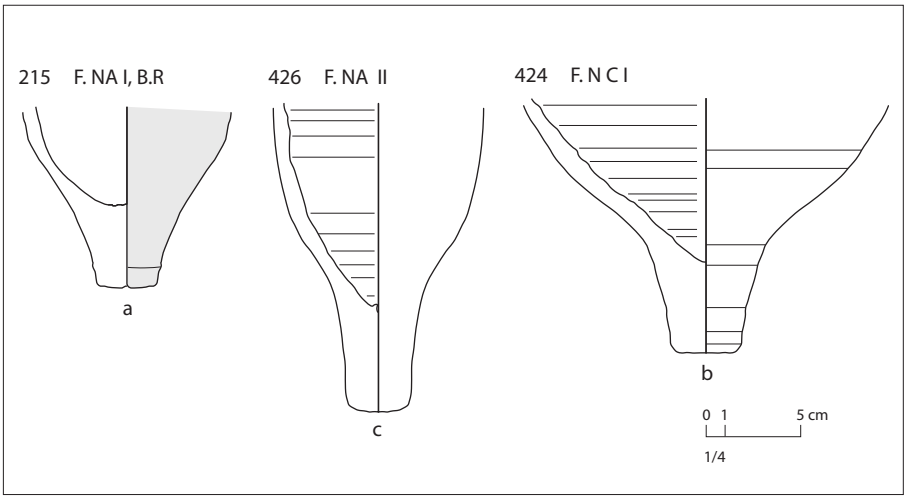


Fig. 13. *Egyptian amphorae AE 2 from the Ptolemaic period.*

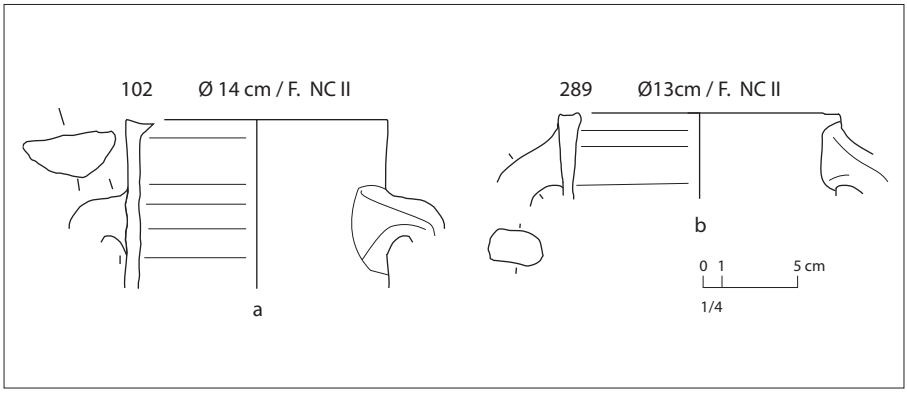


Fig. 14. *Egyptian amphorae AE 2/3 from the Ptolemaic and early Roman periods.*

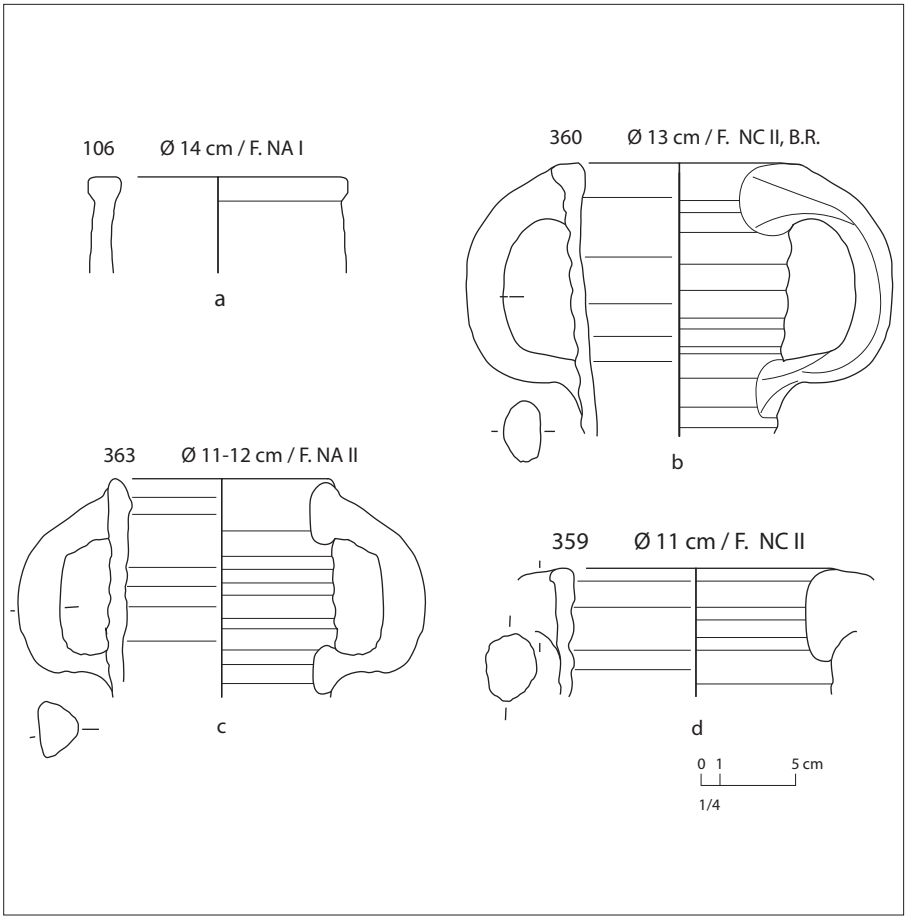


Fig. 15. *Egyptian amphorae AE 3 from the Roman period.*

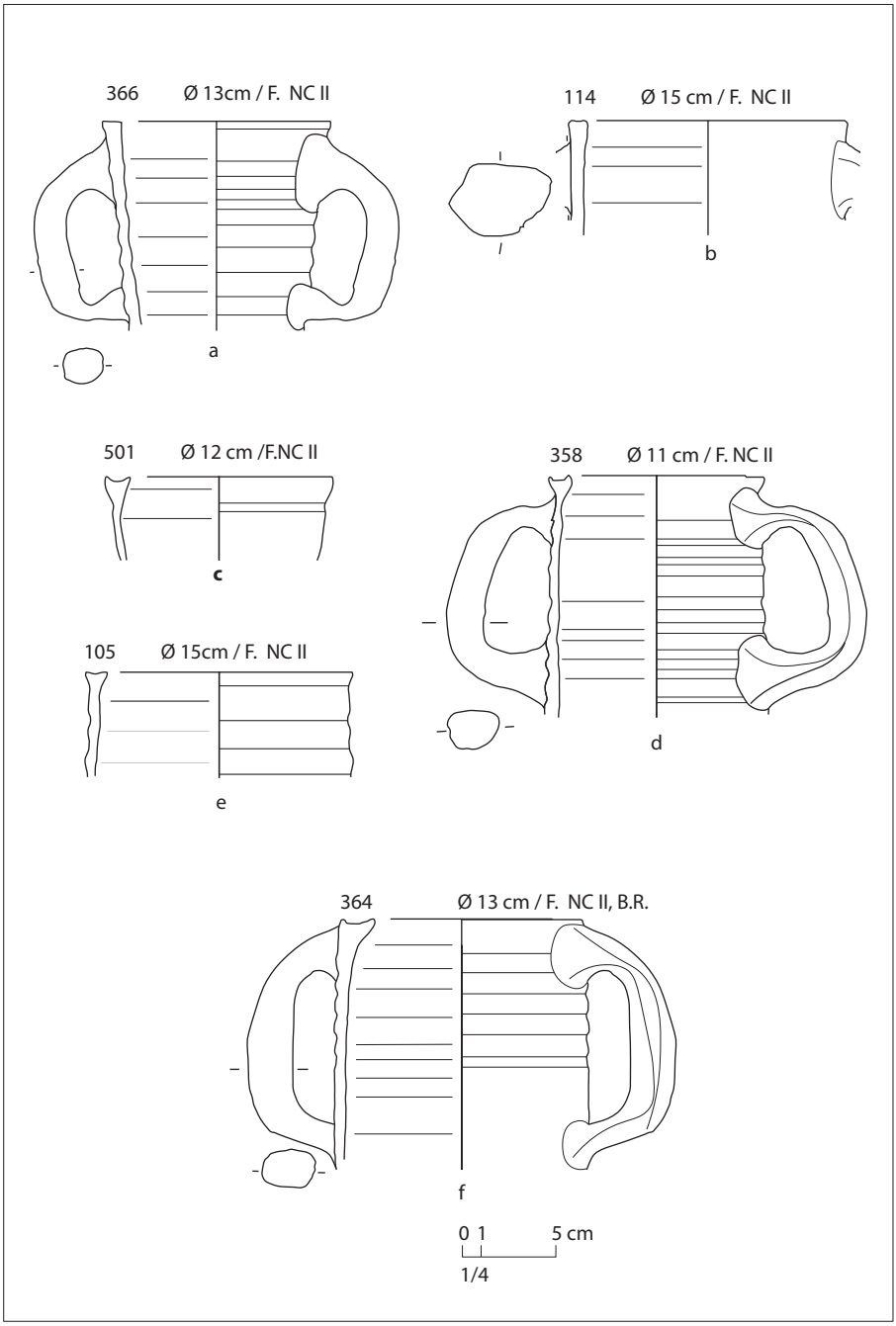


Fig. 16. *Egyptian amphora AE 3 from the Roman period.*

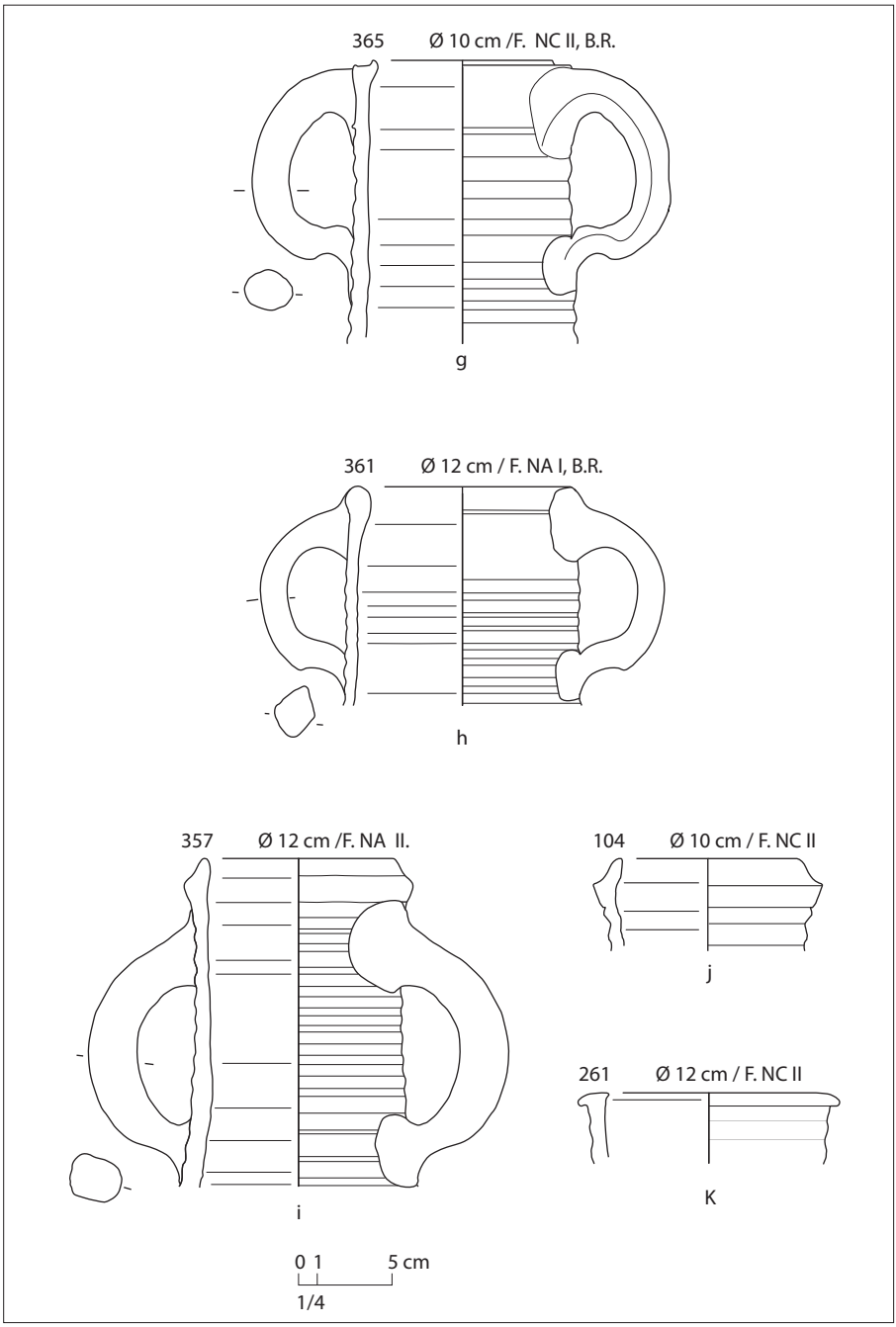


Fig. 16. *Contuation and end.*

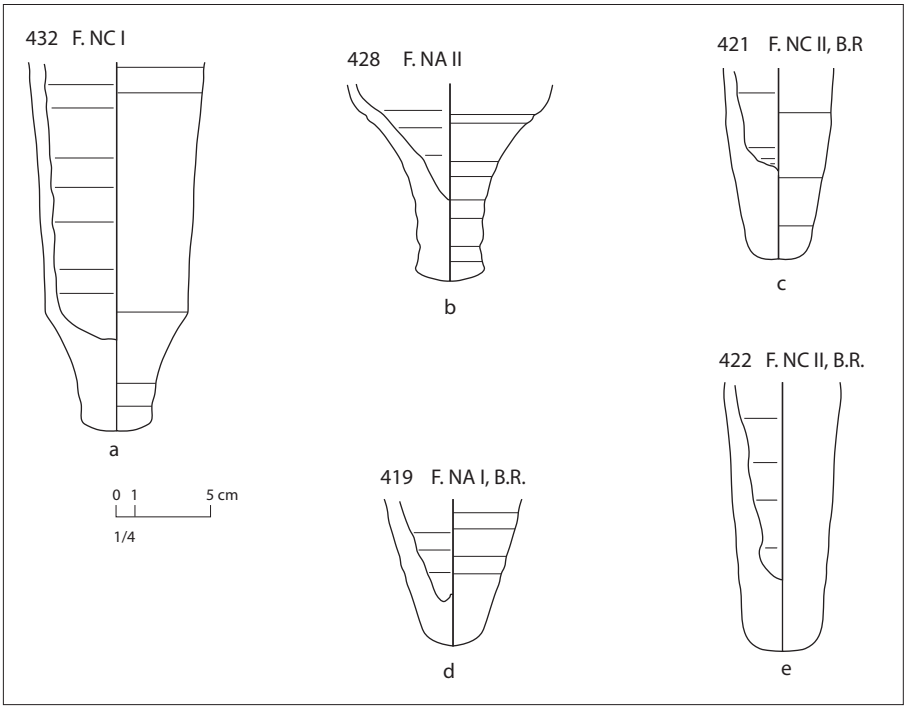


Fig. 17. *Toes of Egyptian amphorae AE 3 from the Roman period.*

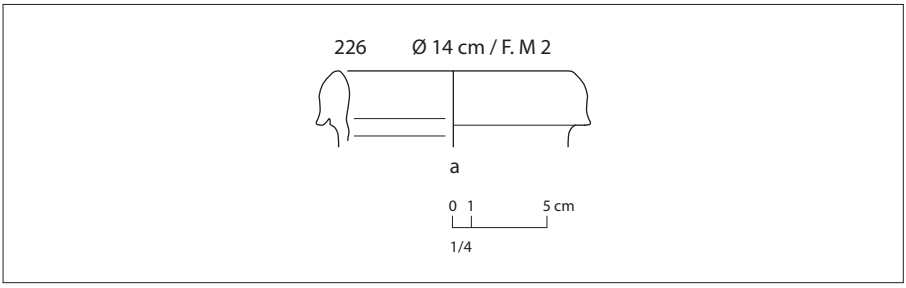


Fig. 18. *Late Egyptian amphorae AE 3tr from the late Roman period.*

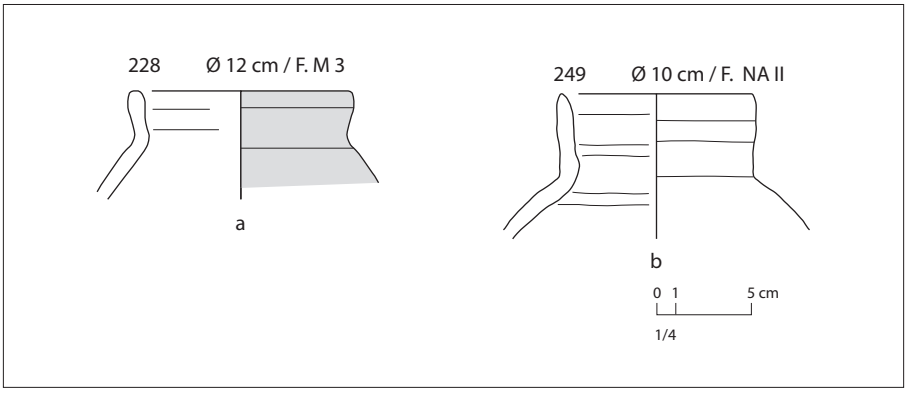


Fig. 19. *Egyptian amphorae AE 5/6 from the late Roman period.*

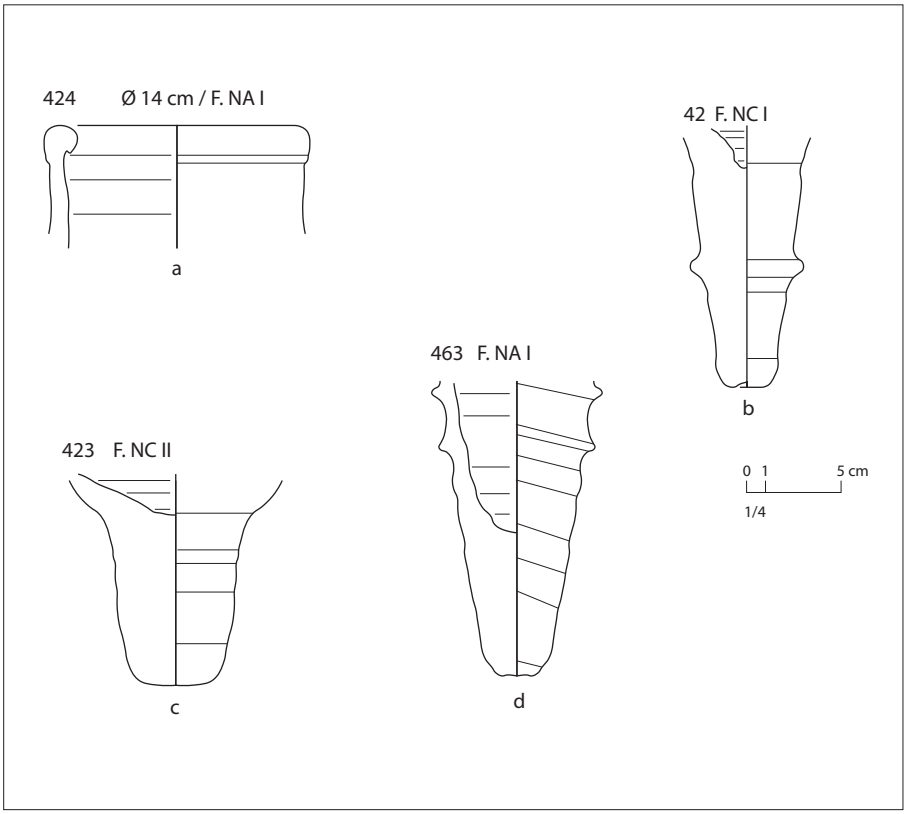


Fig. 20. *Egyptian amphorae AE 7 from the late Roman and early Islamic periods.*

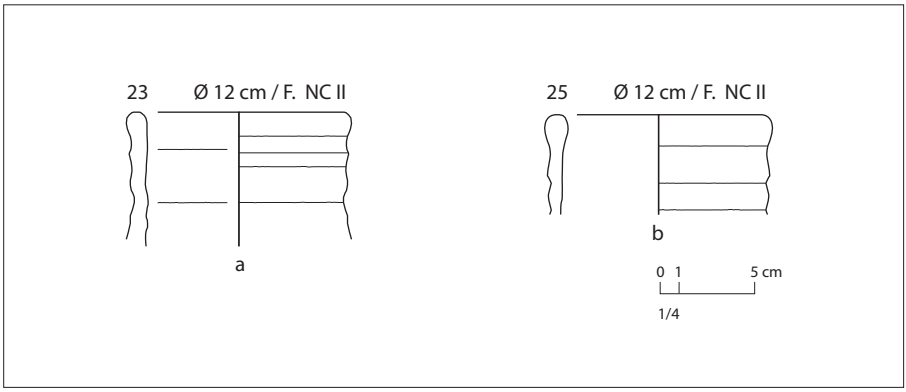


Fig. 21. *Egyptian amphorae AE 8 from the late Roman and early Islamic periods.*

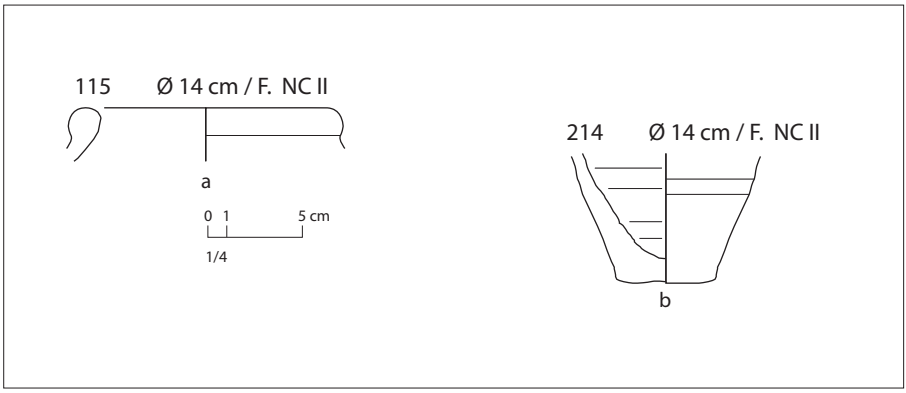


Fig. 22. *Egyptian imitations of LRA 4 from the late Roman period.*

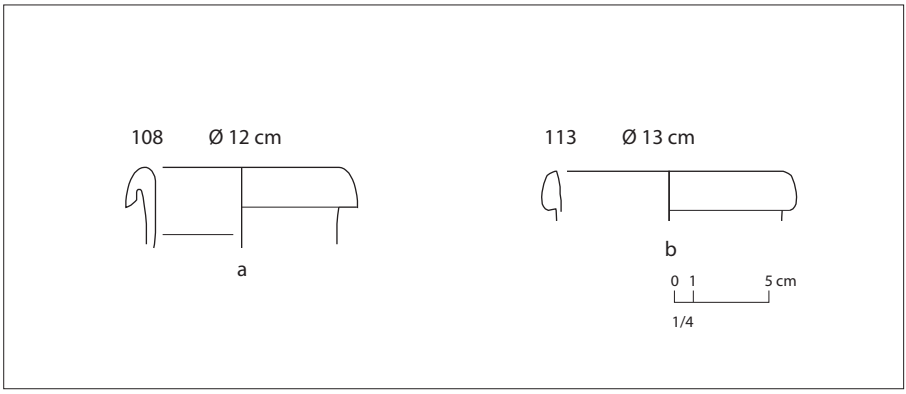


Fig. 23. *Hellenistic amphorae imported from Kos or Ephesus (Nikandros group).*

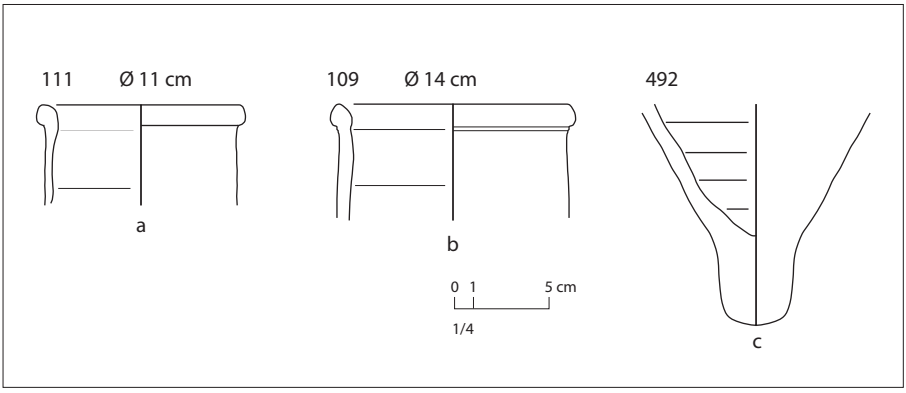


Fig. 24. *Hellenistic amphorae imported from Rhodes.*

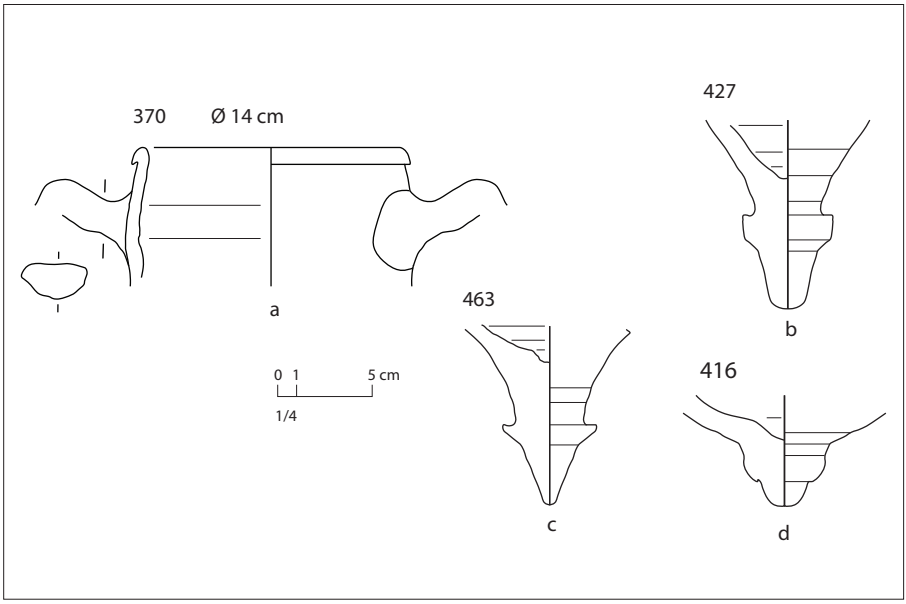


Fig. 25. *Hellenistic amphorae imported from Knidos.*

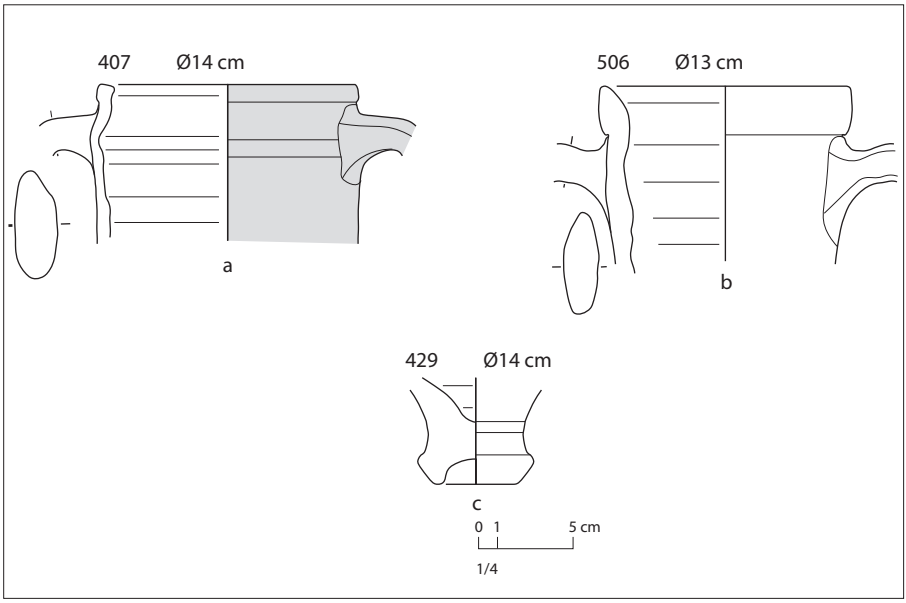


Fig. 26. *Hellenistic amphorae imported from Mende.*

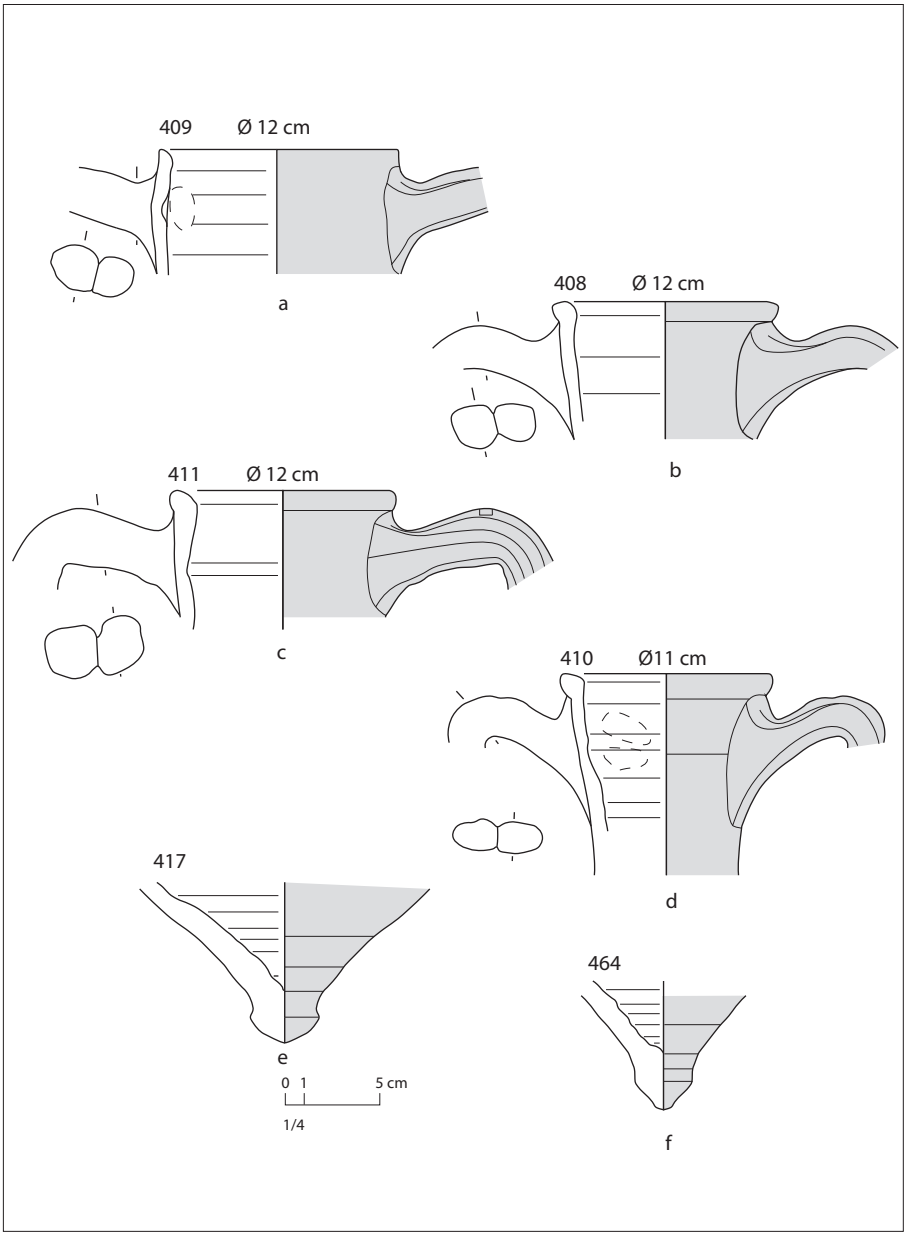


Fig. 27. *Hellenistic amphorae imported from Kos.*

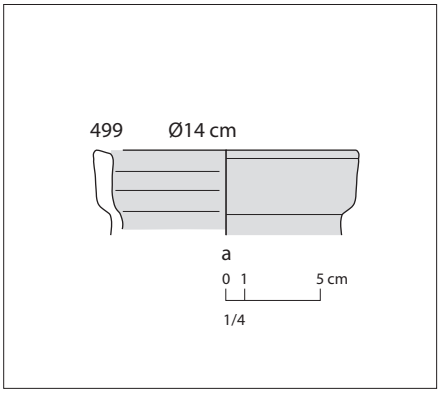


Fig. 28. *Hellenistic amphorae imported from Smyrna or Eritrea.*

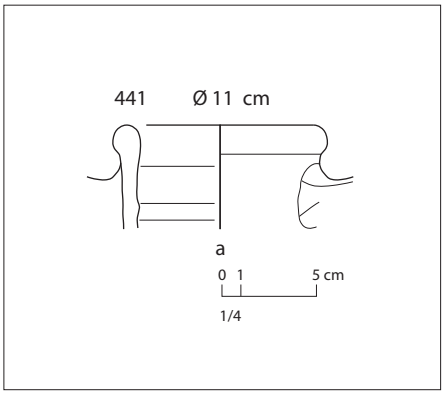


Fig. 29. *Hellenistic amphorae imported from Cyprus.*

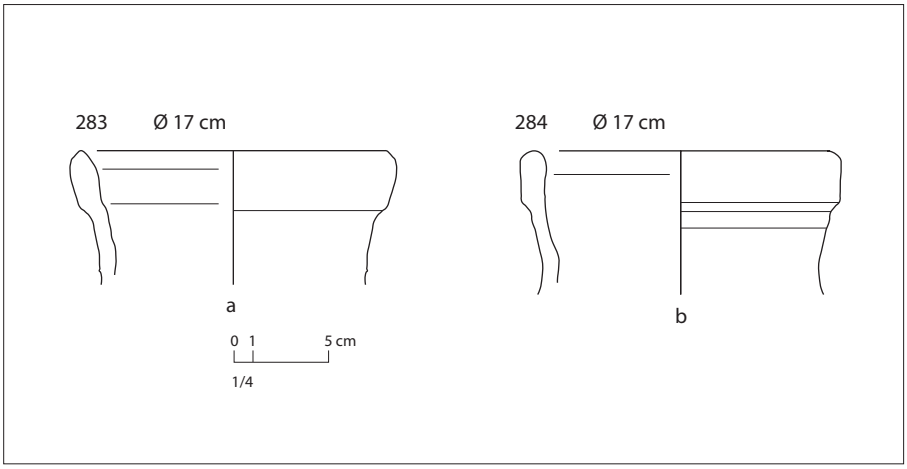


Fig. 30. *Hellenistic amphorae imported from Brindisi.*

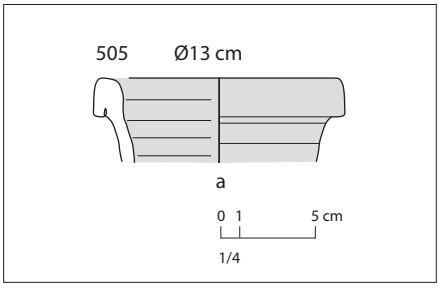


Fig. 31. *Cyrenaica Amphora 2 from the 2nd to the 1st c. BC.*

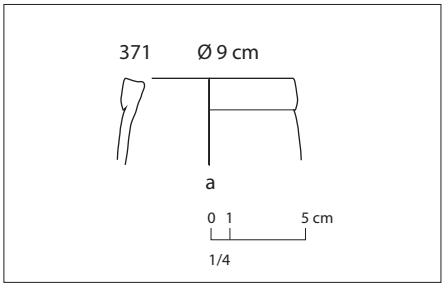


Fig. 32. *Roman Dressel 5 amphorae imported from Kos.*

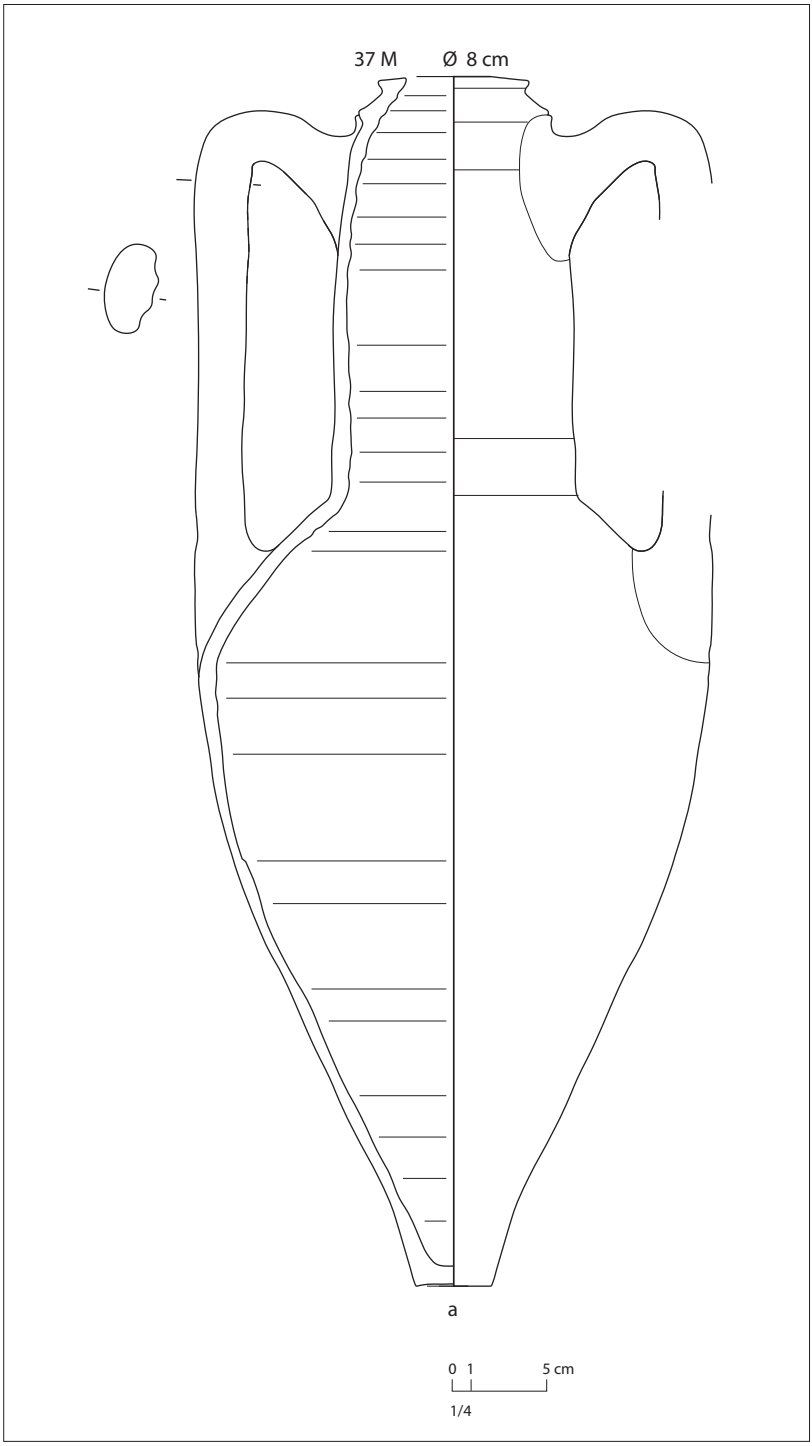


Fig. 33. *Roman Pompeii V amphorae imported from Cilicia.*

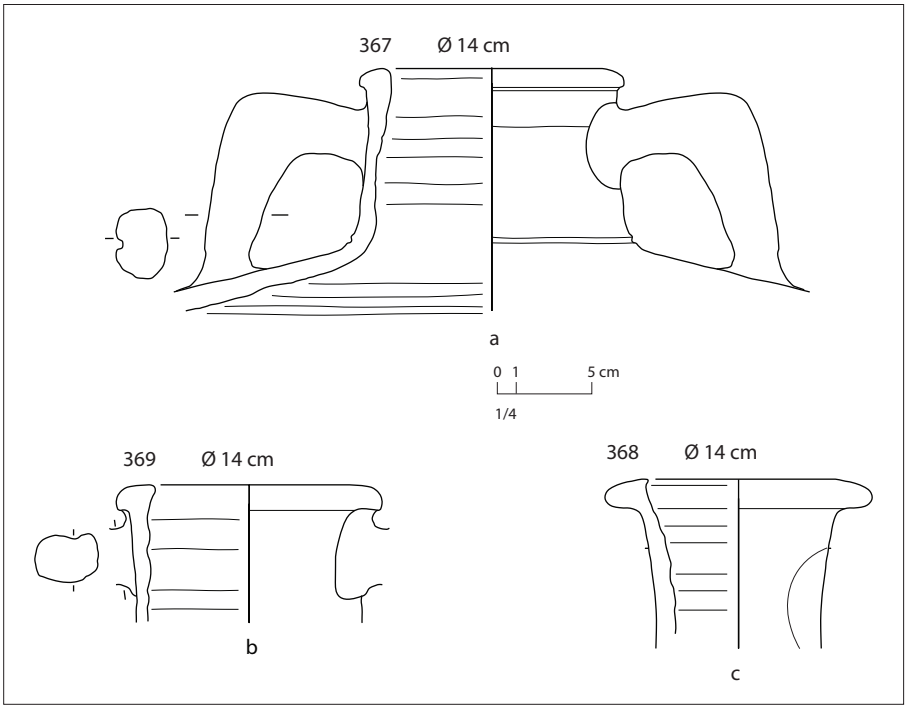


Fig. 34. *Roman Pinched-handle Amphorae imported from Cilicia.*

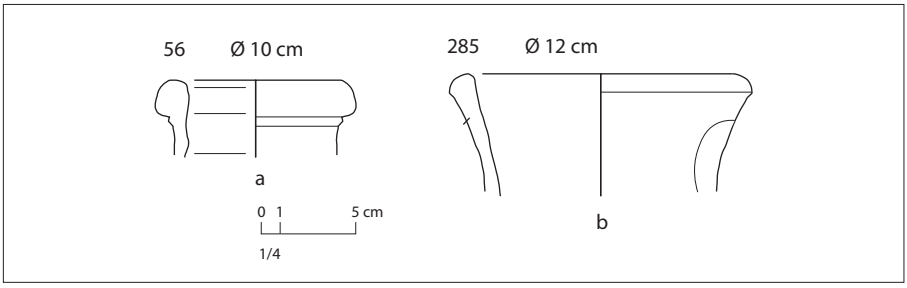


Fig. 35. *Roman amphorae imported from Crete.*

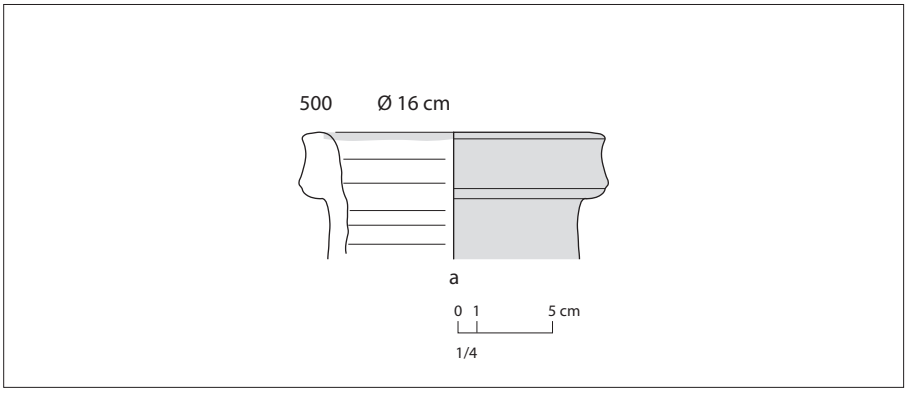


Fig. 36. *Roman imported Tripolitania I.*

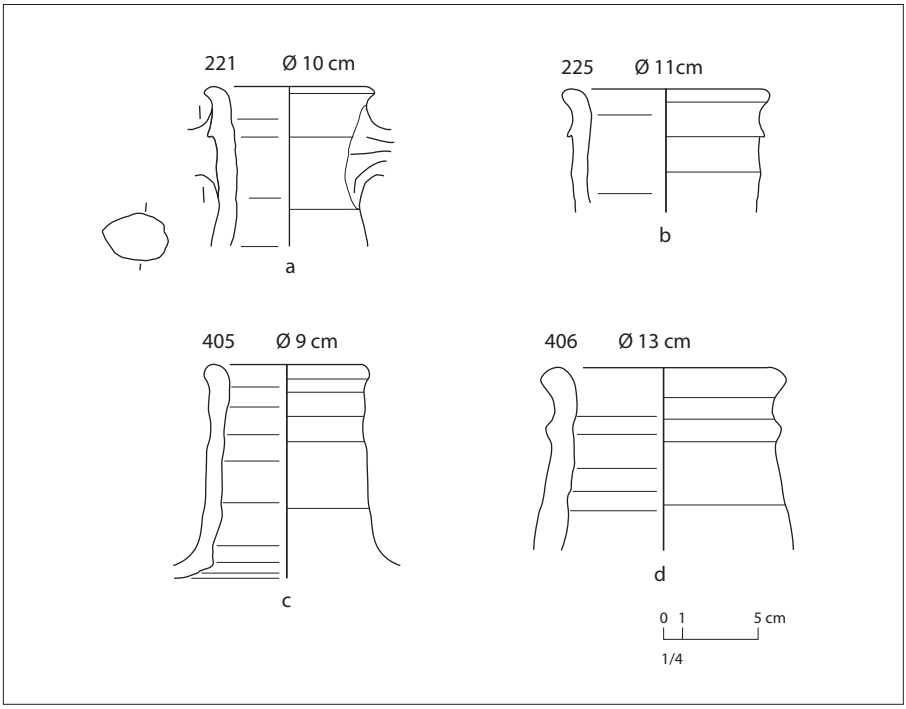


Fig. 37. *Late Roman Amphora* **1** (*LRA* **1**) imported from Cilicia or Cyprus.

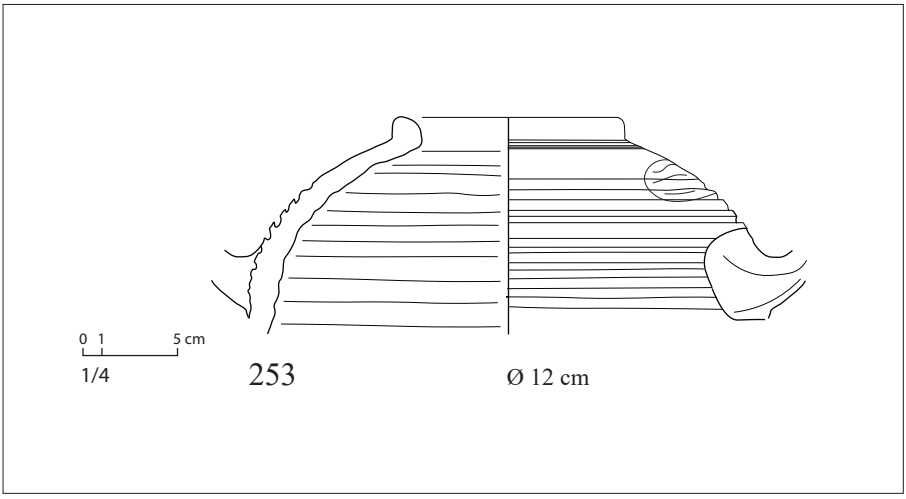


Fig. 38. *Late Roman Amphora* **4** (*LRA* **4**) imported from the Levant.

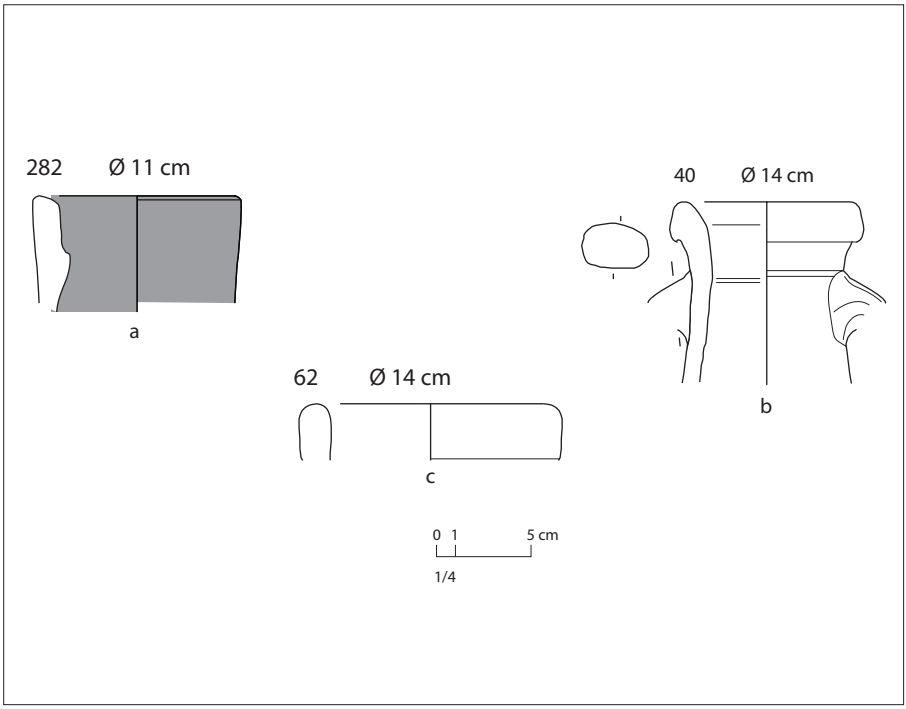


Fig. 39. *Late Roman amphorae imported from North Africa.*

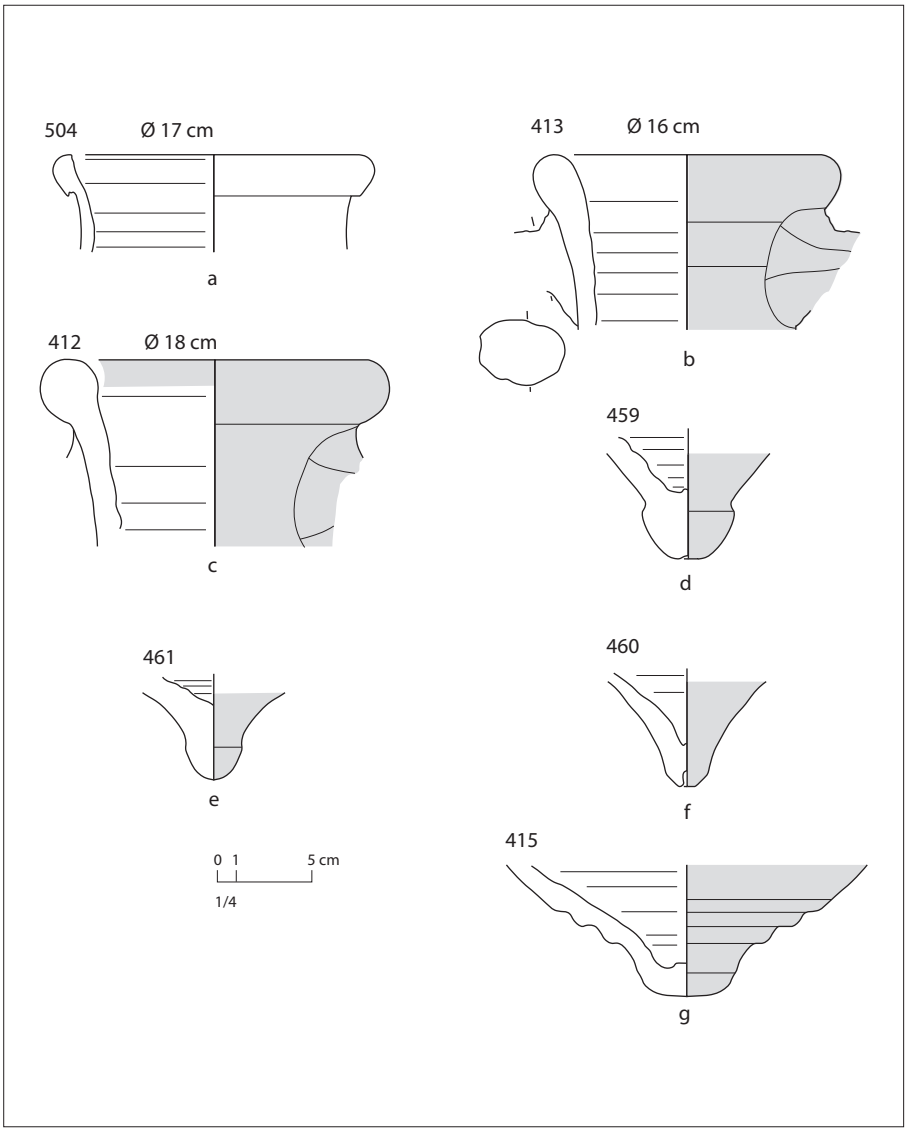
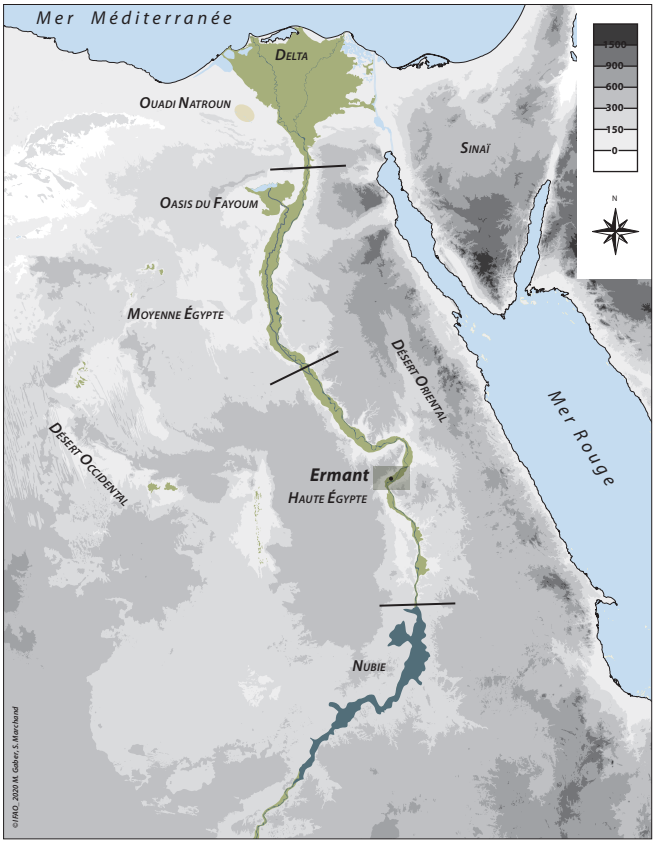


Fig. 40. *Unidentified imported amphorae.*

Haute Égypte



Sylvie Marchand
Christophe Thiers

Ermant à l'Ancien Empire

Introduction
(Christophe Thiers)[1]

Après la découverte des catacombes de Baqaria et du Bucheum (1926-1932), Robert Mond et Oliver Myers poursuivirent avec succès leurs investigations archéologiques dans le désert d'Ermant, sous les auspices de l'Egypt Exploration Society. Ils mirent en évidence une nécropole prédynastique, thinite (protodynastique) et quelques tombes de l'Ancien Empire et de la Première Période intermédiaire[2]. Les fouilles ont été reprises dans ce secteur dans les années 1980 et ont permis d'affiner les typologies lithiques et céramiques (habitats et nécropoles Nagada IC-IIIB)[3].

En 1935-1936, la mission anglaise s'installa dans la ville, à l'emplacement des ruines du temple de Montou-Rê. Dans la cour du temple, un sondage profond a alors révélé, au-dessus de l'alluvionnement naturel du Nil, les niveaux les plus anciens du site : ils étaient caractérisés par les restes de deux jarres thinites (protodynastiques) à proximité d'une cavité identifiée comme un dépôt de fondation[4] ; l'existence d'un temple sur cette seule observation reste toutefois sujet à caution. La céramique mise au jour témoignerait d'une présence au cours des trois premières dynasties, avec peut-être un demi-cartouche de Khéphren (Khafrâ)[5]. La céramique de l'Ancien Empire et de la Première Période intermédiaire est pour autant reconnue, et quelques dessins

1. La mission des temples d'Ermant est placée sous les auspices de l'Ifao et du CNRS-UMR 5140, université Montpellier 3. Elle bénéficie du soutien du LabEx Archimede, au titre du programme IA-ANR-11-LABX-0032-01, et de l'USR 3172-CFEETK.
2. Mond, Myers 1937 ; Tristant 2004, p. 77-79 ; Thiers, Volokhine 2005, p. 1, n. 4 ; pour les plateaux d'offrandes en terre cuite de la Première Période intermédiaire (Mond, Myers 1937, pl. 22 [5]), voir Kilian 2012.
3. Bard 1988 ; Ginter, Kozłowski 1994.
4. Mond, Myers 1940, p. 29-30, pl. 2, 10, 25 (3).
5. Mond, Myers 1940, p. 2.

sont reproduits[6]. Un second sondage profond, pratiqué à l'est du lac sacré, retrace une occupation de la IVe à la XIe dynastie, toujours d'après le matériel céramique mis au jour[7].

Il est nécessaire de dissocier les données archéologiques (céramique), qui témoignent d'une occupation très ancienne à Ermant, des sources assurant l'existence d'un temple consacré à Montou. La présence du dieu dans la région thébaine est attestée dès la fin de l'Ancien Empire[8], et un culte à Ermant est avéré par la mention de « Montou maître d'Ermant » dans la tombe thébaine d'Ihy (TT 186), attribuée à la fin de la VIe dynastie[9] ; il s'agit de la seule association toponymique connue pour l'Ancien Empire. D'autres documents sont versés à ce dossier, mais sans qu'il soit toujours possible de distinguer un Montou thébain ou ermonthite[10]. À l'exception du cartouche fragmentaire de Khéphren, dont l'existence n'est pas assurée, les premières sources épigraphiques du site remontent à la XIe dynastie. Sur la rive opposée, à Tôd, le célèbre « pilier d'Ouserkaf »[11] – fragmentaire et qui ne mentionne ni Montou ni la ville de Tôd – a été réutilisé dans le dallage de la cour du temple ptolémaïque, et sa masse semble exclure une autre provenance que locale : il doit attester l'existence d'un édifice cultuel dès la Ve dynastie.

La reprise des investigations archéologiques à Ermant depuis 2004 a permis d'étudier la céramique extraite du « kôm » préservé par les fouilleurs anglais qui y avaient installé les rails de leur Decauville : l'essentiel de ce matériel date de l'époque romano-byzantine, période d'occupation et de démantèlement du temple[12]. Pour autant, l'examen des tessons dispersés sur le site et extraits d'une tranchée test pratiquée en travers du « kôm » en 2006 a confirmé timidement la présence de l'Ancien Empire mise en évidence par R. Mond et O. Myers[13] ; les premières « structures » associées à cette occupation ont été observées en 2012 sur la bordure ouest du « pronaos »[14].

6. Mond, Myers 1940, pl. 46.
7. Mond, Myers 1940, pl. 84.
8. Werner 1986, p. 1-21 ; Gabolde 2018, p. 550.
9. Newberry 1903, p. 97 ; Otto 1952, p. 88 ; Werner 1986, p. 7-8 ; Demichelis 2002, p. 40, n. 80. En concordance avec les mentions de Montou dans les Textes des pyramides (*Pyr.*, 1378b, 1081a-b ; ép. Pépy Ier).
10. Par exemple, un sceau-cylindre au nom de Pépy Ier (Nash 1899 ; Goedicke 1961, p. 80-81) est dit provenir d'Ermant, mais ne mentionne que : « Le roi de Haute et Basse Égypte, (Pepy), aimé de Montou. » C'est également le cas de la représentation dans le temple de Pépy II (VIe dynastie) : Jéquier 1938, pl. 47 : « Montou » est précédé de Khnoum et de Seth.
11. Bisson de La Roque 1937, p. 61-62, fig. 15 (inv. 645) ; Werner 1986, p. 12.
12. David 2012.
13. Identification de la céramique par Catherine Defernez, voir Thiers 2007, p. 301.
14. Thiers 2013, p. 128, 131 (corriger la datation « fin du Nouvel Empire »).

En 2014, la poursuite du dégagement de la plateforme de fondation du temple a permis d'atteindre en quelques endroits le fond des fosses de fondation du naos et du « pronaos » (fig. 1)[15]. Ainsi, davantage de tessons ont pu être récupérés, en particulier dans la partie sud-ouest du « pronaos », presque totalement épierrée ; quelques maigres structures en briques crues, très entamées par les creusements d'installation des blocs irréguliers (remplois), ont été identifiées (fig. 2). La poursuite des dégagements ponctuels des débris a confirmé, au fond des fosses de fondation, la présence d'une occupation de l'Ancien Empire (*Maidum Bowls* notamment). En 2018, l'examen de la bordure orientale du « pronaos », constitué de remplois du Nouvel Empire, a mis en évidence un niveau plus riche en matériel céramique (associé à une zone rubéfiée et à des meules), dans la mesure où il a été partiellement épargné par la fosse de fondation (fig. 3)[16]. C'est l'ensemble du matériel ponctuellement réuni au cours de ces dernières années qui constitue le cœur de l'étude de Sylvie Marchand.

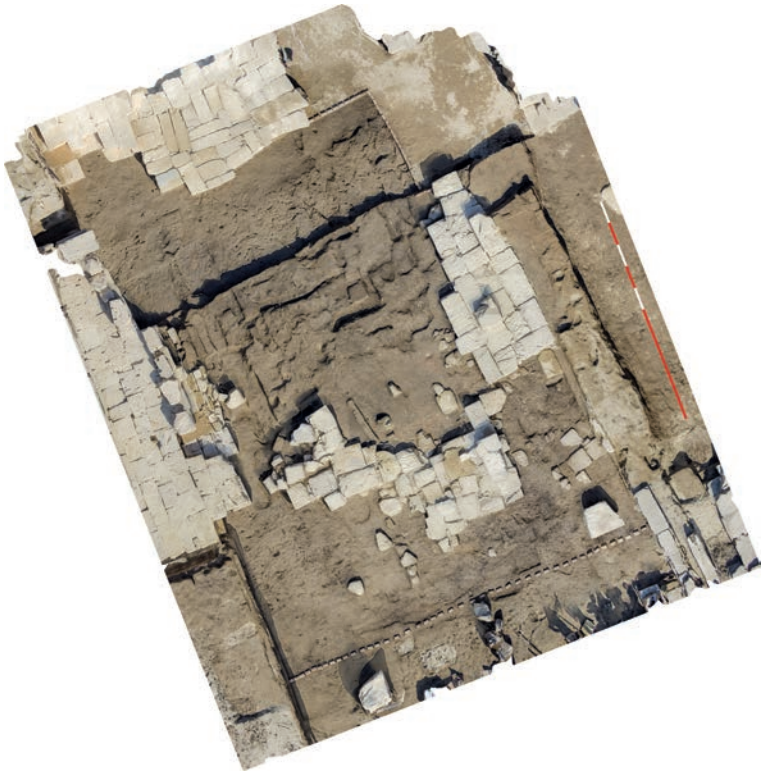


Fig. 1. *Fond des fosses de fondation du naos et du « pronaos » (mire de 10 m). © CNRS-CFEETK/K. Guadagnini.*

15. Thiers 2015, p. 109-110, 114.
16. Thiers 2018, p. 275-278.

Fig. 2. *Vestiges en briques crues au fond de la fosse de fondation du « pronaos » (négatifs des blocs épierrés de la première assise). © CNRS/C. Thiers.*

Fig. 3. *Bordure orientale de la fosse de fondation du « pronaos ». © CNRS/C. Thiers.*

Après une première partie sur l'actualité de la recherche céramologique pour les campagnes de 2013 à 2019, les deux suivantes sont consacrées aux céramiques de l'Ancien Empire *stricto sensu* mises au jour sur le site.

État de la recherche céramologique (2013-2019)

La mission d'étude de novembre 2019[17] a eu pour objectif de documenter les céramiques mises au jour pendant les fouilles de la zone du temple de 2013 à 2019. Le mobilier découvert couvre plusieurs grandes périodes historiques, de l'Ancien Empire à la fin de l'époque byzantine. Il confirme l'occupation continue du secteur, comme l'avaient déjà démontré les travaux de nos prédécesseurs. Précisons cependant que les anciens fouilleurs avaient mis en évidence une phase chronologique antérieure avec la découverte de jarres protodynastiques (cf. *supra*, « Introduction »).

Les céramiques les plus anciennes mises au jour depuis 2013 appartiennent à l'Ancien Empire ; elles en présentent les faciès caractéristiques, qui couvrent la totalité de la période. On distingue clairement deux faciès principaux : un premier de la IVe dynastie (fig. 4, 5.1-5.2)[18] et un second de la VIe dynastie (fig. 7-11)[19]. On a identifié quelques éléments isolés pouvant appartenir à la Ve dynastie (fig. 5.2, 6.3)[20].

La VIe dynastie offre l'assemblage le plus exceptionnel, constitué de vases complets découverts pendant les fouilles récentes[21]. Aucune céramique véritablement caractéristique de la Première Période intermédiaire n'est attestée en l'état actuel de la documentation examinée à ce jour. La période du Moyen Empire, de la fin de la XIe à la XIIe dynastie, n'est identifiée que par un petit nombre de tessons très fragmentaires découverts dans les couches hétérogènes pendant les fouilles réalisées en 2019 dans le secteur 1[22]. C'est la fin du Moyen Empire qui a été mise en valeur avec la découverte d'un assemblage constitué de vases datés de la XIIIe dynastie, dont plusieurs sont à remonter et d'autres presque intacts. Il s'agit du contexte US 048, qui comprend 65 individus céramiques parmi lesquels on a identifié de véritables séries archéologiques emblématiques du Moyen Empire : les bols hémisphériques, les *beer bottles* et les moules à pain tubulaires. Une dernière série est celle des petits vases coniques, ou *conical beakers*, si caractéristiques des productions de Haute Égypte pour cette période (fig. 12.1-12.5)[23].

17. Les dessins des céramiques et leur mise au net ont été réalisés par Ayman Hussein (Ifao). Les photos des céramiques et des assemblages archéologiques présentés dans cet article sont de C. Thiers.
18. Cf. US 034, US 038.
19. Cf. US 070, US 073.
20. Cf. US 038, US 044.
21. Cf. US 070.
22. Cf. US 1012, US 1015, US 1020, US 1033.
23. Cf. US 048. Bibliographie de référence, céramiques datées de la XIIIe dynastie (fig. 12.1-12.5) : cf. Schiestl, Seiler (éd.) 2012, p. 100-104 (*hemispherical cup*, group 4 ; cf. fig. 12.1), p. 132-135 (*conical beaker*, group I.C.5 ; cf. fig. 12.2), p. 674-677 (*beer bottle*, group II.H.6a ; cf. fig. 12.3), p. 652-656 (*beer bottle* à col évasé, groupe II.H.3.1 ; cf. fig. 12.4), p. 644-645 (fond arrondi de *beer bottle*, groupe II.H.1 ; cf. fig. 12.5).

Pour les périodes allant du Nouvel Empire[24] jusqu'à l'époque romaine, on ne trouve plus que des tessons épars dans des couches archéologiques totalement hétérogènes. On a recensé des tessons datés de la Basse Époque au faciès plutôt « saïte » (fig. 14.1)[25], quelques tessons datés de la période ptolémaïque (fig. 13, 14.2-14.3)[26], du Haut-Empire romain[27] et de l'époque romano-byzantine (fig. 14.4)[28]. La dernière occupation du site, à l'époque byzantine, est abondamment représentée par le mobilier céramique. On le voit un peu partout en surface et il est régulièrement mis au jour pendant les fouilles archéologiques. Le matériel des fouilles de 2019 donne pour *terminus* le VI^e^ ou le début du VII^e^ s. apr. J.-C., cette phase pouvant être étendue au début de l'époque islamique (VIII^e^ s. apr. J.-C.) sur la base d'une étude publiée en 2012[29].

Inventaire des contextes archéologiques de l'Ancien Empire

[fig. 4-11]

Nous présentons de manière succincte et sous la forme d'un inventaire les couches archéologiques attribuées ou contenant majoritairement du mobilier daté de l'Ancien Empire. Ces dernières sont organisées chronologiquement, par numéro de couche archéologique et ordre croissant. Les notices précisent surtout la chronologie et fournissent des indications complémentaires jugées utiles, liées aux contextes archéologiques et à leur nature (mobilier céramique homogène ou hétérogène), au mobilier qui accompagne parfois les vases, à l'état de conservation des objets, avec en plus des éléments statistiques comme le nombre minimal d'individus céramiques (NMI) pour chaque unité stratigraphique (US = couche archéologique).

L'homogénéité des couches archéologiques présentées est parfois difficile à évaluer, le « bruit de fond » du matériel tardif d'époque byzantine présent partout en surface pouvant parfois venir polluer certaines couches quand elles se trouvent en contact avec la surface ou en contexte archéologique spécifique (comme les fosses).

24. Quelques rares tessons, que l'on peut dater du Nouvel Empire, ont été mis au jour pendant les fouilles réalisées en 2019 dans le secteur 1 (US 1006).
25. Cf. US 069, US 048 (3).
26. Cf. US 048 (3), US 060, US 068.
27. Un fragment de bord d'amphore vinaire égyptienne de type AE3 en pâte alluviale brune, datée du I^er^ s. apr. J.-C., a été mis au jour pendant les fouilles réalisées en 2019 dans le secteur 1 (US FOS1015).
28. Cf. US 048 (3), US 062, US 065. Voir également les fouilles réalisées en 2019 dans le secteur 1 : US 1005, US 1006, US 1017, US 1015.
29. Pour la publication de céramiques d'époque byzantine du IV^e^ s. apr. J.-C. au début de l'époque arabe (au moins jusqu'au VIII^e^ s. apr. J.-C.), cf. David 2012, p. 211.

La présence occasionnelle de ce mobilier très tardif est toujours signalée dans l'inventaire. Quand il ne s'agit que d'un seul individu, il ne doit pas empêcher de valider un assemblage céramique par ailleurs homogène.

Pour rappel, toutes les unités stratigraphiques et l'ensemble des tessons constituant un assemblage ne sont pas illustrés dans cet article ; nous avons fait un choix parmi les céramiques et les unités stratigraphiques qui nous paraissaient les plus marquantes pour notre propos.

Pour la chronologie, la mention « V^e^ dynastie » est une hypothèse de travail, la nature des couches archéologiques impose une division du matériel en deux phases avec l'étude d'un faciès IV^e^ dynastie et l'étude d'un faciès VI^e^ dynastie (voir la discussion *supra*). La V^e^ dynastie n'étant reconnaissable que par quelques individus isolés, nous avons préféré ne pas caractériser un faciès en l'état actuel de la documentation archéologique.

Inventaire des unités stratigraphiques de l'Ancien Empire (fouilles du secteur du temple, 2013-2018)

Sondage de l'espace C

Fond de la fosse de fondation.
NMI : 2.
Couche homogène de l'Ancien Empire.
Datation : Ancien Empire, IV^e^ dynastie.
Inventaire : *Maidum Bowl* en pâte alluviale Nile B1/B2 à engobe rouge poli (Sd. Esp. C -1) ; *Maidum Bowl* en pâte calcaire Marl 1 à engobe rouge poli (Sd. Esp. C -2).

US 034 [fig. 4]

Pronaos.
Remarques : deux grands tessons de datation incertaine en *Qena Ware*/Marl A à la surface vitrifiée et déformée, qui sont des tessons de calage dans un four ou simplement des tessons présents dans un foyer (034-16a-b). On note la présence d'un tesson de grande taille appartenant à une jarre d'époque byzantine (034-13) et d'un tesson informe de vase culinaire en pâte alluviale fine fortement micassée, qui ne peut être antérieur à l'époque romaine.
NMI : 19 (15 individus Ancien Empire).
Couche hétérogène.
Datation : matériel majoritaire homogène de l'Ancien Empire, IV^e^ dynastie.

Inventaire : lot de six fragments de *Maidum Bowls* en pâte calcaire Marl 1 à engobe rouge poli (034-1 à 034-6) ; bord de bol convexe en Marl 1 à engobe rouge poli (034-7) ; bol à carène basse en Marl 1 à engobe rouge poli (034-14) ; bords de *beer jars* en pâte alluviale Nile C à surface couleur chamois (034-9, 034-10) avec fonds massifs pointus (034-11) ; fragment de moule à pain conique en pâte alluviale Nile C (034-8).

US 038 section/coupe sous mur 038 [fig. 5]

Bordure ouest du naos.
Remarques : ossements et tessons brûlés à cœur, d'autres recouverts de suie.
NMI : 6.
Couche homogène de l'Ancien Empire.
Datation : Ancien Empire, IVe dynastie (NMI : 3) et Ve dynastie (NMI : 3).
Inventaire : fragment d'une jarre à col de faible diamètre, de type aiguière en pâte calcaire Marl 1 à engobe rouge poli (038-1) ; *Maidum Bowls* en pâte calcaire Marl 1 à engobe rouge poli (038-2 à 038-4) ; bord de *beer jar* (038-5) ; fond arrondi de moule à pain conique portant une marque faite avant cuisson sur la paroi externe, constituée de deux cercles profonds (038-6).

US 044 [fig. 6]

Pronaos. Céramiques sous les têtes royales. Cf. Thiers 2014.
NMI : 11.
Couche homogène de l'Ancien Empire.
Datation : Ancien Empire, IVe dynastie et Ve dynastie.
Inventaire IVe dynastie : *Maidum Bowls* en pâte calcaire Marl 1 à engobe rouge poli (044-4 à 044-10) ; coupe à carène apparentée à la famille des *Maidum Bowls* en pâte calcaire Marl 1 à engobe rouge poli (044-5) ; bord de coupelle en pâte alluviale Nile B2 à surface chamois (044-1).
Inventaire Ve dynastie : *Maidum Bowl* en pâte alluviale Nile B1 à engobe rouge poli (044-3).

US 064

Espace F1.
NMI : 1.
Couche homogène de l'Ancien Empire.
Datation : Ancien Empire, IVe dynastie.

Inventaire : trois fragments informes appartenant à des *beer jars* datées de l'Ancien Empire ; un fragment de carène appartenant à un *Maidum Bowl* en pâte calcaire Marl 1 à engobe rouge poli oriente la chronologie vers la IVe dynastie.

US 070 [fig. 7-10]

Bordure orientale de la fosse de fondation du « pronaos ».
NMI : 42.
Couche homogène de l'Ancien Empire.
Datation : Ancien Empire, VIe dynastie majoritaire. On a identifié plusieurs tessons intrusifs datés de la IVe dynastie.
Inventaire : couche exceptionnelle avec plusieurs vases complets et un répertoire formel caractéristique de la fin de l'Ancien Empire (VIe dynastie). *Maidum Bowls* à lèvre courte (070-27, 070-32) ; lot d'assiettes à lèvre interne (petit et grand modules) à engobe rouge poli en pâte alluviale Nile B1/B2 (070-33, 070-35 à 070-37, 070-39, 070-40) ; *beer jars* à bord sans liaison marquée (070-9, 070-10, 070-12) ou à ressaut marqué sur l'épaule (070-2) avec fond légèrement aplati (070-2, 070-3) ; bol intact à fond plat à carène portant deux incisions sous la lèvre, en pâte alluviale fine à engobe rouge poli (070-1) ; moule à pain à fond plat (070-8) ; moule à pain conique (070-4). On a recensé de nombreuses autres productions en pâte alluviale, fréquemment recouvertes d'un engobe rouge poli : bassins à parois évasées (070-18, 070-19) ; larges bols à bec verseur (070-20, 070-22 à 070-24) ; fragment de bec verseur isolé (pas de dessin) ; supports de jarres (070-16, 070-17) ; pot de stockage (070-13). Les jarres globulaires ou ovoïdes de grande taille sont fabriquées en pâte calcaire fine (070-15, 070-38, 070-42).

US 073 [fig. 11.1-11-3]

Tranchée de sondage, façade est du pronaos (pour accéder aux remplois du Nouvel Empire).
NMI : 14.
Remarque : un unique tesson de grande taille (073-16) appartient sans ambiguïté à la catégorie des moules à pain tubulaires à badigeon d'argile interne et est daté du Moyen Empire (fin XIe-XIIe dynastie).
Couche homogène de l'Ancien Empire ?
Datation : Ancien Empire majoritaire, VIe dynastie.
Inventaire : le mobilier céramique de la couche est bien représentatif de la VIe dynastie. *Maidum Bowls* en pâte alluviale Nile B1/B2 à engobe rouge poli (073-3 à 073-9) ;

moule à pain à fond plat (073-12) ; série de bols à carène de grand diamètre portant deux incisions sur le bord externe, en pâte alluviale à engobe rouge poli (073-1, 073-2) ; support de jarre (073-10) ; large assiette en pâte alluviale Nile B1/B2 (073-15).

Discussion sur les faciès céramiques de l'Ancien Empire

Avant d'entrer dans le vif du sujet, et afin de ne pas alourdir inutilement le texte avec des renvois bibliographiques, nous donnons une liste des ouvrages et des articles utilisés pour l'étude de la céramique d'Ermant. Il a fallu faire un choix face aux nombreux corpus et études disponibles pour l'Ancien Empire, provenant de fouilles anciennes et récentes dans la nécropole memphite (Giza, Nezlet Batran, Abou Rawash, Saqqara, Abousir, Dahchour et Hélouan). La plupart de ces références, fort connues, sont citées dans la bibliographie ci-dessous, et il n'a pas été jugé utile de les donner toutes. D'autres régions, comme le delta du Nil (Bouto, Tell el-Fakha, Tell el-Neshed[30] ou Mendès), le Fayoum et le désert oriental (Ayn Soukhna, Ouadi el-Jarf[31], Ouadi Sannur[32]), ont donné lieu à des découvertes parfois spectaculaires et récentes, notamment pour les occupations datées du début de la IVe dynastie. Pour les sites de Moyenne et de Haute Égypte, vers lesquels nous nous tournons naturellement en raison des faciès céramiques régionaux identifiables pour l'Ancien Empire, là encore, il a fallu faire un choix parmi les fouilles anciennes[33] et celles plus récentes qui offrent de nouvelles données et des analyses sur les productions régionales face à la région memphite, traditionnellement favorisée par les fouilles et donc dans la bibliographie.

Généralités et sites de référence pour la céramique de l'Ancien Empire

Généralités : Seidlmayer 1990 ; Faltings 1998 ; Op de Beck 2004 ; Rzeuska, Wodińska (éd.) 2009.

Sites de référence sur la région memphite, IVe-VIe dynasties (Giza, Nezlet Batran, Saqqara, Abou Rawash, Abousir) : Kromer 1991 ; Marchand, Baud 1996, p. 255-288 ; Rzeuska 2006 ; Wodzińska 2007 ; Marchand 2009 ; Arias Kytnarová 2011 ; Arias Kytnarová 2016 ; Marchand 2019, p. 117-119, 127-130, fig. 5-8.

30. Pour un inventaire de ces sites et la bibliographie afférente, voir Guyot 2018a.
31. Tallet, Marouard, Laisney 2012.
32. Pour un inventaire de ces sites et la bibliographie afférente, voir Guyot 2018b, n. 6-14.
33. Pour une analyse et une réévaluation de la céramique des fouilles anciennes pour les sites de la fin de l'Ancien Empire (VIe dynastie) jusqu'au début du Moyen Empire, cf. Seidlmayer 1990.

Sites de référence sur la Moyenne et la Haute Égypte, IVe-VIe dynasties :
- Akhmîm : Hope, McFarlane 2006.
- Maghâra Abû 'Aziz : Vanthuyne 2018.
- Zaouyet Sultan : Marchand *et al.* 2016, p. 174-176.
- Assiout : Rzeuska 2017, p. 63-149.
- Qau et Matmar (nécropoles) : Seidlmayer 1990, p. 148-154.
- Edfou : Seidlmayer 1990, p. 48-49.
- Dendara : Seidlmayer 1990, p. 105 ; Marchand 1998, p. 481, 488-489, fig. 18.a-b ; Marchand 2004, p. 214-216.
- El-Târif : Eggebrecht 1974 ; Seidlmayer 1990, p. 71 ; Ginter *et al.* 1998.
- Elkab : Op de Beck 2009.
- Éléphantine : Raue 1999 ; Raue 2018.

Comme l'a justement rappelé C. Thiers dans son introduction, il convient de distinguer la caractérisation du mobilier céramique (chronologie, production, forme, etc.), qui atteste simplement d'une occupation du secteur à l'Ancien Empire, de la nature exacte de ce contexte qui serait ou non lié à l'existence d'un temple du dieu Montou. Le nombre, somme toute restreint, et la nature des couches archéologiques ne nous autorisent pas, en l'état actuel de notre documentation, à préciser la fonction du mobilier archéologique mis au jour autrement que de façon générale. Nous nous bornons à décrire les faciès de la céramique de l'Ancien Empire identifiés. Il convient de rappeler que l'analyse du mobilier céramique n'est pas totalement achevée, les conclusions restent donc préliminaires.

Répertoire des pâtes céramiques de l'Ancien Empire

Rappelons, comme il est de coutume, que les appellations des pâtes utilisées s'inspirent de celles du *Vienna System*[34]. Cependant, comme on le sait maintenant, l'utilisation du *Vienna System* pour une période aussi ancienne que l'Ancien Empire est une commodité de langage et de travail sur le terrain. Nous ne reviendrons pas ici sur l'adaptation nécessaire du *Vienna System* hors du champ chronologique restreint pour lequel il a été créé, c'est-à-dire pour les céramiques égyptiennes fabriquées dans la vallée du Nil et pour quelques groupes de céramiques importées, du Moyen Empire au Nouvel Empire.

34. Cf. Nordström, Bourriau 1993.

La nomenclature des pâtes devra être précisée et augmentée, avec la création de nouvelles catégories, notamment pour les pâtes calcaires et les pâtes mixtes, et l'aménagement de variantes pour les pâtes alluviales les plus courantes (Nile A, B, C).

Les pâtes alluviales

- **Nile B1**

Argile de type alluviale fine, sableuse et dense ; la cassure est de couleur chamois ou zonée à cœur rouge. Les inclusions minérales sont de petite taille, on identifie un sable fin abondant, parfois de petites particules blanches. On rencontre également un fin dégraissant végétal. La surface est soignée, elle porte le plus souvent un engobe orangé à rouge, souvent poli.
Formes associées : *Maidum Bowls* ; petite jarres ; supports de jarres.

- **Nile B1/B2**

Identique à Nile B1, mais la texture de la pâte est moins dense.
Formes associées : *Maidum Bowls* ; assiettes à lèvre interne ; bols à carène ; bassins à parois fines évasées.

- **Nile B2**

Les variantes de cette catégorie d'argile sont assez nombreuses. Argile de type alluviale moyennement fine, assez poreuse. Le dégraissant végétal est fin, mais peut être abondant. Les dégraissants minéraux peuvent être variés, avec de petites particules blanches et de nombreux micas dorés. La surface est engobée (rouge mat ou poli) ou non. On note la présence de micas dorés en surface.
Formes associées : assiettes à lèvre interne ; bols à bec verseur.

- **Nile C**

Les variantes de cette catégorie d'argile sont assez nombreuses. Argile de type alluviale grossière, poreuse. On observe un dégraissant, végétal et minéral, abondant et de grande taille.
Nile C, variante dégraissant sableux dominant.
Nile C, variante plus dense, de texture moins grossière et bien cuite.
Formes associées : moules à pain ; *beer jars* ; vases de stockage de grande taille.

Les pâtes calcaires

- Marl 1

Il s'agit d'une pâte calcaire qui a été repérée très rapidement pour la céramique de l'Ancien Empire d'Ermant. D'origine locale, elle est utilisée de façon récurrente pour de nombreuses productions, surtout à IVe dynastie. La surface est soignée, elle porte le plus souvent un engobe orangé à rouge, souvent poli.
Description : argile fine, dense, dure, de couleur claire ; fracture zonée ou non de rouge clair à beige ; très fin dégraissant sableux et fin dégraissant végétal.
Formes associées : *Maidum Bowls* ; bols convexes ; petites jarres à col ou aiguières.
Les autres pâtes calcaires et mixtes utilisées ont pour le moment été décrites individuellement. Leur caractérisation est toujours complexe, elle sera réalisée lors de la prochaine saison. Ce travail sera accompagné d'un échantillonnage systématique de céramiques de référence en vue de confectionner des lames minces et de réaliser des photos macroscopiques des pâtes céramiques sur cassures fraîches.

Rappels typologiques et faciès du mobilier céramique caractéristique de la IVe dynastie et de la VIe dynastie

Nous ne décrirons que quelques familles céramiques jugées les plus caractéristiques de chaque faciès. Précisons que si les faciès céramiques de la IVe dynastie et celui de la VIe dynastie sont aisés à caractériser et à distinguer, il n'en va pas de même pour les céramiques supposées datées de la Ve dynastie. Inscrire un tesson dans un cadre chronologique attribué à la « fin de la IVe ou au début de la Ve dynastie » ou encore à la « fin de la Ve ou au début de la VIe dynastie » est une gageure en l'absence de séquences stratigraphiques continues sur le terrain. La céramique de la Ve dynastie est associée bien sûr à de nombreux monuments, notamment dans la région memphite[35], mais la situation est complexe pour les céramiques d'Ermant, et il est difficile de placer précisément le curseur sur la Ve dynastie pour les classes céramiques courantes. Seuls quelques rares individus peuvent être isolés et datés de la Ve dynastie : quelques *Maidum Bowls* (fig. 6.3)[36] et un moule à pain conique à fond arrondi (fig. 5.2)[37].

35. Le site d'Abousir est le plus légitime concernant le mobilier céramique en contexte funéraire pour la céramique de la Ve dynastie et pour celle du passage fin Ve-VIe dynastie ; voir en dernier lieu Arias Kytnarová 2011 ; Arias Kytnarová 2016.
36. Sur les *Maidum Bowls* et l'évolution graduelle de leur forme pendant l'Ancien Empire, cf. Op de Beck 2004, p. 269, fig. 10.
37. Pour les moules à pain à fond arrondi, forme intermédiaire datée de la Ve dynastie, cf. Arias Kytnarová 2011, p. 100, « Class F-1a *Bread form* » ; Kromer 1991, pl. 27 (4), 26-38. Voir également Faltings 1998, p. 131, fig. 9a, nos 13-26 (sites de Giza, Abousir, Matmar, Qau, Abydos, Edfou).

En conséquence, et dans l'attente d'un complément de matériel qui nous permettrait objectivement de trancher, seuls deux faciès feront l'objet d'un développement[38] : le premier concerne la IVe dynastie, et le second, la fin de l'Ancien Empire avec la VIe dynastie.

Faciès céramique de la IVe dynastie

Le groupe le plus emblématique, et celui dont l'évolution formelle a été le mieux étudiée, de ses origines (avec les prototypes des deux premières dynasties) jusqu'à sa disparition après la Première Période intermédiaire, est bien sûr celui des *Maidum Bowls*[39]. Les formes bien datées de la IVe dynastie, plutôt du début de la période[40], sont bien identifiés dans notre corpus (fig. 4.1-4.3, 5.1-5.2). L'association systématique de cette forme avec une pâte calcaire locale Marl 1 est un marqueur régional important. En effet, aucun individu mis au jour pour cette période n'est façonné en pâte alluviale.

Sans surprise, les moules à pain attestés dans les assemblages appartiennent à la catégorie conique, avec une carène très marquée et un fond pointu (fig. 4.6)[41].

Le groupe des *beer jars*[42] présente des éléments morphologiques caractéristiques : une lèvre bien marquée et un fond pointu (fig. 4.7-4.8). Les bols à carène à engobe rouge poli, ici en pâte calcaire Marl 1, appartiennent également au répertoire classique de la IVe dynastie[43] (fig. 4.5).

38. Nous adoptons la division chronologique (*chronological groups*) pour l'étude de la céramique de l'Ancien Empire utilisée par T. Rzeuska (2017, p. 63) : « *Group 1: Early Old Kingdom (c. Third–Fourth Dynasty); Group 2: Late Old Kingdom (c. Fifth–Sixth Dynasty); Group 3: Terminal Old Kingdom (c. Eighth Dynasty–beginning of the First Intermediate Period).* »

39. Voir Op de Beck 2004, p. 269, fig. 10. Pour des formes identiques datées de la IVe dynastie, voir Marchand 2019, p. 127, fig. 5a-g.

40. Cf. Marchand *et al.* 2016, p. 182, fig. 5, 6b, 8b.

41. Pour une vue d'ensemble du développement des moules à pain de la IVe dynastie à la fin de l'Ancien Empire, cf. Faltings 1998, p. 129-134. Pour le site d'Abou Rawash, voir en dernier lieu Marchand 2019, p. 130, fig. 8g.

42. Pour une vue d'ensemble du développement des *beer jars* de la IIIe dynastie à la fin de l'Ancien Empire, cf. Faltings 1998, p. 209-220. Pour Abou Rawash à la IVe dynastie en particulier, voir en dernier lieu Marchand 2019, p. 130, fig. 8a-b.

43. Cf. Marchand 2019, p. 127, fig. 5l ; Marchand, Baud 1996, p. 277, fig. 7.6.

Faciès céramique de la VI^e dynastie

Les groupes présentés ci-dessous sont des marqueurs céramiques de la VI^e dynastie, soit qu'il s'agisse de formes déjà existantes dans le vaisselier de la IV^e dynastie, et qui connaissent une évolution morphologique sensible, soit que les formes apparaissent à la VI^e dynastie[44].

D'une façon générale, on observe l'emploi de la pâte alluviale pour les catégories de céramiques fines à engobe rouge poli (*Maidum Bowls*, assiettes à lèvre interne, bols, etc.). L'utilisation des pâtes calcaires est réservée aux différentes catégories de jarres (fig. 8.22, 9-10).

Les *Maidum Bowls* de la VI^e dynastie[45] poursuivent leur évolution typologique et sont, pour certains types, bien différents des modèles de la IV^e dynastie, notamment avec le type à lèvre courte (fig. 7.1-7.3, 11.1-11.2). En plus de cette différence formelle par rapport aux générations antérieures, c'est l'emploi systématique de la pâte alluviale Nile B1 ou Nile B1/B2 qui les distingue clairement des productions plus anciennes.

Le deuxième groupe est celui des assiettes à lèvre interne[46] en pâte alluviale Nile B1/B2 recouvertes d'un engobe rouge poli (fig. 7.4-7.8). Une grande variété existe dans le façonnage des lèvres, et deux modules de taille sont utilisés (diam. moyen : 18-36 cm). Malgré cette diversité, ce groupe est un marqueur céramique qui apparaît dans le vaisselier de la VI^e dynastie. Il est abondamment représenté sur tous les sites archéologiques d'Égypte.

Le troisième groupe est celui des bols carénés portant deux incisions sur le bord externe[47], en pâte alluviale Nile B1/B2 à engobe rouge poli (fig. 7.12, 11.3). Cette technique décorative, qui consiste à pratiquer plusieurs incisions profondes sur le bord externe, apparaît à cette période et poursuivra son développement dans le répertoire céramique égyptien, notamment au Moyen Empire.

Les moules à pain sont très différents de ceux des générations précédentes. La plupart possèdent un fond parfaitement plat tout en conservant une allure générale conique, quoique tendant vers une forme plus tronconique (fig. 8.17, 11.4). La date d'apparition de ce nouveau type varie selon les auteurs, à partir du milieu de la

44. Nous renvoyons, pour tous les marqueurs céramiques de cette période, au corpus céramique de Saqqara : Rzeuska 2006.
45. Pour les types caractéristiques de cette période à Abou Rawash, voir Marchand, Baud 1996, p. 282, fig. 10.1-3. Pour le site de Saqqara, voir en dernier lieu Rzeuska 2006, p. 294-315.
46. Cf. Rzeuska 2006, p. 198-225.
47. Cf. Rzeuska 2006, p. 248-249.

Ve dynastie à Abousir ou à la fin de la VIe dynastie à Saqqara[48]. Mon expérience de la céramique d'Abou Rawash me permet de conclure que le moule à pain à fond plat est rattaché aux niveaux archéologiques de la VIe dynastie. Un autre type de moules à pain, à base bulbeuse et grossièrement aplatie, est également attesté à cette période (fig. 8.16)[49].

Un type particulier de *beer jar* à ressaut marqué sur l'épaule est bien attesté à Ermant (fig. 8.19)[50]. D'autres types plus classiques du répertoire des *beer jars* de la VIe dynastie[51] sont répertoriés ; il s'agit de modèles à lèvre sans liaison marquée avec le corps de l'objet (non illustrés).

En guise de conclusion

Au-delà de la question chronologique du matériel céramique d'Ermant daté de l'Ancien Empire, que nous avons tenté de préciser, qu'est-ce qui distingue la céramique de l'Ancien Empire de la région memphite de celle d'Ermant dans la région thébaine ? *A priori*, il n'y a rien de distinctif dans les formes, pour les groupes céramiques identifiés – du moins, la distinction n'est pas sensible au sein du matériel à notre disposition. L'emploi d'argiles locales spécifiques donne en revanche une couleur régionale à la céramique, avec l'emploi de la pâte calcaire Marl 1, comme on l'a vu pour la IVe dynastie par exemple. La différence serait plutôt à chercher dans la composition du mobilier céramique en fonction d'un contexte donné (funéraire, cultuel ou domestique). L'étude du matériel de la nécropole d'Assiout en Moyenne Égypte[52] offre quelques pistes. En effet, l'autrice observe des différences sensibles entre la composition du matériel céramique funéraire de la région memphite et celle d'Assiout. Elle donne l'exemple des vases-*hes*, dont la présence dans les tombes de la fin de l'Ancien Empire à Assiout et dans les assemblages d'autres sites de Moyenne et de Haute Égypte[53], est notable, alors qu'ils sont presque absents des nécropoles memphites. Mais pour arriver à ce niveau d'analyse, nous espérons vivement de nouvelles découvertes à venir sur le site d'Ermant.

48. Voir la discussion pour Abousir dans Kytnarová 2011, p. 101 ; pour le site de Saqqara voir Rzeuska 2006, p. 754.
49. Cf. Rzeuska 2006, p. 332-333, pl. 145, *Form* 208.
50. Cf. Rzeuska 2006, p. 74-77, pl. 16-17, *Form* 4 (29, 33-34).
51. Cf. Rzeuska 2006, p. 90-103.
52. Cf. Rzeuska 2017, p. 70.
53. Cf. Rzeuska 2017, p. 70. Pour le site d'Akhmîm, cf. Hope, McFarlane 2006, fig. 8. Pour les sites de Qau-Badari, Sedment et Dendara, cf. Seidlmayer 1990.

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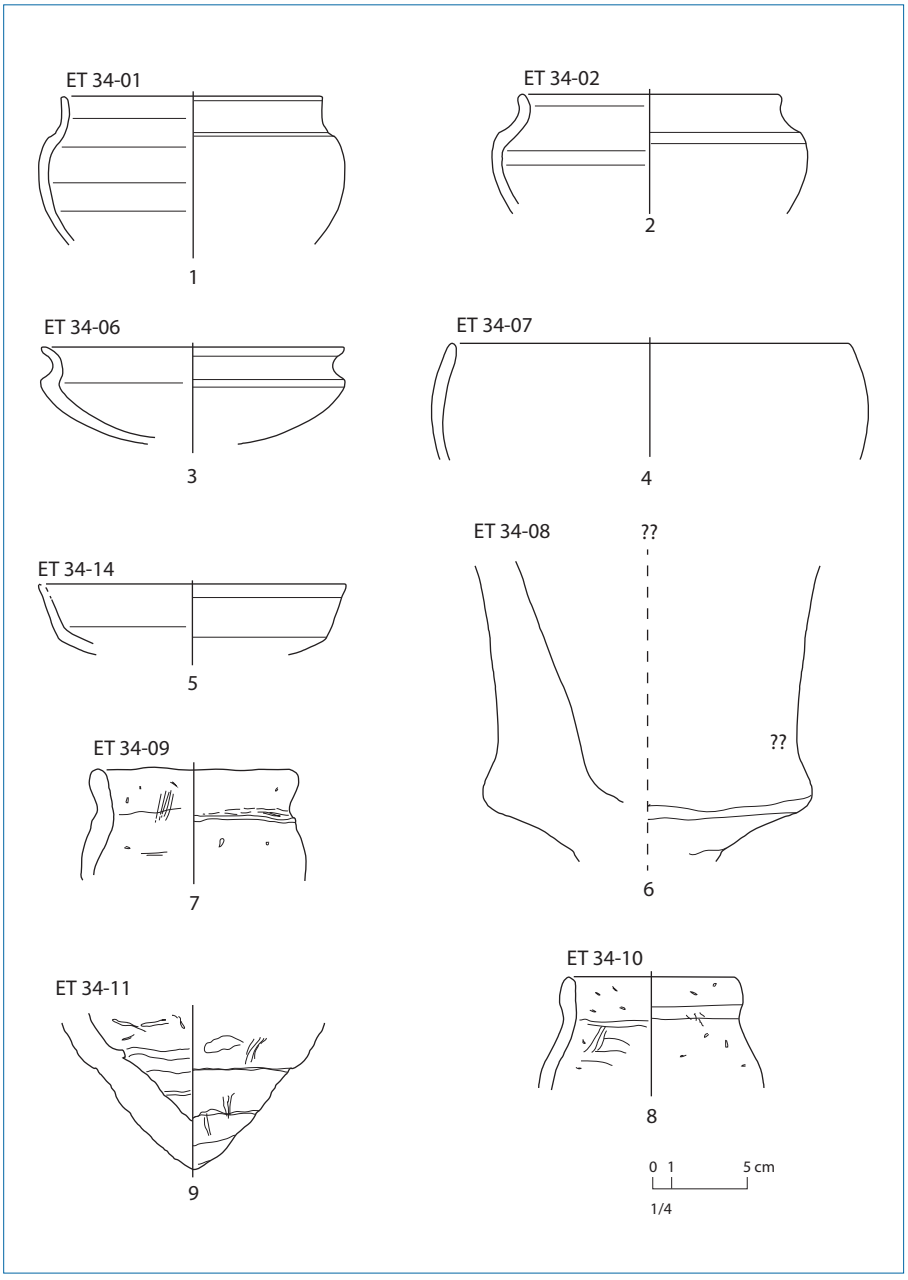


Fig. 4. *US 034. Assemblage céramique partiel. Datation : IVe dynastie.*
1-3. Maidum Bowls *en pâte calcaire locale Marl 1 à engobe rouge poli.*
4. *Bol convexe en pâte calcaire locale Marl 1 à engobe rouge poli.*
5. *Assiette à carène en pâte calcaire locale Marl 1 à engobe rouge poli.*
6. *Moule à pain conique en pâte alluviale Nile C.*
7-9. Beer jars *en pâte alluviale Nile C, à lèvre marquée, fond pointu, surface claire et fort dégraissant végétal.*

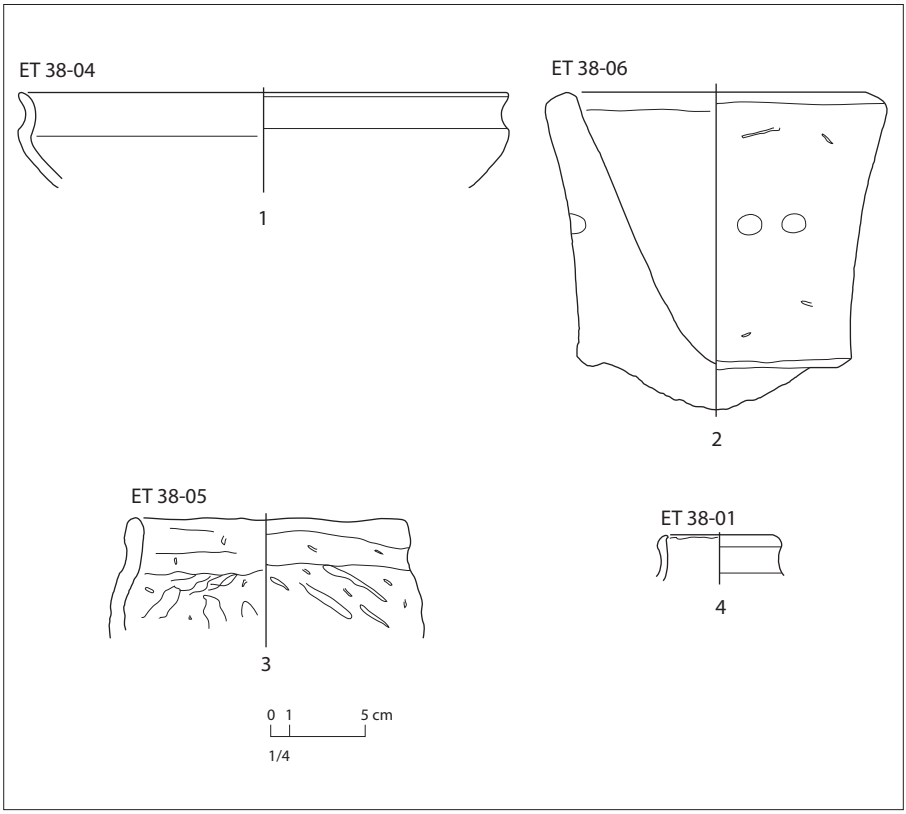


Fig. 5. *US 038. Assemblage céramique partiel. Datation : IVe et Ve dynasties.*
1. Maidum Bowl *en pâte calcaire locale Marl 1 à engobe rouge poli.*
2. *Moule à pain conique à fond arrondi en pâte alluviale Nile C.*
3. Beer jar *à lèvre marquée en pâte alluviale Nile C.*
4. *Petite jarre à col et parois fines, en pâte calcaire locale Marl 1 à engobe rouge poli.*

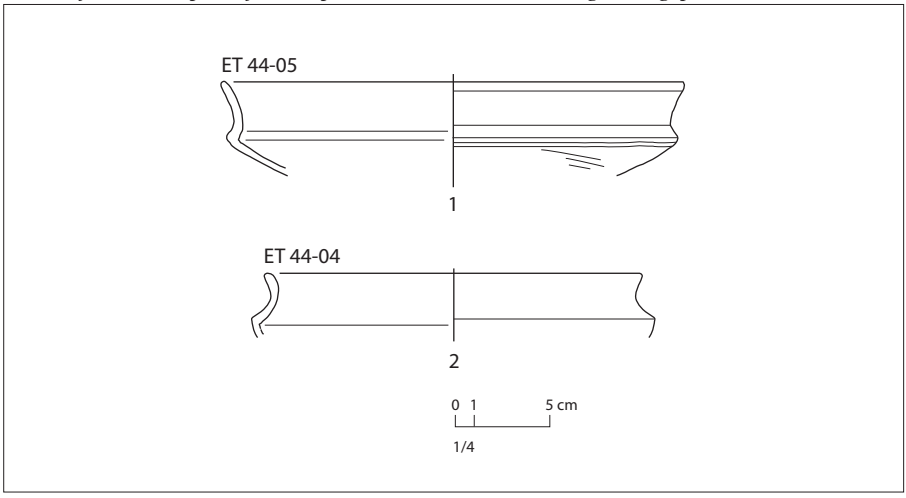


Fig. 6. *US 044. Assemblage céramique partiel. Datation : IVe et Ve dynasties.*
1-2. Maidum Bowls *(IVe dynastie) en pâte calcaire locale Marl 1 à engobe rouge poli.* **3.** Maidum Bowl *(Ve dynastie) en pâte alluviale Nile B1 à engobe rouge poli.*

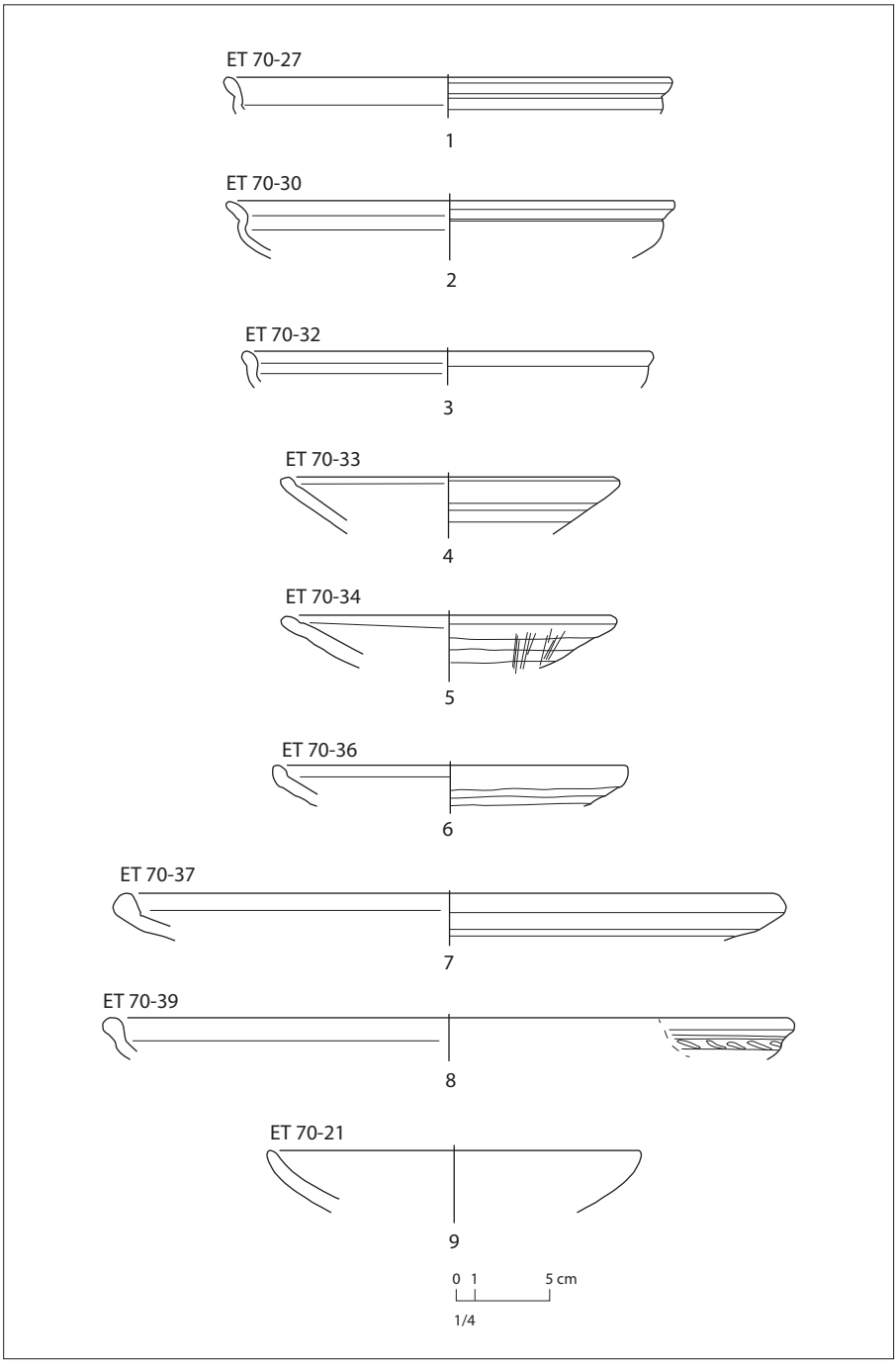


Fig. 7.a. *US 070. Assemblage céramique partiel. Datation : VI^e dynastie.*
1-3. Maidum Bowls *en pâte alluviale Nile B1 à engobe rouge poli.*
4-6. *Assiettes à lèvre interne de petit diamètre en pâte alluviale Nile B1/B2 à engobe rouge poli.*
7-8. *Assiettes à lèvre interne de grand diamètre en pâte alluviale Nile B2 à engobe rouge poli.*
9. *Assiette (de tradition nubienne ?) en pâte alluviale fine sableuse, cassure couleur chamois fortement micassée, à engobe rouge poli noirci.*

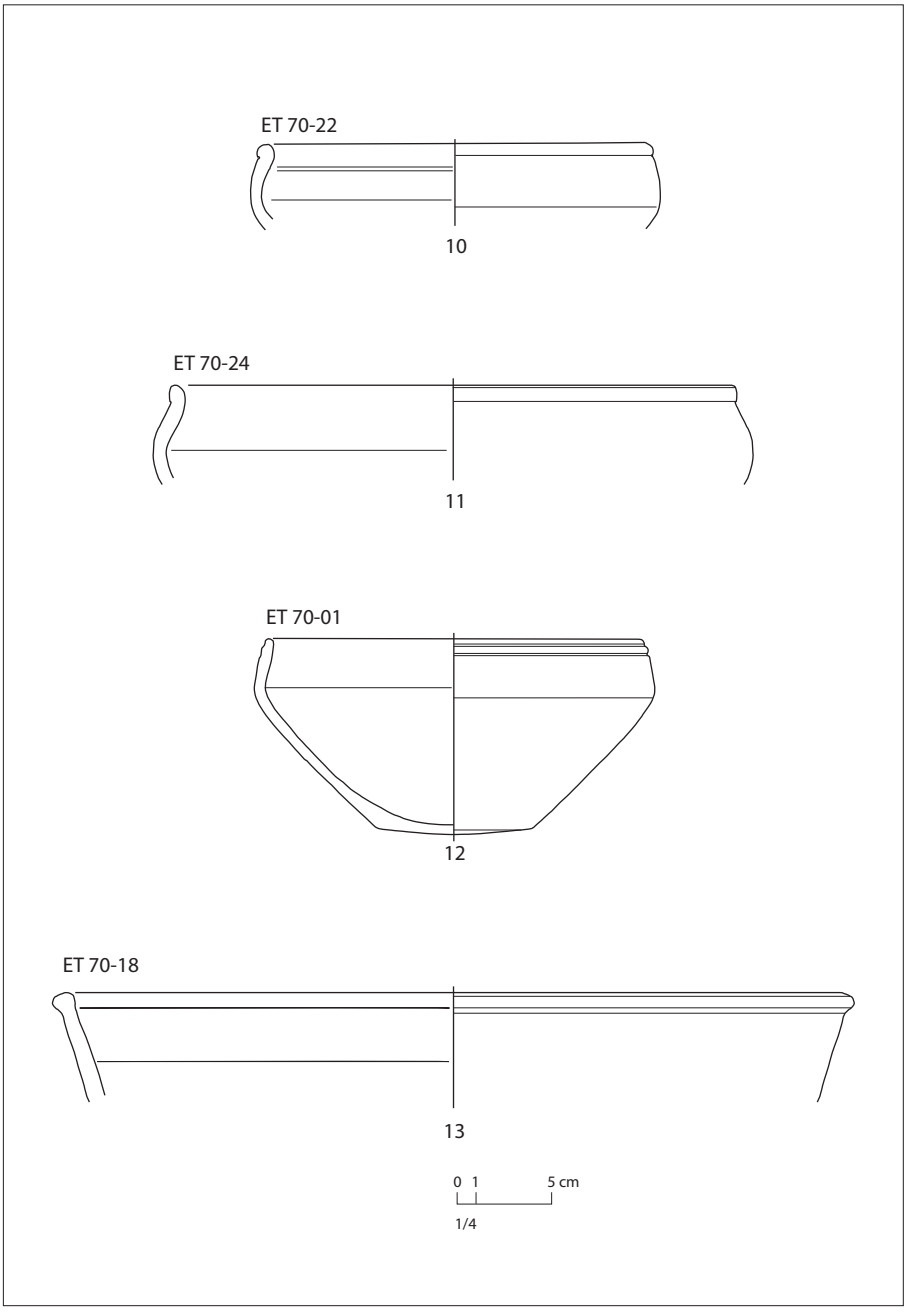


Fig. 7.a. *Suite et fin.*
10-11. *Bols à bec verseur (diam. moyen : 30 cm) en pâte alluviale Nile B1/B2 à engobe rouge poli.*
12. *Bol caréné à fond plat portant deux incisions sur le bord externe, en pâte alluviale Nile B1/B2 à engobe rouge poli.*
13. *Large bassin à parois fines évasées en pâte alluviale Nile B1/B2 à engobe rouge épais brillant.*

Fig. 7.b. *US 070. Assemblage céramique partiel. Datation : VI^e dynastie. Céramiques ; meule naviforme intacte en grès ; extrémité d'un deuxième individu du même type ; outil en pierre noire (galet* zalat*). © CNRS/C. Thiers.*

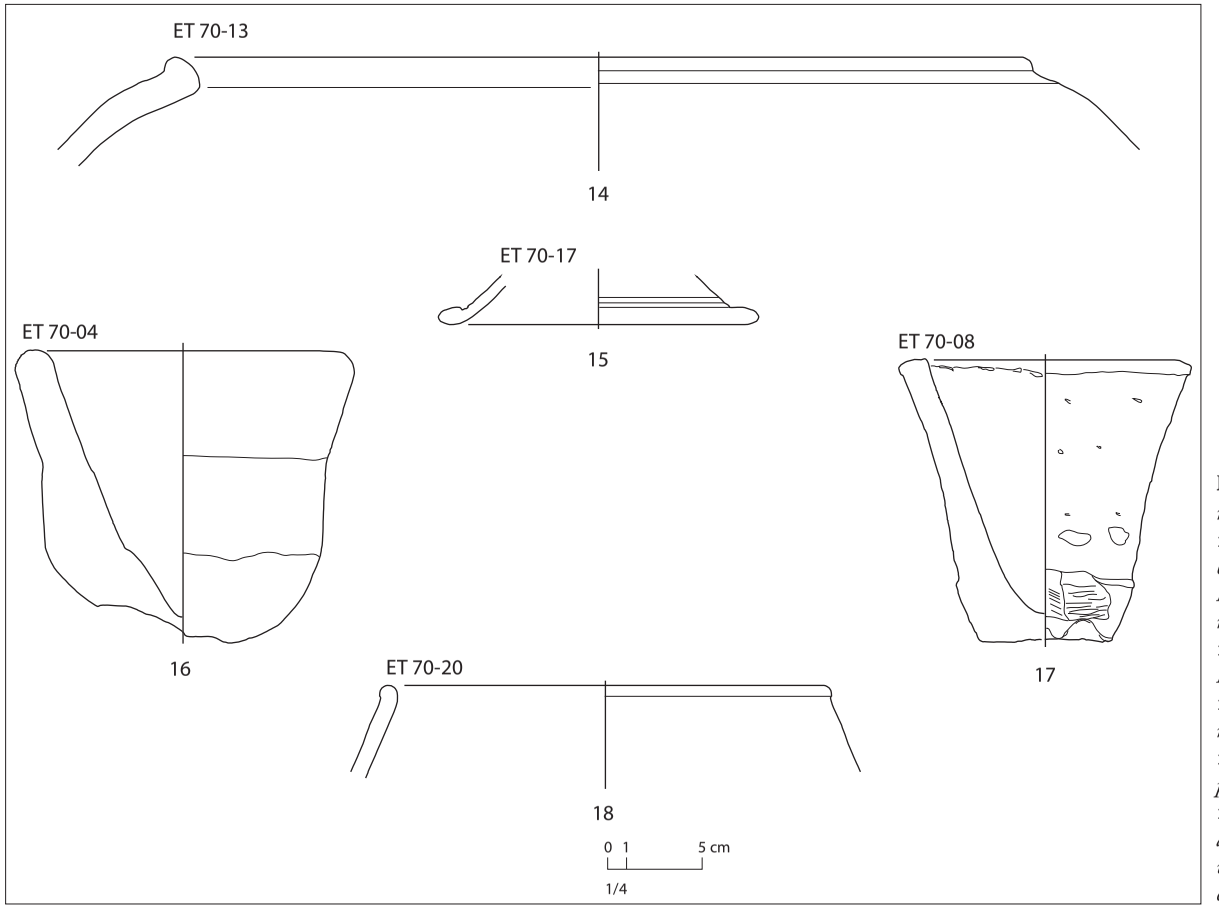


Fig. 8a.

Fig. 8.a. *US 070. Assemblage céramique partiel. Datation : VI^e dynastie.*
14. *Jarre de stockage sans col, à lèvre en bourrelet faite main, en pâte alluviale Nile C (variante bien cuite) à engobe rouge épais, craquelé et brillant.*
15. *Base de support haut en pâte alluviale Nile B1 à engobe rouge poli.*
16. *Moule à pain conique à fond légèrement arrondi en pâte alluviale Nile C.*
17. *Moule à pain tronconique à base plate en pâte alluviale Nile C.*
18. *Bord de vase à parois fines, en pâte alluviale Nile B1/B2 à fin dégraissant végétal en négatif, à engobe rouge diffus et surface chamois.*

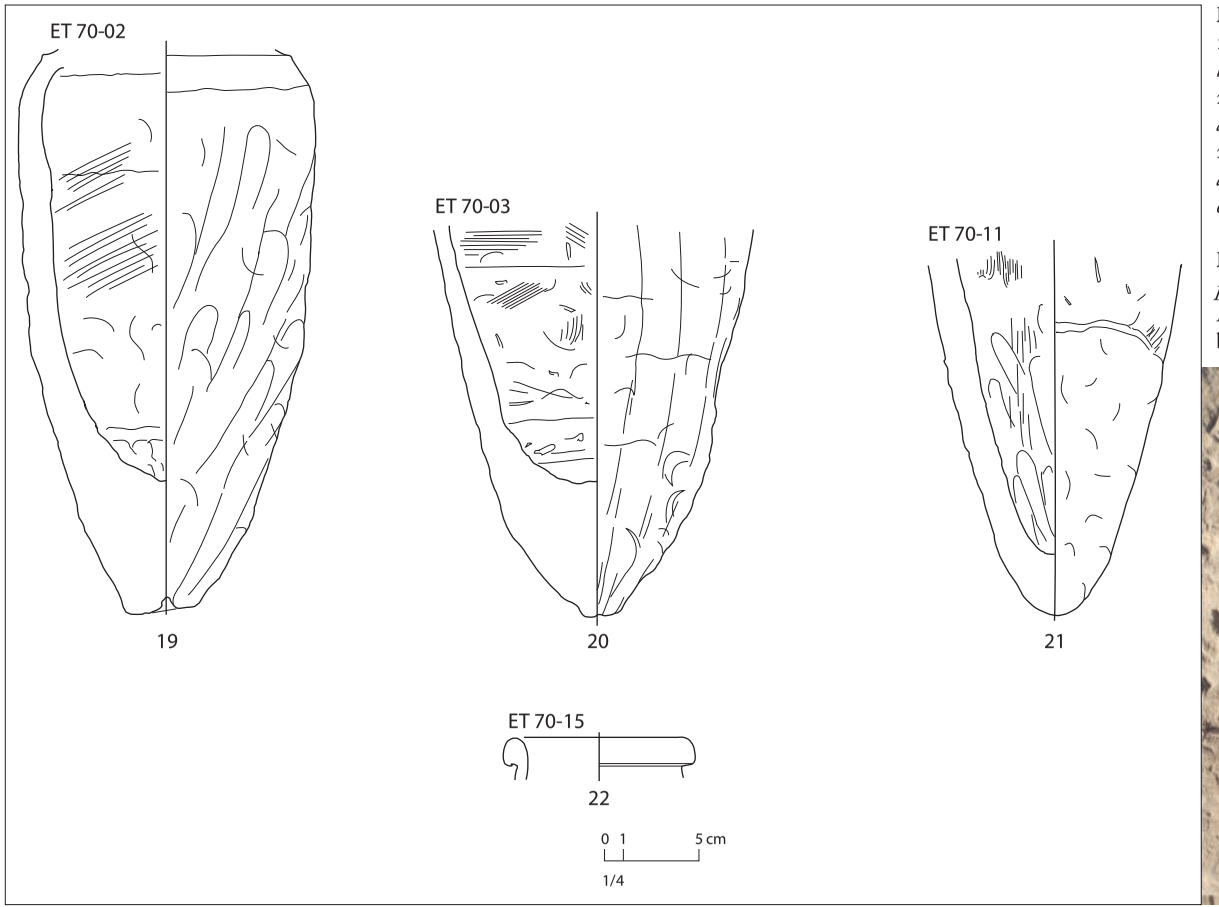


Fig. 8a.

Fig. 8.a. *Suite et fin.*
19. *Corps de* beer jar *à ressaut marqué sur l'épaule en pâte alluviale Nile C.*
20-21. *Fonds pointus de* beer jars *en pâte alluviale Nile C.*
22. *Bord de jarre à bord en bourrelet, à surface claire très bien lissée, en pâte calcaire fine rosée, à fin dégraissant sableux.*

Fig. 8.b. *US 070. Assemblage céramique partiel. Datation : VI^e dynastie. Détail du moule à pain no 16 et des fonds de* beer jars *n^os 19-20.* © *CNRS/C. Thiers.*

Fig. 8b.

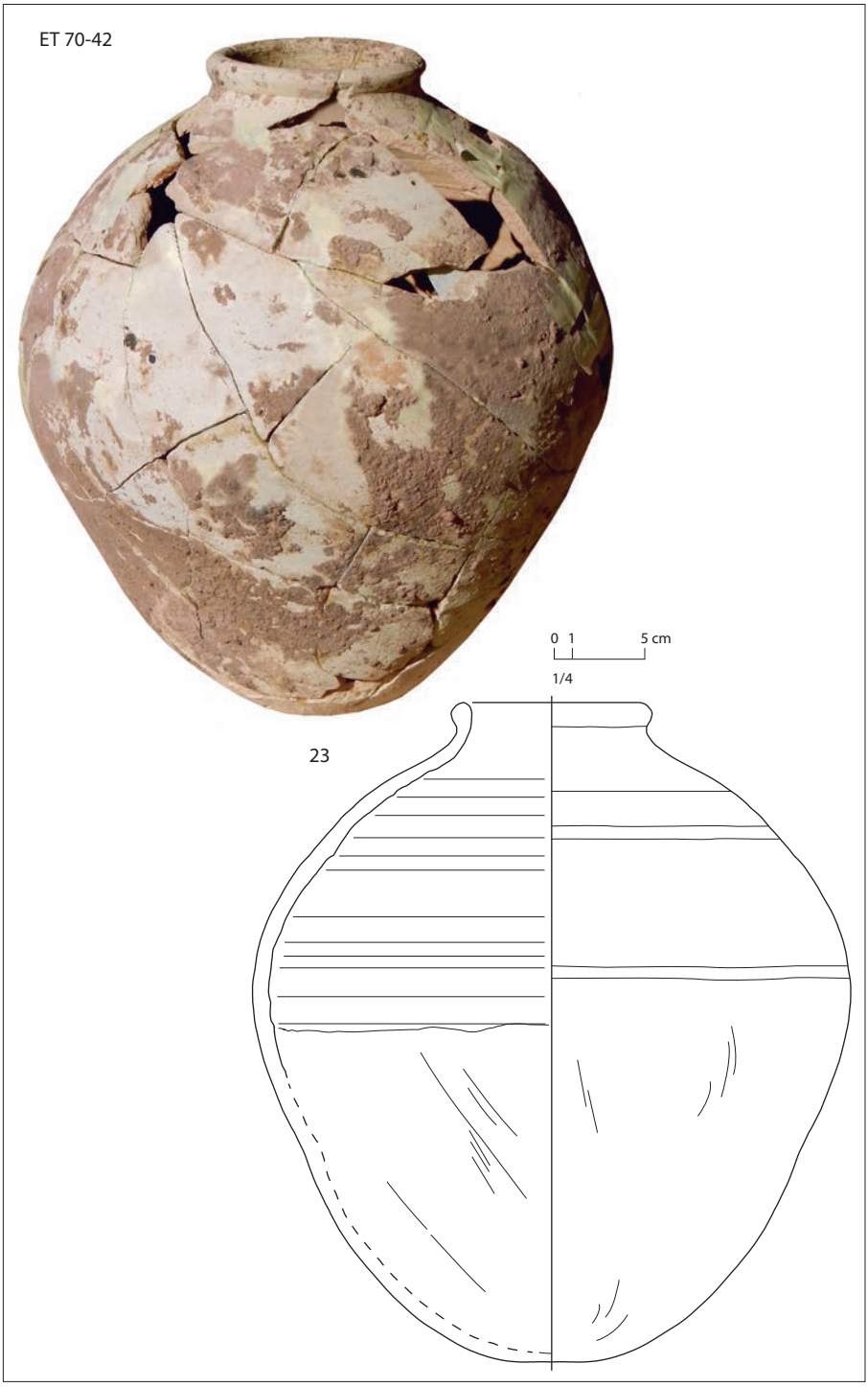


Fig. 9.a-b. *US 070. Assemblage céramique partiel. Datation : VI^e dynastie. Jarre globulaire de grande taille façonnée en deux parties, à fond légèrement ovoïde, à surface claire soigneusement raclée, en pâte calcaire dense à fin dégraissant sableux et à cassure jaune vif. Photo © CNRS/C. Thiers.*

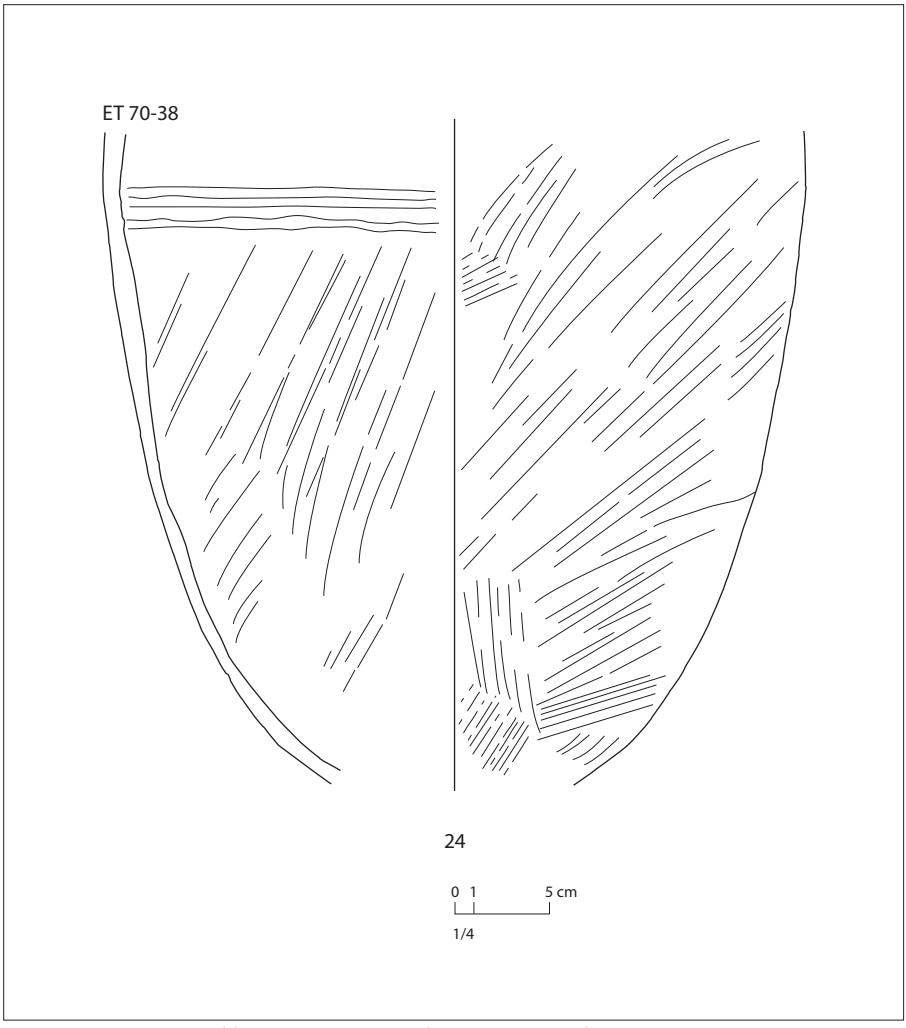


Fig. 10. *US 070. Assemblage céramique partiel. Datation : VI^e dynastie.*
Corps complet d'une jarre ovoïde de grande taille à parois fines, façonnée en deux parties, à surface claire soigneusement raclée, en pâte calcaire fine, dense et dure, à fin dégraissant sableux et rares dégraissants végétaux, et à cassure zonée rouge et verdâtre.

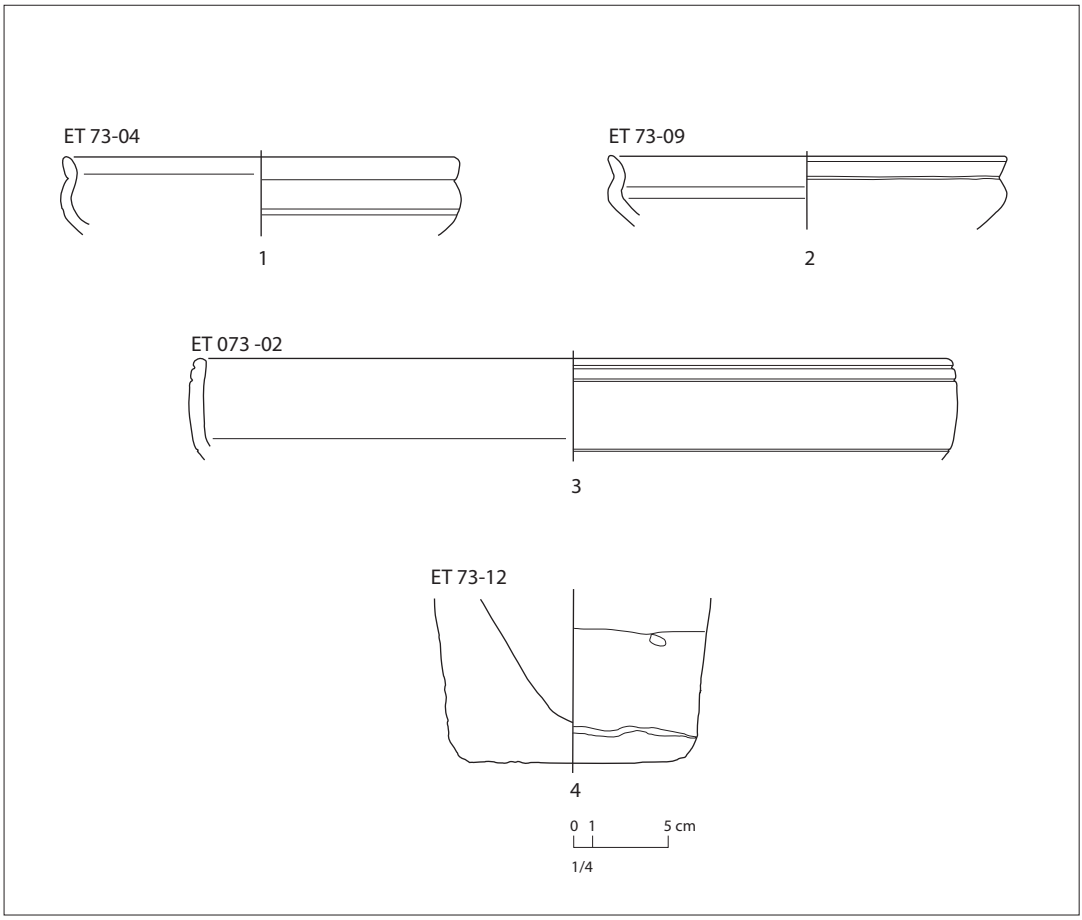


Fig. 11. *US 073. Assemblage céramique partiel. Datation : VI^e dynastie.*
1-2. Maidum Bowls *en pâte alluviale Nile B1/B2 à engobe rouge poli.*
3. *Bol à carène de grande taille portant deux incisions sur le bord externe, en pâte alluviale Nile B1/B2 à engobe rouge poli.*
4. *Base plate de moule à pain tronconique en pâte alluviale Nile C.*

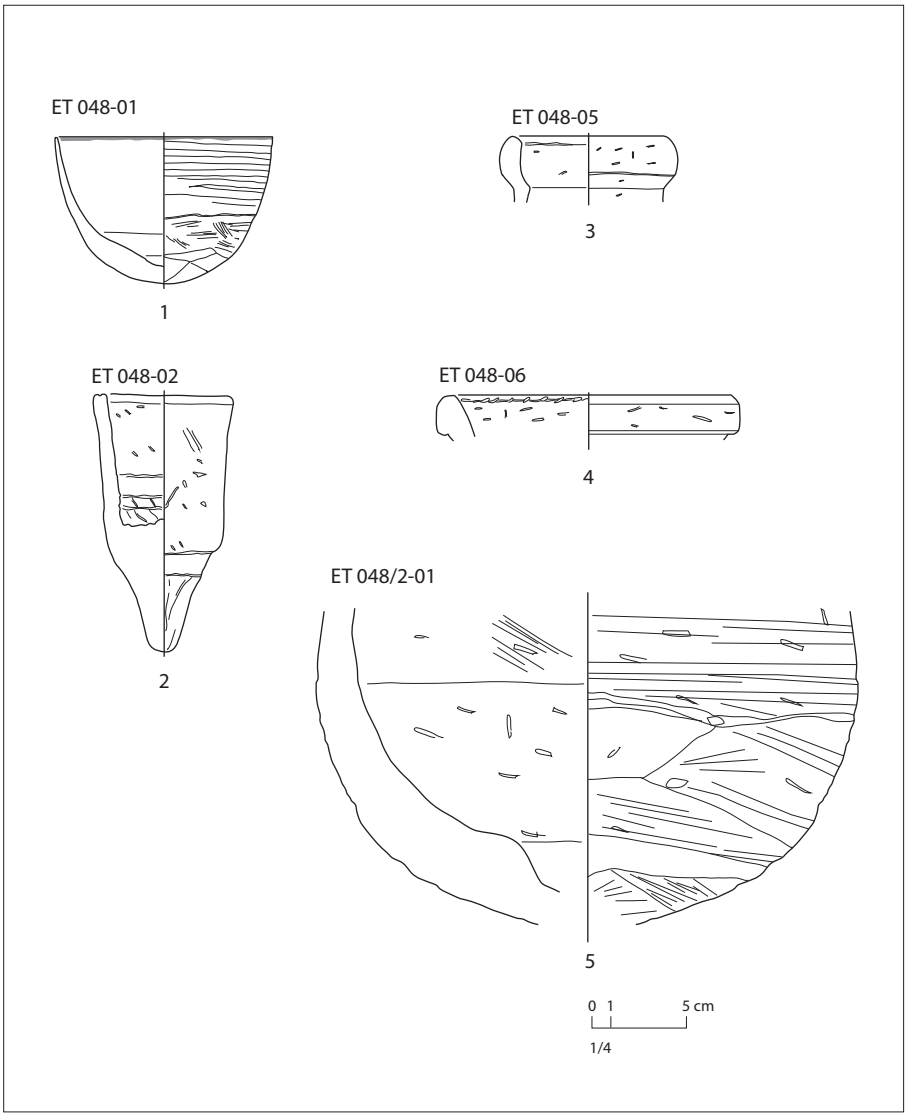


Fig. 12. *US 048. Assemblage céramique partiel. Datation : Moyen Empire, XIII^e dynastie.*
1. *Bol hémisphérique à rehaut peint en rouge sur la lèvre, en pâte alluviale Nile B1.*
2. *Vase conique, ou* conical beaker*, de petite taille fait à la main, en pâte alluviale Nile C (variante sableuse), à surface claire, à fort dégraissant végétal en négatif sur la surface.*
3-5. Beer bottles *en pâte alluviale Nile C à engobe rouge épais et poli, ou à surface claire chamois (n° 3).*

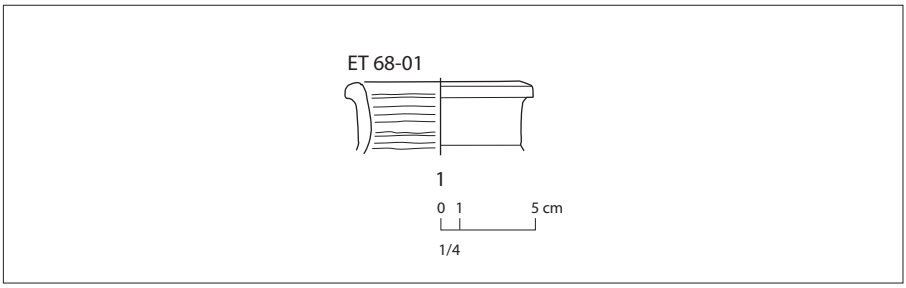


Fig. 13. *US 068. Assemblage céramique complet. Datation : époque ptolémaïque ou Haut-Empire romain (?)*
1. *Col complet de vase à eau en pâte brune sableuse à engobe jaune clair.*

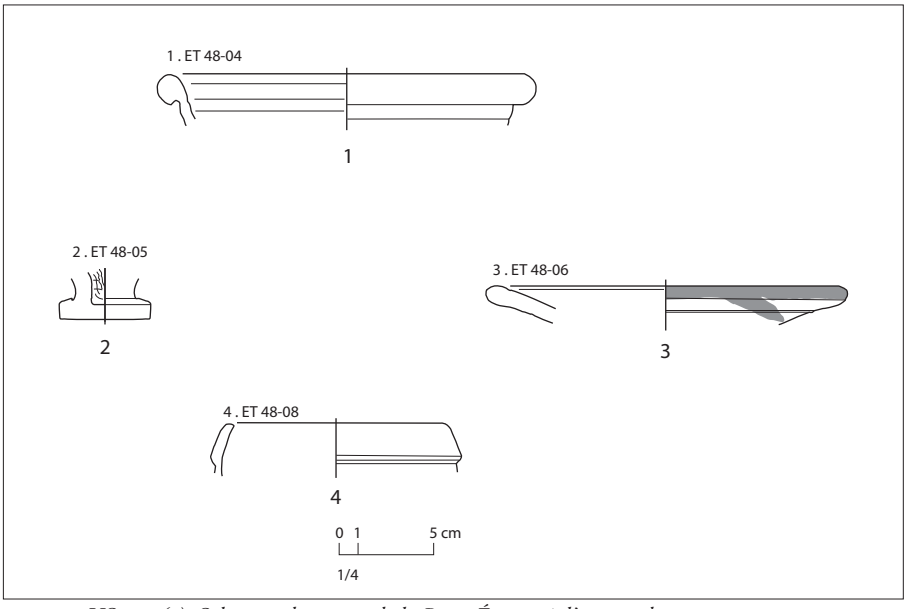
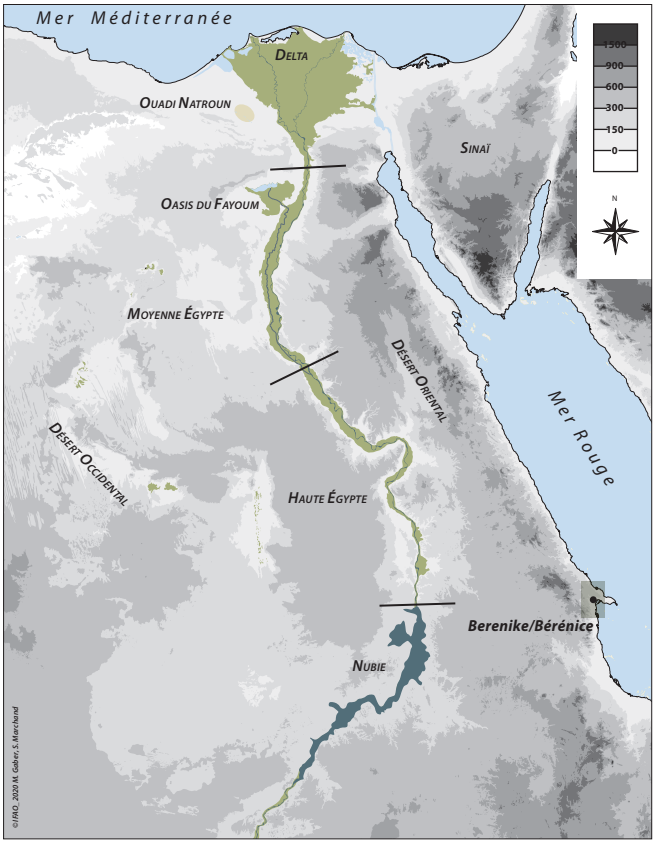


Fig. 14. *US 048 (3). Sélection de tessons de la Basse Époque à l'époque byzantine.*
1. *Coupe en Qena Ware/Marl A, XXVI^e dynastie.*
2. *Fond d'encensoir conique en pâte alluviale apparentée à la Nile B2, fin Basse Époque-début époque ptolémaïque.*
3. *Bord d'assiette à lèvre interne en pâte alluviale fine à engobe rouge, à stries de polissage concentriques, époque ptolémaïque (II^e s. av. J.-C.).*
4. *Bol convexe en pâte d'Assouan, époque byzantine.*

Désert Oriental



Roderick C.A. Geerts

Dishing out Dinner: Ceramic, Glass, and Wooden Vessels on the Roman Table in Berenike (Egypt)

Introduction

Tableware in the Roman Empire was made of various materials including clay (vessels in both fine and coarse wares), glass, base and precious metals, wood, and (specific for Egypt) faience.[1] As the name implies, Romans used tableware for communal meals.[2] During the Augustan period there was a tableware manufacturing boom in the eastern Mediterranean[3] during which new fine ware products, like *Italian Sigillata* and *Eastern Sigillata* B, flooded the market and existing repertoires changed accordingly. These new and redesigned *sigillatas* signified an Empire-wide cultural integration and can be used as markers of Roman culture in certain provinces.[4] This tableware boom, however, is commonly attested in ceramics, as pottery survives in much larger quantities than glass, wood or metal. Wood either was used for fuel or decayed, glass and metals were often melted down; the latter maintained its intrinsic value based on weight.[5] Thus, ceramics provide better and broader insights into tableware than other materials.[6] However, one unusual example is a fragment of a wooden plate from Berenike, which is the focus of this paper.

1. See for instance Hayes 1972; Isings 1957; Strong 1966; Nenna, Seif el-Din 2000.
2. See Willet 2012, pp. 395–430 for an overview.
3. Poblome, Zelle 2002; Poblome, Bes, Lauwers 2007, p. 221.
4. Poblome, Bes, Lauwers 2007, p. 221; Gates-Foster 2019, pp. 653–655; Élaigne 2000, p. 23; Élaigne 2012, pp. 314-315; see also Capponi 2005, pp. 176–177.
5. Reitlinger 1963, p. 14; Vickers, Impey, Allan 1986, p. 137.
6. Vickers 1998, p. 6.

Theoretical framework

Society as a whole or certain individuals create new artefacts when needed or desired. Most utilitarian artefacts are designed for a specific function or purpose, and choices made in the process of their creation, e.g. raw materials and shapes result in artefacts best suited to perform those functions. In practice, however, it is not always possible to use the most appropriate resources and choices must then be made within a range of workable solutions.[7] Newly introduced pottery, however different in form, might be a replacement of better or lesser quality for ceramics already in use.[8]

Many researchers have noted parallels in vessel forms appearing in ceramics, bronze and other base metals, glass, gold, silver and similar precious metals, stone, and wood.[9] When considering the uses of vessels made of different materials, one must realise the effect the material has on the contents and its aesthetic appeal. In practical terms, the material used has implications on the heat transfer of warm food or beverages, and some materials, like metal, effect the taste. Aesthetics matter for the occasion and in the eye of the beholder. The hypothesis has been put forward, just as today, that there were certain standards dictating how and in what type of vessel food had to be served.[10] Important, too, were the prices of raw materials and, by extension, of the vessels themselves, which further determined who could afford them. Clearly, certain vessels reflected the status of their owners.[11]

Similarities in vessel forms executed in different materials have been studied ever since the late 19th century. At that time the term "skeuomorphism" came about and since then has become part of the scientific debate.[12] Skeuomorphism is the manufacture of vessels in one material intended to evoke the appearance of vessels regularly made in another.[13] Imitation, or *aemulatio*, of commonplace objects in the Roman period[14] was also well attested in objects from daily life, like ceramics, glass, and wood.[15] In this regard, skeuomorphism occurred on a large scale and was not reserved for elite or specialised craftsmen; everybody with some skill could imitate and copy objects using a variety of materials.

7. Caple 2009, pp. 8, 12. See for example reuse in marginal areas: Tomber 2006, pp. 181–182.
8. Hingley 2005, pp. 45, 114.
9. Vickers 1998; Willet 2012, p. 321 with further references.
10. Willet 2012, p. 323.
11. Fulford 1986, p. 153.
12. For an overview of the use of skeuomorphism, see Donohue 2005, pp. 80–82; Willet 2012, pp. 323–325; Geerts 2020, pp. 297–298.
13. Definition as coined in Vickers, Gill 1994, pp. 106–107.
14. Gazda (ed.) 2002; Perry 2011.
15. See for instance Geerts 2019; Geerts 2020.

This activity was not restricted to Roman times; the practice appeared in Egypt by the early Dynastic period.[16] In early Egypt, such vessels appeared mostly in clay and stone, and during later dynasties, also in faience, glass, and metal, or vessels in those materials were sources of inspiration. This can, for instance, be seen in Ptolemaic painted wooden bowls from the Faiyum, which resemble ceramic vessels both in shape and in decoration.[17] An interesting study will appear in a future paper, where the interplay between local imitations of previously imported vessels, imitations in other materials, and copies of other vessels in the same material will be discussed.[18]

Tableware in Berenike

Excavations in Berenike, a Ptolemaic-Roman (3rd c. BC–6th c. AD) port on the Red Sea coast of Egypt, have documented the use of tableware during the early Roman period.[19] The late Roman-era settlement overlies most of the early Roman city, but several trenches (BE95-4 and BE95/96/97-5; fig. 1) with early Roman material have yielded a fair amount of fine tableware, albeit less than 0.5% of the total pottery corpus.[20]

Fieldwork during the 2020 excavation season documented a wooden plate as a surface find in the early Roman trash dump at the north-western edges of the city (fig. 2). The plate was a partial fragment and originally had a diameter of 16 cm and an extant height of 1.5 cm. About one third of the vessel has been preserved. The state of preservation enabled the plate to be identified as a copy of *Eastern Sigillata* A Atlante 34–36 plates, datable to the 1st c. AD.[21] *Eastern Sigillata* A is produced in the north-eastern corner of the Mediterranean and was widely distributed.

Atlante plates resembling the wooden Berenike fragment have also been documented during the excavations at the site. Excavations during the 2020 season recorded an almost complete Atlante 34 *similis* plate in early Roman layers underneath the pavement, directly in front of the Isis temple (Trench 135). Most other documented examples were incomplete and mainly base fragments. These have been recorded in

16. Marchand 2011, pp. 604–605.
17. Marchand 2015, p. 29; Marchand 2018.
18. So far, only the abstract has been published: see Bader 2014. When the article itself will be published is uncertain for now. Personal communication by B. Bader (Institute for Oriental and European Archaeology of the Austrian Academy of Sciences).
19. Hayes 1996; Tomber 1999, p. 124.
20. Hayes 1996, pp. 147–148, 154.
21. More specific Form 34 (*c.* AD 25–50), Form 35 (*c.*AD 40–70), and Form 36 (*c.*AD 60–100). See Hayes 1985, pl. V.

various trenches all around the city: two from Trench 4, one from Trench 57, one from Trench 80, four from Trench 81, and three from Trench 96.[22]

Some 1st c. AD glass vessels also resemble the wooden plate in shape. While the Isings 5 is quite commonly found, the Isings 47 plate is rare (fig. 4). Fragments of both types of glass plates have been found in late 1st–early 2nd c. AD contexts in Berenike.[23]

Various fragments of metal bowls and plates have also been excavated at Berenike. Some might have been from flat plates similar to the wooden plate examined in this paper. However, one should keep in mind that such small flat fragments of metal could easily have belonged to bowls, bottles or other objects.[24]

Although other wooden vessels have been found at Berenike, none resembles this plate. The remains of a hundred wooden bowls have been excavated in Trench 16, the Palmyrene shrine.[25] Those bowls are different in shape, but do illustrate how common wooden tableware would have been in the city. In other similar contexts, wooden bowls are frequently found as well; for example in the harbour temple, half a dozen wooden bowls were found in the south-western corner of the temple.[26] Excavation of that specific trench suggests how common these items must have been. A possibility is that wooden bowls were preserved for usage in rituals, as their abundance in shrines could signify. There is no evidence yet for a woodworkers' atelier in the city proper; so whether wooden vessels were made locally or were imported is uncertain. However, woodworkers would have been indispensable in Berenike for ship assembly and repair, and other construction activities. The recycling of wooden ship beams into walls, the manufacture of wooden building clamps, and other wooden artefacts documented from throughout the city during Roman times indicate the presence of carpenters and other types of woodworkers.[27] As craftsmen, they may have also fashioned wooden plates, cups, and bowls on site.

Other examples

As the wooden plate sparked the interested and was the start of this paper, it has features extensively developed above. However, this is not the only example

22. Personal communication by R.S. Tomber (British Museum). For Trench 4, see Hayes 1996, pp. 168–169.
23. Personal communication by R. Kucharczyk (Polish Centre of Mediterranean Archaeology, University of Warsaw).
24. Personal communication by M. Hense.
25. Sidebotham 1999, pp. 70–73.
26. Sidebotham et al. 2015, p. 308.
27. Sidebotham 2011, pp. 201–205.

of skeuomorphism; there are many more similar examples to be found during the Roman period. The three featuring below will make a case in point.

Other glass vessels dating to the 1st c. AD and resembling ceramic shapes include Hofheim cups, type Isings 12 (fig. 5), which are small hemispherical bowls.[28] Similar vessels have also been excavated at the Roman Red Sea harbour site of Quseir al-Qadim,[29] about 320 km north of Berenike.

Another shape common in multiple materials is a hemispherical bowl with a ring base, an upright rim, and a stubby flange partway down the wall (fig. 5). These vessels are known in the following materials: clay MC type 30, faience MC type 12, and glass Isings type 69.[30]

During the 2008–2009 excavation season, several fragments of wooden vessels have been found, all dated to AD 40–70. It has been remarked that a few of those vessels resemble *sigillata* and one foot ring base fragment had a layer of red paint preserved. That paint would have made it resemble *sigillata* even more.[31] One vessel is of particular interest as its shape is closely related to *Eastern Sigillata* A Atlante (45–)47 or *Eastern sigillata* B Atlante 5 (fig. 6). The latter of the two types has also been found at Berenike, for instance in Trench 2.[32]

Conclusion

The discovery of a wooden plate at Berenike is evidence of a category of finds that is unusual and seldom studied. It also indicates some bias in the study of Roman tableware in the archaeological records. In this respect, the scant amount of fine ceramic tableware (0.5%) documented from Berenike does not necessarily indicate that it was seldom used. The one wooden plate presented here, found in a trash dump, proves use of tableware executed in perishable organic materials. This sheds new light on the use of tableware in Berenike and demonstrates that the ceramic evidence alone is not enough to reconstruct the plates used on the Roman dining table.

At Berenike, tableware has been noted in ceramics, glass, wood, and possibly metal. Lack of contextual evidence from residential areas complicates analysis. Many of the materials have been documented from the early Roman trash dump, where dis-

28. Nicholson 2000, pp. 205–206; see also Ritterling 1913, pp. 251–255, pl. XXXII, no. 22.
29. Meyer 1992, pp. 50–51.
30. For clay, see Tomber 2006, pp. 105–107; for faience, see Tomber 2006, p. 48; and for glass, see Isings 1957, pp. 89–90,
31. Zych 2011, pp. 128–129.
32. Hayes 1996, pp. 168–169.

tinction in status is more difficult to determine. Nonetheless, the wooden plate fragment remains a clear example of skeuomorphism and, thereby, possibly shows that imported ceramic plates may have been imitated at Berenike in wood. The Berenike wooden plate is a good example of making scarce and more expensive or difficult to acquire vessels readily available to those of humbler economic status. Interestingly wooden plates in Berenike are most common in religious structures, like temples and shrines. Possibly indicating either a preference for these vessels in rituals or the fact that reuse, by throwing broken vessels in the fire, was easier in domestic contexts.

In regards to the status and origins of these vessels, all the various materials used to execute them can be provisionally ranked as well. As the *sigillatas* have their own unique repertoire of shapes which did not previously exist in Egypt, it can be assumed that those were produced before local materials, like faience and wooden, vessels were made.[33] The clay (*sigillata*), glass, and metal vessels are more difficult to rank in order of creation. Generally, it has been assumed that to some extent *sigillata* imitates metal vessels.

As to the status of these different vessels no definitive answers can be given. As has been shown above some materials have their own high intrinsic value (gold- and silverware) and are valued highly. Furthermore, those vessels would not have been available to all because of their price. During the 1st c. AD, glassware becomes more common and available to all, while pottery has been available to most people anyway. Faience and wooden vessels are most difficult to attach to a status, as the first are found mainly in Egypt and the latter not much. The fact that a fragment of foot ring plate in Berenike has red paint and two others are of an almost identical shape to *sigillata* vessels, those are clear copies of *sigillata* vessels. Thereby enabling the owners of those plates to have similar vessels on the table as those who could afford gold- and silverware.

Acknowledgements

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33. The same has been attested by imported vessels during the Ptolemaïc period, Élaigne 2002, p. 160.

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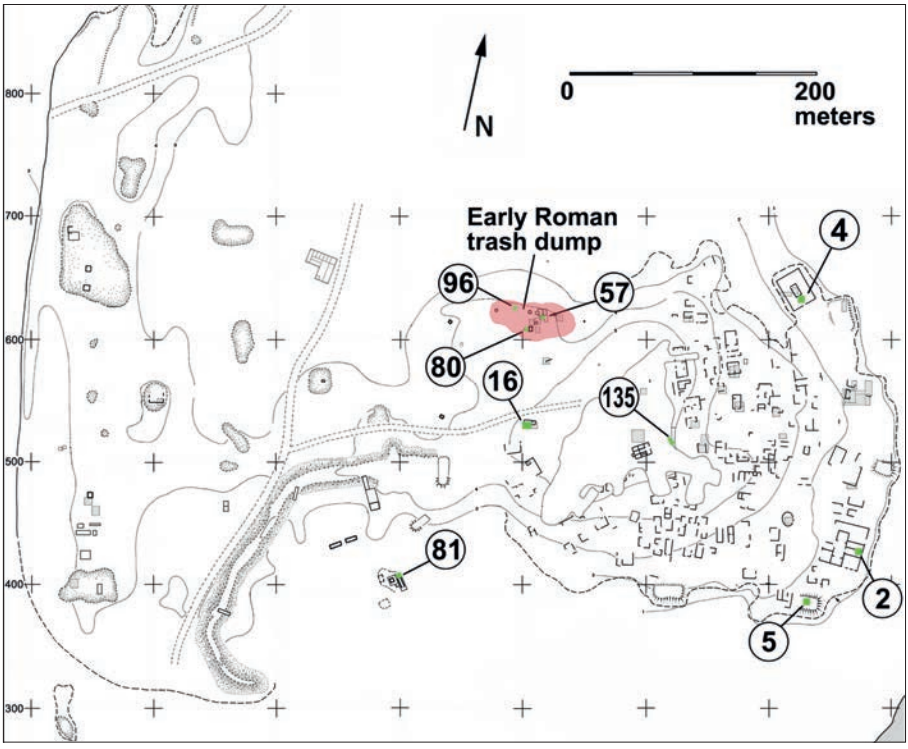


Fig. 1. *Location of Berenike and the early Roman trash dump on the edges of the city, and all trenches mentioned in the text (figure provided by M. Hense).*

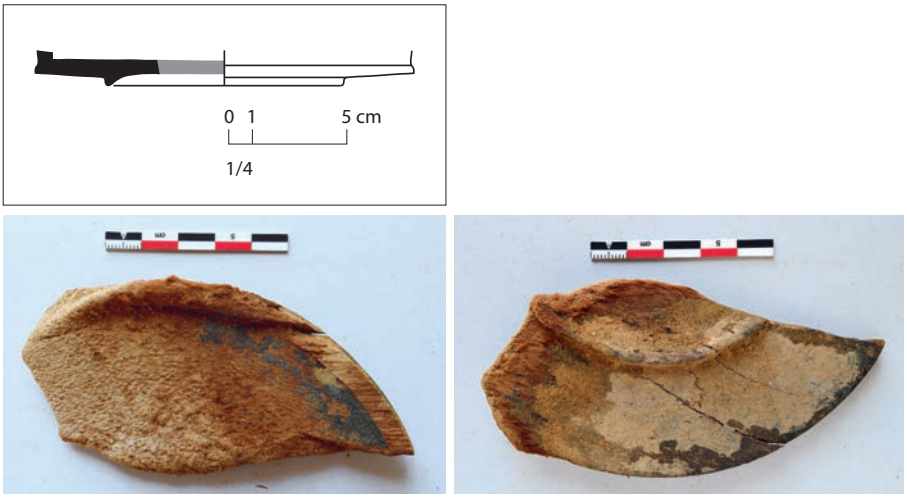


Fig. 2. *Drawing (by the author) and photographs (by S.E. Sidebotham) of the wooden plate.*

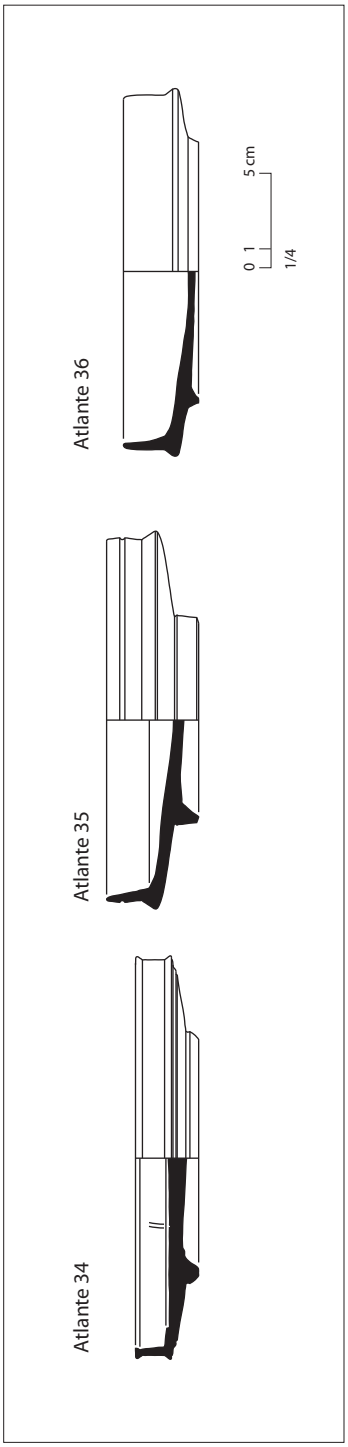


Fig. 3. *Eastern Sigillata plates, Atlante 34, 35, and 36 (drawings by the author, after* Hayes *1985).*

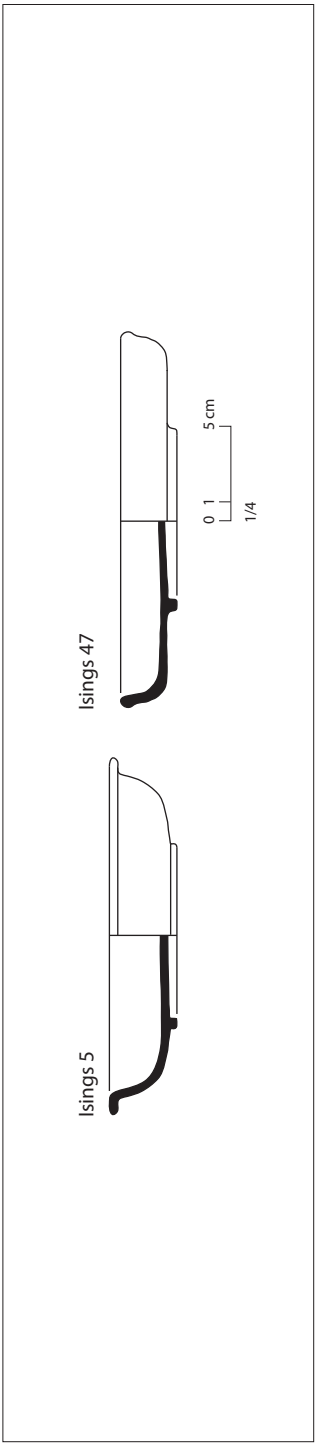


Fig. 4. *Glass plates Isings 5 and 47 (drawings by the author, after* Isings *1957).*

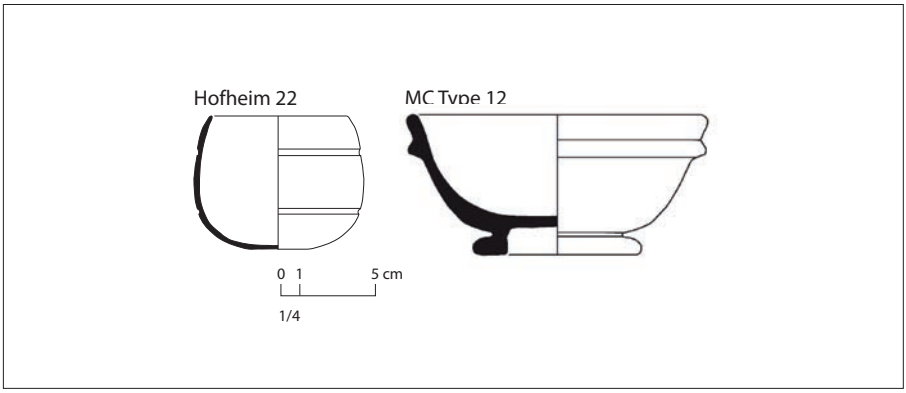


Fig. 5. *Examples of the Hofheim cups on the left and the faience MC type 12 cups on the right (after* Ritterling *1913;* Tomber *2006, p. 48).*

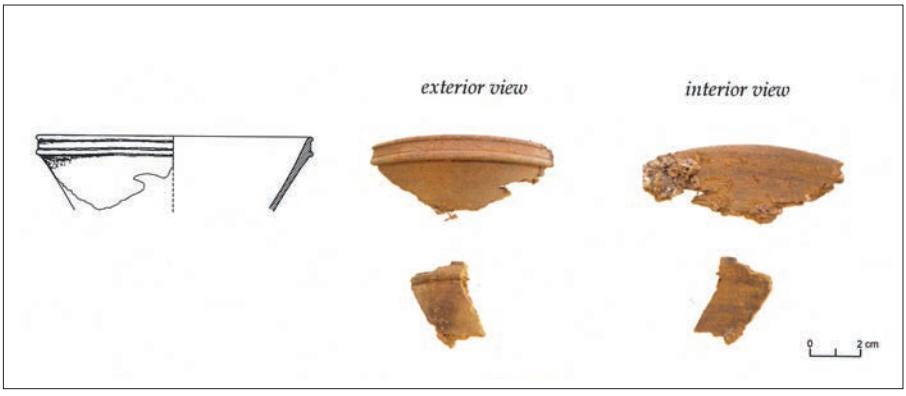
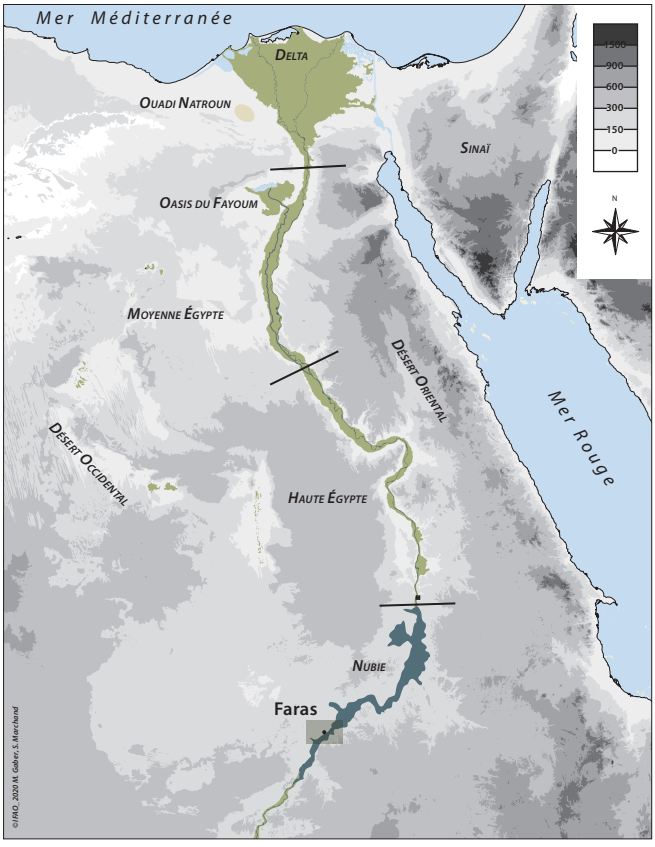


Fig. 6. *Drawing and photographs of the wooden vessel (*Zych *2011, p. 129).*

Nubie


Mer Méditerranée
Delta
Ouadi Natroun
Sinaï
Oasis du Fayoum
Moyenne Égypte
Désert Oriental
Mer Rouge
Désert Occidental
Haute Égypte
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Faras
1500
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Loretta Kilroe

Meroitic Black-Burnished Wares at Faras: Shared Motifs and Symbols across Sudan

Introduction

The presence of an unusual black burnished ware in small quantities across Meroitic Nubia was noted by several archaeologists in the early 20th century[1] and brought to attention by W.Y. Adams, who categorised it as Type H11 in his *Ceramic Industries of Medieval Nubia*.[2] This pottery has since been identified at multiple sites in Sudan, from Jebel Moya in the south[3] to Seyala in the north.[4] Bruce Williams[5] has termed these "Sudanese-Saharan wares" and they have typically been dated to the early Meroitic period.[6] Numerous examples of these ceramics were found at the Meroitic site of Faras in Lower Nubia.

H11 pottery is hand-made from Nile clay, tempered with fine chaff or dung, frequent mica and occasional small stones. Coarser pieces fade to partially brown in their section, contain larger chaff pieces, and have higher quantities of brown, black, and white stones. Some examples containing no organic temper have been identified,[7] an unusual feature that will be discussed in full elsewhere.[8] Vessels were fired in a deoxidised environment to a homogeneous black/grey ware. Form types include open bowls, flat-based beakers, small pots, and ovoid jars. Vessels are almost ubiqui-

1. E.g. Randall-MacIver, Woolley 1909, p. 36; Woolley, Randall-MacIver 1910, vol. 3, p. 52; Garstang, Sayce, Griffith 1911, p. 38; Randall-Maciver, Woolley 1911, vol. 7, p. 135.
2. Adams 1986, pp. 419–420.
3. Addison 1949, pls LXXXIX, XCV–CII, CXI.
4. Kromer 1967, tafel 37, 5.
5. Williams 1991, p. 72.
6. Adams 1964, p. 161; Fernandez 2011, p. 57; Edwards 2014, p. 53.
7. E.g. Kedurma, Edwards 1995, p. 47; Qasr Ibrim, Rose 1996, p. 121; Amir Abdallah, Edwards 2011, p. 300, no. 1204; Kalabsha, Strouhal 1978, p. 215.
8. Kilroe forthcoming.

tously burnished, sometimes to a very fine extent. Pots were then often embellished with "comb-pricked" decoration,[9] where repeated small, wedge-shaped impressions (*ca*.1–2 mm in length) formed geometric motifs or animal shapes. Motifs were often filled with white, and sometimes red, pigment.[10] H11 vessels could also feature incised decoration,[11] or be left plain.[12]

These decorative motifs have been noted by David Edwards[13] to evoke distinctly Sudanese symbolic worlds, with the pecked and incised iconography standing in marked contrast to the wheel-made Meroitic tradition, the painted and stamped decoration of which typically evokes imagery inspired by Egyptian and Hellenistic traditions. Such designs are key expressions of the cultural identities and beliefs coexisting in the Nile Valley at this time.[14] This article will discuss their presence in the Meroitic cemetery at Faras and show how H11 pottery informs on broader aspects of Meroitic production, distribution, and meaning.

H11 wares in the Faras cemetery

The site of Faras was located on the west bank of the Nile, *ca*. 40 km south of the second cataract, now submerged under Lake Nasser/Nubia. The site was excavated by Francis Llewellyn Griffith from 1910–1912,[15] followed by a Polish expedition[16] under K. Michałowski and by W.Y. Adams during the Nubian rescue campaigns in the 1960s.[17] The area had a long occupation history, containing A-Group material and a C-Group cemetery, before an Egyptian fortress was established during the Middle Kingdom. Multiple temples date to the New Kingdom. Building remains and a substantial necropolis date to the Meroitic period, while numerous architectural remains and a ceramic production centre can be dated to the Medieval period.

9. Adams 1986, pp. 419–420; Reed 1977, p. 67.
10. E.g. Griffith 1924; Adams 1986, p. 419.
11. E.g. Addison 1949, pl. XCVIID.
12. E.g. Rose 1996, p. 119.
13. Edwards 2014, p. 58.
14. David 2019, p. 878.
15. Griffith 1924; Griffith 1926.
16. Michałowski 1962; Michałowski 1966.
17. Adams 1986; pp. 16–25.

The Meroitic cemetery contained at least 2,000 graves[18] and was likely one of the richest cemeteries of this period.[19] It was constructed in and around the ruins of Tutankhamun temple, and was bordered to the east by the town. The area was surrounded by an enclosure wall[20] and contained an unusual structure termed the "Meroitic House" or "Western Palace".[21] F.Ll. Griffith dated the cemetery to the 1st c. BC–3rd c. AD, although this has since been questioned.[22]

The graves suggest the town was wealthy and its inhabitants had access to trading routes linking to Egypt and the wider Mediterranean world. The majority of the pottery was from the Meroitic wheel-made tradition. This encompassed recognisable forms including beakers, cups, jugs, *lethykoi*, and storage jars, slipped in red/cream and decorated with painted linear and geometric frieze motifs, as well as painted or stamped symbols including vines, garlands, rosettes, and elements from traditional Egyptian iconography such as *ʿnḫ*- and *s3*-symbols, *uraei*, and *wedjat*-eyes.[23]

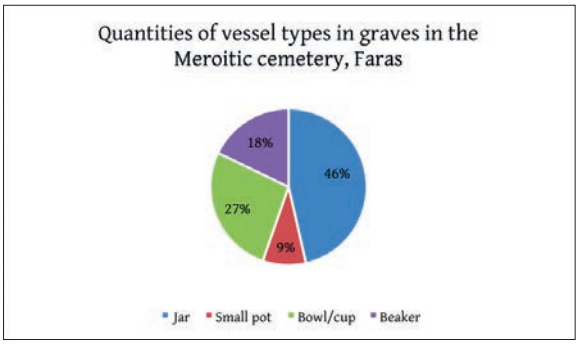
Alongside this wheel-made pottery, 56 examples of H11 ware were found in the Meroitic levels of the necropolis at Faras,[24] along with 24 examples from the "Meroitic House".[25]

The Necropolis

The 56 H11 vessels in the cemetery were distributed across 48 graves. Typically, one H11 vessel was found per burial; however, in four cases, two pots were placed in one burial. The vessels were perhaps considered particularly appropriate for the burial of children: in Grave 2372, five children were interred, accompanied only by jewellery and three H11 vessels (two small pots and one bowl/cup), while in Grave 1134, a child was accompanied only by a H11 ovoid jar. However, more data would be needed to confirm this link.

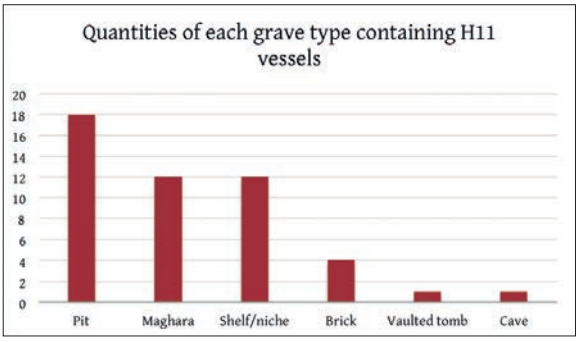
18. Griffith 1924; Griffith 1925; Griffith 1926.
19. Francigny 2007, p. 99.
20. See Griffith 1924, pl. XIV.
21. Griffith 1926.
22. Török 1987, p. 77.
23. See Adams 1986; Williams 1991 for full discussion of motifs.
24. Griffith 1924, p. 157–158, pls XLI–XLIV.
25. Griffith 1926, pl. XVIII.

The H11 vessels in the necropolis were commonly ovoid jars (48%). Bowls/cups, beakers with flat bases, and small pots were also represented (Graph 1).



Graph 1. *Quantities of H11 vessel types found in the Meroitic cemetery at Faras.*

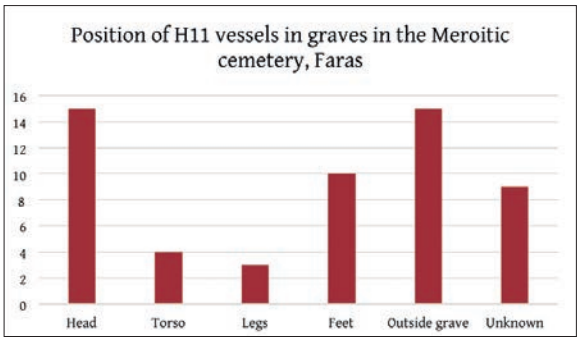
Graves containing H11 pots were concentrated in the north-west of the cemetery. Pots were generally associated with simpler grave types, such as pits or niche burials, although four were found in bricked graves, one in a cave burial, and one in a vaulted tomb (Graph 2).



Graph 2. *Quantities of each grave type containing H11 vessels in the Meroitic cemetery at Faras.*

H11 vessels generally fit the trend noted by F.Ll. Griffith[26] for pots to commonly be placed at the head or feet of the deceased although a large quantity were also placed in the entrance to graves or the grave fill (Graph 3). Placement towards the outside of graves appears to be particularly associated with H11 vessels and may reflect funerary rituals.

26. Griffith 1925, p. 72.



Graph 3. *Position of H11 vessels in graves in the Meroitic cemetery at Faras.*

The "Meroitic House"

Seventeen fragments (likely representing two flat-based beakers) and seven complete vessels (four bowls and three small pots) were found in the "Meroitic House" or "Western Palace", an unusually-shaped structure located to the east of the cemetery. The building consisted of a pillared courtyard or colonnade, surrounded by small rectangular chambers, with an 11 m² central building with walls 1 m thick.[27] A staircase indicates that this building had a second storey, while a lack of doors into the surrounding chambers suggests they were entered from above and were perhaps cellars.[28] A similar structure has been identified at Umm Ruweim,[29] and W.Y. Adams[30] noted a comparable structure at Meinarti, although this had no central building. These structures have been hypothesised to be palaces[31] or caravansaries.[32] The discovery of valuable items in the Faras example—including of bronze, ivory, glass, and blue glaze, as well as Greek and Meroitic ostraca, writing fragments on papyrus and leather, clay seals, and a wooden writing tablet—suggest this may have been a distribution hub. A 33 cm tall sandstone baboon statue and an ebony stamp/staff imply it was prestigious.

H11 pottery here was concentrated in and around Chamber 12, and outside Chambers 22–23. The vessels stand out from the items deposited in the cemetery: the complete pots were finely made and highly polished, with neat, stand-alone comb-pricked and incised decoration, including geometric motifs, an incised

27. Griffith 1926, pl. XIII.
28. With thanks to J.R. Anderson for advice on Meroitic architecture.
29. Karberg, Lohwasser 2018, fig. 41; Lohwasser 2018, figs 9–10.
30. Adams 2000, p. 36
31. Griffith 1926, p. 21.
32. Lohwasser 2018, p. 883.

offering table, and possibly a stylised *ʿnḫ*. All decoration was filled with a white pigment. The broken beakers had comb-pricked square decoration, divided by highly burnished borders, with the comb-pricks filled with alternating red and white pigment (fig. 1). These beakers were in addition produced from a highly unusual fabric, fired to a dark brown colour and containing no organic temper, similar to small quantities of fabrics found at other sites in Lower Nubia.[33]

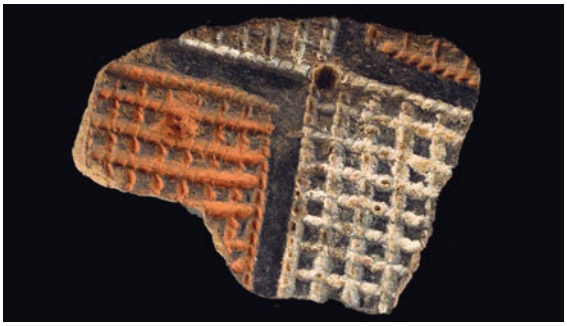


Fig. 1. *Fragments of broken beaker decorated with comb-pricks and filled with red and white pigment, "Meroitic House", Faras. (EA 51744). Photo: L. Kilroe, taken courtesy of the Trustees of the British Museum.*

Parallels across Sudan

H11 pottery is widely distributed within the middle Nile region (Map 1) and has been identified in numerous Meroitic contexts, mainly cemeteries[34] but also in settlement, temple, and workshop areas.[35]

33. E.g. Kedurma, Edwards 1995, p. 47; Qasr Ibrim, Rose 1996, p. 121; Amir Abdallah, Fernandez 2011, p. 300, no. 1204; Kalabsha, Strouhal 1978, p. 215; Kilroe forthcoming.
34. E.g. Sennar, Addison 1935, pl. 6; Addison 1950, p. 19-20; El-Khiday, Usai et al. 2014, p. 192; Gereif East, Sakamoto 2016; El-Geili, Caneva (ed.) 1988, fig. 26; El-Kadada, Geus 1984, p. 75; Meroe, Dunham 1957, figs 6, 11, 32, 41, 44, 50, 55, 73, 111, 118; Dunham 1963, figs 154, 155, 171, 249, C, D, J, L; Gabati, Edwards 1998, figs 2.7, 2.12, 2.14; Soniyat temple, Orzechowska 2003, pl. 10; Soleb, Schiff-Giorgini 1971, fig. 684; Gemai, Bates, Dunham 1927, pls XXIV, XXV, LXI; Amir Abdallah, Fernandez 2011, pls 3–4, figs 2–4; Irki-Saab, Vila 1978, p. 50, fig. 15, 3, pl. 53, 4; Buhen, Randall-MacIver, Woolley 1911, pl. 69; Qustul, Williams 1991, figs 109b, 127a, 162b, 172b; Nelluah, Garcia-Guinea, Texidor 1965, pls IXc, X, XXIVc, XXVI, XXIId, e; Nag el-Arab, Pellicer et al. 1965, fig. 28; Aksha, Vila 1967, figs 42, 58, 69, 71, 72, 253; Faras, Griffith 1924, pls XLI–XLIV; Areika, Randall-MacIver, Woolley 1909, p. 36.
35. E.g. Jebel Moya, Addison 1949, pls LXXXIX, XCV–CII, CXI; Abu Erteila, Fantusati, Kormysheva, Malykh 2014, fig. 5; Malykh 2017; Hamadab, Dietrich 2003, abb. 1, 5, 6; Wad Ben Naga, Vercoutter 1962, fig. 25; David, Evina 2016, figs 20b, 27; Muweis, David, Evina 2016, figs 19, 21a, 21b; Meroe, Robertson, Hill 2004, pl. VII 4; Soniyat Temple, Orzechowska 2003, pl. 10; Selib, Bagińska 2015, fig. 7; Kedurma, Edwards 1995, p. 47; Qasr Ibrim, Rose 1996, figs 4.1–4.3; Sayala, Kromer 1967, tafel 37, 5; Musawwarrat es-Sufra, Gerullat 2001, p. 79; Edwards 2014, fig. 1; Faras, Griffith 1926, pl. XVIII.

Map 1. *Distribution of currently known H11 pottery across the middle Nile region.*

Examination of Map 1 shows two clusters across Sudan: one centred on Lower Nubia, and the other around the sixth cataract, both primarily in funerary contexts. However, this pattern may reflect the bias of excavations towards cemeteries contexts, particularly during the 20th century, and the lack of fieldwork projects concentrating on Meroitic sites between the third and the 5th cataract.

Vessels were prevalent during the early Meroitic, with H11 pots ubiquitous in early burials at cemeteries such as Amir Abdallah,[36] where they appear to have been important in funerary practices.[37] They were also considered appropriate for royal and elite burials at Meroe,[38] with examples in the early Meroitic tombs of Amanishakheto[39] and Takideamani.[40] The hand-made industry producing them was not static and evolved over the Meroitic period, with later H11 examples at Wad Ben Naga and Muweis distinguished by their mould manufacture.[41]

In common with their distribution at Faras were large ovoid jars, with squat and globular jars, small cups/bowls, and flat-based beakers occurring in smaller quantities. However, different regional preferences are visible. This suggests that the ware was produced in several different areas, for local tastes, rather than in a single centralised location. Ovoid jars were more common in the north, while sites such as Jebel Moya and Abu Geili had a much higher proportion of bowls.[42] The significance of this is unclear, as the cemetery site of Gereif East in the Khartoum region contained eight ovoid jars,[43] and may reflect specific practices in southern Sudan.

Decoration

H11 vessels were burnished with a variety of impressed and incised decoration. Zigzag bands filled with comb-pricked impressions filled the body of some jars and cups,[44] while squat jars were often decorated with diamonds or tassels.[45] Fine, flat-based beakers were typically burnished with comb-pricked friezes or ribbons, geometric shapes or plant motifs. This was carried out with rockers,[46] from left to right or from the outer to the inner area of the shape.[47] The geometric motifs at Faras bear parallels with bronze decorated items found at the site,[48] particularly anklets,[49] suggesting a broader symbolic language across the site.

36. Fernandez 2018, p. 474.
37. Fernandez 2011, p. 299.
38. E.g. Dunham 1957, figs 6, 11, 32, 41, 44, 50, 55, 73, 111, 118; Dunham 1963, figs 154, 155, 171, 249, C, D, J, L.
39. Dunham 1957, fig. 73.
40. Dunham 1957, fig. 111.
41. David, Evina 2016, p. 109.
42. See Addison 1949, pl. LXXXIX B10.
43. Sakamoto 2016.
44. E.g. Griffith 1924, pl. XLIV, 1, 2.
45. E.g. Griffith 1924, pl. XLIV, 3-9.
46. E.g. Addison 1949, p. 203, fig. 108; Crawford, Addison 1951, pl. XLI A.
47. Strouhal 1978, p. 215.
48. With thanks to Henry Bishop-Wright for advising on his research into the bronze anklets at Faras.
49. See Griffith 1924, pl. XL, 2-4.

Regional preferences can again be observed between Lower Nubia and central Sudan. An inverse relationship between comb-pricked and incised material is observable between the north and the south: material in Faras and Lower Nubia tends to be comb-pricked and include accompanying incised images from the Egyptian iconographic world. Material in central Sudan was both comb-pricked and incised,[50] while at Jebel Moya in the Gezira, incised decoration was ubiquitous.[51]

Map 2. *Distribution of currently known H11 pottery featuring the giraffe motif across the middle Nile region.*

50. E.g. Jebel Barkal, Bagińska 2018, fig. 16c; Salvador 2019, fig. 4.
51. Reed 1977, p. 75.

Ovoid jars typically featured various decorations on the shoulder. However, preferred designs differ. The impressed geometric motif of a giraffe was particularly prominent (Map 2). A giraffe positioned within bands of impressed linear or herringbone decoration occurred five times in the Faras necropolis (fig. 2) and was particularly prevalent in Lower Nubia,[52] but its presence at sites further south such as Gabati,[53] El-Kadada,[54] and Sennar[55] hints at broad trading networks, likely representing the output of a workshop. The presence of similar but incised giraffes at Jebel Moya,[56] impressed giraffes on a red oxidised jar at El-Ahamda South[57] and painted giraffes on wheel-made pottery at Karanog[58] suggests that the giraffe motif may be part of a broader symbolic language circulating within the Meroitic kingdom.

Fig. 2. *Ovoid jar with giraffe motif, Grave 1226, Faras necropolis (EA5 1502). Photo: L. Kilroe, taken courtesy of the Trustees of the British Museum.*

52. David 2018, p. 482.
53. Edwards 1998, fig. 6.21.
54. Geus 1984, p. 75.
55. Addison 1935, pl. VI 10.
56. Addison 1949, pl. XCVIID.
57. Geus 1984, p. 75.
58. Randall-MacIver, Woolley 1910, pls 41–43.

Different motifs dominate over most of central Sudan, where H11 vessels were decorated with diamonds,[59] combinations of zigzags perhaps representing plants or birds,[60] ostriches,[61] plants,[62] bulls,[63] and occasionally people.[64] A common motif at Meroe is a horizontal band with multiple trailing fronds,[65] which also appears at Abu Geili.[66] This may represent water or other contents "spilling" out of the vessel, or perhaps a rain symbol.[67]

Both incised and impressed decoration was often filled with red or white pigment. This has drawn parallels to prehistoric and C-Group pottery, with some scholars suggesting a link to these earlier traditions.[68] However, the long time span separating these cultures makes this unlikely, with the comb-pricked technique visible in H11 wares in addition differing in methodology from prehistoric rocker patterns.[69] The similarities between many hand-made wares across Sudanese history rather suggests an ongoing engagement with and interest in traditional practices, due to an inherent value ascribed to ceramics, as well as the continuing flow of people and ideas between groups. This retention of ceramic traditions and their developmental trajectories can be traced, in some cases, up to the present day.[70]

Graffiti

Several H11 vessels at Faras bore symbols or graffiti on the exterior surface. A round-based beaker was given a comb-pricked cross,[71] a symbol known at other sites in Lower Nubia[72] and as far south as Abu Geili,[73] while a thin, flat-based beaker

59. E.g. Addison 1949, pl. XCVI.
60. E.g. Addison 1949, fig. 68; pl. CVIII 18, CXI 3; Dunham 1963, fig. 154 W. 13; Reed 1977, fig. 12 A and B, fig. 15 A, Sakamoto 2016, fig. 1.
61. Crawford, Addison 1951, pls XXIX XI8, XXXVIII A10; Geus 1984, p. 75; Sakamoto 2016, fig. 3.
62. David, Evina 2016, fig. 20b.
63. Shinnie, Bradley 1980, fig. 58; Török 1997, fig. 141; Edwards 1998, fig. 2.7 <3807>; Orzechowska 2003, pl. 10; Vercoutter 1962, fig. 25.
64. Robertson, Hill 1999, pl. VIIIc.
65. E.g. Dunham 1963, fig. J 23-2-231.
66. Crawford, Addison 1951, fig. 22 B, pl. XXIX.
67. Addison 1949, p. 209.
68. Reed 1977, p. 78; Adams 1964, p. 161, fig. 15, 17–24.
69. Fernandez 2018, p. 474.
70. Nordström 2004, p. 248.
71. British Museum collection EA 51674.
72. e.g. Qustul, Williams 1991, fig. 19a.
73. Crawford, Addison 1951, pl. XXVII.

had a cross-hatched band in the centre of the body, with two comb-pricked triangular shapes perhaps representing a structure above water on opposing sides[74] (fig. 3).

Fig. 3. *Beaker, Grave 934, Faras necropolis (EA 51631). Photo: L. Kilroe, taken courtesy of the Trustees of the British Museum.*

The symbol of an offering table or altar was found on two Faras examples: a squat carinated bowl found in Grave 814 in the necropolis[75] and a large rounded beaker from the "Meroitic House" or "Western Palace".[76]

The fine, squat bowl in Grave 814 (fig. 4) had a rounded base with carinated neck and flaring rim. It was lightly burnished with impressed lines on the rim edge. Two symbols, resembling a table and formed by long wedge-shaped impressions, were found on opposite sides of the bowl. Between these was an incised offering table with two diagonal lines above, forming a triangle. The example from the "Meroitic House" was a fine, deep beaker with a rounded base (fig. 5), heavily burnished, and decorated with comb-pricked vertical ribbons and a rim-frieze of punctate impressions. Between two of the ribbons, the symbol of an offering table was very neatly comb-pricked, with two diagonal lines above forming a triangle, joined by an arch. This symbol also appears on wheel-made jars at Faras, painted in black on the shoulder of one and incised on two others,[77] as well as on a bronze bowl, where it is placed between two palm fronds.[78]

74. British Museum collection EA 51631.
75. British Museum collection EA 51790.
76. British Museum collection EA 51243.
77. Griffith 1924, pl. XVII 4a, pl. XIX 14a.
78. Griffith 9124, pl. XL 1.

Fig. 4. *Small pot, Grave 814, Faras necropolis (EA 51790). Photo: L. Kilroe, taken courtesy of the Trustees of the British Museum.*

Fig. 5. *Bowl, "Meroitic House", Faras (EA 51243). Photo: L. Kilroe, taken courtesy of the Trustees of the British Museum.*

Parallels to this symbol can be found on other ceramics in Sudan, on both hand-made and wheel-made wares;[79] in particular, a H11 ovoid jar from Qasr Ibrim featured a similar offering table, with a square to mark the interior and, again, a triangle added above.[80] A more detailed version found painted on the interior of a wheel-made bowl at Meroe[81] makes it clear this symbol is intended to represent an altar, with the cultic disc and horns atop, and it is highly likely the incised versions represent a simplified version of this.

Similar motifs have also been identified in other media. One example was identified in the Amun temple at Dangeil, engraved on the sandstone floor by the stepped dais in the temple north room.[82] It has also been observed in Egypt, engraved on the walls of the quarry at Jebel Silsila[83] and Philae.[84] Its presence in temples further suggests a cultic relevance, and the motif likely links to Isis, who was often affiliated with cow horns surmounted by a sun disc during the Napatan and Meroitic periods in Sudan.[85] The Isis cult was prominent in Sudan during the Kushite period, particularly at Philae.[86] The repeated presence of this motif at Faras is indicative of its importance within the community, intimating that the Isis cult was important at the site in the Meroitic period, perhaps pointing to an ongoing relevance of the New Kingdom rock temple.[87]

79. E.g. Dunham 1965, p. 141, 4; Adams 1986, p. 257, fig. 235, 8; Török 1997, figs 98, 121.
80. Rose 1996, fig. 4.1, P53d.
81. Garstang, Sayce, Griffith 1911, pl. XLII 1, XLVII; Dunham 1965, p. 142, Group VII, 7e
82. Anderson, Salah Mohamed Ahmed 2006, figs 7f, 7g, 8.
83. Marcel Marée, pers. comm.
84. Pope 2019, figs 5.2, 5.3.
85. Yellin 2012, p. 4, 7; e.g. Baldi 2015, fig. 6.
86. Ashby 2016.
87. Porter, Moss 2000, p. 126.

Conclusions

The distribution of similar vessels and motifs across a vast area of the middle Nile region points not only to a specialised production and distribution of hand-made vessels during the Meroitic period, but also to the presence of a shared symbolic language on these wares across the kingdom, which made them consistently relevant across this expanse and coexisted with that recognised on wheel-made vessels. Such symbolism was also in circulation during the Napatan and Medieval periods, although H11 pottery was most prevalent in the Nile Valley during the early Meroitic. Radiocarbon analysis of examples at Amir Abdallah date the depositions at that site to the second half of the 3rd millennium BC,[88] but its appearance in the royal burials at Meroe indicates ongoing use throughout the early Meroitic and perhaps later. Examples in Napatan contexts may provide a link between the Napatan and Meroitic ceramic industries, with some fragments bearing clear links with H11 identified at Jebel Barkal[89] and Sanam,[90] although these may be Meroitic pieces that were mixed with earlier fill.[91]

It is important to recognise that this pottery shares features with pottery from other groups in time and space across the middle Nile region, thus representing ongoing movements of people and the relationships between communities. Distinct similarities between H11 pottery and ceramics in other wares and from other cultural groups, as well as other artefact classes, suggest this symbolic language was more broadly relevant in the Nile Valley. Similar Meroitic forms in red-slipped or red wares, decorated with the same motifs, were produced,[92] while later, comparable decorative traditions involving incised/impressed patterns engrained with red or white pigment are known in post-Meroitic and medieval contexts.[93] Further south, similar material from Jebel Moya and Abu Geili may be contemporary with the Meroitic period but outside the Meroitic sphere of influence,[94] while post-Meroitic eastern desert wares display a similar use of comb-pricked geometric motifs, often infilled with white

88. Fernandez 1984, p. 57.
89. Salvador 2019, p. 79.
90. Siobhan Shinn pers. comm.
91. Meroitic material was identified at B560 in Jebel Barkal, see Bagińska 2018.
92. E.g. Kerma, Reisner 1923, p. 42; Musawwarat, Hintze 1962, fig. 27; Meroe, Dunham 1957, fig. 55 22-1-124; Bagińska 2018, figs 16a–b.
93. E.g. Soba East, Allanson-Jones 1991, p. 214; also Allanson-Jones 1991, p. 240, where she notes that Fabric 62 is similar to H11; Welsby 1998, p. 119; the Fourth Cataract, El-Tayeb 2012, p. 101; Abdallah Nirqi, Castiglione et al. 1974.
94. E.g. Jebel Moya, Addison 1949, pls LXXXIX, XCV–CII, CXI; Abu Geili, Crawford, Addison 1951, pls XXXV A4, B5, XXXIX B 3 6 7.

and red pigment, although on an oxidised fabric.[95] Flat-based beakers in particular are comparable with similar shapes in eastern desert ware.[96] H11 motifs also bear similarities to designs on contemporary artefacts, including bronze vessels and jewellery,[97] as well as bodily decoration.[98] Notably, the appearance of giraffes and offering tables on both the wheel-made and hand-made pots suggests the circulation of ideas and traditions across a wide area and across both industries, pointing to the existence of a shared understanding of a symbolic language expressed via this imagery.

The presence of H11 wares at such a broad number of sites also allows certain assumptions regarding their production and distribution.

Hand-made wares were historically assumed to be products of small-scale, low-value, domestic manufacture. However, the presence of very similar H11 pots from the Gezira to Lower Nubia shows the capabilities to both advertise and deliver such wares across vast distances. Furthermore, the presence of H11 pottery in royal tombs at Meroe,[99] palace structures at Wad Ben Naga,[100] and temples at Musawwarat es-Sufra affirms that it was valued. However, there is currently no evidence for their place of manufacture, with limited evidence for ceramic production identified for the Meroitic period. A manufacturing workshop excavated at Musawwarat es-Sufra[101] did include a small quantity of black burnished sherds,[102] but most were wheel-made and contained only one example of H11,[103] while slag heaps at Meroe analysed for methods of ceramic production also contained no H11 material.[104] Regional preferences suggest that H11 was made in a number of manufacturing locations; however, the clear standardisation in the giraffe jars and the flat-bottomed beakers reveals these were the product of specialised workshops that traded vast distances across the middle Nile region.[105] Such workshops were likely in the south, due to a number of factors: areas to the north were more likely to show links with Egyptian manufacturing industries; central Sudan exhibited larger quantities of hand-made vessels in contemporary contexts; and finally, giraffes were by this stage extinct in northern regions. Petrographic analysis of H11 samples may help to narrow the

95. Kalabsha; Ricke 1967, figs 73-76, tafel 25-28; see Barnard 2008, fig. 2.2, 2.4.
96. For example, see Barnard 2018, fig. 3, EDW48.
97. See Griffith 1924, pl. XL, 2-4.
98. Vila 1967, pp. 368–377; Edwards 2014, p. 57.
99. Dunham 1957; Dunham 1963.
100. Vercoutter 1962.
101. Gerullat 2001, p. 79.
102. Edwards 1999, p. 35, pl. XIV.
103. Edwards 2014, fig. 1. Other pieces were found in other parts of the temple, see Gerullat 2001, p. 79.
104. Ting, Humphris 2020.
105. Addison 1949, p. 223; Geus 1984, p. 75.

production areas of the different types of H11 wares. Samples have been submitted and will be discussed in a separate article.[106] The ovoid jars were likely exported for their contents—perhaps a special product from central Sudan—but the existence of bowls and beakers in H11 ware suggests that the ware was not just used for transport of goods but was considered more broadly relevant within the community, and could not simply be replaced by wheel-made pottery.

The presence of H11 wares at Faras indicates that the inhabitants of the site were interested in and able to access products from the hand-made industry, which could not be superseded by locally available or wheel-made material. It testifies that, even in a region typically assumed to be looking north to Egypt for its customs and social etiquette, there was a continuing relevance to items and practices from the south in Meroitic lifeways. Their presence in graves, often atop jars or in the entryway of burials, may imply their use in funerary feasts, while some of the finely polished examples found in the "Meroitic House" were clearly valuable and can be paralleled with similarly finely polished pots at sites such as Wad Ben Naga. The examples at Faras also draw attention to interesting overlaps between hand-made and wheel-made pottery. H11 pottery usually appears with wheel-made pottery within graves, rather than restricted to isolated burials, and the sharing of some decorative features indicates that H11 pottery was not a fringe industry but was integrated into the wider community. These shared features demonstrate that the inhabitants of Faras were engaging with their materiality to suit local needs and etiquettes, and drawing upon both the Egyptian and the Sudanese symbolic worlds to do so.

106. Kilroe forthcoming.

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2. ÉTUDES

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Renée F. Friedman

"Translating" the Predynastic Ceramic Corpora: Macroscopically Defined Fabrics in Settlement Assemblages of the Egyptian Nile Valley

Introduction

The lack or low level of comparability across corpora of data affects to varying degrees many domains, regions, and periods of archaeological research, with ceramic-based investigations suffering especially from this issue. Indeed, archaeological ceramics are often recorded and described according to a multiplicity of terminological conventions and systems, making intersite and cross-regional comparisons a challenging task.[1] The study of ancient Egyptian ceramics is no exception in this respect, but efforts towards a meaningful integration of available datasets, and discussions to resolve major problems, have gone hand-in-hand with the recent development of the discipline. Notable examples are the attempts to standardise ceramic description, initially by the "International corpus of Egyptian pottery" project[2] and, subsequently, by the "International Group for the Study of Ancient Egyptian Pottery",[3] which eventually led to the creation of the "Vienna System".[4] The *Bulletin de liaison de la céramique égyptienne* itself has contributed greatly to these efforts by (amongst other things) presenting studies that draw together pottery of the same period from different sites.[5] As stated in its inaugural issue, "*faciliter des comparaisons entre matériels voisins*" has been one of its main objectives.[6]

1. E.g. Orton 2010, pp. 257–258.
2. *ChronEg* 8/15, 1933.
3. E.g. Arnold et al. 1975.
4. Nordström, Bourriau 1993, pp. 168–187.
5. E.g. Arnold, Marchand, Williams 2018.
6. Sauneron 1975, p. 1.

Within research on the early stages of ancient Egyptian civilisation, William Matthew Flinders Petrie's *Corpus of Prehistoric Pottery*,[7] amongst the earliest organised corpora of Egyptian pottery ever published, has been key in ensuring some level of data comparability. Despite its long acknowledged shortcomings,[8] for describing newly excavated materials, ceramicists still cite the ware classes and shape types illustrated in this corpus and those that followed in its footsteps.[9] However, to categorise the often fragmentary and more diverse finds from settlement excavations, these mortuary corpora are of limited use. In addition, the Vienna System, developed mainly from wheel-made ceramics of later date,[10] does not provide fully satisfactory nomenclature relevant to the fabrics of the mostly hand-made pottery of the Predynastic. As a result, investigators have had to create classifications for macroscopically observed fabrics on a site-by-site basis, leading to a proliferation of terms, codes, and systems, which have impeded easy comparison. One of the most recent contributions to ceramic data integration in this research area has been made by Agnieszka Mączyńska within two distinct studies, for which she has closely reviewed or personally re-analysed a number of Neolithic to Predynastic ceramic assemblages from Lower Egypt.[11] Nevertheless, further work remains to be done to enhance comparability amongst Predynastic corpora, as has been stressed by A. Mączyńska herself with regard to Lower Egypt and by Eva Christiana Köhler with regard to Middle and Upper Egypt.[12]

The present article intends to add to the growing efforts toward the integration of ceramic data from the Predynastic period. Correspondences are here traced amongst fabrics and relevant groupings identified within pottery from Predynastic settlements[13] along a wide stretch of the Nile Valley, from the El-Badari region, in the north, to Elephantine, in the south (cf. fig. 1). These concordances, summarised in what are more generally known as "translation tables"[14] (cf. Tables 1–2), are aimed at facilitating intersite comparisons and paving the way for further comparative research. In addition, this article provides an overview of the variety of nomenclature and systems used thus far for classifying Predynastic ceramics from southern Egypt (with a focus on ceramics of the Naqada culture) and highlights areas that require further investigation.

7. Petrie 1921.
8. Cf. *inter alia* Peet 1914, pp. 10–13; Peet 1933.
9. E.g. Brunton, Caton-Thompson 1928; Petrie 1953.
10. Nordström, Bourriau 1993, p. 168.
11. Mączyńska 2013, pp. 112–142; Mączyńska 2018, pp. 217–330.
12. Mączyńska 2013, p. 142; Köhler 2014, pp. 157, 169–170.
13. The term "Predynastic" is here employed in its broadest sense and includes the following phases: Neolithic/Badarian (*ca.* 4400–3800 BC), Naqada IA–IIB (*ca.* 3800–3450 BC), Naqada IIC–D (≈3450–3325 BC), Naqada IIIA–B (Protodynastic, *ca.* 3325–3085 BC); see Stevenson 2016, p. 424, with references. For an introduction to the late prehistoric cultures of Egypt, see Hendrickx, Huyge 2014.
14. Orton 2010, p. 257; Orton, Hughes 1993 (ed. 2013), p. 78.

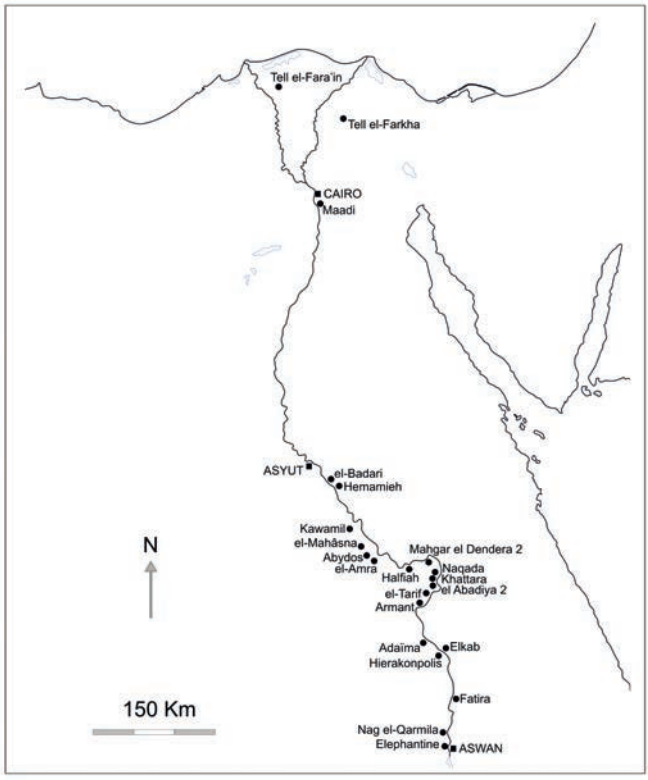

Fig. 1. *Map of Egypt with sites mentioned in the text.*

Methods, materials, and data

For enhancing Predynastic ceramic data comparability, the development of a new comprehensive system of fabric classification was considered to be unviable,[15] due to its foreseeable complexity and the risk of adding yet another system to the already long list of classificatory schemes available. Instead, the decision was taken to chart potential correspondences (or lack thereof) amongst terms and codes employed in various existing systems (cf. Tables 1–2). For this endeavour, we have selected a system already in use to act as a baseline against which to make a "translation" amongst the different ceramic vocabularies. As this study focused on the settlement assemblages of southern Egypt, the so-called "Hierakonpolis System" was chosen based on the following considerations.

15. *Contra* A. Mączyńska (2013, p. 142), who advocates the "unification of pottery classification systems used on every site" at least for the Predynastic pottery of Lower Egypt.

The system, as initially developed at Hierakonpolis by Michael Hoffman,[16] sought to facilitate the description of the large quantities of potsherds that characterise the settlement contexts present across this extensive site.[17] It has not only proven suitable and flexible enough to record the vast and diverse amounts of Predynastic material excavated there over the past fifty years, but in 1994 it was also expanded and developed to describe Predynastic pottery from other major Upper Egyptian sites (i.e. Hemamieh and Naqada).[18] In addition, it has been adopted, with appropriate modifications, by ceramicists working in other parts of Egypt,[19] and most analysts who work with different classificatory schemes make comparisons with the fabric categories described in its 1982 or 1994 version. Some have provided quite detailed tables of correspondences with their own typologies,[20] which have been of invaluable help within the work presented here.

The primary level of division of the Hierakonpolis System is the so-called "fabric/temper class", defined based on a combination of clay type and tempering agent.[21] The fabric/temper classes defined to date are listed in Table 1 together with their correspondences in older typological classifications[22] (cf. also pls. I–II).

In recent years, the system has been expanded to include fabric types that were under-represented in the Hierakonpolis assemblages upon which it was originally developed. The 1994 study by Renée Friedman utilised the assemblages from six of the temporally and functionally diverse Predynastic localities that had been investigated as of 1989 (HK14, HK24A, HK25D, HK29, HK29A, and HK59/59A).[23] These range in date from Naqada IC to Naqada IID with only limited material for earlier or later periods present. Within these collections, nine fabric/temper classes were distinguished and coded as 1, 2, 3, 4, 5, 9, 11, 100, and a so-called "fibrous ware"[24] (cf. Table 2). The latter three fabrics pertain to pottery of non-local origin: Nubian,

16. Hoffman 1971–1972, pp. 56–60; Hoffman, Berger 1982; Friedman 1994, pp. 127–298.
17. For an introduction to the site and the history of its exploration, see http://www.hierakonpolis-online.org.
18. Friedman 1994, pp. 300–604.
19. See *infra*, El-Mahâsna, El-Amra, and Naqada. Cf. also Armant.
20. E.g. Hendrickx 2001, pp. 60–62; Buchez 2002, p. 242, Table I; Anderson 2006, p. 155, Table 6.1; Kopp 2006, p. 42, Table 2; Hartmann 2016, p. 57, Table 1.
21. Friedman 1994, pp. 127–164, 171–176, pls. 4.1–6.
22. Table 1 is adapted and updated from Friedman 1994, Tables 3.1–3.3, 4.1, 7.22.
23. Friedman 1994, pp. 608–857.
24. It should be noted that only the assemblage from HK29A was personally examined in detail for fabric determinations by R. Friedman. For the other localities, the fabric designations assigned by the relevant excavators were used.

Palestinian, and Lower Egyptian, respectively.[25] Within some fabric/temper classes, for example the shale tempered fabric (cf. "Fabric/Temper Class 3" in Table 2), several varieties were discerned visually and with the aid of petrographic analysis, but were not separately coded.[26]

Since that study, a number of other settlement localities have been excavated across the site of Hierakonpolis,[27] and these have expanded the temporal and functional range of the ceramic corpus leading to further additions to and refinement of the types of fabrics distinguished. In addition, a close re-examination of the ceramic materials deriving from earlier excavations is currently in progress. In this context, between 2012 and 2020, the authors reviewed the accessible assemblages from the following settlement localities: HK11C Test A (Naqada I–IIB),[28] HK25 (Naqada II–II/III) and HK29B (Naqada II to early Naqada III),[29] HK29 (Naqada I/II),[30] HK29A ("floor deposit"; Naqada IIIA),[31] and Nekhen (Square 10N5W; Badarian to Early Dynastic).[32]

As a result of this re-examination, revisions and additions have been made that pertain mainly to ceramics of the early Naqada I and Naqada III, which were not sufficiently represented in the earlier studies for adequate assessment. New fabrics observed in the early assemblages from HK11C include Fabric 21 (coarse organic tempered Nile silt), Fabric 26 (fine organic tempered Nile silt), and the preliminary identification of a Fabric 14, informally called "garbage temper", which is composed of a fluid recipe that includes organics, grog, flint, shale, and other stones in varying

25. Friedman 1994, pp. 706, 717, 726. A number of comparisons suggested for Fabric/Temper Class 11 ("dung tempered Nile silt"), Fabric/Temper Class 100 ("Palestinian fabric"), and the "fibrous ware" could not be integrated in Table 2, due to space limitations, but can be found in Friedman 1994, pp. 148, 160–162, 717, 726.

26. Friedman 1994, pp. 154–155. New petrographic and chemical analyses of shale tempered pottery from Hierakonpolis have also been conducted in recent years, confirming these subtypes (Baba, Freestone 2008). It should also be noted that within Fabric/Temper Class 2 ("untempered Nile silt"), a number of varieties with regard to sand content were observed but the distinctions could not be consistently maintained across all of the assemblages and were abandoned.

27. *Inter alia*: HK11 and HK11C (Friedman et al. 2002, pp. 55–62; Takamiya 2008; Baba, Friedman 2016; Baba, Van Neer, De Cupere 2017); HK24B (Takamiya 2016); HK29A (Friedman 2009); HK29B (Hikade et al. 2008; Hikade 2011); and overviews in Friedman et al. 2008; Friedman et al. 2009.

28. Harlan 1982; see also Sharp 2005.

29. Hikade et al. 2008; Hikade 2011.

30. Hoffman 1982.

31. Friedman 2009, p. 94, fig. 9, pp. 95–96.

32. Hoffman 1989.

amounts in a Nile silt matrix[33] (cf. pl. II.d). Amongst assemblages dating to the later Naqada II and Naqada III periods, recent examination has confirmed the presence of Fabric/Temper Class 8 (sandy marl) and 12 (so called "marl mix"), as well as led to the identification of a finer variant of marl Fabric 5 (not coded separately thus far), and a new type composed of a calcareous fabric (similar in texture to Fabric 5) and tempered with "straw" (designated as Fabric/Temper Class 13, "straw and calcareous clay"; cf. pl. II.c).

Each of the marl fabrics is visually distinct in terms of texture and inclusions at the macroscopic level; however, a number of recent scientific studies on a limited number of samples from Hierakonpolis as well as from other sites have found no petrographic or chemical characteristics that differentiate them.[34] In particular, the earlier suggestion that Fabric/Temper Class 5 was created by adding calcium rich materials to Nile silt[35] has not been supported by recent analysis. Instead, the results indicate that this fabric at Hierakonpolis derives entirely from naturally occurring calcareous clay retrieved from naturally weathered deposits, with no detectable Nile silt component.[36] Similarly, recent petrographic analysis conducted by Mary Ownby on samples from Naqada that have the visual appearance of Fabric/Temper Classes 5, 5 fine and 12 produced results indicating that all were made of "a shale clay with micritic limestone and microfossils".[37] What factors might underlie the macroscopically visual differences between these fabrics remain to be determined,[38] and further work will need to be done to integrate the various scientific analyses on the relevant materials undertaken to date.[39] Nevertheless, these microscopic results highlight the need for petrographic studies to go hand-in-hand with macroscopic assessments in order to understand the variety behind each fabric class as defined thus far, as well as explore possible distinctions between other visually similar fabrics identified at different sites.

33. Cf. Mond, Myers 1937, pp. 50–51, Class G, "grit-ware". Thin section analysis of one fragment of Fabric 14 from HK11C Test A by D. Sharp (2005, p. 28) showed the composition to involve 3–5% grog (crushed potsherds), 1–10% mineral fragments and 1–5% straw. Sherds are often reddish-brown in colour on surface and section but often discoloured by soot. Pottery with this temper, if present at HK14 and in other early assemblages not yet re-examined, was likely subsumed under Fabric/Temper Class 3.
34. Bourriau et al. 2004, p. 655; Baba, Freestone 2008; Ownby 2019.
35. Hamroush, Lockhart, Allen 1992.
36. Baba, Freestone 2008, pp. 23–24.
37. Ownby 2019.
38. On the basis of their analyses on four samples of marl fabrics from Hierakonpolis, M. Baba and I. Freestone (2008, p. 28) tentatively suggest that "the visual difference [between Fabric 5 and 12 may] be related to the firing temperature". Thus, macroscopically observed variations, even if not relating to a microscopically defined fabric *per se*, may still provide valuable information, in this case, potentially elucidating firing technology.
39. E.g. Hamroush 1985; Ghaly 1986.

In this article, fabrics at various Predynastic sites described by different systems are compared to the Hierakonpolis fabric/temper classes as well as to each other. The results of this comparative work are summarised in Table 2 and further discussed in the "Overview" that follows.[40] Overall, 12 other systems of classification used for describing Predynastic settlement ceramic assemblages have been examined in detail.[41] In total, 142 ceramic groupings, including the Hierakonpolis fabric/temper classes and other groups variously defined (e.g. "temper classes", "fabric types", "*Pâtes*", "pottery/ceramic groups", "*Keramikgruppen*", "*Keramikkategorien*", and "*Warenarten*"), have been scrutinised. Of these, 119 are pertinent to pottery of the Egyptian ceramic tradition and have mainly been the focus of this comparative assessment.

Before turning to these ceramic groupings and concordances, it should be noted that a substantial part (but by no means all) of the material has been personally examined (with the aid of a hand lens or a binocular microscope under 10X/20X/40X magnification) by at least one of the authors.[42] Thus, similarities/dissimilarities observed first-hand are the basis for relevant concordances for those ceramics. For the material that could not be inspected directly, correspondences have been inferred from data available in the published sources, taking into account the concordances suggested by the ceramic analysts in their reports. In some cases, these have been revised, while in others, additional comparanda could also be proposed. The latter are highlighted in Table 2 by means of a single or double asterisk depending on the level of confidence[43] and are further discussed in the next section, along with issues that require further scrutiny. Wherever possible, not only the description of the fabrics has been considered, but also information on other relevant features of the pottery, such as surface treatments, decoration and shapes. As discussed above, some

40. Part of the work reported in this article has been conducted by G. Di Pietro within the project entitled "CASEPS: Comparative Archaeological Study of Egyptian Predynastic Settlements", that received funding from the People Programme (Marie Curie Actions) of the European Union's Seventh Framework Programme (FP7/2007–2013), under REA Grant Agreement No. 329601. This project was hosted by the UCL Institute of Archaeology, London, UK (2013–2015), and supervised by Professor David Wengrow, whose support is also sincerely thanked. Preliminary results concerning this specific strand of the project were presented at the international conference on Predynastic and Early Dynastic Egypt, "Origins.6", held at the University of Vienna, Austria, on September 10th–15th, 2017; see Di Pietro 2017.

41. The 12 systems include also the one devised for classifying the pottery from the Tarifian layer at El-Tarif. This is not present in Table 2, but is described in the text; see *infra*, El-Tarif. The four "*Keramikgruppen*" of the Tarifian pottery are included in the list of the 142 ceramic groupings mentioned above but not within the 119 groups, securely attributable to an Egyptian ceramic tradition.

42. Cf. Hierakonpolis, and *infra*, El-Badari, Naqada, Khattara sites, Armant, and Elephantine.

43. Generally, a correspondence marked by a single asterisk in Table 2 was suggested based on descriptive or visual data available in the published sources consulted. Double asterisks indicate correspondences suggested very tentatively, because the information in the sources was limited and/or the relationship between the relevant fabrics needs to be further explored.

disparities are apparent between macro and microscopic assessments of fabric, but since petrographic and other chemical analyses are not yet available for each of the 142 ceramic groupings so far defined, at present, large scale intersite comparisons can only be conducted consistently at the macroscopic level.[44]

Systems of classification and nomenclature: overview and concordances

In this section, the various collections of Predynastic settlement ceramics considered for this study are reviewed by site, from north to south.[45] Their excavation history is summarised and the system used for their fabric analysis and classification discussed, with a specific focus on issues surrounding the fabric correspondences (cf. Table 2). It is well recognised that fabric classifications can be influenced by many factors: the interests, tools, and sensitivities of the era when the analysis was undertaken; the questions being asked of the material; the size of the available assemblage and the time and resources available to examine it; as well as, in the case of museum collections, the availability of a fresh break. No criticism of the analysts is implied in any of the following discussion.

Hemamieh and the district of El-Badari

The most notable Predynastic settlement ceramic collection from the district of El-Badari is undoubtedly that deriving from the stratified site at North Spur Hemamieh (Badarian–Naqada IIC/D), excavated first, in 1924–1925, by Gertrude Caton-Thompson[46] and later, in 1989, retested by Diane Holmes and R. Friedman.[47] The initial description of these ceramics, as well as those from other settlement areas (and cemeteries) of the Badari region,[48] made reference to W.M.F. Petrie's corpus

44. Cf. Ownby, Brand 2019, p. 374, Table 1, with references. Recent petrographic work is nonetheless starting to clarify the use of specific paste recipes (i.e. fabrics) across various early Egyptian sites; see Ownby, Köhler, in press.

45. The chronology reported for each site is drawn from the relevant publications cited in the footnotes, and generally reflects that proposed by the excavators. Naqada subphases expressed in lower cases (e.g. IIa–b) refer to Werner Kaiser's system of relative chronology, while those in capitals (e.g. IIA–B) refer to Stan Hendrickx's revised system; see Hendrickx 2006 for correspondences.

46. Caton-Thompson 1928.

47. Friedman 1994, pp. 312–318; Holmes, Friedman 1994, pp. 117–127.

48. Brunton, Caton-Thompson 1928; Brunton 1937; Brunton 1948. A list of the Predynastic settlement and cemetery sites of this region can also be found in Hendrickx, Van den Brink 2002, pp. 353–357, 367, fig. 23.3, pp. 374–376, 386, fig. 23.9.

(with additions) for Predynastic pottery and was augmented by new corpora created by Guy Brunton for the Badarian and Tasian pottery, which were, like W.M.F. Petrie's, heavily based on surface appearance rather than fabric[49] (cf. Table 1).

Subsequently, the extant ceramics excavated at Hemamieh by G. Caton-Thompson were re-examined in terms of fabric/temper classes and incorporated into the Hierakonpolis System.[50] This analysis resulted in the addition of new classes (those coded as 21, 22, 26; cf. also pl. II.e–g) especially to describe the Badarian material. The pottery recovered during the 1989 excavations and areal surveys was also analysed using this system.[51] Overall, in these assemblages, eight fabric/temper classes were distinguished: the ones coded as 1, 2, 5, 8, 12, 21, 22, and 26 (cf. Tables 1–2, where concordances with fabrics identified at other sites are provided).[52]

Within the assemblage at Hemamieh three varieties were discerned within Fabric/Temper Class 26,[53] which is called "fine organic tempered Nile silt", but the defining feature is actually that the additions appear to be unintentional, thus the raw material has not been refined and can include a variety of inclusions in addition to fine organics. These variants have been listed separately in Table 2. Of them, the first one, with few and small organic inclusions and occasional coarse sand, seems to be related to shape choices (miniature vessels) and has parallels in other assemblages reviewed in this paper (see *infra*: Naqada/Zawaydah and Hierakonpolis HK29A). The second fabric variant, with more abundant fine organic inclusions, characterises both Badarian and post-Badarian pottery, but in the Naqada period possibly represents a poor or unprofessional version of Fabric/Temper Class 2. Potential parallels are also present in several of the collections considered here, as reported in Table 2. The third subclass is characterised by large angular limestone fragments, considered at the time to be natural inclusions in unrefined clay.[54] This variant was very rare in

49. Predynastic pottery from G. Brunton's and G. Caton-Thompson's excavations, now in the Ashmolean Museum Oxford, are also described by J. Payne (1993, pp. 26–29), using her own fabric family classification; cf. also Table 1.

50. Friedman 1994, pp. 310–312, 319–351, 378–457.

51. Friedman 1994, pp. 312–318, 367–368, 376–377; Holmes, Friedman 1994, pp. 121–131.

52. Petrographic analysis undertaken by H. Ghaly (1986) on pottery from G. Caton-Thompson's excavations at North Spur Hemamieh is discussed in Friedman 1994, pp. 116, 140–142, 362, n. 7. More recently, further ceramic samples from Hemamieh have been subjected to neutron activation analysis (Bourriau et al. 2004) and petrographic analysis (Pilgrim 2015). The latter thesis is unpublished and could not be accessed for the purpose of this study.

53. Friedman 1994, p. 405.

54. Friedman 1994, p. 122, n. 15, p. 362, n. 7, p. 405.

the Badari region and further examination will be necessary to determine whether it is similar to the limestone tempered fabrics that appear to be typical of the Abydos region in the early Predynastic (see *infra*: sites of the El-Mahâsna and Abydos-Thinis region).

Sites investigated by Jacques de Morgan and Henry de Morgan

Between the end of the 19th and the start of the 20th century, a number of prehistoric sites in Egypt, including also remains of Predynastic settlements, were surveyed and excavated by Jacques de Morgan[55] and his brother Henry de Morgan.[56] In southern Egypt, the northernmost of these habitation sites was Kawamil, not far from the centre of Sohag, while the southernmost was Fatira, slightly to the south of the better-known Gebel el-Silsila.[57] The pottery from these investigations was reported according to the standards of that time,[58] but is described in more detail in later museum catalogues.[59] The material collected by H. de Morgan during his field-work south of Esna was also the basis for the revised classification system proposed by Walter Federn in 1942.[60]

Sites of the El-Mahâsna and Abydos-Thinis region

Investigations in the region around Abydos between the end of the 19th and the early 20th century revealed a number of cemetery and settlement areas. These and the general region were resurveyed in 1982–1983 by Diana Patch.[61] From north to south, the main sites yielding Predynastic settlement remains were at El-Mahâsna—John Garstang's S2–S1,[62] D. Patch's sites S83–40 and S83–41 (Naqada Ic [?], IIa–b, IIc–d2, III [?])—and at Abydos—Thomas Eric Peet's settlement "west" of the Seti I temple,[63] D. Patch's S83–61 (Naqada IId1–d2, IIIa1) and David Randall-MacIver's

55. J. de Morgan 1897, pp. 29–42; cf. also J. de Morgan 1896, pp. 76–88.
56. H. de Morgan 1908; H. de Morgan 1912.
57. A list of the Predynastic settlements investigated by Jacques and Henry de Morgan is also to be found in Hendrickx, Van den Brink 2002, pp. 376–382, 386–387, fig. 23.9–10.
58. E.g. J. de Morgan 1896, pp. 151–165; J. de Morgan 1897, pp. 119–124.
59. Cleyet-Merle, Vallet 1982; Needler 1984, pp. 69, 170–237.
60. Needler 1981; cf. also Friedman 1994, pp. 103–104, 123–125, Table 3.1, where correspondences with other earlier classification systems concerning Predynastic pottery are charted.
61. Patch 1991, pp. 376–377, 389–390, 405, 407–408, 437–438. Minor or doubtful settlement scatters are not listed above.
62. Garstang 1903, pp. 1–2, 5–8, pls. I–V.
63. Peet 1914, pp. 1–10.

Ahmose "Pyramid",[64] D. Patch's S83–3 (Naqada Ic–IIc). D. Patch also located another significant site she lists as S83–20 (Naqada IIa–b).

For the Predynastic pottery examined during her survey, D. Patch refers mainly (but not exclusively) to W.M.F. Petrie's classes.[65] In order to arrive at some dating for these settlements (the main goal of her ceramic analysis), D. Patch developed a shape corpus that attempts to connect the fragmentary ceramic diagnostics to the complete forms featured in the dated mortuary corpora.[66] A representative sample of the (datable) ceramic sherds collected during her investigation is described and illustrated.[67] To record fabric, D. Patch adopted categories from the initial versions of what would become the Vienna System,[68] in particular: Nile Silt A, B, C, and Marl A.[69] These are reported and compared in Table 2, based on both the descriptions provided by D. Patch and in the reference systems.

The Predynastic settlement area at El-Mahâsna was subsequently the focus of archaeological investigations under the direction of David Anderson, between 1995 and 2000. The ceramics collected during surveys and excavation conducted at the site (Naqada Ic–IIa–b) were analysed and documented making reference to systems utilised by ceramicists working at Hierakonpolis, Tell el-Fara'in, and Abydos.[70] The analysis was particularly attentive to the determination of clay and temper types and various combinations thereof. The full ceramic assemblage from this fieldwork remains as yet unpublished, however, summary information on 13 different "temper classes" within the large category of the utilitarian (or R-ware) pottery is provided by D. Anderson[71] and is included in Table 2. For nine of these cases, concordances with the fabric/temper classes of the Hierakonpolis System were suggested by D. Anderson. Based on the published data, two further correspondences are tentatively suggested here by the authors (in Table 2 highlighted by double asterisk).[72]

64. Randall-MacIver, Mace 1902, pp. 75–76.
65. Patch 1991, pp. 175–176.
66. Patch 1991, pp. 175–181, 451–553. The ceramic corpora used by D. Patch for developing her "Predynastic Sherd Corpus" were those arising from the work of W.M.F. Petrie, Werner Kaiser and Barry Kemp on various Predynastic ceramic collections; see Patch 1991, pp. 155–173, with references.
67. Patch 1991, pp. 208–303.
68. Bourriau 1981, pp. 14–15.
69. Patch 1991, pp. 208–214, 226–229, 246–262, 276–279, 287.
70. Anderson 2006, pp. 52–61.
71. Anderson 2006, pp. 152–155.
72. Anderson 2006, p. 155, Table 6.1. Owing to the summary description provided, it was not possible to explore comparisons for D. Anderson's "R-ware, poorly prepared clay".

The fine ware ceramics recovered at El-Mahâsna were studied by Dustin Peasley.[73] On the basis of his descriptions, four of the five fabric varieties he discerned can be equated provisionally with fabrics recorded within assemblages from other sites (see Table 2).

Overall, limestone inclusions or temper in Nile clay-based fabrics stand out in the El-Mahâsna assemblage. Making up nearly 50% of the utilitarian ware assemblage, D. Anderson's "normal R-ware" is described as containing "roughly equal proportions of chaff/straw, sand and crushed limestone",[74] while other classes ("R-ware, limestone temper" and "fine ware, limestone temper") occur in much smaller percentages. Other than the few sherds noted above from Hemamieh (cf. subclass within Fabric/Temper Class 26), no close comparanda for fabrics of this type have been found in other settlement assemblages outside of the Abydos region.[75] While it is possible that some of these are included in broader fabric groupings in other classification systems, the rarity of "limestone tempered fabrics" in other assemblages may reflect the fact that this temper choice was regionally specific.[76]

Further support for a regional prevalence of limestone additions may be supplied by T.E. Peet's work at Abydos. Although the earliest investigators of the area mention only cursorily the ceramic finds from their sites, usually referring to W.M.F. Petrie's main classes,[77] a slightly more detailed description is given by T.E. Peet,[78] who in the context of his report also proposes a new system and terminology for the classification of Predynastic pottery[79] (see Table 1). T.E. Peet's classification was based on surface treatment and appearance as a primary division, but in his description of the newly proposed classes, he also provides additional information on clay and temper, that may be potentially significant for the Abydos region. Of particular interest is his "Class D", his alternative to W.M.F. Petrie's "R-ware", which he describes as being made of "impure clay [with] white granules, probably of limestone, purposely introduced [and] short particles of straw".[80] Its exact relationship to the varieties of limestone tempered ceramics excavated at El-Mahâsna nevertheless requires further investigation.

73. Peasley 2010.
74. Anderson 2006, p. 154.
75. It should be noted that limestone has been observed as temper in Nile clay fabrics at Adaima ("AVC5 – *Pâte à particules végétales fines et courtes et inclusions calcaires*": Buchez 2002, pp. 220–221) and Elephantine ("*Warenart I.6 Nilton, calcitgemagert*": Kopp 2006, pp. 43, 45, Table 3), but at both sites these fabrics are rare and their relation to the El-Mahâsna fabrics is unclear. See *infra* and Table 2.
76. Cf. Finkenstaedt 1985, p. 143; Anderson 2006, p. 154. For the evidence from Halfiah Gibli, at the southern border of the greater Abydos region, see *infra.*
77. Garstang 1903, pp. 6–8; Randall-MacIver, Mace 1902, p. 76.
78. Peet 1914, pp. 4–5, 7–8.
79. Peet 1914, pp. 10–13.
80. Peet 1914, pp. 12–13.

More recently, the presence of limestone has been reported in several of the fabric classes defined by Rita Hartmann in her comprehensive study on the Naqada I–II pottery excavated at the Cemetery U (Umm el-Qaab) by the German Archaeological Institute.[81] R. Hartmann distinguishes 13 main *Werkstoffgruppen* (or fabrics), based on different natural inclusions or tempers in Nile silt (N0a–b, N1a–c, N2–5) or marl clay pastes (M0, M1, M2a–b), with two further groups (F1, F2) pertaining to vessels imported from the Western Desert and the Levant.[82] She reports some presence of limestone in almost all Nile silt fabrics, but perhaps of particular relevance are her relatively rare *Werkstoffen* N2 ("*feiner Häcksel, Sand, Kalk, Keramikgrus*") and N5 ("*Keramikgrus, Kalk, pflanzliche Teilchen*"), where the limestone additions are relatively large (1–2 mm). As for *Werkstoff* N5, the related shapes and find circumstances of the sherds (no whole vessels were found) suggest it may be representative of the local settlement pottery during the Naqada I–early Naqada II period.[83]

At present, several Predynastic settlement areas within the Abydos region are being investigated but only preliminary reports are available thus far.[84] It is hoped that this new research will help to clarify the range of fabrics that characterise this region.

El-Amra

Located in the southern sector of the Abydos region, the site of El-Amra has yielded remains of a late Predynastic settlement (Naqada IIc–d–IIIb) over the course of investigations by Jane Hill and Tomasz Herbich, in 2007.[85] The pottery from this fieldwork was analysed by Antonio Morales and Nagwan Bahaa Faiz, who made reference to

81. Hartmann 2016.

82. Hartmann 2016, pp. 53–62. She also compares fabrics distinguished at Cemetery U with ceramic classes defined in Petrie 1921; in Peet 1914; with fabrics of the Vienna System (Nordström, Bourriau 1993, pp. 168–182); with Hierakonpolis fabric/temper classes (Friedman 1994, pp. 127–164); and with *pâtes* of the Adaima System (Buchez 2002; Buchez 2008). R. Hartmann (2016, p. 57, Table 1, p. 58) suggests that pottery of T.E. Peet's D-class may include fabrics analogous to her *Werkstoff* N2, N1C, and perhaps N1B.

83. Cf. Hartmann 2016, cat. nos. 625, 682, 1073, 1318, 1359, 1559, and 1646. She compares (p. 59) her *Werkstoff* N5 to the Hierakonpolis Fabric/Temper Class 27 based on the size and shape of the organic component and the presence of grog or clay particles, although she notes the significant presence of limestone in this fabric. *Werkstoff* N2, on the other hand, appears to be restricted mainly to specific shapes datable to the late Naqada II period; cf. Hartmann 2016, cat. nos. 1023–1026, 1478–1486.

84. These settlement areas include: a settlement dating to Naqada IIIA2–B located to the south-east of the Seti I temple and excavated by Y. Hussein (2017); Naqada I–II remains beneath the Ahmose pyramid, being investigated by the team of S. Harvey (Harvey, Hart 2017); the late Predynastic brewery areas by the Seti temple, first examined by T.E. Peet and now being reinvestigated by the team of M.D. Adams (Adams, Vischak, Doyon 2020).

85. Hill 2010, pp. 96–113, 133–146; Hill, Herbich 2011, pp. 109–123.

methods outlined for both the Vienna System and the Hierakonpolis System.[86] In the published report, the Predynastic ceramic material is described according to the terminology of the Hierakonpolis System and is assigned to seven of its fabric/temper classes (cf. Fabric/Temper Class 1, 2, 5, 7, 8, 12, and 22 in Table 2).[87] A variety of pottery in a foreign, possibly Palestinian, style was also reported at El-Amra, some of the fragments featuring typical Egyptian Predynastic fabrics, but more in-depth analysis is required.[88]

Halfiah Gibli (Diospolis Parva)

Further south along the Nile Valley, the next Predynastic settlement whose pottery has been published in any detail is the site known as Halfiah Gibli (Naqada Ic–IIb–c), investigated by Kathryn Bard between 1989 and 1991.[89] In the description of this ceramic material, the analyst, Sally Swain, refers mainly to fabric classes of the Vienna System.[90] In particular, five fabric types, designated as Nile Silt A, B2, C, D, and E, appear to be represented at the site.[91] These are included in Table 2, along with potential correspondences with fabrics identified at other Predynastic sites. Two of the comparanda were proposed by S. Swain herself, while the others have been suggested by the writers based on the descriptions of these fabrics in the reference systems and those provided in S. Swain's report. Of particular interest is Nile Silt D, a fabric characterised by the presence of numerous limestone inclusions;[92] however, whether it is akin to the limestone tempered fabrics identified within the pottery from El-Mahâsna and the Abydos core area remains to be determined.

Other Predynastic settlements have been located in the Hu/Abadiyeh/Semaineh (Diospolis Parva) area by both K. Bard (e.g. the site labelled "SH")[93] and W.M.F. Petrie,

86. Hill 2010, pp. 168–169; Hill, Herbich 2011, pp. 123–125.
87. Hill 2010, pp. 171–172, 195, Table 3.5; Hill, Herbich 2011, p. 125, Table 2. J. Hill (2010, pp. 191–192, Table 3.1; Hill, Herbich 2011, p. 125, Table 1) also provides concordances with ceramic classes in Petrie 1901; with fabrics described in an earlier version of the Hierakonpolis System (Hoffman, Berger 1982) and in the Vienna System (Nordström, Bourriau 1993, pp. 168–182); and with fabrics identified at Adaima (Buchez 2002) and El-Mahâsna (Anderson 2006).
88. Hill 2010, pp. 180–187; Hill, Herbich 2011, pp. 128–131.
89. Bard 1992; Bard 1996.
90. Swain 2003, pp. 159–160. She also suggests (pp. 161–162, 164) concordances with fabrics described in one of the earlier versions of the Hierakonpolis System (Hoffman, Berger 1982) and with ceramic classes in Petrie 1901 and in Petrie 1921. Of these, only two are retained here and reported in Table 2 (without asterisk).
91. Swain 2003. In a preliminary report, a number of potsherds made of marl clay are also mentioned as coming from a unique excavation unit at Halfiah Gibli; see Bard 1992, p. 13.
92. Cf. Nordström, Bourriau 1993, pp. 174–175. A number of potsherds made of Nile Silt D feature in the fine- and rough-ware assemblage of Halfiah Gibli; see Swain 2003, pp. 160, 173, fig. 2, no. 1, p. 175, fig. 2 cont., no. 33, p. 179, fig. 5, nos. 19, 22, p. 180, fig. 6a, no. 2, p. 181, fig. 7b, no. 3.
93. Bard 1996, p. 145.

who explored the district at the end of the 19th century.[94] Predynastic remains were found mixed with later material or in heavily plundered sites and are not reported in detail.

Mahgar Dendera 2

Excavation of the site Mahgar Dendera 2, under the direction of Stan Hendrickx and Béatrix Midant-Reynes in 1987, has provided remains of a settlement dated to the Badarian period and probably occupied on a seasonal basis.[95] The pottery from this fieldwork, analysed and painstakingly described by S. Hendrickx, is assigned to five main *pâtes*, designated as *Nil* A, B1a, B1b, B1c, and B2. These are compared with fabrics in a number of classification systems and three of them were equated with fabric/temper classes of the Hierakonpolis System,[96] as shown in Table 2. For the two fabrics (*Nil* B1a and B2) for which no exact correspondence was found, S. Hendrickx suggests that they were either not present in other assemblages or were included in broader fabric groupings at other sites.[97]

Not far from Mahgar Dendera 2, in the surroundings of the well-known sanctuaries of Hathor and Isis at Dendera, recent archaeological work has brought to light settlement remains dating to Naqada IIC–D, and possibly earlier. These investigations are still ongoing and the pottery, mentioned thus far only in a series of preliminary reports, has been described with reference to W.M.F. Petrie's main ceramic classes.[98]

Naqada

The namesake of the major culture of late prehistoric Upper Egypt, Naqada is the next site along the Nile Valley for which a detailed description is available for Predynastic settlement ceramics.[99] The settlement sector is known under many

94. Petrie 1901, p. 32, pl. I.
95. Hendrickx, Midant-Reynes, Van Neer 2001.
96. Hendrickx 2001, pp. 60–62. Concordances are given with fabric types described in the Vienna System (Nordström, Bourriau 1993, pp. 168–182); in the Hierakonpolis System (Friedman 1994, pp. 127–164); in Mond, Myers 1937, pp. 50–51 (Armant); in Kozłowski 1994 (Armant); in Midant-Reynes et al. 1990 (Adaima); and in Nordström 1972 (Nubian ceramics).
97. Hendrickx 2001, p. 61.
98. Marouard 2016, p. 40, fig. 6, p. 44; Marouard 2017, pp. 171–172, fig. 8; Marouard, Moeller 2017, pp. 39–40, fig. 10.
99. Predynastic habitation remains are known from a number of sites in the stretch of the Nile Valley, between Dendera and Naqada (e.g. Qift/Koptos; J. de Morgan's Zawaydah; Thomas Hays and Fekri Hassan's KH5; James Quibell's North Town; cf. Hendrickx, Van den Brink 2002, pp. 377–378, and bibliography). However, very few of the ceramic finds have been described in useful detail.

names, which have been used by the various expeditions that have investigated the site since the end of the 19th century, amongst them: South Town, Toukh, and Zawaydah.[100]

Part of the ceramic material from the excavations at South Town led by Fekri Hassan between 1978 and 1981[101] was examined by R. Friedman and incorporated into the Hierakonpolis System.[102] In total eight fabric/temper classes were identified within the pottery from four of the test trenches excavated by F. Hassan (TR 80/1–2, 5–6) and were coded as 1, 2, 5, 8, 11, 12, 26, and 27 (see Table 2; cf. also pls. I.b, I.h, II.b).

A larger ceramic assemblage deriving from investigations conducted by Claudio Barocas, Rodolfo Fattovich and Maurizio Tosi between 1977 and 1986[103] has more recently been examined by G. Di Pietro.[104] This pottery was collected over the course of a systematic survey involving most parts of the settlement at Naqada (an area re-named "Zawaydah") and the excavation of a wide trench (ZWE) there. Within the Predynastic components of this collection, 13 main fabrics were distinguished—most of which were also identified within F. Hassan's Naqada material by R. Friedman. However, five additional fabrics, macroscopically comparable with Hierakonpolis Fabric/Temper Classes 3, 13, 21, possibly 9, and a finer variant of 5 (cf. Table 2 and pl. I.f) were also recognised. This greater diversity probably reflects the larger sample available and the presence of slightly later elements than the (selective) collection from F. Hassan's trenches.[105]

100. Ceramic finds from the earliest excavations at the settlement of Naqada by both W.M.F. Petrie (Petrie, Quibell 1896, pp. 50, 54, pls. IA, LXXXV) and J. de Morgan (1897, pp. 13, 39, 147) are described in a number of catalogues (see "South Town" in Payne 1993, pp. 26–29, 35–250, 300; and "Toukh" in Cleyet-Merle, Vallet 1982, pp. 144–146).

101. Hassan, Van Wetering, Tassie 2017; Holmes 2018, pp. 74–76.

102. Friedman 1994, pp. 527–540, 563–567, 596–604. The earliest classification of the pottery collected at Naqada South Town and other sites of the Naqada region by F. Hassan and T. Hays's teams (see *infra*, Khattara sites) was made according to W.M.F. Petrie's ware types. More recent publications concerning pottery from this same fieldwork at South Town appear to adopt the Hierakonpolis System in its 1994 version; cf. Hassan, Van Wetering, Tassie 2017.

103. Fattovich et al. 2007.

104. Di Pietro 2016, pp. 181–183. In that preliminary analysis, fabrics were compared with ceramic classes defined in Petrie 1921; in Hendrickx 1994 (Naqada III cemetery at Elkab); and with fabrics described in the Hierakonpolis System (Friedman 1994, pp. 127–164) and in the Adaima System (Buchez 2002). An earlier study of the ceramics from the Italian investigations at Naqada was undertaken by R. Fattovich (Barocas, Fattovich, Tosi 1989, pp. 298–300), who classified the material according to W.M.F. Petrie's ceramic classes. This pottery is currently being prepared for final publication (Di Pietro, in preparation).

105. For a discussion of the relationship between sample size and diversity, see Orton 2000, pp. 172–176. Some of the additional ceramic fabrics identified at Naqada were rare, while others, more prevalent in the eastern sector of the site (the trench ZWE), are characteristic of late Predynastic pottery; see Di Pietro 2016, pp. 181–183.

As mentioned earlier, petrographic analysis has recently been conducted by M. Ownby on a small sample of potsherds from the Zawaydah assemblage. Results from the analyses of the Nile silt fabrics are consistent with macroscopic observations; however, correspondence among the calcareous fabrics was less compatible and requires further investigation.[106]

Khattara sites

Part of the ceramic collection from F. Hassan's 1978–1981 investigations of a series of early Predynastic settlements, located to the south of the Naqada core area (KH4, KH3, and KH7; early–middle Naqada I),[107] was also studied by R. Friedman. The fabric/temper types observed were incorporated into the Hierakonpolis System, including the apparently regionally distinct grog tempered pottery of Fabric/Temper Classes 7 and 27[108] (cf. also pls. I.g, II.h). In total eight different fabric/temper classes (1, 2, 3, 7, 11, 22, 26, and 27) were identified within the available assemblage (see Table 2).

Results of subsequent analyses by F. Hassan's team on other ceramic material from the same fieldwork are not yet available,[109] nor are the results from more recent explorations at some of these sites.[110]

El-Abadiya 2

Located in the southern sector of the Naqada region, the site designated as "El-Abadiya 2" yielded remains of an early Predynastic settlement (Naqada IA–IB) during 2001 excavations led by Pierre Vermeersch.[111] The pottery from this fieldwork was examined on site by Tuur Van Hove and subsequently re-assessed and published by S. Hendrickx.[112] For practical reasons, ceramic fabrics could not be analysed in detail and only a distinction between three broad pottery groups ("black-topped", "red-polished", and "rough") was made. Cautioning that these groups do not represent "fabrics" and in fact may consist of more than one fabric, S. Hendrickx, based on the notes available to him, describes the material with reference to the Vienna System

106. Ownby 2019. See *supra*, "Methods, materials, and data".
107. Holmes 2018.
108. Friedman 1994, pp. 475–523, 550–562, 571–593; Friedman 2000.
109. Tassie, Van Wetering 2013–2014, p. 61.
110. Cf. Tassie, Rowland, Van Wetering 2020.
111. Vermeersch, Van Neer, Hendrickx 2004.
112. Vermeersch, Van Neer, Hendrickx 2004, pp. 244–261.

and the Hierakonpolis fabric classification. He reports the presence of Fabric/Temper Classes 2, 7, and 27, and suggests the organic tempered "rough ware" material may correspond to Fabric/Temper Classes 1 or 21.[113] He tentatively suggests that Fabric/Temper Class 26 may also be present (see Table 2). Given the early date attributed to the site, it would indeed be interesting to ascertain the nature of the organic temper of the rough pottery. Recent fieldwork in the Naqada region, which has located what may be a cemetery associated with the settlement of El-Abadiya 2,[114] may help to clarify this issue in the near future.

El-Tarif

At El-Tarif, in the Theban region, within an Old to Middle Kingdom cemetery area, remains were retrieved of what has been reported as the earliest pottery-bearing culture of the Upper Egyptian Nile Valley, the so-called "Tarifian" (*circa* end of the 6th millennium BC).[115] These were found underneath a settlement of later date (late Naqada I–Early Dynastic) and were excavated by a team led by Bolesław Ginter, Janusz Kozłowski and Joachim Sliwa in 1978–1982.[116]

Since the connection of the Tarifian culture with the later Naqada culture remains unclear,[117] listing the Tarifian ceramic groups alongside the Predynastic fabrics in Table 2 was deemed inappropriate. Instead, short descriptions of these ceramics and potential parallels with Predynastic ceramics are provided below.

The pottery from the Tarifian layer was analysed by J. Kozłowski and Maciej Pawlikowski and divided into four main groupings (*Gruppen* I–IV), based on the wall thickness, surface features, and macroscopically recognisable inclusions. Mineralogical and petrographic analysis of sherds pertaining to three groups (*Gruppen* I, II, and IV) showed they were made of Nile silts. According to the information published in the final report, each of the ceramic groups is characterised by a slightly different fabric and/or temper type, as follows:[118]

113. Vermeersch, Van Neer, Hendrickx 2004, pp. 245–247. The reference to Fabric 21 was printed as 26 in error (personal communication by S. Hendrickx, September 2020).
114. Tassie, Rowland, Van Wetering 2020, p. 164.
115. For an introduction to the Tarifian culture, see Kozłowski 1999.
116. Ginter et al. 1998.
117. Hendrickx, Vermeersch 2000, p. 36.
118. Kozłowski, Pawlikowski 1998.

Keramikgruppe (Tarifien)

I [*Nilsilt mit*] *Pflanzen-beimengungen, manchmal auch mit Sandteil*
II [*Nilsilt mit*] *Sandbeimengungen*
III [*Silt mit*] *Pflanzen-beimengungen*
IV [*Nilsilt*]

At least in principle, the Tarifian plant tempered pottery (*Gruppen* I and III), said to belong to the so-called "chaff ware" by J. Kozłowski and M. Pawlikowski, may be similar to one or more of the organic tempered pottery types of the Predynastic. The fabric of *Gruppen* IV and II is likely to be analogous to Hierakonpolis Fabric/Temper Class 2 and/or coarser versions of it (e.g. "AM3 – *Pâte alluviale, sableuse grossière*", identified at Adaima). Physical examination of the Tarifian material would be necessary to verify these suggestions.

The ceramics from the Predynastic to Early Dynastic layers at El-Tarif were classified by J. Sliwa into eight broad *Keramikkategorien*, six of which are reported in Table 2.[119] These categories largely correspond to W.M.F. Petrie's ceramic classes (i.e. R-, P-, B-, W-, and D-ware; cf. Table 1).[120]

Two other ceramic categories, "*Rote Keramik mit pebble-Politur*" and "*Weit geöffnete Küchengefäße*", were considered especially typical for the Early Dynastic pottery. Based on the macroscopic features reported, the fabric of the *Weit geöffnete Küchengefäße* (i.e. "large open cooking vessels") seems to correspond to Fabric/Temper Class 3 of the Hierakonpolis System, "shale tempered Nile silt", and comparable fabrics in other systems. However, at El-Tarif this pottery is included in the wider group of the "*Mergelton-Keramik*",[121] lending further support to observations made

119. Two of the ceramic categories identified by J. Sliwa (1998, pp. 51, 54–55), namely "*Siebartige Gefäße*" and "*Krüge mit Wulstrand*", considered characteristic for the Early Dynastic, have not been included in Table 2 since their main defining features are related to their shape rather than their fabric. Subgroups distinguished by J. Sliwa (1998, pp. 47–48, 53–54) within some of the eight *Keramikkategorien* ("*Keramik mit sog. Perlen- und Schuppendekor*", "*Zylindergefäße mit Wellenlinie und Netzmuster*", and "*Zylindergefäße mit Schnurornament*") are also not considered separately here, because they too are distinguished based on specific decorative motifs rather than on differences in their fabric.

120. Sliwa 1998. He also correlates *Keramikkategorien* identified for the Predynastic pottery of El-Tarif with the ceramic classes defined in Petrie 1921; with fabrics described in Mond, Myers 1937, pp. 50–51; in Nordström 1972 (Nubian ceramics); and in Bourriau 1981. Macroscopic examination of El-Tarif pottery was supplemented by microscopic analysis of a sample of potsherds pertaining to the following categories: "*Grobe Siedlungskeramik*", "*Polished red- und black topped-Keramik*", "*Rote Keramik mit pebble-Politur*", "*Zylindergefäße mit Wellenhenkel-Dekor*", "*Weit geöffnete Küchengefäße*"; see Sliwa 1998, pp. 47–55, Table 4.

121. Sliwa 1998, pp. 55–57.

at other sites concerning the wide variety of shale wares over time and space.[122] Pottery that can be classified within Fabric/Temper Class 3 is also documented at Hierakonpolis in contexts coeval with El-Tarif (Naqada III),[123] but it is recognised that the recipe at this time may have involved different constituents coming from different sources than the earlier Predynastic material upon which the description of this fabric was based.

Armant

A number of early Predynastic settlements, some possibly preserving also Tarifian remains, were located between Qurna and Armant over the course of a survey conducted in 1983 by B. Ginter, J. Kozłowski and M. Pawlikowski,[124] with site MA 21/83 being the focus of subsequent excavation.

The pottery retrieved during this fieldwork was classified and described according to a system that underwent multiple revisions over the years.[125] For the present article we consider the 14 ceramic groups as defined in the final report of the 1984–1986 excavations carried at the settlement MA 21/83 (Naqada I).[126] These groups (1a–c, 2, 3a–b, 4–11) were distinguished according to various criteria, including the type of ceramic paste, temper, colour, surface appearance, and (for Groups 6–11) wall thickness.[127] Further scientific analyses of samples taken from nine of the 14 groups demonstrated that Nile silts were used as the main raw material.[128] Based on the available descriptions, eleven of these ceramic groups have been correlated—very tentatively—with the fabric classes in other systems, as reported in Table 2.

Earlier work at Armant led Oliver Myers to devise his own system for classifying the Predynastic ceramics he retrieved there, including ceramics from the settlement known as 1000/1100 (Naqada I–III) excavated in 1930–1931 (see Table 1).[129] More

122. See *supra*, "Methods, materials, and data" and Table 2 for Hierakonpolis; see Table 2 for Armant; see *infra* for Nag el-Qarmila. For the evidence from Adaima and Elephantine, see respectively Buchez 2004b, p. 17; Kopp 2006, pp. 43–44.

123. Friedman, Bussmann 2018, pp. 83–84, fig. 6.d.

124. Ginter, Kozłowski, Pawlikowski 1985.

125. Potential correspondences between the ceramic classes outlined as of 1988 with fabric/temper classes of the Hierakonpolis System are detailed in Friedman 1994, p. 547, n. 16.

126. Ginter, Kozłowski 1994.

127. Kozłowski 1994. For some of the ceramic groups identified at Armant he suggests potential parallels with ceramic classes defined in Petrie 1901 and in Brunton, Caton-Thompson 1928; with ceramics identified at the Khattara sites (Hays 1984, p. 72); and with fabrics described in the earlier version of the Hierakonpolis System (Hoffman, Berger 1982).

128. Helmi, Pawlikowski 1994.

129. Mond, Myers 1937, pp. 50–51, 163–177.

recently, the extant pottery from 1000/1100, now in the Manchester Museum, and the Badarian ceramics retrieved from a settlement area labelled "1800", held in the Egypt Centre at Swansea University, were examined by R. Friedman and are currently being prepared for publication.[130] Eleven fabric/temper classes were observed (the ones coded as 1, 2, 3, 5, 12, 14, 21, 22, 26, 27, and the fibrous ware; see Table 2). This range in part reflects the lengthy span of time covered by these assemblages.[131]

Adaima

South of the Thebaid, the next Predynastic settlement, whose ceramic remains have been investigated by modern archaeological standards, is Adaima, excavated under the direction of B. Midant-Reynes between 1989 and 2003.[132] The settlement pottery from the site comes from the areas labelled "1001 *et extensions*", "1004", "1002 *et extensions*" (end Naqada I–III) and from an area on a terrace along the edge of the floodplain (Naqada IIIB–IIIC1).[133] Pottery from these sectors together with the cemetery ceramics have been analysed by Nathalie Buchez, who identified 23 *pâtes* on the basis of macroscopic examination of clay type and type and size of inclusions. Of these *pâtes*, 20 are listed in Table 2.[134] N. Buchez also proposes comparable fabric/temper classes in the Hierakonpolis System for nine of these fabrics[135] (see Table 2). Four additional comparanda for the fabrics coded as AM3, C4, CV, and AO4 have also been suggested tentatively by the present authors and are highlighted in Table 2 by

130. Preliminary observations on the fabrics of this ceramic material are in Friedman 1994, pp. 155, 165, n. 9, p. 166, n. 18, pp. 357–360, 516–517.

131. The desert area to the west of Armant has also been surveyed by Deborah Darnell. This fieldwork has revealed early campsites, which contained a range of pottery including ceramics dating to the Egyptian Predynastic period. These were generally described in relation to existing classification systems, but a full report has not yet appeared; see Darnell 2002.

132. Midant-Reynes, Buchez 2002; Midant-Reynes et al. 2002; Midant-Reynes 2006.

133. Buchez 2002; Buchez 2004a; Buchez 2004b. The PhD dissertation of N. Buchez (2008) could not be accessed and consulted for the purpose of this article.

134. Three fabrics described by N. Buchez have not been included in Table 2: "AV8 – *Pâte alluviale, sableuse grossière, à particules végétales grossières à semi-fines*", which is represented by a unique vessel retrieved in the Eastern Cemetery of Adaima (Buchez 2002, pp. 223–224); "*Pâtes à inclusions de microfossiles (et particules végétales fines)*", which is represented by about ten potsherds from the most recent (Naqada IIIB–C1) sector of the settlement (Buchez 2004a, pp. 675–677; Buchez 2004b, p. 25); and the "semi-fine marl ware", reported for the most recent settlement area (Buchez 2004a, pp. 675–677). The latter is possibly only a variant of "CM – *Pâte à inclusions de sable grossier et particules calcaires*" (Buchez 2002, p. 242, Table I). In Table 2, the *pâtes* codes and designations adopted by N. Buchez (2002) have been used. Some alteration in fabrics nomenclature appears in subsequent articles (Buchez 2004a; Buchez 2004b), but with only minor differences.

135. N. Buchez (2002) also proposes parallels with fabrics described in Nordström 1972 and in the Vienna System (Nordström, Bourriau 1993, pp. 168–182).

single or double asterisk. For seven fabrics, namely AM ?4, AV3, C3, AVC5, AV6–7, and AV10, no close parallel has been found within the assemblages examined in this paper. However, for at least two of them, "AV3 – *Pâte alluviale fine à particules charbonneuses*" and "AV6 – *Pâte alluviale, sableuse semi-fine, à particules végétales fines et courtes*", comparisons are drawn by N. Buchez with fabrics of the Nubian ceramic tradition.[136]

Elkab

In contrast to its sister city Hierakonpolis, whose early settlements have been under investigation since the 1970s (discussed above), the Predynastic habitation remains at Elkab have only recently become the subject of intensive exploration. Since 2009, archaeological research at Elkab, under the direction of (the late) Dirk Huyge and now Wouter Claes, have focussed on the earliest settlement within the town walls.[137] While this work is still ongoing, preliminary reports include an overview of the Predynastic (Badarian–Naqada IIIA1–A2) ceramics retrieved so far. Analysed by S. Hendrickx, the fabrics of this pottery are described mainly by means of the Vienna System.[138] For the six fabric types reported (Nile A, B1, B2, C, shale tempered ware, and Marl A1), parallels suggested in Table 2 are based on the long-known fabric concordances (cf. Table 1) and on the description of the Elkab material provided by S. Hendrickx.

Hierakonpolis

See *supra*, "Methods, materials, and data".

Nag el-Qarmila

In the stretch of the Nile Valley between Hierakonpolis and Aswan, very few Predynastic settlement remains have been located, due in part to the lack of research in the area.[139] However, since 2005, archaeological fieldwork led by Maria Gatto in the

136. Cf. Buchez 2002, pp. 218–219, 221–222, 242, Table I.
137. Claes et al. 2014; Claes, Huyge 2016; Claes, Huyge 2017; Claes 2019. The ceramic finds from the earlier excavations of P. Vermeersch were not reported in sufficient detail to determine fabric; Demuynck, Vermeersch 1978, pp. 139–143; Friedman 1994, pp. 364–365.
138. Claes et al. 2014, pp. 75–85. S. Hendrickx also makes reference to the main ceramic classes in Petrie 1921 and draws comparisons with fabrics described for Hierakonpolis (Friedman 1994), Adaima (Buchez 2002), and Nag el-Qarmila (Gatto et al. 2009b).
139. Hendrickx, Van den Brink 2002, pp. 382–383, 387, fig. 23.10; Gatto 2014, p. 111; Gatto 2016, p. 238. Cf. also *supra*, "Sites investigated by Jacques de Morgan and Henry de Morgan".

Aswan-Kom Ombo region has resulted in the discovery of new sites dated to the 4th millennium BC. Amongst them, settlement areas at Nag el-Qarmila (WK15 and WK22, *circa* Naqada IC–IIA) were subsequently excavated (2006–2012) and published in a number of reports.[140] Analyses of the ceramics by M. Gatto, S. Hendrickx, Hannah Joris and Hans-Åke Nordström describe nine ceramic fabrics: Nile A, B, C; Marl A1; coarse, fine, and fine sandy shale tempered fabrics; a fabric with siltstone inclusions; and a local fabric out of which Nubian style pottery was made.[141]

As it is clear from the nomenclature used, the first four of these fabrics are represented in the Vienna System (cf. Table 1),[142] thus they can be easily correlated (Table 2). The three varieties of shale tempered fabric are comparable in general with Fabric/Temper Class 3 of the Hierakonpolis System, and more specifically it can be suggested that the "coarse shale tempered fabric" of Nag el-Qarmila may equate with the subclass of Fabric/Temper Class 3 "with large flat shales" observed at Hierakonpolis.[143] Whether the other two varieties, fine and fine sandy shale tempered fabrics, are also present at Hierakonpolis or at other sites is unclear. Likewise, parallels for other two fabrics identified at Nag el-Qarmila, the siltstone tempered fabric and the local Nubian fabric, are either unknown or uncertain.[144]

Elephantine

On the island of Elephantine, opposite Aswan, evidence of Predynastic settlement, as early as the Naqada IC, has been uncovered by investigations conducted by the German Archaeological Institute and the Swiss Institute for Architectural and Archaeological Research on Ancient Egypt.[145] The Predynastic finds recorded at this site up until the late 1990s have been analysed and published by Peter Kopp,[146] who

140. Gatto et al. 2009a, pp. 23–31; Gatto et al. 2009b; Gatto 2014, pp. 98–109; Gatto 2016.
141. Nordström, Hendrickx, Joris 2009a; Nordström, Hendrickx, Joris 2009b; Gatto 2014, pp. 100–104; Gatto 2016, pp. 230–232.
142. For some of the ceramic fabrics identified at Nag el-Qarmila, the ceramic analysts also indicate parallels with wares in Petrie 1921 and with fabrics of the Hierakonpolis System (Friedman 1994, pp. 127–164) and the Adaima System (Buchez 2002).
143. Friedman 1994, pp. 154–155.
144. The "local fabric composed of unrefined silty-clay, sand, straw and white clay pieces", which M. Gatto (2014, p. 103; 2016, p. 230) describes as typical for Nubian pottery at Nag el-Qarmila, had been equated with "the Nubian Fabric IIA, tempered with a mixture of sand and ashes" in previous reports (Nordström, Hendrickx, Joris 2009a, p. 28; Nordström, Hendrickx, Joris 2009b, p. 197, with references). This latter fabric is not mentioned in more recent reports and it remains unclear whether it is still to be considered a pertinent parallel or not.
145. For an introduction to the field project, see https://www.dainst.org/projekt/-/project-display/25953 and http://www.swissinst.ch/html/elephantine.html.
146. See Kopp 2006, pp. 13, 28–38, for the archaeological context of these Predynastic finds at Elephantine.

divides the ceramic assemblage into 23 main *Warenarten* (and *Warengruppen*), based on a variety of criteria, e.g. clay type, inclusions, surface treatments, wall thickness, and functional categories. Overall, eleven Egyptian (I.1–11) and twelve Nubian wares (II.1–12) are distinguished, with finer subdivisions (within the Egyptian pottery) bringing the total to 30 groupings. For each of these, P. Kopp provides a detailed description of their features and correspondences with the main ceramic classes in several other systems.[147]

Among the *Ägyptische Warenarten*, 15 of the subgroups (18 in total) are correlated by P. Kopp with fabric/temper classes of the Hierakonpolis System (see Table 2). The correspondence for some of these could also be verified by G. Di Pietro during a study visit to Elephantine in 2014.[148] Based on the direct examination of a sample of the pottery and considering the data published by P. Kopp, six additional correspondences have been proposed (cf. Table 2, highlighted by single or double asterisk). How the fabric of two distinct wares (I.6, "*Nilton, calcitgemagert*",[149] and I.8, "*Nilton, Weinkrüge*"[150]) relate to the fabrics identified within other Predynastic assemblages remains unclear.

With regard to the *Nubische Warenarten*—presumably reflecting a Nubian community present at Elephantine since Predynastic times—their classification follows to a great extent that proposed by H.-Å. Nordström for ceramics of the

147. Kopp 2006, pp. 39–48. He compares ceramic wares distinguished at Elephantine with ceramic classes defined in Petrie 1901; in Reisner 1910, pp. 316ff.; in Junker 1919, pp. 45ff.; by W. Federn (Needler 1984, p. 69); in Nordström 1972, pp. 66ff.; in Payne 1993, pp. 26–29; and in Friedman 1994, pp. 127–164.

148. The visit by G. Di Pietro to the antiquity storehouse of Elephantine took place on the 11th to 13th of March 2014. The on-site study involved examination of a sample of 157 potsherds collected from contexts of the settlement at Elephantine attributed to *Keramikstufen* B1 and B2 (Naqada IID–IIIB); cf. Kopp 2006, pp. 16, 50–52, 98. The following *Ägyptische Warenarten* were represented in the ceramic collection examined: I.1–4, I.6–8, I.9.1, and I.10.1–3, as well as the following *Nubische Warenarten*: II.1, II.4–6, and II.10 (cf. Table 2). Sincere thanks are due to Professor Stephan Seidlmayer (Director, German Archaeological Institute, Cairo) and to the members of the Supreme Council of Egyptian Antiquities for the permission to conduct this visit, as well as to Dr Felix Arnold, Dr P. Kopp, Mr Tyler Perkins, and the Inspector Mr Ahmed Hassan for having facilitated it greatly.

149. None of the fabrics identified within the assemblages examined in the present article appears to correspond closely with ware I.6 "*Nilton, calcitgemagert*" defined by P. Kopp (2006, p. 43) as a "*Nilton mit vollständig ungerundeten Calcit-Stückchen, Sand und wenigen Strohhäckseln gemagert*". However, a number of fabrics in the other assemblages are made of Nile clay and a mixture of calcareous particles, sand, and vegetal inclusions, e.g. R-ware with "normal" temper at El-Mahâsna, AVC5 at Adaima (cf. Table 2), and N2 at Cemetery U (Umm el-Qaab); cf. *supra*, "Sites of the El-Mahâsna and Abydos-Thinis region".

150. Based on both the description given by P. Kopp (2006, p. 44) and direct inspection of one potsherd during the study visit in 2014, it seems that the fabric of ware I.8 "*Nilton, Weinkrüge*", i.e. "[*Nilton mit*] *feinem Sand, Kalk und feinen organischen Partikeln*", is distinct from the Nile clay fabrics of the other Predynastic wares at Elephantine as well as from other fabrics recorded within the assemblages examined in this paper. It remains unclear, however, whether this fabric is comparable with the "fine alluvial clay" of a few "wine jar" fragments collected at Adaima (Buchez 2004a, p. 669, fig. 20, p. 678).

Nubian A-Group, and relevant concordances with H.-Å. Nordström's "type groups" are provided by P. Kopp.[151] The examination of these wares, their fabrics, and pertinent fabric correspondences was beyond the scope of our study and they are only presented summarily in Table 2.

Recommendations and caveats

The foregoing overview highlights the great diversity in the ceramic vocabulary used for describing Predynastic pottery from the Egyptian Nile Valley, while, at the same time, it also points to a relatively good level of comparability amongst the different classification systems scrutinised. Overall, within the 119 ceramic groupings pertaining to the Egyptian ceramic tradition examined here (cf. Table 2), only 18 could not be correlated with any of those described in other systems. For the remaining 101, one or more concordances could be suggested, although at times only tentatively. Certainly, some of the proposed parallels need verification, while new correlations could be possibly added in the future. Nevertheless, the charted correspondences provide a useful baseline for further comparative assessments.

It is hoped the Table 2 will help to make it easier to distinguish between the cases in which a particular fabric is absent in a specific classification system because it was not observed at the site and those cases in which the absence may be due to the way in which the ceramic material was originally classified. Moreover, although Table 2 must not be considered as a proxy for a distribution map, it can nonetheless help "visualise" fabric presence or absence and can be the starting point for further wide-ranging comparative research. However, it must be stressed that in such studies a number of variables, which could not be included here owing to space limitations, must also be taken into consideration. Of these, three are brought into focus below:

– Chronology: Ceramic pastes, like ceramic shapes (the backbone of Predynastic chronology), change over time.[152] The absence of certain fabrics (for example, the marls) from certain sites is due to a factor of time. Among the sites included in Table 2, some represent only specific stages of the Predynastic period, while others

151. Kopp 2006, pp. 42, 46–48, with references. For a recent analysis of the earliest Nubian pottery excavated at Elephantine, see Raue 2018, pp. 82–101, 397–413.
152. Nordström, Bourriau 1993, pp. 160–161; Hendrickx 2006.

cover a broader period. Within this paper it has not been possible to organise the data chronologically, but for wider comparative studies, coeval sites and site layers must be carefully distinguished.

– Site context function: How the range of activities performed at a site may have influenced the presence or absence of certain fabrics and their relative importance in the ceramic assemblage must also be taken into consideration.[153] For instance, at Mahgar Dendera 2, the striking absence of coarse organic tempered fabrics may be attributed to the specialised nature of this campsite and connected to the lack of cooking vessels,[154] from which such fabrics represented at other early Predynastic sites often derive. Another example is Fabric/Temper Class 4, "straw and stone tempered Nile silt", for which no exact parallel has been found in other assemblages. Its use appears restricted to large brewery vats, which are common at Hierakonpolis but only poorly represented at other sites. Thus, technological or functional requirements (or experimentation) may account for its singularity.[155]
– Quantitative data: The relative abundance of pottery in each fabric within a ceramic assemblage is of outmost importance, but could not be accommodated in the tables or the discussion. Fabrics represented by only isolated fragments obviously have a different significance than fabrics attested with more frequency. The former, for example, may reflect occasional experimentation by the potter or interregional interaction (e.g. imported materials), while the latter may indicate, amongst other things, a ceramic tradition local to the sites at which the pottery has been retrieved.[156] Potential sources of bias must also be assessed. Small collections originating from limited test trenches or selective sampling strategies may not provide a true reflection of the range and relative importance of ceramic fabrics at a site. As shown by the ceramic collections from Naqada, the larger the sample size, the greater the potential to identify a variety of fabrics.

153. See Rice 1987 (ed. 2015), pp. 218–219 for the variety of factors that may influence the composition of ceramic assemblages.

154. Hendrickx, Midant-Reynes, Van Neer 2001, p. 103. The absence of cooking pots at Mahgar Dendera 2 is inferred by S. Hendrickx from the absence of soot staining on the exterior surfaces of the ceramics and the lack of base sherds in the numerous hearths found at the site. Nonetheless, S. Hendrickx admits the possibility that vessels made of ceramic or other materials could have been used for cooking without direct contact with fire (e.g. by means of hot stones); see Hendrickx 2001, p. 80.

155. Cf. Friedman 1994, pp. 147–148, 172, pl. 4.2.2–3. See also pl. I.d in this article.

156. Friedman 2000.

Summary, conclusions, and prospects

In this article, an overview has been provided of the diverse nomenclature used to classify fabrics of Predynastic pottery from the settlements of the Egyptian Nile Valley. The systems devised for describing this ceramic material over the years, and especially in the few past decades, have been scrutinised. Concordances amongst the various ceramic groupings have been charted systematically and summarised by means of translation tables (Tables 1–2). These are intended to facilitate intersite comparisons and to lay the groundwork for further comparative investigations into the early ceramic material from southern Egypt, which, potentially, can be extended into adjacent regions as well. These prospective studies in turn may help elucidating the origins of paste recipes that are not only typical of the Predynastic but also continued to be in use in Egypt long time after the 4th millennium BC.[157] Finally, while the work presented here goes some way towards integrating ceramic data available from early Egypt, ceramic categories other than fabrics (e.g. shape types) must also be compared more systematically in the future,[158] allowing for a greater global view of similarities, differences, interactions, and innovations during this dynamic time in the development of Egyptian civilisation.

157. Cf. Ownby, Brand 2019.
158. Cf. Friedman 1994, pp. 749–775, Tables 9.6–31; Vermeersch, Van Neer, Hendrickx 2004, p. 259, Table 11.

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Hierakonpolis System Fabric / temper classes[i]	Petrie's classes[ii]	Peet and Droop's classes
1. Straw tempered Nile silt	R-Rough	D-Coarse ware, rough surface without slip
2. Untempered "Plum red" Nile silt	B-Black-topped red P-Polished red C-White Cross-lined BP-Black polished	(A1-Bright red unpolished) A2-Bright red polished A3-Bright red polished, black top A4-Red polished ware, white paint B-Black ware with more or less polish
3. Shale tempered Nile silt		
4. Straw and Stone tempered Nile silt		
5. Crushed Calcium Carbonate "tempered"	D-Decorated W-Wavy-handled part of L-Late	C1-Smooth, decorated C2-Smooth, wavy-handled C3-Smooth, undecorated A5-Plum-coloured unpolished A6-Plum-coloured polished
7. Grog tempered Nile silt	(R-Rough)	
8. Sandy Marl clay	D-Decorated W-Wavy-handled part of L-Late	C1-Smooth, decorated C2-Smooth, wavy-handled C3-Smooth, undecorated A5-Plum-coloured unpolished A6-Plum-coloured polished
9. Sand tempered (?) Nile silt	(R-Rough) (part of L-Late)	
11. Dung tempered Nile silt		
12. Marl clay "mixed"	D-Decorated W-Wavy-handled part of L-Late	C1-Smooth, decorated C2-Smooth, wavy- handled C3-Smooth, undecorated A5-Plum-coloured unpolished A6-Plum-coloured polished
13. Straw and calcareous clay	Part of L-Late	
14. Nile silt tempered with organics, grog, flint, shale and other stones		
21. Coarse organic tempered Nile silt		
22. Fine Untempered "Plum Red" Nile silt		
26. Fine organic tempered Nile silt	(R-Rough) (P-Polished red)	A1-Bright red unpolished (A2-Bright red polished) (A3-Bright red polished, black top) (A4-Red polished ware, white paint) (B-Black ware with more or less polish)
27. Grog and coarse organic tempered Nile silt	(R-Rough)	
100. Palestinian fabric	Some W-Wavy handled	
"Fibrous ware"	Some P-Polished red	

Table 1. *Fabric/temper classes of the Hierakonpolis System and main correspondences with earlier systems.*

i Fabric temper/classes as defined in: Friedman 1994, pp. 127–164, 717, 728, with updates and addition of Fabric temper/class 13 and 14.

Brunton's classes Badarian pottery	Myers's classes	Vienna System	Payne's ware families
?RB-Rough Brown	C-Chaff-ware	Nile B2-C	C-Chaff-tempered Nile-mud wares
BB-Black-topped Brown BR-Black-topped Red PR-Plain polished Red AB-All Black	N-Nile-ware	Nile B1	N-Nile-mud wares
	Part of G-Grit-ware		
(Some of Brunton's Predynastic "Town" pottery?)			
	D-Desert-ware	Marl A1	D-Hard Pink wares
	(Part of G-Grit-ware?)		
	D-Desert-ware	Marl A4	D-Hard Pink wares
		(Nile B2)	
	D-Desert-ware	Marl A2?	D-Hard Pink wares
	Some G-Grit-ware		
Most of RB-Rough Brown			
BB-Black-topped Brown BR-Black-topped Red Some SB Smooth Brown	(Some N-Nile-ware?)	Nile A	
SB-Smooth Brown Some RB-Rough Brown		Nile B1-(B2)	
			Some of N-Nile-mud ware

ii Primary sources: PETRIE 1921; PEET 1914, pp. 10–13; BRUNTON, CATON-THOMPSON 1928, pp. 20–24, 55; MOND, MYERS 1937, pp. 50–51; NORDSTRÖM, BOURRIAU 1993, pp. 168–186; PAYNE 1993, pp. 26–29. Correspondences updated from: FRIEDMAN 1994, pp. 90–102, 104–117, 123–125, Table 3.1–3, pp. 127–167, Table 4.1, pp. 310–311, 433–448, Table 7.22.

Hierakonpolis System	Hemamieh (Friedman)	El-Mahâsna (Anderson)	Abydos-Thinis (S83–40, S83–41, S83–61, S83–3 and S83–20) (Patch)	El-Amra (Hill et al.)	Halfiah Gibli (Swain)	Mahgar Dendera 2 (Hendrickx)	Naqada (South Town / Zawaydah) (Friedman, Di Pietro)	Khattara sites (KH4, KH3 and KH7) (Friedman)
Fabric/temper classes i	**Fabric/temper classes ii**	**Temper classes**	**Fabric types**	**Fabric/temper classes**	**Fabrics**	**Pâtes**	**Fabric/temper classes**	**Fabric/temper classes**
1. Straw tempered Nile silt	X	R-ware (Chaff/Straw temper); ** R-ware (Chaff/Straw and Sand)?	* 3 Nile Silt C; ** 2 Nile Silt B	X	Nile silt C; * Nile silt B2		X	X
		** R-ware ("Normal" temper = chaff/straw, sand and crushed limestone)			** Nile silt D			
		R-ware (Limestone temper)						
		R-ware (poorly prepared clay)						
2. Untempered "Plum red" Nile silt	X	* Fine ware (No temper); R-ware (No temper)	* 1 Nile Silt A; ** 2 Nile Silt B	X	Nile silt A		X	X
		** Fine ware (Sand temper)						
		** Fine ware ("Normal" temper = chaff/straw, sand and crushed limestone)			** Nile silt D			

Table 2. *Correspondences between the fabric/temper classes of the Hierakonpolis System and ceramic classes identified at other Predynastic sites. (Continues)*

El-Abadiya 2 (Hendrickx et al.)	**El-Tarif (Predynastic - ED)** (Sliwa)	**Armant (MA 21/83)** (Kozłowski)	**Armant (1000/1100, Area 1800)** (Friedman)	**Adaima** (Buchez)	**Elkab** (Hendrickx)	**Hierakon-polis** (Friedman et al.)	**Nag el-Qarmila** (Gatto et al.)	**Elephantine** (Kopp)
Pottery groups	**Keramik kategorien**	**Ceramic groups iii**	**Fabric/ temper classes**	**Pâtes iv**	**Fabrics**	**Fabric/ temper classes**	**Fabrics**	**Warenarten v**
Rough group?	* Grobe Siedlungs-keramik (*R-ware*)	** 1c	X	AV1	* Nile B2; * Nile C	X	* Nile C	I.2 I.3 I.4 I.9.2 I.11.2
Black-topped group. Untempered (?) Nile silt; Red-polished group. Untempered (?) Nile silt	* *Polished red* und *black topped-* Keramik	** 2 ** 3a ** 3b ** 4?	X	AM1 AM2	* Nile A; * Nile B1	X	* Nile A; * Nile B	I.5 I.9.3 I.10.2 I.11.1
				** AM3				

Hierakonpolis System	Hemamieh	El-Mahâsna	Abydos-Thinis (S83–40, S83–41, S83–61, S83–3 and S83–20)	El-Amra	Halfiah Gibli	Mahgar Dendera 2	Naqada (South Town / Zawaydah)	Khattara sites (KH4, KH3 and KH7)
		Fine ware (Limestone temper)						
3. Shale tempered Nile silt		R-ware (Shale temper)					X	X
4. Straw and Stone tempered Nile silt								
5. Crushed Calcium Carbonate "tempered"	X	R-ware (Marl Clay and Limestone)?	* 8 Marl A	X			X	
							Fabric with very fine calcareous particles (Finer variant of Fabric temper/class 5)	

Table 2. *Continuation.*

El-Abadiya 2	El-Tarif (Predynastic - ED)	Armant (MA 21/83)	Armant (1000/1100, Area 1800)	Adaima	Elkab	Hierakon-polis	Nag el-Qarmila	Elephantine
		5						
		6						
								I.6
	* Weit geöffnete Küchengefäße (Late Predynastic?– Early Dynastic)	** 1b ** 7 ** 8 ** 9 * 11	X	P	Shale tempered ware	X Subclasses: - With long grain shales (HK24A); - With large flat shales; - With thin rectangular grey inclusions; -With a mixture of rock fragments (Nekhen); - With shale and straw temper (HK14)	* Coarse shale tempered fabric; * Fine shale tempered fabric; * Fine sandy shale tempered fabric	I.7 ** I.10.3
							Fabric with siltstone inclusions	
								I.8
						X		
	* Keramik mit Dekor (*D-ware*); * Zylindergefäße mit Wellenhenkel-Dekor (*W-ware*); * Rote Keramik mit *pebble*-Politur		X	C1	* Marl A1	X	* Marl A1	I.1 I.1 I.1 I.9.1 I.10.1
	** Rote Keramik mit *pebble*-Politur			* C4		X (Finer variant of Fabric temper/ class 5)		** I.9.1

Hierakonpolis System	Hemamieh	El-Mahâsna	Abydos-Thinis (S83–40, S83–41, S83–61, S83–3 and S83–20)	El-Amra	Halfiah Gibli	Mahgar Dendera 2	Naqada (South Town / Zawaydah)	Khattara sites (KH4, KH3 and KH7)
7. Grog tempered Nile silt		R-ware (Grog temper)		X				X
8. Sandy Marl clay	X		** 8 Marl A	X			X	
9. Sand tempered (?) Nile silt		R-ware (Sand temper)			** Nile silt E?		(?)	
11. Dung tempered Nile silt		R-ware (Dung temper) (Pottery of Nubian origin?)					X (Pottery of Nubian origin?)	X (Intrusive?)
12. Marl clay "mixed"	X		** 8 Marl A	X			X	
13. Straw and calcareous clay							X	
14. Nile silt tempered with organics, grog, flint, shale and other stones								
21. Coarse organic tempered Nile silt	X	R-ware (Coarse Organic temper)					X	
22. Fine Untempered "Plum Red" Nile silt	X	** Fine ware (No temper); R-ware (No temper)	** 1 Nile Silt A	X	** Nile silt A	Nil A. Limon du Nil sans dégraissant végétal		X

Table 2. *Continuation.*

El-Abadiya 2	El-Tarif (Predynastic - ED)	Armant (MA 21/83)	Armant (1000/1100, Area 1800)	Adaima	Elkab	Hierakon-polis	Nag el-Qarmila	Elephantine
Rough group		** 8?						
	* Keramik mit Dekor (*D-ware*); * Zylindergefäße mit Wellenhenkel-Dekor (*W-ware*)			CM		X		
						X		
				(AM ?4)				
				AV2		X (Nubian pottery)		
				AV3				
	* Keramik mit Dekor (*D-ware*); * Zylindergefäße mit Wellenhenkel-Dekor (*W-ware*)		X	C2		X		* I.1 * I.10.1
				C3				
				* CV		X		** I.4
			X			X		
Rough group?		** 1c	X	AV9		X		
		** 2 ** 3a ** 3b ** 4?	X		** Nile A		Nile A	

Hierakonpolis System	Hemamieh	El-Mahâsna	Abydos-Thinis (S83–40, S83–41, S83–61, S83–3 and S83–20)	El-Amra	Halfiah Gibli	Mahgar Dendera 2	Naqada (South Town / Zawaydah)	Khattara sites (KH4, KH3 and KH7)
						Nil B1a. Limon du Nil à dégraissant végétal très fin		
26. Fine organic tempered Nile silt	X Subclasses: - Variable paste, with few and small organic inclusions, occasional coarse sand; - Fine grained paste with abundant fine organic inclusions; - Like previous subclass, but with large angular limestone fragments	** Fine ware (Chaff/ Straw temper)	** 2 Nile Silt B			Nil B1b. Limon du Nil à dégraissant végétal fin et abundant; Nil B1c. Limon du Nil à dégraissant végétal fin mais limité	X	X
						Nil B2. Limon du Nil à dégraissant végétal fin et charbon de bois		
27. Grog and coarse organic tempered Nile silt		R-ware (Grog and Organic temper)					X	X
100. Palestinian fabric								
"Fibrous ware"								

Table 2. *Continuation.*

El-Abadiya 2	El-Tarif (Predynastic - ED)	Armant (MA 21/83)	Armant (1000/1100, Area 1800)	Adaima	Elkab	Hierakon-polis	Nag el-Qarmila	Elephantine
Rough group?		** 1c	X			X		** I.11.2
Rough group		* 1a	X					
						X		
			X	* AO_4		X		
		10						
				(AVC_5)				
				AV6				
				AV7				
				AV10				

Hierakonpolis System	Hemamieh	El-Mahâsna	Abydos-Thinis (S83–40, S83–41, S83–61, S83–3 and S83–20)	El-Amra	Halfiah Gibli	Mahgar Dendera 2	Naqada (South Town / Zawaydah)	Khattara sites (KH4, KH3 and KH7)

Table 2. *Continuation and end.*

i Notes:
Fabric temper/classes as defined in: Friedman 1994, pp. 127–164, 717, 728, with updates and addition of Fabric temper/class 13 and 14.

ii Legend:
A single row is assigned to a unique type of fabric and its closest comparable ceramic groupings;
X indicates occurrence of fabric/temper classes as described in the Hierakonpolis System;
(?) Question mark in brackets indicates a fabric whose occurrence is uncertain;
* Single asterisk indicates a correspondence suggested by the authors of the present article;
The absence of the asterisk before the name of a fabric that compares with other fabrics usually indicates a correspondence suggested by the relevant ceramic analyst with fabric/temper classes of the Hierakonpolis System;
** Double asterisks indicate correspondences suggested very tentatively, because the information in the sources was limited and/or the relationship between the relevant fabrics needs to be further explored.

iii Ceramic groups at Armant (MA 21/83) (from Kozłowski 1994, pp. 74–75, 78–79):
1a [Nile silt] with a coarse temper of crushed sherds and organic temper;
1b [Nile silt] with a mineral temper such as quartz grains or grit of other rocks;
1c [Nile silt] with an unidentified organic temper;
2 [Nile silt] with a small amount of quartzite sand temper; brown polished surface;
3a [Nile silt] with a small amount of mineral temper; red polished surface;
3b Paste like 3a; upper part of vessels with a black polished surface;
4 [Nile silt] with small amount of mineral temper; mat brown, smooth surface;
5 [Nile silt] with a small amount of mineral temper, grey smooth surface;
6 [Nile silt] with straw and sand temper; thick ceramics; "wet-hand" decoration;
7 Medium-thick ceramics; rough surface; tempered with thick rock grit;
8 Medium-thick ceramics; smooth mat surface; tempered with red mineral grit (stone, crushed sherds);
9 Thin-walled ceramics; smooth surface; tempered with cream coloured mineral grains; ex surface and fracture are black;
10 Thin-walled ceramics; rough surface; tempered with crushed shells;
11 Thin-walled ceramics; smooth mat surface; mineral temper (shale).

El-Abadiya 2	El-Tarif (Predynastic - ED)	Armant (MA 21/83)	Armant (1000/1100, Area 1800)	Adaima	Elkab	Hierakon-polis	Nag el-Qarmila	Elephantine
							Unrefined silty-clay, sand, straw and white clay pieces (Nubian pottery)	
								II.1–12

iv ***Pâtes*** at ***Adaima*** (from BUCHEZ 2002):
AM1 – Pâte alluviale, sableuse fine;
AM2 – Pâte alluviale, sableuse semi-fine;
AM3 – Pâte alluviale, sableuse grossière;
(AM ?4) – Pâte sableuse fine à inclusions grossières de feldspath;
AV1 – Pâte alluviale, sableuse fine, à particules végétales grossières;
AV2 – Pâte alluviale fine à particules végétales fines et courtes;
AV3 – Pâte alluviale fine à particules charbonneuses;
AO4 – Pâte alluviale à particules organiques très fines et longues;
(AVC5) – Pâte à particules végétales fines et courtes et inclusions calcaires;
AV6 – Pâte alluviale, sableuse semi-fine, à particules végétales fines et courtes;
AV7 – Pâte alluviale, sableuse grossière, à particules végétales fines à semi-fines;
[…]
AV9 – Pâte alluviale, sableuse fine, à rares particules végétales grossières;
AV10 – Pâte vacuolaire;
C1 – Pâte alluviale, sableuse fine, à inclusions calcaires semi-fines à grossières;
C2 – Pâte sableuse fine à inclusions calcaires diffuses;
C3 – Pâte alluviale, sableuse grossière, à inclusions de calcite à dominante bioclastique;
C4 – Pâte rouge orangée à fond très fin où les particules calcaires visibles sont rares;
CV – Pâte alluviale, sableuse fine, à inclusions calcaires semi-fines à grossières et particules végétales grossières;
CM – Pâte à inclusions de sable grossier et particules calcaires;
P – Pâte a plaquettes.

v ***Warenarten*** at **Elephantine** (from KOPP 2006, pp. 39–48):
I.1 Mergel;
I.1 Mergel (D-Ware);
I.1 Mergel (W-Ware);
I.2 Nilton, mit Häckselmagerung;
I.3 Nilton, Brotmodel;
I.4 Nilton, Bottiche;
I.5 Nilton mit Sandmagerung;
I.6 Nilton, calcitgemagert;
I.7 Nilton mit Gesteinsgrus gemagert;
I.8 Nilton, "Weinkrüge";
I.9.1 Strichpolierter Mergel;
I.9.2 Strichpolierter Nilton mit Häckselmagerung;
I.9.3 Strichpolierter Nilton mit Sandmagerung;
I.10.1 Rotpolierter Mergel;
I.10.2 Rotpolierter Nilton;
I.10.3 Rotpolierter Nilton mit Gesteinsgrus;
I.11.1 Nilton, blacktop, sandgemagert;
I.11.2 Nilton, blacktop, mit Häckselmagerung;
II.1–12 Nubische Warenarten.

Pl. I. *Macro photos of the fabric/temper classes of the Hierakonpolis System. Photos: R.F. Friedman.*
a. *Fabric/Temper Class 1: straw tempered Nile silt from Hierakonpolis.*
b. *Fabric/Temper Class 2: untempered "plum red" Nile silt from Naqada.*
c. *Fabric/Temper Class 3: shale tempered Nile silt from Hierakonpolis.*
d. *Fabric/Temper Class 4: straw and stone tempered Nile silt from Hierakonpolis.*
e. *Fabric/Temper Class 5: crushed calcium carbonate "tempered" from Hierakonpolis.*
f. *Fabric/Temper Class 5: finer variant from Naqada. Photo: G.A. Di Pietro.*
g. *Fabric/Temper Class 7: grog tempered Nile silt from Khattara.*
h. *Fabric/Temper Class 8: sandy marl clay from Naqada.*

Pl. II. *Macro photos of the fabric/temper classes of the Hierakonpolis System. Photos: R.F. Friedman.*
a. *Fabric/Temper Class 9: sand tempered (?) Nile silt from Hierakonpolis.*
b. *Fabric/Temper Class 12: marl clay "mixed" from Naqada.*
c. *Fabric/Temper Class 13: straw and calcareous clay from Hierakonpolis. Photo: G.A. Di Pietro.*
d. *Fabric/Temper Class 14: Nile silt tempered with organics, grog, flint, shale, and other stones from Hierakonpolis.*
e. *Fabric/Temper Class 21: coarse organic tempered Nile silt from the region of El-Badari.*
f. *Fabric/Temper Class 22: very fine untempered Nile silt from the region of El-Badari.*
g. *Fabric/Temper Class 26: fine organic tempered Nile silt from the region of El-Badari.*
h. *Fabric/Temper Class 27: grog and coarse organic tempered Nile silt from Khattara.*

Hannah Pethen

A New Year Pottery Corpus: Investigating Early 20th Century Excavation Methods through the Hogarth Excavation Archive at the British Museum

Introduction

Between December 1906 and March 1907, David George Hogarth undertook a series of excavations on behalf of the British Museum in the north-western part of the necropolis of Asyut (fig. 1). He did not publish his results, but his fieldwork archive and *circa* 600 artefacts allotted to him by the Egyptian *Service des Antiquités* during the division of the finds are kept in the British Museum.[1] A detailed review of his excavation notes and of the surviving artefacts reveals how he generated, expanded, and modified his pottery corpus over the course of his excavation season.[2] Research into the artefacts and archive exposed problems with his classification system, including some excessively broad categories and a failure to revise earlier records when new categories were added. These issues are of crucial importance for the investigation, dating, and analysis of the tombs and artefacts excavated by D. Hogarth and are also of interest for the insights they provide into early 20th century excavation practices.

1. The British Museum catalogue contains 564 objects listed as coming from the excavations by D. Hogarth.

2. This work was undertaken while the author was the Asyut Project Curator for the Asyut Region Project at the British Museum. The Asyut Region Project was supported by an Institutional Links grant, ID 274662441, under the Newton-Mosharafa Fund partnership. The grant is funded by the UK Department of Business, Energy, and Industrial Strategy (BEIS), and delivered by the British Council. For further information, please visit www.newtonfund.ac.uk. The author also wishes to thank Ilona Regulski and Sylvie Marchand for their comments on the paper.

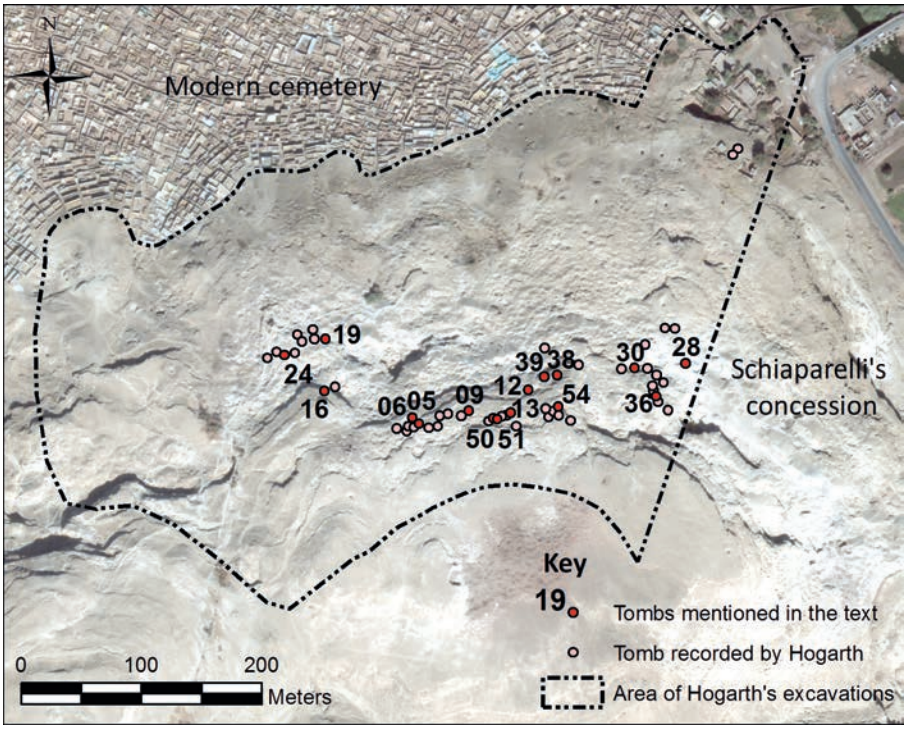

Fig. 1. *The Asyut necropolis and the area excavated by D. Hogarth in 1906–1907. Tombs mentioned in the text are highlighted in red. Made with data taken from the sketch map in Hogarth 1907a. Underlying Worldview-3 satellite imagery. © DigitalGlobe supplied by European Space Imaging.*

The Hogarth archive in the British Museum

The British Museum was granted a concession to excavate in the north-western part of the Asyut necropolis on 29th May 1906 by Gaston Maspero, Director General of the *Service des Antiquités*.[3] D. Hogarth was appointed as the excavation director on 13th October 1906 on the recommendation of the Keeper of Egyptian and Assyrian Antiquities[4] and commenced work at Asyut on the 17th December 1906,[5] sending regular letters and reports back to the Keeper and to the Director of the British Museum. At the end of the season, D. Hogarth returned to the British Museum with the artefacts assigned to the Museum by the *Service des Antiquités* and various documents

3. Maspero 1906.
4. Budge 1906.
5. Hogarth 1907c.

from his fieldwork. These documents, kept in the museum archives, include a map,[6] letters and reports to the trustees of the British Museum and to the Keeper, a diary,[7] a notebook,[8] and a register of the objects found in the most significant tombs.[9] This extensive record provides insights into the development and execution of an early 20th century excavation, as well as crucial documentation for interpreting the artefacts from it.

Two previous researchers have investigated D. Hogarth's archive. Donald Ryan (1988) completed a PhD thesis on the artefacts from D. Hogarth's excavations kept in the British Museum. His research was limited to a discussion of the site derived from the unpublished "Report on Excavations in the Cemetery of Assiut",[10] a map,[11] a description of the numbered tombs,[12] and an object register of the artefacts found.[13] D. Ryan (1988) included detailed object lists for each of the numbered tombs, but as Marcel Zitman (2010, vol. 1, p. 54) points out, there are a number of inaccuracies and defects in these lists. While D. Ryan reproduced the drawings from D. Hogarth's pottery corpus and object register, he did not analyse the ceramics.

M. Zitman (2010, vol. 2) correlated many of the documentary and artefact sources from D. Hogarth's excavations, produced extensive lists of the surviving and known artefacts by tomb,[14] and located tombs which were missing from D. Hogarth's map or notebook.[15] His research into D. Hogarth's pottery corpus revealed parallels with Stephan Seidlmayer's (1990) sequence dating of a large First Intermediate Period necropolis at Qaou-Matmar, which M. Zitman used to date the tombs excavated by D. Hogarth. M. Zitman (2010, vol. 2, pp. 52–57) found that some of shapes[16] included in D. Hogarth's pottery corpus covered a range of morphologically varied vessels and he experienced problems identifying some shapes where there were few surviving examples and no parallels from Qaou-Matmar. Teodozja Rzeuska (2017) includes most of the surviving vessels from D. Hogarth's excavations in her catalogue of the pottery from the Asyut necropolis but does not relate them to modern typologies or to the shapes from D. Hogarth's pottery corpus.

6. Hogarth 1907a.
7. Hogarth 1907b.
8. Hogarth 1907c.
9. Hogarth 1907f.
10. Hogarth 1907g.
11. Hogarth 1907a.
12. Hogarth 1907c.
13. Hogarth 1907f.
14. Zitman 2010, vol. 2, app. 1.
15. Zitman 2010, vol. 1, p. 54; vol. 2, Map 1.
16. In order to differentiate the specific forms of D. Hogarth's pottery corpus from other vessel groupings or typologies, this article follows the usage of "shape" found in Hogarth 1907f, p. 1, to refer to his vessel types (i.e. "Shape 1").

D. Hogarth's excavation methods

Although standards of archaeological recording were less rigorous in the early 20th century, D. Hogarth was reasonably thorough and made relatively detailed records of his excavations.[17] His letters and reports indicate that he found the discoveries disappointing, with few intact tombs and many small graves.[18] He numbered only 57 of the *circa* 300 tombs he found,[19] but the records of the numbered tombs are reasonably detailed and extensive.

Based on the dates in his notebook[20] and diary,[21] D. Hogarth numbered his tombs as he found them over the course of the 1906–1907 excavation season. The higher the tomb number, the later the date at which it was found, although D. Hogarth regularly excavated more than one tomb at a time and some tombs which are numerically close together were excavated simultaneously. By cross-referencing the tomb numbers in the object register[22] and in the notebook[23] with the dates in the notebook and diary,[24] it is possible to track the development of D. Hogarth's excavation and recording methods over the course of his field season.

Each of the numbered tombs is described in the notebook.[25] Most descriptions include a sketch plan and many of the tombs are shown on the map of the excavations.[26] Artefacts from each tomb are listed in the object register,[27] often with their British Museum number,[28] and many of the artefacts also have their tomb numbers

17. M. Zitman (2010, vol. 1, p. 52) discusses in detail the positive elements of D. Hogarth's excavation and recording strategies. D. Ryan (1988, p. 76) points out that D. Hogarth was trained by William Petrie and adhered to the latter's standards. A letter in the British Museum archives includes a reference to D. Hogarth's previous work at Naukratis; see Hogarth 1906.
18. Hogarth 1907g, pp. 9–10.
19. Zitman 2010, vol. 1, p. 45.
20. Hogarth 1907c.
21. Hogarth 1907b.
22. Hogarth 1907f.
23. Hogarth 1907c.
24. Hogarth 1907b.
25. Hogarth 1907c.
26. Hogarth 1907a.
27. Hogarth 1907f.
28. The British Museum object numbers are listed in pencil on the right of the object register against D. Hogarth's descriptions of the relevant objects. According to the card he send to Ernest Budge (Hogarth 1907d), he was present in the British Museum when the cases of artefacts were opened. If he did not annotate the object registers himself, he probably advised those who did. The only artefacts he did not assist with were the large cases containing the coffins.

written on them in black ink. Although there are problems with D. Hogarth's documentation and recording,[29] it is often possible to match these objects to the tombs from which they came.

Thanks to D. Hogarth's relatively thorough recording, the archives and artefacts in the British Museum provide considerable insights into his working practices and particularly into the creation and development of the pottery corpus, which he used to classify the vessels found during the excavations.

The pottery corpus

During his excavations, D. Hogarth created a pottery corpus of the vessels he encountered,[30] enabling him to classify and record pottery according to a set typology (fig. 2). This corpus is crucial to interpreting and dating the tombs he excavated because he only brought a "representative sample"[31] of the pottery back to the British Museum. As a result, there are few complete ceramic assemblages from D. Hogarth's excavations and it is not possible to undertake a detailed modern study of the entire ceramic repertoire.[32] The pottery corpus shapes, listed in the object register,[33] are often the only information on which types of vessels were discovered in any given tomb and may provide the only dating evidence. Given the importance of the pottery corpus for dating the excavated tombs and surviving artefacts, a detailed understanding of its development is highly beneficial to any subsequent research.

29. Zitman 2010, vol. 1, pp. 49–56.
30. Hogarth 1907f, p. 1.
31. Hogarth 1907e.
32. Zitman 2010, vol. 1, p. 52, Zitman 2010, vol. 2, pp. 220–235. The only apparently complete assemblages come from Tombs 21, 23, 28, 30, and 56; their supposed completeness assumes that D. Hogarth recorded and retained all the vessels from these sepulchres without missing any or leaving any behind unrecorded.
33. Hogarth 1907f.

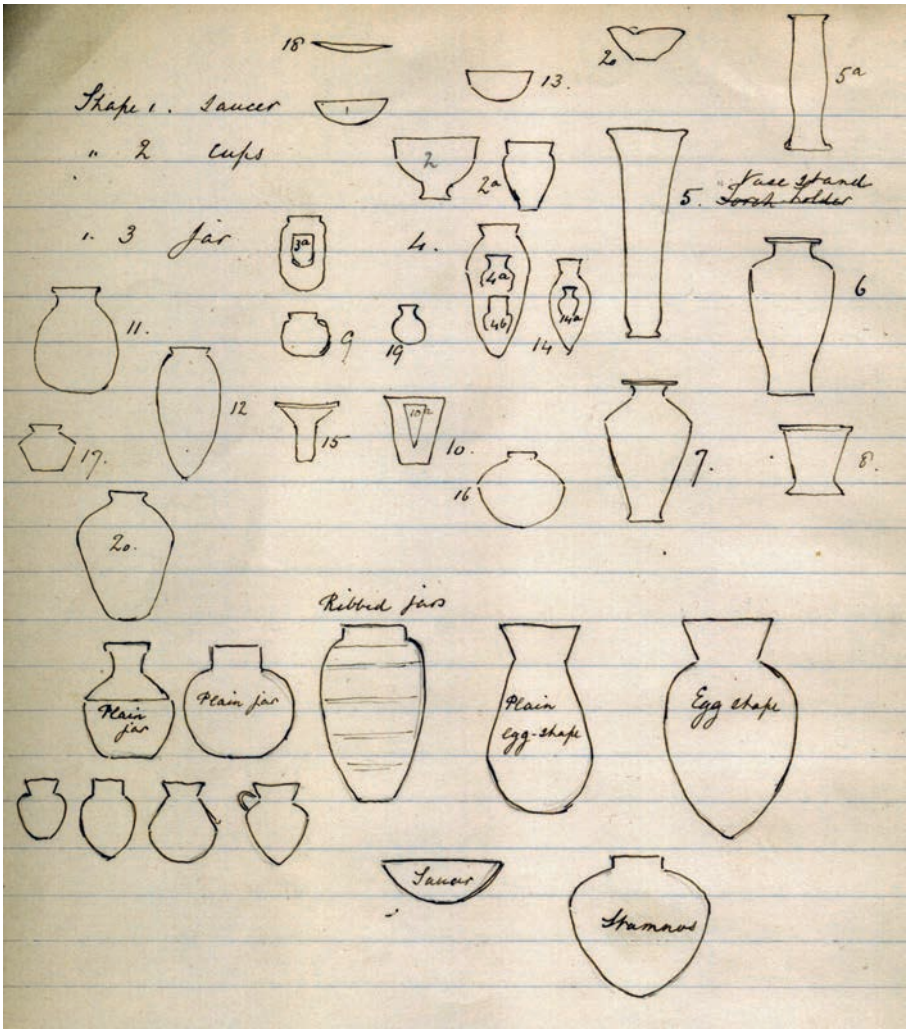

Fig. 2. *The pottery corpus from Hogarth 1907f, p. 1. Courtesy of the trustees of the British Museum.*

The pottery corpus (Table 1) is composed of 20 different shape numbers (e.g. "Shape 1") and seven sub-groups (e.g. "Shape 2a"), hence 27 shapes all together. Each of these was sketched on the first page of the object register (fig. 2).[34] Most of the vessels in the object register are described according to their shape number.

34. Hogarth 1907f, p. 1.

Shape no.	Tomb no.	Excavation commenced	Excavation ended
1	9	01/01/1907	02/01/1907
2	9	01/01/1907	02/01/1907
2a	38	02/02/1907	02/02/1907
3	9	01/01/1907	02/01/1907
3a	36	01/02/1907	01/02/1907
4	9	01/01/1907	02/01/1907
4b	51	14/02/1907	16/02/1907
5	12	04/01/1907	05/01/1907
5a	50	15/02/1907	15/02/1907
6	13	04/01/1907	12/01/1907
7	13	04/01/1907	12/01/1907
8	13	04/01/1907	12/01/1907
9	9	01/01/1907	02/01/1907
10	19	14/01/1907	14/01/1907
10a	39	02/02/1907	04/02/1907
11	16	12/01/1907	16/01/1907
12	16	12/01/1907	16/01/1907
13	16	12/01/1907	16/01/1907
14	16	12/01/1907	16/01/1907
14a	36	01/02/1907	01/02/1907
15	16	12/01/1907	16/01/1907
16	28	23/01/1907	27/01/1907
17	30	27/01/1907	27/01/1907
18	36	01/02/1907	01/02/1907
19	36	01/02/1907	01/02/1907
20i	54	21/02/1907	21/02/1907
20ii	38	02/02/1907	02/02/1907

Table 1. *Pottery corpus shape numbers with the tomb in which they were mentioned for the first time and the dates of excavation according to the notebook,*[35] *object register,*[36] *and diary.*[37]

35. Hogarth 1907c.
36. Hogarth 1907f.
37. Hogarth 1907b.

Origins of the corpus

It appears that D. Hogarth waited until he had excavated several tombs and amassed a small collection of representative vessels before creating his pottery corpus. The lists of objects found in Tombs 1–8 included descriptions of pottery vessels found inside them,[38] but these were not yet classified by pottery corpus shape numbers. Instead, D. Hogarth drew sketches (fig. 3) and included brief descriptions,[39] such as "saucer" or "torch holder".[40]

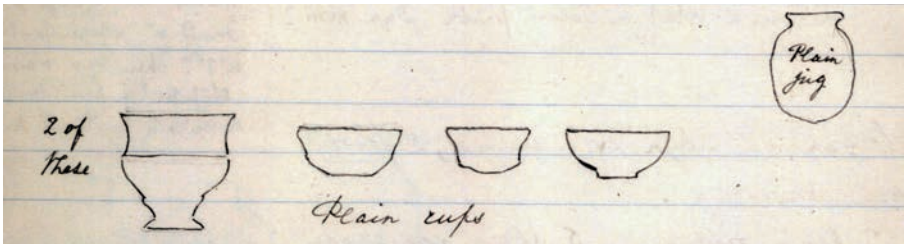

Fig. 3. *The five vessels from Tomb 5 as drawn in Hogarth 1907f, p. 3. Courtesy of the trustees of the British Museum.*

The object register for Tomb 9, excavated on 1st January 1907,[41] is the first to classify vessels according to pottery corpus shape (fig. 4). The entry for this tomb includes references to Shapes 1, 2, 3, 4, and 9,[42] indicating that the initial nine shapes of the pottery corpus were defined before D. Hogarth wrote the object register for Tomb 9 (see Table 1 and fig. 4). Evidence from the notebook[43] and object register[44] reveals that prior to the discovery of this tomb the only numbered tombs that produced pottery significant enough to be recorded were Tombs 5 and 6, excavated between the 27th December 1906 and the 1st January 1907. This suggests that Tombs 5, 6, and perhaps 9, provided the assemblage of vessels which D. Hogarth used to generate the initial pottery corpus shapes and that the initial pottery corpus was created on or around 1st January 1907.

38. Hogarth 1907f, pp. 2–9.
39. See for example Hogarth 1907f, p. 6.
40. Hogarth 1907f, p. 5. A sketch of the "torch holder" from Tomb 6 shows that it is a vessel-stand, drawn upside down. Compare D. Hogarth's sketch in Figure 5 with the drawing of EA45273 in Rzeuska 2017, pp. 228–229; and with vessel-stands in Schiestl, Seiler (eds.) 2012, pp. 828–834.
41. Hogarth 1907b, p. 1.
42. Hogarth 1907f, p. 10. Shapes 6, 7, and 8 are first recorded in Tomb 13, which was excavated after Tomb 9, from the 4th to the 12th January 1907. See Hogarth 1907f, p. 18, for the object register for Tomb 13; see Hogarth 1907c, pp. 38–40, for its excavation dates. Since Tomb 9 included vessels described as Shape 9, examples of Shapes 6–8 must have been found prior to the discovery of Tomb 13. Either these shapes were present in unrecorded contexts or they are not described sufficiently distinctly to be identifiable in the object register for Tombs 1–8.
43. Hogarth 1907c, pp. 17–27.
44. Hogarth 1907f, pp. 3–10.

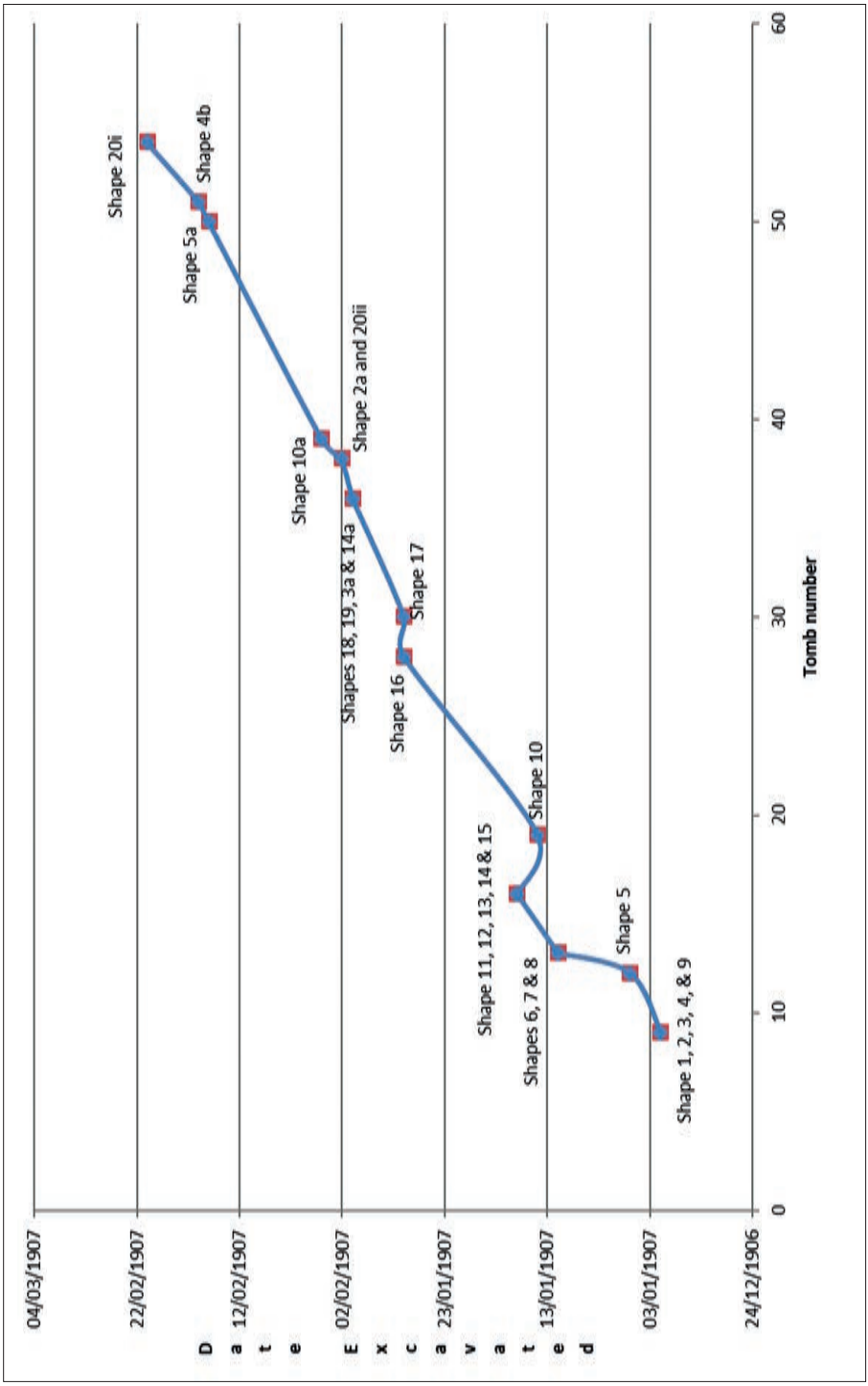

Fig. 4. *Development of D. Hogarth's pottery corpus over time (data from Table 1).*

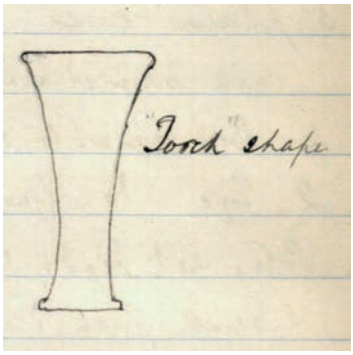

Fig. 5. *D. Hogarth's first drawing of a "torch holder", the upside-down vessel-stand that would later become Shape 5 of his pottery corpus. After Hogarth 1907f, p. 5. Courtesy of the trustees of the British Museum.*

The Shape 5, "torch holders", illuminate the process further. Vessels described as "torch holders" had been found in Tomb 6 at the end of December 1906,[45] but these "torch holders" are first classified as "Shape 5" in the entry for Tomb 12,[46] which was excavated on 4th–5th January 1907.[47] It is apparent from these entries that D. Hogarth first encountered the "torch holders" in late December 1906, recording their distinctive shape in the object register (fig. 5), before categorising them as "Shape 5" when codifying his pottery corpus at the beginning of January. A similar process is evident in the evolution of vessels initially described as "saucers" into "Shape 1",[48] "cups" into "Shape 2",[49] and "jars" (sometimes described as "jugs" or "vases") into "Shape 3".[50]

The origins of these pottery corpus shapes in generic terminology like "saucer" or "cup" naturally raises questions about how precisely D. Hogarth differentiated between different types. Study of the extant vessels recorded as a single shape in the object register[51] revealed high levels of morphological variability in several shapes, including Shape 1 and Shape 3,[52] indicating that these early pottery corpus shapes could be far broader than a modern ceramic type. Shape 1 is a good example of this phenomenon and was probably envisaged as a more flexible group than would be the case in a modern typology. D. Hogarth's sketch[53] of Shape 1 vessels (fig. 2)

45. Hogarth 1907f, pp. 5–6.
46. Hogarth 1907f, p. 16.
47. Hogarth 1907c, p. 38.
48. Hogarth 1907f, p. 70. Compare his sketch of Shape 1 in Figure 2 with the drawing of one of his "saucers" (EA45239) in Rzeuska 2017, pp. 200–201.
49. Hogarth 1907f, p. 10. Compare his sketch of Shape 2 in Figure 2 with the drawing of a "cup" (EA45241) in Rzeuska 2017, pp. 366–367.
50. Hogarth 1907f, p. 42. Compare his sketch of Shape 3 in Figure 2 with the drawing of a "vase" (EA45224) in Rzeuska 2017, pp. 240–241; and in Zitman 2010, vol. 2, p. 73, fig. 13.8.
51. Hogarth 1907f.
52. Zitman 2010, vol. 2, p. 52.
53. Hogarth 1907f, p. 1.

is consistent with hemispherical cups or bowls.[54] Vessels EA45238,[55] EA45240,[56] and EA45239,[57] described as "Shape 1" in the object register, have been identified as hemispherical cups and bowls.[58] However, EA45243[59] is described as "Shape 1" in the object register but has been identified as a carinated bowl or cup,[60] indicating that Shape 1 included other open vessel types. This has important implications for the subsequent development of the pottery corpus under D. Hogarth and for modern researchers.

Development of the pottery corpus

Cross-referencing the object register,[61] notebook,[62] and diary[63] reveals that D. Hogarth added additional shapes to his pottery corpus as these were discovered (fig. 4). Following the definition of the first nine shapes by the beginning of January 1907, Shape 10 appears in the object register for Tomb 19,[64] which was excavated on the 14th January 1907.[65] Shapes 11–15 appear in the object register for

54. Hogarth 1907f, p. 1. Compare his sketch of Shape 1 in Figure 2 with the drawing of a hemispherical bowl (EA45237) in Rzeuska 2017, p. 201; and with the corpus of hemispherical bowls in Schiestl, Seiler (eds.) 2012, pp. 56–108.
55. Hogarth 1907f, p. 10.
56. Hogarth 1907f, p. 40, although his description is rather sloppy: "Several jugs (sh. 1, 2, 3, 4, 5)".
57. Hogarth 1907f, p. 70.
58. Zitman (2010, vol. 2, p. 72, fig. 12.10; p. 221; p.226) identifies EA45238, EA45240, and EA45239 as hemispherical bowls of Qaou-Matmar types K-A07.02. For Qaou-Matmar types, see Seidlmayer 1990, p. 150. R. Schiestl and A. Seiler (eds., 2012, pp. 56–59) include the Qaou-Matmar type K-A07.02 in their type I.A.1.c, small hemispherical bowls of 13.5 cm diameter and larger, dating to the late First Intermediate Period and early Middle Kingdom up to the reign of Senusret II. T. Rzeuska (2017, pp 332–333) also identifies EA45238 as a Middle Kingdom hemispherical bowl, but she includes EA45239 with First Intermediate Period forms (pp. 200–201).
59. Hogarth 1907f, p. 70.
60. Zitman 2010, vol. 2, p. 226: he identifies EA45243 as a carinated bowl of Qaou-Matmar type K-A09.02. S. Seidlmayer (1990, pp. 150–151) indicates that K-A09.02 is a predominantly Old Kingdom form that extends into the First Intermediate Period. R. Schiestl and A. Seiler (eds., 2012) do not identify K-A09.02 with any specific type in their Middle Kingdom pottery corpus, but their type I.F.9.c does bear some resemblance to both EA45243 and K-A09.02 and might be a later derivative of them. T. Rzeuska (2017, pp. 132–133) also identifies EA45243 as a carinated bowl, but she dates it to the late Old Kingdom. Irrespective of its designation in modern typologies, this is clearly a carinated bowl that was classified as a Shape 1 by D. Hogarth (1907f, p. 70).
61. Hogarth 1907f.
62. Hogarth 1907c.
63. Hogarth 1907b.
64. Hogarth 1907f, p. 30.
65. Hogarth 1907c, p. 56.

Tomb 16,[66] which was excavated from the 12th to the 16th January 1907.[67] Additional vessel shapes were added individually as D. Hogarth felt the need and another group of shapes (18, 19, 20ii, 2a, 3a, and 14a) appear on 1st–2nd February 1907 after a cluster of new discoveries were made in Tombs 36 and 38.

Unfortunately, D. Hogarth was not very consistent about the circumstances that required him to generate new shapes. In some cases, a specific vessel was classified as one shape in earlier tombs, while a similar vessel was recorded as a different, more morphologically specific, shape in a later tomb. Shape 20ii is a typical example:[68] it is the only folded-rimmed vessel in D. Hogarth's pottery corpus,[69] making it the most likely shape number for a group of square folded-rimmed bowls from Tomb 36 (EA45235[70]) and Tomb 38 (EA45295[71] and EA45296[72]). Although all of these vessels are of the same type, with a simple contour and a folded rim drawn out to form a square,[73] the object register for Tomb 36 identifies EA45235 as one of a group of "several saucers (sh. 1) (sh. 18)",[74] while the vessels from Tomb 38 are described as "3 bowls (shape 20)".[75] It appears that D. Hogarth initially included EA45235 in an existing shape (Shape 1 or 18) and only created a new shape for this type when further examples were found in Tomb 38.

A similar process is evident in the generation of the pottery corpus sub-groups. Shapes 2a, 3a, 4b, 5a, 5b, 10a, and 14a were first mentioned in tombs excavated in February 1907 (Table 1; fig. 4). Examples in the British Museum indicate that these sub-groups were the product of D. Hogarth's late recognition that some pottery shapes obscured distinctions between morphologically related sub-types.

66. Hogarth 1907f, p. 24.
67. Hogarth 1907c, pp. 45–46.
68. Hogarth 1907f, p. 1. The pottery corpus shows two very different shapes for Shape 20 (fig. 2). One (hereafter "Shape 20i") is a large ovoid jar with rounded shoulders. The other (here described as "Shape 20ii") is an open bowl with a simple contour and a square folded rim.
69. Zitman 2010, vol. 2, p. 54.
70. Rzeuska 2017, pp. 404–405; Zitman 2010, vol. 2, p. 90, fig. 22.2.
71. Zitman 2010, vol. 2, p. 73, fig. 13.6.
72. Rzeuska 2017, pp. 372–373; Zitman 2010, vol. 2, p. 73, fig. 13.7.
73. T. Rzeuska (2017, p. 293) records a number of other vessels of this type from Asyut and suggests that they either developed from Old Kingdom and First Intermediate Period closed forms with square rims or were borrowed from Pan Grave culture.
74. Hogarth 1907f, p. 66.
75. Hogarth 1907f, p. 70.

For example, during most of his excavation season, D. Hogarth classified all tall vessel-stands as "Shape 5", but in the object register for Tomb 50 he lists "4 ~~torch holders~~ vase stands (shape 5) broken, 2 vase stands (shape 5a)".[76] It appears that while excavating Tomb 50 on 15th February 1907,[77] D. Hogarth decided that the morphological variation within Shape 5 merited the creation of Shape 5a. Shape 5a vessels are only listed in the object register for Tomb 50 and no indisputable vessel of this shape is present in the British Museum. EA45222[78] looks like it should be a Shape 5a and comes from Tomb 50,[79] but is not listed in the object register for that tomb,[80] so it is impossible to be certain if D. Hogarth would have classified it as Shape 5a or not. His sketch is thus the only evidence for the differences between Shape 5 and Shape 5a.[81] It suggests that Shape 5a was very similar to Shape 5, but had convex or wavy sides instead of smooth, slightly concave ones (fig. 6).[82]

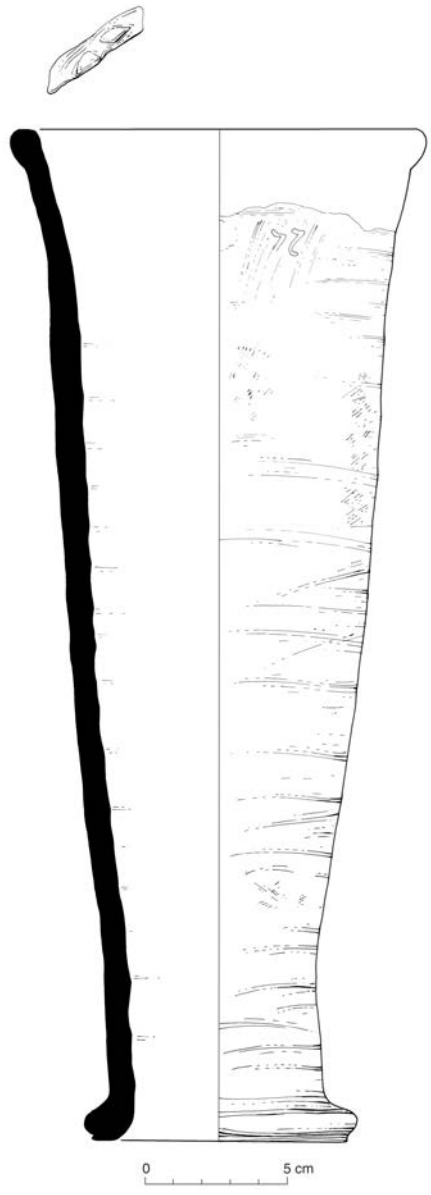

Fig. 6.
Vessel-stand with convex sides from Tomb 24, now in the British Museum (EA45220). Note that the stand is shown upside down for better comparison with D. Hogarth's sketches. Illustration by Claire Thorne, courtesy of the trustees of the British Museum.

76. Hogarth 1907f, p. 94.
77. Hogarth 1907c, p. 118.
78. For drawings of EA45222, see Rzeuska 2017, pp. 226–227.
79. Zitman 2010, vol. 2, p. 232.
80. Hogarth 1907f, p. 94.
81. Hogarth 1907f, p. 1.
82. Hogarth 1907f, p. 1. Compare his sketches of Shape 5 and Shape 5a in Figure 2 with the drawing of vessel EA45222 in Rzeuska 2017, pp. 226–227, and with a probable Shape 5a vessel (EA45220; fig. 6).

Unfortunately, D. Hogarth did not revise previous entries in his object list after adding a new shape or sub-group. A vessel-stand from Tomb 24 (EA45220) with the convex sides of later Shape 5a (fig. 6) was recorded in the object register as a Shape 5.[83] This entry was not changed when Shape 5a was created, almost a month later, causing confusion over whether EA45220 should be identified as Shape 5 or Shape 5a.

D. Hogarth's imprecision in the generation of new shapes and adjustment of earlier records raises questions about the reliability of the pottery corpus shapes listed in the object register, particularly where the relevant vessels are no longer present. Certain indications in D. Hogarth's records lend credence to such anxieties. A vessel from Tomb 12 is described as "1 plain jar (shape 4) neck not sloping".[84] Although the vessel cannot be located, D. Hogarth's description clearly refers to the straight-necked form that he would later designate "Shape 4b"[85] rather than to Shape 4, which had a flaring neck (fig. 2). Such precise descriptions of vessels are rare in the object register. Their occasional occurrence suggests that the shape numbers assigned early in the 1906–1907 season should be treated with caution, as they include vessels that D. Hogarth would later classify as a different shape or sub-group.

Despite creating some new shape numbers and sub-groups for some types of vessels, D. Hogarth either did little to sub-divide morphologically diverse shapes or the evidence is obscured by his failure to correct earlier entries and the inconsistent recording of British Museum object numbers in the object register. This is particularly evident in the highly diverse range of types that comprise Shape 1. There is some evidence that later in the excavation D. Hogarth may have created two additional shapes to differentiate carinated bowls and platters from Shape 1 hemispherical cups and bowls. Shape 13 is first mentioned in the object register from Tomb 16,[86] excavated from the 12th to the 16th January 1907,[87] and is shown in the pottery corpus as a simple, open form resembling a deep hemispherical cup (fig. 2).[88] Shape 13 has been equated with flat-based carinated bowls of Qaou-Matmar type K-A06.01[89] but the pottery corpus sketch of Shape 13 (fig. 2) does not match either Qaou-Matmar type K-A06.01[90] or the flared profiles of recently excavated carinated bowls from Asyut.[91]

83. Hogarth 1907f, p. 40.
84. Hogarth 1907f, p. 16.
85. Hogarth 1907f, p. 96.
86. Hogarth 1907f, pp. 23–24.
87. Hogarth 1907c, pp. 45–46.
88. Hogarth 1907f, p. 1.
89. Zitman 2010, vol. 2, p. 53.
90. Seidlmayer 1990, p. 149.
91. Kahl, Engel, Sanhueza-Pino 2012, pp. 263, 268.

EA45249[92] is an extant example of K-A06.01 from D. Hogarth's Tomb 51[93] but since both Shape 1 and Shape 13 vessels came from Tomb 51,[94] and EA45249 is not listed against a shape number in the object register, it is uncertain whether D. Hogarth classified flat-based carinated bowls of type K-A06.01 as Shape 1 or Shape 13.

Evidence from other tombs is equally contradictory. EA45242 from Tomb 36 was described as a "shape 13"[95] although it is a hemispherical cup that would normally be associated with Shape 1.[96] The "3 saucers (sh. 1) but with spots of white inside"[97] from Tomb 38 have been identified as EA45250, EA45251, and EA45288,[98] which are carinated bowls.[99] Given this evidence, it is difficult to conclude that Shape 13 should be interpreted as an effort to separate carinated bowls from hemispherical bowls of Shape 1. If D. Hogarth did intend to create Shape 13 as a separate class for carinated bowls, then his method of recording and the partial nature of the surviving evidence have effectively obscured it.

Shape 18 of the pottery corpus suffers from similar confusion. D. Hogarth's sketch indicates that Shape 18 is a shallow bowl with a round or flat base (fig. 2).[100] It was first recorded in Tomb 36[101] around 1st February 1907[102] but no certain examples of this type survive. M. Zitman (2010, vol. 2, p. 69, fig. 10.2) suggests that platter EA45244[103] from Tomb 24 is a Shape 18,[104] which is morphologically plausible, but it is recorded as Shape 1 in the object register,[105] making a certain identification impossible.

92. Rzeuska 2017, pp. 356–357; Zitman 2010, vol. 2, p. 94, fig. 24.3.
93. Zitman 2010, vol. 2, p. 94.
94. Hogarth 1907f, p. 96.
95. Hogarth 1907f, p. 66.
96. Compare D. Hogarth's sketch of Shape 1 in Figure 2 with the drawing of EA45242 in Rzeuska 2017, pp. 284, 342–343; and with Zitman 2010, vol. 2, p. 90, fig. 22.1.
97. Hogarth 1907f, p. 70.
98. Zitman 2010, vol. 2, p. 73, fig. 13.3–13.5.
99. Zitman 2010, vol. 2, p. 226: he identifies EA45250, EA45251, and EA45288 with Qaou-Matmar type K-A09.03, which is consistent with a First Intermediate Period date, according to Seidlmayer 1990, pp. 150–151. K-A09.03 resembles type I.F.1.c in Schiestl, Seiler (eds.) 2012, pp. 222—223, dating from the First Intermediate Period to the end of the reign of Senusret I, although R. Schiestl and A. Seiler do not identify it as such. It may therefore be a slightly earlier variant or predecessor of I.F.1.c. EA45250, EA45251, and EA45288 are similar to the First Intermediate Period carinated bowls with white spots in Rzeuska 2017, pp. 183–185, but are not present in her catalogue.
100. Hogarth 1907f, p. 1.
101. Hogarth 1907f, p. 66.
102. Hogarth 1907c, pp. 90–92.
103. Rzeuska 2017, pp. 334–335.
104. Zitman 2010, vol. 2, p. 53: he identifies EA45244 and thereby Shape 18 with the Qaou-Matmar type K-A08.04 (Seidlmayer 1990, pp. 150–151) and, therefore, with the type I.D.1 in Schiestl, Seiler (eds.) 2012, p. 140.
105. Hogarth 1907f, p. 40.

Conclusion

Overall, D. Hogarth's pottery corpus was an effective method of systematically recording the vessel types from Asyut, which followed the best practices of the period. He ensured it was directly relevant to his research by basing it on the vessels he excavated, while retaining the flexibility to add additional shapes and sub-groups as the excavation required. The pottery corpus was probably created at the beginning of January 1907 using vessels from the tombs he had already excavated. Tombs 5 and 6 provided many of the initial shapes, and this should make it possible to relate the pottery from these tombs to pottery corpus shapes, whether the vessels are extant or listed and drawn in the object register. Two groups of new shapes were added to the pottery corpus in mid-January 1907 (Shapes 10–15) and early February (Shapes 18, 19, 20ii, 2a, 3a, and 14a) following new discoveries. These additions may have been dictated by the imprecision in the original pottery corpus shapes and D. Hogarth's habit of "stretching" existing shapes by using them to describe vessel types that he would later decide merited a separate shape number. Since D. Hogarth did not keep all the vessels and did not correct earlier entries as he revised his pottery corpus, the addition of the later shapes and sub-groups only raises more questions about precisely which type of vessel is represented by a given shape and how that shape differs from another. This represents an additional source of confusion when analysing tombs, particularly where the only surviving ceramic evidence is a list of pottery corpus shapes.

This research has demonstrated that it is possible to reconstruct many of D. Hogarth's working methods, particularly regarding his pottery corpus, by combining extant artefacts and surviving documentation in the British Museum. It has also revealed that D. Hogarth's efforts to systematise his fieldwork and documentation according to the best practices of his day were undermined by his recording methods, sometimes making it difficult to relate his records to the extant artefacts in an archaeologically meaningful way.

Despite these problems, since only a small number of vessels from D. Hogarth's excavations have survived, the record of the pottery corpus shapes found in each tomb is invaluable, and understanding how D. Hogarth generated this corpus and related it to the vessels he found is beneficial to recognising both its possibilities and its limitations for further research.

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Romain David

Concise Manual for Ceramic Studies from the Nile Valley to the Arab Middle East

L'Institut français d'archéologie orientale (Ifao), l'Institut français du Proche-Orient (Ifpo) et le Centre français de recherche de la péninsule Arabique (CEFREPA) s'associent à la Section française de la Direction des antiquités du Soudan (SFDAS) pour la réalisation d'un manuel bilingue anglais-arabe destiné à accompagner la formation des futurs céramologues du monde arabe.

Cet ouvrage, en premier lieu adressé aux étudiants de premier cycle universitaire, rassemble les contributions de dix-neuf chercheurs, spécialistes reconnus des études céramologiques au Soudan, en Égypte, au Proche-Orient ou dans la péninsule arabique. Les spécificités régionales ne sont abordées qu'en tant qu'exemples pratiques afin d'illustrer les réflexions théoriques dont la céramologie s'est enrichie ces dernières décennies. La collaboration de chercheurs aux horizons variés nourrit le texte de ces expériences multiples, façonnées par le terrain et par le mobilier auxquels les céramologues ont été confrontés. Cette « pratique » du matériel céramique constitue le fil conducteur du manuel, depuis la collecte auprès des fouilleurs jusqu'à la publication des données.

Il ne s'agit pas de rééditer les classiques de la discipline – de *Ceramics for the Archaeologist* d'Anna Shepard (1956) au dernier ouvrage de Valentine Roux, *Ceramics and Society* (2019), en passant par *Pottery in Archaeology* de Clive Orton, Paul Tyers et Alan Vince (1993) –, dont les références restent incontournables. Il s'agit au contraire d'amener le lecteur à s'y intéresser pour parfaire ses connaissances, d'aiguiser sa curiosité par des cas d'étude tirés des travaux en cours dans la vallée du Nil ou au Proche-Orient, de lui faire découvrir à quoi mène l'examen des tessons antiques que les cours d'archéologie ne mentionnent que marginalement.

La publication bilingue, enfin, souligne l'intérêt que nous avons, spécialistes de ces régions, à diffuser le résultat de nos recherches auprès d'un public bien souvent peu au fait de nos travaux, car étranger à nos langues académiques. L'effort est sans doute important, mais l'enjeu l'est plus encore tant l'avenir de la céramologie, comme celui de toutes les disciplines liées aux missions archéologiques à l'étranger, dépend de la compétence et de l'investissement des ressources humaines locales. La pierre apportée à l'édifice, si petite soit-elle, demande ainsi la collaboration de quatre institutions majeures de l'archéologie française à l'étranger pour être posée.

Fig. 1. *SFDAS 2019, atelier céramique.*

Index chronologique

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